RESOLUTION NO. 2697

A RESOLUTION OF THE CITY OF WILSONVILLE ADOPTING A CONCEPT PLAN FOR THE BASALT CREEK PLANNING AREA.

WHEREAS, in 2004 the Metro Council added two areas located generally between the cities of Wilsonville and Tualatin to the Urban Growth Boundary (UGB) to meet a regional industrial lands need through Metro Ordinance No. 04-1040B; and

WHEREAS, the above-described areas are known as the Basalt Creek and West Railroad Planning Areas which are generally referred to as the "Basalt Creek Planning Area;" and

WHEREAS, in 2011, the City of Wilsonville approved Resolution No. 2293 authorizing an Intergovernmental Agreement ("2011 IGA") with Metro, Washington County, and the City of Tualatin (the "Parties") to engage in concept planning for the Basalt Creek Planning Area; and

WHEREAS, the above Parties agreed to memorialize and endorse the recommendations and results of the 2013 Basalt Creek Transportation Refinement Plan, and, in 2013, the City of Wilsonville approved Resolution No. 2435 acknowledging the Basalt Creek Transportation Refinement Plan; and

WHEREAS, from October 2013 through October 2016, the Wilsonville and Tualatin City Councils held five joint Council work sessions considering several boundary and land use alternatives for the Basalt Creek Planning Area; and

WHEREAS, over that same time period, two public workshops were held, and the Wilsonville and Tualatin Planning Commissions and City Councils convened several work sessions to discuss and take public testimony; and

WHEREAS, the City of Wilsonville approved Resolution No. 2657 authorizing an Intergovernmental Agreement ("2017 IGA") with Metro, Washington County, and the City of Tualatin to ask Metro to resolve the issue of the land use designation for an area within the Basalt Creek Planning Area that consists of approximately 52 acres of developable land, commonly referred to as the "Central Subarea;" and

WHEREAS, in the 2017 IGA, the City agreed to pass a resolution adopting a concept plan, reflecting the Metro decision, within 120 days after the date Metro's decision becomes final and effective, and thereafter to adopt an ordinance amending the City's Comprehensive Plan within one year after the date of Metro decision; and

WHEREAS, Metro made its decision on April 19, 2018 in accordance with the 2017 IGA and adopted Resolution 18-4885 on May 3, 2018 acknowledging that decision and beginning the 120-day time period requiring the City to adopt the Basalt Creek Concept Plan; and

WHEREAS, following the timely mailing and publication of required notice, the Planning Commission conducted a public hearing on July 11, 2018, wherein the Planning Commission received public testimony, staff reports and input, and exhibits, and thereafter deliberated and voted to approve Resolution No. LP18-0005 recommending to the City Council the approval of the proposed Basalt Creek Concept Plan for the City of Wilsonville; and

WHEREAS, following the Planning Commission public hearing, the Planning Director forwarded the recommended Basalt Creek Concept Plan onto the City Council, along with a staff report and attachments, in accordance with public hearing and notice procedures that are set forth in Sections 4.008 and 4.012 of the Wilsonville Code (WC); and

WHEREAS, the City Council, after public hearing notices were provided to 198 property owners, a list of interested agencies, emailed to approximately 400 people, and posted in three locations throughout the City and on the City website, held a public hearing on August 6, 2018 to review the proposed Basalt Creek Concept Plan, and to gather additional testimony and evidence regarding the proposed Basalt Creek Concept Plan; and

WHEREAS, the City Council has afforded all interested parties an opportunity to be heard on this subject and has entered all available evidence and testimony into the public record of its proceeding; and

WHEREAS, the City Council has duly considered the subject, including the Planning Commission recommendations and all the exhibits and testimony introduced and offered by all interested parties.

NOW, THEREFORE, THE CITY OF WILSONVILLE ORDAINS AS FOLLOWS:

1. DETERMINATION.

   Based on the findings stated in paragraph 2 below, the City Council hereby adopts the Basalt Creek Concept Plan, attached hereto and marked as **Attachment A**, and the Basalt Creek Concept Plan Conclusionary Findings, attached hereto as **Attachment B**. The Basalt Creek Concept Plan (Attachment A) and the Basalt Creek Concept Plan Conclusionary Findings (Attachment B) are incorporated by reference as if fully set forth herein. The City Recorder is hereby directed to prepare the final Basalt Creek Concept Plan format and to address codification and semantic errata.

2. FINDINGS.

   The above-recited Determination and the Basalt Creek Concept Plan Record, attached hereto as **Attachment C,** are adopted and incorporated by reference herein. The City Council further finds and concludes that the adoption of the proposed Basalt Creek Concept Plan is necessary in order to comply with the IGA and in order to protect and promote the public health, safety, and welfare of the municipality by careful planning that will help to ensure there will continue to be adequate industrial and employment land and opportunities within the City limits and to meet regional industrial and employment land needs.

3. EFFECTIVE DATE OF RESOLUTION.

   This Resolution becomes effective upon adoption.

ADOPTED by the Wilsonville City Council at a regular meeting thereof this 6th day of August 2018, and filed with the Wilsonville City Recorder this date.

TIM KNAPP, MAYOR

ATTEST:

Kimberly Veliz, City Recorder

SUMMARY OF VOTES:

Mayor Knapp	Yes
Council President Starr	Yes
Councilor Stevens	Excused
Councilor Lehan	Yes
Councilor Akervall	Yes

Attachments:

Attachment A – Basalt Creek Concept Plan and Technical Appendices

Attachment B – Basalt Creek Concept Plan Conclusionary Findings

Attachment C – Basalt Creek Concept Plan Record for City Council Resolution No. 2697

BASALT CREEK CONCEPT PLAN

Attachment A: Basalt Creek Concept Plan and Technical Appendices (Final)

Basalt Creek Technical Appendices can be accessed here:
https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning/page/84121/a._bccp_technical_appendices_final.pdf

Basalt Creek Concept Plan

JULY 2, 2018

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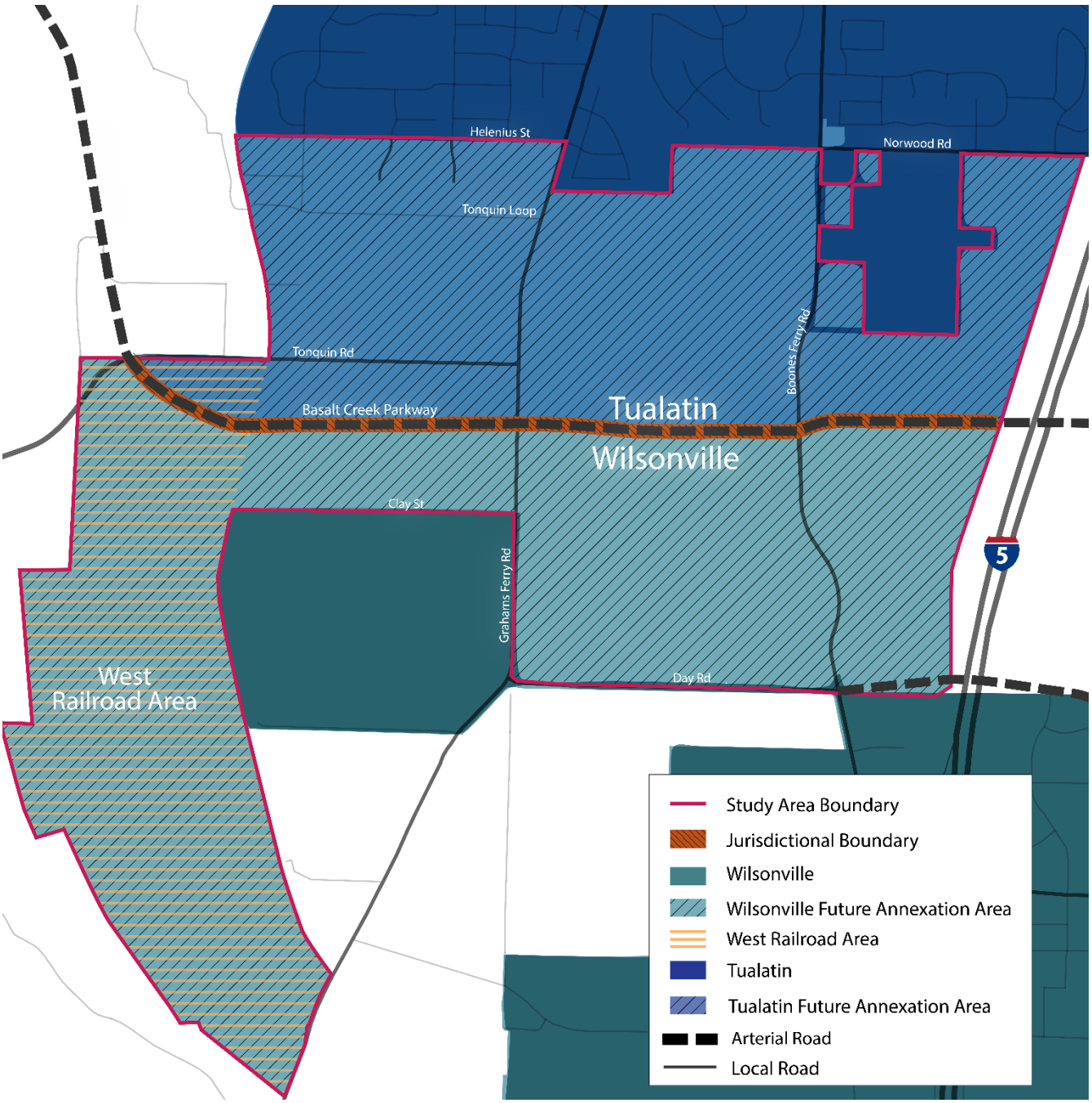
Introduction

The Basalt Creek Planning Area

The Basalt Creek Planning Area consists of 847 acres located in Washington County between the Cities of Tualatin and Wilsonville. The Planning Area is irregularly shaped, generally oriented east-west with an extension southward at the western edge, which is commonly referred to as the West Railroad Area. The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The rest of the Basalt Creek Planning Area is bound by Norwood and Helenius Roads to the north, Interstate 5 (I-5) to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham's Ferry and then westward again on Clay Road. The area also has distinctive natural features, particularly its namesake - Basalt Creek - and the surrounding wetlands habitat running north-south through the eastern half of the Planning Area. The primary existing land uses in Basalt Creek are rural agriculture, industrial, and rural residential consisting of low-density single-family housing. Washington County recently completed construction of a portion of the Basalt Creek Parkway, extending 124th Avenue and connecting Tualatin-Sherwood Road to Grahams Ferry Road. In the future, the Parkway will run east-west across the Planning Area between Grahams Ferry Road and Boones Ferry Road, and eventually extend over I-5. The parkway will be a high-capacity major freight arterial with limited access to local streets providing industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas.

Figure 1 Basalt Creek Planning Area and jurisdictional boundaries.



A more detailed description of the Planning Area, including natural and historic resources, existing land uses and regulatory context can be found in the Existing Conditions Report (Appendix A).

What is a Concept Plan?

A concept plan identifies a vision and guides future land use and transportation decisions for the planning area. It helps ensure the area has the land capacity to contribute to meeting local and regional land use and transportation goals. Concept plans also ensure compliance with state land use goals,

regional policies, and other plans, including existing transportation plans. A concept plan sets the framework for future development and outlines an implementation strategy for future provision of urban services (water, sanitary sewer, and storm water systems), public services (such as transit, parks, and open space), and protection of natural and cultural resources.

Basalt Creek Concept Plan

The Basalt Creek Concept Plan guides development in the Basalt Creek Planning Area over the next twenty years. To accomplish this, the plan:

- Establishes a vision for urbanization of the Basalt Creek Planning Area that will meet local and regional goals
- Coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County
- Establishes a new jurisdictional boundary between Tualatin and Wilsonville (to determine which parts of the Planning Area may be annexed into and served by each city)
- Identifies preferred land uses across the area
- Recommends high-level designs for transportation and infrastructure systems to support future development consistent with local, regional and state goals
- Sets specific action items and implementation measures

Figure 2 Basalt Creek Planning Area in regional context.

In 2004, Metro identified the Basalt Creek Planning Area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed an ordinance in 2004 to annex land into the existing Urban Growth Boundary (UGB), which included the Basalt Creek Planning Area, to ensure a sufficient regional supply of land for employment growth over the next twenty years. Based on Metro's 2014 Employment and Housing Forecast, Metro projected the region would grow by 474,000 people and 365,000 jobs by

2035. The Basalt Creek Planning Area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). A detailed explanation of these figures and the Industrial Land Alternative Analysis can be found in the Existing Conditions Report (Appendix A, starting on page 17).

In the Metro region, areas brought into the UGB are required to have a land use and transportation Concept Plan before urban development can occur. The intent of the Basalt Creek Concept Plan is to meet this requirement and provide a roadmap for the development of the area that is consistent with state, regional and local land use planning laws. This Concept Plan involved a collaborative effort between two local jurisdictions – the Cities of Tualatin and Wilsonville.

While several concept plans were developed over the last decade for other UGB annexation areas (e.g. Southwest Tualatin Plan, Tonquin Employment Area Plan, and Coffee Creek Industrial Area), Basalt Creek is somewhat unusual. Its large size, location between (rather than at the edge of) other urbanized areas, and requirement to be jointly planned by two different cities—each with their own identity, goals and local governance—make it different from most other concept plans.

While the process and context were unique, the final Basalt Creek Concept Plan incorporates the key elements consistent with other concept plans and meets all state and regional requirements for a concept plan.

Table 1 Summary Table of Basalt Creek Concept Plan Elements

Element	Description
Jurisdictional Boundary	Follows the alignment of the Basalt Creek Parkway centerline with Tualatin to the north and Wilsonville to the south.
Land Use and Development	Land uses in Wilsonville focus on employment, while Tualatin has a mix of employment and housing. Housing in the northern part of the area is meant to buffer existing residential neighborhoods from non-residential land uses. There is a small retail node just east of the Basalt Creek Canyon and north of the jurisdictional boundary in the Planning Area, which will serve residents and workers. The land suitability analysis influenced the most appropriate locations for employment-based land uses. Land use types and densities were balanced to meet obligations for providing regional employment capacity while limiting negative impacts on congestion and traffic levels.
Transportation	Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP), which is also coordinated with the 2014 Metro Regional Transportation Plan (RTP). Basalt Creek Parkway, portions of which are currently under construction, will be a major east-west arterial, with limited access (connecting only at Grahams Ferry and Boones Ferry Roads), creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road to five lanes, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops.
Bicycle and Pedestrian Framework	Opportunities for bike and pedestrian connections are identified, and additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards.

Transit	Transit service in the area will be coordinated between TriMet and SMART. Service will build on existing bus routes to enhance service and provide good connectivity both north-to-south and east-to-west through the Planning Area.
Parks & Open Space	The Basalt Creek Canyon natural area spans both cities and there are opportunities for regionally-connected trails and open space in the Planning Area. The Cities will each work to create a park plan for the area as part of their respective citywide plans and will coordinate on trail planning particularly as it relates to the Basalt Creek Canyon.
Natural Resources	The Cities recognize that the Basalt Creek Canyon is a significant natural resource and have agreed to coordinate on a joint approach to natural resource management practices. There are also significant riparian and upland habitat areas in the West Railroad Area. All natural resources in the Planning Area are mapped on Figure 13.
Water	Each city will provide its own drinking water infrastructure within its jurisdiction, with connections to existing water lines.
Sewer	Each city will provide sanitary sewer service for development within its jurisdiction to the extent reasonably possible with the understanding that a future agreement may address potential cooperative areas. Tualatin will coordinate with its provider – Clean Water Services (CWS) – to extend service to this area.
Stormwater	New stormwater infrastructure will be primarily integrated with the local road network. Tualatin, Wilsonville and CWS acknowledge they must follow requirements established for their respective stormwater MS4 permits. Much of the area is in a basin that drains toward Wilsonville. Each City will serve its own jurisdictional area. The Cities and CWS will adopt an Intergovernmental Agreement that addresses areas where cooperative stormwater management is needed.
Implementation Strategies and Tools	Recommendations for a public facilities phasing plan include conceptual overviews of the recommended facilities and Class 5 concept level costs and a general overview of possible funding strategies. The development phasing will include recommended near and long-term strategies for land use development. Implementation recommendations include sequential action items necessary for implementing the plan and readying the Basalt Creek Planning Area for future development.

The Planning Process

The Basalt Creek Concept Plan was developed through several years of planning that included extensive research and analysis and a variety of opportunities for input from stakeholders and citizens. The public was engaged at key points and invited to participate through a visioning workshop, an open house, online surveys, and community outreach meetings. The full Public Involvement Plan can be found in Appendix B.

Decision Making Process

The Tualatin and Wilsonville City Councils were the ultimate decision-making body for the final Basalt Creek Concept Plan. Joint Council meetings were held involving both City Councils at important project milestones. This role included approval of the guiding principles, selection of the preferred land use scenario, and identification of the future jurisdictional boundary and key elements of the plan. Individual City Council meetings were also held to provide periodic updates and discuss measures, ordinances, and resolutions specific to each city to adopt and implement the Basalt Creek Concept Plan. To ensure the greatest level of cooperation and collaboration with local and regional partners, the planning process

included a project management team with staff from both cities, an advisory Agency Review Team (ART), and both cities' Planning Commissions.

Joint Council

Joint City Council meetings were held at key decision-making stages in the project with the Joint Council serving as the final decision-making body for the plan. There were five Joint Council meetings between October 2013 and December 2015. The purpose of Joint Council meetings was to approve Guiding Principles, determine jurisdictional boundaries, select a preferred land use scenario, and identify key elements for the final concept plan. All Joint Council meetings were advertised and open to the public. Themes from the Joint Council meetings were further developed into the Guiding Principles and included:

- Meeting regional responsibility for jobs & housing
- Capitalizing on the Planning Area's assets
- Protecting existing neighborhoods
- Maintaining cities' unique identities
- Exploring creative approaches to land use, including integration of employment and housing
- Ensuring appropriate transitions between land uses
- Integrating high-quality design and amenities for employment

Project Management Team

The Project Management Team (PMT) was composed of each city's project managers, department directors, relevant staff, and project consultant (see Appendix K for full list of members).

The PMT met regularly to check the status of major deliverables, track and maintain a regular project schedule, coordinate materials for individual and Joint Council work sessions and meetings, plan public events and outreach strategies, and develop consistent messaging for project outcomes. The Project Consultant team representatives participated in the PMT meetings on a bi-weekly basis as needed. The plan's content was guided and produced by the project consultant team and reviewed by the PMT.

Agency Review Team

The Agency Review Team (ART) represented local service providers and regional partners, who advised staff members of both cities about regulatory and planning compliance (see Appendix K for full list of members). Input gathered from the ART was incorporated into the Concept Plan and included in regular staff updates to the Planning Commissions and City Councils. Involvement was required for some key agencies that needed to approve or concur with the Concept Plan, while other agencies were invited to participate in the planning process as their advice was needed on specific issues. Metro, CWS, Washington County, and the Sherwood, Tigard-Tualatin and West Linn-Wilsonville school districts participated in the ART to provide support and concurrence with the Concept Plan.

In addition to the above-mentioned, ART member agencies included the Oregon Department of Transportation (ODOT), Tualatin Valley Fire & Rescue, and the Bonneville Power Administration (BPA). Other agencies were invited to the planning process when their specific advice was necessary, specifically the City of Sherwood, City of Tualatin (including Planning, Community Development, Building, Community Services, Economic Development, Engineering, Parks and Recreation, and Public

Works departments/divisions), City of Wilsonville (including Planning, Community Development, SMART Transit, Public Works, Engineering, Parks and Recreation, Natural Resources, and Building departments/divisions), Clackamas County, Northwest Natural, Portland General Electric, and Tri-Met. This collaborative analysis and joint decision-making set a framework for the Basalt Creek Concept Plan to have the greatest possible chance for success for the community.

The ART met three times throughout the project – in June and September of 2014, and then again in February 2016. The first meeting provided an opportunity to present an overview of the Basalt Creek Concept Plan project and process to the ART and inform members of key milestones and decision points where their input would be needed. The project consultant also presented the proposed methodology for the Existing Conditions report, particularly soliciting feedback on the market analysis, infrastructure analysis, and transportation analysis components. The second meeting served to solicit feedback from ART members on the draft Existing Conditions report, clarify issues surrounding infrastructure, provide an overview of public feedback, and present the land suitability analysis for review. The third meeting was held on February 19, 2016 to further discuss transit, parks and open spaces, schools, parks, and trails.

Information Gathering

The project consultant conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. This research included land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks. The Existing Conditions Report provides additional background information in Appendix A.

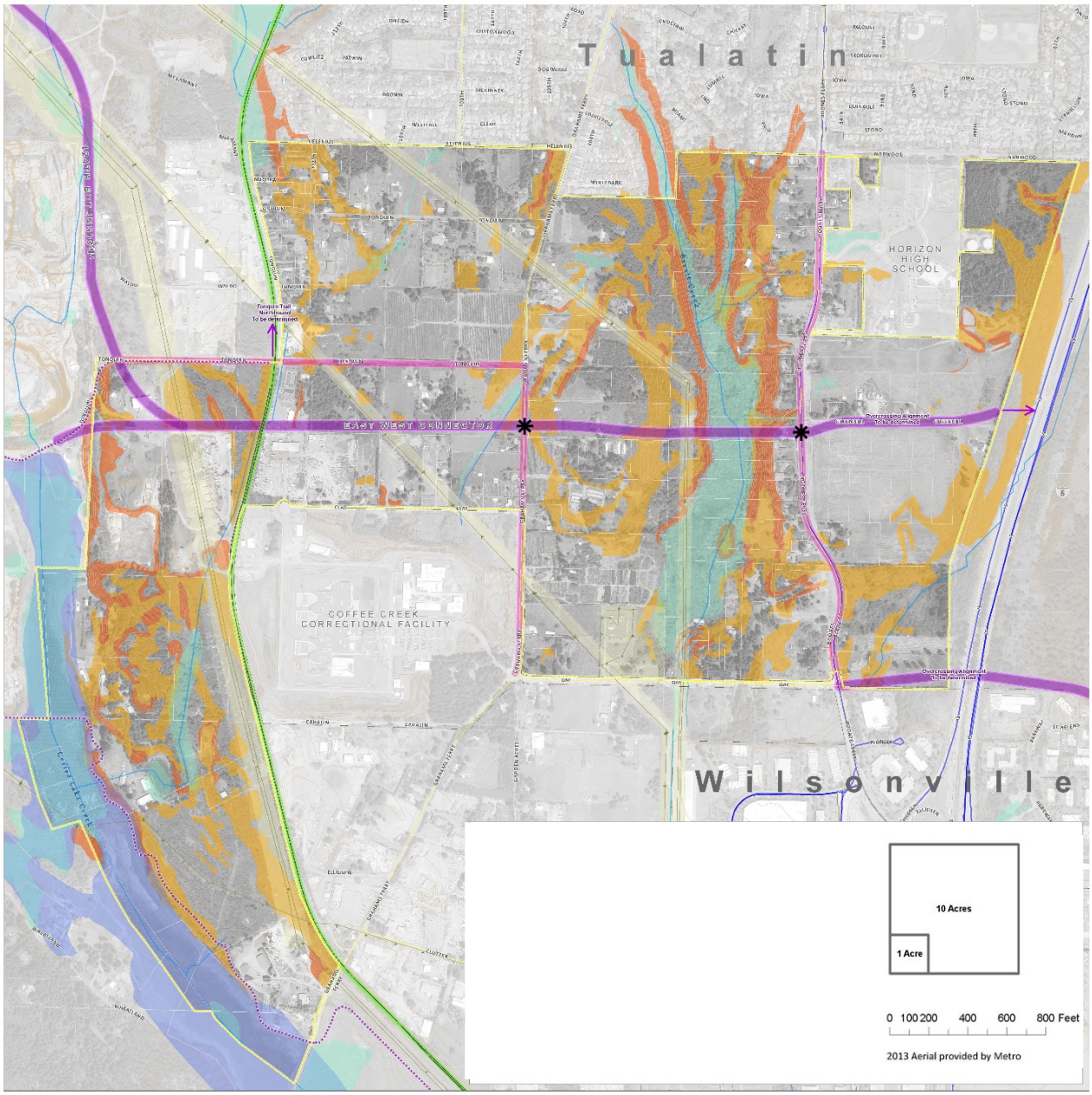
Public Involvement Plan

A Public Involvement Plan, developed by the PMT, was used to guide outreach strategies and events throughout the planning process (Appendix B).

Public Workshop

The planning process began with a community workshop for the Basalt Creek Concept Plan on June 17, 2014. This was a visioning workshop and open house attended by roughly 40 people and solicited input on priorities and preferences for future land use and transportation in the Planning Area. Key outputs included initial scenarios that identified important issues for the area, including a desire to keep the Basalt Creek Canyon as open space, the need for residential buffer areas, traffic challenges and ideas for new parks. Results indicated a preference for appropriate transitions between land uses and protection of existing neighborhoods, but an openness to a range of employment and commercial uses. Instant polling at the workshop was combined with the results of the online survey for a total of 160 responses from participants living both inside and outside the Planning Area. Survey results included a strong interest in public access to natural resources and were less focused on housing or industrial warehousing. This participation informed the establishment of Guiding Principles for the project.

Figure 3 Example of the Basalt Creek Planning Area Base Map used for workshop activity. Participants used these maps to draw and design a vision for future uses of the Basalt Creek Planning Area.



Basalt Creek

- City Limits (Source: RLIS 2014)
- Planning Area (Source: Cities of Tualatin and Wilsonville)
- Taxlots (Source: RLIS 2014)
- PGE Transmission Poles (Source: City of Wilsonville)
- PGE Transmission Lines (Source: City of Wilsonville)
- Railroads (Source: RLIS 2014)
- Proposed Ice Age Tonquin Trail
- WES Commuter Line (Source: RLIS 2014)
- Bicycle Routes (Source: RLIS 2014)
- Bus Lines (Source: RLIS 2014 and Metro)
- Future Roadway Improvements (Source: DKS Associates)
- Approx. Alignment of Future Major Roadways (Source: DKS Associates)
- East West Connector Access Point
- 5 Foot Contours (Source: RLIS 2014)
- Stream (Source: RLIS 2014)
- Wetland (Source: Fregonese Associates and RLIS)
- FEMA 100 Year Flood Areas Updated by Metro (Source: RLIS 2014)

Slopes (Source: Fregonese Associates)

- 10% and above (generally unsuitable for industrial development)
- 25% and above (unsuitable for any development)
- PGE and BPA Easements and Property (Source: PGE and BPA)

Stakeholder Interviews/Focus Groups

The Basalt Creek concept planning process included over a dozen focus group meetings and stakeholder interviews with developers and property owners in June and July 2014. Developer discussions included industrial, office, retail, residential, and mixed-use development. Knife River, Coffee Creek Correctional, Ibach Citizen Involvement Organizations and the Chamber of Commerce from each City also provided input. These discussions focused on future industrial development types, housing preferences, land assembly, and employer amenities. Property owners expressed a desire for flexibility in land uses and concern over how development will impact quality of life in the area. Developers were concerned with industrial development types changing, along with changing housing preferences, the land assembly challenge, and what employers will consider amenities in the area. These discussions informed the Concept Plan's market analysis, land suitability analysis, building prototypes, development types and land use placements for testing different land use scenarios for the Planning Area.

Open House

A second open house was held on April 28, 2016 to share the draft Concept Plan elements, including land use, road network and improvements, transit, bike, pedestrian and trail network improvements, parks, natural areas, and infrastructure systems. Members of the public were invited to share feedback on the Concept Plan generally as well as specific options for future parks, natural areas, and the bike, pedestrian and trail network. Participants expressed general support for the preferred alternative presented at the Open House, and during instant polling, shared a desire to use the area for recreation, neighborhood parks and conservation areas.

Email and Website Updates

The Project Management Team (PMT) typically sent monthly updates to those on the interested parties list via email and to property owners via postal mail, which included approximately 300 people. Council and Planning Commission work sessions and updates were scheduled and held throughout the project, including before critical milestones and Joint Council meetings, all of which were open to the public and notice provided on City websites and the project website.

Scenario Testing and Concept Plan Development

What is Scenario Planning?

Scenario planning is a tool used to estimate the likely future effects of growth and development patterns in a specific area. This information helps local governments make decisions about what type of land use, transportation and infrastructure plans and policies will best meet community needs in the future. Scenario planning helps identify challenges and opportunities for desired growth and allows exploration of different approaches to achieve the community vision for an area. Unlike a plan, scenarios are very specific, intending to model likely future land uses. Learning from these, a plan can be developed to allow for several beneficial scenarios.

Scenario Planning for Basalt Creek Planning Area

Scenarios were used to understand how different land use decisions, infrastructure investments, other regulations and policies might impact the future outcomes in Basalt Creek – and how well they achieve

the guiding principles. The scenarios that were designed and tested for the Basalt Creek Planning Area integrated many different variables (such as different land uses and service areas) and the relationships between those variables. By modifying the scenarios, the impact of different sets of decisions were able to be better understood.

The scenario testing for Basalt Creek sought to answer questions about the implications of various development and infrastructure options. Taken together, these questions formed objectives for the scenario evaluation.

- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

The project team created and evaluated a Development Base Case and tested Alternative Development Scenarios. These development scenarios used existing buildings from both jurisdictions to model potential future development and reflect existing zoning and development regulations in the Envision Tomorrow modeling program (see Appendices C1 and C2).

During the scenario development process, jurisdictional boundary discussions were ongoing and different scenarios considered different boundary alternatives. A series of five scenarios were developed in an ongoing iterative process that tested the following variables: the location and amount of different land uses, the location of the jurisdictional boundary, location of service boundaries, and design of infrastructure systems. The PMT also developed performance measures associated with the Guiding Principles, in addition to local and regional goals, to compare the different scenarios. As a complex set of conditions, the variables tested were interrelated and needed to be combined in scenarios to understand how changes in one variable impacted the others.

These scenarios were vetted by the project's PMT and each City Council, and then fully analyzed for the transportation, infrastructure, and land use implications. Based on these analyses, discussions among the PMT, and feedback from the Joint Councils, a preferred scenario was developed. The preferred scenario became the basis for the Basalt Creek Concept Plan.

Final Plan Development

The final phase of the project included further refinement of the Concept Plan using the preferred scenario, setting the jurisdictional boundary, and drafting an implementation strategy for the Concept Plan. The final Basalt Creek Concept Plan was designed to meet all the requirements associated with areas added to the urban growth boundary (see Title 11 Compliance Memo in Appendix D) and was forwarded to Metro for review. The Councils from the City of Tualatin and the City of Wilsonville each adopted the Concept Plan by resolution. Comprehensive Plan amendments and implementation strategies and tools are to be consistent with this Plan.

Concepts that Shaped the Plan

Guiding Principles represent the collective interests and goals for the Basalt Creek Planning Area as agreed to and established by the Joint Council. They provided a framework for gathering input and developing transparent and meaningful measures that helped inform the decision-making process for this plan (see Appendix E for Guiding Principles Memo which provides further descriptions).

1. Maintain and complement the Cities' unique identities
2. Capitalize on the area's unique assets and natural location
3. Explore creative approaches to integrate jobs and housing
4. Create a uniquely attractive business community unmatched in the metropolitan region
5. Ensure appropriate transitions between land uses
6. Meet regional responsibility for jobs and housing
7. Design cohesive and efficient transportation and utility systems
8. Maximize assessed property value
9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

In addition to the Guiding Principles, during a Joint Council meeting, the Councils also identified ten key elements for successful implementation of the Basalt Creek Concept Plan that relate to key functions such as the sewer, water, and transportation services, land use and natural resources in the area. These considerations informed the key elements of the Concept Plan (see Appendix E for 10 Considerations of Success for further descriptions).

Planning Area Conditions

The project consultant team conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. The project team studied land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks.

Planning Context and Urban Growth Boundary

The Portland Metropolitan Area Urban Growth Boundary (UGB) includes three counties and 24 cities. Metro administers the UGB, which includes a mandatory six-year assessment of whether it includes sufficient land to accommodate 20 years of expected development for residential and job growth.

During the 2004 analysis, Metro identified a shortfall of industrial land and a study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, parcel size, accessibility to regional transportation and necessary services, and proximity to existing industrial uses. Several areas of land identified as good candidates for industrial development were added to the UGB by Metro via Ordinance 04-1040B in 2004, two of which comprise the Basalt Creek Planning Area. The current 2040 Growth Concept Map identifies the Basalt Creek Planning Area as industrial, but the Ordinance does provide some flexibility to include housing in the Planning Area. The

Ordinance identified outer neighborhood as a potential land use in the northern portion of the Planning Area, to provide some housing and a buffer for existing residential neighborhoods in Tualatin.

The industrial designation from Metro is defined within the Regional Framework Plan's Glossary as "an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses."

The Land

Landscape Context

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that shaped the landscape of the Columbia River Gorge and the Willamette Valley during the last Ice Age. The Ice Age Tonquin Trail Master Plan describes the area as "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the Planning Area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds." Remains from the Ice Age floods that can be seen in and around the Basalt Creek Planning Area include glacial deposits, scablands, kolk ponds (ponds formed by eddies during the Missoula Floods), and flood channels. The terrain includes significant slopes of more than 25% and with a change in elevation from 250 ft above mean sea level (amsl) to a maximum elevation of 350 ft amsl.

Existing Land Use

The primary existing land uses in the Basalt Creek Planning Area are rural agriculture, industrial and rural residential consisting of low-density single-family housing. There are areas of agricultural uses, including a nursery, landscaping supply, and blueberry farms. Existing industrial land users include gravel quarries and cement manufacturing in the northwest corner of the Planning Area. The existing housing in the area consists of detached single-family on large lots. A significant portion of single-family homes are located on the eastern edge of the Basalt Creek Canyon along Boones Ferry Road.

Adjacent Land Uses

The Planning Area is bounded to the north by Tualatin residential neighborhoods, to the south by Wilsonville commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands.

- The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north of the Planning Area. These neighborhoods are zoned a mix of low- and medium-low density residential and are comprised primarily of high-quality, detached, single-family homes. Also, to the north is the 30-acre campus of Horizon High School (a private high school). The campus is bordered on three of its sides by the Planning Area.
- To the west, the Planning Area is bordered by unincorporated portions of Washington County including the Southwest Tualatin Concept Plan area where active quarries and an asphalt plant are located. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area. Most of this land is undeveloped or vacant at this time.

- South of the Planning Area are existing and planned commercial, office and industrial uses located within the City of Wilsonville. The employment areas around SW Commerce Circle, Ridder Road, and 95th Avenue include advanced manufacturing, clean tech, warehouse, distribution, and logistics businesses. The Coffee Creek Planning Area abuts the Basalt Creek Planning Area along the south side of Day Road and south and west to the existing Wilsonville city boundary. The City adopted a Master Plan and Industrial Form-based Code for this area to create a high caliber business district.
- Adjacent to the southern border of the Planning Area is Coffee Creek Correctional Facility. This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.

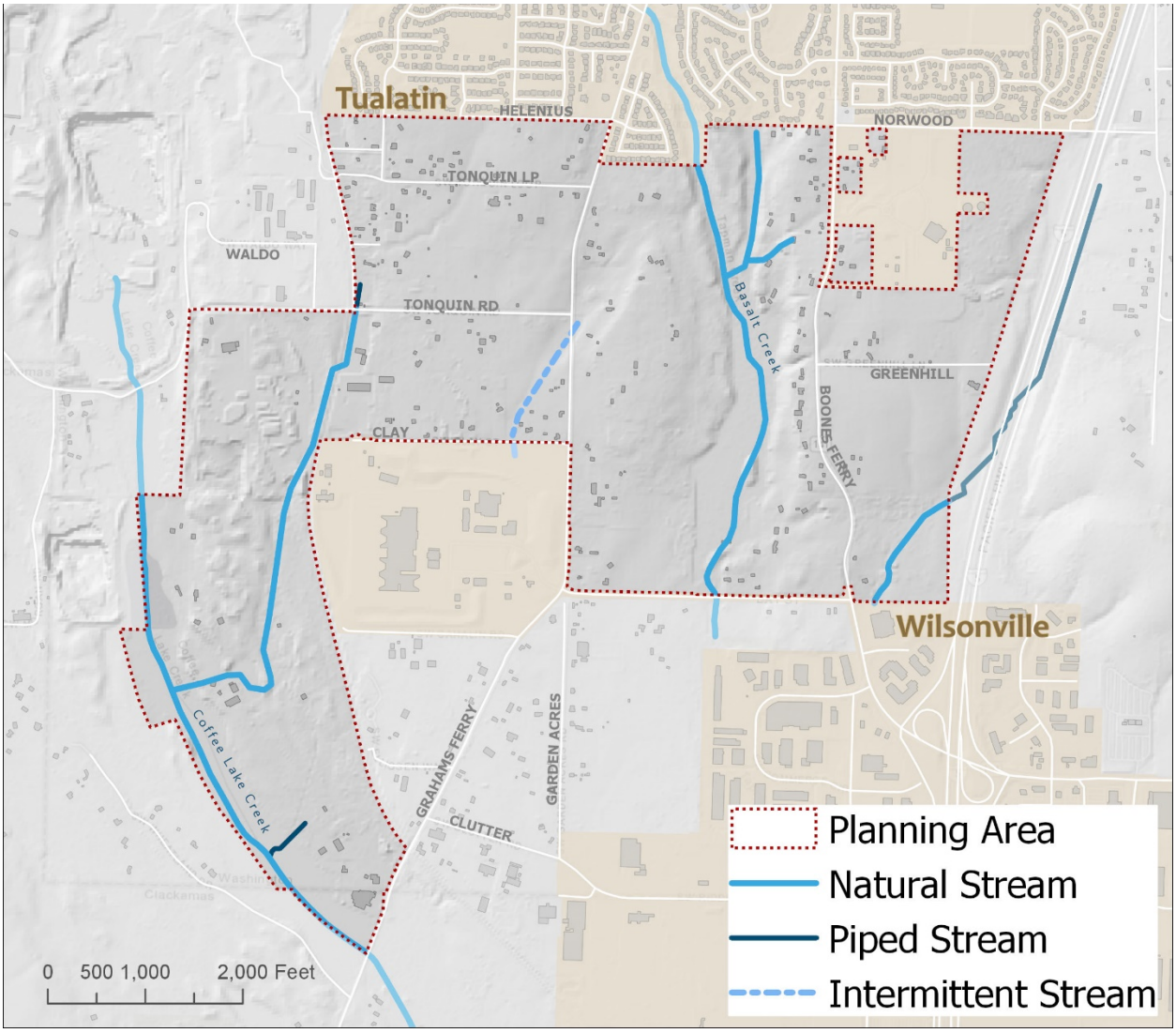
Natural Resources

Wetlands, floodplain, upland habitat, streams, open water and riparian areas provide important natural resources in the planning area. Within the Basalt Creek Canyon and Coffee Lake Creek basin, there are open water, emergent and scrub-shrub wetlands. The small, forest patches scattered throughout the planning area provide travel corridors and habitat for a variety of species including Red-legged Frogs and the Pileated Woodpecker. Land suitability studies for this area identified constrained lands including 18,845 feet of natural streams; 1,402 feet of underground or piped streams, defined as water that flows under the surface in a definite channel; and 789 feet of intermittent streams in the Planning Area.

There are two main streams in the Planning Area, Basalt Creek (also known as Seeley's Creek or Tappin Creek) and Coffee Lake Creek and its east tributary, which run through the West Railroad Area. There is also an underground, piped stream near I-5 along the eastern edge of the Planning Area. Coffee Lake Creek forms the western boundary of the Planning Area. There are also 69 acres of wetlands (8% of the Planning Area), including 49 acres of open water in the Planning Area.

There are 116 acres of land designated by Metro as Water Quality and Flood Management Areas. Following Metro's designations and associated regulations, local jurisdictions determine development rules and requirements that affect these areas. Clean Water Services, who regulates environmental lands in the City of Tualatin and elsewhere in Washington County and the City of Wilsonville, have local ordinances in place that go beyond the level of conservation otherwise required by Metro. Existing local standards from each City would apply upon annexation of property into either Wilsonville or Tualatin.

Figure 4 Map of Streams by Category.



Buildable Lands Assessment

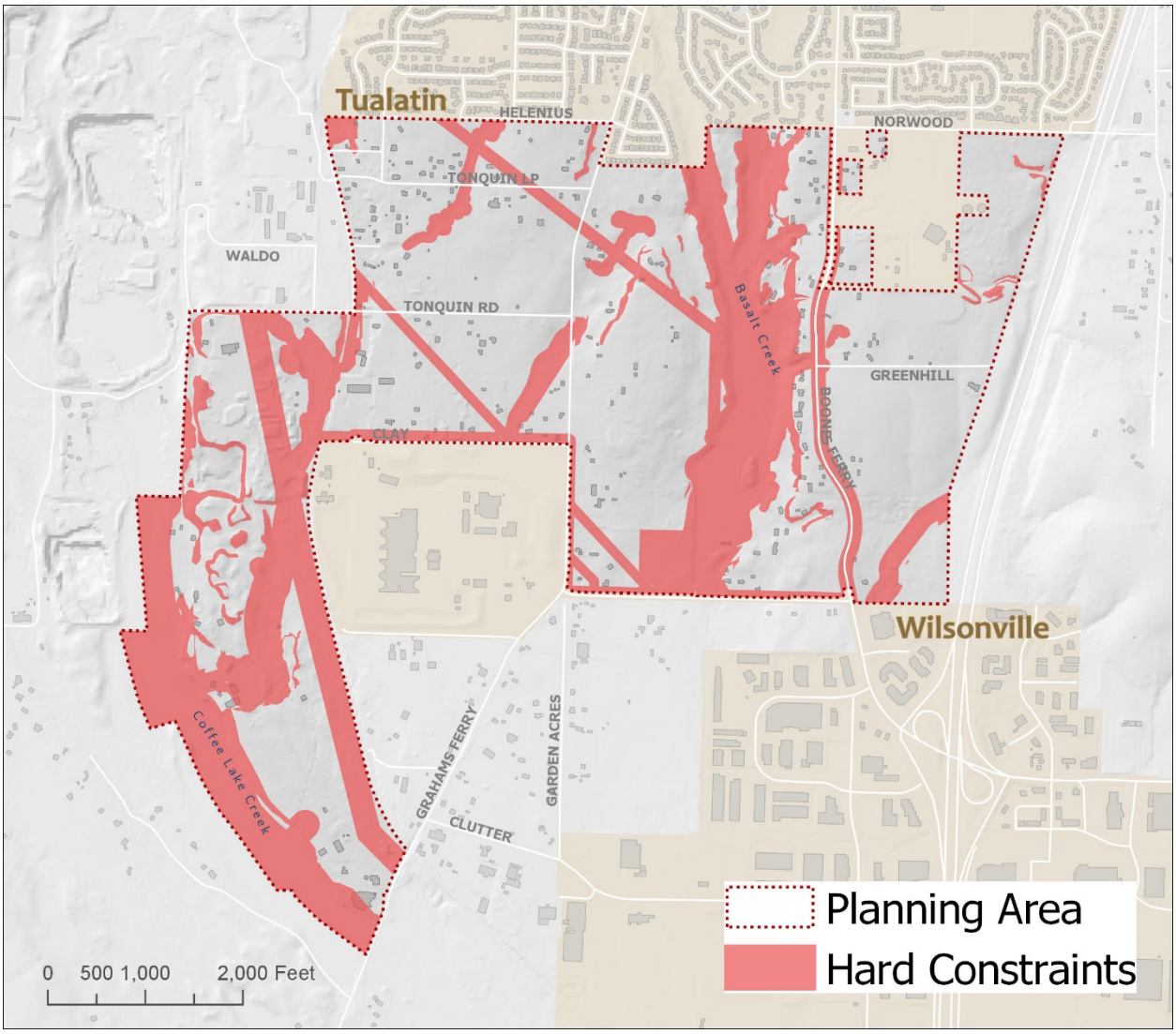
A buildable lands assessment for the Basalt Creek Planning Area (see Appendix F) screened out parcels where there is limited or no development potential to identify the places where development is most suitable given the environmental and regulatory context. There is a range of factors that influence development potential within the Planning Area, but they can be divided into two categories: hard and soft constraints. Hard constraints are either physical attributes or legal requirements that prohibit new development. These areas are excluded from the analysis. Soft constraints are where physical attributes or legal requirements allow some development with guidance on appropriate land uses and development densities. Assumptions regarding the amount of development in these areas followed Metro guidelines calling for restrained development.

Land Suitability Analysis

Determining the development capacity for the Planning Area starts with the buildable lands assessment and then further analyzes the land supply to estimate development capacity on any given parcel. The Planning Area includes land that is constrained by streams and easements. This land supply analysis then evaluates existing land uses, as provided by tax lot data via Metro's Regional Land Information System (RLIS), visual surveys of the area via aerial photographs and online tools such as Google Earth, and site visits for verifying stream conditions and alignments.

After completing this more detailed review of the land supply to determine development suitability, the land suitability analysis is combined with the buildable lands assessment to remove constrained land and to create a geographically referenced database of developable land within the Planning Area.

Figure 5 Map of Hard Constraints within the Basalt Creek Planning Area.

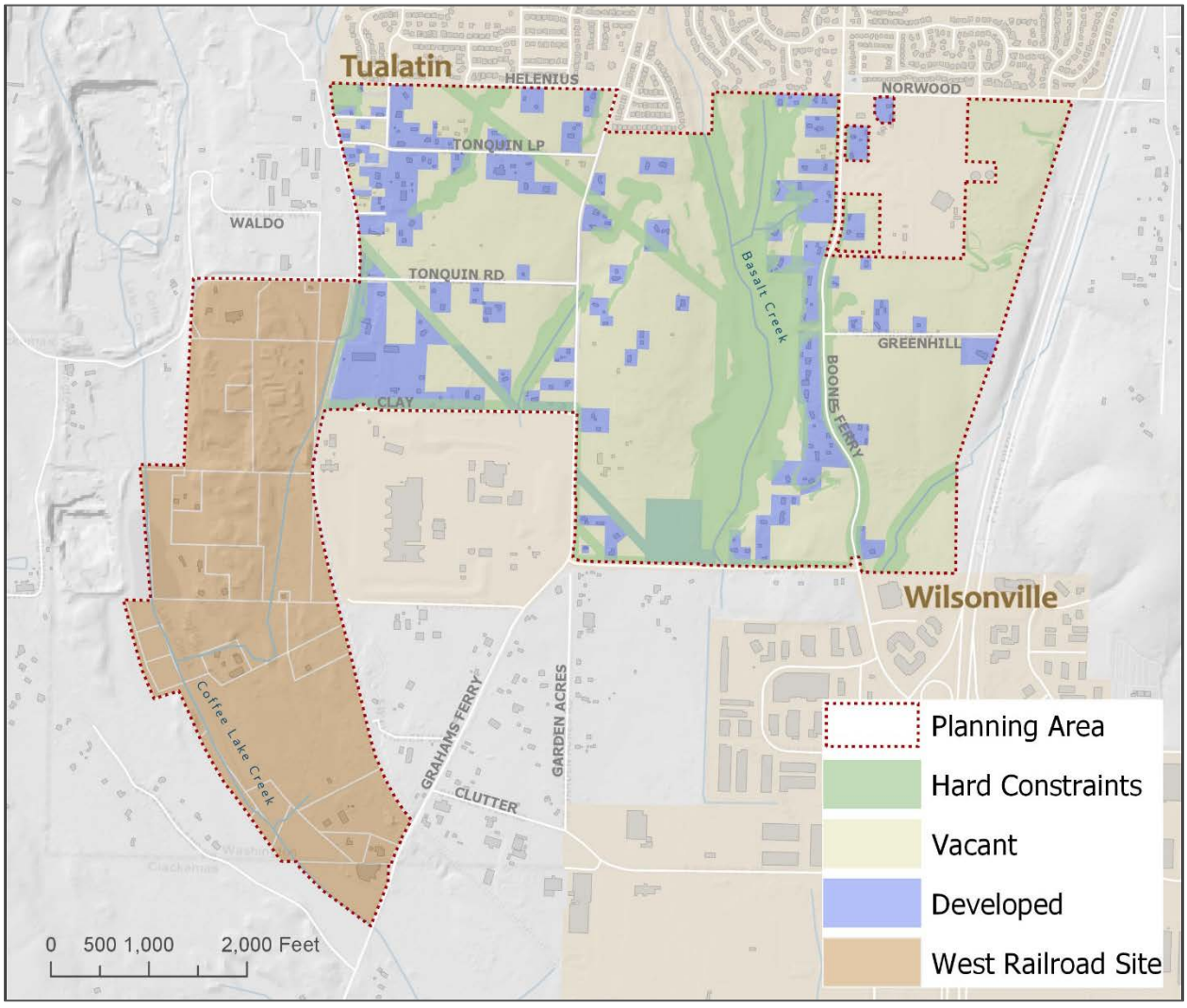


The goal is to classify every parcel within the Planning Area into one of the categories described below:

Table 2 Land Supply within the Basalt Creek Planning Area by Type and with Acreage.

Land Supply by Type and Acreage Land Type	Acres	Description
Vacant Land	331	Unconstrained land that is ready to build with no major structures located on the site
Developed Land	125	Land already built upon which includes acreage covered by roadways
Constrained Land	153	Land that cannot be built upon due to environmental or other hard constraints
West Railroad Area	238	Excluded from development plan due to large amount of constraints and limited access
Total Land Supply	**847**	

Figure 6 Land Supply by Type.



There were no redevelopment assumptions incorporated in this analysis. The values associated with the existing buildings were high enough to preclude redevelopment for purposes of determining the development types used during scenario testing. Thus, the developable land estimate for the Planning Area is 331 acres. This analysis forms the foundation for determining land use and development capacity on each parcel in the Planning Area. The development plan for the Basalt Creek Planning Area excludes the West Railroad Area from development due to the large amount of constraints on the land and limited access.

Infrastructure and Services

Roadways

The Concept Plan looked at the existing transportation system and the planned transportation system developed as part of the TRP, which includes phased investments to support regional and local transportation needs through 2035. The plan provides 18 transportation investments broken into short, medium and long-term projects, all of which are important to ensure that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to the 124th Avenue extension, the future and partially constructed Basalt Creek Parkway.

Sanitary Sewer

Currently, no sewer service is provided to the Planning Area. Existing homes use septic systems. Wastewater conveyance to the south of the Planning Area is under jurisdiction of the City of Wilsonville. Sewer service to the north of the Planning Area in Tualatin is provided by the City of Tualatin and Clean Water Services.

The nearest treatment facility to the north of the Planning Area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). Eight gravity sewer mains exist near the north Planning Area boundary that could provide connection points for wastewater from the Basalt Creek Planning Area into the Tualatin collection system. The Victoria Woods Pump Station and associated force main are also located just to the north of the Planning Area boundary. From these connection points, wastewater flows by gravity toward the AWTF, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park. Pump stations will be required to lift flows from the Planning Area into the existing gravity system. Expansion of the service district area to include Tualatin's portion of the Basalt Creek Planning Area needs to be approved by Clean Water Services at time of Annexation.

The nearest treatment facility to the south of the Planning Area is the City of Wilsonville Wastewater Treatment Plant (WWTP), located approximately 3.2 miles south of the Planning Area. This facility was recently expanded to accommodate growth within the current city limits and allow for additional buildout to accommodate growth outside the city limits in Urban Growth Boundary expansion areas. Approximately half (300 acres) of the Basalt Creek Planning Area was accounted for in the year 2030 build-out capacity assessment conducted as part of the facility expansion.

The City of Wilsonville's Coffee Creek Master Plan identifies a new sanitary main line to be constructed. After the adoption of that plan, more analysis was completed and determined the appropriate location of the sanitary sewer line to be along Garden Acres Road from Ridder Road and extending north to near Day Road and then continuing up Grahams Ferry Road. A second sanitary sewer line will extend from Garden Acres east and north to Day Road extending east to Boones Ferry Road. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows

from the Basalt Creek Planning Area to the WWTP. The Sanitary Sewer Collection System Master Plan has analyzed a range of potential flows from the Planning Area.

The Tualatin Sanitary Sewer Master Plan Update is currently being updated and includes the Basalt Creek Planning Area as a sewer basin. The City of Wilsonville updated its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) which included the Basalt Creek Planning Area as a contributing area. The resulting updated master plans identify the improvements needed to increase the capacity of each system to convey flow from the Basalt Creek Planning Area.

Drinking Water

The Basalt Creek Planning Area currently has no municipal water infrastructure in place. Tualatin currently purchases its municipal water from the Portland Water Bureau. The City of Wilsonville Water Treatment Plant draws its potable water from the Willamette River. Based on the topography, the Basalt Creek Planning Area could be served from the south through The City of Wilsonville's distribution system or from the north through the City of Tualatin's distribution system. Lower elevations of the Basalt Creek Planning Area can be adequately served through existing lines in Wilsonville's Pressure Zone B.

Stormwater

Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Planning Area are under the jurisdiction of Washington County and may not have capacity for future urban conditions. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. Culverts may need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite retention or infiltration is required when the location of public drainage or the topography of the site make connection to the system not economically feasible.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek Basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

The City of Wilsonville's 2012 Stormwater Master Plan identifies capital improvement Project CLC-3 to restore a portion of the Basalt Creek channel, west of Commerce Circle, to increase capacity. The master plan also identifies Project CLC-1 for construction of a wetland for stormwater detention purposes, north of Day Road, to serve an area that includes the Basalt Creek Planning Area. The July 2014 Updated Prioritized Stormwater Project List identifies CLC-3 as a mid-term project (6 to 10 years) and CLC-1 as a long-term project (11 to 20 years).

Locations where stormwater runoff from the Basalt Creek Planning Area could connect to existing stormwater infrastructure will require evaluation of the conveyance systems at time of development.

Schools

The Planning Area falls within the Sherwood School District, which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School. Most of these schools are within three miles of the edge of the Basalt Creek Planning Area.

The Planning Area is near Tualatin High School, one of two high schools in the Tigard-Tualatin School District. The district also includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to 1,000 students in the future. Existing parks, libraries, and schools are mapped in the Existing Conditions Report (see Appendix A).

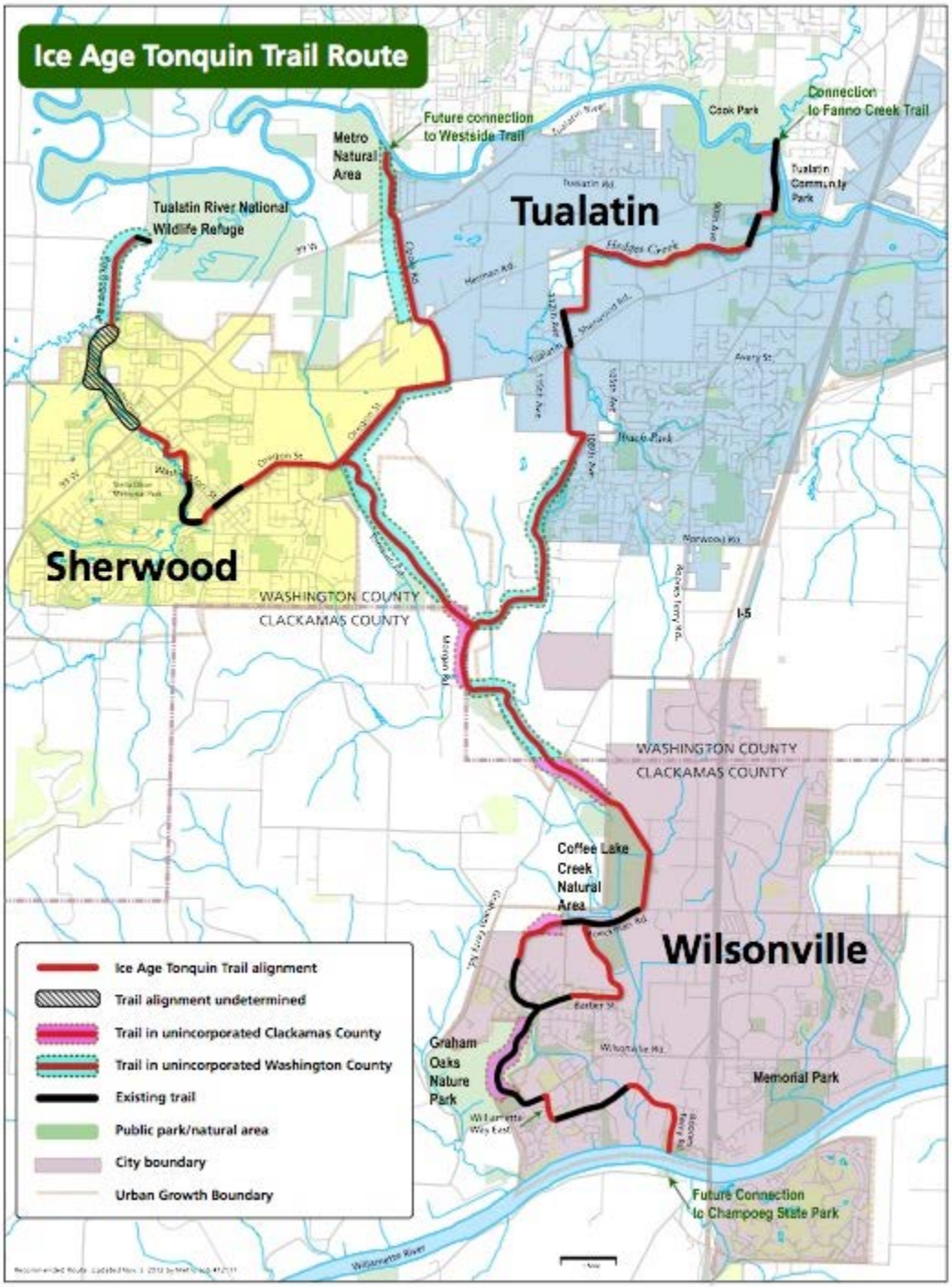
Parks

No parks currently exist within the Planning Area. Wilsonville Parks owns and maintains 16 different public parks, the closest of which is Canyon Creek Park located in Northeast Wilsonville on the other side of I-5. It has 1.41 developed acres and 6.87 acres of natural area popular for picnics and walking. The Other Wilsonville parks are located approximately 2 miles south of the Planning Area, including Graham Oaks Nature Park, which will be connected to the Planning Area when the regional Ice Age Tonquin Trail is complete. City of Tualatin Parks and Recreation owns and maintains 9 different parks, with Ibach Park being the closest to the Planning Area. Ibach includes an award winning and nationally recognized playground that incorporates Tualatin's pre-historic, Native American, and pioneering past, with information on the cultural and natural history of the area.

Trails

Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a section traversing the Basalt Creek Planning Area.

Figure 7 Map from the Ice Age Tonquin Trail Master Plan



Market Analysis

A market analysis (Appendix G) to identify the expected development potential for the Basalt Creek Planning Area as a future industrial and urban growth area was conducted by Leland Consulting Group.

The Planning Area is contiguous with several other employment and industrial areas in the southwestern part of the Portland metropolitan region. The market area for the Concept Plan includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. Each of these three cities is expecting business expansion and job creation. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Industry clusters in which both cities are already highly competitive are expected to continue and provide significant business and job growth in the future. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. The amount of industrial development (including warehousing, production, flexible office/industrial space, high tech, etc.) in both cities is significantly larger than the amount of office development. Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space.

Employment development in the Planning Area will benefit from a number of competitive advantages. A major feature and competitive advantage of this "Southwest Metro" employment cluster in general, and the Basalt Creek Planning Area in particular, is its immediate access to I-5, the west coast's most important transportation route. Additional advantages are access to I-205, Highway 217, nearby arterial roads, and transit service, a growing and educated workforce, and established and expanding industry clusters nearby. Employment corridors are located along transportation arterials that include the 124th Avenue Extension and the Basalt Creek Parkway located east west along the future jurisdictional boundary.

The market area's location and current demographics are also encouraging for new housing development. The Planning Area is immediately south of several south Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The neighborhoods create a positive environment for residential development along the northern edge of the Basalt Creek Planning Area.

The Planning Area is already served by several major regional and sub-regional retail nodes located nearby—Bridgeport Village, central Tualatin, and Wilsonville's Argyle Square. Any commercial space built in the Basalt Creek Planning Area will primarily serve residents and employees, as is consistent with Metro's employment area designation.

Concept Plan for Basalt Creek

Concept Plan Overview

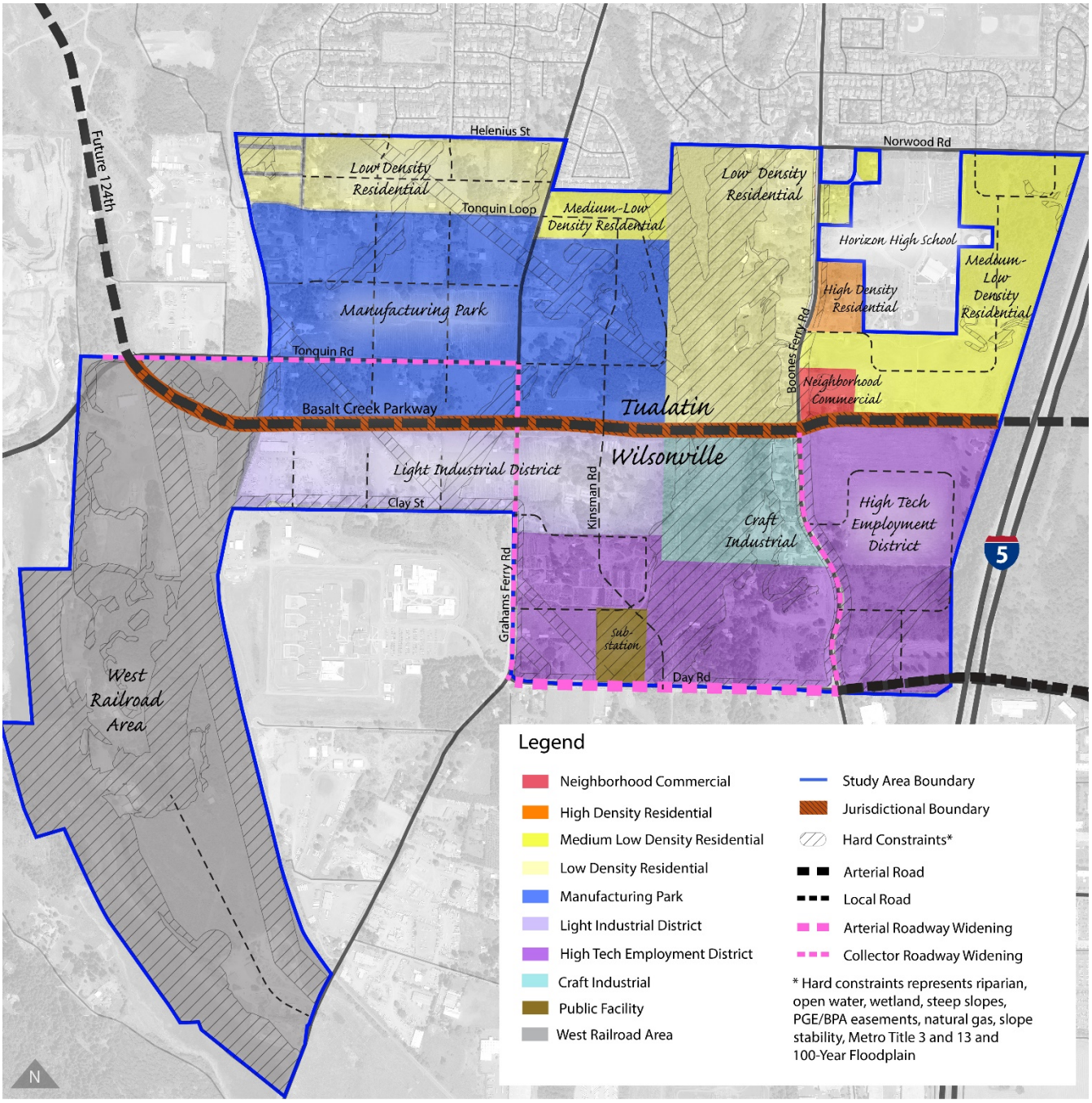
The Basalt Creek Concept Plan guides development within the Planning Area over the next twenty years. It identifies preferred land uses across the area and coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County. The partnership between the two cities which shaped this Plan must continue during implementation to drive successful development in the future.

In Ordinance No. 04-1040B, the Metro Council concluded that the Basalt Creek Planning Area can be planned for industrial use given there are urban services in the vicinity and that urbanization will have no effect on agricultural practices on adjacent land due to its isolation from agricultural activities. The Metro Council identified the area as the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region. The land use framework for the Concept Plan supports job growth in the area, while preserving natural space, buffering residential areas, and improving connectivity throughout the Planning Area.

Key considerations and conclusions informed the Basalt Creek Concept Plan:

- While there is a unified Concept Plan for the Basalt Creek area, it was also important to customize the land use types and implementation measures for each city.
- Natural features, topography, and future roads identified in the Basalt Creek TRP influenced infrastructure service areas and the jurisdictional boundary.
- Operating separate infrastructure systems along the jurisdictional boundary affords each jurisdiction the ability to develop and manage their own public utility systems.
- The topography and geology in this area may present development challenges and infrastructure costs may be higher than average.
- Various employment types impact performance of the transportation system differently; for example, retail uses generate more trips than industrial or warehousing.
- There are uncertainties in estimating assessed value and property tax revenue of future development due to unpredictability of the market and the extent to which the modeled development types will be built over time; likewise, it is difficult to accurately estimate SDC revenue for future development.
- The West Railroad Area has significant environmental, infrastructure, and transportation constraints and costs to serve new development; this area is likely to take longer to develop than the rest of the Planning Area. When there is development interest, future planning would need to be conducted.

Figure 8 Basalt Creek Land Use Concept Map



Key Elements of the Concept Plan

- Jurisdictional Boundary Determination
- Land Use and Development
- Transportation
- Transit
- Bicycle, Pedestrian and Trail
- Parks and Open Space
- Natural Resources
- Water
- Sewer
- Stormwater
- Implementation & Phasing

Jurisdictional Boundary, Land Use and Development

The Basalt Creek Planning Area is divided between the Cities of Tualatin and Wilsonville, and the Basalt Creek Parkway serves as the jurisdictional boundary between the two. Of the 847 acres in the Basalt Creek and West Railroad Areas, approximately 367 acres will be in the Tualatin planning area and 480 acres will be in the Wilsonville planning area. The land use patterns in the Concept Plan are responsive to the setting and to the existing conditions. Since the area is well suited and intended for industrial and housing uses, much of the Planning Area is designated for employment land uses. The Concept Plan land use pattern also anticipates the inclusion of transitional areas via development design standards to buffer new industrial land from adjacent existing uses and neighborhoods.

The land use designations on the map represent real-world development types. Each development type (i.e. Manufacturing Park) is defined by a set of buildings, which are based on real buildings in each of the cities. Tualatin's land use designations which are north of the jurisdictional boundary are consistent with its current development code, and Wilsonville's land use designations, south of the jurisdictional boundary, are consistent with its current development code.

Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the Planning Area. These land use designations were further refined, and appropriate densities selected to provide for regional employment capacity and housing while also maintaining traffic counts consistent with the TRP.

Tualatin land uses include a mix of residential and employment development types, with the housing land use designations in the northern and northeastern portions of the Planning Area. The Plan calls for a small retail node just east of the Basalt Creek Canyon located to serve residents and workers. Wilsonville land uses include a mix of employment development types and a modest opportunity for live/work housing. These land uses support adjacent and nearby industrial areas such as the Coffee Creek Industrial Area and provide flexibility to meet a range of market demands. These uses could also be a good fit for the City's Industrial Form-based Code, recently adopted for the Coffee Creek Industrial Area, if the City wanted to extend it north into the Basalt Creek Planning Area.

Development Types

Table 3 Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction

Jurisdiction	Land Use Designation	Buildable Acreage	Households		Employment	
			Count	Density per Gross Acre	Count (jobs)	Jobs per Gross Acre
Tualatin	High Density Residential	3.36	67	19.9	-	-
	Medium-Low Density Residential	59.83	374	6.3	-	-
	Low Density Residential	24.83	134	5.4	-	-
	Neighborhood Commercial	2.89	-	-	33	11.3
	Manufacturing Park	92.95	-	-	1,897	20.4
	Functionally Unbuildable	10.37	-	-	-	-
	Tualatin Subtotal	**194.23**	**575**		**1,929**	
Wilsonville	Craft Industrial	1.25	6	4.8	27	21.7
	Light Industrial District	35.30	-	-	581	16.5
	High Tech Employment District	94.47	-	-	1,916	20.3
	Functionally Unbuildable	5.62	-	-	-	-
	Wilsonville Subtotal	**136.64**	**6**		**2,524**	
Total		**330.87**	**581**		**4,453**	

Tualatin

Employment. The Concept Plan allocates substantial land as Manufacturing Park, which is expected to accommodate 1,897 new jobs, calculated based on the expected square footage of development in this area and the average square footage needed per employee. The Manufacturing Park is located along the northern edge of the future Basalt Creek Parkway on the land west of Basalt Creek Canyon, including both sides of Tonquin Road and Graham's Ferry (as shown on the above map).

Housing. Most of the remaining land north of the proposed Basalt Creek Parkway (beyond employment land) is allocated to a mix of residential uses at varying densities. The Concept Plan organizes residential land uses into two general areas that are intended to have easy access to services and be connected to parks, schools, and natural areas.

1. The plan focuses the lowest density housing (a mixture of low-density and medium-low density) along the northern portion of the Planning Area and low density along the west side of Boone's Ferry Road, adjacent to existing neighborhoods of Tualatin. This land is expected to accommodate 134 new households.
2. The eastern portion of the Tualatin future annexation area is anticipated to be a mixture of high and medium-low density residential; the land immediately east of Boones Ferry Rd is intended for high density housing; The remainder of the land east and south of Horizon School is planned for medium-low density residential. This eastern subarea is expected to accommodate 407 new housing units in Tualatin. This land is near the intersection between Boones Ferry Road and the new Basalt Creek Parkway.

Commercial. Neighborhood Commercial is planned north of the jurisdictional boundary and east of the Basalt Creek Canyon at, or near, the northeast corner of the intersection of Boones Ferry Road / Basalt Creek Parkway. It is intended to serve residents and workers.

Wilsonville

High-Tech Employment District. Most of the buildable acres in the Planning Area south of the proposed Basalt Creek Parkway are devoted to a mix of higher-density employment land. The High-Tech Employment District is expected to accommodate the largest number of jobs (1,916) with a mix of warehousing, manufacturing and office buildings. This land use is in the southern and eastern sections of the Planning Area, covering all Wilsonville land east of Boones Ferry Road and most of the land south of Clay Street extending to Day Road and bordered to the west by Coffee Creek Correctional Facility.

Craft Industrial. The southwest corner of the intersection of Boones Ferry Road and the new Basalt Creek Parkway is planned as Craft Industrial, which allows for a mix of smaller-scale commercial uses, which may include live-work units. These envisioned development types respond to the topography on those parcels and their location directly south across the Parkway from residential land and southwest of the neighborhood commercial node across the Parkway in Tualatin. Craft Industrial is a better fit with those surrounding uses, providing a transition to the higher intensity employment uses to the south. This area allows less than 20 percent residential use and is expected to accommodate 27 new jobs and 6 new housing units in the form of live-work units.

Light Industrial District. This land is located across the southern edge of the future Basalt Creek Parkway just north of Coffee Creek Correctional Facility and will be able to accommodate 581 new jobs primarily in warehousing and light manufacturing.

West Railroad Future Planning Area

The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The area is heavily constrained by wetlands habitat (as seen in Figure 5), steep slopes, and fragmented property ownership. Initial estimates show it would be costly to serve this area with adequate water, sewer, and transportation infrastructure due to

its location. These initial cost estimates for the infrastructure are included in Appendix H (Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo) and Appendix I (Basalt Creek Concept Plan Infrastructure Technical Memo). Topography and the PNWR line also create a relative separation between this area and the rest of the Basalt Creek Planning Area as well as access issues for freight trucks. Given these constraints, the area has potential for resource conservation and future public access to nature. Additional land uses may be appropriate but will need further analysis.

Because it is considered to have much lower development potential than the rest of the Planning Area, a future land use scenario was not created for this area at this time – it is being considered an area for future study and consideration. Once development and the extension of infrastructure occurs in the rest of Basalt Creek as well as the Coffee Creek Industrial Area, additional analysis should be completed on infrastructure service costs and appropriate land uses. The West Railroad Area is south of the Basalt Creek Parkway and in the City of Wilsonville future annexation area. Wilsonville's Comprehensive Plan amendment to adopt this Concept Plan will include a designation of Area of Special Concern for the West Railroad Area. The area will require master planning before any development occurs.

Transportation

Key Transportation Solutions

The TRP sets the layout of major new roads and improvements for the area. Prior to land annexing into either city, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County to build out the transportation network as set forth in the TRP. The network must also coordinate with plans for the area as set out in the Metro Regional Transportation Plan.

The Basalt Creek Parkway, of which the segment between 124th Avenue/Tonquin Road to Grahams Ferry Road is already under construction, is the major east-west arterial through the area. The Parkway allows for limited local access providing important freight connections between Tonquin, Southwest Tualatin, and Basalt Creek Employment Areas to I-5. It also serves as a future jurisdictional boundary between Tualatin and Wilsonville.

Additional road improvements are necessary to handle projected traffic levels as the area develops, including adding capacity to north-south collectors and Day Road as well as two additional I-5 crossings (at Day Road and Greenhill). As the area develops, property owners will plan and build local roads connecting to this network. These roadway improvements will include enhanced bike and pedestrian facilities and connections to the future transit system.

Roadway Network

The roadway network for the Basalt Creek Concept Plan is shown in Figure 9. The transportation network includes projects considered likely to be in place by 2035. Metro's model for forecasting depends partly on the projects planned for the Basalt Creek Planning Area, as well as those planned for the region (Metro's 2035 Gamma model). Metro's 2014 RTP, which lists projects reasonably likely to be funded by 2040, informed this analysis. Table 4 shows potential capacity-related projects from the 2014 RTP list. The projects in the RTP originate from the Basalt Creek TRP (see Figure 10 below).

The planned roadway network includes the projects and facilities described in Table 4 below, with one exception. The East-West Arterial Overcrossing is not included on Figure 9 as that segment of the Basalt Creek Parkway is anticipated to be constructed after 2040. Figure 9 also depicts where local connections may be needed to provide access and circulation to existing development and developable parcels. Both Level of Service (LOS) and Volume to Capacity (V/C) performance measures are shown. Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two performance measures of intersection operations.

Level of Service: relates the traffic service to a given flow rate of traffic and divides the quality of traffic into six levels ranging from Level A to Level F. A represents the best traffic where the driver has the freedom to drive with free flow speed and Level F represents the worst quality of traffic.

Volume-to-capacity (v/c) ratio: A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. A lower ration indicates smooth operations and minimal delays as the ratio approaches 1.0 congestion increases and performance is reduced. Above that the intersection is at capacity and considered failing.

Table 4 2014 RTP Projects Assumed for 2035 Forecasting

Project Number	Project and Description	TRP Time Period	In Place by 2035?
10736	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95th Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	**No**

Source: http://www.oregonmetro.gov/regional-transportation-plan

Figure 9 Transportation Preferred Alternative 2035

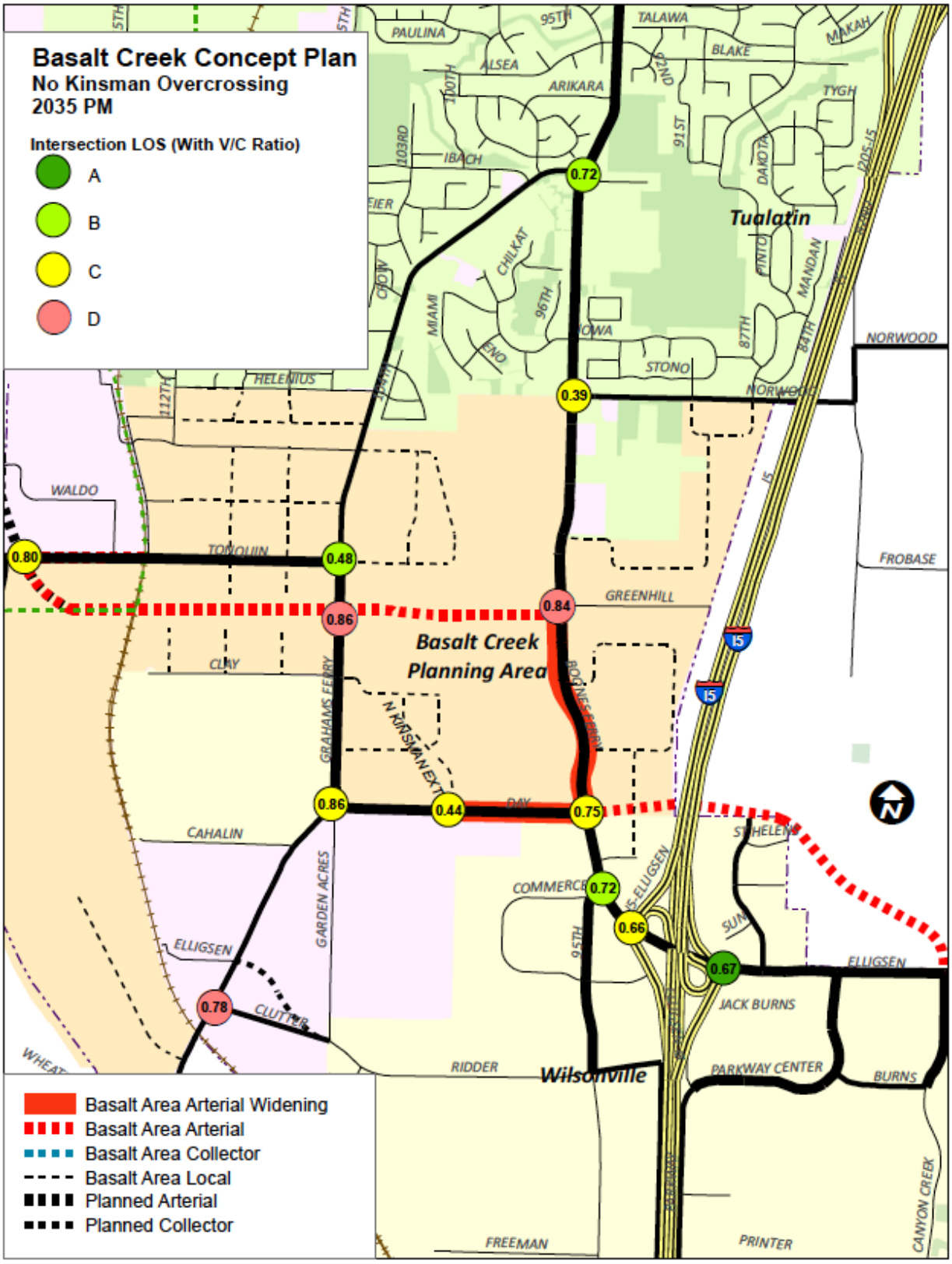
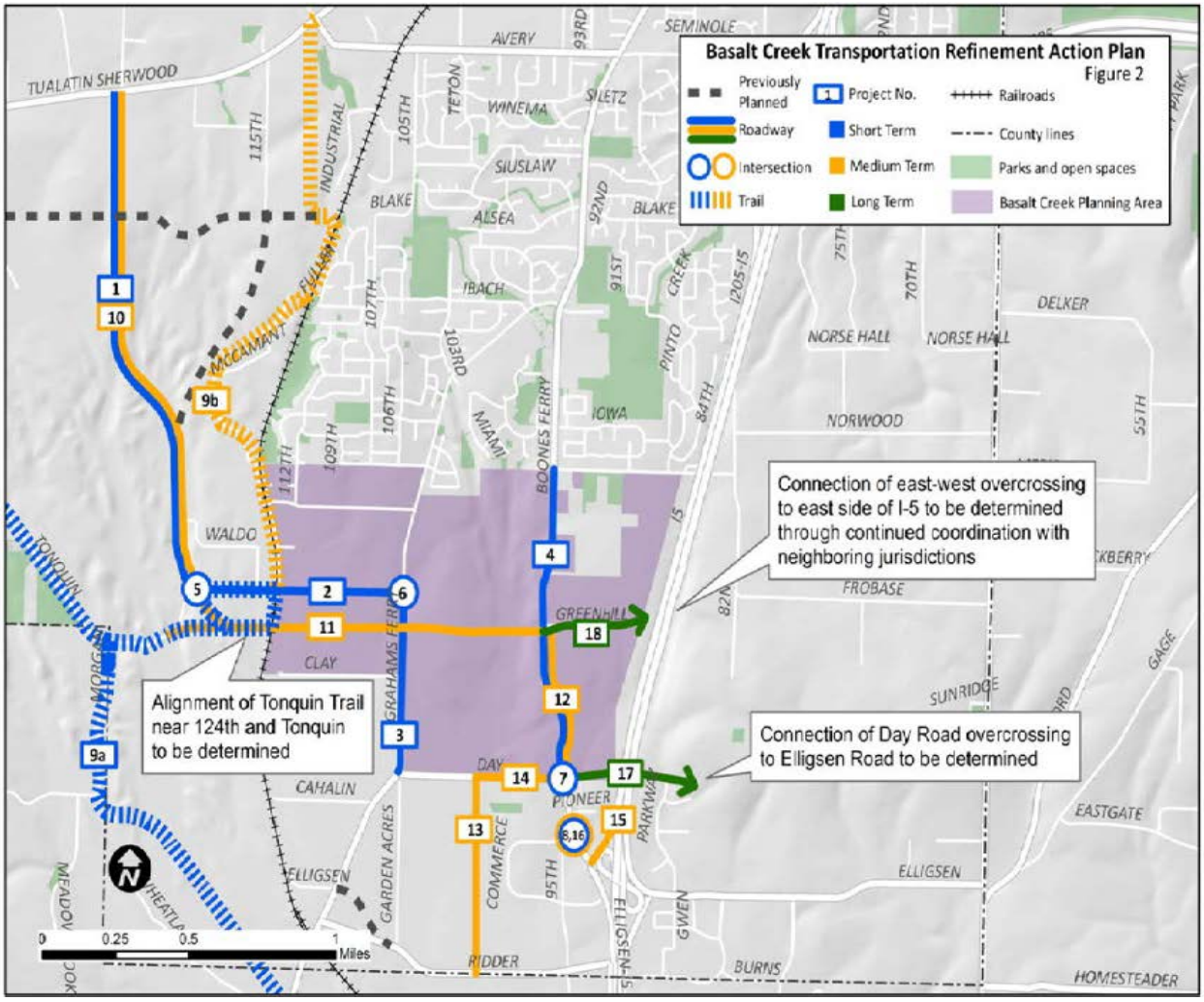


Figure 10 Basalt Creek Transportation Refinement Plan



See Appendix J for more information on the full project list.

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations. Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. Table 5 outlines the trip generation by land use in the Planning Area. The trips generated by the land uses in the Concept Plan are consistent with the trip generation assumed in the TRP and the 2014 RTP.

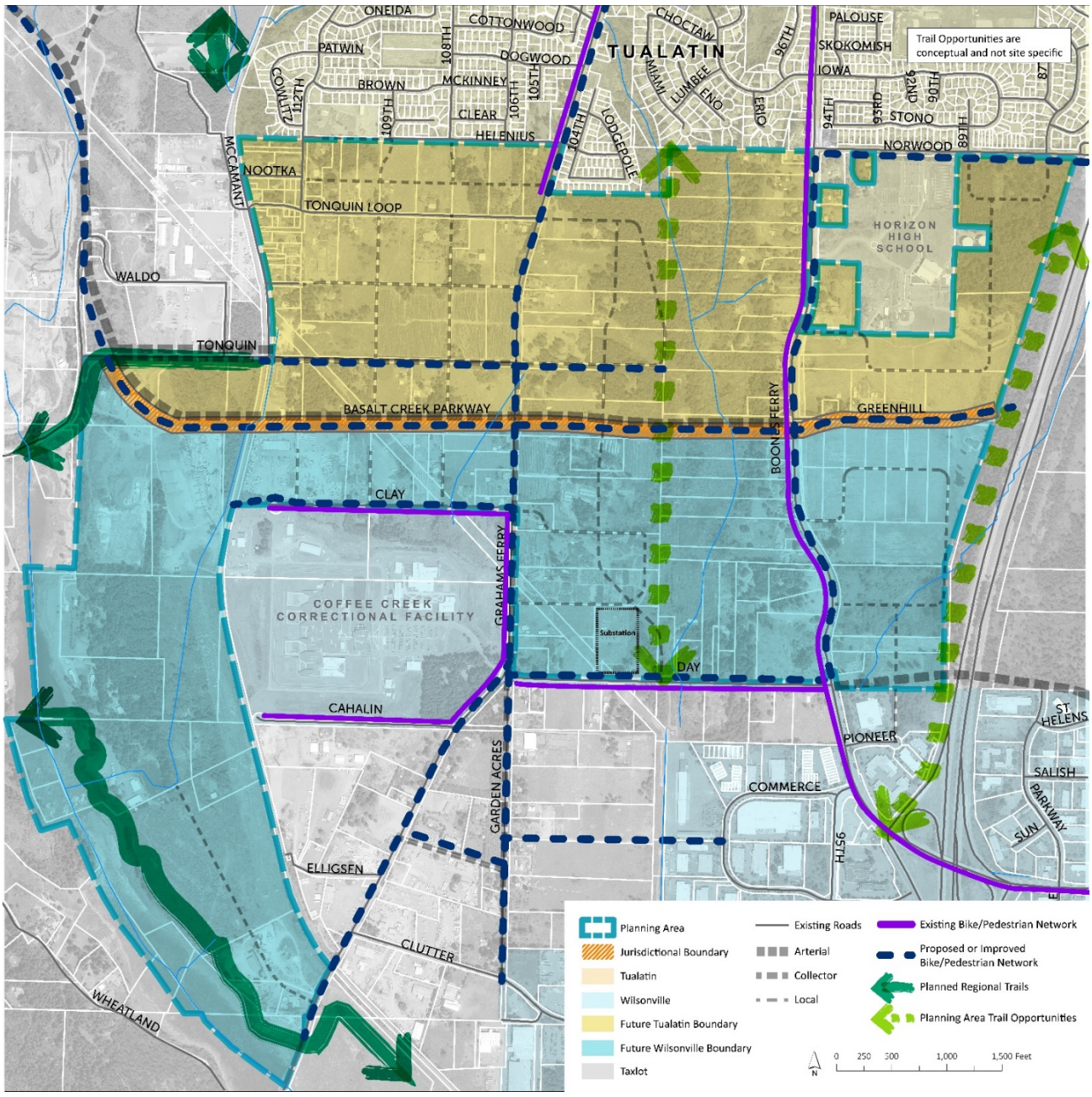
Table 5 Trips by Land Use Designation

Jurisdiction	Land Use Designation	Trips	Trips per Acre
Tualatin	High Density Residential	42	12.52
	Medium-Low Density Residential	236	3.94
	Low Density Residential	85	3.41
	Neighborhood Commercial	24	8.26
	Manufacturing Park	725	7.80
	Tualatin Subtotal/Average	1,111	5.72
Wilsonville	Craft Industrial	16	12.95
	Light Industrial District	218	6.17
	High Tech Employment District	717	7.59
	Wilsonville Subtotal/Average	951	6.96
Planning Area	**Planning Area Average**		**6.23**
	Total Trips	**2,062**	

Bicycle and Pedestrian Framework

As noted in the existing conditions, the bicycle and pedestrian network is incomplete in the Planning Area. Additional bike and pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards and in conjunction with predicted traffic flows. The map below illustrates the location of these proposed upgrades, along with identified trail opportunities that would further enhance connectivity in the Planning Area and to surrounding areas.

Figure 11 Bikes, Trails, and Pedestrian Network Map



While existing bike and pedestrian facilities run along Boones Ferry Road, Day Road, and sections of Grahams Ferry Road, planned improvements will increase safety and completeness. The additional facilities will offer significant east/west connections along the new Basalt Creek Parkway and Tonquin Road as well as an important north/south connection along the length of Graham's Ferry Road within the Planning Area. These improvements will make connections between the proposed neighborhood commercial area on Boones Ferry Road with residential neighborhoods and employment areas as well as the future transit network. Given the nature of the Basalt Creek Parkway, an over or underpass may be preferred or necessary to make the best bike/pedestrian connections in the Planning Area.

Coordination between the cities, Washington County, Metro, ODOT, and possibly BPA will be necessary for a feasibility study, implementation and funding.

Most participants polled at the April 2016 Open House suggested they would like to use future bike and pedestrian facilities to access recreation or for exercise, with almost half anticipating using these facilities at least once a week. These new connections will not only provide improved connectivity but also valuable access to local recreational areas, trails, and natural areas.

With the conservation of significant natural areas, the plan outlines opportunities to connect these spaces to pedestrian and bike facilities in key locations to create active and passive recreation, outdoor education, and public art amenities. The two main opportunities for trails within the Basalt Creek Planning Area are a Basalt Creek Canyon Ridge Trail and the I-5 easement Trail, which are shown in Figure 11 as Planning Area Trail Opportunities marked by large light green arrows. When trail alignments are considered in the future, access to the natural resource will not take priority over protection and enhancement.

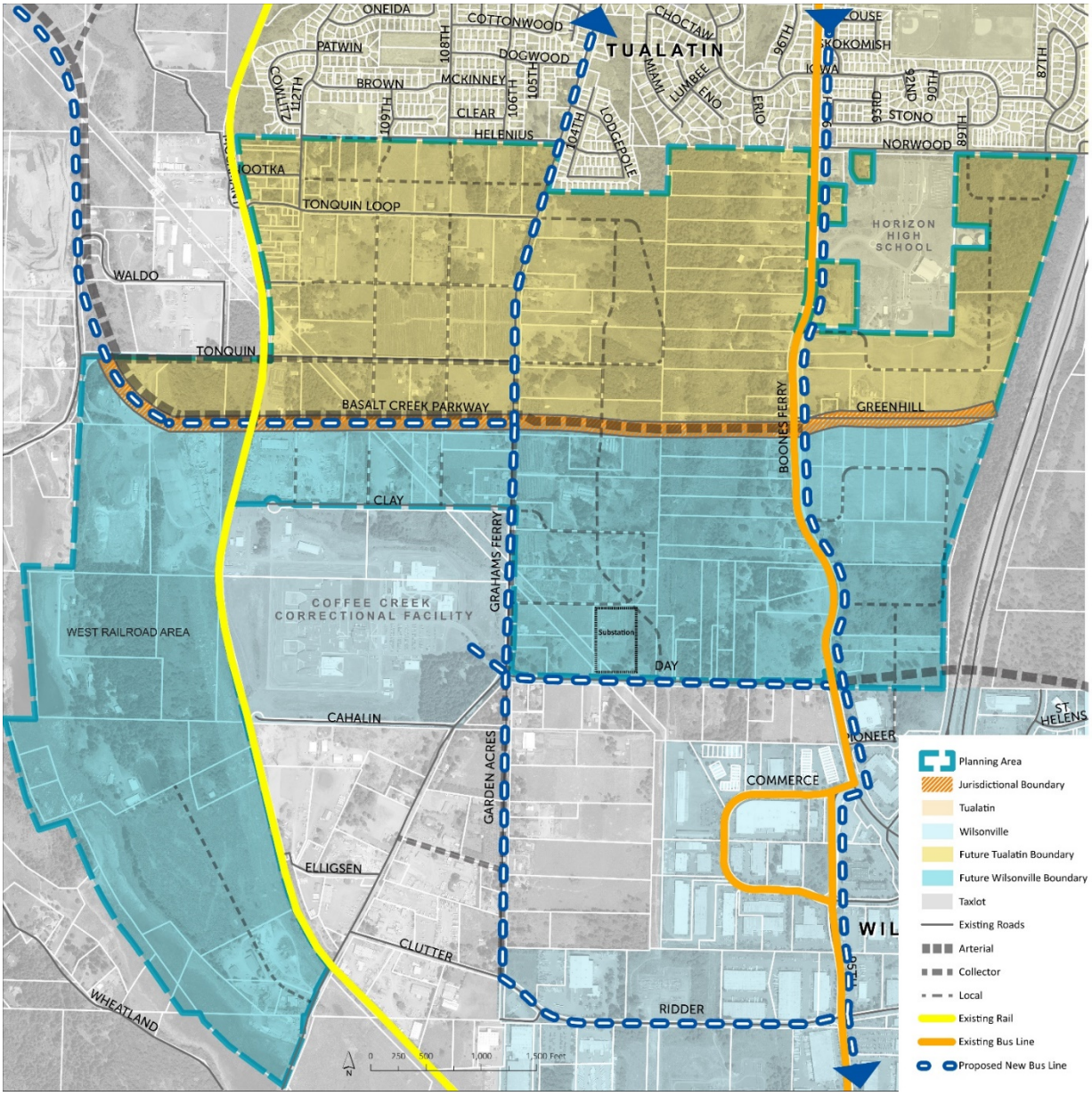
Currently, Basalt Creek Canyon is a barrier to east/west movement through the Planning Area. A north/south connection to the west of the Canyon would further improve the network and make connections to east/west roads that run north and south of the Canyon. The Basalt Creek Canyon Ridge Trail opportunity would be located upland, not within Basalt Creek, near or along the ridge of the Basalt Creek Canyon. This trail could be connected to the regional trail network by extending Tonquin Road with bike/pedestrian facilities across Graham's Ferry to the new ridge trail. There is also opportunity to create a trail parallel to I-5 in the ODOT regional easement that would provide an additional north/south connection that would connect to existing bike and pedestrian facilities.

Decision-making on investments should prioritize connections that link pedestrian and bike networks to transit stops and near locations with higher planned density. Potential funding sources for improving the bike/pedestrian network include Washington County (MSTIP) and Metro (i.e. MTIP, RFFA, SW Corridor, Natural Area Bonds).

Coordination with Metro, Tualatin Community Services Department, and the Wilsonville Parks and Recreation Department will be necessary to establish a local trail network with regional connections. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional implementation of the regional Ice Age Tonquin Trail, which is intended to complement the Ice Age Floods National Geological Trail Planning (the national trail will be a network of driving routes with spurs for biking and walking, from Montana to the Pacific Ocean). The preferred alignment for the regional Ice Age Tonquin Trail includes a section bordering the Basalt Creek Planning Area as part of a 22-mile trail alignment through Wilsonville, Tualatin, and Sherwood with trail facility types varying by location based upon landscape and setting. The Ice Age Tonquin Trail is intended to connect in the north to the Tualatin River Greenway Trail, Fanno Creek Trail, and the Westside Trail, and to the south to the Willamette River.

Future Transit Framework

Figure 12 Future Transit Framework



The creation of additional bus lines along existing and new routes in the Basalt Creek Planning Area will be necessary to increase connectivity and to support the job and household growth envisioned for this area. Transit service in the area requires coordination between TriMet and SMART to enhance service along existing bus routes and to provide effective connections north-to-south and east-to-west through the Planning Area. This service would also provide access to surrounding and regional employment centers and residential neighborhoods. Transit service should facilitate riders commuting to and from work and visiting major local destinations such as the Wilsonville and Tualatin Town Centers. As such, transit service should reflect development and density patterns as the area grows.

SMART and TriMet routes will be integrated with the bike, pedestrian, and trail services with key access points along Grahams Ferry Road, Boones Ferry Road, Day Road, SMART Central, and the Correctional Facility. All extensions will comply with ADA requirements. SMART will continue to serve Wilsonville, including the areas annexed within the Planning Area into Wilsonville. The Cities will work with TriMet to integrate with SMART service. Lawmakers and staff will work together to ascertain the impacts of and process for a possible service boundary change.

The existing Portland and Western Railroad (PNWR) runs along the western side of the Basalt Creek Planning Area. In addition to transporting freight, it also provides the Westside Express Service (WES), a commuter rail line serving Beaverton, Tigard, Tualatin and Wilsonville. WES runs on weekdays during the morning and afternoon rush hours, with trains every 30 minutes, connecting commuters to both the TriMet and SMART transit systems. The feasibility of a new WES station serving the Basalt Creek Planning Area should be studied with increased development and ridership demand.

Civic Uses

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the Planning Area, but a minimum park space of a 15- to 20-acre Neighborhood Park is needed to serve Tualatin residents and businesses in the Planning Area. The facilities for provision of schools and parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, cities, and other service providers would use their site selection and land acquisition processes to acquire the land needed for these facilities. Locations of any necessary facilities will be determined through a collaborative planning effort between the cities and service providers, as such they are not included on any plan maps. Cities have decided to provide library services for the Basalt Creek population through existing libraries that will be sized to accommodate the additional demand.

Schools

Capacity is the main concern for school planning. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Planning Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 1,156 future households in the Basalt Creek Planning Area.

The Planning Area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

The Basalt Creek Planning Area is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website http://www.sherwood.k12.or.us/information/bond-visioning-process).

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The Planning Area is located very close to Tualatin High School. The Tigard-Tualatin

School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the Planning Area and currently serves 160 students but plans significant expansion in the future.

The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the Planning Area. Although, the Basalt Creek Planning Area could provide opportunities for shared facilities, such as parks and recreation spaces.

Parks and Open Space

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating new parkland, open spaces, natural areas and trails in the Planning Area and connecting to existing regional networks.

The Planning Area provides an interesting opportunity for different types of parks, given the variety of land uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Cities will determine specific locations of facilities as part of citywide parks planning and implementation, and will adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Planning Area, including the use of their current System Development Charges for parks. Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises.

At the time of this writing, both cities are going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek Planning Area in the types of services and facilities that will be needed to serve residents and businesses in this area. Each City will include their respective portions of the Basalt Creek area in their independent Parks and Recreation Master Plan.

Natural, Historical and Cultural Resources

Overview

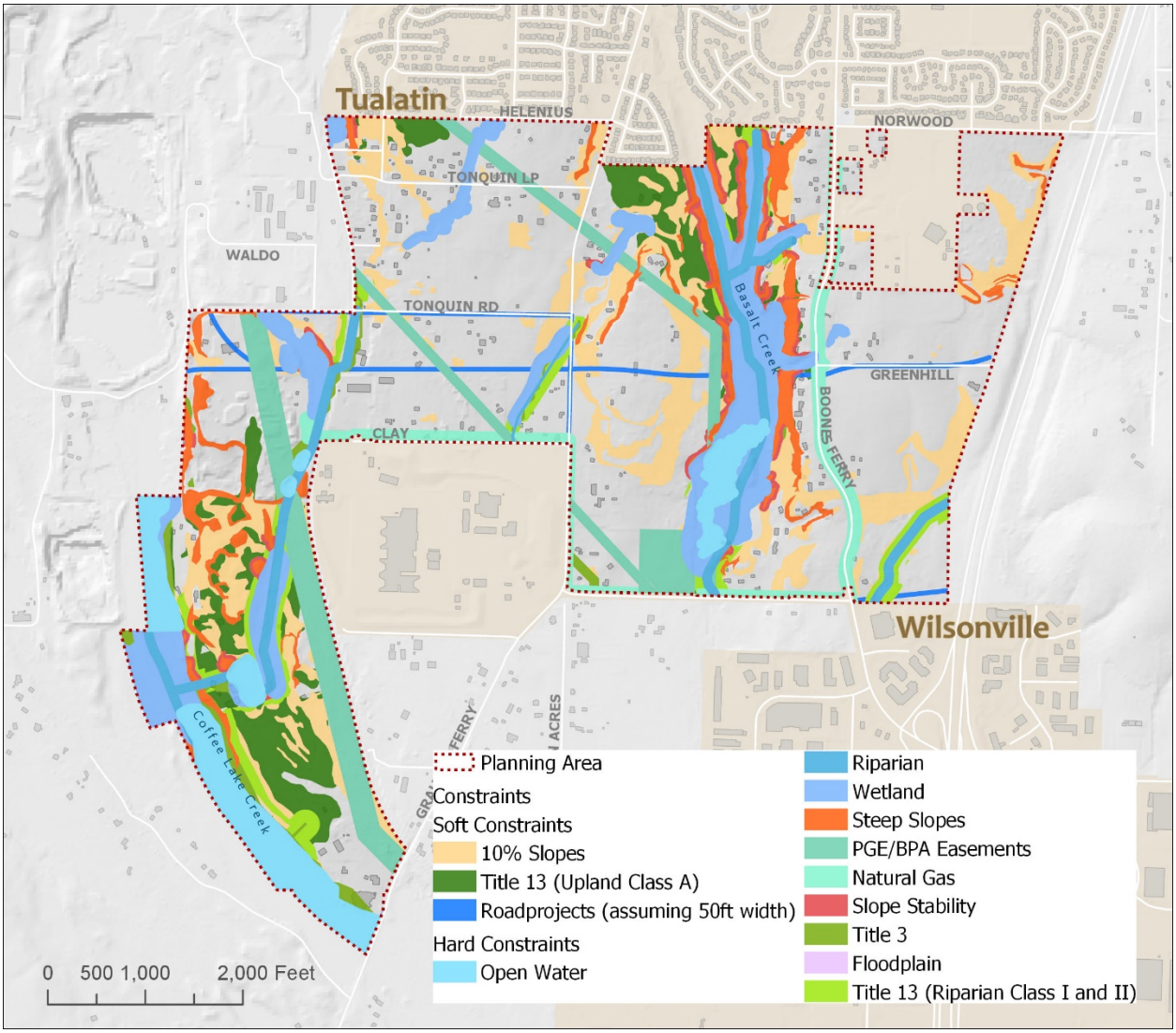
The future vitality of the Basalt Creek Planning Area hinges on development that efficiently locates job growth on the land most suited for it, while preserving and capitalizing on the natural and cultural resources in the area. The identification of environmentally sensitive lands followed the regulatory framework described briefly below and is illustrated on the Natural Resources Map (Figure 13) and in the Existing Conditions Report (Appendix A starting on page 86).

Developable lands for all scenario planning incorporated these findings. Since Clean Water Services and Wilsonville have local regulations compliant with state and regional environmental protection requirements, and in some cases that go above and beyond basic requirements, the constraints analysis used them as a foundation for determining the necessary buffering around a natural feature.

Environmental constraints are summarized below and unless otherwise noted were fully excluded from the developable land input in the scenario testing for the Basalt Creek Concept Plan:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Figure 13 Natural Resources Map



Regulatory Framework for Conserving Natural Resources

Oregon Statewide Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

Goal 5 protects natural resources and conserves scenic and historic areas and open spaces by directing local governments to adopt protection programs. Titles 3 and 13 of Metro's Urban Growth Management Functional Plan implements Goal 5 in the Portland Metro region.

Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which includes wetlands and riparian areas. An inventory was conducted in 2001. There are 116 acres of land in the Basalt Creek Planning Area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3. These lands are restricted for development and buffered by a vegetated corridor. Any development within the vegetated corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures. As a result of Title 3, these lands were excluded from the developable lands input in the scenario testing.

Table 6 Title 3 Wetlands by Category and Acres

Category	Acres	Description
Open Water	49 acres	Includes 50 ft. buffer
Streams	31 acres	Includes 15 to 50 ft. buffers
Wetlands	69 acres	Includes 25 to 50 ft. buffers

Metro Title 13: Nature in Neighborhoods

Title 13 requires local jurisdictions to protect and encourage restoration of a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. Metro's regional habitat inventory in 2001 identified the location and health of fish and wildlife habitat based on waterside, riparian and upland habitat criteria. These areas were named Habitat Conservation Areas.

Table 7 Title 13 HCA Categories with Acreage

HCA Categories	Acres	Description
Riparian Wildlife Habitat Class I	130	Area supports 3 or more riparian functions
Riparian Wildlife Habitat Class II	31	Area supports 1 or 2 primary riparian functions
Riparian Wildlife Habitat Class III	7	Area supports only secondary riparian functions outside of wildlife areas
Upland Wildlife Habitat Class A	103	Areas with secondary riparian value that have high value for wildlife habitat
Upland Wildlife Habitat Class B	72	Area with secondary riparian value that have medium value for wildlife habitat
Upland Wildlife Habitat Class C	37	Areas with secondary riparian value that have low value for wildlife habitat

Designated Aquatic Impact Areas	52	Area within 150 ft. of streams, river, lakes, or wetlands that are not considered regionally significant natural resources but could have some adverse impacts

Development in Title 13 areas is not prohibited but generally discouraged within the Basalt Creek Planning Area. Areas designated Riparian Habitat Classes I and II require 20% reduction in developable lands. Low impact design and mitigation strategies would be important to any development that might happen to maintain the function of these important ecological areas.

Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and existing local standards from each City would apply upon annexation of a Planning Area property into either Wilsonville or Tualatin. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat, including the Tualatin River Watershed and the entire City of Tualatin. Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, riparian corridors, and vegetated corridors. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development can only be permitted through review of a Significant Resource Impact Report (SRIR) analyzing the impacts of development within mapped significant resource areas.

Natural Resource Protection and Enhancement Strategies

Most of the land with environmental constraints is in or near Basalt Creek Canyon and the West Railroad Area. To protect the natural areas, the Cities have agreed to management practices consistent with Metro Title 3 and 13. The Canyon is very valuable to the area and it needs to be protected, while also having visual or physical public access points in appropriate locations to connect to the bicycle, pedestrian and recreational facilities in the area and to serve the needs of residents and local employees. Future protection and enhancement opportunities may include: controlling invasive plant species, such as reed canary grass, Himalayan blackberry and English ivy, reintroducing native plants into aquatic and upland habitats, retaining and installing snags and woody debris. Important species include Red-legged Frogs, the Pileated Woodpecker, Oregon white oak, Ponderosa pine, and Geyer willow (see Appendix A for more information).

Cultural Resources

Community members through the planning process have identified the old Carlon Schoolhouse as a historically significant landmark. It sits off Grahams Ferry Road near Day Road and was in use as a school until the late 1800s. While the area has an interesting geologic history, it has not been identified as a resource for any significant archaeological artifacts.

Figure 14 Picture of the Carlon Schoolhouse from Tualatin Life Newspaper on August 19, 2014 by Loyce Martinazzi

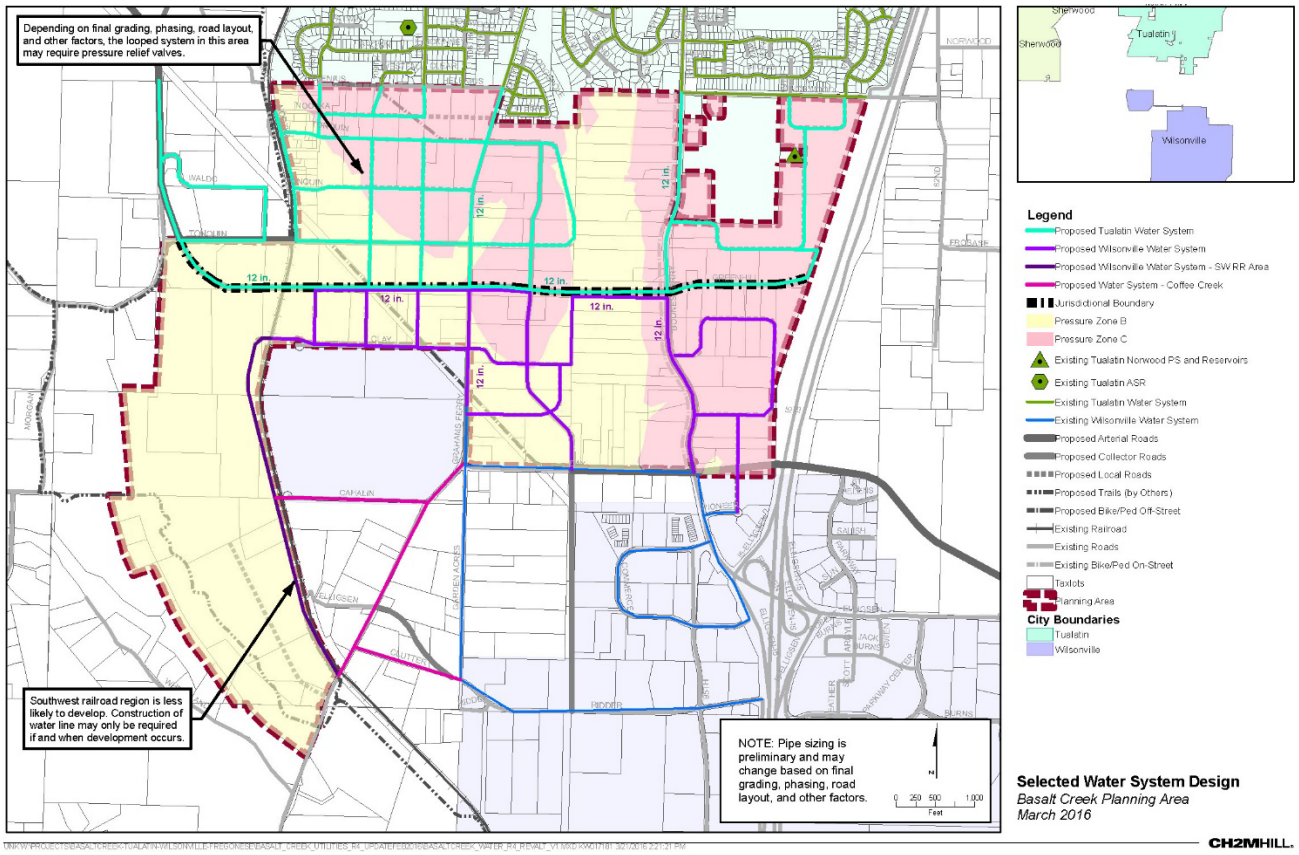
Infrastructure

For the conceptual infrastructure systems, high level planning calculations were completed to estimate water demand and sewer flows (Appendix I). These values can vary widely depending on the actual future development. Each City's individual master plans will be used to provide demand and flow projections when further planning the area.

Water

The conceptual water systems designed to serve the Basalt Creek Planning Area are shown below in Figure 15. The systems are independent looped systems that will not be connected to each other. Water lines for each city may be located along the proposed east-west arterial road, the future Basalt Creek Parkway, and other roadways throughout the Planning Area.

Figure 15 Water Systems Concept for Basalt Creek Planning Area



The existing service zones (levels B and C) from both communities provide sufficient pressure to provide service within each city's planning area. The Tualatin pressure zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet) will serve the Basalt Creek Planning Area. To provide service to Wilsonville's pressure zone C area (ground elevations 275 feet to 410 feet), the City has identified a need to install a booster pump station to serve the higher elevation areas (above approximately 285 feet) south of Greenhill Road. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the City's city-wide cost estimates.

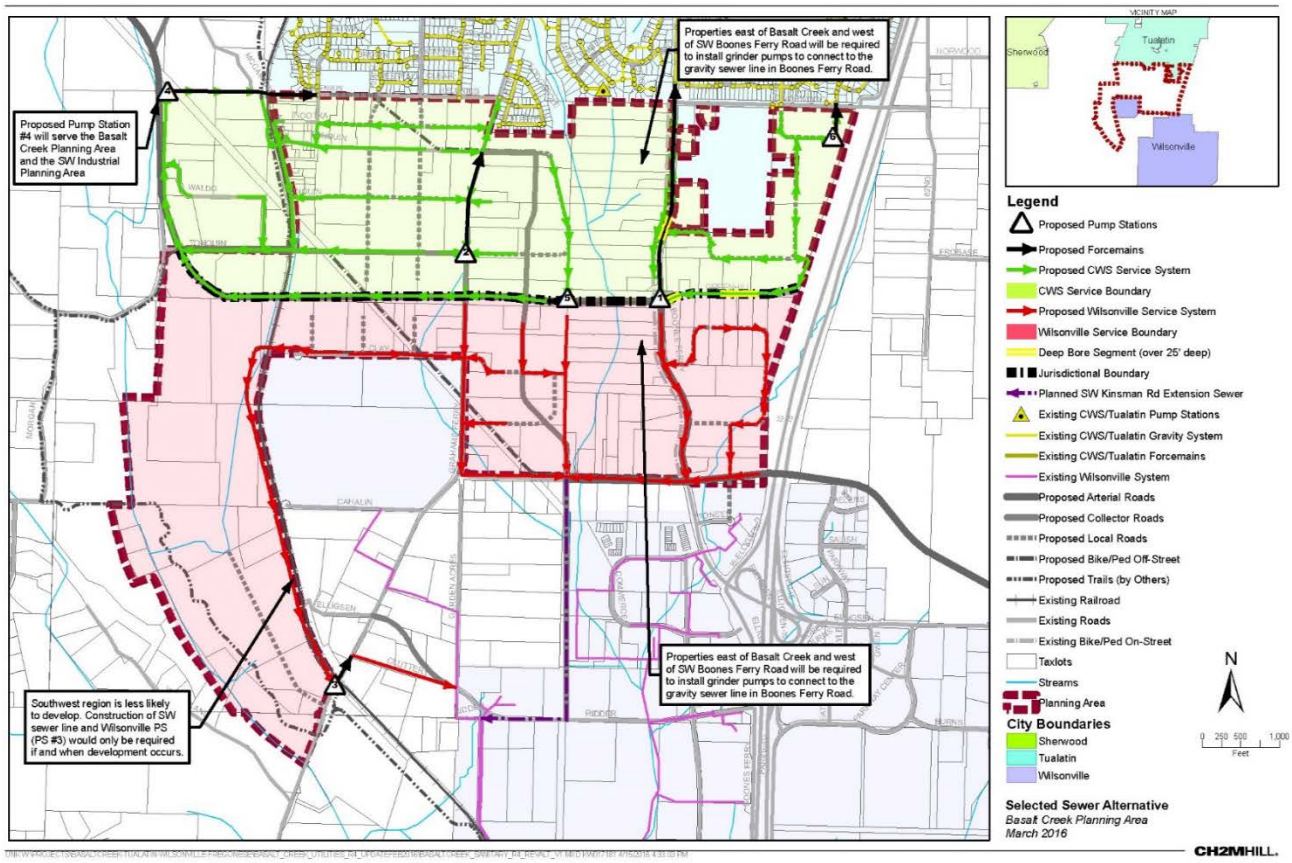
The Coffee Creek water system is shown outside of the Basalt Creek Planning Area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road) to illustrate Wilsonville's water system and how to connect services to the West Railroad Area. That portion of the system would be installed and funded by development within the Coffee Creek Master Plan area.

The West Railroad Area has a much lower potential for development due to several constraints including slope, geology, wetlands, habitat areas, access, and existing uses. Cost estimates to serve this area have been included as a separate column but would only be required if and when development occurs.

Sanitary Sewer

The conceptual sanitary sewer systems are shown in Figure 16. While topography will be a major challenge, the sanitary systems use gravity as much as possible and sewers generally flow to the south and west following the slopes of the existing ground and along existing and proposed roadways and trails to avoid streams and natural areas. These systems include new pump stations, which are used to lift wastewater to higher elevations where it can then be transported by gravity flow systems.

Figure 16 Sanitary Sewer Systems Concept for Basalt Creek Planning Area



Five pump stations are proposed to serve the Tualatin system, managed and maintained by Clean Water Services (CWS), and one pump station is required for the proposed Wilsonville system.

In the area between Basalt Creek Canyon and Boones Ferry Road in both Tualatin and Wilsonville service boundaries, residents and business owners who wish to connect to the proposed gravity system (or are

required due to septic failure) likely will require a private grinder pump to connect to public sewer. A grinder pump consists of a collection tank that grinds waste and pumps it to the public sewer system.

The conceptual sewer system connects to the existing Tualatin system at SW 112th Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system in Garden Acres Road to SW Day Road, Grahams Ferry Road and Boones Ferry Road (the sewer line initially contemplated in the Coffee Creek Master Plan and included in the analysis for this Concept Plan has changed, shifting from a SW Kinsman Road extension to Garden Acres Road).

Stormwater Drainage

Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. Each City will serve its own jurisdiction area independently. The Cities acknowledge that they must follow requirements established in their guiding respective NPDES (National Pollution Discharge Elimination System) MS4 (Municipal Separate Storm Sewer System) permits. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or stormwater management plans. Public stormwater systems are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are assumed to be part of the development costs, which have not been estimated.

Implementation and Phasing Strategy

Implementation Measures

Implementing the Concept Plan will take a predictable path in this area:

- First, each City will work with the County to update their Urban Planning Area Agreement.
- Each City will also amend its comprehensive plan to include the essential elements of the Concept Plan.
- Next, the Cities ensure that the zoning and/or development code is updated to enable development in the Planning Area, and includes appropriate zoning standards
- Generally, annexation is predicated on investor interest, and the expectation is that investors will finance the extension of services.
- Either city may decide to invest in service extension as a way to spur development or may decide to help a group of investors develop an area, for example by providing the formation of a Local Improvement District of other funding mechanism.

Action Items

1. Amend Urban Planning Area Agreements

Comprehensive planning within the regional Urban Growth Boundary (UGB) is coordinated between Washington County and cities through Urban Planning Area Agreements (UPAAs). Upon adoption of the Concept Plan both Cities will work with the County to update their respective UPAAs. The UPAAs will acknowledge the future jurisdictional boundary and outline what areas may be annexed into by each city. The amended UPAAs provide the transfer of planning authority to the Cities enabling them to proceed with annexation and development.

2. Amend Comprehensive Plans

Tualatin, which has a "one map" system where the zoning and comprehensive plan are essentially the same map, will be adopted after adoption of the Concept Plan anticipated by May 2019.

Wilsonville, which has a "two map" system where the Comprehensive Plan shows future conditions and not necessarily zoning, will adopt Comprehensive Plan amendments soon after the adoption of the Concept Plan. The Comprehensive Plan amendments will draw from the Concept Plan and use its definitions of uses and standards to design the amendments.

3. Assure zoning is compatible with future land use

Each city will need to assess its zoning codes and ensure that they permit the anticipated uses with appropriate development standards. This will be made fairly easy in that each city has its own development types, drafted around current zoning code standards. However, new uses anticipated in some of the development types will need some zoning code amendments.

In addition, the Cities will need to consider special design elements of the Concept Plan and determine if their respective development codes need to be updated. Specifically, the City of Tualatin will want to

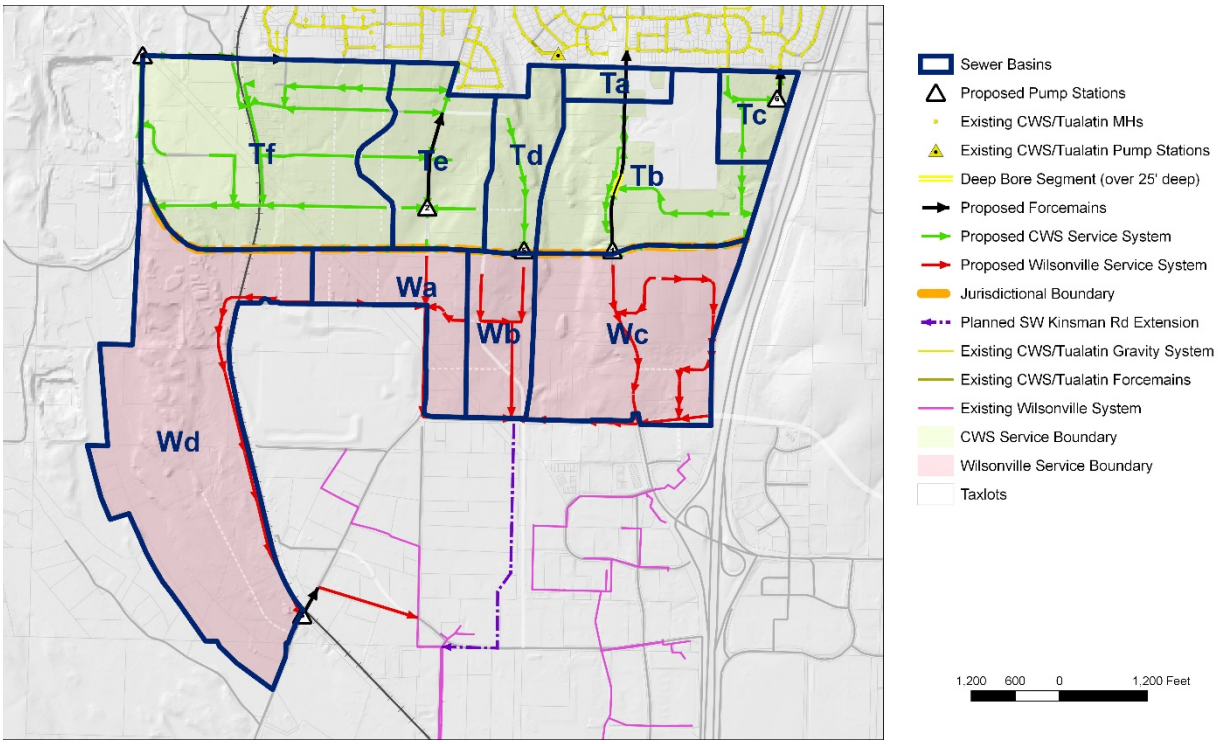
determine what design standards are relevant to creating appropriate transitions between residential and employment uses, and the City of Wilsonville will want to consider the application of its Industrial Form-based Code to help create a uniquely attractive business community.

4. Annex as demand occurs based on feasible phasing

Utility improvements will be made as properties are annexed and developed in each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the Planning Area that are adjacent to the existing city services and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements.

The most formative of the utilities (sewer, water and roads) will be sanitary sewer. This is because it is a gravity system that must be hooked into an existing sanitary system or drained to a pump station that will lift the sewage via pressure line to an existing sanitary line.

Figure 17 Implementation Map



Based on the Sewer Master Plan, several natural phasing districts are evident. These are shown on Figure 17. Tualatin has six potential phases based on existing sewer basins and five pump stations. No one sewer basin is dependent on the other, so these areas could develop in any sequence. If the initial installation can install the pump station and pressure line, development can proceed in increments, from the pump station uphill to the extent of the sewer basin. Figure 17 shows Tualatin stages advancing from Ta through Tf.

Wilsonville has four basins, three gravity and one with a pump station. Figure 17 shows phasing progressing from Wa through Wd. District Wd, which serves the West Railroad Area, is the most

constrained and likely to see development last in the Planning Area. The other three are gravity lines that can be constructed independently. They can proceed from the inlet to the existing gravity system uphill in the basin.

In both cities, the water and transportation infrastructure can be installed as needed although some enabling projects may be required to be constructed prior to development to connect properties to existing systems. Efficiency may be achieved when the underground utilities are constructed concurrently with the transportation system.

5. Consider capital improvements to spur development

In both systems, the sewer basin is large enough that it contains several property owners. Each city has a method of reimbursing the developer for installing infrastructure when other development hooks in. However, the Cities may find that in some cases, the property owners of developers cannot finance the infrastructure themselves. In that case, the city may decide to participate in one of several ways:

- Finance the infrastructure themselves, charging reimbursement as projects hook up
- Create a cooperative financing district such as a Local Improvement District or Reimbursement District, that would allow the infrastructure to be installed by a primary party and paid off over time by the property owners, relieving some of the burden of a large capital financial commitment
- Develop the infrastructure as an inducement for desired development, such as for an important job creating project

6. Master planning processes

Many of the ideas proposed in this Concept Plan will require project development to determine the specific needs, feasibility, locations, costs, and other details through each City's master planning process. Typically master plans are completed for infrastructure services, parks, open space, and trails. Master plans include public involvement processes, including Planning Commission review and City Council adoption.

BASALT CREEK CONCEPT PLAN

Attachment A: Basalt Creek Concept Plan
Technical Appendices (Final)

Existing Conditions Report

Basalt Creek Planning Area

October 2014

Table of Contents

List of Figures

List of Tables

I. Introduction

In the Metro region, areas brought into the Urban Growth Boundary are required to have a land use and transportation Concept Plan. The intent of the Concept Plan is to provide a roadmap for the development of the area consistent with state, regional and local land use planning laws. This Existing Conditions report is the first step in the development of the Concept Plan for the Basalt Creek planning area. It includes detailed information on the existing landscape, regulatory, infrastructure, social and economic conditions within and relevant to the planning area.

The information presented in this Report provides the foundation from which to understand development capacity within the planning area, and the regulatory context in which development will occur. Here, analysis paints a quantitative picture of future growth potential, and identifies both opportunities and constraints for development of the area, using the regulatory framework as a guide.

This Report will inform land use and transportation decisions related to the Basalt Creek planning area, and provide the basis for the Concept Plan. The report is organized into eight sections (including introduction):

II. Local and Regional Planning Context

Summarizes regional and local plans that influence the planning area. These plans also include regulatory requirements related to land development and provide an explanation of the area's regional role, as well as the constraints guiding the location of future development.

III. Natural and Historic Resources

Summarizes the natural and environmental features of the area and identifies historic or cultural resources within the planning area. This section provides a context for how environmental features might shape development in the planning area as both amenities and constraints.

IV. Public Facilities

Summarizes school, fire, library, park and police resources within or adjacent to the planning area. This information will inform decisions about additional resources that may be needed within the planning area to support projected growth.

V. Commercial, Industrial and Residential Real Estate Markets

Analyzes the existing markets for employment and residential development relevant to the planning area. This section provides a foundation for understanding future real estate demand to inform the development of a land use plan that can accommodate projected growth and promote economic development.

VI. Infrastructure

Provides a detailed assessment of water, sewer and stormwater infrastructure capacity relevant to the planning area. This information provides a foundation for developing an infrastructure plan that is integrated with the existing system and provides efficient and cost effective solutions to serve the area.

VII. Transportation

This section describes information on projects planned and under development within the planning area and provides an overview of the transportation planning that has been completed to date. This section describes the transportation framework from which to build the local network as part of the Concept Plan.

VIII. Land Capacity Analysis

The land capacity analysis is a quantitative and spatial analysis of the planning area that implements the regulatory framework and identifies infrastructure and transportation constraints. This analysis provides the canvas on which to paint the Concept Plan.

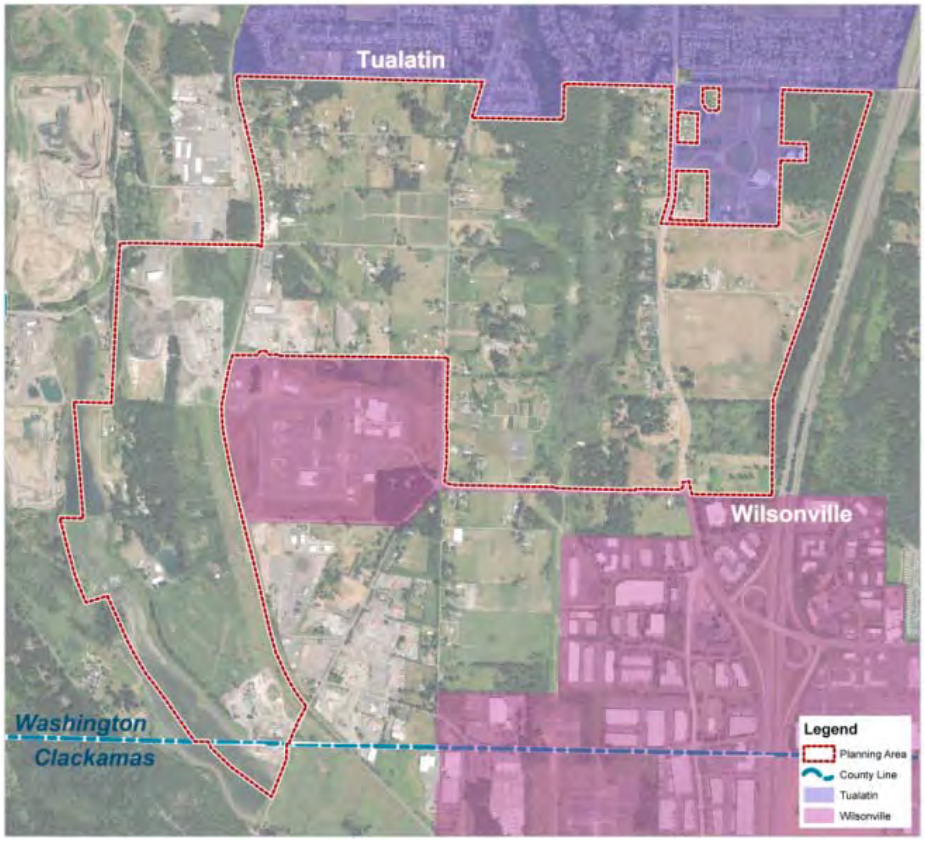


Figure 1 Basalt Creek planning area, City of Wilsonville and City of Tualatin boundaries. Source: Fregonese Associates 2014.

Planning Area Boundaries

The Basalt Creek planning area consists of 847 acres between the cities of Tualatin (to the north) and Wilsonville (to the south). It is primarily within Washington County, with a very small portion in the southwest corner located in Clackamas County (Figure 1).

The planning area is irregularly shaped, with a "finger" that extends southward from the western side. Generally referred to as the West Railroad area, this portion is divided from the rest of the study area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The majority of the Basalt Creek planning area is generally bounded by Norwood and Helenius Roads to the north, I-5 to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham's Ferry and then westward again on Clay Road.

The southern residential communities in Tualatin and Horizon High School are not included in the study area. However, three large noncontiguous parcels in the area around Horizon High School are included in the planning area, as they are privately owned (Figure 2).

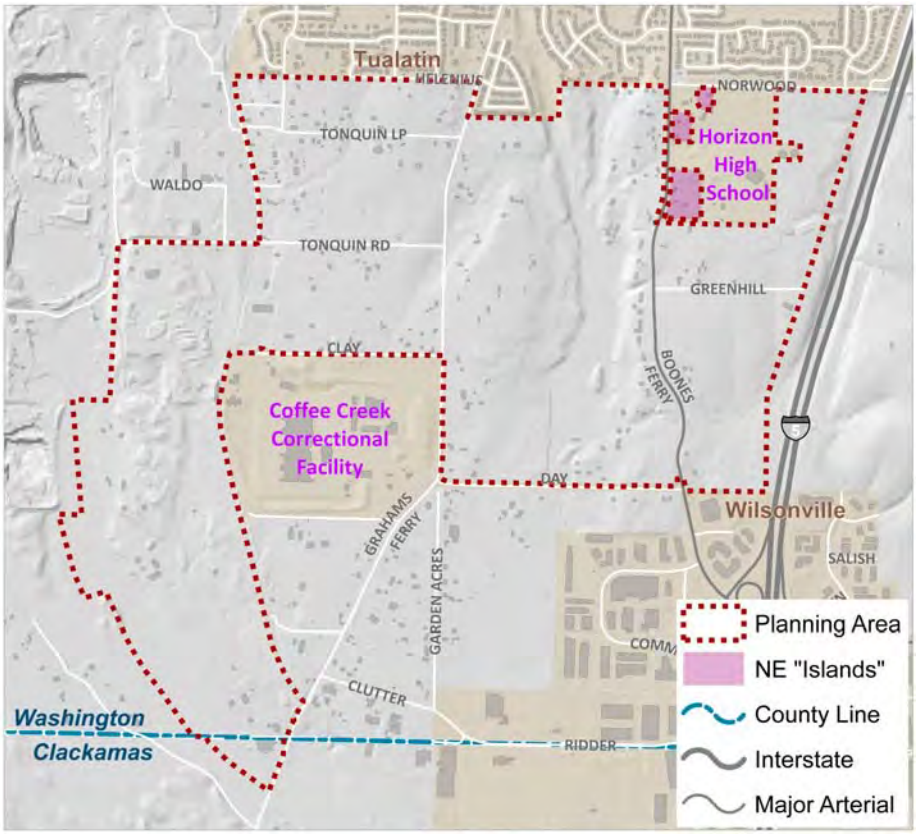


Figure 2 Planning area "islands, "Coffee Creek Correctional Facility and Horizon High School campus. Source: Fregonese Associates 2014.

II. Local & Regional Planning Context

Current Zoning

The majority of the Basalt Creek planning area falls within Washington County and is zoned as Future Development 20-Acre District (FD20). This interim designation was applied to the area following inclusion in the UGB (2004), through Washington County Ordinance No. 671 (2007). This designation will apply until the final Concept Plan is approved and Comprehensive Plan designations for the Basalt Creek area are adopted by each jurisdiction. The FD20 zoning designation is intended to encourage retention of existing land uses until these steps are complete. FD20 restricts subdivision of existing parcels into tax lots smaller than 20 acres.[1]

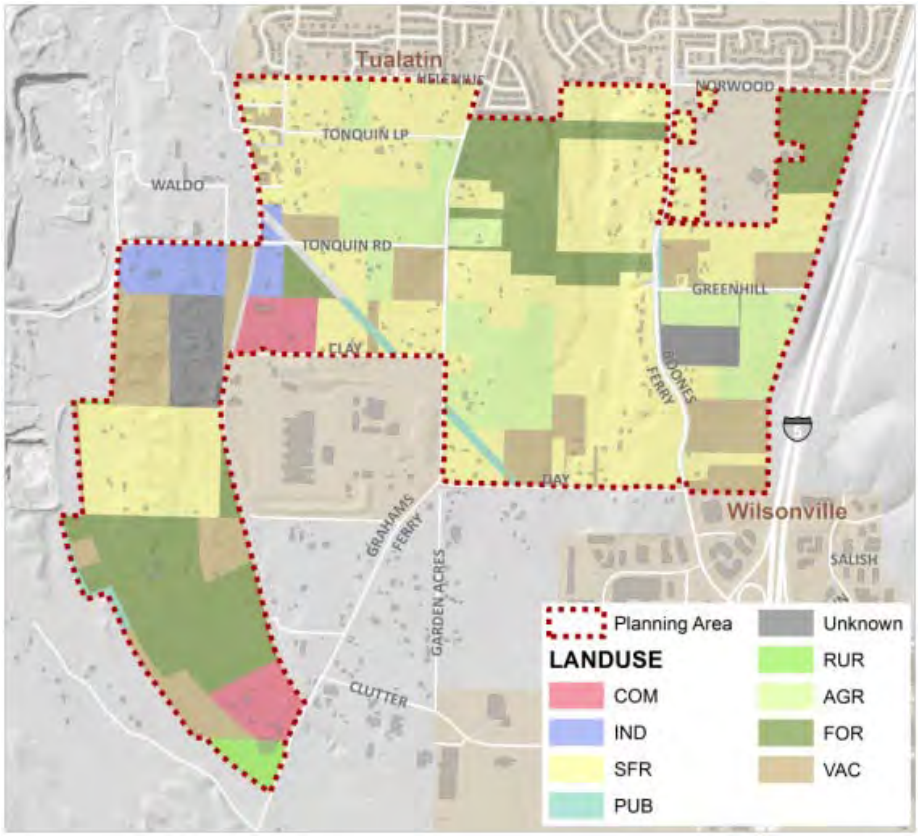


Figure 3 Existing land use in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Each jurisdiction (Tualatin and Wilsonville) has a property owner-initiated annexation process, so changes to current zoning will happen at the time of annexation, on a parcel-by-parcel basis. A very small area (7.8 acres), in the southwest corner of the planning area falls within unincorporated Clackamas County (Figure 1), and is zoned as Rural Residential Farm Forest 5-Acre District (RRFF5).

[1] For a full description of allowed and prohibited uses in the FD-20 zone see the Washington County Community Development Code Section 308.

Existing Land Uses

The primary existing land uses in Basalt Creek are rural agriculture, industrial and some rural residential consisting of low-density single-family housing (Figure 3). There are substantial areas of agricultural uses, including nurseries (such as Chick-a-Dee Gardens Nursery), landscaping supply (Pro Gro, in the furthest southwest corner of the planning area) and blueberry farms, among others. Existing industrial land users include gravel quarries and cement manufacturing (Knife River Corporation) in the northwest corner (Figure 4).

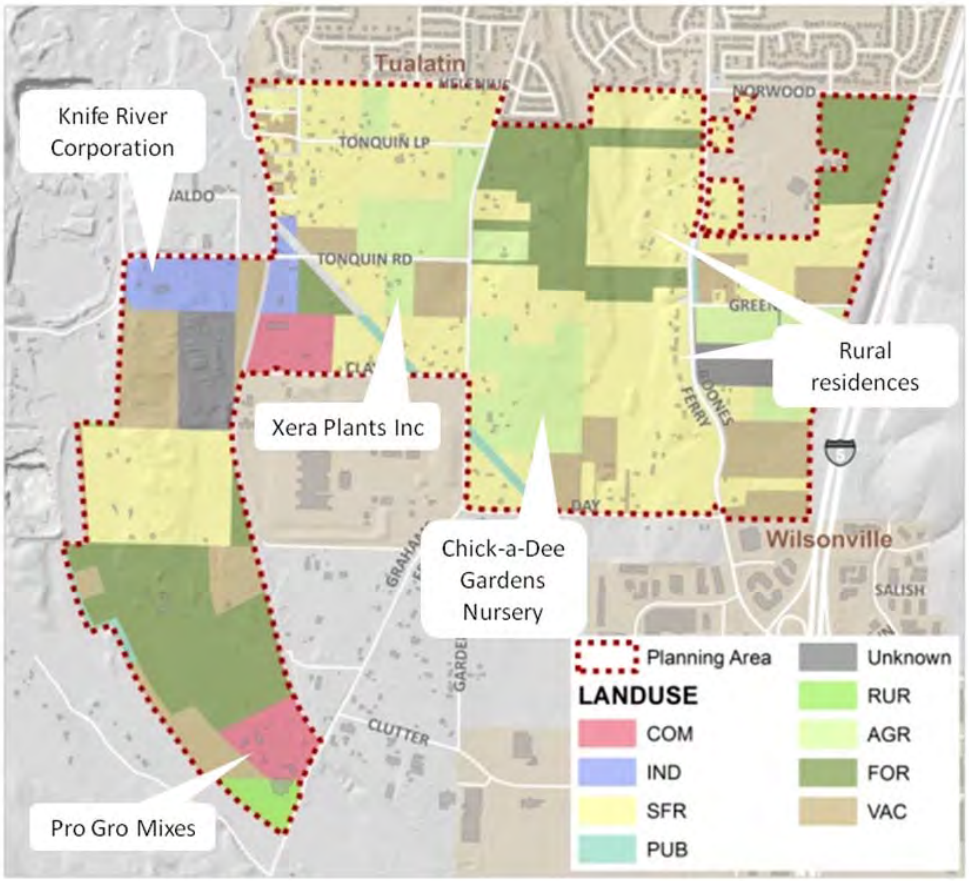


Figure 4 Locations of major businesses and residential areas in the Basalt Creek planning area. Source: Fregonese Associates, RLIS, Google Maps 2014.

Currently, 239 people live in the area in 90 single-family housing units, and 258 employees work in the area (Figure 5). The existing housing in the Basalt Creek area is detached single-family on large lots. Several single family homes are located on the eastern edge of the Basalt Creek ravine along Boones Ferry Road.

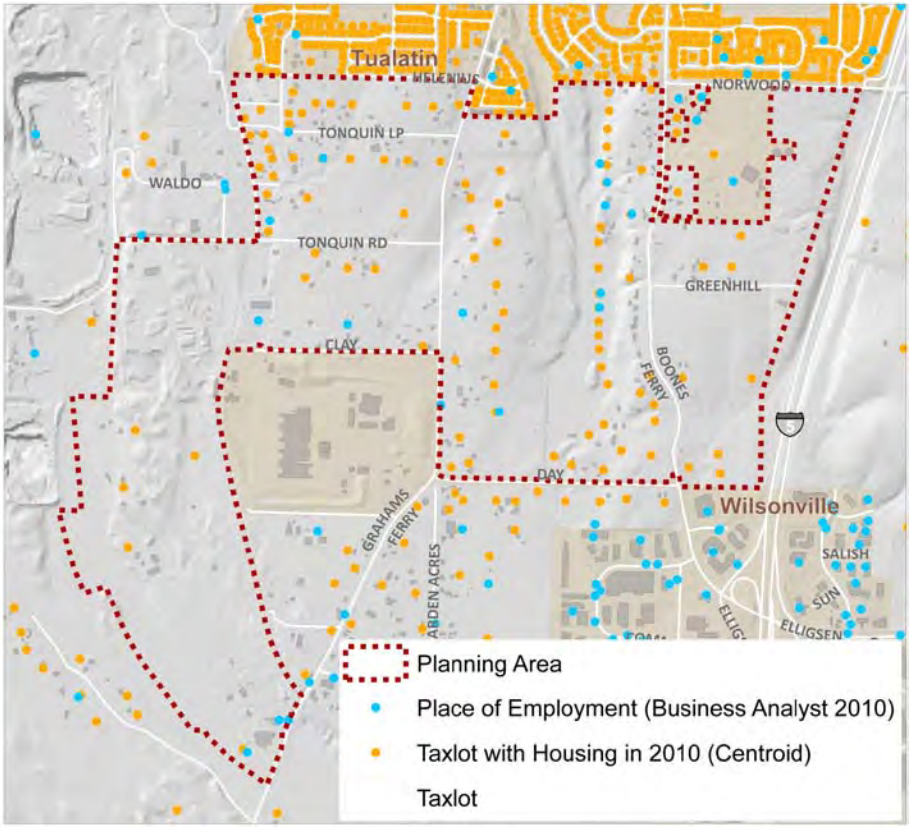


Figure 5 Existing Housing Units and Employment in the Basalt Creek planning area Source: Fregonese Associates, ESRI Business Analyst 2014.

Adjacent Land Uses

The planning area is bounded to the north by Tualatin residential neighborhoods, to the south by commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands (Figure 6).

The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north. These neighborhoods are comprised primarily of high-quality, detached, single-family homes. Also to the north is the 30-acre campus of Horizon High School. The campus is bordered on three of its sides by the planning area (Figure 7). To the west, the planning area is bordered by unincorporated portions of Washington County (within the Southwest Tualatin Concept Plan area) and active quarries--including the Knife River Corporation quarry and asphalt plant, which falls partially in the planning area along Western Railroad. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area (though not yet fully annexed). Most of this land is undeveloped or vacant.

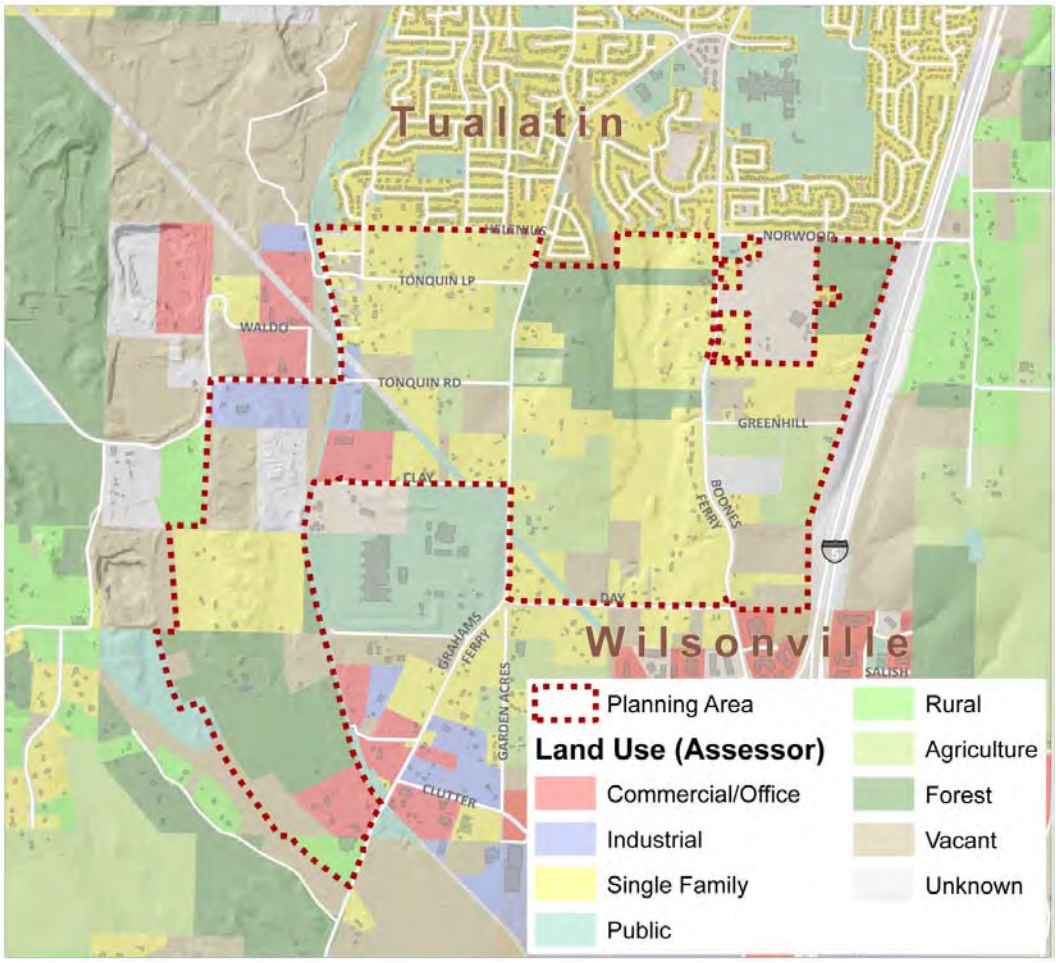


Figure 6 Land Uses Adjacent to Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

South of the planning area are commercial, office and industrial uses located within the City of Wilsonville. Also adjacent to the southern border of the planning area is Coffee Creek Correctional Facility (Figure 8). This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating small number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.[2]

South of the Correctional Facility, also abutting the planning area, along the south side of Day Road, is the Coffee Creek planning area, for which the City adopted a Master Plan for industrial development. Figure 9 shows the Basalt Creek planning area and its geographic relationship to the Coffee Creek, Southwest Tualatin and Tonquin Employment planning areas. Figure 9 also shows existing commercial and industrial and employment areas.

[2] Reynolds, Vicki. Public Information Officer for Coffee Creek Correctional Facility. Personal communication, July 2nd, 2014.

Figure 7 Aerial image of the Horizon High School Campus (30 acres), just outside of the planning area. Source: Fregonese Associates 2014.

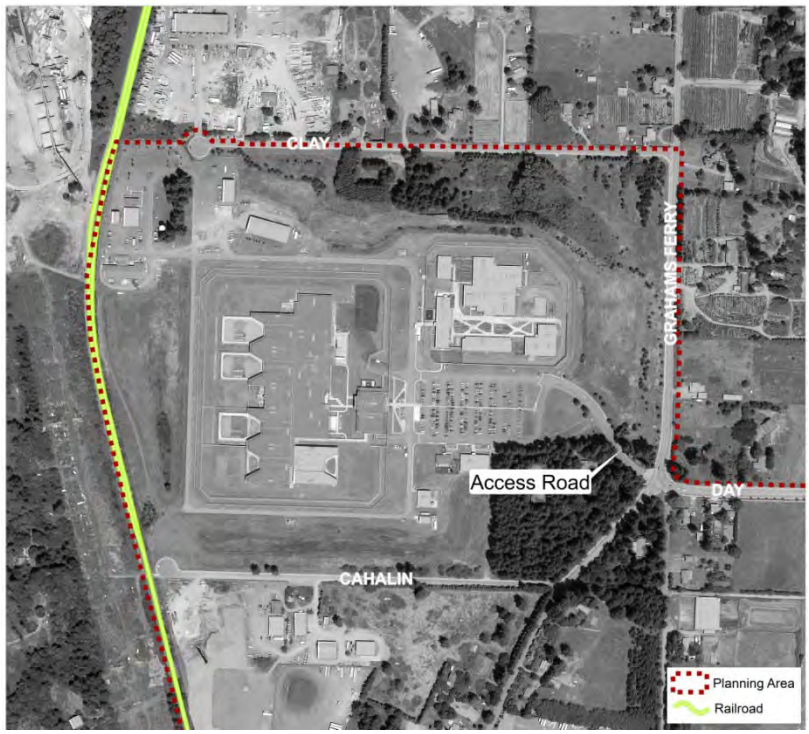


Figure 8 Aerial image of Coffee Creek Correctional Facility (108 acres). Source: Fregonese Associates 2014.

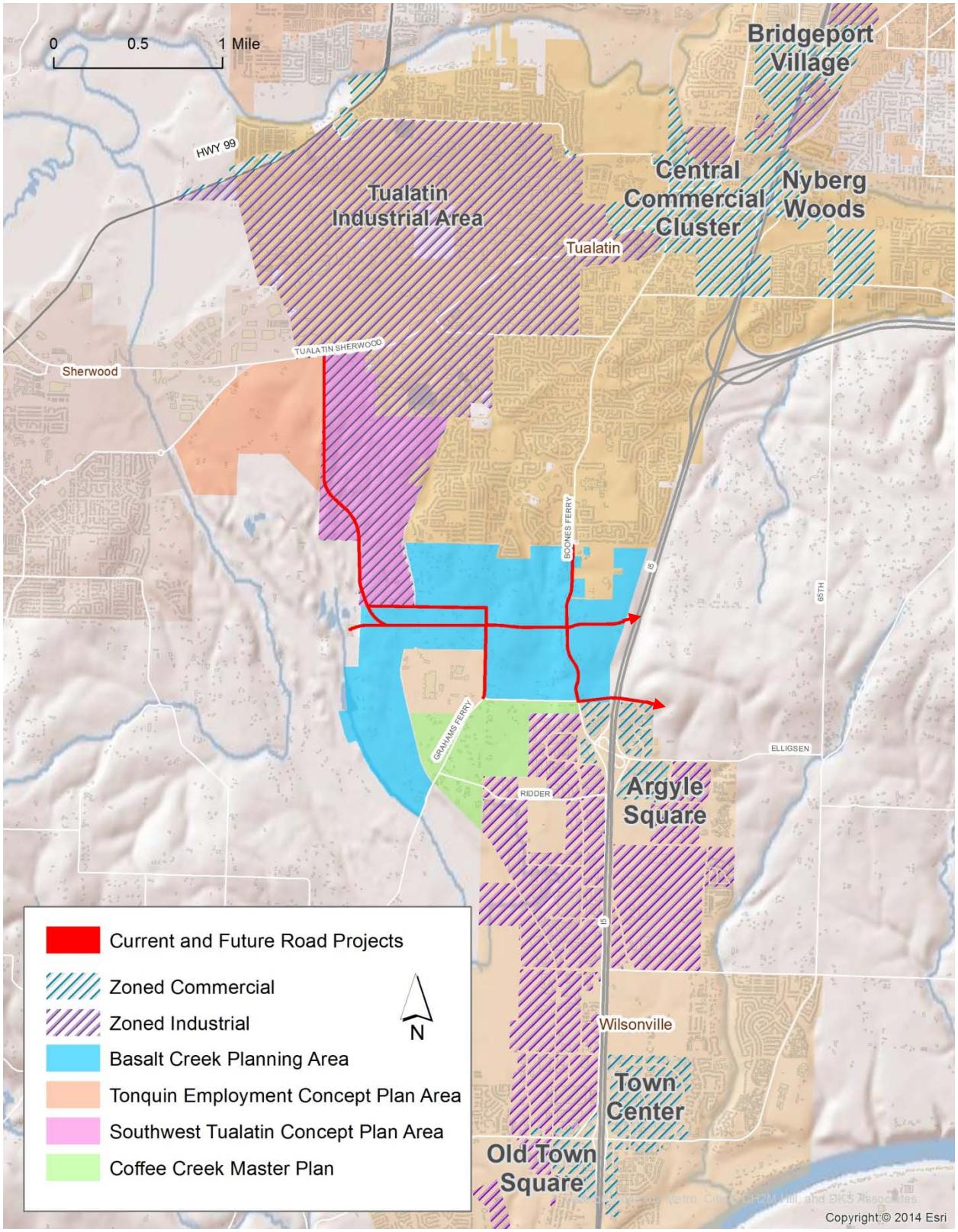


Figure 9 Planning and employment areas near the Basalt Creek planning area. Source: Fregonese Associates, Cities of Tualatin and Wilsonville 2014.

Regional Plans and Regulatory Requirements

The 25 cities and three counties within the Portland Metropolitan Area share a single Urban Growth Boundary (UGB), administered by the Metro Regional Government. As required by state law, Metro assesses its Urban Growth Boundary every five years to determine whether it includes sufficient land to accommodate 20 years of development for residential, commercial, and industrial uses. In 2002 Metro passed Ordinance No. 02-696B, expanding the UGB by over 20,000 acres to accommodate forecasted increases in housing and jobs though the year 2022. This brought land around Damascus, Oregon City, Tualatin, Wilsonville, Beaverton and Hillsboro into the UGB.

In reviewing the 2002 expansion ordinance, the Land Conservation and Development Commission (LCDC) found that "the Council added capacity to the UGB but did not add sufficient capacity to accommodate the full need for land for industrial use." In 2003 the LCDC ordered the Metro Council to add capacity to the UGB for the unmet portion of industrial land needs. Metro evaluated land adjacent to the UGB to determine which land would be most suitable for industrial employment. In 2004 the Council released an appendix to the 2002 Urban Growth Report that included an Employment Land Need Analysis for the years 2002-2022, in addition to an Industrial Land Alternative Analysis Study. These studies were used to identify additional industrial lands to be included in the 2004 ordinance.

Criteria used by the Council to determine suitability of land for industrial uses included soil classification (with a preference for lowest suitability farmlands), earthquake hazard, slope steepness, and parcel size (with a preference for larger parcel size). Among those lands deemed suitable, further factors to identify Industrial Areas and Regionally Significant Industrial Areas included: distribution (area serves to support industrial land for major regional transportation facilities), service (availability and access to specialized utilities), access (within two miles of I5, I-205, I-84, State Route 224), proximity (located within close proximity of existing like uses) and primary use (predominately industrial uses).[3]

Two areas of land identified in the 2004 ordinance as good candidates for industrial development now comprise the Basalt Creek planning area. In Ordinance 04-1040B, these two areas are referred to as the Coffee Creek (partial) and Tualatin study areas. The main section of the Basalt Creek area (identified in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to its proximity to the I-5 corridor, and to an existing industrial area (in Wilsonville). In addition, portions of the area are relatively flat. The ordinance notes that, due to these characteristics, "…the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses."[4]

At the time of the Ordinance's adoption, two major concerns were identified that resulted in additional conditions being placed upon the planning area: First, residents expressed concerns about compatibility between Tualatin's southern neighborhoods and the proposed industrial uses in the planning area. Secondly, the cities of Tualatin and Wilsonville desired to preserve the opportunity to choose an

[3] A detailed description of the methodology used for identifying Industrial Land can be found in Exhibits D and E to Ordinance No. 04-1040B, an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro's 2002 Urban Growth Report).
[4] Metro Ordinance No. 04-1040B Exhibit G P17

alignment for the I-5/99W connector as the southern portion of the alignment passes through the Tualatin study area. In response to these concerns the Metro Council extended the deadline for Title 11 planning. The revised deadline called for Title 11 Concept Planning to occur within two years following the final alignment for the I-5/99W connector or within seven years, whichever was shorter.[5]

It is further stated in the 2004 ordinance (in response to the community concerns about transitions from residential to industrial lands) that so long as the South Alignment of the connector falls close to the one shown on the 2040 growth concept map it will serve as a buffer between the residential development to the north and industrial development to the south. Within the Ordinance a special section dedicated to specific conditions for particular areas states that "If the selected right of way for the connector follows the approximate course of the 'South Alignment' as shown in the Regional 2040 Growth Concept map…the portion of the Tualatin Area that lies north of the right of way shall be designated 'outer neighborhood' on the Growth Concept map; the portion that lies south shall be designated 'industrial.' The ordinance further states, "The government responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area."[6]

As defined in the Metro Regional Framework Plan, a designation of "outer neighborhood" describes areas outlying cities that are primarily residential, relatively further from employment and shopping areas than other residential areas, and have larger lot sizes and lower population densities than inner neighborhoods.[7]

The Metro Regional Framework Plan describes the industrial designation as "an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses."[8]

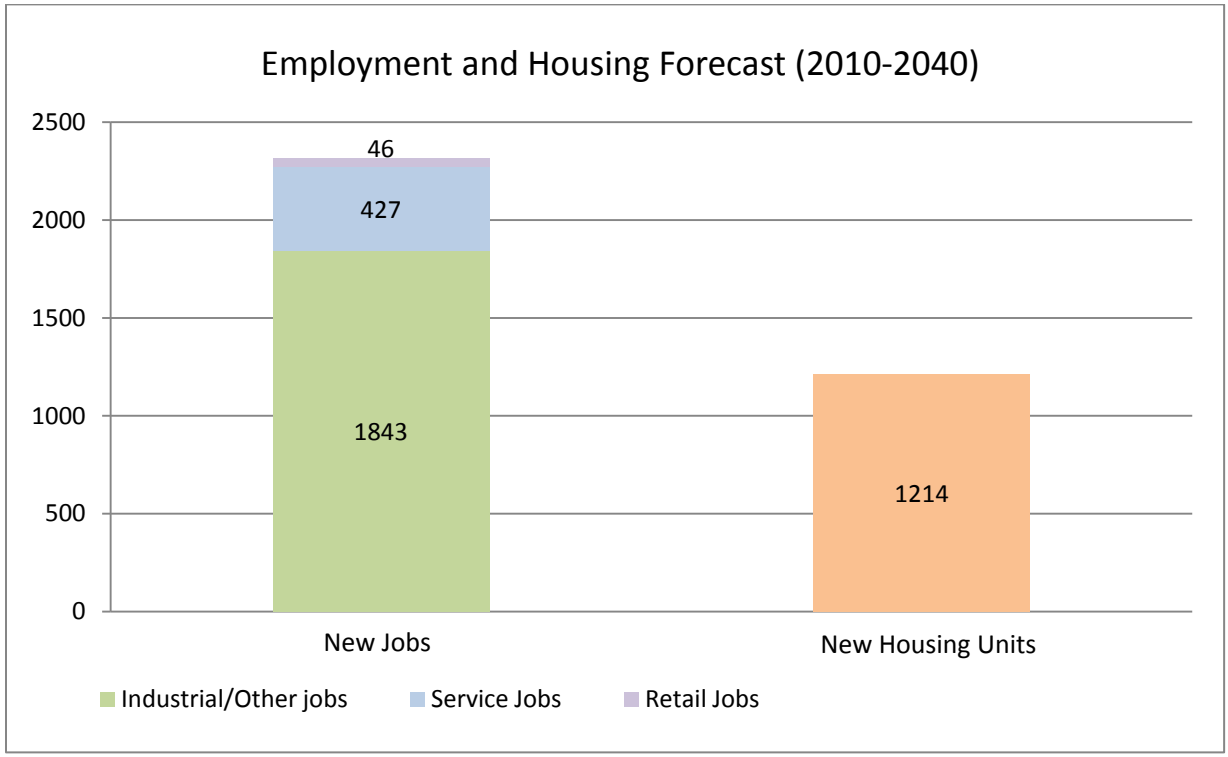
As stated in the 2004 Ordinance, the planning timeline for the Basalt Creek area was extended to allow for the planning of the I-5/99W Connector. The I-5/99W Connector Study recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek planning area, south of Tonquin Road. The Basalt Creek Transportation Refinement Plan (TRP) established the specific alignment for this arterial (now referred

[5] Metro Ordinance No. 04-1040B Exhibit F P2. The relative complexity of planning for this area (due to its equidistance from two cities, and the regional infrastructure improvements being considered in and around Basalt Creek) led Metro to grant an extension for compliance, moving the deadline from 2012 to September 2016 (through a Urban Growth Management Functional Plan compliance request).
[6] Metro Ordinance No. 04-1040B P3
[7] Metro Regional Framework Plan Appendix G-J Glossary P369
[8] Metro Regional Framework Plan Appendix G-J Glossary P366

to as the East-West Connector). The TRP was completed in 2013 and several priority projects were adopted in the 2010 Regional Transportation Plan.[9]

The current 2040 Growth Concept Map identifies the Basalt Creek planning area as industrial, but the ordinance does provide some flexibility to include housing in the planning area. Table 1 summarizes the most recent forecast estimate (the Gamma Version) for the Basalt Creek planning area at the Transportation Analysis Zone (TAZ) level. An older forecast (the Beta Version), upon which the Basalt Creek Transportation Refinement Plan (TRP) was based, projected somewhat higher employment levels by 2035. Both forecasts will be used in concept planning for the Basalt Creek area, with the forecasts serving as "sideboards," representing the high and low ends of the range of households and jobs the area may need to accommodate. The geographical units used for the forecasts are called Transportation Analysis Zones (TAZs). The boundaries and identification numbers of TAZs changed between the Beta (older) and Gamma (newer) forecast, and are both depicted on the map in Figure 10.

Table 1 Employment and Housing Forecast 2010-2035. Source: Metro 2014.



[9] An update to the Regional Transportation Plan (RTP) was published July 18th, 2014. Because the analysis for this report was completed before that date, 2014 RTP updates are not considered here. The updated Regional Transportation Plan can be accessed here: http://www.oregonmetro.gov/regional-transportation-plan

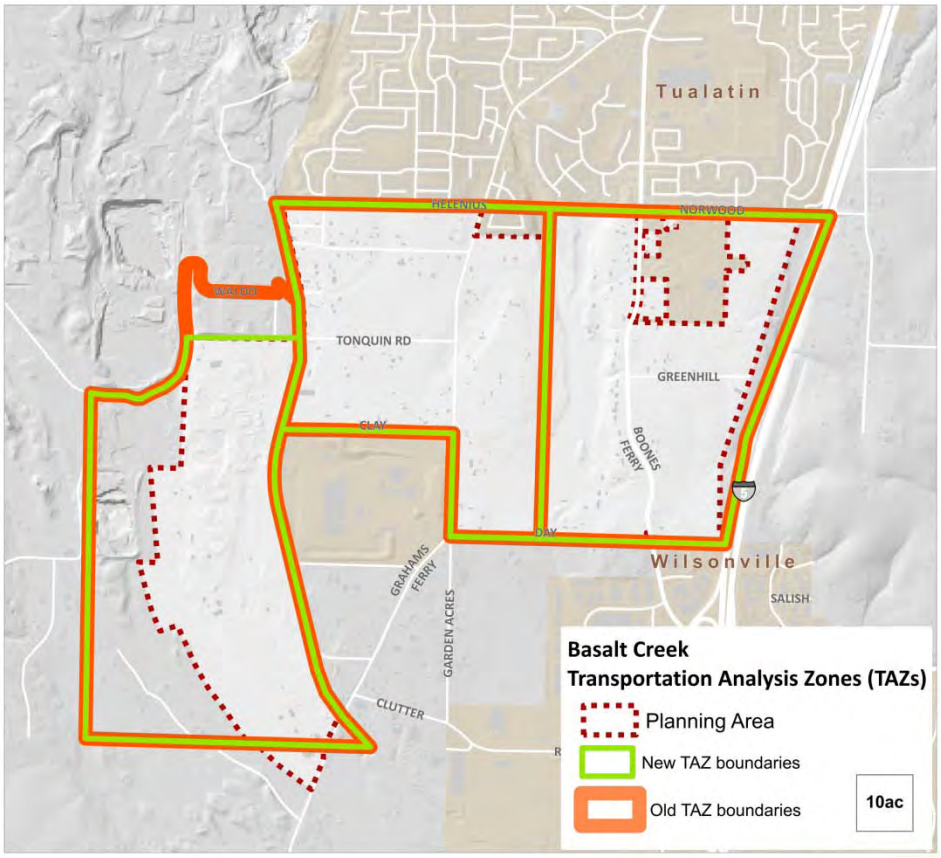


Figure 10 Transportation Analysis Zones (TAZs) covering the Basalt Creek planning area Source: Fregonese Associates, RLIS 2014.

Local Plans

The following section provides a brief summary of local plans, focused on identifying the policies and goals relevant to the Basalt Creek planning area. Within these plans are goals and policies for transportation, land use planning and economic development. These will be used to guide the development of the concept plan and comprehensive plan recommendations.

Joint Plans

Basalt Creek Transportation Refinement Plan (2013)

This plan was a joint effort between the Cities of Tualatin and Wilsonville, Washington County, and Metro. The primary purpose of the Refinement Plan is to establish a major transportation connection from Tualatin-Sherwood Rd to I-5 in North Wilsonville through the Basalt Creek planning area. This connection was identified as a regional transportation priority in order to connect and provide access to existing and future hubs of industrial land uses.

Through the Refinement Plan process, an alignment was established for what is, for now, being referred to as the East-West Connector (Project 11, Figure 11). It is intended to be a new major arterial with five

lanes and vehicle access limited to three intersections – 124th Avenue (anticipating a southward extension of 124th to Tonquin Road in the near future, see Projects 1 and 10 in Figure 11), Graham's Ferry Road and Boones Ferry Road. Tonquin Road (Project 2 in Figure 11) will be improved but left as a parallel three-lane property-access road.

While the primary focus of the Refinement Plan was establishing the alignment of the aforementioned East-West Connector, it includes recommendations for an additional 17 transportation investments broken into short, medium, and long term phases. These include improvements to Grahams Ferry Road, Boones Ferry Road, and Day Road to adequately meet the need for improved regional freight mobility.

Improvements to the section of Boones Ferry Road between Norwood and Day Roads have already been completed. This new roadway includes bike lanes and sidewalks. These projects combined with the East-West Connector provide the foundation for a robust transportation network and ensure the Elligsen Road interchange will function at a high level. The project to extend 124th Avenue is in the design phase, with an estimated completion date of December 2016.

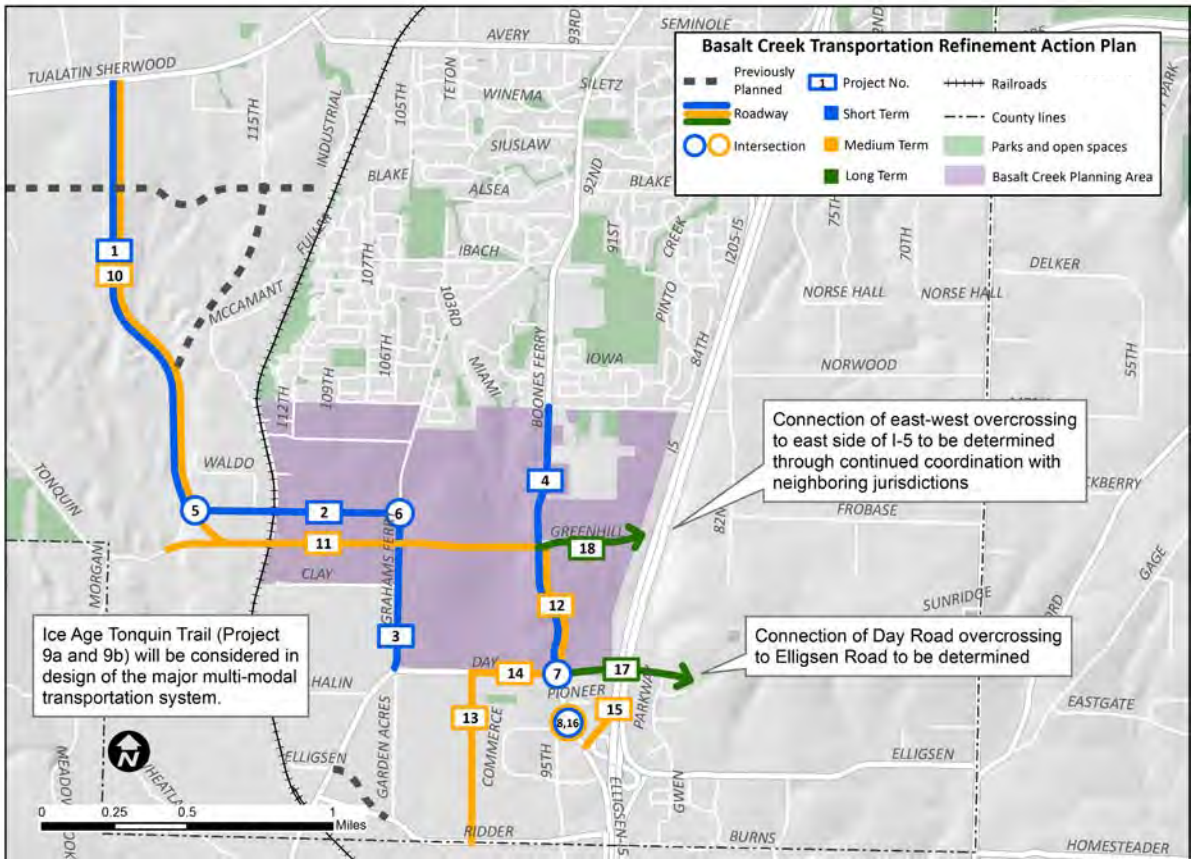


Figure 11 Projects identified in the Basalt Creek Transportation Refinement Plan (TRP).

Wilsonville

Transportation System Plan (2013)

The TSP integrates goals to reduce vehicle collision rates, decrease VMT (vehicle miles travelled) per capita, and minimize vehicle delays for truck trips per capita. Other objectives include significantly increasing connectivity for walking and biking trips. Policy 27 of the plan states an intention to "upgrade and/or complete the street network on the west side of I-5, including Coffee Creek and Basalt Creek areas, to serve the warehousing, distribution, and other industrial uses located there." The TSP proposes widening of Grahams Ferry Road if called for by the Basalt Creek Transportation Refinement Plan.

Economic Development Strategy (2012)

This document was an update to a 2007 Economic Opportunities Analysis. The Strategy was produced to guide City investments and regulations as well as supporting efforts from the private sector. The resulting recommendations are long-term strategies oriented toward deliberative, balanced, efficient and fair economic development. These include: prioritizing land use and infrastructure planning, balancing economic development with quality of life, and treating all businesses fairly (whether they are new or established). The Strategy reviews factors impacting the Wilsonville economy, which will also have a substantial impact on economic development in the Basalt Creek planning area. Some of these include: regional and interstate accessibility; vacant land base; a balance between the number of jobs and available housing units, and local industry clusters. Actions from the Strategy include workforce development, promoting infill development and redevelopment, and streamlining the development code and permitting process, among others.

Parks & Recreation Master Plan (2007)

The goal of the Parks and Recreation Master Plan is to promote "active and passive recreation opportunities in a safe, accessible, and comprehensive system of facilities, parks, trails and open spaces to support the recreational interests of citizens of all ages." The plan calls for implementation of the Ice Age Tonquin Trail Master Plan in partnership with Metro, the Cities of Sherwood and Tualatin, and Washington County.

Water System Master Plan Update (2012)

This update of the 2002 Water System Plan encompasses Wilsonville's network of water pipelines, storage tanks, valves and hydrants. Its objective is to assure that good quality public facilities and services are available with adequate (but not excessive) capacity to meet community needs, serving all urban development within the incorporated City limits. In anticipation of future development, industrial demand estimates were increased by 25% to reflect potential redevelopment, infill, and higher-use water customers within existing structures. The planning process resulted in the creation and utilization of a "highly accurate and dynamic hydraulic model" of the water system that can be used to quickly investigate potential system impacts from new users. The plan does not specifically address the Basalt Creek planning area, though it includes the adjacent area on the south side of Day Road.

Stormwater Master Plan (2012)

This plan aims to implement a stormwater program that supports quality of life and meets regulatory requirements. It includes cross section illustrations of streetscape improvements recommended to mitigate stormwater issues. Stormwater patterns in the Basalt Creek planning area will impact stormwater management in Wilsonville, as Basalt Creek discharges into the Coffee Lake Creek wetlands west of the railroad, approximately midway between SW Freeman Drive and SW Boeckman Road. This plan notes that Basalt Creek overtops its banks during moderate storm events, flooding the parking lot along the western side of the Commerce Circle Business Park. Construction of a wetland for stormwater detention is a proposed flooding mitigation measure. The recommended location is at the crossing of Day Road over Basalt Creek, to provide temporary storage for increased runoff from future industrial development north of Day Road and decrease flooding around Commerce Circle.

Tualatin

Tualatin Tomorrow Vision and Strategic Action Plan (2014)

This Plan puts forth a vision for Tualatin in 2030. The plan includes an I-5/99W Connector to separate long-haul and regional commercial–industrial and commuter traffic from local traffic on Tualatin-Sherwood Road. Strategy TTC13 is to increase regional transit linkages (bus and rail, for example) with the cities of Sherwood, Lake Oswego, and Portland.

City Council Goals (2013-2015, updated Feb. 2014)

Basalt Creek is specifically mentioned in Goal #8 of this City Council goals document, which is to "expand opportunities for vibrant parks and recreational facilities including greenway trails and bike/pedestrian trails." Sub-goal 8.4 is to "plan and preserve natural resources through the Basalt Creek Concept Plan," with the Community Development and Community Services Departments identified as playing leading roles in achieving this goal. Other goals include: a connected, informed and engaged citizenry, enhanced transportation options, and an expanded tax base strengthened through smart, balanced growth.

Transportation System Plan Update (2014)

This update to the 2001 TSP includes seven project goals: access and mobility, safety, vibrant community, equity, economy, health and the environment, and feasible implementation. It includes recommendations to serve the varying needs of transit riders, bicyclists, pedestrians, freight traffic, and drivers. The Basalt Creek area was included within the Tualatin planning area boundary and thus is considered in this plan's recommendations. The plan includes findings from the Basalt Creek Transportation Refinement Plan and includes the widening of Boones Ferry Road south of Norwood (now complete), the southward extension of 124th Avenue, and the upgrade of Grahams Ferry Road from a minor to major collector. It proposes looking for a potential shared use park-and-ride location in south Tualatin to expand transit access for residents of that area, which would also be useful for future residents of the northern part of the Basalt Creek planning area.

The TSP also includes adding more bus pullouts along Boones Ferry Road, possibly extending into the Basalt Creek planning area. The bike/pedestrian map indicates the addition of a multiuse path across the northern portion of the Basalt Creek planning area. WES service enhancements are also explored, including the possibility of extending the line south of Wilsonville, adding more frequent service, and construction of an additional WES station in the south of Tualatin (near the Basalt Creek planning area). The TSP also discusses possible expansion of the Tualatin Shuttle program.

Linking Tualatin Market Study (2012)

As part of the Linking Tualatin project a market study was prepared that outlines current and anticipated market conditions impacting viable development forms in the north part of the City. It covers housing, retail, office and industrial/flex space market conditions and demand projections. This study should be considered in planning for Basalt Creek because it is in the same general market area. This study also lists viable near-to-mid-term development forms,, which may also be appropriate for Basalt Creek. Key conclusions of the study include:

- The Primary Market Area (City of Tualatin) can expect continued growth in residential, retail, office and industrial uses
- The lower rents achievable in a suburban setting will limit some of the development types that the market is likely to bring into the area.
- Significant increases in density can be achieved without greatly raising construction costs.

Economic Development Strategic Plan

This plan describes a high-level strategy to direct local economic development efforts in the City of Tualatin. It recognizes priorities for infrastructure development and quality of life addressed by other master plans, in addition to identifying important industry clusters. The Plan recommends approaches to retain and expand existing businesses as well as attract new businesses. The five target industry clusters identified include: advanced manufacturing; health care and related businesses; corporate and business services; food processing, distribution and wholesale; wood, paper, printing and related businesses.

Water Master Plan (2013)

The Water Master Plan was a comprehensive analysis of the City of Tualatin's water system. The plan covers Tualatin's network of water pipelines, storage tanks, valves and hydrants. Its purpose is to identify system deficiencies, determine future water distribution system supply requirements, and recommend water system facility improvements that correct existing deficiencies and provide future system expansion. The Plan did not anticipate the Basalt Creek planning area, as concept planning and determination of the city limit boundary had not been complete. At the time of its writing, it was expected that the Water Master Plan would be updated in the future to include Basalt Creek.

Sanitary Sewer Master Plan (2014)

The 2014 Sanitary Sewer Master Plan is currently on hold until completion of the Basalt Creek planning process. It will provide a comprehensive analysis of the city's sanitary sewer system, including Tualatin's network of gravity & force main lines and pump stations. Its purpose is to identify system deficiencies, determine future collection system requirements, and recommend sanitary sewer system facility improvements that correct existing deficiencies and provide future system expansion.

Area Plans

Coffee Creek Master Plan (2007)

The Coffee Creek planning area is comprised of 216 acres to the south of the Basalt Creek area. It has been designated by Metro as a Regionally Significant Industrial Area (RSIA) and includes strict limits on the amount and size of retail, service, residential and office uses allowed to be developed there. Forecasts in the Plan suggest that between 1,736 and 1,890 jobs could be added to the area between 2006 and 2026, with over 90% identified as industrial.

No parcels in the planning area have been annexed yet; Wilsonville's process is property-owner initiated and the area has seen little development since the Plan's adoption. The City has identified form-based code as a tool to streamline the development process and is creating a Form Based Code (FBC) and pattern book to apply to the Coffee Creek area.[10] More information about how new infrastructure in the Coffee Creek and Basalt Creek planning areas might be coordinated, see Section V: Infrastructure.

Southwest Tualatin Concept Plan (2010)

The Southwest Tualatin Concept Plan (SWCP) is a guide for the industrial development of a 614-acre area (448 net buildable acres) located outside the city south of SW Tualatin-Sherwood Road and generally between SW 115th and 124th Avenues. The Southwest Tualatin area is adjacent to and directly west of the Basalt Creek planning area, and is adjacent to/east of the Tonquin Employment Area. It extends south to Tonquin Road and is located in the vicinity of the Tigard Sand and Gravel quarry. A portion of the area was designated a Regionally Significant Industrial Area (RSIA) by Metro in 2004, with the assumption that it would be developed with a mix of light industrial and high-tech uses in a campus-like setting. The Concept Plan estimates that 3,500 new jobs will be located in the area by the year 2035 (2010 forecast).[11]

Currently there is no water or sewer infrastructure in this planning area. However, the City of Tualatin Water and Sewer Master Plans both include the Concept Plan area in the hydraulic modeling and capital improvement project (CIP) identification. Recommended improvements include:

[10] City of Wilsonville Community Development Department webpage: http://www.ci.wilsonville.or.us/594/Light-Industrial-Form-Based-Code. Retrieved August 21st, 2014.
[11] This number is slightly smaller than the result from Metro's model, which forecast in 2005 that 3,735 new jobs would be added to the area by 2035.

Water

- A new Level A reservoir (CIP Project R-1) and pipeline projects (P-6 and P-16)
- 13,000 linear feet of 16-inch-diameter pipe to provide a looped water supply

Sewer

- A new 24-inch pipeline located in Tualatin-Sherwood Road, extending from the Concept Plan area/URA easterly to SW Avery Street;
- Increase existing 12- to 21-inch pipe to 18-inch and 36-inch pipeline extending from near the SW Tualatin Sherwood Road/SW Avery Street intersection to the existing Bluff/Cipole Trunk
- Upsize existing trunk line pipe diameters.

Stormwater

- New conveyance system along roadways
- Facilitie(s) to treat and detain (if necessary) site development runoff

The sequencing of infrastructure construction will be coordinated with the timing of development in the area, as well as with the Basalt Creek planning area.

Tonquin Employment Area Concept Plan (2010)

This planning area is comprised of 300 acres designated industrial land northwest of (but not adjacent to) the Basalt Creek planning area. It is bounded on its eastern edge by the future 124th Avenue extension. It was added to the UGB in 2004 and will be annexed to the City of Sherwood on a case-by-case, property owner-initiated basis. Creation of an Employment Industrial Zone is proposed to implement this plan. The regional employment forecast projects the addition of 2,290 more jobs during the next 20 years, 83% being industrial and 17% a mix of retail, commercial, services and office.

III. Natural and Historic Resources

The purpose of this section is to describe the natural and historic resources in the planning area, as well as the regulatory framework through which they may be protected, conserved or mitigated for.

Natural Features

The Basalt Creek planning area is named for the creek flowing north to south through the area, eventually draining into the Willamette River. Basalt Creek has alternatively been known as Seeley's Creek and Tappin Creek. The area primarily drains into the Willamette River; a small area in the northeast corner drains into the Tualatin River.

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that formed the Columbia River Gorge and the Willamette Valley during the last Ice Age. Remains from the Ice Age floods that can be seen in and around the Basalt Creek planning area include glacial erratic, scablands, kolk ponds, flood channels and ripple marks. Today, the area has been described as being "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the planning area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds."[12]

In 2009, federal legislation was passed to create the National Park Service's Ice Age Flood National Geologic Trail in order to bring the dramatic story of the Ice Age Floods to the public's attention. The Trail is intended to be a network of marked touring routes extending across parts of Montana, Idaho, Washington and Oregon, with several special interpretive centers located across the region. This federal legislation will help bring funding and tourism to local trails that will be a part of the region-wide Ice Age Trail network. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a several-mile section traversing the Basalt Creek planning area (Figure 12).

[12] Ice Age Tonquin Master Plan, 2012 P24: http://www.oregonmetro.gov/sites/default/files/tonquin_trail_master_plan.pdf

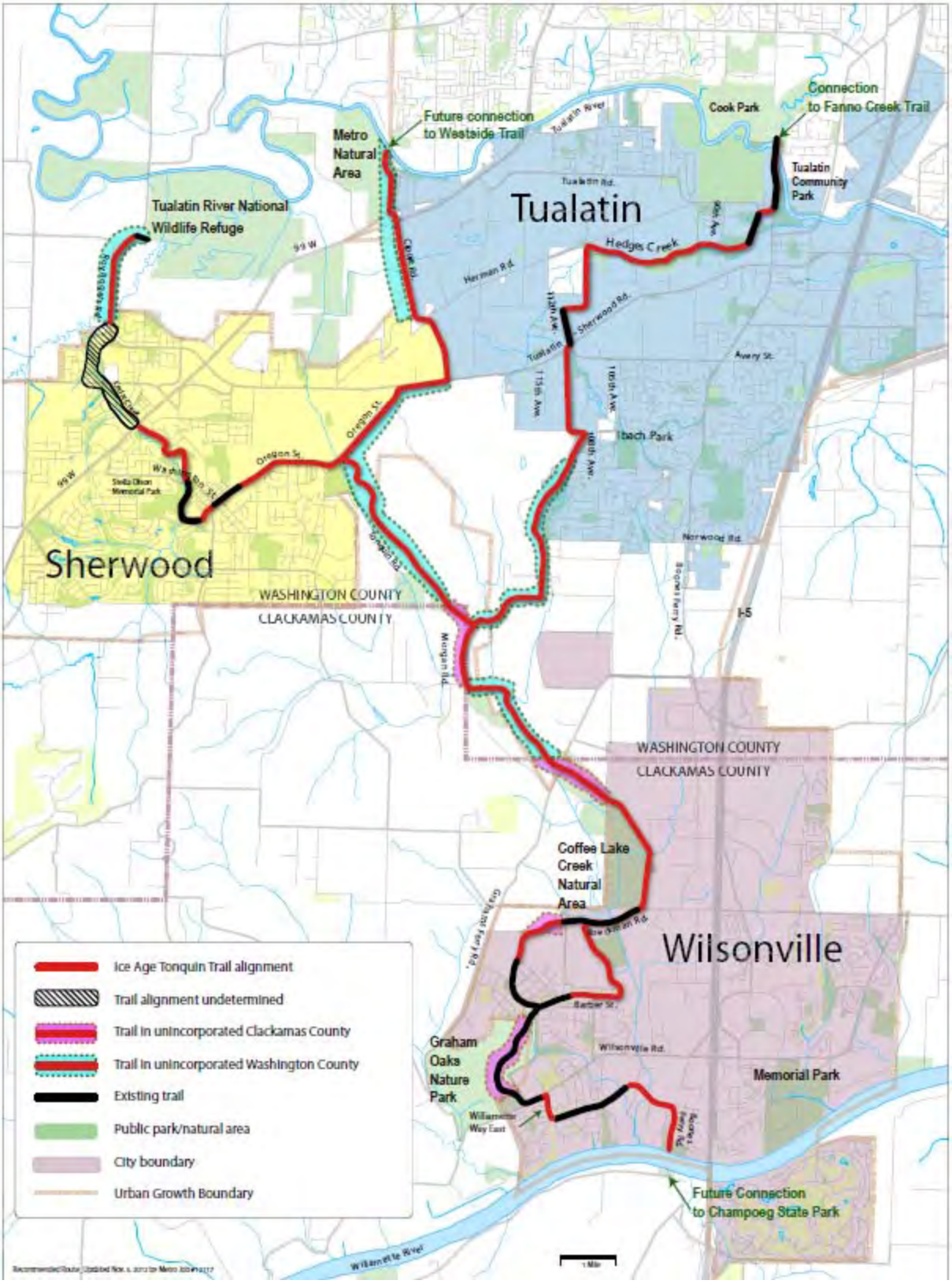


Figure 12 Proposed Trail Alignment from Metro's Ice Age Tonquin Trail Master Plan, 2013.

Groundwater Hydrology

The Basalt Creek planning area falls primarily in the Middle Willamette Sub Basin, with a very small section in the northeast corner falling in the Tualatin Sub Basin (Figure 13). Within the Middle Willamette Sub Basin, the planning area is predominately in the Abernethy Creek Watershed (the small portion in the Tualatin Sub Basin is in the Fanno Creek Watershed). Abernethy Creek flows for approximately 16 miles through the hills east and north of Oregon City, joining the Willamette River from the east. The total drainage area of Abernethy Creek is 30 square miles.[13]

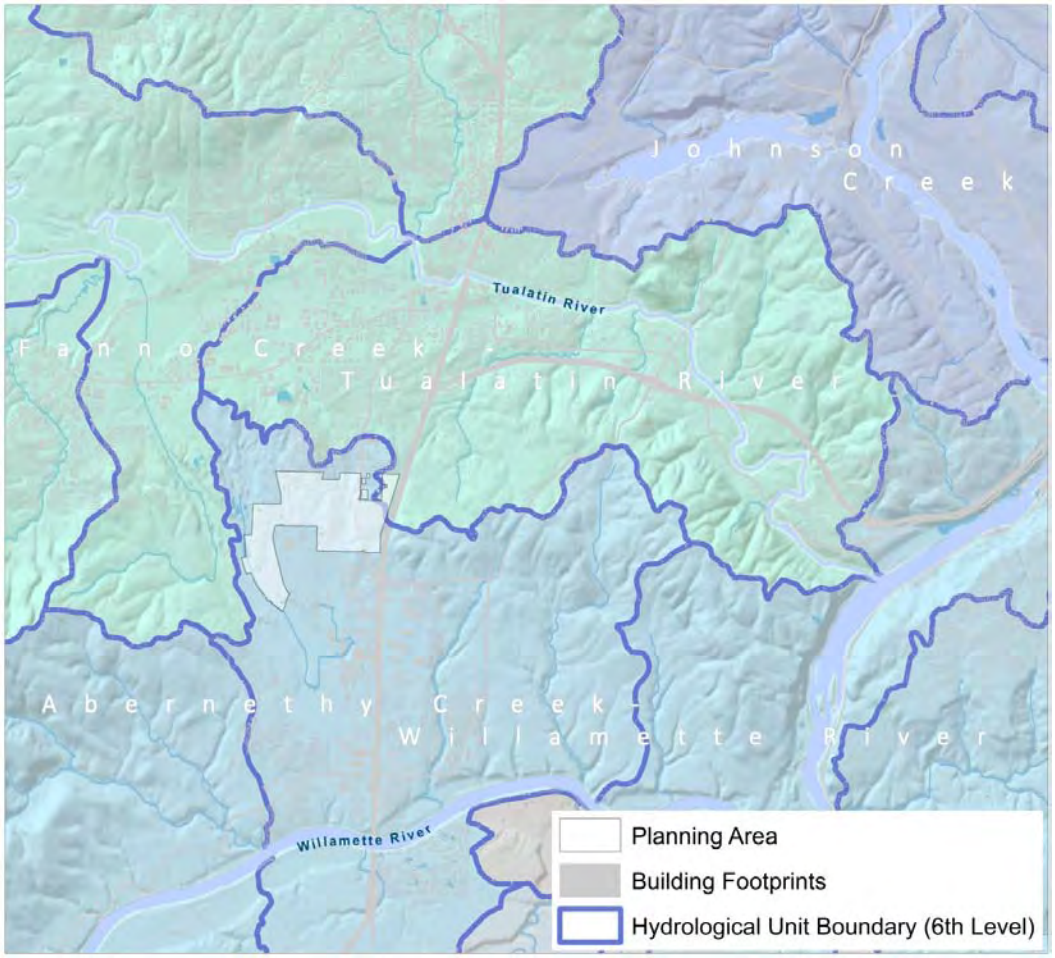


Figure 13 Basalt Creek planning area in the context of the Middle Willamette and Tualatin River Watersheds. Source: Fregonese Associates, RLIS 2014.

Soils

Hydrologic soils are assigned a letter designation of A, B, C or D, based on the rate of water transmission through the soil, or how well the soil drains. Class A soils have the best infiltration and drainage. Class B soils will infiltrate water into the soil somewhat quickly and drain marginally well. They have a lower

[13] Flood Insurance Study for Clackamas County, Oregon, Vol. 1 (2008) http://oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/37-clackamas-co-fis-vol1/file

runoff potential. Class C soil infiltrates fairly poorly and drains poorly. Class D soils infiltrate water into the soil very slowly and have correspondingly high runoff potential. There is no Class A soil in the planning area (Figure 14). Well-drained soils comprise 85% of the area and 13% of the area is comprised of poorly draining soils. The remaining 1.7% is split between moderately well- and somewhat-poorly drained soils.

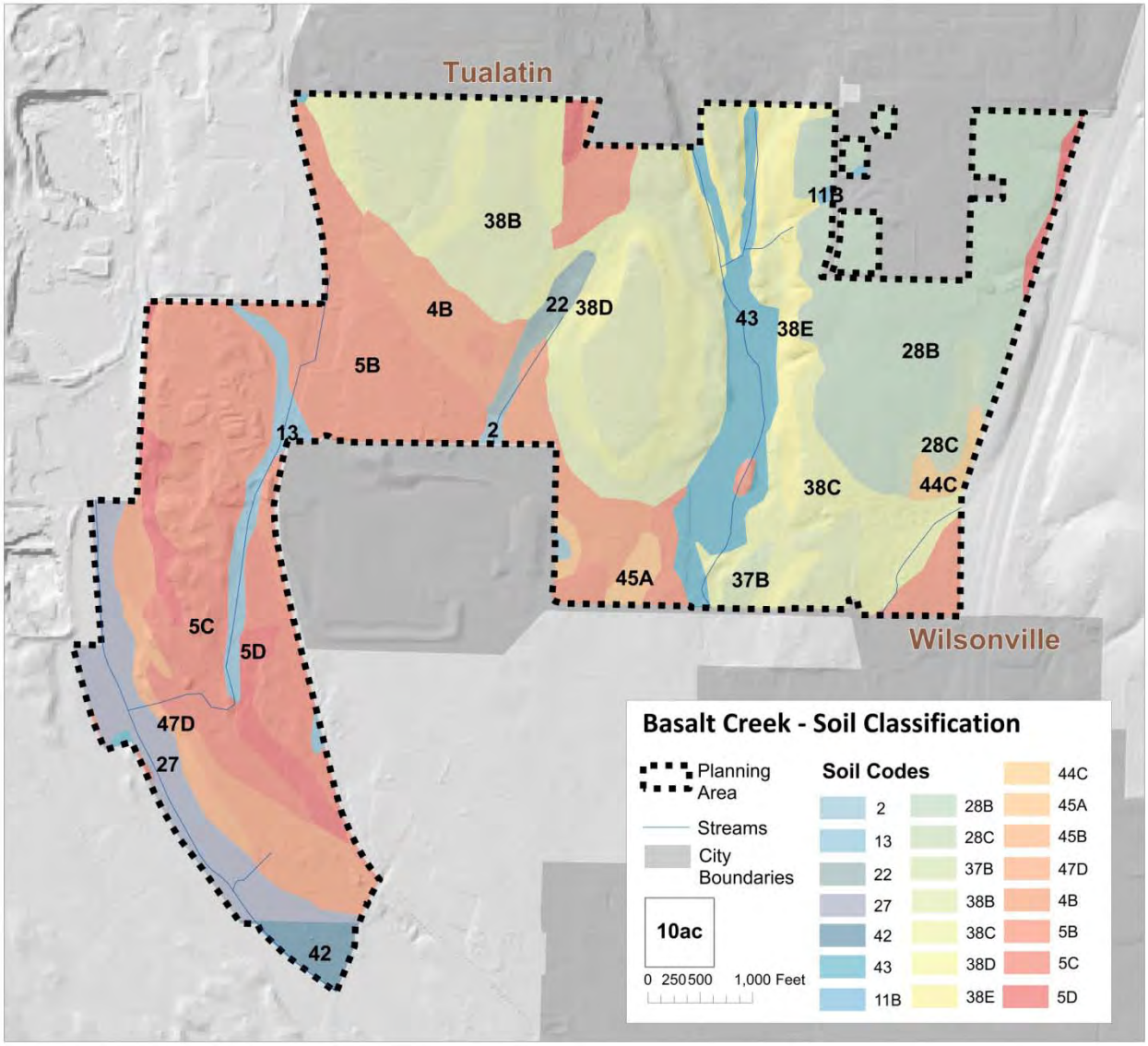


Figure 14 Hydrologic Classification of Soils in the Basalt Creek planning area. Source: Fregonese Associates, USDA Soil Survey 2014.

Table 2 Descriptions of Hydrologic Soil Classifications from Figure 14. Source: USDA Soil Survey 2014.

Map Symbol	Soil Code	Soil Description	Acres	% of Planning Area	Drainage
	2	Amity silt loam	1.9	0.2%	Somewhat poorly drained
	13	Cove silty clay loam	15.2	1.8%	Poorly drained
	22	Huberly silt loam	8.2	1.0%	Poorly drained
	42	Humaquepts, ponded	7.5	0.9%	Poorly drained
	43	Wapato silty clay loam	41	4.8%	Poorly drained
	11B	Cornelius and Kinton silt loams, 2 to 7 percent slopes	0.9	0.1%	Moderately well-drained
	28B	Laurelwood silt loam, 3 to 7 percent slopes	109	12.9%	Well-drained
	28C	Laurelwood silt loam, 7 to 12 percent slopes	10.4	1.2%	Well-drained
	37B	Quatama loam, 3 to 7 percent slopes	4	0.5%	Moderately well-drained
	38B	Saum silt loam, 2 to 7 percent slopes	131.5	15.5%	Well-drained
	38C	Saum silt loam, 7 to 12 percent slopes	102.7	12.1%	Well-drained
	38D	Saum silt loam, 12 to 20 percent slopes	12.1	1.4%	Well-drained
	38E	Saum silt loam, 20 to 30 percent slopes	30.1	3.6%	Well-drained
	44C	Willamette silt loam, 7 to 12 percent slopes	5.7	0.7%	Well-drained
	45A	Woodburn silt loam, 0 to 3 percent slopes	7.2	0.9%	Moderately well-drained
	47D	Xerochrepts-Rock outcrop complex	10.3	1.2%	Well-drained
	4B	Briedwell silt loam, 0 to 7 percent slopes	50.2	5.9%	Well-drained
	5B	Briedwell stony silt loam, 0 to 7 percent slopes	148.7	17.6%	Well-drained
	5C	Briedwell stony silt loam, 7 to 12 percent slopes	55.1	6.5%	Well-drained
	5D	Briedwell stony silt loam, 12 to 20 percent slopes	25.9	3.1%	Well-drained
	Subtotals		839.4	99.1%	

Streams and Wetlands

There are two main streams running through the planning area – Basalt Creek (also known as Seeley's Creek or Tappin Creek) and an unnamed, intermittent creek to the west. Coffee Lake Creek forms the western boundary of the planning area (Figure 15).

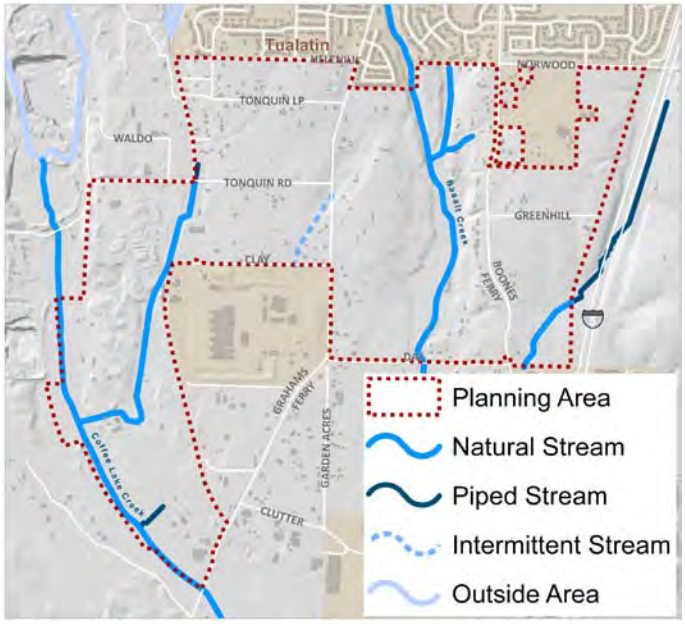


Figure 15 Natural, Underground and Intermittent Streams in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

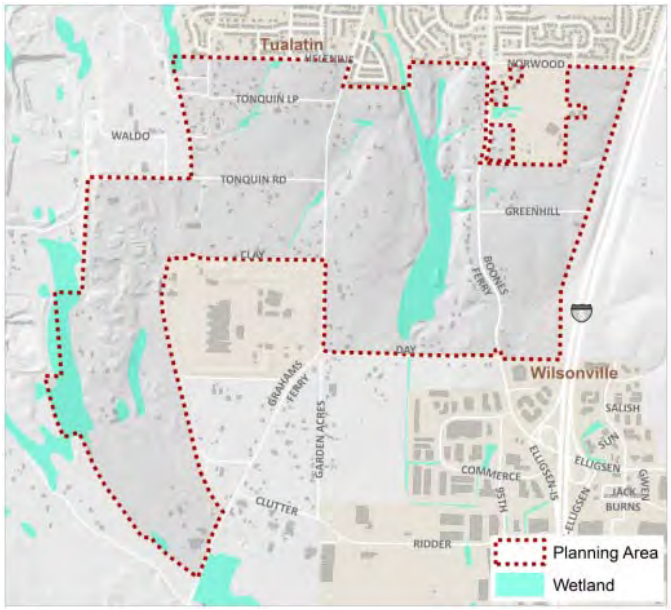


Figure 16 Wetlands in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

Through a combination of RLIS data and field work by the City of Wilsonville it has been determined that there are 11,478 feet of natural streams, 8,157 feet of underground streams and 1,402 feet of intermittent streams in the planning area.[14] In the plan area there are 69 acres of wetlands (8% of the planning area (Figure 16), including 49 acres of open water.

Floodplain

On the western border of the planning area (Figure 17) there are 53 acres of land (6% of the area) around Coffee Lake Creek that are within the 1% annual chance flood event area, as designated by the Federal Emergency Management Agency (FEMA) in a 2005 revision of the Washington County Flood Insurance Study (FIS).[15] The small portion of the planning area within Clackamas County is unaffected by the 1% annual chance flood event area, as identified in the Clackamas County FIS (2008).[16]

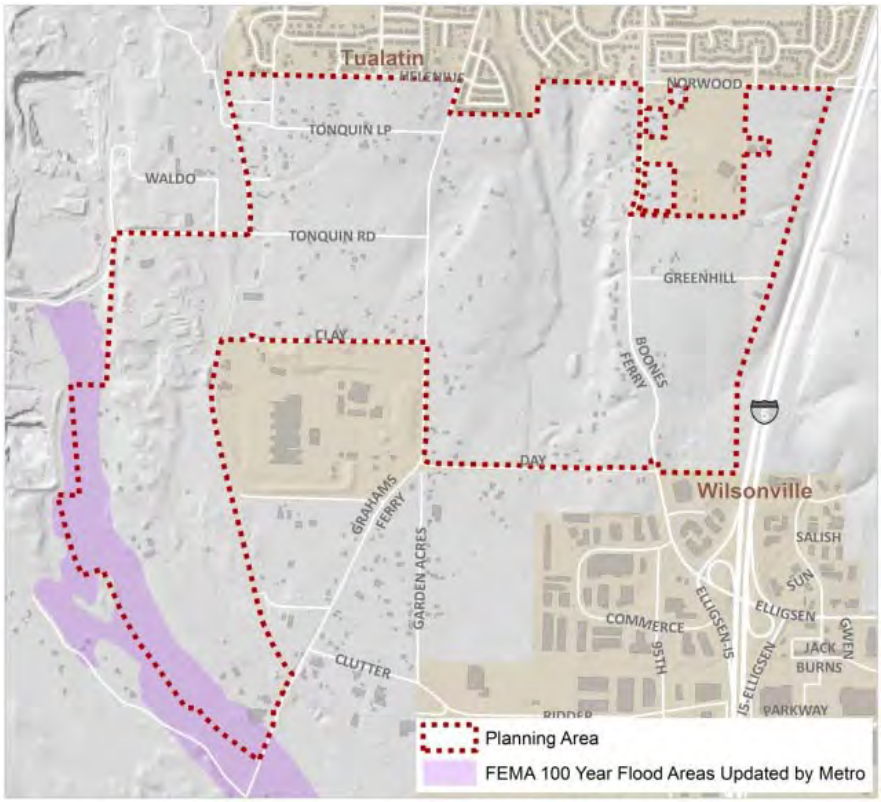


Figure 17 FEMA 1% annual chance flood event area in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014, FEMA 2007.

[14] Data sources: RLIS, Wetland Delineation Report for proposed Boones Ferry widening, additional wetlands digitized by FA based on 2013 and 2012 (leaf free) aerials.

[15] In 2005 the original 1980 FIS study was revised to incorporate new floodplain data for Ash Creek, Fanno Creek and Summer Creek in the unincorporated areas of Washington County in response to the largest flood event to occur since 1980, the November 1996 flood along Fanno Creek. Source: http://www.oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/174-washington-co-fis-2005-part1/file

[16] FIS for Clackamas County, Oregon, 2008.

Regulatory Framework for Conserving Natural Resources

Oregon Land Use Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

The purpose of Goal 5 is to protect natural resources and conserve scenic and historic areas and open spaces. It directs local governments to adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. In the Metro region Titles 3 and 13 of Metro's Urban Growth Management Functional Plan provides a regional framework for local governments to implement Goal 5.

Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

Metro's Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which include wetlands and riparian areas. In 2001 Metro conducted a regional inventory of wetlands and riparian areas protected by Title 3.

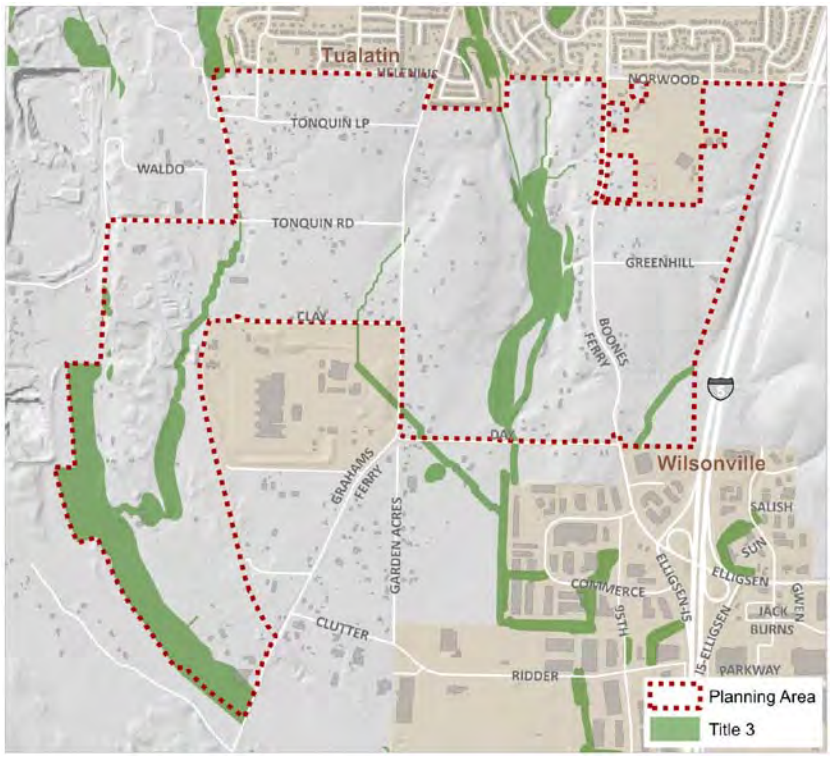


Figure 18 Title 3 lands (116 acres; 14% of total area) in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

There are 116 acres of land in the Basalt Creek planning area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3 (Figure 18). These lands are restricted for development and buffered by a vegetated corridor (the width of which is determined by factors described in the Natural Resources section of this document). Any development within the vegetated

corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures, as determined by the performance standards described in Metro's Title 3. Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and so existing local standards from each City would likely apply upon annexation of a planning area property into either Wilsonville or Tualatin.

Metro Title 13 – Nature in Neighborhoods

Title 13 is a policy requiring local jurisdictions to protect and encouraging them to restore a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. In 2001 Metro conducted a regional habitat inventory and identified the location and health of fish and wildlife habitat based on different sets of criteria for waterside, riparian and upland habitat. These areas were named Habitat Conservation Areas (HCAs).

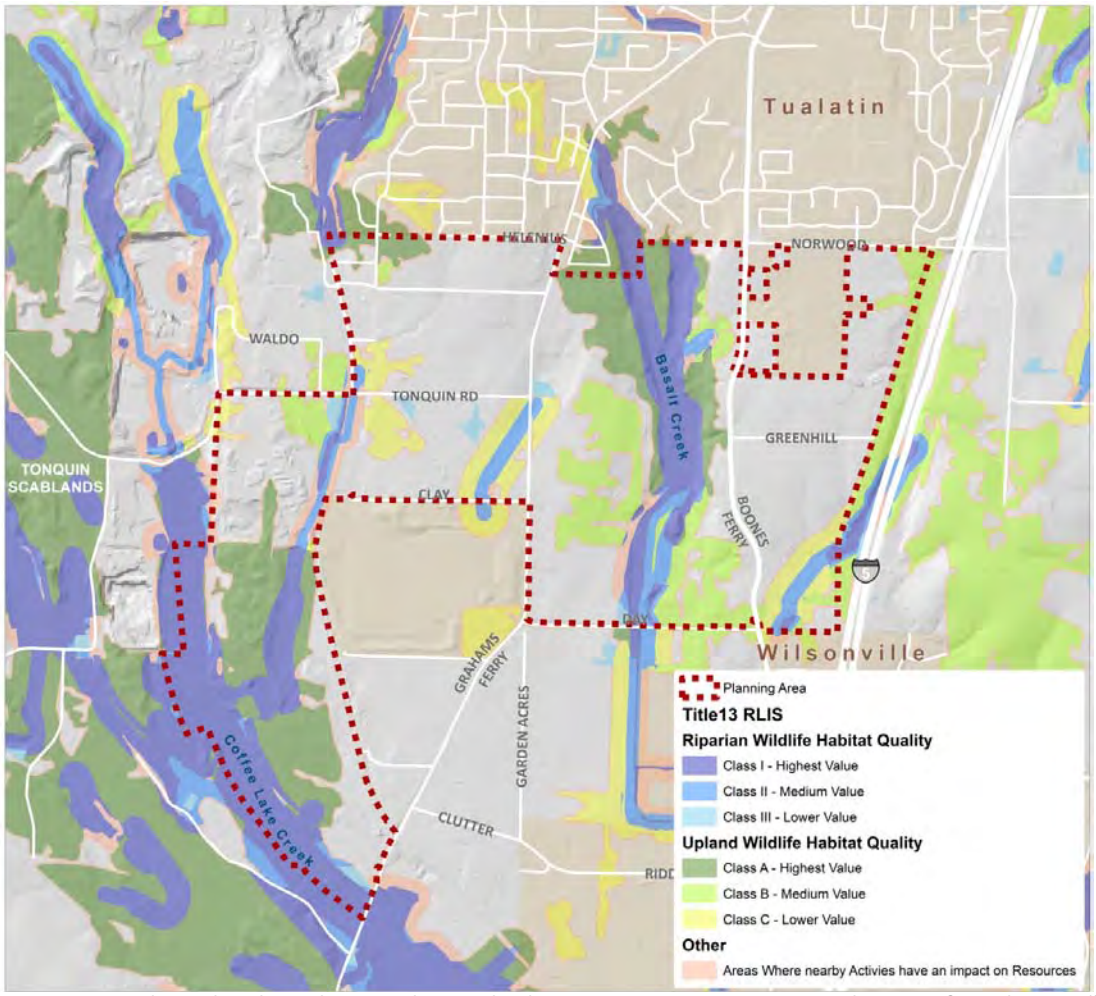


Figure 19 Title 13 lands in the Basalt Creek planning area (431 acres total, 51% of total area).[17] Source: Fregonese Associates, RLIS 2014.

[17] Note that most of these lands, other than Classes I and II of Riparian Habitat, can still accommodate some level of development.

Development is not restricted in HCAs on land that was brought into the UGB before December 28, 2005[18]. However, it is strongly encouraged that HCAs are taken into consideration during the concept planning process. Development in areas designated as protected under Title 13 in the Basalt Creek area is generally discouraged. If development does take place incorporation of low impact design and mitigation strategies to maintain the functionality of these important ecological areas will be important.

In the planning area there are 130 acres designated as Riparian Wildlife Habitat Class I, 31 acres designated as Class II, and 7 acres Class III. In addition, 103 acres are designated as Upland Wildlife Habitat Class A, 72 acres are Class B, and 37 acres are Class C (Figure 19). Designated impact areas comprise 52 acres.

Washington County Comprehensive Plan – Rural/Natural Resource Element

No land within the planning area is identified by the Washington County Comprehensive Plan as a Significant Natural Resource. The nearest Significant Natural Resource area is comprised of the Tonquin Scablands, to the west of Coffee Lake Creek.

Clean Water Services Design & Construction Standards (2007)

Clean Water Services (CWS) is the regional agency that manages stormwater in the urban areas of the Tualatin River Watershed, including the entire City of Tualatin. CWS holds a regional National Pollutant Discharge Elimination System (NPDES) storm water permit. *Chapter 3: Sensitive Areas and Vegetated Corridors* describes the methodology used by CWS to determine mitigation requirements in sensitive areas such as vegetated corridors surrounding streams and wetland habitat.

Table 3 Vegetated Corridor Widths Adjacent to the Sensitive Area Where Activity is Not Redevelopment. Source: Clean Water Services Design and Construction Standards, Chapter 3.

Sensitive Area Type	Width: Slope < 25%	Width: Slope ≥ 25%
Existing or created wetlands:		
< 0.5 acres and isolated	25 ft	Variable from 25-200 ft
< 0.5 acres and isolated	50 ft	Variable from 50-200 ft
≥ 0.5 acres	50 ft	Variable from 50-200 ft
Natural lakes, ponds, and in-stream impoundments	50 ft	Variable from 50-200 ft
Springs:		
Intermittent flow	0	15 ft.
Perennial flow	50 ft.	Variable from 50-200 ft
Intermittent Streams draining:		
< 10 acres	0	0
≥ 10 to < 50 acres	15 ft	Variable from 50-200 ft
≥ 50 to < 100 acres	25 ft	Variable from 50-200 ft
≥ 100 acres	50 ft	Variable from 50-200 ft
Perennial Streams:		
Other than Tualatin River	50 ft	Variable from 50-200 ft
Tualatin River	125 ft	Variable from 50-200 ft

[18] Metro Title 13: Nature in Neighborhoods 2007, S3.07 P85.

These standards exceed the level of conservation required by Metro's Title 3 (Table 3). Permitted development must comply with CWS's Design and Construction Standards & Service Provider Letters (SPLs) for impacts to vegetated corridors.

City of Wilsonville – Significant Resource Overlay Zone (SROZ)

Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, and riparian corridors around significant resources and upland habitat, as well as vegetated corridors around areas designated as Significant Resources. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development is allowed in portions of the SROZ (i.e. upland forests), but can only be permitted through review of a Significant Resource Impact Report (SRIR). An SRIR is a report that delineates specific resource boundaries and analyzes the impacts of development within mapped significant resource areas.[19] A table comparing these methodologies can be found in Section *VIII: Land Capacity Analysis.*

Table 4 Metro Water Quality Resource Area Slope Calculations. Source: Metro 2014.

Protected Water Feature Type	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (Setback)
Primary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft
Primary Protected Water Features	≥ 25% for 150 ft or more	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	200 ft
Primary Protected Water Features	≥ 25% for less than 150 ft	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	Distance from starting point of measurement to top of ravine (break in ≥ 25% slope), plus 50 ft
Secondary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	15 ft
Secondary Protected Water Features	≥ 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft

[19] Full requirements for an SRIR can be found in Section 4.139.05 of the Wilsonville Zoning Code (pp. B-133 - 138). Section 4.139 also outlines mitigation standards for development encroaching on an Impact Area or Significant Resource Overlay Zone as well as development activities that would trigger a Class I or II Administrative Review Process, in addition to a list of special provisions.

Cultural and Historic Resources

In addition to the unique geologic history of the Basalt Creek area, community members have identified the old Carlon Schoolhouse (Figure 20) as being historically significant. Off Grahams Ferry Road, behind Chick-a-Dee Nursery and not far from Day Road, the structure has often been overlooked as an important historic school that was used in the late 1800s, up until just before the first Tualatin schools. In 1939, the Carlon School District consolidated with Tualatin. It is still in good condition, maintained through a foundation.[20]

Figure 20: The Carlon Schoolhouse. Source: Martinazzi, Loyce. Tualatin Life Newspaper August 19, 2014.

[20] Addington, Yvonne, Board Member of Tualatin Historical Society. Email communication, August 19th, 2014.

IV. Public Facilities

Schools

The study area falls within the Sherwood School District (88J), which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School (Figure 21).

The planning area is near Tualatin High School, one of two high schools in the Tigard Tualatin School District. The district includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to a 1,000 students in the future.[21]

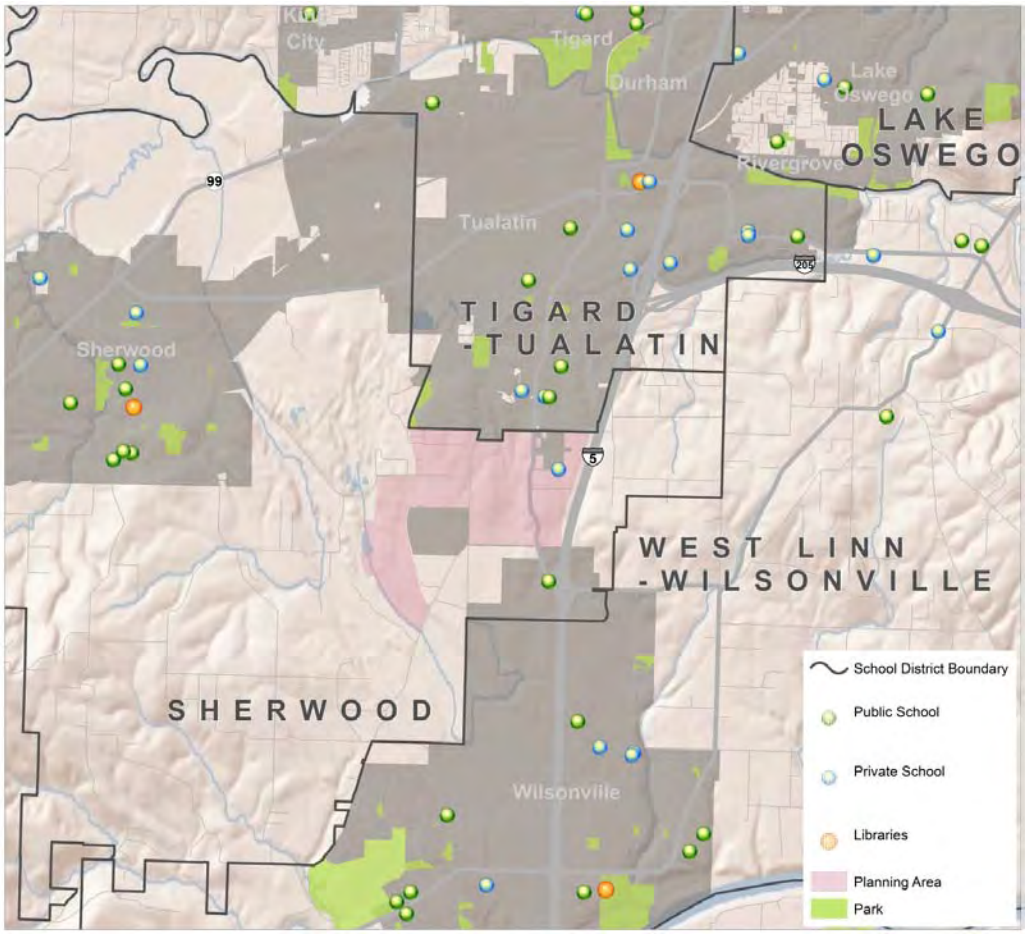


Figure 21 Schools, libraries and parks near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

[21] Levasa, Roger. Director of Development for Horizon Church. Personal communication July 31st, 2014.

Parks

Wilsonville Parks owns and maintains 16 different public parks. City of Tualatin Parks and Recreation owns and maintains 9 different parks (Figure 21).

Libraries

There are three libraries in the general vicinity of the planning area (Figure 21): the Tualatin Public Library located at 18878 SW Martinazzi Avenue, serving 24,420 residents, the Wilsonville Public Library located at 8200 SW Wilsonville Road, and the Sherwood Public Library at 22560 SW Pine Street, which serves 17,579 residents.

Fire

There are three Tualatin Valley Fire & Rescue (TVF&R) stations in general proximity of the Basalt Creek area (Stations 33, 34, 52). The TVF&R training center is just west of the planning area boundary (Figure 22).

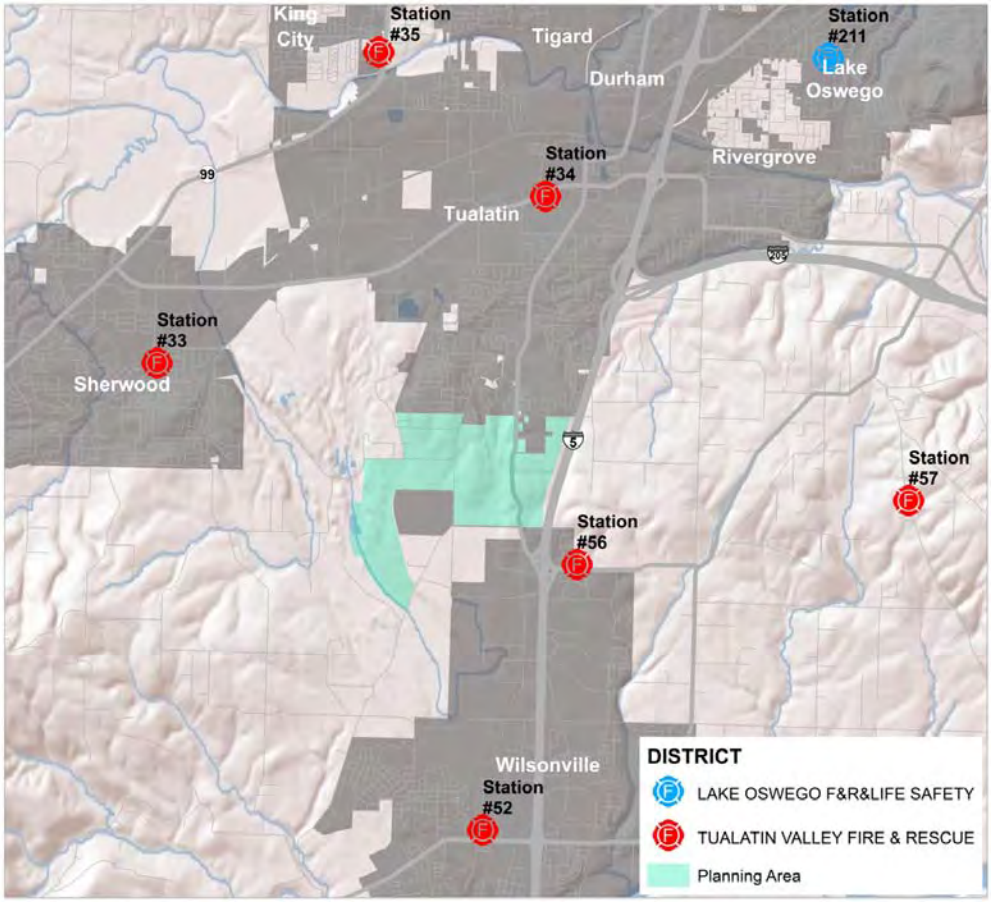


Figure 22 Fire station locations and service area boundaries near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Police

Currently the Washington County Sheriff's Office provides law enforcement services in the Basalt Creek planning area. The Washington County Sheriff's Department and Jail are located about twenty miles from the planning area, in downtown Hillsboro.

Wilsonville contracts with the Clackamas County Sheriff's Office to provide law enforcement services to the City. The contract makes certain special services available to the City as well, including its detectives division, hazardous materials team, special investigations unit and traffic team. It also provides the city with a dedicated chief of police, school resource officer, and detective, in addition to 15 deputies. The Clackamas County Jail facility is located about 20 miles east of Wilsonville, in Oregon City.

The Tualatin Police serve the area inside the city's limits. The police department consists of 38 sworn officers and an additional 8.5 professional staff members providing administrative support.[22] The department includes a detective unit, police services unit, school resource unit, Honor Guard (volunteer-based), park rangers, police reserves and a traffic team. The Tualatin Police Department does not have a facility to hold prisoners, and utilizes the Washington County Jail in Hillsboro.

[22] Tualatin Police Department Website: http://www.tualatinoregon.gov/police/police-services-unit retrieved July 31st, 2014.

V. Commercial, Industrial & Residential Real Estate Markets

The purpose of this section is to provide a picture of existing real estate market conditions and the outlook for office, residential, and retail development in Basalt Creek and adjacent areas.

Figure 23 Photo of planning area: Grahams Ferry Road, looking north into the Basalt Creek planning area. Source: Leland Consulting Group 2014.

Industrial and Office Market

Basalt Creek is located near the center of one of the region's largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek). A market area was defined for this report so results can be compared with future analysis (Figure 24). The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas.

The Metro Regional Government projects rapid employment growth of 2.3% annually for the market area through 2035—about 40% faster than the employment growth in the overall region (1.7 %). This pattern indicates that ongoing business expansion and job creation is expected for these three cities, comprising a large portion of the southwestern metropolitan area.

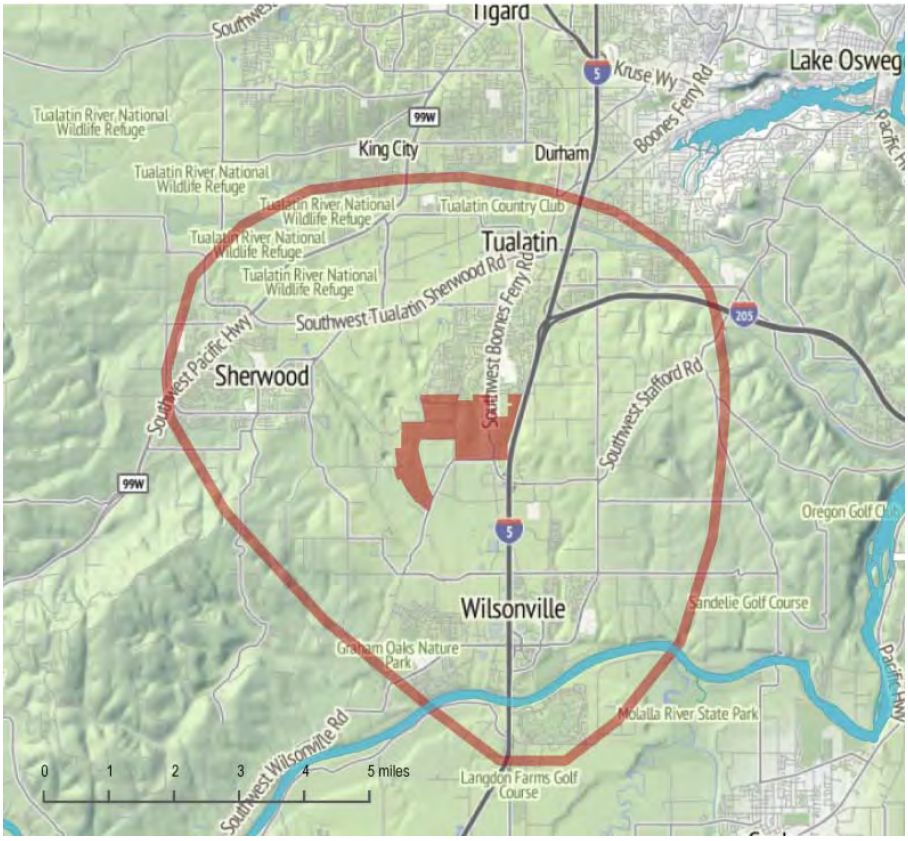


Figure 24 Market Analysis Area for the Basalt Creek area. Source: Leland Consulting Group, 2014.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories would be well-suited to locate in the Basalt Creek planning area.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990's and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to "onshore" jobs (bring employment back from overseas), shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development (including warehousing, production, flexible office/industrial space, etc.) in both cities is significantly larger (more than seven times) than the amount of office development. This general dynamic is expected to persist for the foreseeable future.

Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one- to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs up to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in the Basalt Creek area will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit service; a growing and educated workforce; and established and expanding industry clusters.

Housing Market

Basalt Creek's location is also an asset for residential development for housing: the planning area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The market area's current demographics are encouraging for new housing development. When compared to the Portland Metropolitan Area overall, this market area has a higher percentage of family households, larger households, higher household and per capita incomes, residents with college degrees, and residents who work in white collar jobs.

Retail/Commercial Market

There are already several major regional and sub-regional retail nodes located to the north and south of the planning area—at Bridgeport Village, central Tualatin, and in Wilsonville. Thus any commercial space built in Basalt Creek will most likely serve primarily local residents and employees. These larger centers are located at I-5 interchanges. Retail in the Basalt Creek area would not have this same advantage. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies and restaurants, and supplemented by other local goods and services.

Industrial and Office Market Conditions

Regional Employment Context

As discussed in *Section I: Local and Regional Planning Context*, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland Metropolitan Region, including those in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro (though smaller than the employment lands near Portland International Airport).

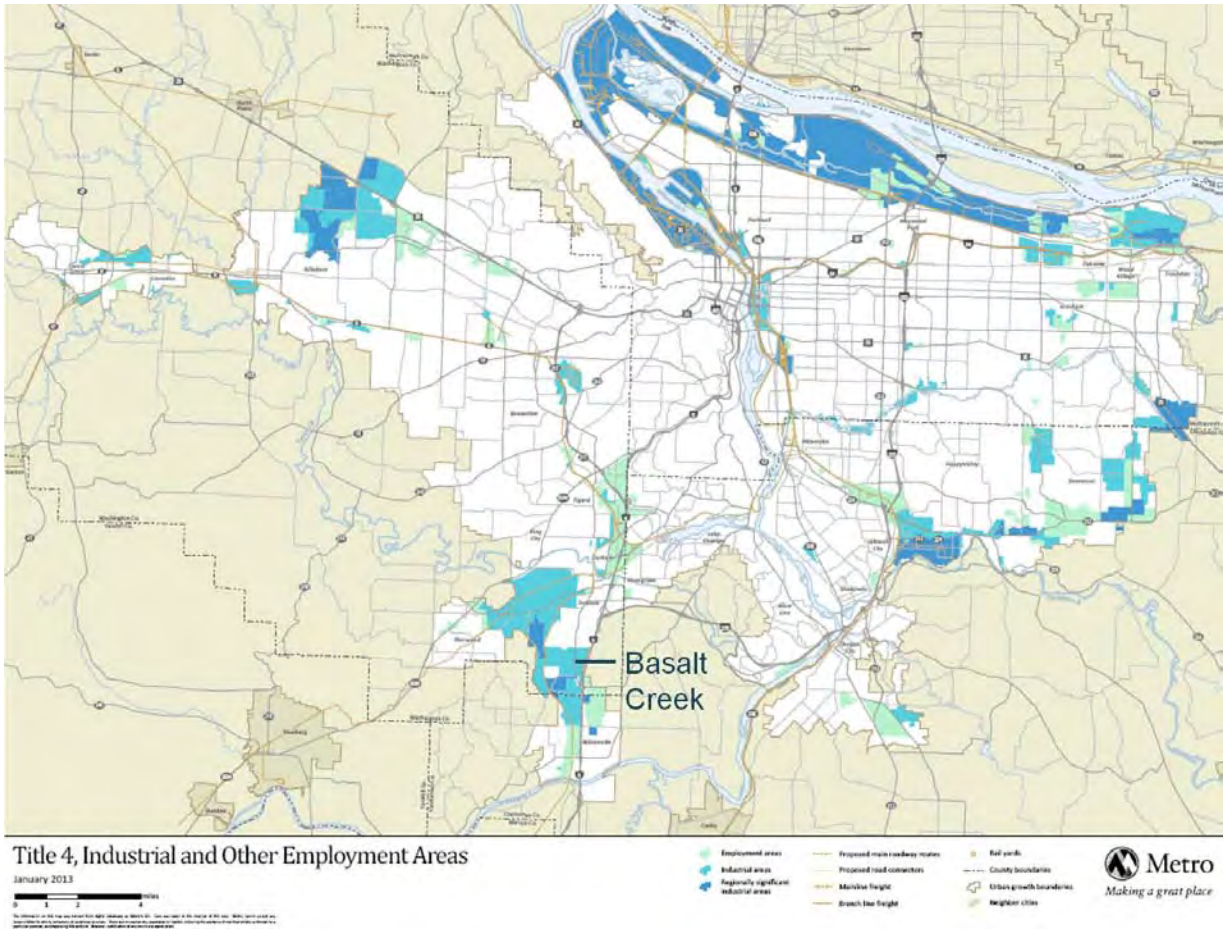


Figure 25 Title 4 Industrial and Other Employment Areas in Portland Metro Area. Source: Metro 2014.

A major feature and competitive advantage of this "Southwest Metro" employment cluster in general--and the Basalt Creek area in particular--is its immediate access to I-5, the west coast's most important transportation route (Figure 25). Via I-5, the Basalt Creek area is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. Interstate-205 and Highway 217 are also close by and easily accessible from the area. These freeway connections are a major benefit for industrial users (for whom distribution is an important site selection factor) and office-based businesses (which require access for their clients, suppliers, workforce, and collaborators).

Industrial and Office Development, 1980 to 2014

Figure 26 and Figure 27 below show the pace of industrial and office development in the cities of Tualatin and Wilsonville beginning in 1980. The vertical columns represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical

development trends are one data set that shapes expectations for future employment development in both cities and the Basalt Creek planning area.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

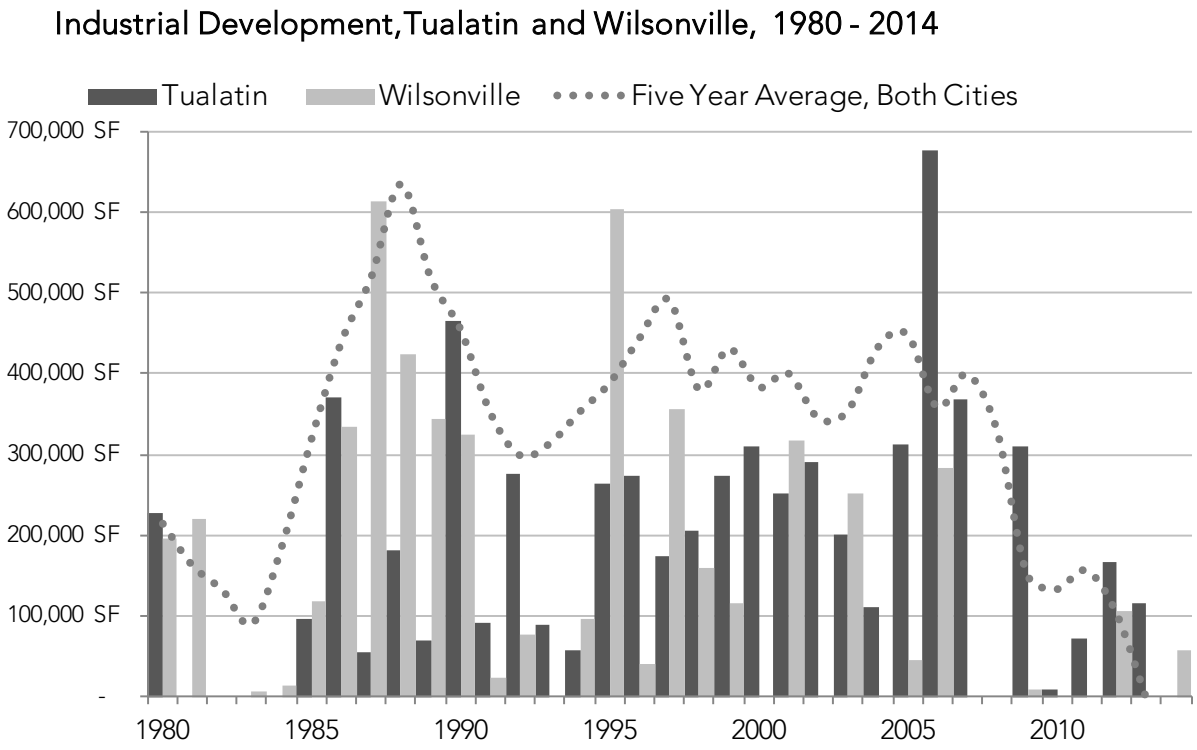


Figure 26 Industrial Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

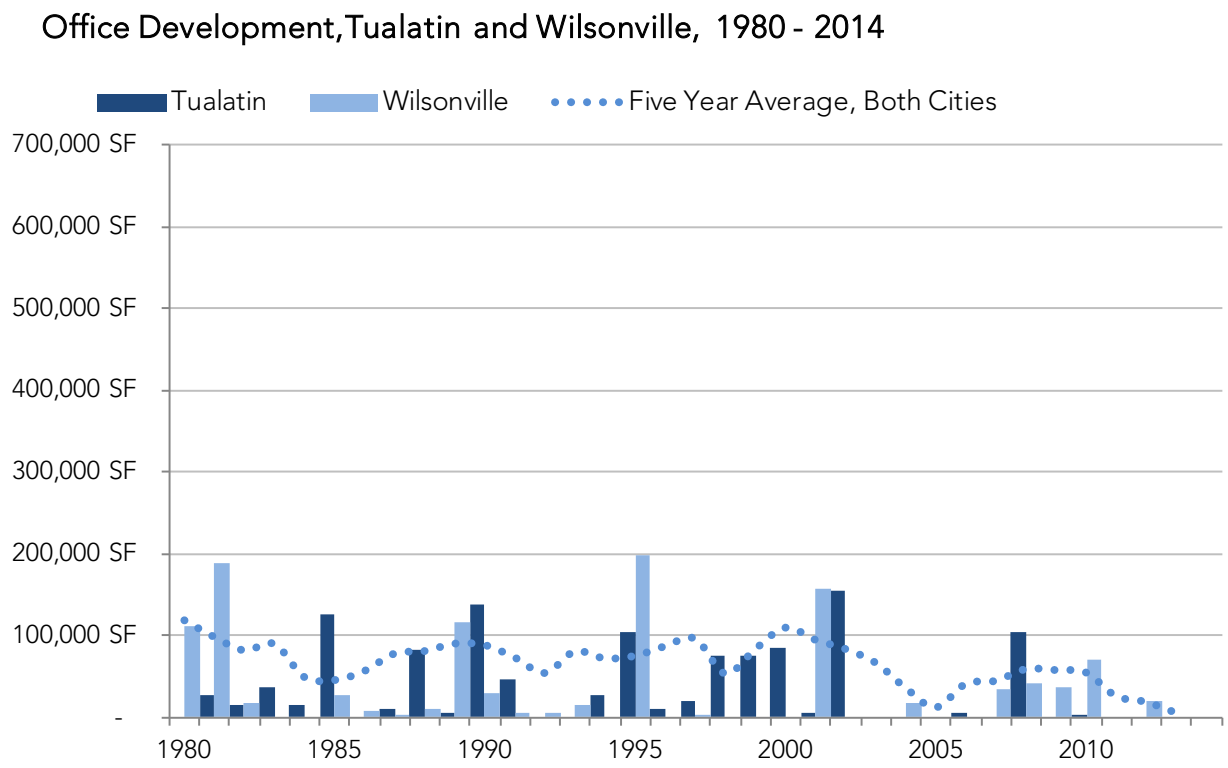


Figure 27 Office Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers (see Figure 26). Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s (Figure 27). Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

Employment Building and Site Attributes

Table 5 shows some key attributes of industrial and office development in Tualatin and Wilsonville. From looking at these attributes, it can be determined that:

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land. Tualatin has seen about 32 acres of employment land development per year, 26.8 acres of industrial land, and 5.3 acres of office land. Employment land in Basalt Creek is likely to develop more slowly than this pace because there is less

developable land in the study area than the cities as a whole. However, development in Tualatin and Wilsonville can be used to gauge the rate of employment land development in Basalt Creek.

- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings. Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro's analysis and future projections.

Table 5 Attributes of Industrial and Office Development in Tualatin and Wilsonville. Source: CoStar, Leland Consulting Group 2014. SF: Square feet; FAR: Floor area ratio, the ratio of a building's size in square feet (or gross building area) to the size of the piece of land upon which it is built.

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
Total Area (SF)	10,470,000	8,390,000	18,860,000	1,260,000	1,250,00	2,510,000
Av. Annual Development, 1980 - 2014						
Square Feet	186,960	150,980	337,940	34,632	32,985	67,617
Acres	26.8	16.3	43.1	5.3	8.3	13.6
Building Averages, 2000 - 2014						
Square Feet	60,224	80,000	-	31,807	35,000	-
Acres	9.1	6.5	-	4.2	2.0	-
Typical Floor Area Ratios (FAR)	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

It is of note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figures Figure **28**, Figure **29** and Figure **30**.

Typical Industrial Buildings: Office/Distribution and Flex

The first building pictured below (Figure 28) is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below (Figure 29) is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.

Figure 28 Example of typical building with a mix of office space and warehouse/distribution space.

Figure 29 Example of typical flex industrial building, located in Tualatin.

Headquarters Office Building (Mentor Graphics)

The Mentor Graphics building (Figure 30) is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.

Figure 30 Mentor Graphics Headquarters Office Building in Wilsonville.

Office Development Outlook

Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space. Office development in the short- and long-term faces several challenges. In the short-term, the Portland region's employment levels have just recovered in 2014 to their pre-recession (2008) levels. While office vacancies are far lower than several years ago, there is not yet market pressure for new development. As Table 6 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6% of the total regional inventory of nearly 47 million square feet. Tualatin's current vacancy rate of 20.5% suggests a soft market, though that space will be occupied in the long term. The market is expected to improve as the region and nation continue to recover from the recession, and businesses grow and add jobs. However, office development is not expected to return to levels seen in the 1990s without a major upturn in the economy.

Table 6 Current Office Market Summary, Portland Metro Region. Source: CoStar, Leland 2014.

Market	Existing Inventory		Vacancy	YTD Net	Under Const. &	Class A
	# Blds	Total RBA	%	Absorption	Complete YTD	Rates
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	$21.53
Tigard	226	3,313,116	10.4%	35,859	0	$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	$20.50
Totals	**1,379**	**46,903,725**		**181,309**	**288,000**	

Tualatin and Wilsonville's Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities' main economic development plans relevant to Basalt Creek are shown in Table 7 below.

Table 7 Relevant Economic Development Plans. Source: Cities of Tualatin and Wilsonville.

Tualatin	Wilsonville
• Economic Development Strategic Plan (2014) • Industry Cluster Analysis (2014) • Linking Tualatin Market Study (2012) • Southwest Tualatin Concept Plan (2010)	• Economic Development Strategy (2012) • Coffee Creek Master Plan (2007)

Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin's Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57% of Tualatin's jobs fall within its five key industry clusters, which also provide wages that are on average 70% ($35,000) higher than those in all other industries.

Clusters reflect a community's strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future.[23]

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters[24]:

Advanced Manufacturing (and related activities)

This cluster is a significant driver of both cities' economies. It is Tualatin's largest cluster, accounting for 22% of jobs in the city. It accounts for a significant portion of Wilsonville's economy; computer and electronic product manufacturing was Wilsonville's largest industry sector as of 2012, and includes several of the city's largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the Southwest Metro economy. The Cities are looking for ways to capitalize on OIT's presence and to strengthen partnerships between the school and private businesses.

Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster's continued success.

Corporate and Professional Services

This cluster accounts for 12% of Tualatin's jobs, and was the second-largest industry sector in Wilsonville as of 2012. Major employers include: Portland General Electric (PGE) and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including: a

[23] Wilsonville's EOA uses the term industry "sectors." The terms cluster and sector are used interchangeably here

[24] The economic figures included below are drawn from the Cities' economic development plans.

skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.

Health Care and Medical-Related.

This cluster is important in both cities: it is the third-largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center (among Tualatin's largest employers), and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care-related employers (as of completion of the 2012 Economic Development Strategy) were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Center zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

Other Industrial Clusters.

Both Cities have identified additional industrial target clusters that could locate in the Basalt Creek area. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: food processing and distribution, and wood, paper, printing, and related industrial activities. Wilsonville identified a number of other industrial business types: light manufacturing and warehouse/showroom operations; specialty contractors and construction firms; sustainable product manufacturing and distribution; miscellaneous manufacturing; and wholesale trade.

Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.

Other Professional and Commercial Services.

Wilsonville's 2012 Economic Development Strategy also identifies creative services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to corporate and professional services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.

Figure 31 Lam Research Facility, Tualatin. Photo credit: Tualatin Chamber.

Sub-Regional Context

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124th Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. Regional connectivity will be challenged due to the limited access nature of the East-West Connector. This large agglomeration of employment areas has the potential to create economic momentum, and also the potential to be a source of competition for the Basalt Creek area. This is because the areas can project a powerful combined brand, while also competing for individual employers who are looking for sites.

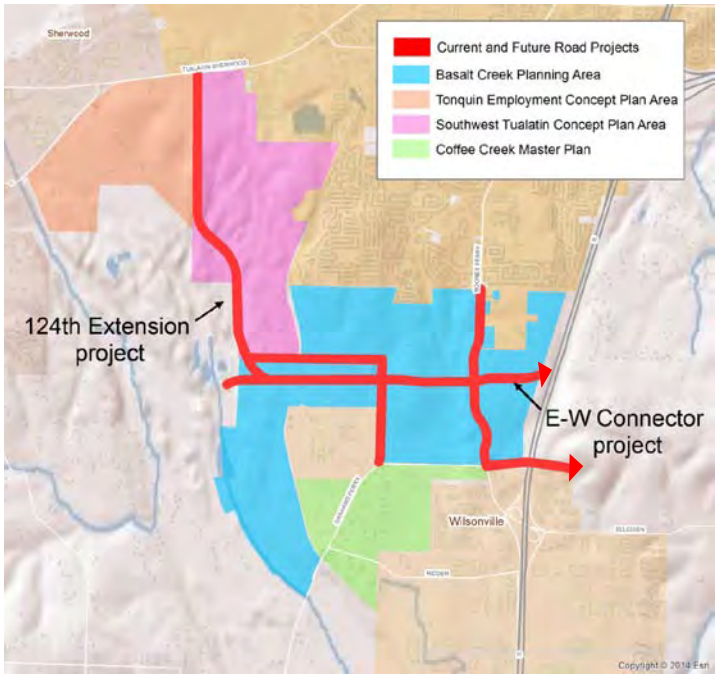


Figure 32 Major TRP road projects in relationship to the Basalt Creek planning area and planned areas nearby Source: Fregonese Associates 2014.

Established Employment Areas

The Tualatin and Wilsonville employment areas have capacity for additional businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

Planned Employment Areas

Southwest Tualatin, Tonquin Employment Area, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property-owner initiated. The following summarizes the current activity in each of the planning areas.

- The Southwest Tualatin concept plan area: Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area: No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and a financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis industrial and office development are as follows:

Strengths and Competitive Advantages

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce
- Market success of recent industrial, office, and retail developments

Challenges

- Vision and regulation. This Concept Plan and subsequent Comprehensive Plan and zoning amendments need to be in place prior to development.
- Planning, financing, and construction of new infrastructure. This is because roads, water, sanitary sewer, and other infrastructure for urban expansion areas are expensive. Cities are often focused on maintaining and improving existing infrastructure and therefore do not budget to make extensive extensions. Developers of individual sites typically cannot afford to build out a comprehensive set of infrastructure to serve multiple properties.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout the Basalt Creek area. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the planning area, dividing it into east and west sections.
- The market for new office development continues to be slow. However, the planning area will not be ready for private development for several years, which may allow enough time for this market to recover.

Housing Market Analysis

Demographic Context

The City of Tualatin, compared to the Portland Metropolitan Statistical Area (MSA), has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher per capita incomes. A larger share of residents has college degrees (42.3%) and is employed in white collar jobs (67.5%) compared to the region. Tables Table **8**, Table **9** and Table **10** provide additional perspective on the demographics of the subject cities compared to the Portland MSA.

Wilsonville, compared to the Portland MSA, has a higher percentage of family households and smaller households--likely because the city has a higher share of young households (in the 25-34 age category) and seniors, Baby Boomers, and retirees. Each age group has different housing preferences. Wilsonville also has a larger share of residents with college degrees (39.3%) and white collar jobs (70.1%).[25]

While the Basalt Creek market area includes both Tualatin and Wilsonville, its demographics are generally more similar to those in Tualatin. When compared to the Portland MSA, the market area has a

[25] Data shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas

higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs. In general, these demographics are favorable to housing development in the Basalt Creek area; they also reflect the types of residents most likely to locate in the planning area.

Table 8 Demographic Summary of the Basalt Creek planning area. Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

	Tualatin	Wilsonville	Basalt Creek
Comparison to Portland MSA:	• More families • Larger HHs • Higher HH Income • Higher PC Income • More college degrees • More white collar emp.	• Fewer families • Smaller HHs • More Gen Y • More Boomers • More low-income HHs • More college degrees • More white collar emp.	• More families • Larger HHs • Higher HH incomes • Higher PC incomes • More college degrees • More white collar emp.

Table 9 Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

Demographic Attribute	Tualatin	Wilsonville	Basalt Creek	Portland MSA
Population	26,520	21,235	73,786	2,296,285
Number of Households	10,170	8,638	28,121	896,982
Family Households (2010 Census)	68%	59%	68%	64%
Household Size (Average)	2.60	2.32	2.57	2.52
Household by Size (2010 Census)				
1 and 2 person	57%	68%	58%	61%
3 and 4 person	33%	25%	32%	29%
5 + person	10%	7%	10%	10%
Median Household Income	$64,324	$59,812	$70,256	$57,441
Per Capita Income	$32,672	$31,995	$33,336	$30,135
Population By Age				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
Median Age	35.7	37.0	36.6	37.5

Key: Low High

Table 10 Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI, Leland Consulting Group. 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
Education and Employment				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivalent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
Occupation				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
Housing				
Median Home Value	$331,190	$349,927	$337,289	$275,516
Housing Tenure				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Key: Low High

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin's population. The neighborhoods—including low volume local roads, street trees, parks, and schools—create a positive environment for residential development within the Basalt Creek area, particularly along the northern edge.

Recent Housing Development

Table 11 below shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master-planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large- and medium-lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20% of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums,

and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin's multifamily housing is clustered further north near downtown Tualatin, between Tualatin-Sherwood Road and Avery Street, and the Bridgeport Village area. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport (under construction) is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20% of total housing in many communities during the past five decades.

Wilsonville's housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large- and medium-lot single-family housing. Again, this is likely to due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four "S groups" in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66%) is partially due to the large number of new 20- and 30-something households recently formed, which will slow in coming years. Villebois' housing mix is similar to that in Wilsonville overall. However, during the time period surveyed (2000 to 2012) a larger percentage of small-lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois' developers and National Association of Realtors (NAR) surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and home sizes, especially when the surrounding neighborhood is attractive and walkable.

Table 11 Residential Development in Tualatin and Wilsonville by Housing Type. Sources: HUD; City of Wilsonville, New Home Trends, Leland Consulting Group. Due to data availability, Table 12 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

Housing Type	Tualatin	Wilsonville	Villebois
	Recent Permits	Recent Permits	Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
Total	100%	100%	100%

Retail/Commercial Market Analysis

In addition to new residents and employees that may locate in the Basalt Creek area, the residents of the Tualatin neighborhoods located immediately to the north are important sources of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000

households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through the Basalt Creek area to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on pass-by traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 in 2014[26], which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest Metro area and beyond. The 124th Avenue Extension, which will be built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area, are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

[26] Source: ESRI Business Analyst, 2014

VI. Infrastructure

The objective of this section is to identify existing stormwater, wastewater conveyance and treatment, and potable water infrastructure that could be used to provide services for the Basalt Creek planning area. Existing jurisdictions and service agreements are also described, in addition to discussion of important areas of special consideration in and near existing receiving waters.

Policy Guidance on Infrastructure

The discussion in this section is framed by the Cities' desire to have a better understanding of how provision of services such as wastewater collection and treatment and potable water distribution serving Basalt Creek can function in the most efficient and economical manner.

Specifically the Cities are interested in determining, from a technical standpoint, if wastewater can be conveyed and treated more efficiently and cost-effectively by relying on gravity or if pump stations are more appropriate. This should consider improvement costs related to the collection systems (such as incremental pipe capacity needs in both cities; pump station construction, long term operations and maintenance costs; and treatment capacity needs at both treatment plants). Should pump stations be less desirable from a technical standpoint, what are non-technical issues that would need to be resolved? Part of answering this question is to identify where specific areas of Basalt Creek naturally drain and whether it makes sense from a technical point of view for wastewater to cross jurisdiction boundaries. This evaluation raises a policy question for the City of Wilsonville of whether or not they are willing to collect and treat wastewater that could be generated by land outside of their City supposing the service lines and jurisdictional lines are not the same.

Additionally, the Cities desire to evaluate and determine if there are efficiencies for the water system if the source of water is from the Willamette River. Another topic to explore is if it is a good idea to interconnect the two systems. The Cities are asking if it makes more sense to provide water services to Basalt Creek from the south rather than from the City of Tualatin's existing system. This exploration presents another policy question for the City of Tualatin about accepting water from the Willamette River.

Stormwater Infrastructure

Existing stormwater infrastructure within the Basalt Creek planning area consists of roadside drainage ditches and culverts. Culverts in the planning area are under the jurisdiction of Washington County and range from 12 to 30 inches, as shown in Figure 33. It is assumed that the existing culverts may not have capacity for future urban conditions and will need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite detention or infiltration is required. Roadway drainage for SW Boones Ferry Road was recently transferred from the jurisdiction of Oregon Department of Transportation (ODOT) to that of Washington County, but the County does not yet have the

geographical information system (GIS) data available. Culverts to the south of the planning area are part of the City of Wilsonville stormwater system.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

Existing stormwater drainage basins based on existing topography and infrastructure are also shown in Figure 33, along with Oregon State Planning Goal 5, Significant Resource Areas near receiving waters. As can be seen in Figure 33, large portions of the planning area are Significant Resource Areas. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the planning area.

The City of Tualatin is a co-permittee of Clean Water Services (CWS) watershed-based National Pollutant Discharge Elimination System (NPDES) permit, which includes the municipal separate storm sewer system (MS4) stormwater discharge permit. The City of Tualatin owns and operates the stormwater system within the city.

The City of Wilsonville owns and operates the public stormwater conveyance system to the south of the planning area. The City of Wilsonville is an NPDES MS4 co-permittee with Clackamas County and twelve other cities and service districts within the County (Permit Number 101348).

The City of Wilsonville's 2012 Stormwater Master Plan identifies a capital improvement project to restore a portion of the Basalt Creek channel to increase capacity to accommodate impacts caused by a reverse grade south of Day Road near the Commerce Circle area. The project is programmed for mid-term (6 to 10 years) implementation in the July 2014 Prioritized Stormwater Capital Improvement Plan (July 2014 Prioritized Project list). The master plan also identifies a regional detention facility to serve an area that includes the Basalt Creek planning area. This project is identified in the July 2014 Prioritized Project List as a long-term project (10 to 20 years).

Locations where stormwater runoff from the Basalt Creek plan area could connect to existing stormwater infrastructure in the future are shown in Figure 33 and summarized in Table 12. Should these locations be considered to receive stormwater discharge from the Basalt Creek plan area, the downstream conveyance system will need to be evaluated for capacity and condition.

Wastewater Infrastructure

Currently, no sewer service is provided to the planning area. Existing homes are, therefore, assumed to be using individually permitted and managed septic systems, but a public records request has not been made to confirm this assumption for each property in the planning area.

Wastewater Collection and Conveyance

Wastewater conveyance to the north of the planning area is under the jurisdiction of the City of Tualatin, who maintains a service agreement with CWS for wastewater collection and treatment at the Durham Advanced Wastewater Treatment Facility located at 16060 SW 85th Avenue in Tigard, a straight line distance of approximately 2.5 miles north of the Basalt Creek planning area. The City owns the

wastewater conveyance system (up to 18-inch diameter) within the City, while CWS owns larger pipes, pump stations, force mains, and treatment facilities.

Eight gravity mains exist near the north planning area boundary and could provide connection points for wastewater from the Basalt Creek plan area into the Tualatin collection system. The 200 gpm Victoria Woods Pump Station and associated force main are also located just to the north of the planning area boundary, west of the southern end of SW Eno Place. From these connection points, wastewater flows by gravity toward the treatment plant, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park and associated force main. Pumping would be required to lift flows from the planning area into the existing gravity system.

Wastewater conveyance to the south of the planning area is under jurisdiction of the City of Wilsonville. Wastewater from the City of Wilsonville is conveyed to and treated at the Wilsonville Wastewater Treatment Plant located at 9275 SW Tauchman Street, approximately 3.2 miles south of the planning area.

The City of Wilsonville's Coffee Creek Industrial Area Plan identifies a new sanitary main line to be constructed in a future segment of Kinsman Road between Ridder and Day Roads. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows from the Basalt Creek planning area. Three existing possible connection points into the Wilsonville collection system were also identified. From these connection points, wastewater flows by gravity to the Wilsonville Wastewater Treatment Plant. The ongoing Sanitary Sewer Collection System Master Plan project has analyzed a range of flows from the planning area to identify trunk capacity, pipe size, and improvements needed to accept flow from the planning area. Connection Point 10 at Pioneer Road in Commerce Circle would require a lift station to deliver flow from the planning area into the Wilsonville system.

A brief description and location of the eight potential points of connection to the Tualatin conveyance system and three existing potential points of connection to the Wilsonville conveyance systems are shown in Figure 34 and summarized in Table 13. Wilsonville's planned sanitary main line in Kinsman Road is also shown in Figure 34.

Consideration of the Basalt Creek Planning Area in Sanitary Sewer Master Plans

The *Tualatin Sanitary Sewer Master Plan Update* has been put on hold until the Basalt Creek planning process is complete. The City of Wilsonville is in the process of updating its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) and is including Basalt Creek as a contributing area. The resulting updated master plans will identify improvements needed to increase the capacity of each system to convey flow from the Basalt Creek planning area.

Clean Water Services conducted a system capacity evaluation to accept flows from the Basalt Creek planning area and the SW Concept Plan Area in addition to flows from the City of Tualatin (CH2M HILL, 2012). This study assumed that flow contributions would be routed to the Sherwood trunk line (located north of Tualatin-Sherwood Road) rather than through local service lines. A lift station would be required to convey flow from the Basalt Creek area to the Sherwood trunk line. The distribution of flow

to each of the cities and where connections need to be made will be determined as part of the Basalt Creek Concept Plan.

Wastewater Treatment

The nearest treatment facility to the north of the planning area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). This facility currently receives about 22.6 million gallons per day (mgd) in dry weather flow (CWS, 2013). Future flow projections, updated in 2011, did not include any areas outside of the existing Durham AWTF service area (CH2M HILL, 2011). Therefore, treatment of Basalt Creek wastewater flows at the Durham facility will require review of the plant capacity and analysis of impacts to level of service within the existing service area. In addition, expansion of the service district area to include the Basalt Creek planning area (or any portions thereof) needs to be evaluated.

The nearest treatment facility to the south of the planning area is the City of Wilsonville Wastewater Treatment Plant (WWTP). This facility was recently expanded to an average dry weather flow capacity of 4 mgd, with flow projections and design bases of improvements accounting for an ultimate buildout capacity of 7 mgd. The current 4 mgd is capacity designed to accommodate growth within the current city limits, and the 7 mgd buildout capacity is designed to accommodate additional growth areas outside the city limits. Expansion to 7 mgd can be achieved by adding a third primary clarifier and adding a membrane bioreactor to the aeration basins. Approximately half (300 acres) of the Basalt Creek planning area (identified as the “North Wilsonville” area in the technical assessments) was accounted for in the year 2030 buildout capacity assessment (7 mgd). Early development of the Basalt Creek planning area, in conjunction with other planned developments will require review of the timing of the next WWTP expansion phase.

Potable Water Infrastructure

The delivery of potable water to customers is impacted by many factors. Of the many requirements, pressure and flow are two that are closely tied and impact all water infrastructure decisions. Residential water service typically has a minimum pressure of 30 pounds per square inch (psi) and a maximum dictated by plumbing code of 80 psi. The pressure in a gravity fed system similar to the Wilsonville and Tualatin systems is constantly fluctuating based on the demand on the system at any given time. As demand goes up, reservoir levels go down, causing pressure in the system to be reduced. When demand reduces, water is placed/pumped back into the reservoirs, bringing the system pressure back. Storage requirements on a system are driven by customer demand and fire flow requirements because these reservoirs are not only providing system pressure, but also emergency storage.

In order to evaluate how the Basalt Creek area will be served with water, the existing City of Wilsonville and City of Tualatin Water Master Plans were reviewed. Below is a summary of the information gathered from those reports, and how that might impact water service to the Basalt Creek planning area.

City of Tualatin

The City of Tualatin water system currently provides drinking water to approximately 26,000 people, through 6,700 residential, commercial, industrial and municipal connections. The system consists of four hydraulically connected pressure zones that include five steel storage reservoirs with a combined storage capacity of 13 MG. A sixth storage reservoir with an additional 1.0 MG capacity (in level C) is anticipated to be online in fall 2015. The water supply is purchased wholesale from the Portland Water Bureau with a maximum available capacity of 10.8 mgd. The current (2013) MDD is 9.5 mgd, providing approximately 1.3 mgd of excess capacity at this time. Projected MDD in 2039, without the Basalt Creek planning area, is 14.2 mgd. Table 14 shows the City's existing pressure zones.

City of Wilsonville

The City of Wilsonville's water system currently provides drinking water to approximately 21,000 people. The system consists of three hydraulically connected services areas (A, B, and C) supplied by three steel storage reservoirs and a small underground concrete reservoir (Charbonneau) with a capacity of 7.6 million gallons (MG). Table 15 shows the capacity and hydraulic grade of each of the pressure zones.

The water supply source is the Willamette River Water Treatment Plant jointly owned by the City of Wilsonville and the Tualatin Valley Water District (TVWD). The plant has a current rated capacity of 15 mgd, but the buildings and piping and some of the unit processes were designed for an ultimate supply capacity of 70 mgd, with Wilsonville owning 20 mgd and TVWD owning 50 mgd of that capacity. The plant was designed for on-site expansion. TVWD sold 5.0 mgd of treated water capacity to the City of Sherwood in 2006. Based on Wilsonville's 2012 Water Master Plan, projected (2020) maximum day demands (MDDs) for the plant is 14.9 mgd, which includes the 5.0 mgd delivery to Sherwood, plus a 0.75 mgd allowance for new industrial users.

Basalt Creek Planning Area

The Basalt Creek planning area currently has no municipal water infrastructure in place. The area topography ranges from approximately 250 feet above mean sea level (msl) to a maximum elevation of 350 feet msl. Based on the topography, the Basalt Creek planning area could be served from the south through The City of Wilsonville's distribution system (Pressure Zones B and C) or from the north through the City of Tualatin's distribution system from Pressure Zone B and C. Lower elevations of the Basalt Creek planning area (below elevation 285) can be adequately served by Wilsonville's Pressure Zone B through existing 15-inch and 18-inch distribution lines that are adjacent to the area. A political factor in determining service boundaries is Tualatin's requirement for a public vote before switching to water supply from the Willamette River; the City currently receives its potable water primarily from the Bull Run reservoir near Mount Hood. A vote would only be required if Willamette River water was used to serve a part of Basalt Creek that ended up within Tualatin's jurisdiction.

Tualatin's and Wilsonville's Pressure Zone C reservoirs are located adjacent to each other on the East Side of I-5. The I-5 pipe crossings that connect to these reservoirs are in different locations. Analysis

needs to be completed to determine if the existing pipe configurations from each of these reservoirs provide adequate pressures to serve the higher elevations of Basalt Creek with emergency water demands. To provide for the additional flow to these higher elevations, it may be necessary to add booster pumping capacity within each City's water system. The City of Wilsonville master plan identifies a future I-5 crossing for their Zone C reservoir as well as a future Pressure Zone D reservoir that would address pressure needs to the higher elevations. Figure 35 identifies the potential pressure zones and existing adjacent infrastructure.

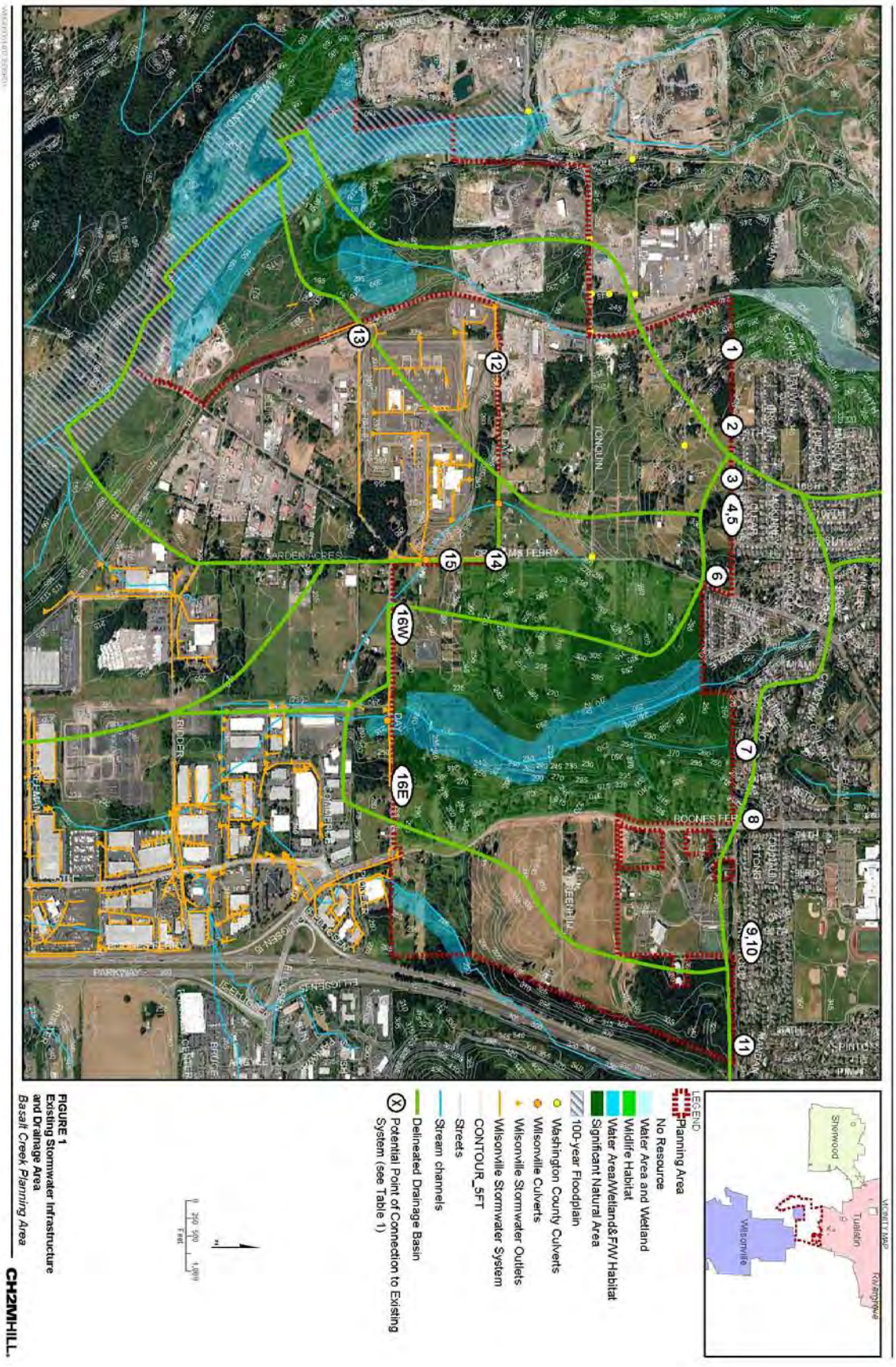


Figure 33 Existing Stormwater Infrastructure and Drainage Area near the Basalt Creek planning area
Source: CH2M Hill, 2014

Table 12 Potential Points of Connection to Existing Stormwater Facilities for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Description	Location	Outlet
1	12-inch PVC	112th Ave.	Outfall at SW Cowlitz Dr. to Kolk Pond, approximately 900 feet from planning area.
2	12-inch PVC	109th Ave. and in Helenius Rd. to the east of	Detention facility at SW Helenius Rd. between 109th Ave. and SW 108th Ave.
3	12-inch PVC	108th Ave.	Connection Points 3 through 6 all outlet to Basalt Creek, which runs through the eastern portion of the planning area. The outfall is located west of Lodgepole Rd. Basalt Creek runs south through the planning area, then through piped and natural channels for approximately 3 miles to the confluence with Coffee Lake Creek, which then flows another 1.5 miles through natural and straightened channels to the Willamette River. Basalt Creek forms a part of the City of Wilsonville's stormwater drainage system.
4	12-inch PVC	106th Ave.	
5	12-inch PVC	Helenius Rd., east of 106th Ave.	
6	12-inch PVC	Grahams Ferry Rd. at Whitebark Ln. and at Helenius St.	
7	Detention and/or water quality facilities	South of Eno Pl. and Erio Pl.	Both facilities outlet to Basalt Creek.
8	15-inch ADS	Boones Ferry Rd. at Stono Dr.	Connection Points 8 through 10 ultimately outfall to a natural watercourse approximately 0.5 mile to the north of the planning area near Columbia Dr. and Chehalis St. in Tualatin. This watercourse then flows north for approximately 2.5 miles through natural and piped conveyance to the Tualatin River.
9	15-inch CSP	Stono Dr. between Boones Ferry Rd. and 89th Pl.	
10	18-inch CSP	89th Pl.	
11	12-inch CSP	Mandan Dr.	Outfalls at the Chieftain/Dakota Greenway outfall to a natural watercourse, which then flows 2.6 miles northeast to the Tualatin River.
12	12-inch capped lateral (N)	Clay Rd.	Capped lateral connects to 12-inch main line in Clay Rd., which connects to private 12-inch line. This system outlets to a tributary of Coffee Lake Creek.
13	42-inch pipe	Cahalin Rd. south of Coffee Creek Correctional Facility	Outlets to a tributary to Coffee Lake Creek, 3.4 miles upstream of the Willamette River (via natural and straightened reaches).
14	12-inch capped laterals (N and E)	Intersection of Grahams Ferry Rd. and Clay Rd.	Two capped laterals connected to 12-inch main line in Grahams Ferry Road. Outlets to Basalt Creek tributary crossing north of Day Rd.
15	12-inch capped laterals (E)	Grahams Ferry Rd. between Clay Rd. and Day Rd.	Two capped laterals connected to main line in Grahams Ferry Rd, connected to 12-inch main line, which outlets to Basalt Creek tributary

Map ID	Description	Location	Outlet
			crossing north of Day Rd.
16E and 16W	12-inch and 15-inch pipe	Day Rd, east of Grahams Ferry Rd.	12-inch pipe connects curb inlets east and west of Basalt Creek culverts to 15-inch main line, which outlets to detention/water quality facility west of the Basalt Creek culverts, then connects to open and piped Basalt Creek channel to join Coffee Lake Creek after approximately 2 miles, which then flows an additional approximately 1.75 miles to the Willamette River.

ADS = Advanced Drainage Systems; CSP = corrugated steel pipe; PVC = polyvinyl chloride.

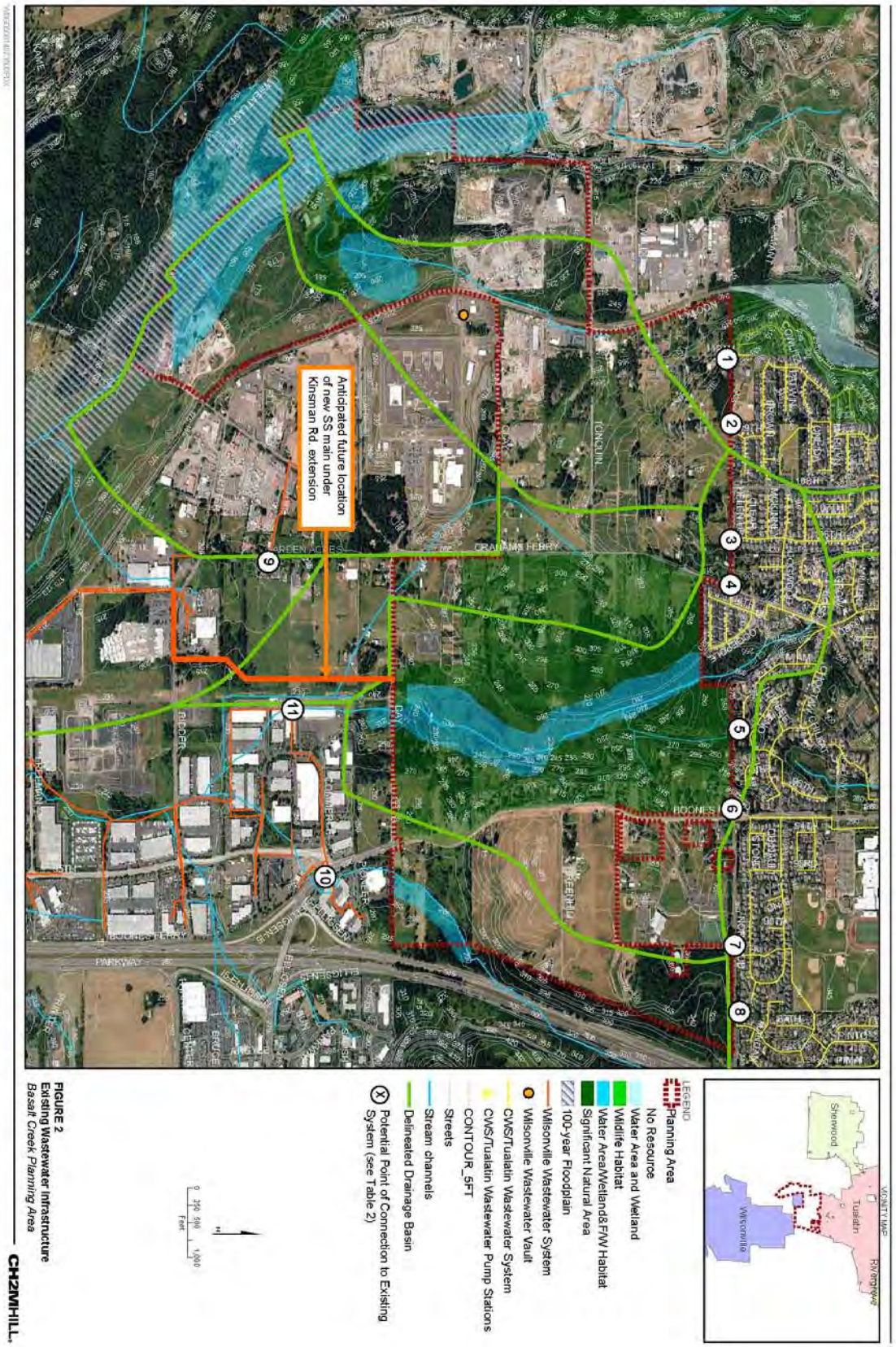


Figure 34 Map of Existing Wastewater Infrastructure near the Basalt Creek planning area. Source: CH2M Hill 2014.

Table 13 Potential Points of Connection to Existing Wastewater Systems for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Facility Description	Location
1	10-inch gravity main	112th Ave.
2	8-inch gravity main	109th Ave.
3	8-inch gravity main	106th Ave.
4	8-inch gravity main	Grahams Ferry Rd. @SW Helenius Rd
5	Victoria Woods Pump Station	Eno Pl.
6	8-inch gravity main	Boones Ferry Rd.
7	8-inch gravity main	Southwest of the intersection of Norwood Ave. and 89th Ave.
8	8-inch gravity main	Vermillion Dr.
9	18-inch gravity main	Garden Acres Rd.
10	8-inch gravity main	Boones Ferry Rd. at Pioneer Court (Commerce Circle area)
11	12-inch gravity main	West of Commerce Circle

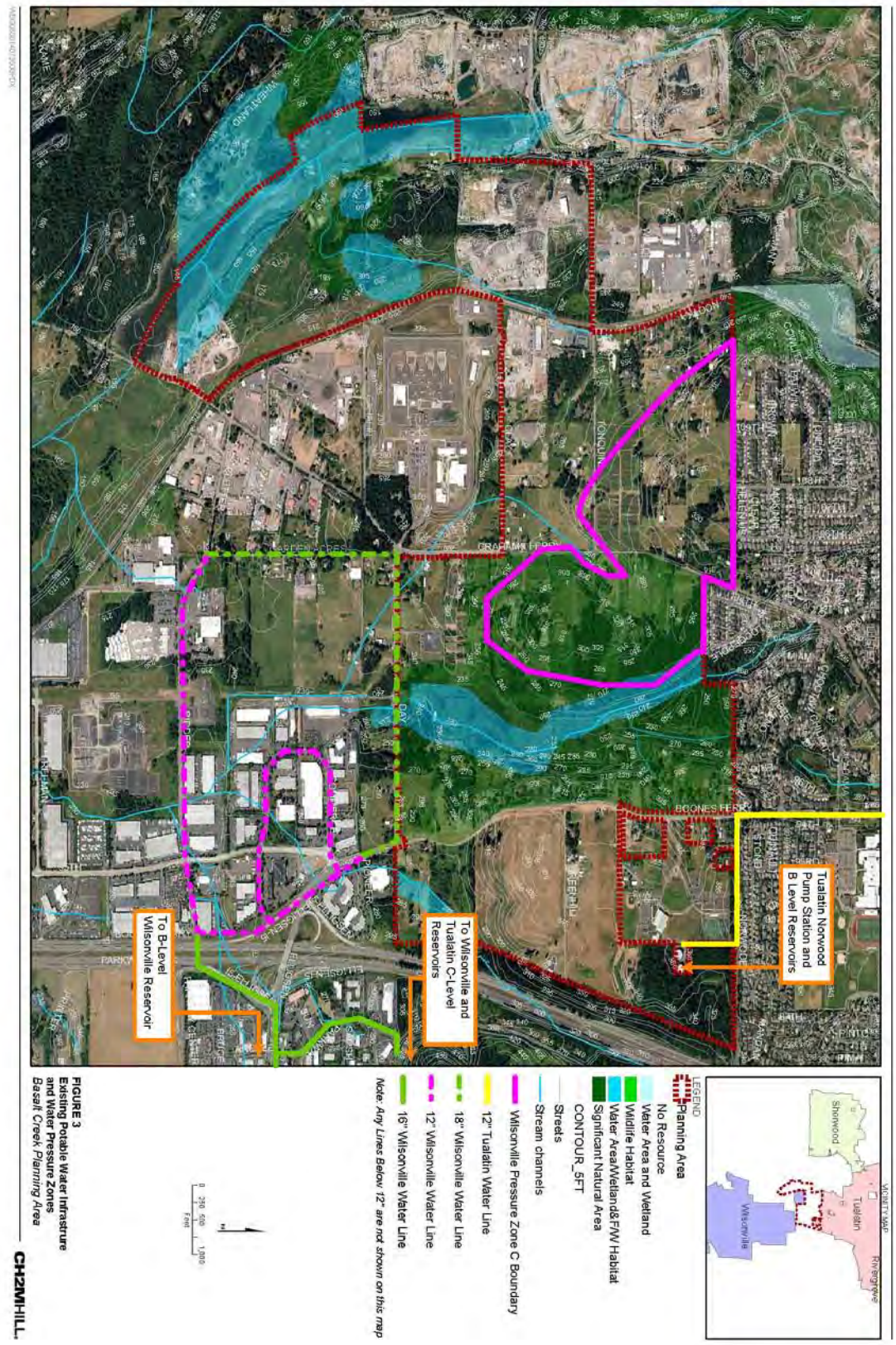


Figure 35 Map of existing potable water infrastructure and water pressure zones in and near Basalt Creek planning area. Source: CH2M Hill 2014.

Table 14 City of Tualatin Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Maximum/Minimum Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	295	7.2
B	399	5.0
C	506	1.8
Bridgeport	360	-

Table 15 City of Wilsonville Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Static Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	320	0.6
B	400	5
C	506	2

VII. Transportation

This section documents the existing transportation system and presents the planned transportation system developed as part of the Basalt Creek Transportation Refinement Plan (TRP). The purpose of the TRP was to identify a major transportation connection between 99W and I-5, in furtherance of the I-5/99W Connector Studies which call for additional east-west traffic alternatives. The plan provides 18 transportation investments broken into short, medium and long term phases, all of which are critical to ensuring that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to 124th Avenue extension. This section discusses the pedestrian and bicycle existing and planned facilities, the current transit system and planned improvements to transit, and details the motor vehicle conditions for base year (2010) and future year (2035) conditions based on the Basalt Creek TRP.

Motor Vehicle System

This section documents base year and future year motor vehicle demand, presents intersection operations, and describes the planned improvements for the motor vehicle system.

Motor Vehicle Demand

Existing a.m. and p.m. peak hour (2010) motor vehicle volumes in the Basalt Creek planning area were collected for the Basalt Creek Transportation Refinement Plan, the SW 124th Avenue Extension Study, the Tualatin TSP, and the Wilsonville TSP. The 2010 volumes, along with percentage of truck traffic, are displayed in Figure 36. These plans applied the Metro Regional travel demand model to estimate 2035 future year p.m. peak hour motor vehicle volumes. The resulting 2035 volumes are displayed in Figure 37.

The Basalt Creek Transportation Refinement Plan applied the Metro regional travel demand model (2009 RTP), which provides estimates of both existing year (2005) and future year (2035) p.m. peak hour trips entering and exiting Transportation Analysis Zones (TAZs). TAZs divide the Portland Metro region into areas that represent sources of vehicle trips within the area, based on a combination of the roadway network, land use information, the Urban Growth Boundary (UGB), zoning, and comprehensive plan designations. Because the demand model covers both TAZs within and around the Basalt Creek planning area, the 2035 model volumes account for both local and regional growth.

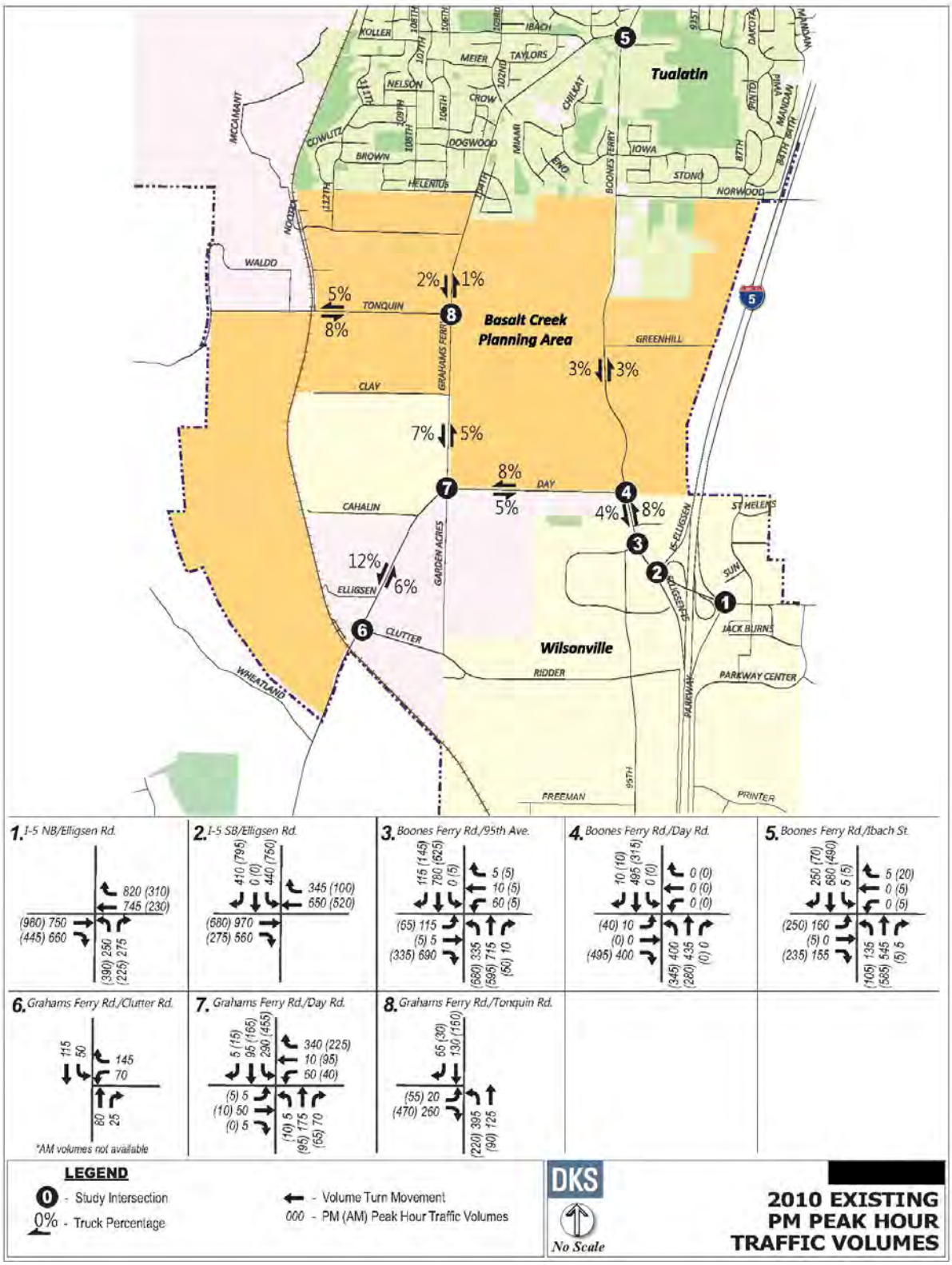


Figure 36 2010 Existing PM Hour Traffic Volumes by intersection in planning area. Source: DKS Associates 2014.

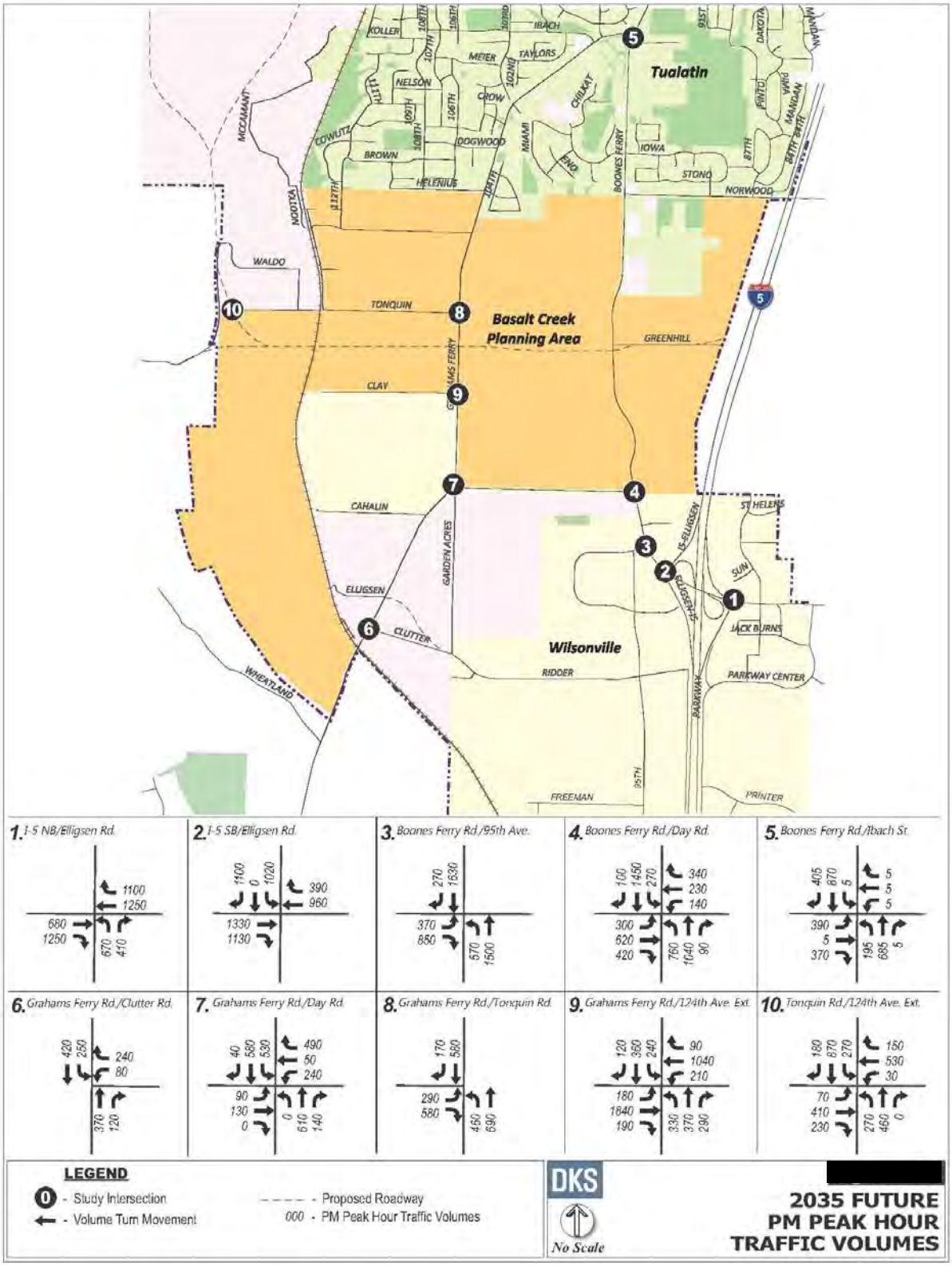


Figure 37 2035 Future PM Hour Traffic Volumes by intersection planning area. Source: DKS Associates 2014.

As shown in Figure 38, the Basalt Creek planning area is made up of three TAZs. Table 16 provides model trip p.m. peak hour estimates for each of the three TAZs. Between 2005 and 2035, the planning area is expected to generate an additional 2,255 trips—a 460% increase from the 2005 estimate of 490 trips.

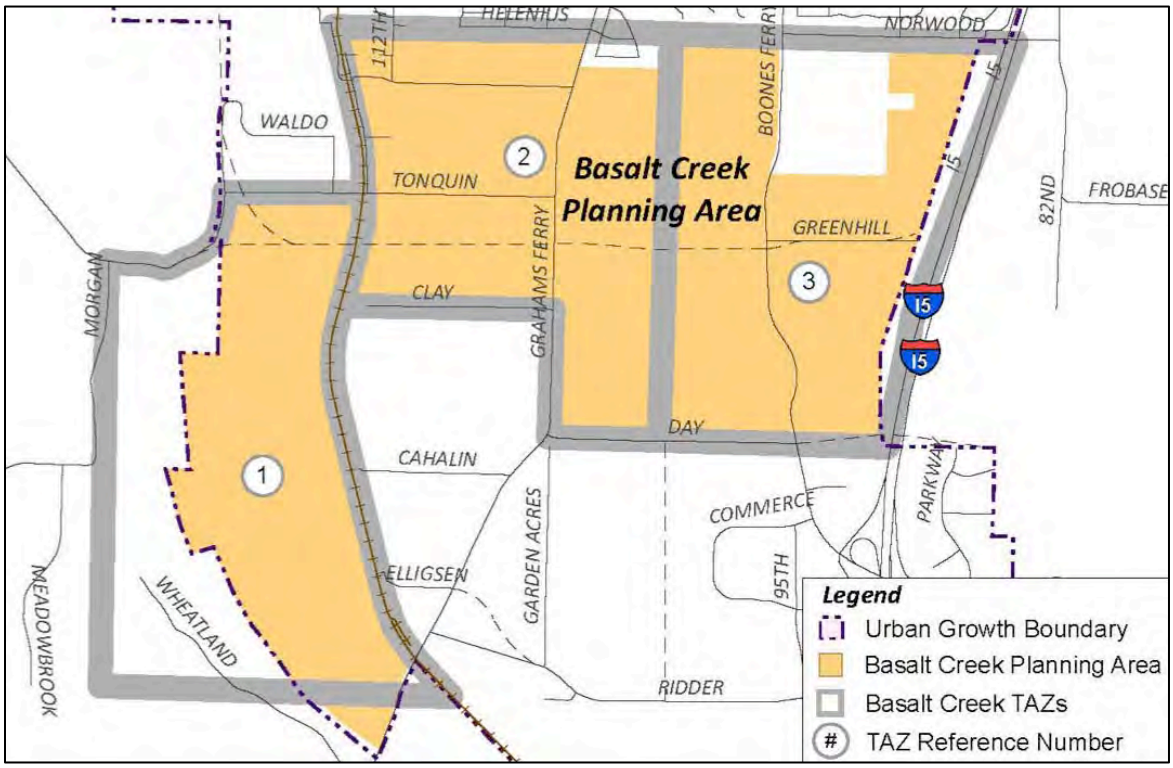


Figure 38 Basalt Creek planning area TAZ Structure. Source: DKS Associates 2014

Table 16 Basalt Creek planning area Estimated PM Peak Hour Trips[27]. Source: DKS, Metro.

TAZ	2005			2035		
	Entering	Exiting	Total	Entering	Exiting	Total
1	99	267	366	308	559	867
2	50	32	82	528	416	944
3	27	15	42	506	428	934
Total	*176*	*314*	***490***	*1,342*	*1,403*	***2,745***

[27] Within Metro's regional model, TAZs 1-3 are represented by regional TAZs 1019, 1013, and 1014, respectively.

The growth between the 2005 and 2035 model volumes was interpolated to represent model growth for the smaller 2010-to-2035 time increment. This interpolated growth was added to the base year (2010) traffic volumes shown in Figure 36, resulting in the forecast 2035 volumes shown in Figure 37.

Motor Vehicle Operations

Based on the volumes shown in Figure 36 and Figure 37, previous planning studies have documented motor vehicle conditions near the Basalt Creek planning area for existing conditions and for the future planning horizon year 2035. The 2035 motor vehicle conditions assume that the 18 projects in the Basalt Creek Transportation Refinement Plan's Action Plan, shown in Table 18 and Figure 39, will be constructed by 2035.[28] The resulting 2010 and 2035 p.m. peak hour intersection operations are shown in Table 17.

Table 17 P.M. Peak Hour Motor Vehicle Operations. Source: DKS Associates, Metro 2014.

Intersection	Jurisdiction	Mobility Target	Existing Year (2010)		Future Year (2035)	
			PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd [A]	ODOT	0.85	A	0.55	B	0.82
I-5 SB/Elligsen Rd [A]	ODOT	0.85	C	0.60	C	0.89
Boones Ferry Rd/95th Ave [A]	Washington County	0.99	C	0.84	C	0.87
Boones Ferry Rd/Day Rd [A]	Washington County	0.99	C	0.64	E	0.99
Boones Ferry Rd/Ibach St* [B]	Washington County	0.99	B	0.70	D	0.98
Grahams Ferry Rd/Clutter Rd* [C]	Washington County	0.99	A/B	0.31	A/F	>1.50
Grahams Ferry Rd/Day Rd [A]	Wilsonville	D	B	0.55	D	0.95
Grahams Ferry Rd/East-West Arterial [A]	Washington County	0.99	-	-	E	1.00
Grahams Ferry Rd/Tonquin Rd [A]	Washington County	0.99	A/B	0.44	C	0.88
124th Ave/Tonquin Rd [D]	Washington County	0.99	-	-	F	>1.50

Bolded and Red indicates intersection does not meet mobility targets
Worst mainline LOS/worst side street LOS reported for unsignalized intersections
*Existing year is 2011 for these intersections
[A] Operations from: Basalt Creek Transportation Refinement Plan, November 2012.
[B] Operations from: Tualatin Transportation System Plan, February 2013.
[C] Operations from: Wilsonville Transportation System Plan, June 2013.
[D] Operations from: SW 124th Ave Extension Traffic Impact Analysis Hybrid Scenario Report, January 2013.

[28] Not all 18 projects may be included in the 2014 financially constrained RTP project list.

As shown in the above table, five of the ten study intersections are expected to operate worse than the accepted level of mobility in the 2035 p.m. peak hour.[29] While the mobility target shown for the I-5 ramps is 0.85, it may be increased to 0.90 if it can be shown with at least 95 percent probability that queues will not spillback onto the mainline or to the portion of the ramp needed for safe deceleration. Therefore, it is possible that the I-5NB/Elligsen Road intersection may meet the mobility target if queuing is not an issue. Further study is needed for a higher level of certainty.

It is important to note that the forecasting for Basalt Creek Transportation Refinement, 124th Avenue Analysis, and the two city TSPs was performed using earlier versions of the regional travel demand model that assumed more intense development in Basalt Creek and other adjacent areas. The regional model has since been updated (with Metro's "Gamma" model version, for the 2014 Regional Transportation Plan). While the new model was not used for the analysis summarized in this report, it is significant that the overall trip numbers for the planning area are lower due to a decreased forecast for housing units and retail jobs (which produce far more trips than industrial or other commercial employment). This decreased trip forecast (Table 18), in combination with a concept plan that will strategically consider appropriate land uses, multimodal transit networks, local road connections and existing plans for road expansions, will likely mitigate some of the operational deficiencies shown in Table 17.

Table 18 Comparing Housing and Employment Forecasts for 2025 in the Basalt Creek planning area. Source: Metro 2014.

	New Households	New Retail Employment	New Service Employment	Other New Employment	Total New Employment
Forecast used in Basalt Creek TRP (Beta Version)	1386	467	581	1514	2562
New Forecast (Gamma Version)	1214	46	427	1843	2316
Change between Beta and Gamma forecasts	-172	-421	-154	+329	-246

The 124th Avenue extension is planned to be a five lane roadway; however, the operations shown for the 124th Avenue/Tonquin Road intersection assume 124th Avenue as a three lane facility. As a five lane facility, it is possible that the intersection may meet the mobility target.

At the time of the Basalt Creek Transportation Refinement Plan, the 2035 operational analysis assumed that the East-West Connector (i.e., 124th Avenue south of Tonquin Road) would be located north of Tonquin. However, the arterial is currently planned to be located south of Tonquin. Therefore, operations in Table 17 may vary—especially the Grahams Ferry Road/East-West Connector and Grahams Ferry Road/Tonquin Road intersections—assuming the south alignment of the arterial.

[29] Operational issues may also exist in the a.m. peak hour for one or more of the study intersections. Morning peak hour analysis was not available for this study.

Basalt Creek Transportation Refinement Plan Projects

The Basalt Creek Transportation Refinement effort included a recommendation for phased investments to support regional and local transportation needs through 2035. The resulting Action Plan includes the projects shown in Table 18 and Figure 39. Analysis showed that the entire set of projects would be needed to support the local and regional growth reflected in the adopted 2035 RTP model (discussed earlier), and all projects on the list are included in the assumed network on which the operations results shown in Table 17 were based.

The Action Plan project list represents the transportation framework needed to accommodate the RTP's future growth assumptions. However, this framework is different from a list of "reasonably likely" projects (i.e., projects from a financially constrained plan) that would inform a Transportation Planning Rule analysis that would support changes to comprehensive plan/zoning designations. Table 18 includes information on whether each project is identified in the Federal RTP (i.e., reasonably likely) or whether the project was from the State RTP or another source (i.e., not reasonably likely).

Major capacity improvements beyond those listed in Table 18 are not anticipated. Therefore, the trips generated in the study area, as shown in Table 16, are considered "sideboards" for the Basalt Creek planning area, meaning that trip generation lower than these totals should allow the Action Plan network to operate acceptably in 2035. Within this framework, the East-West Connector is a special case requiring further discussion.

East-West Connector Considerations

While the East-West Connector project is not part of the federal financially constrained project list in the adopted RTP, the first phase of this facility has been fast-tracked and funding has been identified for construction between 124th Avenue/Tonquin Road and Grahams Ferry Road and is recommended to be included in the 2014 financially constrained RTP list. Therefore, this section (part of Washington County's 124th Avenue Extension project) can be considered "reasonably likely" for TPR purposes.

Partner agencies on the Basalt Creek Transportation Refinement Plan identified key characteristics that should be included in the East-West Connector in order to support development. These included:

- Design for 45 mph and posted speed limit of 45 mph
- Access spacing of one-half mile to one mile

This means the only accesses provided within the study area would occur at the Grahams Ferry Road and Boones Ferry Road intersections. Additional roadway or pedestrian/bicycle crossings between the north and south sides of the facility would need to be grade-separated.

Table 19 Basalt Creek Refinement Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost ($2012)	Previously Planned?
1	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			$20,000,000	Federal RTP
2	Tonquin Road (124th Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road[1]	x			$10,500,000	Federal RTP
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			$5,400,000	Federal RTP
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			$10,800,000	In design
5	124th Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			-[2]	-
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			$500,000	Federal RTP
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			-[3]	-
8	Boones Ferry Road/95th Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			$2,500,000	Federal RTP
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			$8,900,000[4]	Federal RTP
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		$7,100,000[4]	Federal RTP
10	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		$14,000,000	Federal RTP
11	East-West Arterial (124th Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail[5]		x		$57,900,000	State RTP
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		$1,100,000	State RTP
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		$10,400,000	Federal RTP
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		$5,800,000	Similar to RTP project
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		$500,000	No
16	Boones Ferry Road/95th Avenue Intersection: Access management		x		-[6]	-
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	$33,700,000 - $44,100,000[7]	State RTP
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	$38,000,000	State RTP
	TOTAL	$59M	$97M	$72-82M	$228-238M	

[1] Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around $2,000,000

[2] Cost included in Project 1

[3] Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

[4] Tonquin Trail cost estimated by Metro as part of trail planning effort

[5] Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed
[6] Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal
[7] Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at $33,700,000, and alignment to Canyon Creek Road is estimated at $44,100,000
* Time frames may shift with updates to the RTP

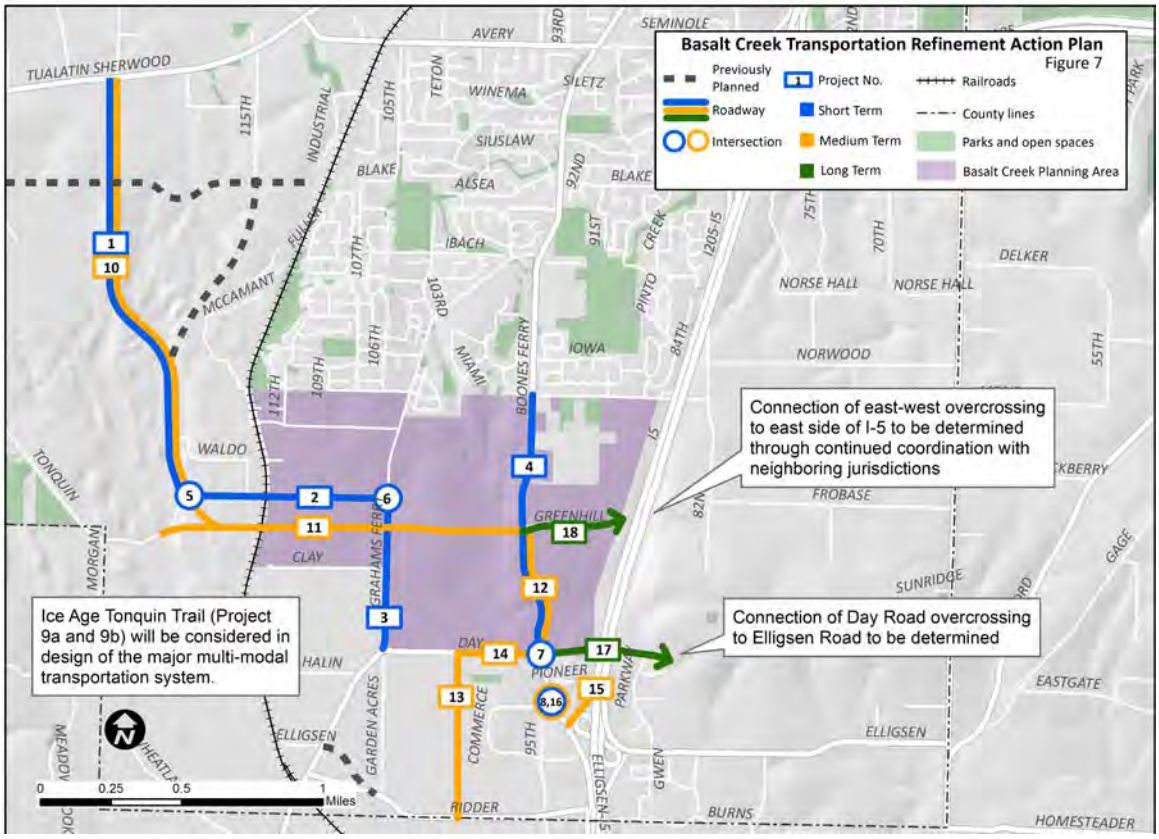


Figure 39 Basalt Creek Transportation Refinement Plan (TRP)

Pedestrian and Bicycle System

The Basalt Creek planning area is primarily served today by Tonquin Road, Grahams Ferry Road, and Boones Ferry Road. However, except for Boones Ferry Road, as shown in Figure 41 and Figure 42, these roads generally do not provide adequate pedestrian and bicycle connections to the Basalt Creek planning area.

While there are adopted design standards and several planned projects that address deficiencies in the existing pedestrian and bicycle system, there are a few rural roads in the Basalt Creek planning area without planned pedestrian and bicycle improvements, including:

- 112th Avenue south of Brown Street
- Clay Street

- Grahams Ferry Road north of Tonquin Road
- Tonquin Loop

As the area develops, these rural roads should be improved to meet urban standards.

Transit System

TriMet currently runs a bus route on Boones Ferry Road through the Basalt Creek planning area (Route 96). This route connects north Wilsonville (at Commerce Circle), Tualatin, and downtown Portland with frequent commuter service during the weekdays. As shown in Figure 39, the route runs along Boones Ferry Road with stops spaced approximately ¼ mile through the Basalt Creek planning area. Weekend transit service, however, is not provided in the planning area.

South Metro Area Regional Transit (SMART) runs transit service to Commerce Circle via Route 2X (Barbur Boulevard Transit Center to SMART Central with a stop at the Tualatin Park & Ride and Route 5 (Commerce Circle to SMART Central). Route 2X runs limited service to Commerce Circle Monday through Friday; Route 5 runs with frequent service Monday through Friday.

TriMet's WES commuter rail service runs along the rail tracks through the planning area, connecting Wilsonville to Beaverton. While it stops in Wilsonville and Tualatin, it currently does not stop in the planning area.

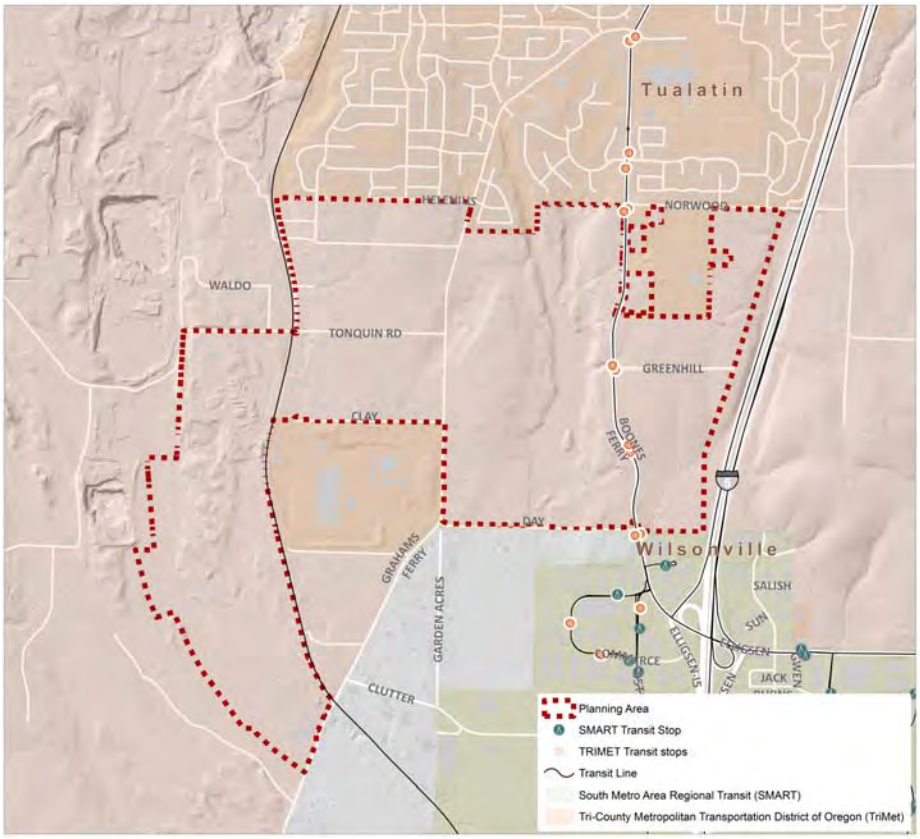


Figure 40 Transit service boundaries for TriMet and SMART in and around Basalt Creek area

Overall, the combined TriMet/SMART transit system meets the needs of the typical commuter—outside of typical commute hours, however, transit service in the Basalt Creek plan area is nonexistent.
Two projects have been identified to enhance the transit system adjacent to the Basalt Creek planning area. These projects are from the Tualatin Transportation System Plan, which did not plan for projects in the planning area, and are estimated with a medium-term planning horizon (i.e., five to ten years):

- Look for potential park-and-ride locations south of Bridgeport Village.
- Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible

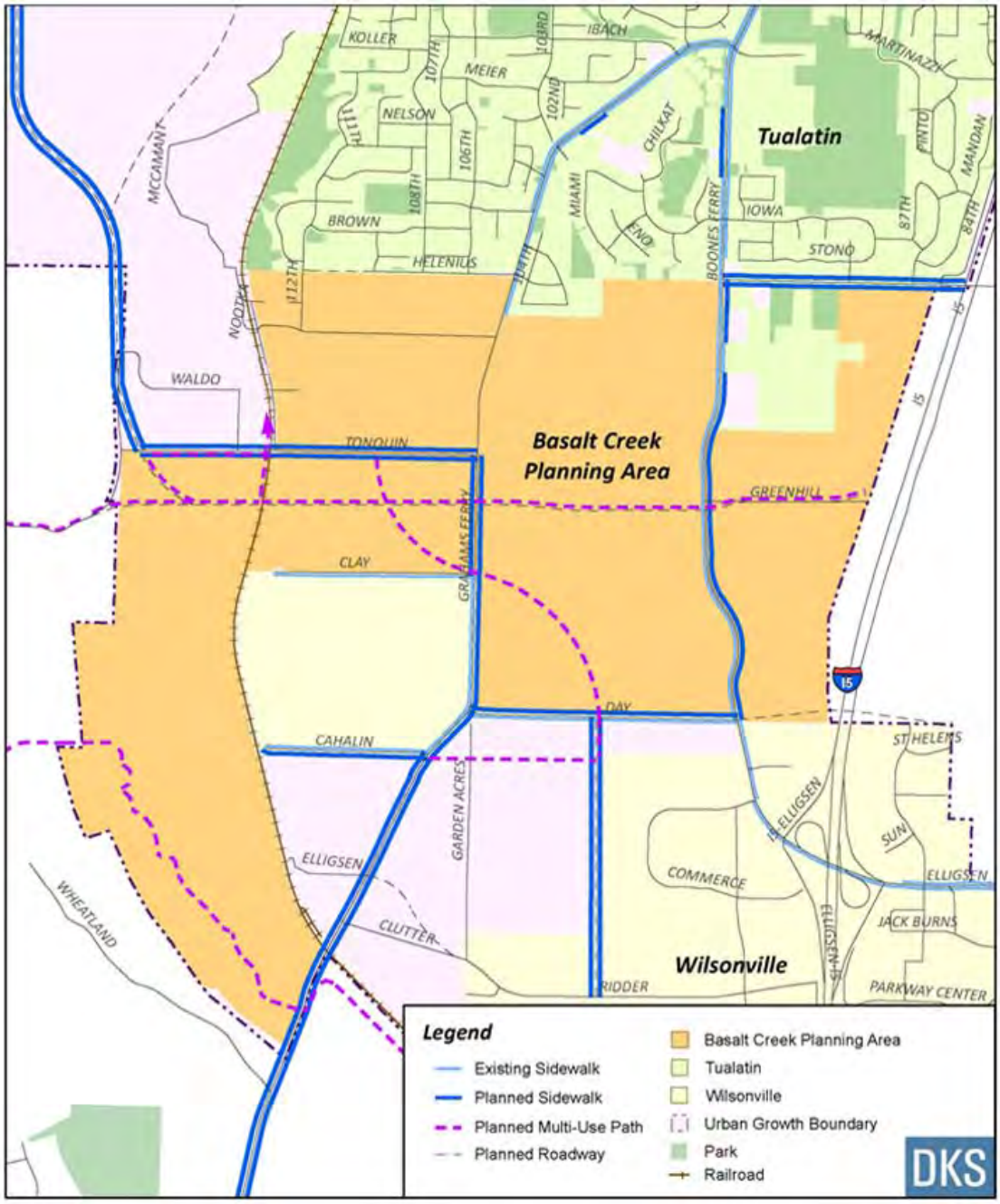


Figure 41 Existing Pedestrian system in Basalt Creek planning area. Source: DKS Associates 2014

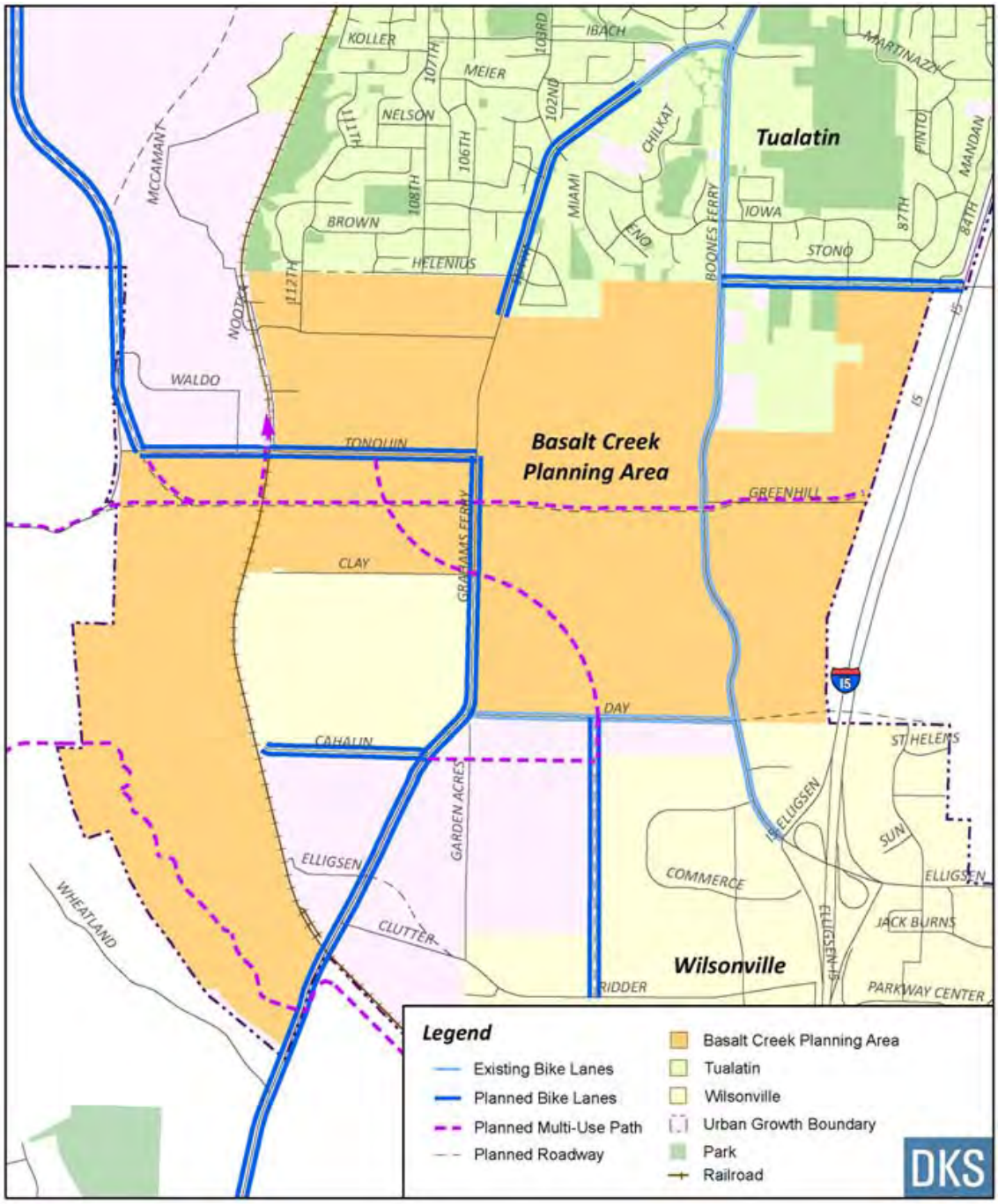


Figure 42 Existing bicycle system in Basalt Creek planning area. Source: DKS Associates 2014

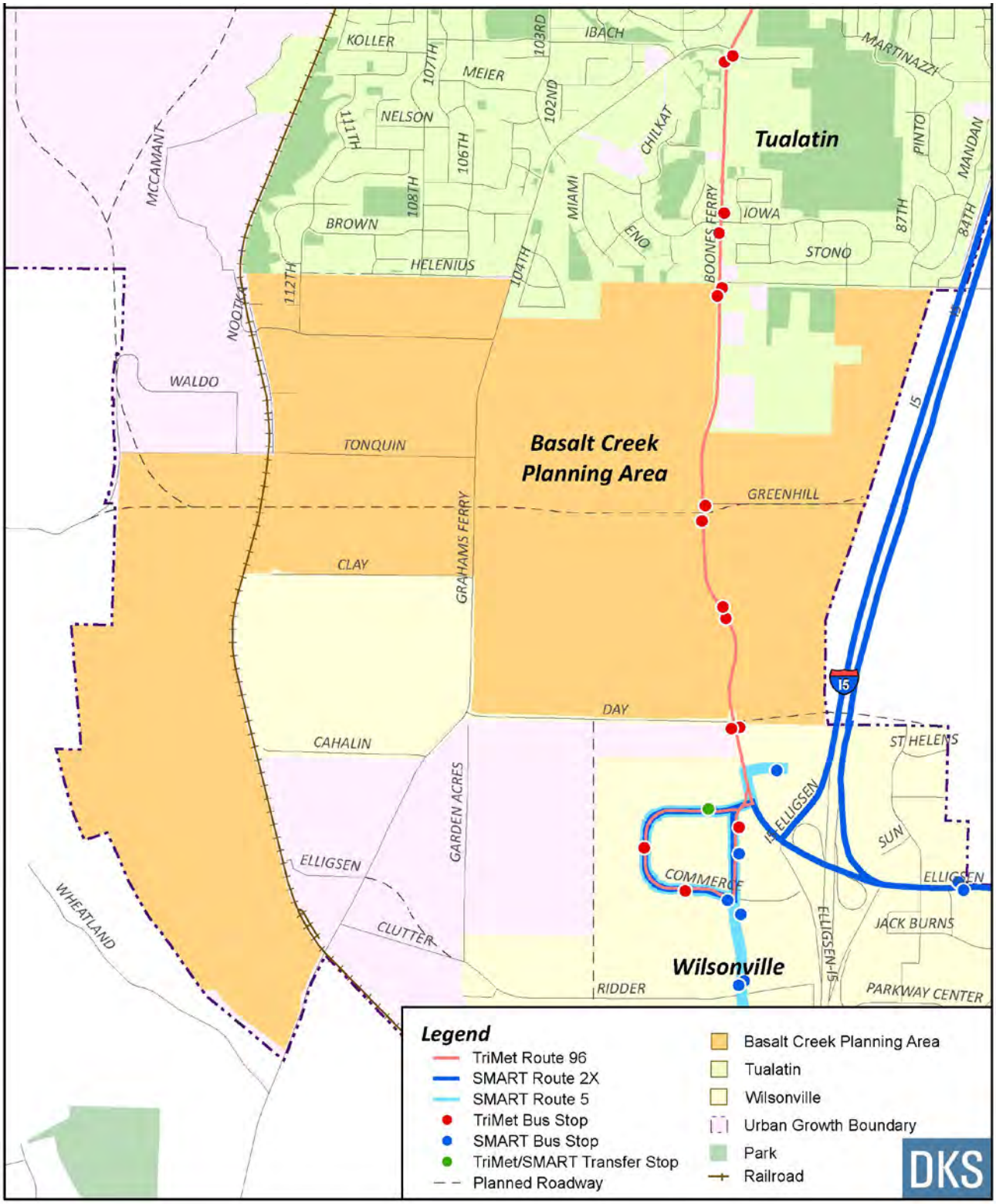


Figure 43 Existing transit system in Basalt Creek planning area. Source: DKS Associates 2014

VIII. Land Capacity Analysis

The bulk of this section describes the methods and data sources used to perform the land capacity analysis for the Basalt Creek planning area. The results of the analysis are presented toward the end of the section.

Methodology

The land capacity analysis is an estimate of the development potential within the planning area to provide a realistic estimate of where and how much land can be developed. The analysis is twofold: an assessment of "buildable lands" – areas that are suitable for development given the physical and regulatory constraints on the land, and two, an assessment of the land supply within the planning area. Land supply is an assessment at the parcel level that identifies areas that are not constrained and are either vacant or redevelopable.

Buildable Lands

The buildable lands assessment focuses primarily on identifying places where there is limited or no development potential. These areas are screened out from the analysis to identify the places where development is most suitable given the environmental and regulatory context. There are a range of factors that influence development potential within the planning area, but they can be generally divided into two categories: hard and soft constraints. Hard constraints are either physical or legal requirements that prohibit new development. These areas will be fully excluded from the analysis with the assumption that no new development will occur in them. Soft constraints are also based on physical or legal requirements but do allow for some development, and provide guidance for assigning appropriate land uses and intensities. The analysis of constraints for the purpose of assessing land capacity focused primarily on environmental and manmade constraints. A conservative approach is taken in this analysis toward development in and around environmental constraints to emphasize preservation of natural resources.

Hard Constraints

State, regional and local laws provide a range of protections for environmental features and habitat. This analysis provides a framework that meets:

- Oregon Statewide Planning Goal 5
- Metro Regional Functional Plan Requirements (Titles 3 and 13)
- Clean Water Services (CWS) Regulations
- City of Wilsonville Significant Resource Overlay Zone (SROZ) Development Code

Since local regulations are compliant with state and regional land use requirements, and in some cases go above and beyond what is required, this analysis uses the CWS and Wilsonville SROZ requirements as

the foundation for determining constraints. For the purpose of this analysis, where methodologies differ the approach that offers more protection is taken into account. The major differences between CWS and Wilsonville's SROZ requirements are summarized in Table 20 below. The chief difference between the two is that Wilsonville differentiates for size and location of wetland and includes more drainage area classes.

Table 20 Comparing methodologies[30] for buffering natural resources between Clean Water Services and Metro's Title 3/City of Wilsonville. Source: Fregonese Associates, Clean Water Services, City of Wilsonville and Metro 2014.

COMPARING BUFFERING METHODOLOGIES

WATER FEATURE	CWS	SROZ and Title 3
Primary Water Feature	50 ft	50 ft
Primary Water Feature -- With steep slope	Up to 200 ft	Up to 200 ft
Secondary Water Feature	15 ft/25 ft/50 ft	15 ft
Secondary Water Feature -- With steep slope	Up to 200 ft	50 ft
Slope Stability	Top of ravine plus 35 ft	

It should be noted that when actual development takes place, a more detailed and site-specific analysis will be undertaken and will include application of local regulations. The analysis in this report provides a detailed but high-level assessment of buildable lands for the purpose of creating the concept plan.

Hard constraints are split into two major categories: environmental and manmade. Basic environmental constraints are summarized below:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Unless otherwise noted all of the constraints described above are fully excluded from the land being considered for development in this analysis.

[30] For definitions of features, please refer to CWS's Design and Construction Standards - Chapter3, City of Wilsonville's Significant Resource Overlay Zone (SROZ) Ordinance, and Metro's Urban Growth Management Functional Plan

The following describes the environmental hard constraints methods and findings in more detail. Maps showing the environmental constraints (open water, wetlands, streams, floodplains, and Title 3 and 13 areas) can be found in *Section III: Natural and Historic Resources*.

Open water

All areas of open water in the planning area were digitized by Fregonese Associates based on 2013 and 2012 leaf-off aerials.[31] Forty-nine (49) acres of open water (which includes a 50-foot buffer surrounding water features) were excluded from the analysis.

Streams

Three categories of streams were defined for the analysis and include:

- Natural streams (18,845 feet)
- Underground streams (789 feet)
- Intermittent streams (1,402 feet)

Stream categories determined by visual survey of 2013 and 2012 leaf-off aerials and intermittent stream and through field checks conducted by the City of Wilsonville. For the constraints analysis the following buffers were applied:

- Natural streams (50 foot buffer)
- Intermittent streams (15 foot buffer)

Underground streams were not considered in the analysis. A total of 31 acres of streams and associated buffers were excluded from the analysis.

Wetlands

Wetlands were identified using RLIS, the Wetland Delineation Report for Proposed Boones Ferry Widening, and additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf-off) aerials. For the constraints analysis the following wetland buffers were applied:

- Wetlands (50-foot buffer)
- Isolated wetland and smaller than a half acre (25-foot buffer)

A total of 69 acres of wetlands and buffer areas were excluded from the analysis.

[31] Leaf-off aerials are aerial photos taken during a season (usually winter) when there is a lack of foliage on deciduous tree and shrub species, and ground features (including water bodies) can be seen more distinctly.

Floodplains

Areas identified by FEMA as being within the 1% annual chance flood event area were constrained by 50% for the analysis, resulting in a total of 53 acres of land within the 100 year floodplain.

Title 3-Designated Land

Title 3 is a regulatory designation used by Metro to protect riparian resources such as streams, wetlands and floodplains. Title 3 restricts development within these areas to protect natural resources as well as life and property threatened by flooding. There are 116 acres of Title 3 land within the planning area.

Steep Slopes

Steep slopes were analyzed using RLIS data and digitized slopes by Fregonese Associates using a 3-foot digital elevation model (DEM) provided by Metro (Figure 44). Using RLIS, only 41 acres of steep slopes were identified. The 3-foot DEM provides additional accuracy and added nine additional acres of steep slopes, for a total of 50 acres of slopes. The analysis includes non-isolated slopes, greater than half an acre, natural and or along a riparian area. These areas are excluded from the analysis.

Figure 44 Map showing classification of slopes by steepness in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

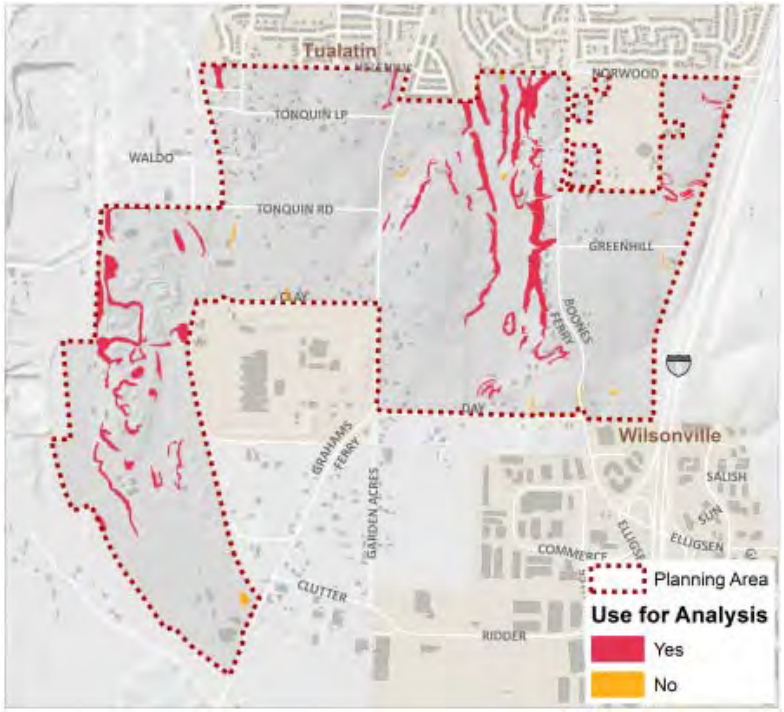


Figure 45 Slopes over 25% in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

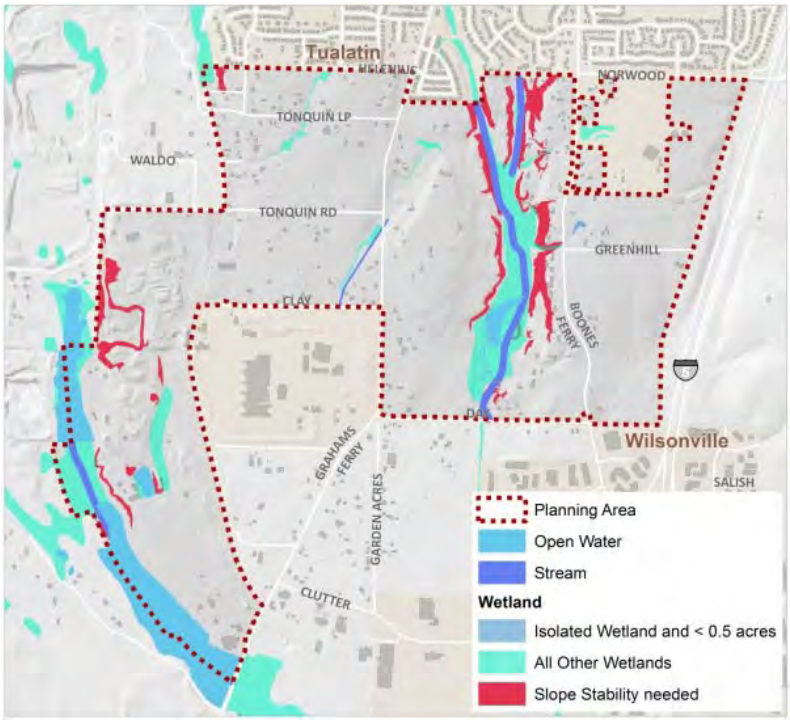


Figure 46 Slope stability in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Slope Stability

Clean Water Services has a requirement for slope stability within vegetated corridors. CWS requires an additional 35 feet for steep slopes within a vegetated corridor from top of ravine. This affects streams, open water and wetlands. The slope stability is in effect for a distance of up to 200 feet. This removes an additional area of 11 acres from the analysis (Figure 46).

Manmade Constraints

Basic manmade constraints include:

- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline
- Roads
  - Existing
  - Future/planned roads and expansions included in the Basalt Creek Transportation Refinement Plan

All of the manmade constraints are fully excluded from the buildable lands. The following describes the methodology and findings for the manmade constraints:

- Almost 16,000 feet of transmission lines crossing the area
- Two Easements:
  - BPA: 42.3 acres
  - PGE: 18.0 acres plus 4.1 acres substation
- Two Natural Gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

Roads

There are four major road projects:

- East-West Connector (6,460 feet)
- 124th Ave. Extension (890 feet)
- Boones Ferry Road (4,860 feet)
- Two 2035 I-5 Overcrossings (approx. 4,000 feet)

Soft constraints:

- Inverse buffering of tax lots along the alignments by 10-foot increments to accommodate for projects

Additional road projects:

- 11,512 feet

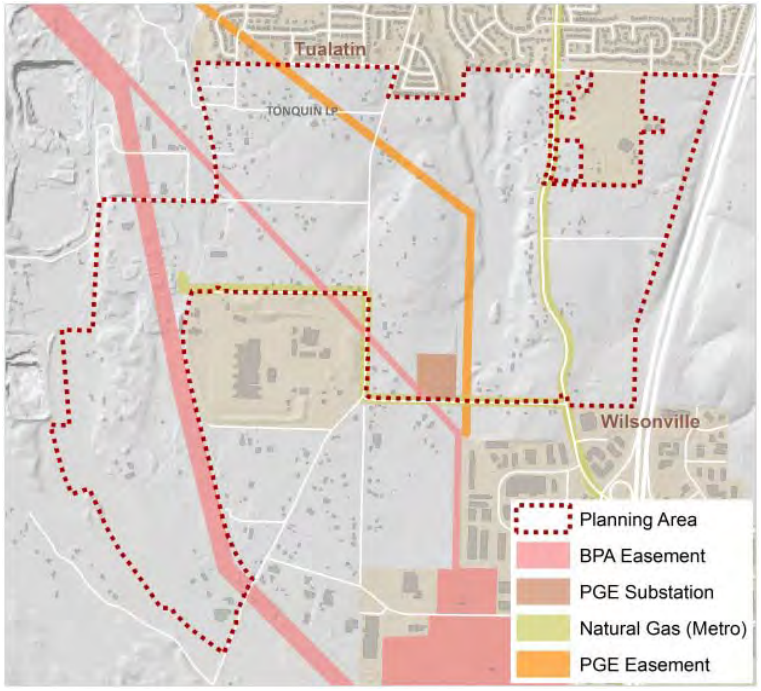


Figure 47 Infrastructure constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

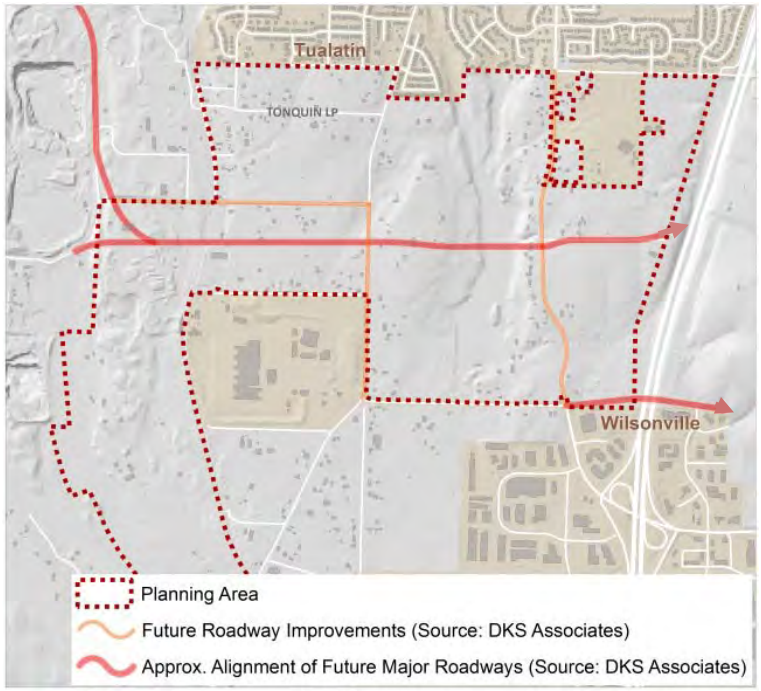


Figure 48 Road constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Soft Constraints

Soft constraints provide guidance for determining suitability for different land uses in areas that are environmentally constrained. Two key soft constraints are included in the analysis: Slopes greater than 10% (as a constraint for industrial suitability) and Title 13 protections of upland habitat

Title 13 – Designated Land

Title 13 refers to Nature in Neighborhoods. It was adopted by Metro in 2007 as an enhancement to Title 3. Title 13 encourages the protection of habitat and conservation efforts. For our analysis we restricted development within the Riparian Class I and II**.** There are 431 acres of Title 13-designated land in the planning area. For the constraints analysis, the developable acreage was reduced by 20%. Title 13 is considered a soft constraint, as it is a policy guidance designation but not regulatory.

Constraints Summary

Overall 35% (297 acres) of the total land area within the Basalt Creek planning area is constrained.

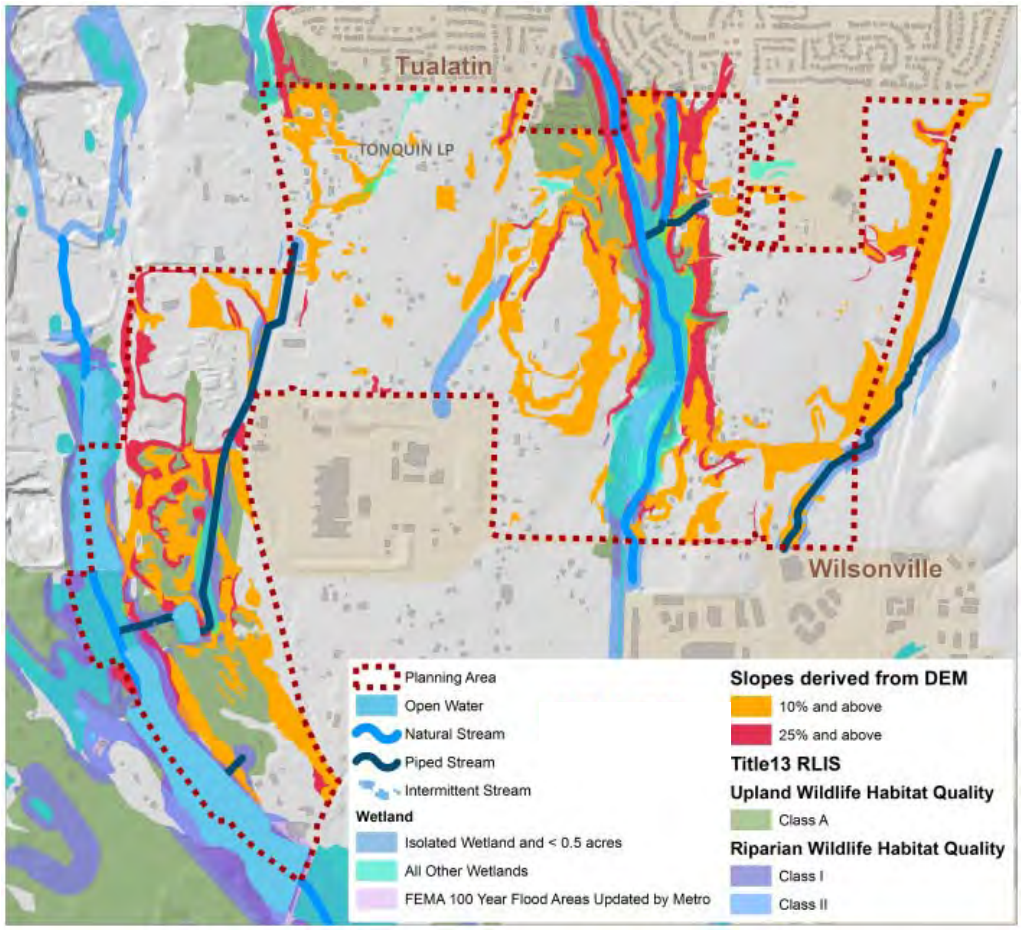


Figure 49 Map of development constraints (excluding roads) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Figure 50 below illustrates the land area that is either fully or partially constrained based on the methodology described above.

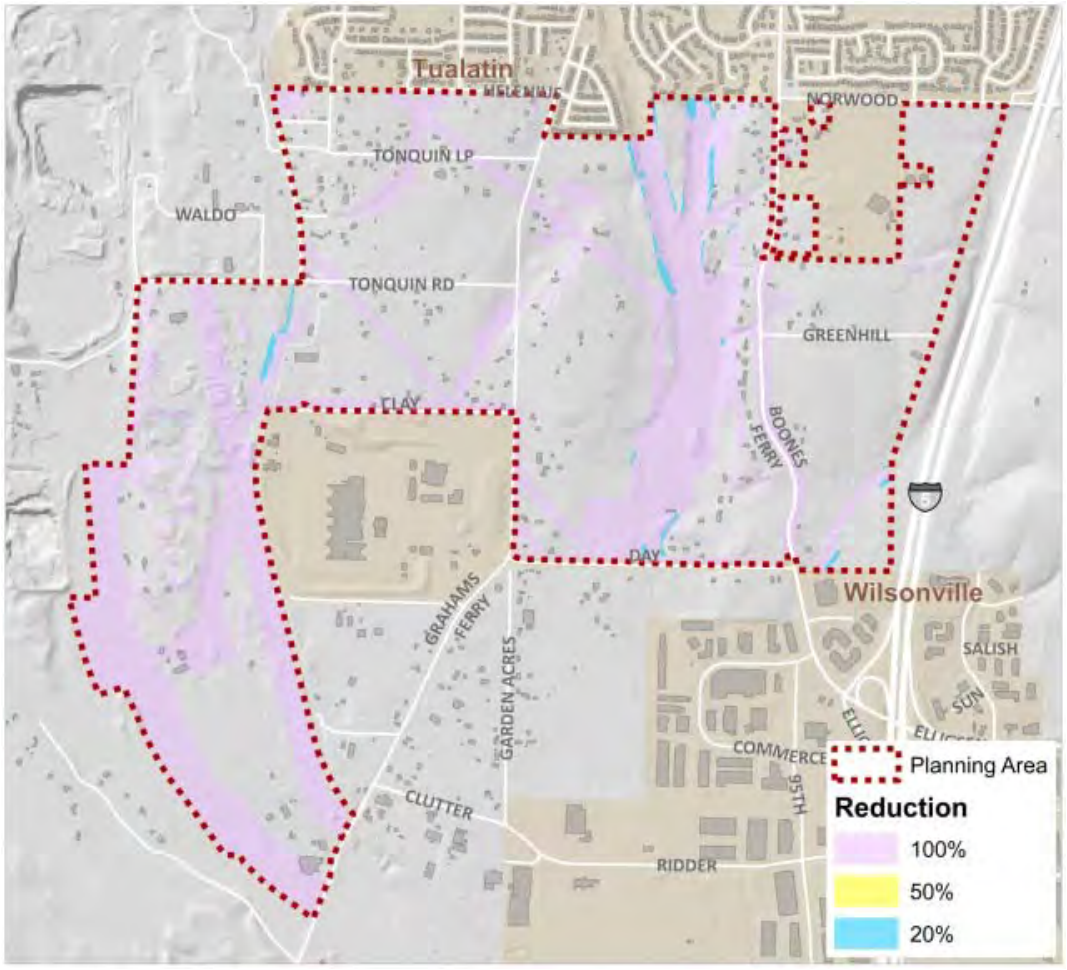


Figure 50 Map of all constrained area (hard constraints) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Land Supply

The second step in the buildable lands analysis examines the potential for new development or redevelopment of existing uses within the planning area. While much of the land within the planning area is vacant, there are existing businesses, homes and other uses within the area that are considered. This part of the analysis brings together the buildable lands analysis with an assessment of developable land within the planning area to provide an estimate of land supply available for development. This analysis is conducted at the tax lot level because land uses are tied to property lines.

The outcome of this analysis is to classify every parcel within the planning area into one of the three categories described below:

- Vacant Land – Land ready to build, no major structure on site
- Redevelopable Land – Land with existing uses but have redevelopment potential
- Stable Land – Land and structures on it will not change in the future

The land supply analysis is then combined with the buildable lands to create a geographically referenced database of land capacity within the planning area.

The land supply analysis is based on four major steps (Figure 51):

- Existing Land Use – Land use provided by tax lot data via RLIS
- Visual Survey – Ground proofing via aerials and online tools
- Building Value – Define "stable" and redevelopment potential via building value
- Local Input – Refine analysis with local input

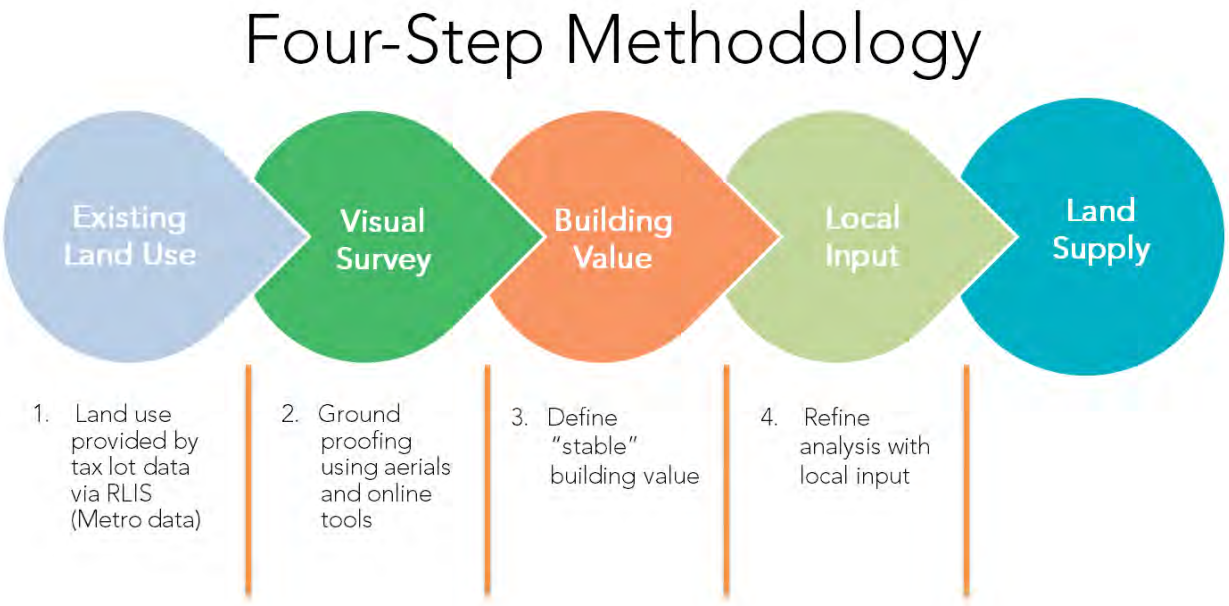


Figure 51 Graphic illustration of four-step methodology for analyzing land supply. Source: Fregonese Associates 2014.

Existing Land Use

In this step parcels are categorized into either developed or vacant land. Step one is based on existing land use using tax lot data provided by RLIS. Parcels that are considered developed are classified in RLIS as:

- Commercial
- Industrial
- Public
- Residential

Parcels that are considered vacant are classified in RLIS as:

- Rural
- Forest
- Agriculture
- Unknown
- Vacant

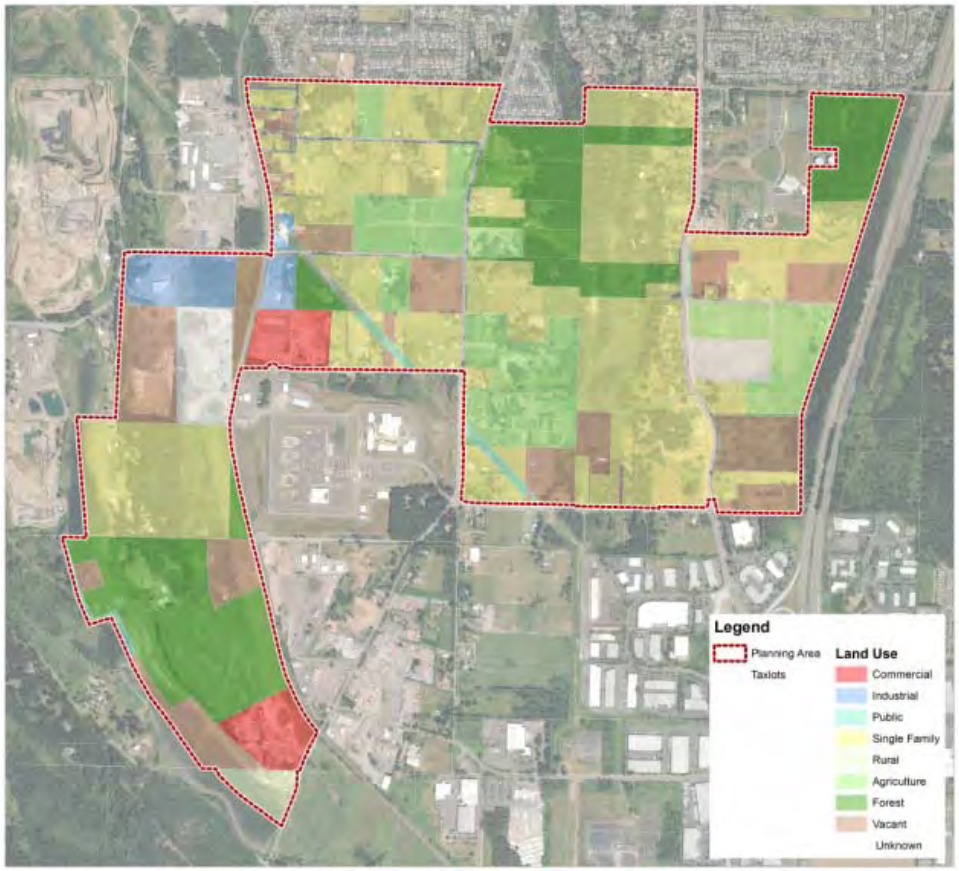


Figure 52 Map of existing land uses inside Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Visual Survey

In step two Fregonese Associates used a visual survey, other data resources and online tools to confirm and refine tax-lot-based classification of developed and vacant land. First, the vacant and developed land inventory (RLIS March 2014) was utilized to further refine the tax-lot-based analysis. The vacant and developable lands inventory is not limited to the tax lot lines and uses a "cookie cutter approach" around buildings to adjust for large amount of "unused" land on a development lot that may have an existing structure. Using this dataset as a guide in parallel with aerial photography, Google Map Street View, and Bing Map Bird's Eye the parcel dataset was refined.

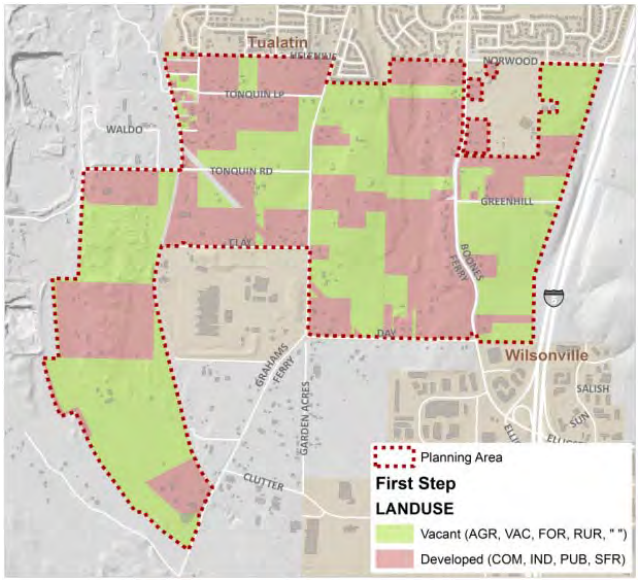


Figure 53 Vacant and Developed land as identified by Metro data. Source: Fregonese Associates, RLIS 2014

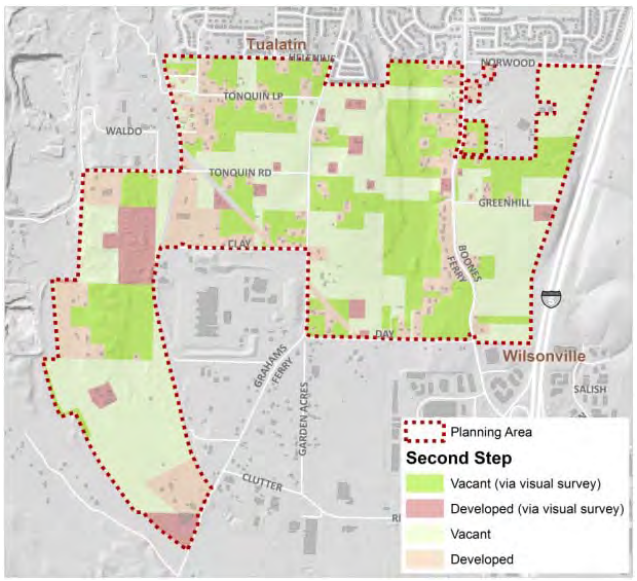


Figure 54 Map of Vacant and Developed land identified via visual survey in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Building Value

Once vacant and developed lands were identified an assessment of redevelopment potential was conducted. This step analyzes developed parcels classified under steps 1 and 2 and subdivides them into two categories: redevelopable or stable. Redevelopable means there is an existing use that will likely redevelop over the planning period and can thus be considered as part of the land capacity. Tax lots defined as stable are where no changes in existing land use are expected, so no additional growth in households and employment are expected. Tax lots classified as stable are fully excluded from the buildable lands.

First, tax lots with non-commercial structures on developed land were classified as stable. This captures residential uses in the planning area. The average building value ($125,474) was then used to create a break point for building value to estimate redevelopment potential. Tax lots with a building value of $150,000 or more were included in the analysis as "stable" the remainder are classified as redevelopable This cutoff point was based on a combination of average building value and input from local property owners about their interest in redeveloping. [32]

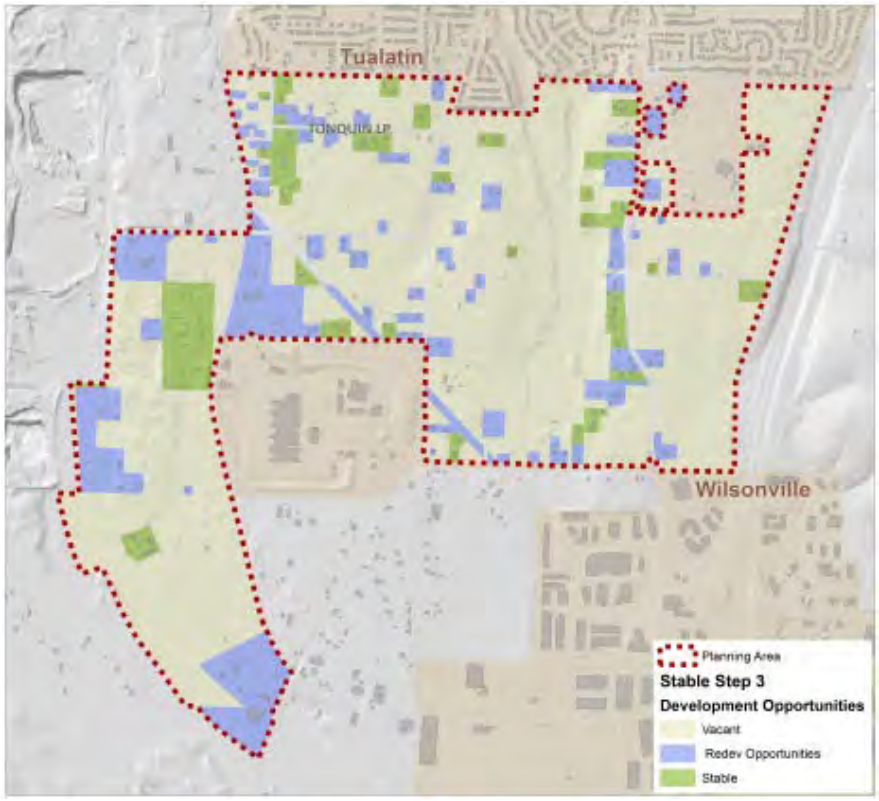


Figure 55 Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data and visual survey data. Source: Fregonese Associates, RLIS 2014.

[32] Raising the cutoff from $125,000 to $150,000 makes an assumption that most properties will redevelop as they have been developed previously under rural circumstances. There are a reasonable number of properties in the third and fourth quantiles of property values that are stable, but not as many as are likely to redevelop.

Local Input

The final step refines the stable and redevelopable tax lot inventory using information gathered through the planning process. A number of stakeholder interviews and focus groups were held with property owners in the planning area. Input gathered from these meetings was used to refine the assumptions from steps 1-3.

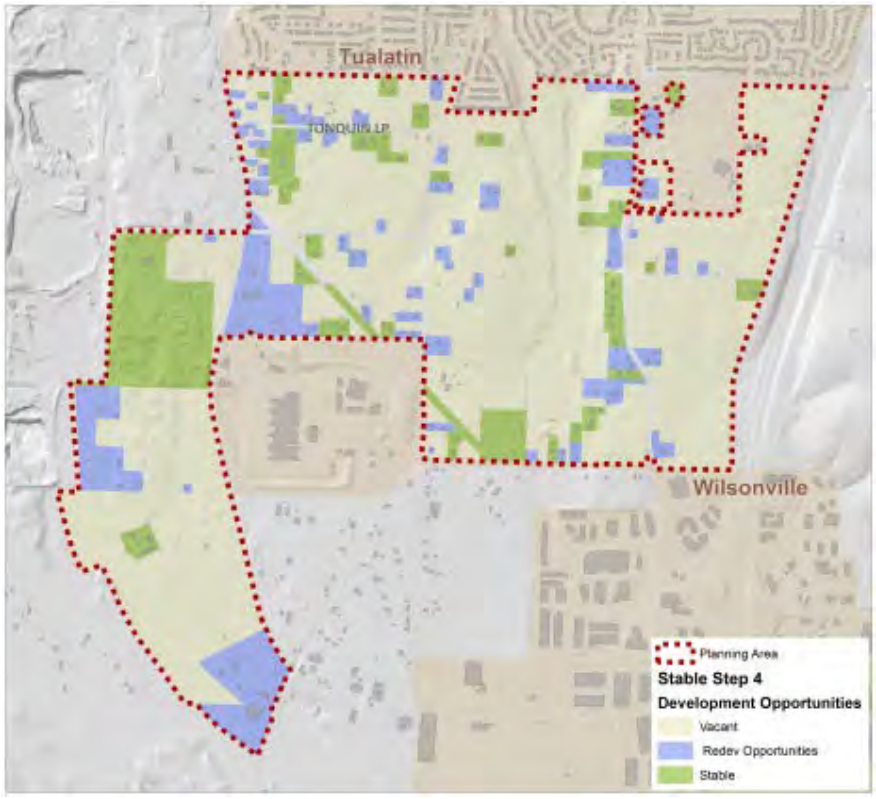


Figure 56 Final Map of Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data, visual survey data, and local input from property owners. Source: Fregonese Associates, RLIS, local property owner input 2014.

Land Supply Findings

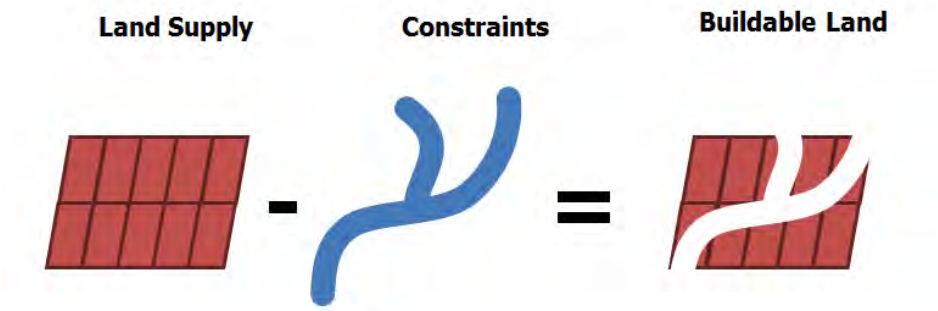
Through the process described above 43 tax lots within the planning area are defined as stable. Absent any constraints the land supply for the planning area includes:

- 596 acres of vacant land
- 117 acres of land with redevelopment potential
- 109 acres of stable land

The remaining acreage is covered by roads.

Land Capacity

The final step in determining the land capacity for the planning area brings together the buildable lands and the land supply analysis to provide a robust estimate of land development capacity within the planning area.



The land capacity estimate for the planning area is 391 acres. This land capacity analysis will form the foundation for determining land use suitability and creating the development alternatives in the next phase of the project.

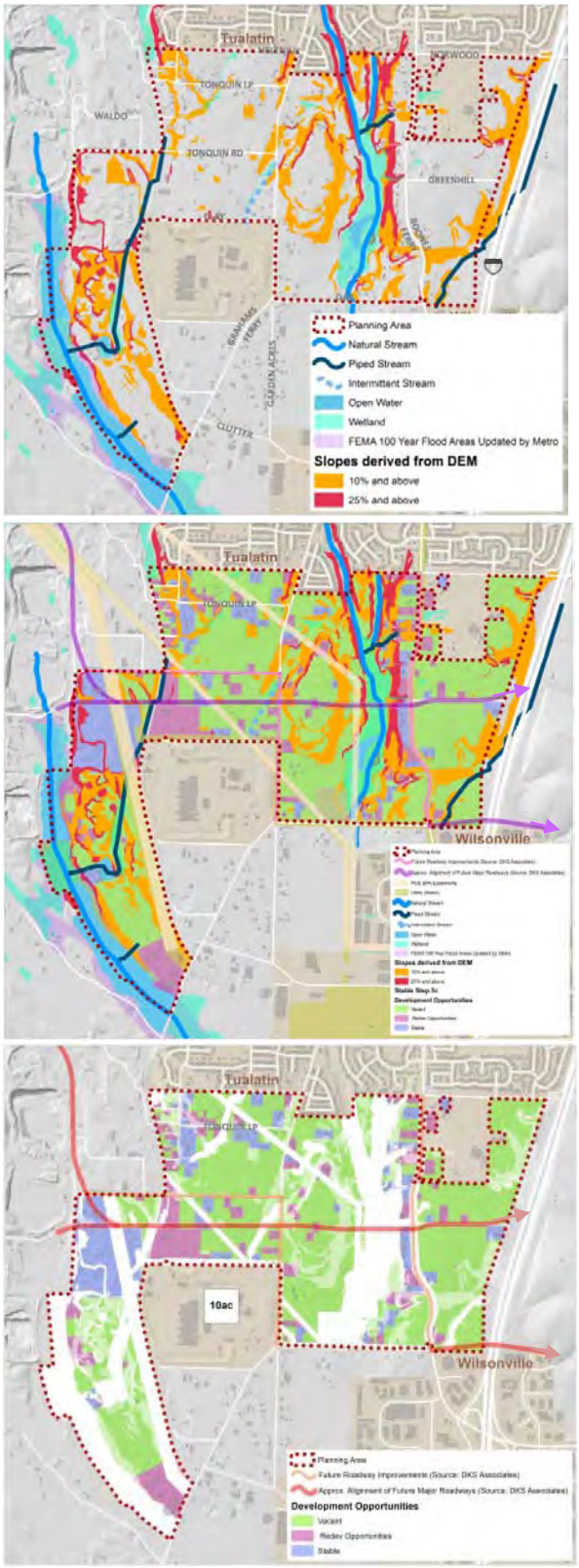


Figure 57 Sequence of maps illustrating the data and steps used to determine the total acreage of developable land in the Basalt Creek planning area. Source: Fregonese Associates 2014.

Public Involvement Plan
Basalt Creek Concept Plan
April 2014

OVERVIEW

This document outlines the Public Involvement Plan for the Basalt Creek Concept Plan and includes in detail the outreach, education and communication services that the project team, comprised of the Fregonese Associates Team (FA Team) and staff from Tualatin and Wilsonville, will use to engage the pubic and stakeholders in development of the Concept Plan. The FA team will work closely with cities of Tualatin and Wilsonville Project Management Team (PMT) to coordinate and develop a transparent planning process based on the best available data, including meaningful public engagement strategies to prioritize critical issues. The FA Team will communicate clear and realistic growth scenarios and ultimately develop consensus around an achievable preferred land use strategy.

This memo is organized around four ***major tasks***:

I. Engagement Materials
II. Targeted Stakeholder Outreach
III. Public Events and Online Surveys
IV. Informational Updates & Announcements

Within each of the major tasks, ***task deliverables*** from the detailed scope of work are included and outlined in detail. For each ***task deliverable,*** the Public Involvement Strategy includes the following information:

- **Description and Purpose**
  Describes the purpose of the deliverable to provide context for the activity and its relationship to the overall project
- **Materials**
  Each task deliverable may contain one or more than one set of materials, which will be identified in this section
- **Roles**
  Anticipated roles are indentified for the PMT and FA Team within each task

Roles and Responsibilities Framework

- The **Fregonese Associates Team** (FA Team) refers to the prime project consultant, Fregonese Associates, and includes the sub-consultants CH2M Hill (CH2M), Leland Consulting Group (LCG),

and DKS Associates (DKS), collectively referred to in this document as the FA Team. As the prime consultant, Fregonese Associates staff will lead the consultant team, working as the point of contact for the PMT, identifying methods and analysis approach, developing the outreach strategy, and managing the project timeline based on the agreed-upon work program.

- **Project Management Team** (PMT) consists of the project managers from the Cities of Tualatin and Wilsonville. The project managers from each city will make decisions as a team and communicate with the FA Team as one decision-making entity. To streamline the revision process throughout the project, the FA Team requests that all feedback is consolidated through the PMT. Once established, the agreed-upon deadlines for review must be met to keep the project on schedule. The PMT will manage the process of keeping staff from their respective individual cities informed during plan development. The PMT will also coordinate information distributed to the community. Any information distributed publicly for the Basalt Creek Concept Plan will be reviewed in advance by the PMT.
- The **Agency Review Team** (ART) is tasked with the primary role of advising staff members of both cities about regulatory and planning compliance. Input gathered from the ART will be included in regular staff updates to the Planning Commissions and City Councils. Involvement in this group will be required for some key agencies that need to approve or agree with the concept plan, while other agencies will be invited to participate in the planning process when their advice is needed on specific issues. The ART will include members from the following organizations:
    - Essential Agencies
        - Metro
        - ODOT
        - Tualatin Valley Fire & Rescue
        - Washington County
        - Bonneville Power Administration
    - Invited Agencies
        - City of Sherwood
        - City of Tualatin (Departments other than Community Development/Planning)
        - City of Wilsonville (Departments other than Community Development/Planning)
        - Clackamas County
        - Clean Water Services
        - Northwest Natural
        - Portland General Electric
        - Sherwood School District
        - SMART
        - Tigard/Tualatin School District
        - Tri-Met
        - Wilsonville/West-Linn School District

  Major agreements will be discussed at meetings, but some elements or decisions for moving forward with technical work may be made outside of team meetings. As appropriate, the ART

will be consulted with and informed. As requested, additional staff from each agency will be copied on communications for meetings, review of materials, and general coordination.

- **Joint Council** refers to Council Meetings involving Councils from both the City of Tualatin and the City of Wilsonville. The Tualatin and Wilsonville City Councils will be the ultimate decision-making body for the final Basalt Creek Concept Plan. Both City Councils are tasked with approving the guiding principles, selecting the preferred land use scenario (which will also include the provision of public services), identifying future jurisdictional boundaries, and approving the Final Basalt Creek Concept Plan.
- The **Tualatin City Council** and the **Wilsonville City Council** will convene independently to review and discuss issues that require greater input from their respective City Councils. Specifically, measures, ordinances, and resolutions to amend the individual Cities' Codes will be needed to implement the final plan. The Tualatin City Council and the Wilsonville City Council will receive regular briefings from their respective staff throughout the planning process.
- The role of the **Tualatin Planning Commission** and the role of the **Wilsonville Planning Commission** will be to consider input gathered through community engagement and from the ART and make recommendations to their respective City Councils. In addition, they will serve in their advisory capacity to respectively amend the Tualatin Community Plan Map and the Wilsonville Development Code and Comprehensive Plan to implement the final Basalt Creek Concept Plan.

Revision Process

For all deliverables there will generally be two rounds of review and document editing, with approximately one week for each round (one week for the PMT to review an initial draft, and another week for the consultant to make revisions and submit to PMT for final comments and edits). This timeframe, however, is general. The exact timeframe for the revision process of each deliverable will be determined on a case-by-case basis according to the level of complexity and lead time necessitated by respective public meeting laws of each City. For example, materials for use at Individual and Joint Council meetings must be submitted to city recorders' offices at least one week in advance of the meeting date. In some cases, the PMT may need more than one week to submit comments to the consultant, as they will be coordinating and consolidating comments between the Cities of Wilsonville and Tualatin.

Public Involvement Strategy Goals

The Cities of Tualatin and Wilsonville are committed to public involvement that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns
- Facilitates equitable and constructive communication between the public and project team
- Empowers residents to become involved with the project
- Encourages participation with other planning efforts in both cities
- Provides the public with balanced and objective information to help them understand the problem, alternatives, opportunities and solutions

- Offers alternative accommodations to encourage participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language
- Builds on existing communication networks and resources of both cities

Types of Involvement

The following categories can be used to group public participation activities by depth of engagement. A table below organizes these activities by stakeholder group, while the "Communication Methods" section presents the same information, organized by milestones. It is important to note that many outreach activities can achieve multiple levels of engagement, depending on the activity objective, design, and contextual factors.

Informing

This level of participation will focus on educating and informing all interested parties (even those who are just peripherally interested) about the project background, status updates, public events and participation opportunities and major milestones and decision points. The level of technical detail about a given topic will be tailored to be audience-appropriate. For example, the level of detail about environmental constraints analysis methodology will be greater at an ART meeting than at a public open house, because ART members are staff or regulating and enforcing agencies. However, more detailed information will often be made available to the public should a reasonable request for it be made. Informing is themost broadly used level of engagement in many cases because it is a precursor to higher levels of engagement and must reach a large number of stakeholders.

Consultation

Consultation with stakeholders entails asking them to provide input on the goals, alternatives and plan. This level of engagement is critical for identifying major issues and concerns among particular stakeholder groups as well as the general public. Different opportunities for providing input will be designed to be appropriate for a range of stakeholders. In essences, this level involves "checking in" with stakeholders to say, "did we get it right?" Surveys and open houses can achieve this level of engagement, among others.

Participation

Participation requires that stakeholders are helping to define and shape project goals, evaluating options and alternatives, and possibly helping to shape recommendations to be included in the plan. Public meetings, workshops, or work sessions can achieve this level of engagement.

Collaboration

Stakeholders help to craft alternatives in collaborative engagement activities. It involves a high level of project detail and usually long-term commitment to reviewing background documents. Technical experts as well as elected officials and decision-makers are commonly leaned upon to perform these duties, though citizen advisory committees and stakeholder group representatives may also contribute substantial efforts. The audience for this level of engagement includes stakeholders who have a higher

level of interest in the project and those who will be interested and impacted by the outcomes of the project.

Partnership

The most engaged level of participation, partnership entails shared responsibility for developing and implementing solutions, as well as decision-making authority. This level of engagement frequently occurs at the institutional level, with public agencies and elected bodies, as well as private-sector representatives, cooperating to agree upon and apply solutions to realize the best possible outcomes for the public interest. The City Councils of Tualatin and Wilsonville will have the final decision making authority for the project. Informed by the input from the public workshop and staff, the City Councils will review information and make their recommendations.

Communication Methods

The project team will utilize online and print communication methods to inform stakeholders about public events and opportunities to participate in the development of the plan. The following list identifies public activities and the expected communication methods which will be used to advertise these activities and events.

Council meetings for either City:

- Community calendars for individual cities
- Basalt Creek project website

Public workshop and open house announcements, including online surveys:

- Community Calendars for both Cities
- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of draft plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of final plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

STAKEHOLDER GROUP	OUTREACH ACTIVITY	PROJECT TOPICS	PARTICIPATION LEVEL				
			Partner	Collaborate	Involve	Consult	Inform
Property Owners	1. Focus group	Project background, Existing conditions, Guiding principles, Alternative scenarios			x		x
	2. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
	3. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
Business Owners	1. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
Developers	1. Focus group	Project background, Existing Conditions, Development opportunities & barriers				x	x
Residents	1. One-on-one interviews	Existing conditions, Guiding principles, Alternative Scenarios				x	x
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
General Public	1. Project website	Project background, Project Calendar, Project FAQ, Public event announcements/reminders, Online survey link, Comment form					x
	2. Posted flyers	Workshop & open house announcements/reminders					x
	3. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					x
	4. Facebook/Twitter	Link to project website, Brief project updates, Link to Online Survey, Link to online comment form, Public event announcements/reminders, Results of open houses & Workshops, Results of elected officials' and public agency decision points, Link to draft Concept Plan, Link to final Concept Plan					x
	5. Newsletters	Project background, Project updates, Public event announcements/reminders, Results of public events, Results of Elected officials and public agency decision points					x
	6. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	
	7. Online Comment form	All				x	
Informed Public	1. Open House	Alternative scenarios, Draft preferred scenario		x			
	2. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios		x			
	3. Draft Review	Draft preferred scenario		x			
	4. Public Hearings	Final preferred scenario, Jurisidictional boundary			x		
Hard-to-reach Groups	1. Phone calls	Project background, Public event announcements/reminders					x
	2. Mailers	Project background, Public event announcements/reminders					x
	3. Multi-lingual materials	Project background, Public event announcements/reminders					x
Elected Officials	1. Informational briefings	Project updates, Public feedback, Major milestones (existing conditions, draft and preferred scenarios), Preparation for decision points				x	
	2. Work sessions	Concept plan discussion, Jurisdictional boundary discussion		x			
	3. Draft review	Jurisdictional boundary, Finalconcept plan		x			
	4. Plan acceptance	Jurisdictional boundary, Finalconcept plan	x				
Non-profits, schools, religious and advocacy groups	1. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					x
	2. One-on-one interview	Existing conditions, Guiding principles, Alternative scenarios				x	
	3. Open House	Alternative scenarios, Draft preferred scenario			x		
	4. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios			x		
Media	1. Press releases	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					x

I. OUTREACH MATERIALS

Deliverables

1. General Milestone Calendar
2. Project Branding (Logo)
3. Stakeholder Contact List
4. Periodic Email Updates
5. Press Releases
6. Newsletter Articles
7. Materials for Project Website
8. Social Media

1. General Milestone Calendar

Description and Purpose

A milestone calendar will be created to communicate an overview of the project process and timeline to the general public, key stakeholders and decision makers. The General Milestone Calendar will be an attractive, easy-to-understand flow diagram communicating the timing and sequence of major project milestones, public engagement opportunities and decision points. This graphic will be utilized in print, online and in presentations.

The purpose of a general milestone calendar is to:

a) Facilitate public understanding of the general flow and sequencing of project tasks
b) Alert the public, key stakeholders and decision makers in advance of critical junctures where their input is needed, including but not limited to:
    a. Public meetings and events
    b. Review/comment periods for draft concepts and documents
c) Communicate updates in the timing or sequencing of key milestones

Materials

Key dates to show on the General Milestone Calendar will include but not be limited to the following:

- ART meetings
- Joint Council Meetings
- Planning Commission Meetings
- Development of Guiding Principles
- Existing Conditions Report
- Public Workshop
- Development of Alternative Scenarios
- Public Open House

- Development of Final Plan
- Plan Acceptance Decision
- Availability of draft jurisdictional boundary memo for public review (review/comment period)

Roles

Project Management Team

- Review and provide feedback on General Milestone Calendar
- Distribute the final General Milestone Calendar to agency leads and other decision makers

FA Team

- Design the Draft General Milestone Calendar
- Integrate comments and feedback
- Deliver final Calendar (electronic format) to the PMT and upload to project webpage

2. Project Branding

Description & Purpose

The FA Team will develop a project logo which will be used on all outreach materials, reports and the website to create and reinforce the project identity. The purpose of branding is to establish a recognizable identity for the project. The FA Team will provide web and print-ready formats of the final logo to the PMT. File formats will include JPEG, Adobe Illustrator and PNG.

Materials

A project logo and associated graphics will include attractive, easy-to-understand visual elements that reinforce agreed-upon guiding principles and project priorities.

Roles

PMT

- Provide feedback on the project logo

FA Team

- Design project logo
- Distribute a web- and print-ready version of the logo for use by the PMT; upload and incorporate into project website
- Incorporate the project logo in PowerPoint presentations, outreach materials, reports and the project website materials

3. Interested Persons Contact List

Description & Purpose

The FA Team will collaborate with the City of Tualatin and City of Wilsonville to effectively utilize the existing contact list of interested persons. Stakeholders on the contact list will receive periodic email updates corresponding to major project milestones, including notices of public events. The stakeholder contact list will be managed by the City of Tualatin and used to send project update messages via email.

Materials

The master contact list will include names, email addresses, phone numbers, and addresses of stakeholders. This contact list should also track stakeholder types (i.e. property owner, business owner, resident) and organizational affiliations. The contact list can be used to track additional stakeholder information, such as identifying interview candidates, focus group members, or workshop attendees.

The contact list should include but not be limited to the following:

- Property Owners and Neighbors
- Other residents and tenants
- Tualatin Community Representatives (CIOs)
- Wilsonville Community Representatives
- Tualatin Business Representatives
- Wilsonville Business Representatives
- Westside Economic Alliance Representatives
- Horizon School Representatives
- Agency Review Team
- Stakeholder Interviewees

Roles

PMT

- Collect new contact information from stakeholders by providing and collecting sign-in sheets at the public workshop and open house
- Manage and update master email distribution list
- Reach out to community groups to request permission to add their members to the outreach contact list
- Protect the addresses and privacy of individuals on the contact list
- Provide the FA Team with existing project email distribution lists. May necessitate merging of lists between organizations

FA Team

- Protect the addresses and privacy of individuals on the contact list
- Provide PMT with access to contact information collected through online surveys

4. Email Updates

Description & Purpose

The purpose of on-going communications via email (using the Interested Persons contact list described above) is to highlight positive momentum toward achieving community goals. Email updates will be sent to the email distribution list described above to communicate project milestones and to notify stakeholders of the public workshop, open house, online surveys, online public draft documents, etc, as needed.

Materials

General project updates may include, but not be limited to the following information:

- Status of the project in relation to the General Milestone Calendar
- Upcoming opportunities for public engagement
- Links to results and images from recent outreach activities
- Links to the online surveys
- Links to the project webpage
- Public availability of draft or final documents
- Outcomes of Joint Council meetings or major decision points
- Contact information for project management

Roles

PMT

- Establish a PMT strategy for review of email content
- Review and approve a template for email updates
- Review and approve content for email updates
- Establish a project email address and contact for email blasts

FA Team

- Prepare an email template in Mailchimp (or similar service) to manage messaging to email distribution list
- Prepare content for email updates in consultation with the PMT
- Send email blasts prior to public meetings and at key milestones, once content is approved by PMT

5. Press Releases

Description & Purpose

Project press releases will be issued jointly by the City of Tualatin and the City of Wilsonville on project-branded letterhead to reach local and regional media contacts at key milestones. The City of Tualatin, City of Wilsonville and the FA Team will jointly prepare and review press releases prior to issuing them.

Each City will send the releases to their local media contacts and they will also be shared with regional media contacts via the FlashAlert Newswire (www.flashalert.net). Press releases will also be shared via the project's Twitter account, each City's Facebook page, and each City's website. Each press release will have two contacts—one from the City of Tualatin and the other from the City of Wilsonville. The FA Team will post the press releases on the project website.

Materials

Press releases will be posted on each City's websites, Facebook pages, project-specific Twitter feed, and on the Basalt Creek project website.

Roles

PMT

- Draft press releases at key project milestones
- Review, edit and approve content
- Issue press releases to local and regional media contacts
- Post press releases to project Twitter feed, City Facebook pages, City websites, and the project website.
- The project contacts for each City will respond to media inquiries in a timely manner and report back to the PMT
- Media coverage will be shared on the project-specific Twitter feed

FA Team

- In coordination with the PMT, draft and edit press releases and post press releases and media coverage to project website

6. Newsletter Articles

Description & Purpose

Both the City of Tualatin and the City of Wilsonville have monthly newsletters that are mailed to their residents. Each City will be independently responsible for drafting and running articles in their newsletter at key milestones throughout the project. These articles may be based on the project press releases, but also may include information about upcoming meetings and other related content.

Materials

Newsletter articles will be run in each City's newsletter at key milestones throughout the project.

Roles

PMT

- Draft articles at key milestones based on press releases or other content
- Review, edit and approve articles
- Run and distribute articles in each City's monthly newsletter and on the project website

FA Team

- In coordination with the PMT draft and edit articles and post to project website

7. Materials for Project Website

Description & Purpose

The existing project website will be utilized to provide project information such as background, objectives, milestones, and key engagement opportunities, as well as a venue to post draft and final documents for public review.

The overarching goals of the project website are distributing information to the public and key stakeholders and gathering their feedback at decision making points. The website should include the following:

- Project background and timeline
- Updates on milestones and key decision points
- Announcements of public involvement opportunities
- Results of outreach efforts
- Downloadable PDFs of website content and other engagement materials including project background and timeline, event announcements, etc.
- Links to the project's Facebook page and Twitter feed, as well as other relevant projects such as the SW Tualatin Concept Plan, Coffee Creek, 124th, Boones Ferry Road, etc.

Materials

The FA Team will update, manage and provide text and images for website updates to the PMT corresponding to key milestones and decision points, public involvement opportunities, and draft and final documents as identified in this Public Involvement Plan. These updates will be tracked on a detailed (internal) Project Team Timeline and coordinated on an as needed basis.

Roles

PMT

- Review, edit and approve website content
- Provide and host website URL
- Prepare and update a FAQ about the project

FA Team

- Provide initial review of the website structure and content and implement any changes or additions with PMT oversight
- Establish an RSS feed on the project website
- Provide draft and finalized content updates including PDFs, text and graphics to the PMT for approval

- Coordinate email blasts and website updates
- Manage and upload new materials for the website that are included as part of the Public Involvement Plan

8. Social Media

Description & Purpose

Facebook page and Twitter feeds will provide another means for stakeholders to stay connected with the project progress. The Cities of Tualatin and Wilsonville will utilize their existing Facebook pages and Twitter feeds to provide Basalt Creek Plan updates and links to the Basalt Creek webpage including notices of public events and when new material is posted to the Basalt Creek project website. Posts will be added throughout the project at major milestones and as there are noteworthy updates to report. The City of Wilsonville will also develop a twitter feed specific to the Basalt Creek project which will help further advance public information and guide interested parties to the Basalt Creek Website.

Materials

Facebook and Twitter content posted to City sites and a Basalt Creek specific Twitter feed.

Roles

PMT

- Create brief, periodic Facebook and Twitter posts
- Review, edit and approve content
- Post content to Facebook and Twitter
- Content for updates will be generated by the PMT in collaboration with the FA Team.

FA Team

- In coordination with the PMT generate content and provide advice for Facebook and Twitter posts

II. TARGETED STAKEHOLDER OUTREACH

Task Deliverables

1. Interviews
2. Stakeholder Groups
3. Agency Review Team (ART)
4. Planning Commission Briefings
5. Individual Council Information Sessions
6. Joint Council Decision Information Sessions

1. Interviews

Description & Purpose

The purpose of stakeholder interviews is to gain a better understanding of stakeholder goals and interests. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision for the concept plan. These interviews will likely take place within the first six months of the project.

The FA Team will interview a selection of four community members, property, and business owners and other stakeholders identified by the PMT, selected from the following community groups:

- Property and business owners in Basalt Creek
- Community representatives from both Cities
- Residents of Basalt Creek
- Business owners/ representatives from both cities
- Westside Economic Alliance
- Horizon Church

Materials

Materials will include an interview guide with general interview questions and topic areas for discussion.

Roles

PMT

- Identify interview candidates
- Make initial contact with interview candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss with interviewees
- Help identify and secure locations for interviews

FA Team

- Identify interview candidates in partnership with the PMT
- Review list of interview candidates with PMT
- Lead and facilitate the stakeholder interview discussions
- Create and print maps to guide interview conversations
- Keep a written record of interview conversations
- Provide notes of interview findings to the PMT

2. Focus Group Meetings

Description & Purpose

Focus group meetings will be conducted with 6-7 participants and will be based on an open discussion format facilitated by the FA Team. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision

for the concept plan. These meetings should take place within the first six months of the project. The FA Team proposes to conduct two focus groups meetings, one with developers and one with key property owners. Focus group member candidates will be identified through collaborative efforts between the FA Team and the PMT.

Focus Group #1: Developer Roundtable

The Developer Roundtable is a forum which will be used to gather valuable information related to general and specific development opportunities and barriers in Basalt Creek. Involving developers at the local and regional level will help characterize and contextualize development potential and constraints in the area.

Focus Group #2: Property Owner Meeting

The Property Owner Meeting is a stakeholder meeting for a small group with 6-7 property owners from the area (preferably a mix of both commercial and residential property owners). This meeting will provide a forum to learn about property owner priorities, concerns and suggestions for the future of Basalt Creek.

Materials

A short presentation will be made to both groups on the overall project. Materials will include a facilitator's guide including questions and topic areas for discussion.

Roles

PMT

- Identify stakeholder group candidates
- Work with the FA Team to expand and revise list
- Make initial contact with candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss
- Identify and reserve meeting locations
- Track responses and confirm attendance of invitees

FA Team

- Identify stakeholder group candidates, advise on developers to include
- Work with the PMT to expand and revise list
- Develop a facilitators guide
- Lead and facilitate the stakeholder group discussions
- Create and print maps to guide conversations
- Keep a written record of group discussions
- Provide meeting notes to PMT

3. Agency Review Team (ART)

Description & Purpose

An Agency Review Team (ART) will be formed to guide the development of the Concept Plan. The primary role of the ART is to advise the project team about regulatory and planning compliance. The ART will consist of representatives from regulatory agencies identified in the "Roles and Responsibilities Framework" section at the beginning of this document. They will meet preceding major project milestones to provide technical input for Concept Plan development.

Materials

For all ART meetings:

- Meeting agenda
- Materials/documents for review
- PowerPoint presentations
- Presentation technology (projector, screen, etc.)

Roles

ART members

- Provide guidance to project team on specific technical questions and issues
- Act as liaisons to their own agencies
- Review and provide feedback on draft concept plan

PMT

- Identify and invite individuals to join the ART
- Distribute meeting agenda and meeting materials to ART members prior to meetings
- Keep the official written record of meetings including attendees, notes, comments, outcomes and next steps
- Write and distribute meeting summaries to ART members
- Provide space and printed materials for meetings
- Provide periodic updates on feedback from the ART to the Planning Commission and City Councils

FA Team

- Create meeting agendas
- Facilitate meeting discussions, which may include short presentations
- Create meeting materials to support agenda
- Provide PMT with FA team notes to support the development of the official written record

4. Planning Commission Briefings

Description & Purpose

Planning Commission Briefings are intended to provide project updates to the Cities individual Planning Commissions prior to major decision points to identify any issues and gather feedback from the Commissions. These briefings will include, at a minimum:

- Project Updates
- Concept Plan Discussion
- Jurisdictional Boundary Discussion
- Concept Plan Acceptance

Briefings to the Planning Commissions will take place prior to Individual Council briefings. The Planning Commission engagement is important to set the stage for future comprehensive plan amendments and other planning actions that will happen within each jurisdiction as a result of the concept plan acceptance.

Materials

Meeting agendas will be developed to focus on gathering feedback and information from the Planning Commissions including:

1. Jurisdictional Boundaries Recommendation
2. Draft Preferred Scenario
3. Draft Concept Plan

Roles

PMT

- Schedule briefings
- Create meeting agendas
- Keep written record of meetings and provide FA Team with meeting notes

FA Team

- Provide feedback on meeting agenda

5. Individual Council Information Briefings

Description & Purpose

Individual Council briefings are intended to provide project updates at key points throughout the planning process. Briefings will include:

- Project updates
- Discussions about major milestones (Existing Conditions, draft and preferred scenarios)
- Identification of Council concerns and gathering feedback to inform the concept planning process

- Preparation of Council members for upcoming Joint Council decisions points

The FA Team assumes that PMT staff will brief their Councils as the project progresses. Individual Council update sessions with the FA Team will focus on building the capacity of each Council to make informed decisions when Joint Council action is required. The staff of each City will present materials to the Individual Councils.

Materials

Meeting agendas will mirror major project elements that require a more detailed level of understanding among the Councils. Detailed briefings will allow Councils to validate project direction and provide guidance to the PMT and FA Team. Following are the suggested meeting topics for the FA Team to present to each Council for their input:

1. Draft Existing Conditions
2. Draft Alternative Scenarios
3. Draft Preferred Scenarios

Roles

PMT

- Schedule informational briefings (3 presentations to each Council with FA present; 6 meetings total)
- Keep written record of meetings and provide FA Team with meeting notes

FA Team

- Attend meetings and present to Councils (or provide materials for PMT staff to present)
- Provide PowerPoint presentation or other written materials in advance, consistent with the individual cities' requirements

6. Joint Council Decision Information Sessions

Description & Purpose

The Joint Council meetings will include informational presentations, facilitated discussions, and action regarding key decision points. There are four key decision points:

- Adoption of Guiding Principles and Review of Existing Conditions
- Decision on a Preferred Scenario
- Decision on Jurisdictional Boundaries
- Approval of Concept Plan

These meetings will be critical for Joint Council decision-making. The FA Team will collaborate with the PMT to determine which content to present. The FA Team will develop presentations to illustrate the evolution of the project process and provide key data and information critical to relevant decision

points. The Individual Council briefings will be coordinated with Joint Council meetings to deliver information in an efficient manner conducive to informed and effective decision-making.

In addition to meetings focused on the four key decision points, the FA Team will participate and lead a discussion with the Joint Council to elicit feedback for the development of the final concept plan and jurisdictional boundaries. These meetings will serve as informative discussion sessions to guide concept plan development, as well as a decision on a jurisdictional boundary. These sessions will cover:

- Alternative scenarios. The FA Team will present findings from the alternative scenarios, organized by relationship to Guiding Principles. The FA Team will facilitate a discussion of alternatives and solicit feedback. This feedback will be used to craft a preferred scenario oriented toward adoption by the Joint Council.
- Draft Preferred Scenario. The FA Team will present the draft preferred scenario. The Joint Council will have the opportunity to provide feedback on the direction of the preferred scenario. This will build on previous efforts to ensure key issues and concerns related to the concept plan are addressed.

The FA Team will collaborate with the PMT to determine the most effective methods for gathering Joint Council feedback. Methods may include instant polling questions and/or facilitated discussions.

Materials

For each Joint Council meeting:

- Meeting agenda
- PowerPoint presentation
- Background documents
- Key discussion questions and instant polling (if used)

Roles

PMT

- Schedule Joint Council meetings (up to 6)
- Keep a written record of the meetings and provide FA Team with meeting notes

FA Team

- Draft and revise presentations for meetings
- Present key materials and facilitate discussions, as needed
- Integrate Joint Council feedback into preferred scenario and subsequent revisions

V. PUBLIC EVENTS & ONLINE SURVEYS

Deliverables

1. Public Workshop
2. Public Open House
3. Online Surveys

1. Public Workshop

Description & Purpose

The FA Team will work with the PMT to design and run a public workshop that will inform the creation of a range of scenarios. We will understand stakeholder priorities through instant polling and a mapping exercise. The workshop will also inform stakeholders about the project objectives and background (through the brief presentation at the outset). Subsequent activities will be aimed at eliciting feedback about the community's vision for the Basalt Creek area. This feedback will help clarify priorities for the concept plan and inform the development of alternative scenarios.

Workshop Format

Group Presentation

The meeting will start with a brief PowerPoint Presentation from the PMT and the FA Team. The presentation will cover the planning process from start to finish, and include a description of project goals, activities and guiding principles. A project timeline with key public involvement dates will be shared with participants.

Instant Polling

The group presentation will transition into a set of 10 – 20 instant polling questions, which will ask stakeholders to respond to multiple choice questions about their priorities for the project. The polling results will be collected using clickers – remote devices that send instant polling results to the computer of the presenter. The tallied results can be shown immediately on the screen for all the audience to see. The FA Team will work with the PMT to develop the instant polling questions.

Example questions may include:

- Of these listed ideas, which is the most important for the future of Basalt Creek?
- Which is the least important?

To what extent do you agree or disagree with the following statements? (Scale of 1-5)

- Conservation is the top priority
- Economic development is the top priority
- Balance between conservation and development is the top priority

Mapping Exercise

The FA Team will utilize a custom map-based exercise to gather information on community aspirations for future land uses, multimodal transportation network, employment, parks and open spaces. Following the group presentation and instant polling exercise participants will divide into small groups to perform a collaborative mapping exercise. Each group will be facilitated by a FA Team/PMT member, with assistance from other project team staff. Participants will work together in small groups using maps and icons representing future development and transportation investments. The FA Team will use the Envision Tomorrow (ET) suite of planning tools to digitize and analyze maps and comments from the public workshop to uncover themes and unique solutions to guide the scenario development and the development of a final concept plan and vision for the planning area.

Materials

- PowerPoint presentation, including project background, objectives and timeline
- Instant Polling questions – responding to suggested guiding principles, prioritizing future policies and actions for Basalt Creek area
- Basemap – Basalt Creek project area chipsets for mapping activity
- Additional materials on boards in the meeting room as defined by FA Team and PMT
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant polling clickers and TurningPoint software
- Facilitator instructions
- Scissors, markers, and pens

Roles

PMT

- Identify and reserve a venue for the workshop
- Advertise workshop; print and distribute flyers announcing workshop
- Review workshop materials (workshop flyer and email announcement, agenda, presentation, instant polling questions, maps, chips)
- Assist and organize volunteers to serve as facilitators for the event
- Provide light refreshments

FA Team

- Produce agenda for workshop
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Prepare workshop agenda

- Develop and revise presentation, including instant polling questions
- Present at workshop
- Facilitate workshop activities, including instant polling and mapping exercise

2. Public Open House

Description & Purpose

The public open house will provide participants with a comprehensive look at how each of the alternative scenarios performs, as measured against the project's evaluative criteria and guiding principles. General performance categories include transportation, housing choice, employment and infrastructure. In the brief Summary Presentation the FA Team will describe the project's public outreach and stakeholder engagement process and how public feedback was used to inform the development of the alternative scenarios.

The presentation will also briefly cover project background and objectives followed by a presentation of the alternative scenarios, accompanied by descriptions of how they each performed in different evaluative areas and indicators. The presentation will be followed by instant polling questions to understand people's preferences for different elements of each scenario, and the degree to which they support or do not support alternatives in the context of performance measures.

The FA Team will process and analyze results of the open house. Results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates. Results will also be integrated into the Summary Presentation to be delivered at ART and Joint Council meetings.

Materials

- PowerPoint Presentation, including a brief description of the project background, description of each scenario and its outcomes relative to project guiding principles and projected impacts on transportation, housing choice, employment and infrastructure indicators.
- Instant Polling questions – responding questions about support or lack of support for different elements of different scenarios (the results of which will feed into the development of the preferred scenario)
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant Polling clickers & TurningPoint software

Roles

PMT

- Discuss open house approach
- Identify and secure location for open house

- Review open house content
- Provide staff to assist at open house
- Provide light refreshments
- Provide open house related updates to the Planning Commission and City Council
- Integrate workshop results into Summary Presentation on public outreach

FA Team

- Produce agenda for public open house
- Produce maps and other print materials for one public open house
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Provide summaries of feedback (instant polling) from the open house event in PowerPoint

3. Online Surveys

Description & Purpose

The purpose of the online surveys will be to electronically replicate the engagement opportunity of the public workshops and in-person outreach events in order to engage a broader group of stakeholders. To the extent possible, the online survey will follow the presentation and include instant polling questions from the public workshop and open house. The online format will allow participants to click through the presentation at their own pace, and then to answer the same instant polling questions asked at the workshop and open house.

The analysis of the survey results will be integrated with the feedback from the public workshop and other outreach opportunities, and used as a guide both to develop scenarios and then to select or create a preferred scenario.

The online surveys will be designed to be user-friendly and straightforward. Each survey will be open for approximately two weeks following the public events. The FA Team will process and analyze results of the survey. Survey results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates.

Materials

The FA Team will develop, conduct, and analyze the results from two online surveys. Links to the online surveys will be distributed to the stakeholder contact list via email as well as posted on the project website. Materials will include an online version of the workshop presentation, a survey posted to the project website, and a summary of survey results in PowerPoint presentation slide format.

Roles

PMT

- Provide a list of initial ideas for survey content
- Review, edit and approve website content

FA Team

- Draft survey
- Incorporate edits from PMT
- Convert the survey into an online format and include on the project website
- Email survey link to stakeholder contact list
- Collect survey results
- Organize survey results into a summary
- Provide survey results summary to City Staff and present results to the ART; staff will present at individual Council sessions

Scenario Planning Overview

"Where are we headed currently?"

"What are the possibilities?"

"Where do we want to go?"

The Present

Where we are today

Understand Existing Conditions

The Present

The Future

Planning the future

The Traditional Approach

Imagine where you want to go

The Scenario Approach

Basalt Creek Concept Plan

A

B

C

D

The Scenario Approach

Scenarios are Crash Test Dummies

- We can test a variety of different ideas to see how each performs

Scenario Process

- Develop Guiding Principles
- Analysis: Metro Forecast, Constraints, Land Suitability
- Seek Public Input: Design Workshop
- Create Base Case Scenario
- Create Scenario Alternatives (iteratively)
- Evaluate and Communicate
- Select Preferred Alternative

Testing Scenarios and Choosing a Preferred Scenario

- Create and evaluate several scenarios
- Present scenarios and evaluation results to public and decision makers
- Determine jurisdictional boundary between two cities
- Select preferred scenario to inform final land use concept for the Basalt Creek Concept Plan

Why create Guiding Principles?

- Represent **collective interests** and goals for planning area
- Provide **framework** for gathering input
- Help to develop **evaluation criteria** (indicators)

Basalt Creek Guiding Principles

- Maintain and complement the Cities' unique identities
- Capitalize on the area's unique assets and natural location
- Explore creative approaches to integrate jobs and housing
- Create a uniquely attractive business community unmatched in the metropolitan region
- Ensure appropriate transitions between land uses
- Meet regional responsibility for jobs and housing
- Design cohesive and efficient transportation and utility systems
- Maximize assessed property value
- Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

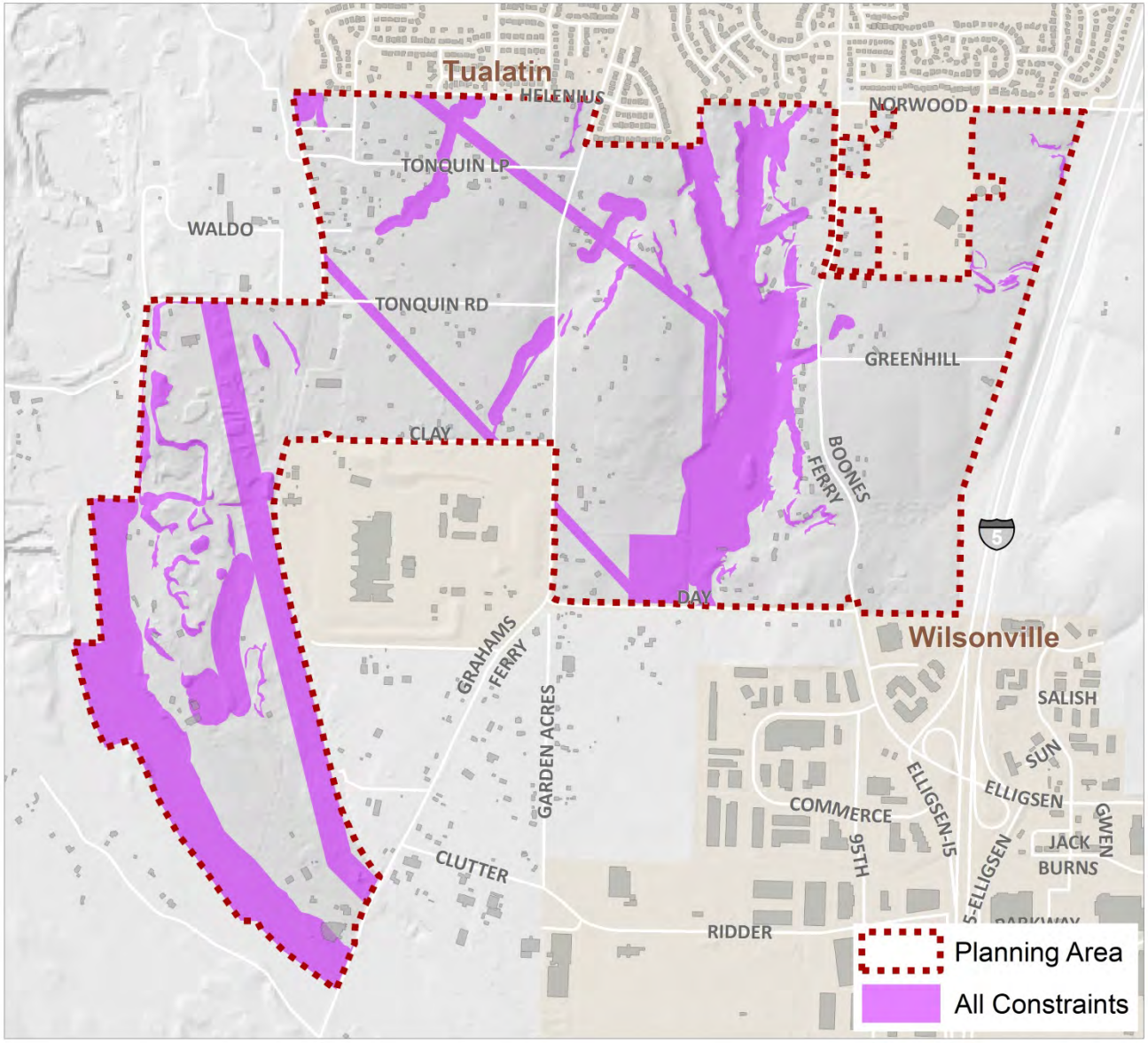
Scenarios help us explore big questions...

- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

Constraints

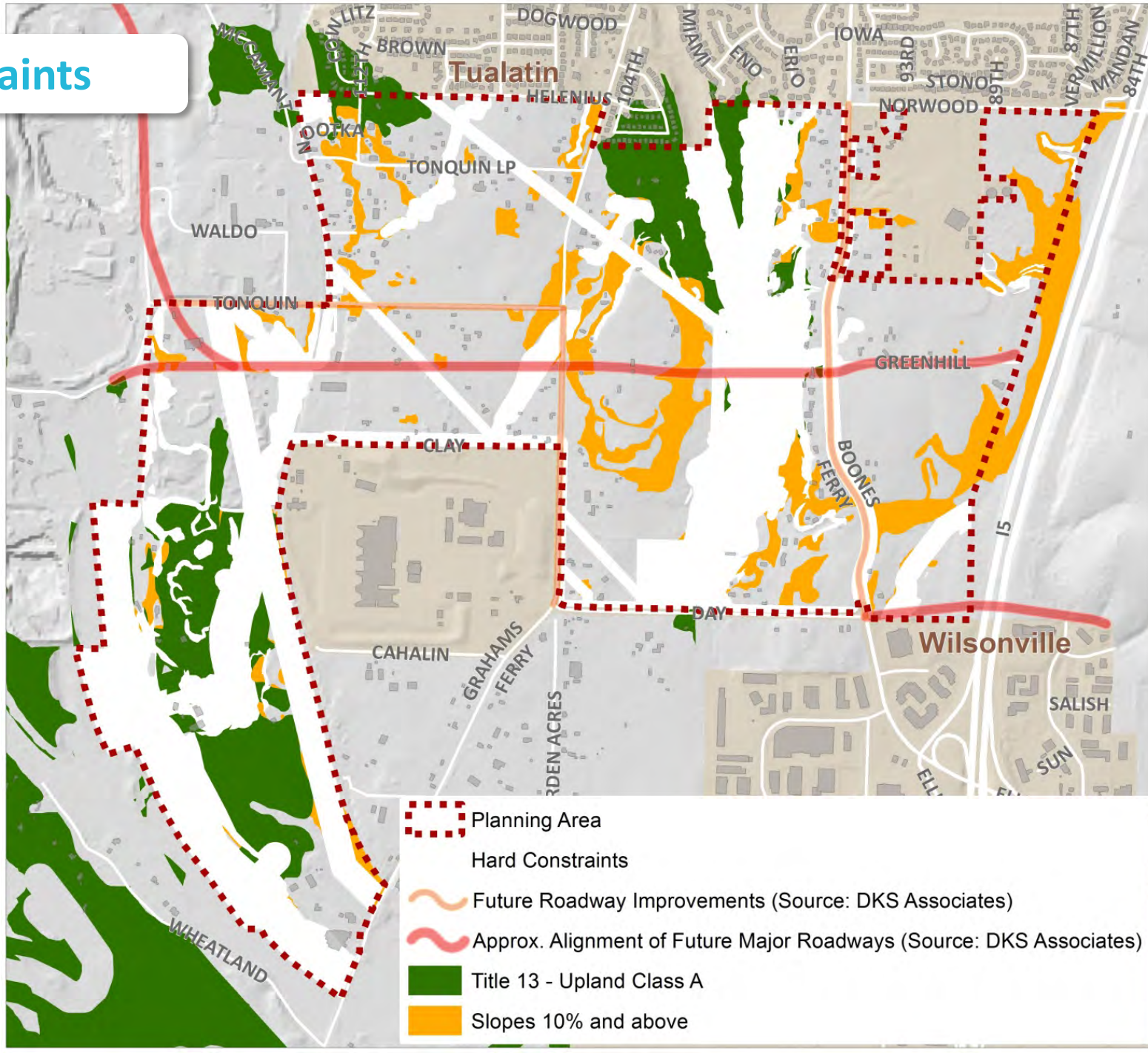
- Hard constraints are areas where development is not feasible because of policy or physical condition.
- Soft constraints are areas where development intensity may be reduced because of policy or physical conditions.

All Hard Constraints



- **234** acres constrained
- Study area total is **847** acres
- **28%** constrained

Soft Constraints



Land Supply

Vacant Land

Ready to build, no major structure on site

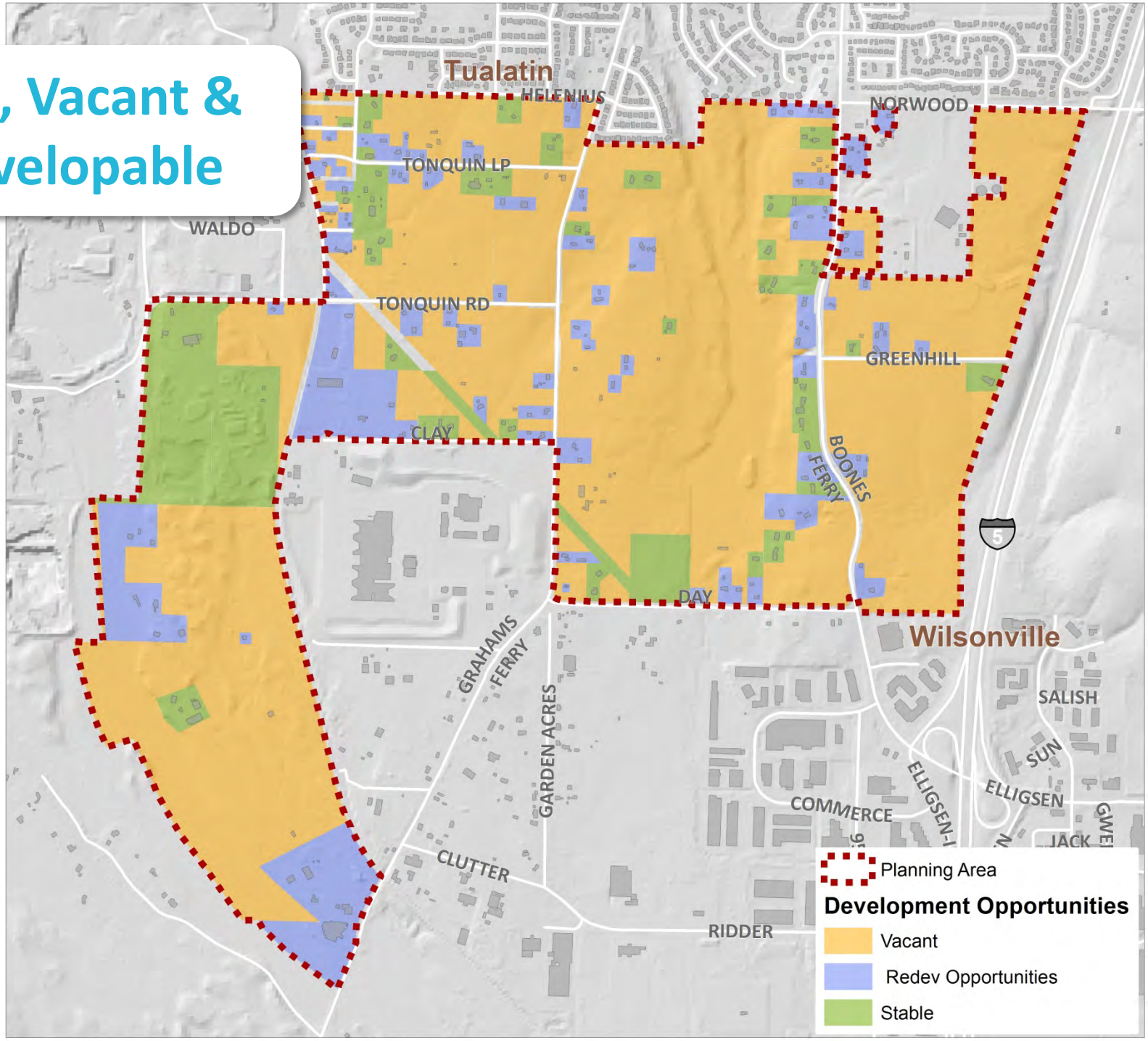
Redevelopable Land

Some redevelopment potential (expansion of current use or change in use)

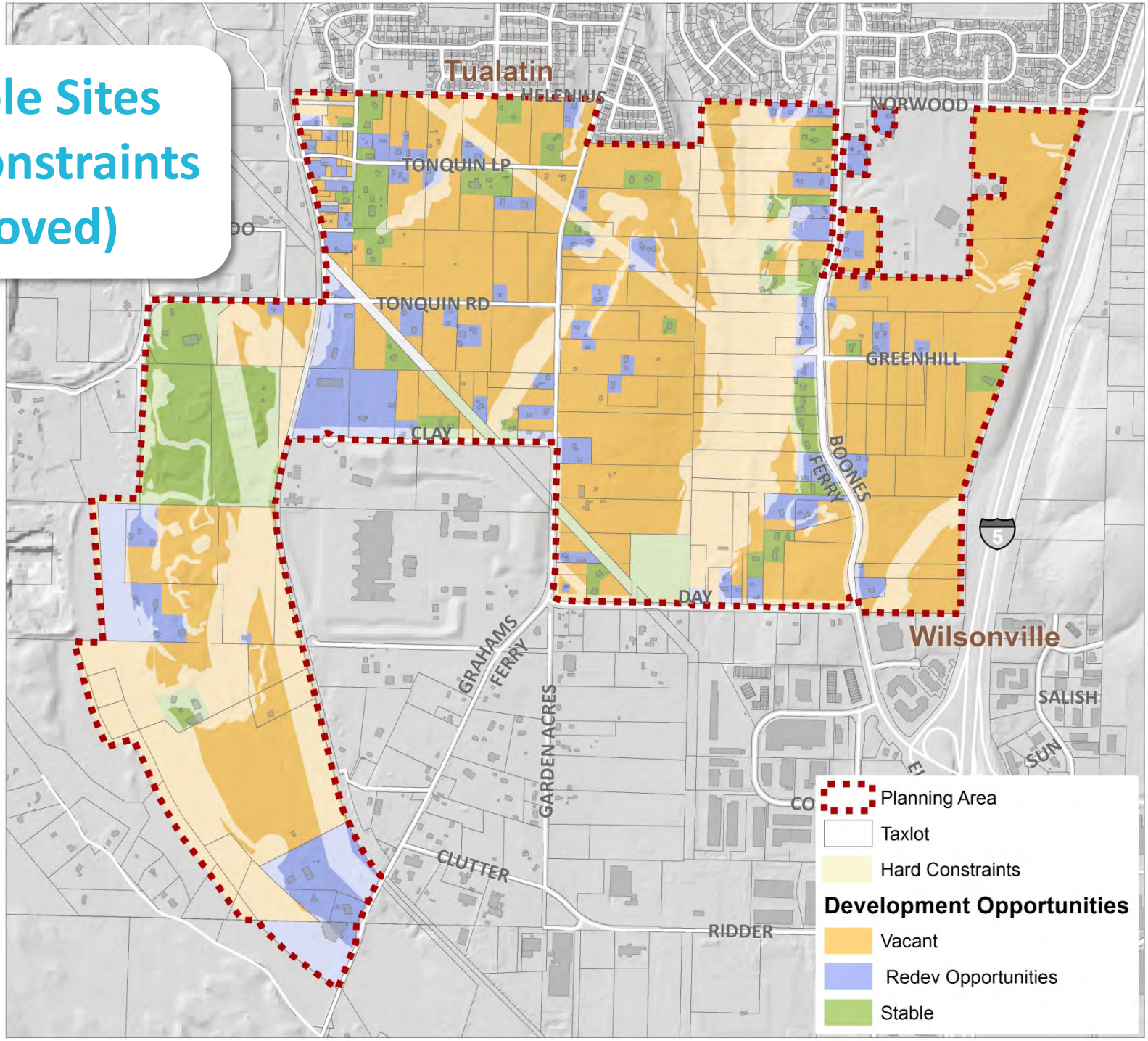
Stable Land

Structures on land, will not change uses in the near future

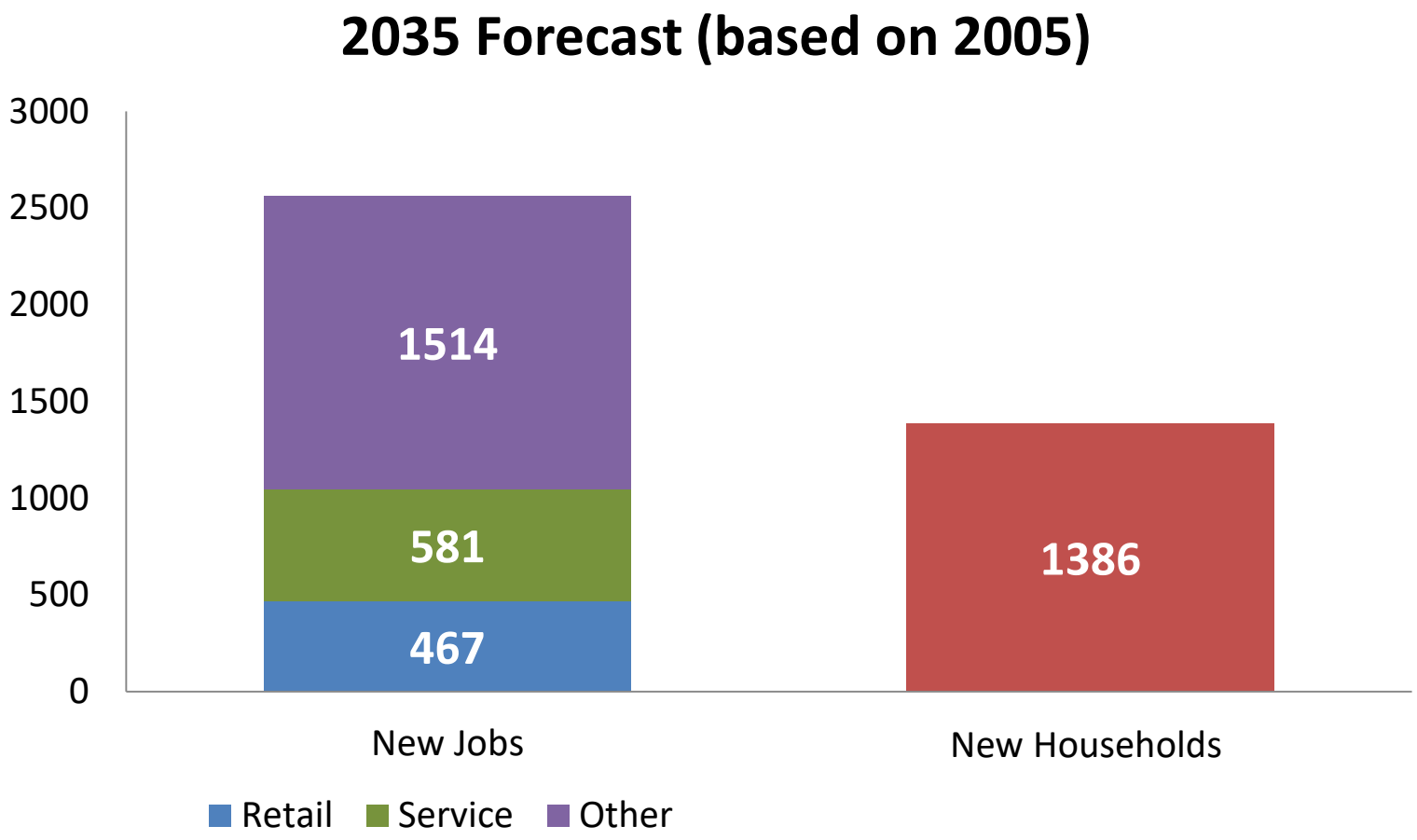
Stable, Vacant & Redevelopable



Suitable Sites (hard constraints removed)



Metro Forecast for Basalt Creek



Public Input at Design Workshop

- Community input helps guide scenario development and design process
- April 2014

Basalt Creek Concept Plan

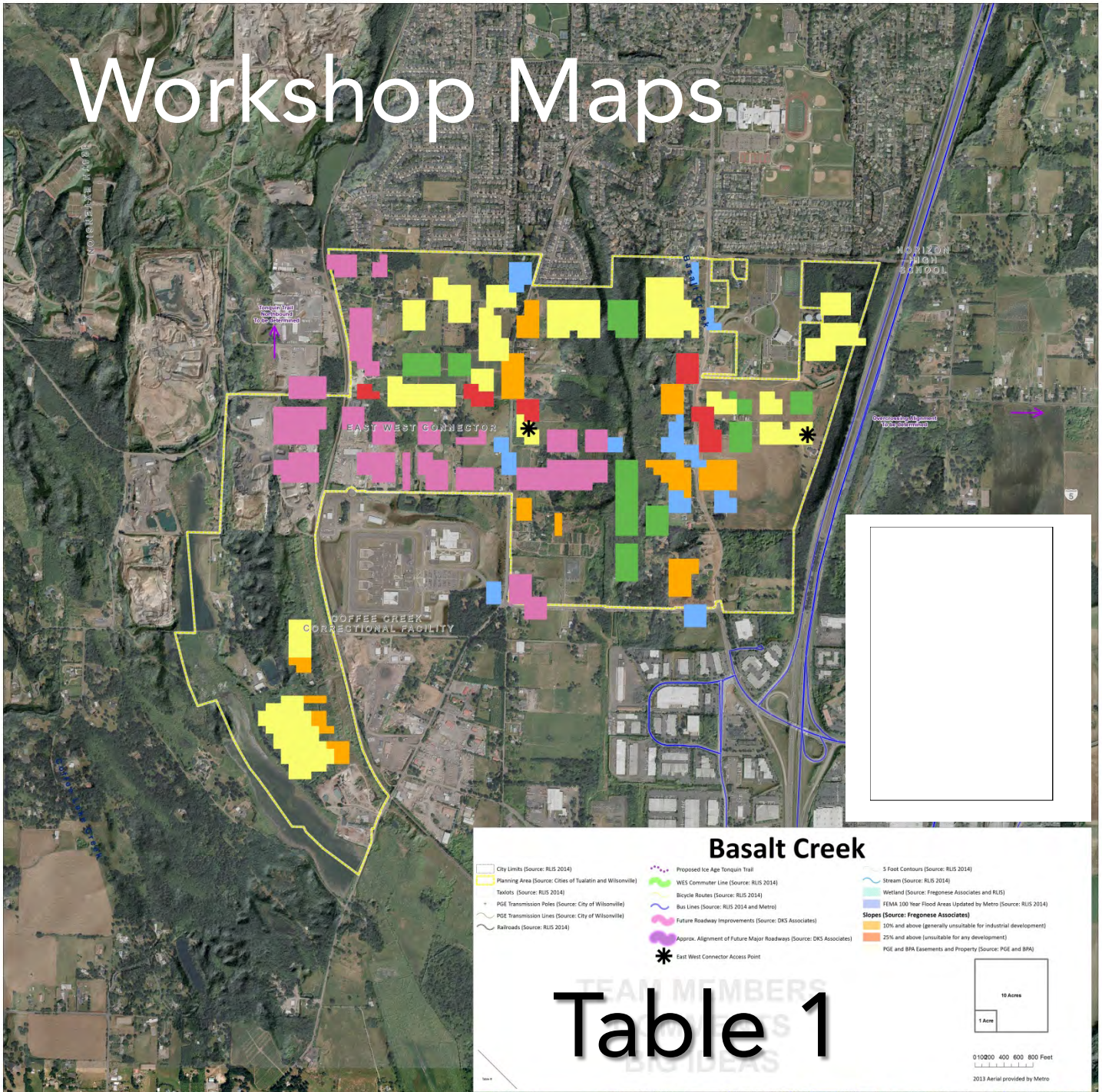
Workshop Maps

Goals

- Housing/schools close together
- Public amenities around wetlands
- Housing where there is transportation and other existing infrastructure
- Transit options that allow people to make trips without their cars
- Make the wetlands a source of pride and natural beauty (visual focal point/vistas)

Comments

- Civic entertainment use – public theater?
- Seems like E-W Connector will determine how land uses are arranged
- Couth the nursery along Graham's Ferry be encouraged to develop as a unique attraction?
- This is an opportunity do something different – provide public amenities that make the community proud.



Workshop Maps

Goals

- Increase recreation, more sports fields (plenty of them in Tualatin)
- Parks/natural area around Basalt Creek - preservation – West Railroad
- Concern around runoff into Basalt Creek
- Joint rec center
- Housing in Tualatin
- Incorporation into regional trail system along Basalt Creek
- Concern about widening of Boones Ferry for peds and bikes
- Location of EW/Boone's Ferry
- Water/sewer lines
- EW Connector at Boone's Ferry
- Smother transition from industrial to housing
- Stop at WES –Trans
- Recreation (shared facilities)
- Natural area protection
- Housing –not everything need to be industrial south of the EW Connector

Big Ideas

- Connect to WES
- Smooth transition between uses
- Brew Pubs
- Crosswalks across Boone's Ferry

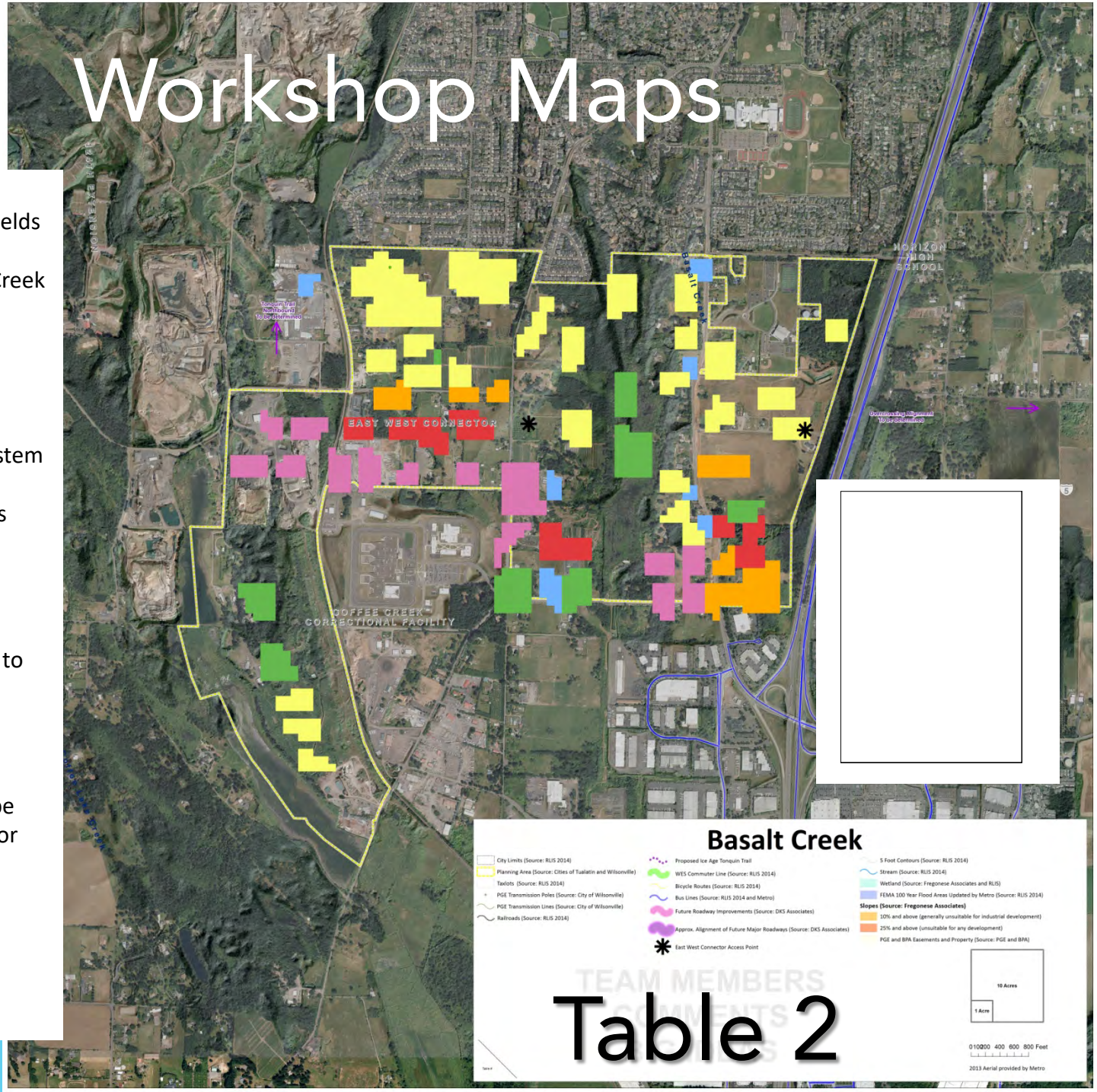


Table 2

Workshop Maps

Goals

- Residential development
- Diverse housing mix (more than just single family)
- Celebrate natural features
- Interconnected trans network
- Integrate other regional plans
- Well laid out mix of land uses
- Integrated trail and greenways (multimodal connections)

Comments

- Bike/ped access from Tualatin to Wilsonville- in nature
- Employment center near I-5 (east of I-5)
- Buffering between residential and industrial (transitional)
- Trails on power line easements
- Small lot SF and apartments – what is the market?
- Mixed use housing
- Where to put hi-density housing
- Prevent noise pollution from industry
- Center?
- Sherwood school district
- Housing where kids can walk to school
- Hi-density, assisted living near overpass
- Retail and industrial toward the south (jobs and light industrial)

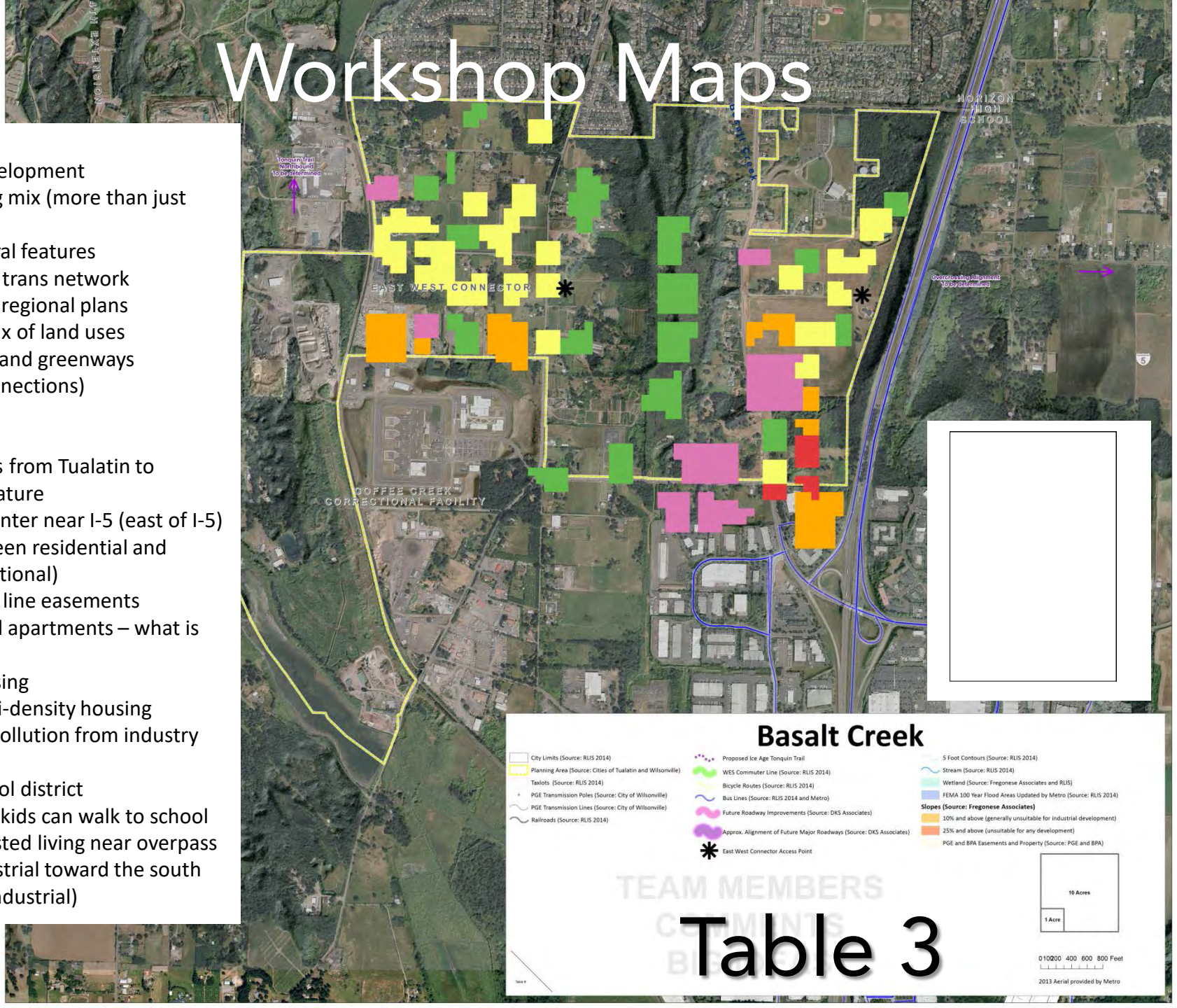
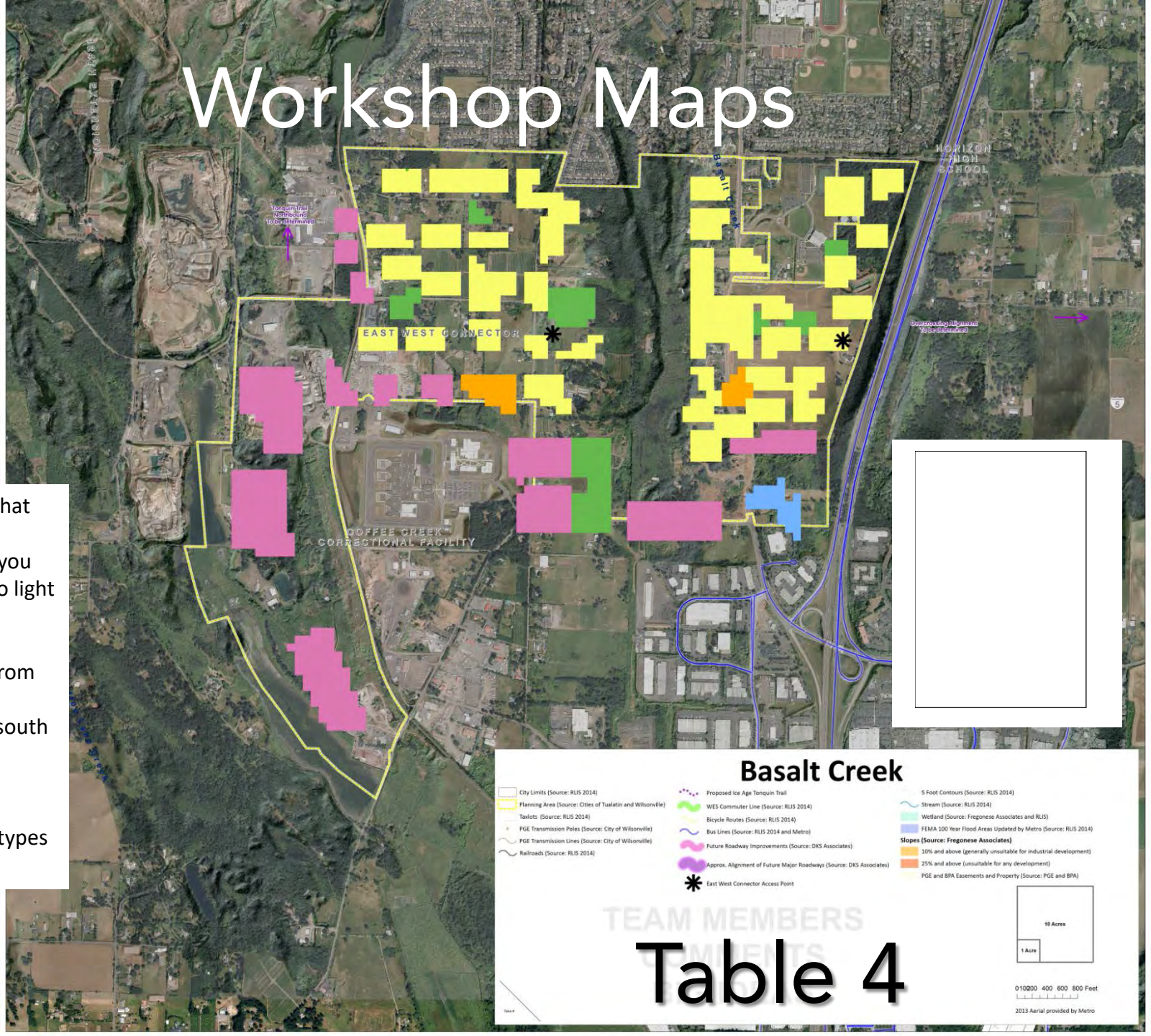


Table 3

Workshop Maps



- Residential at north that transitions to higher density/mixed use as you go south, eventually to light manufacturing.
- Access to small commercial services from residential areas.
- Places of worship at south end
- Sports complex and parks/open spaces
- Transitions between types of uses.

TEAM MEMBERS COMMENTS

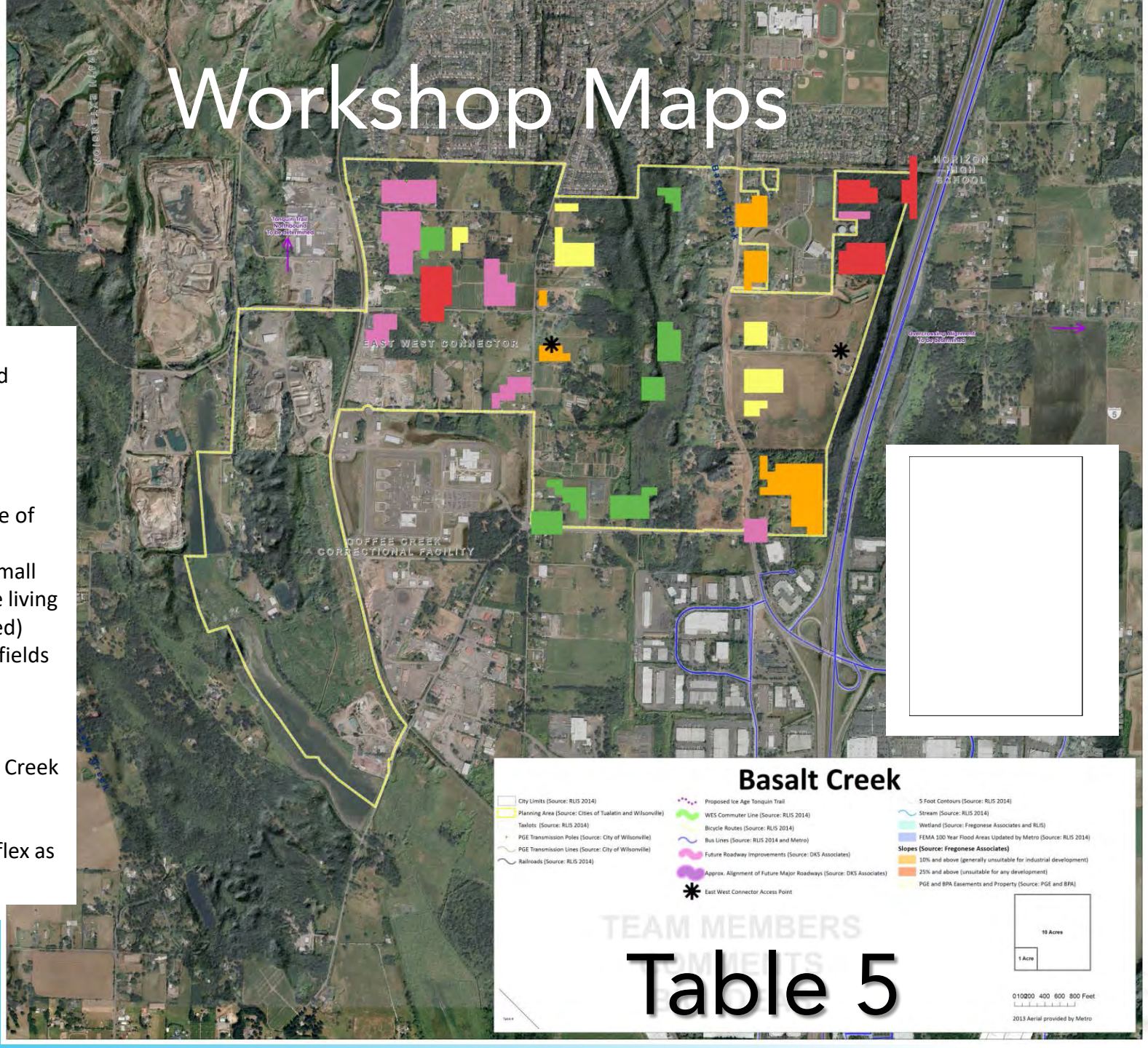
Table 4

Workshop Maps

Goals
•Maintain neighborhood continuity

Comments
•Not great for industrial warehouse land because of transportation access
•No big box, but need small scale grocery for people living in the area (Haggen-sized)
•Big demand for sports fields

Big Ideas
•WES Station
•Natural area on Basalt Creek (like Tryon Creek)
•Sports Complex
•Clean green industrial flex as buffer to residential



Workshop Maps

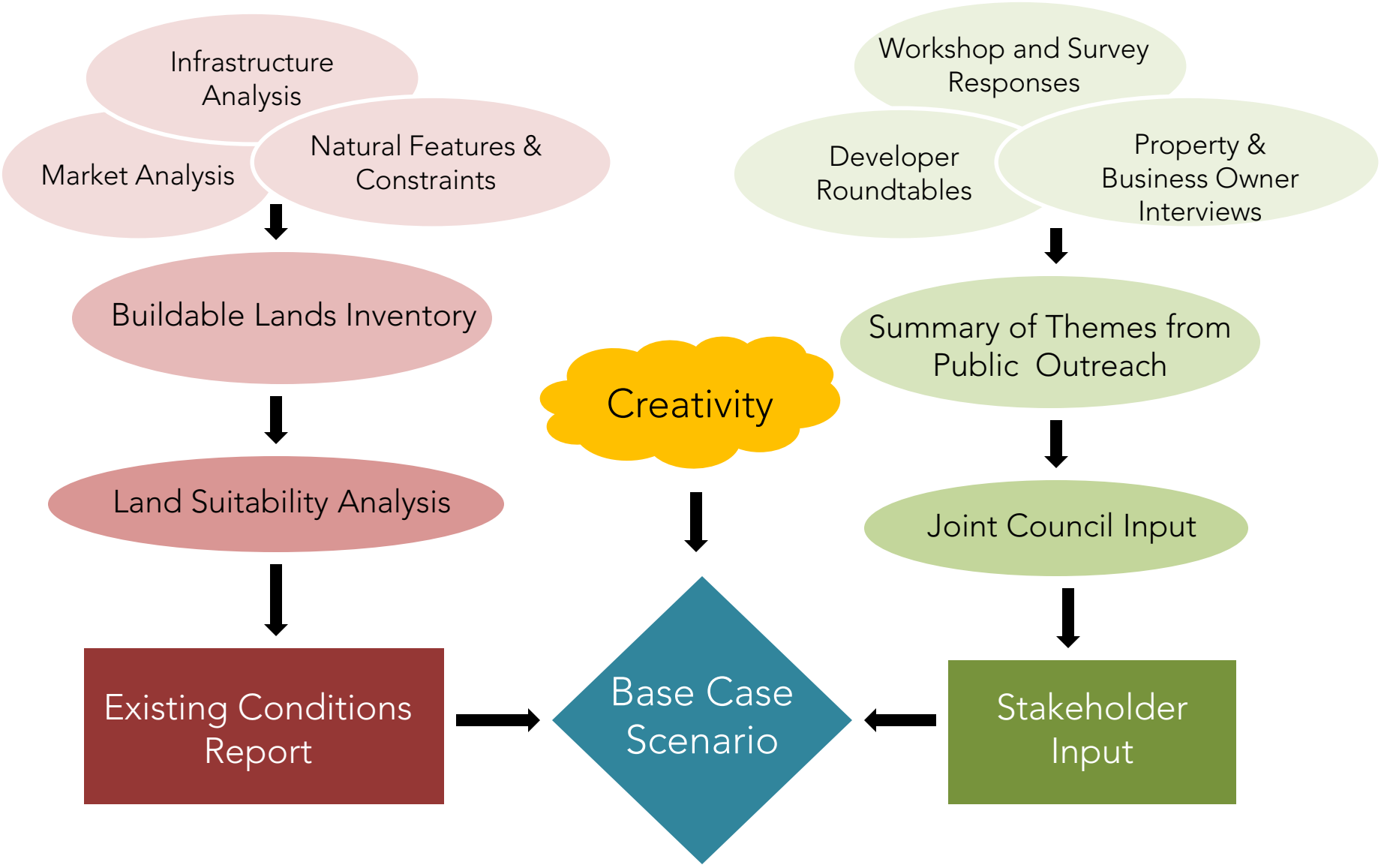
Goals
- Get people to live near their work!
- Offer more opportunities/options for sports field
- Connect neighborhood amenities/green spaces (i.e. walking/bike trails)
- Small parks in residential areas
- Maintain rural setting/provide safety/comfort

Our Ideas:
- Clustering of apartments/retail/parks
- Definitive boundaries – buffer zone (greenbelt)
- Trails, bike paths
- Neighborhood parks with multiple uses
- WES Station
- Easy access to freeway
- Community parks and gardens
- Assisted living centers
- Retail near intersection
- Industrial area down south
- G.F/E-R to ferry all residential
- Retail opportunity in front of school

TEAM MEMBERS COMMENTS

Table 6

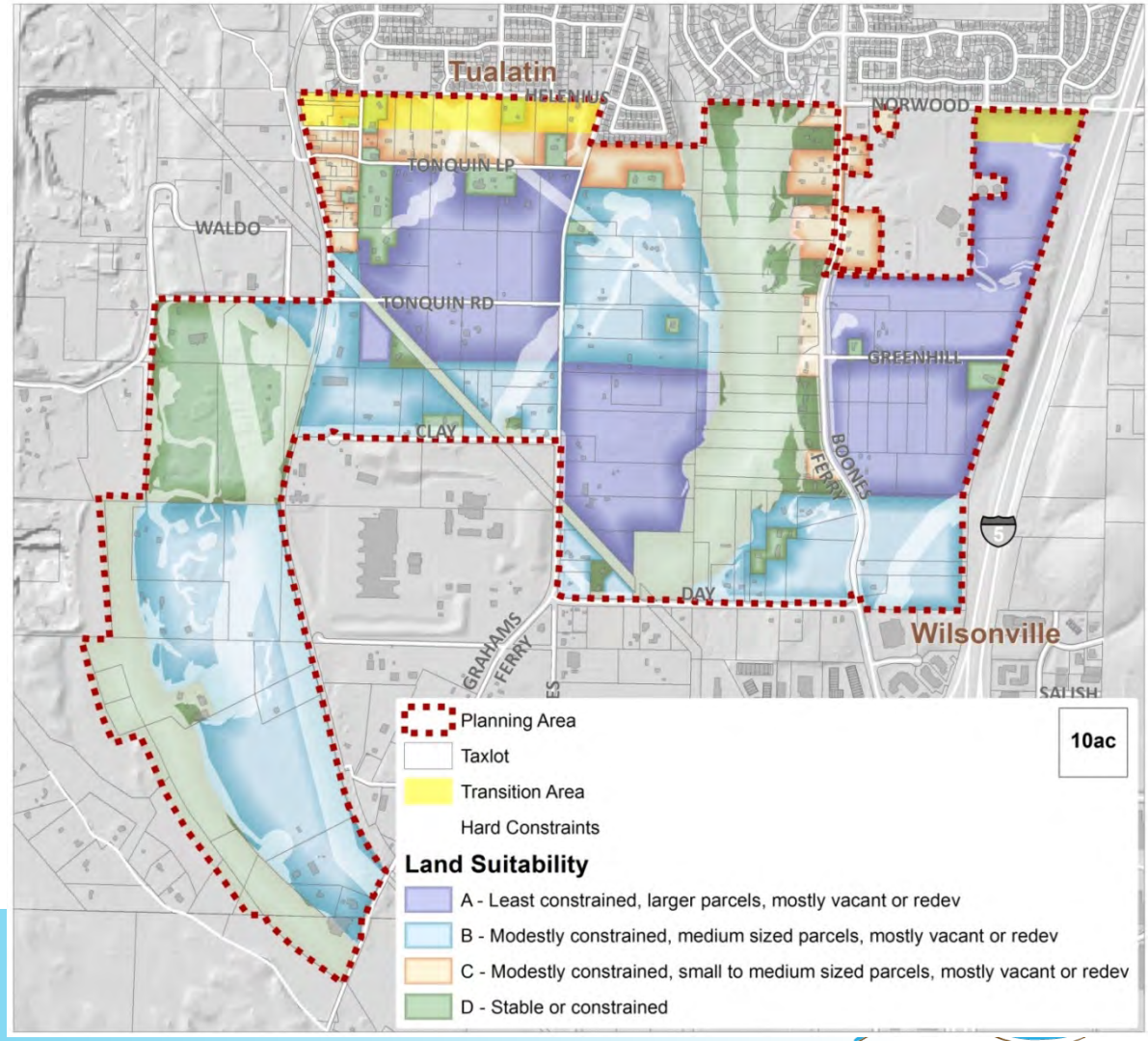
Building the Base Case Scenario



Building the Base Case

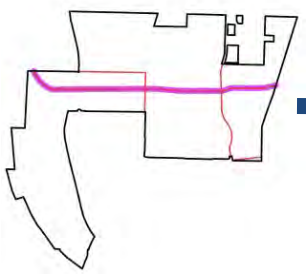
Land Suitability Analysis

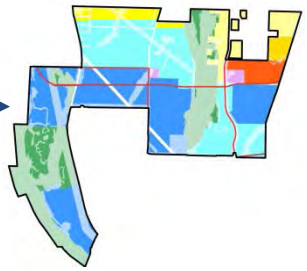
Suitability Category	Vacant Acres
A	197
B	144
C	38
D	12

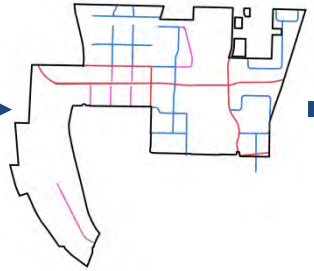


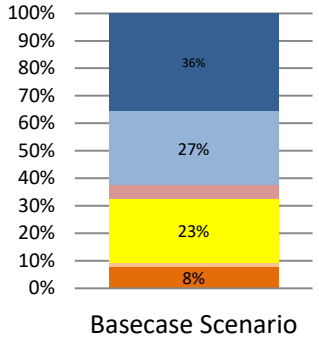
Building the Base Case

Scenario Development





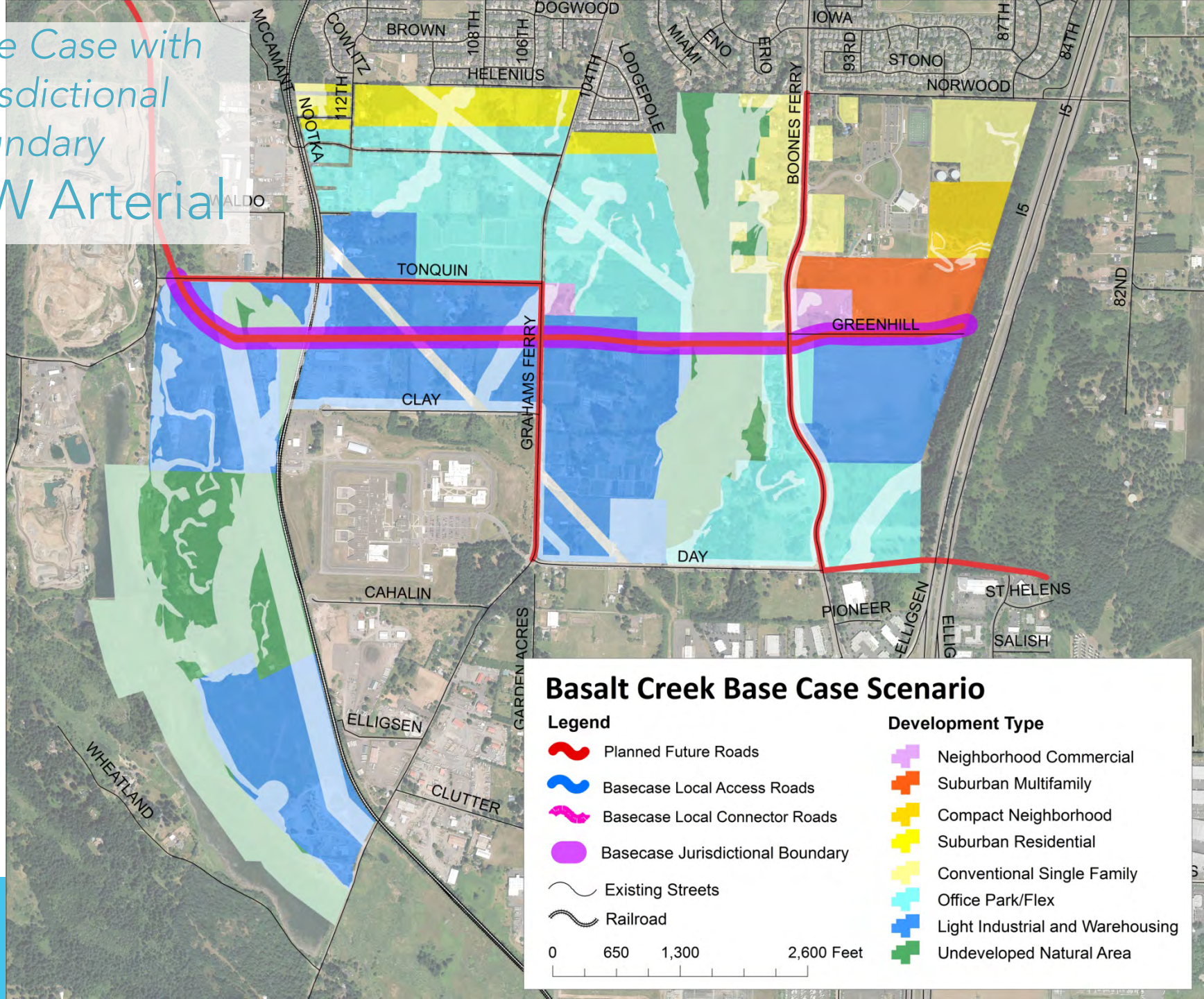




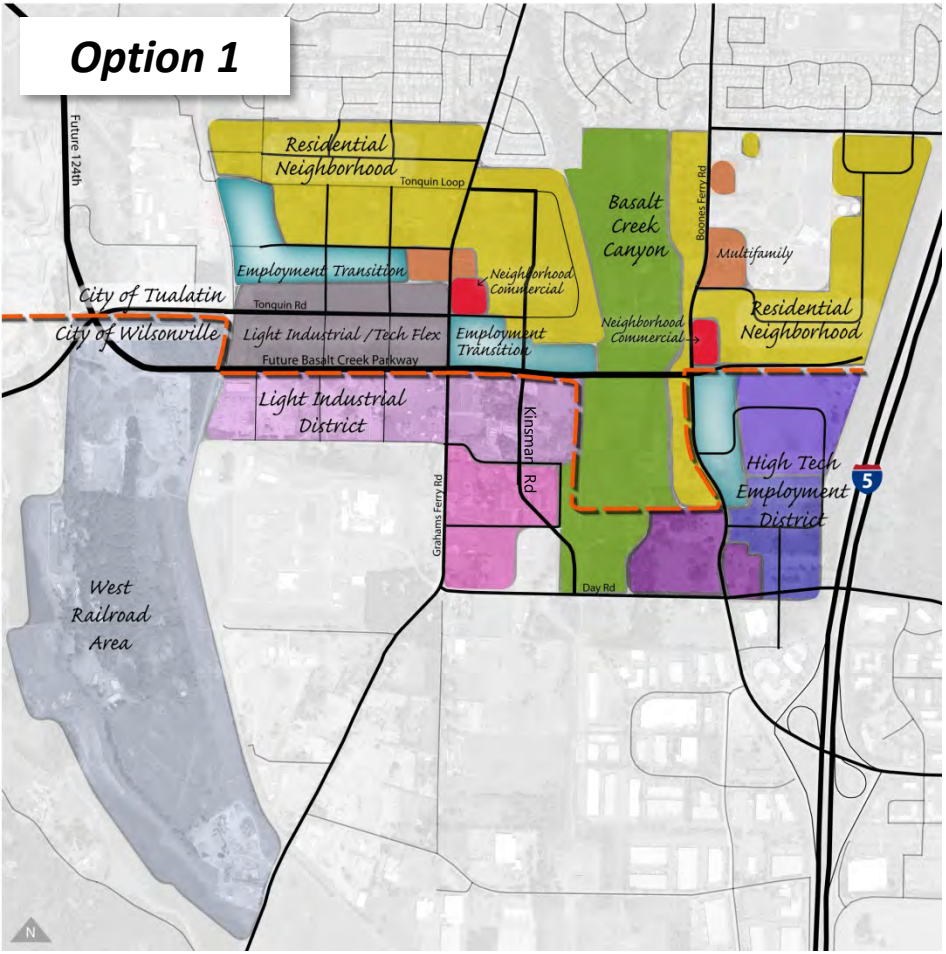
1. Base Case Jurisdictional Boundary
2. Base Case Land Use (Development Types)
3. Base Case Roads
4. Base Case Wet Infrastructure
5. Base Case Evaluation

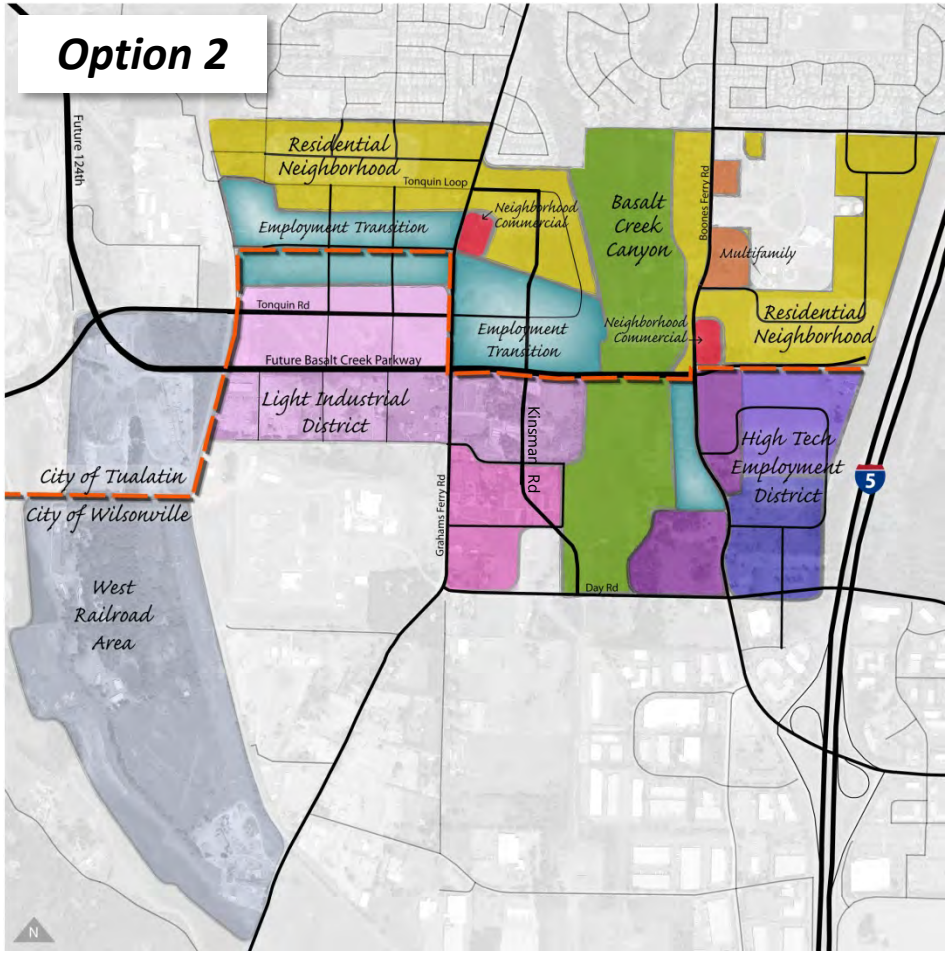
Base Case with Jurisdictional Boundary

E-W Arterial



Initial Scenarios 1 & 2

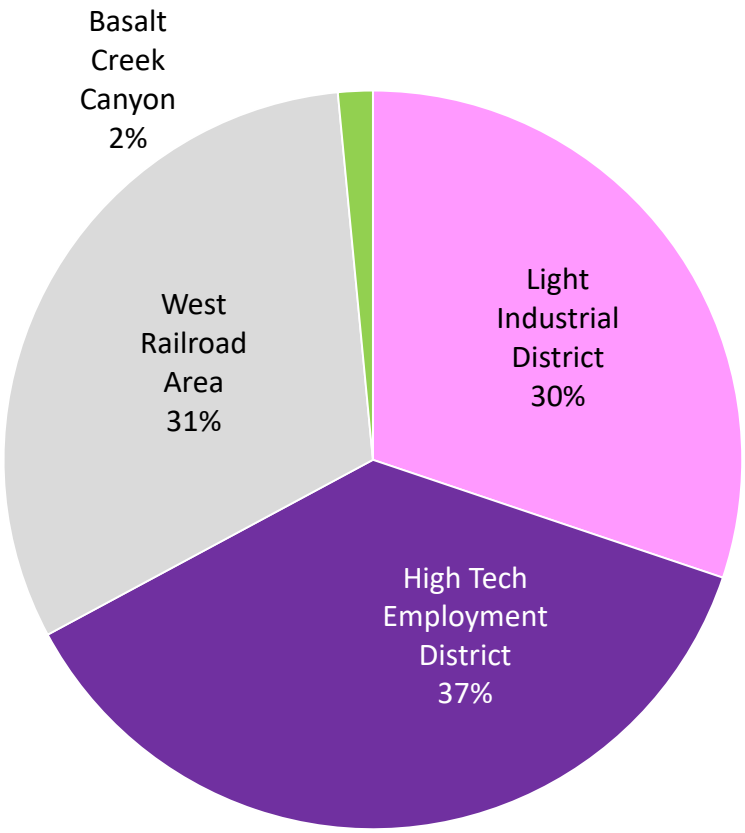




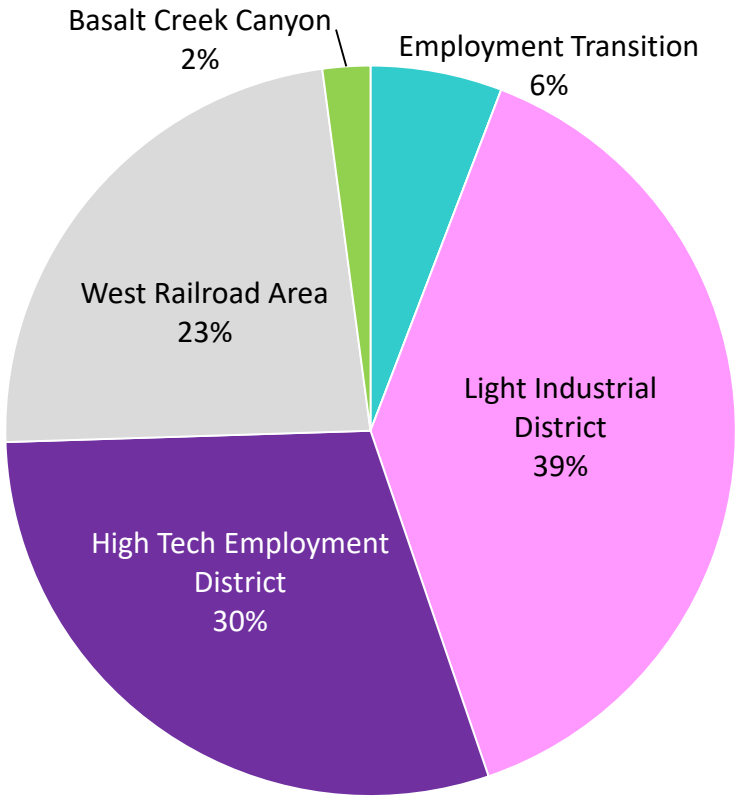
Indicators | Wilsonville Land Use Mix

* % of developable acres

Boundary Option 1



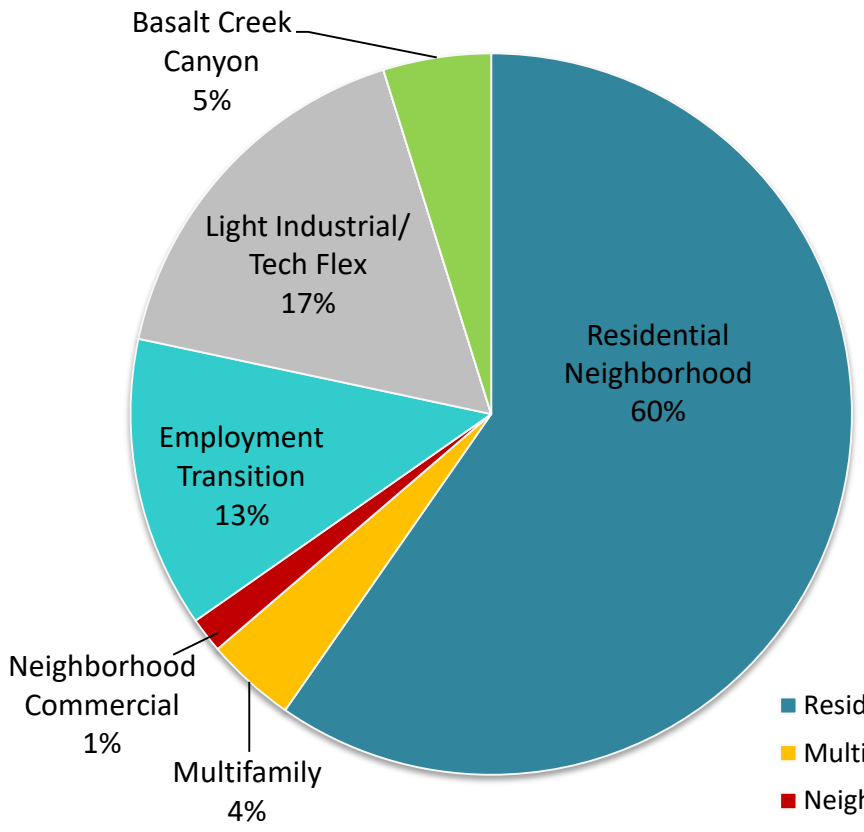
Boundary Option 2



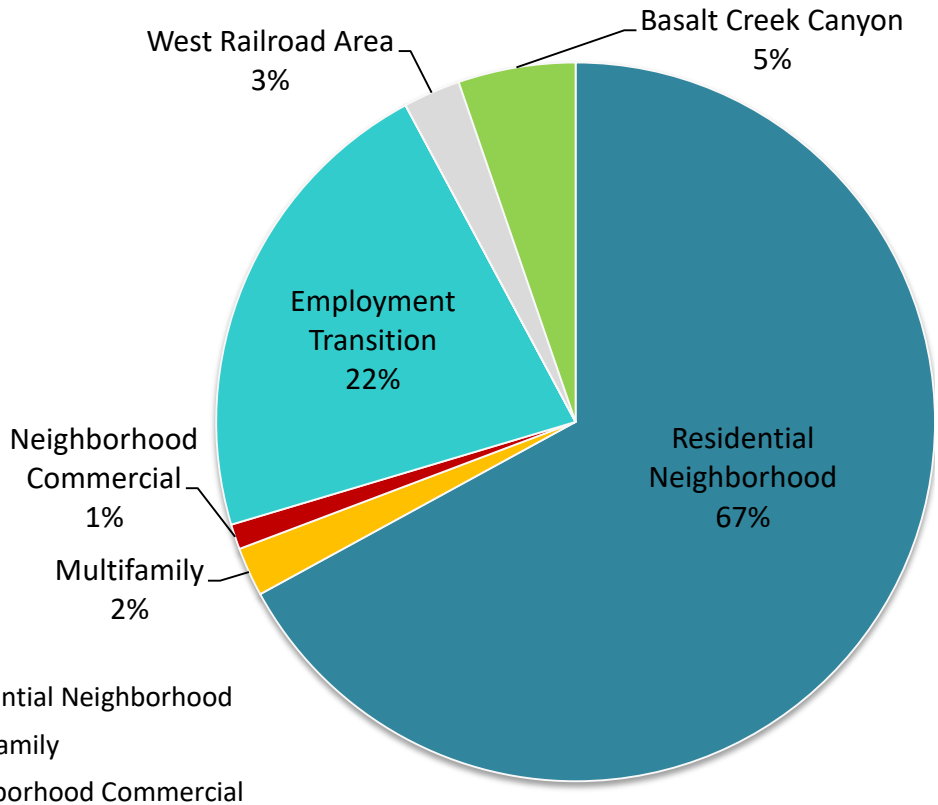
Indicators | Tualatin Land Use Mix

* % of developable acres

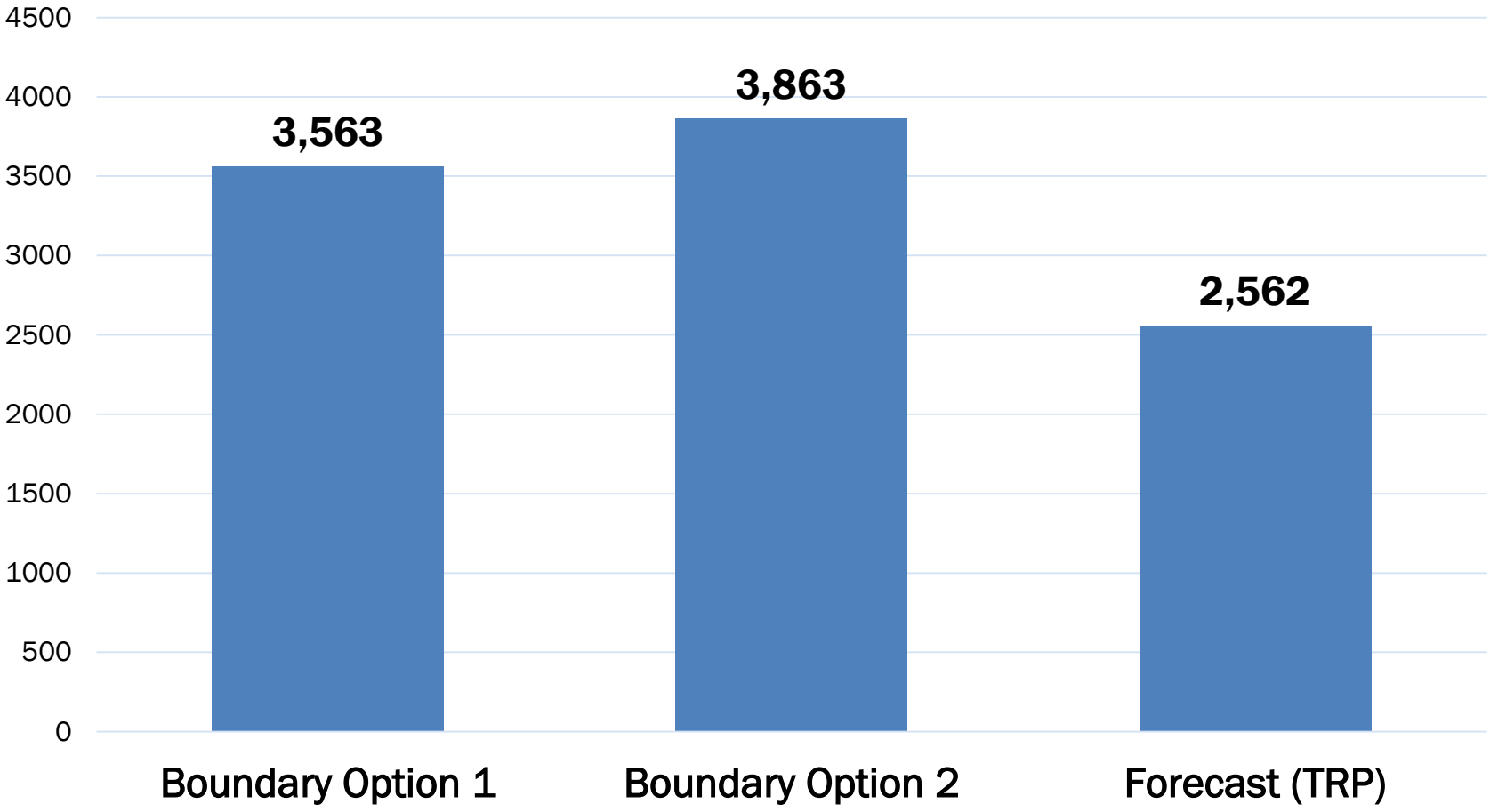
Boundary Option 1



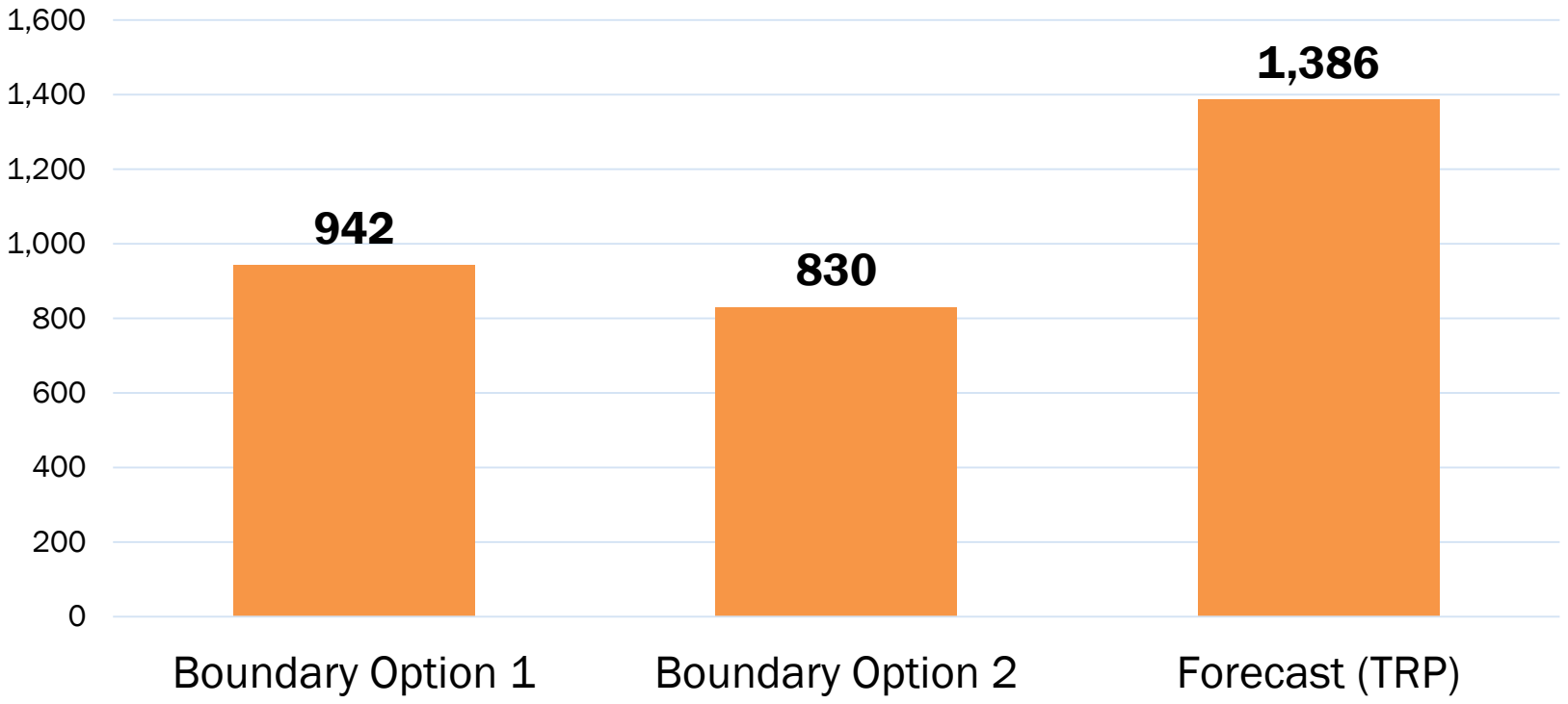
Boundary Option 2



Indicators | Number of Jobs



Indicators | Households



Land Use Scenario Objectives

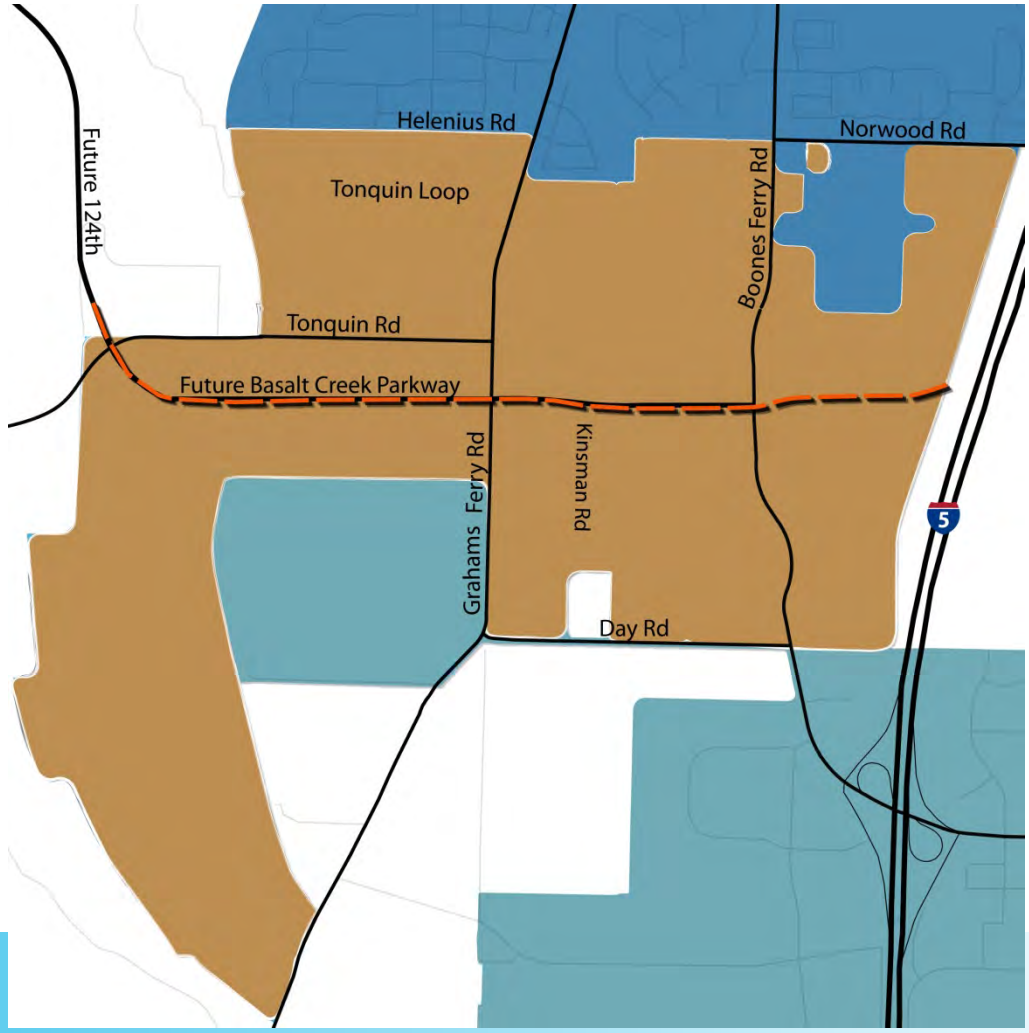
- A scenario designed around an implementable infrastructure plan
- Design principles focused on creating development forms reflective of the two cities
- Examine other boundary options that do not rely on the east west connector. Explore service agreements.
- Jurisdictional equity
- More residential for Tualatin in the north
- Consider creative solutions for transitions from employment to housing

Initial Scenario Summary

- Scenario 1 and 2 meet all regional goals and constraints
- Both provide:
  - high-quality employment and housing opportunities,
  - innovative and appropriate transition areas between residential and employment uses,
  - responsiveness to the real estate market,
  - robust and efficient infrastructure systems, and
  - development that generally "pays its way."

Base Case Boundary Option

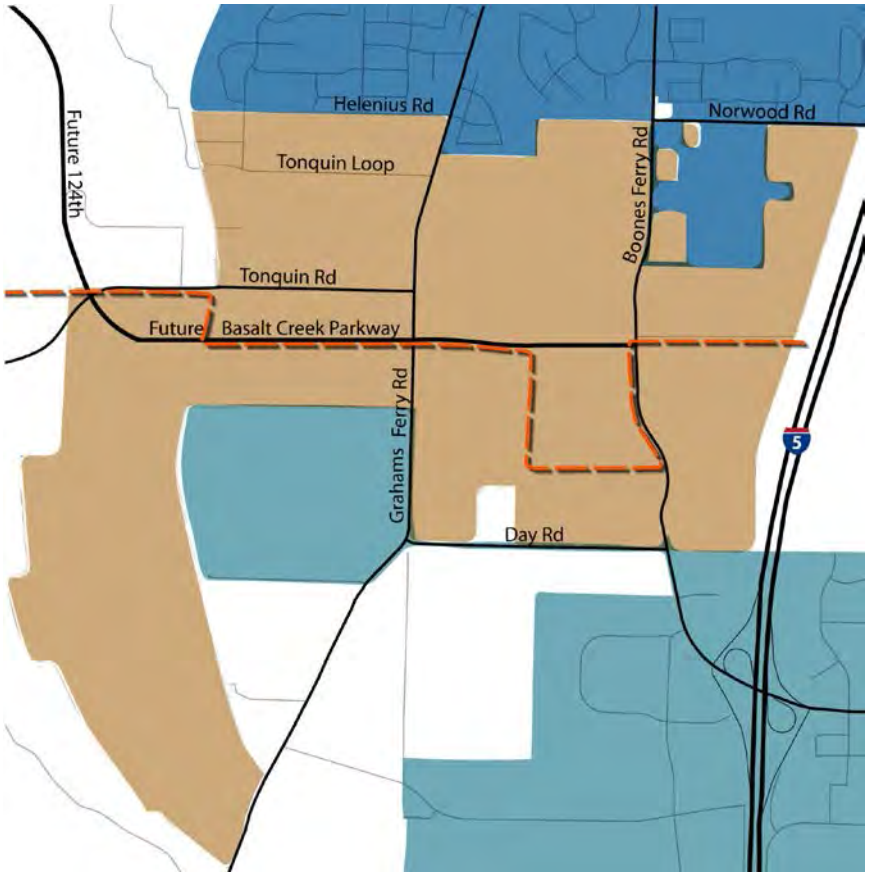
December 2, 2014 Joint Council Meeting



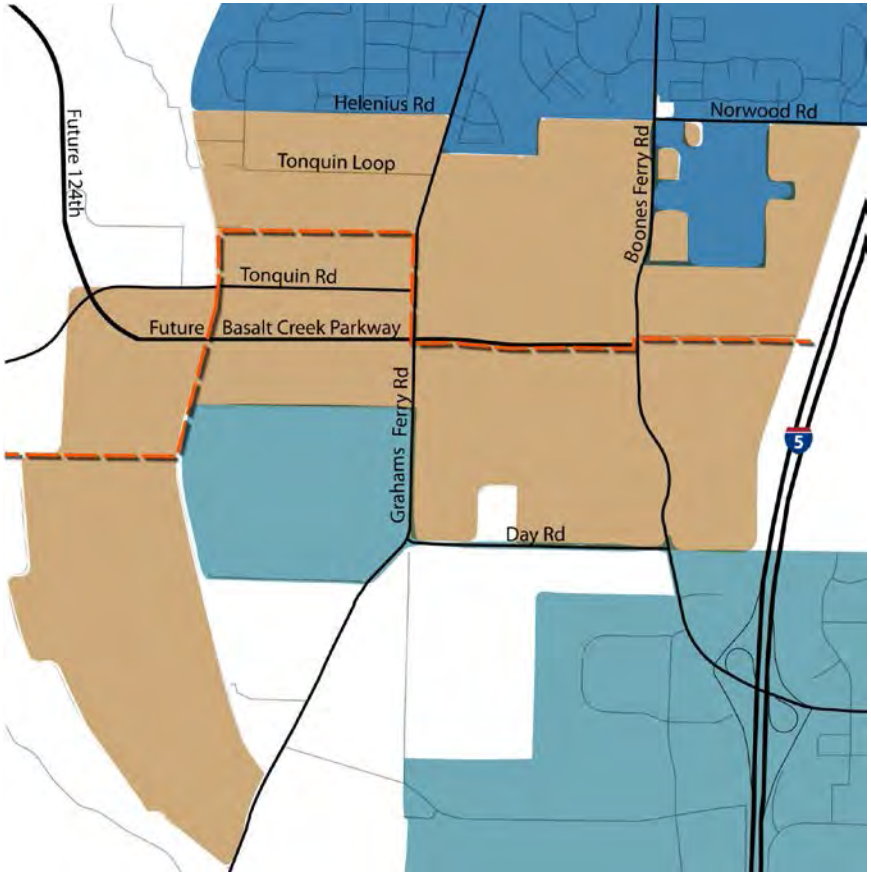
Basalt Creek Concept Plan

Boundary Options 1 and 2

June 17, 2015 Joint Council Meeting



Boundary Option 1

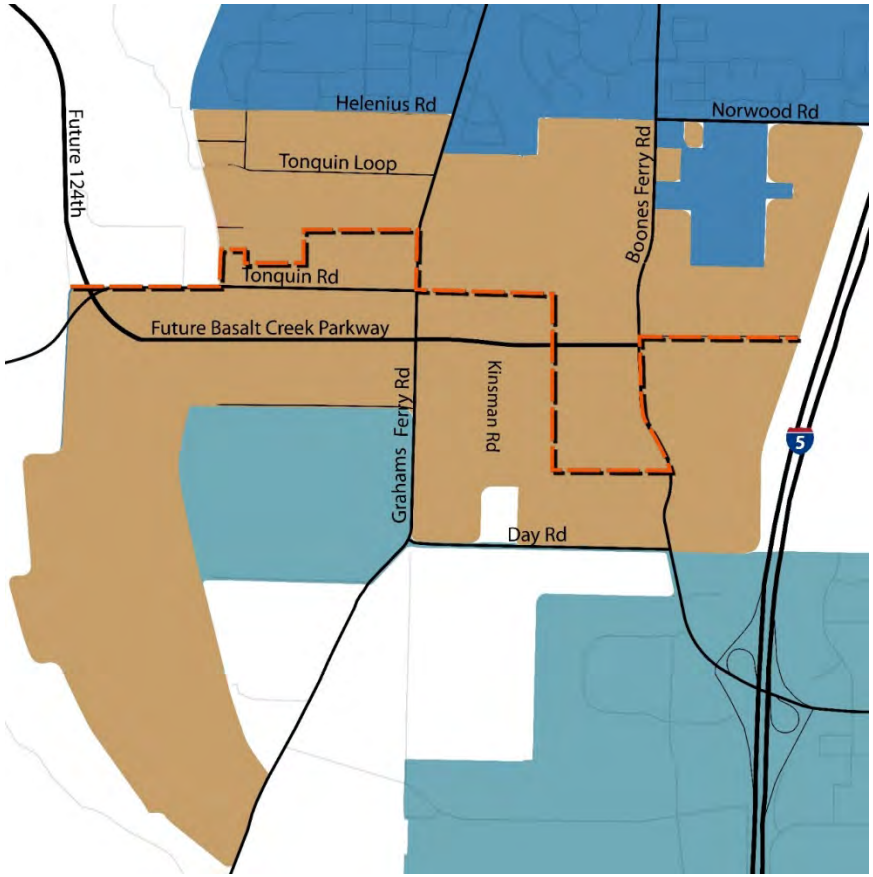


Boundary Option 2

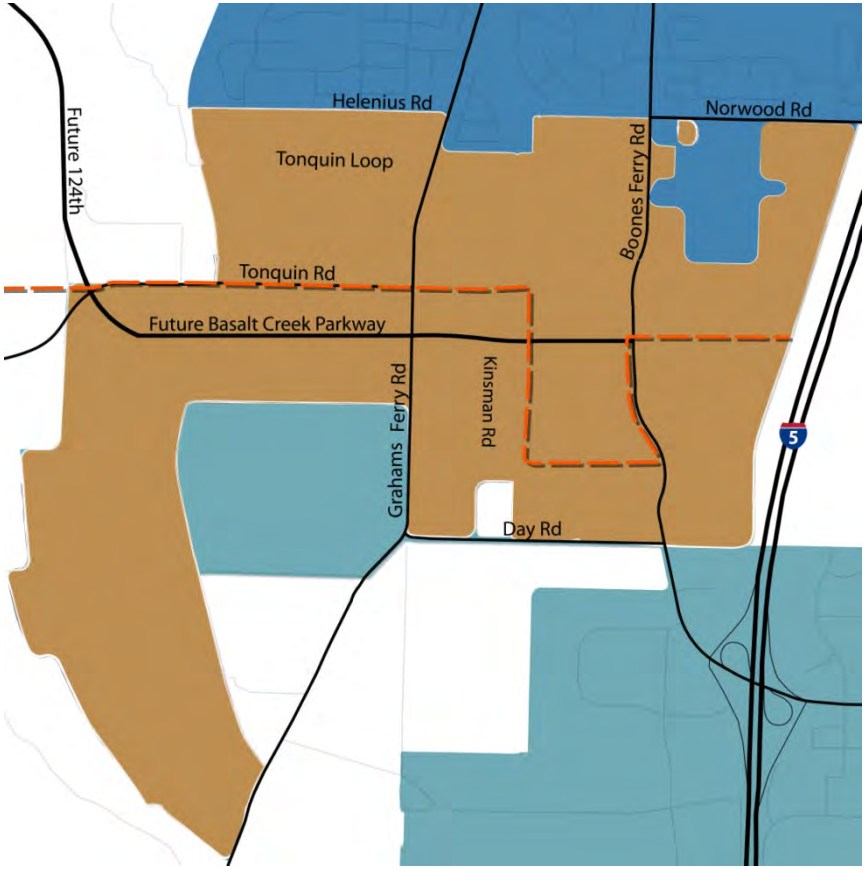
Basalt Creek Concept Plan

Boundary Options 3 and 4

August 2015 Individual Work Sessions



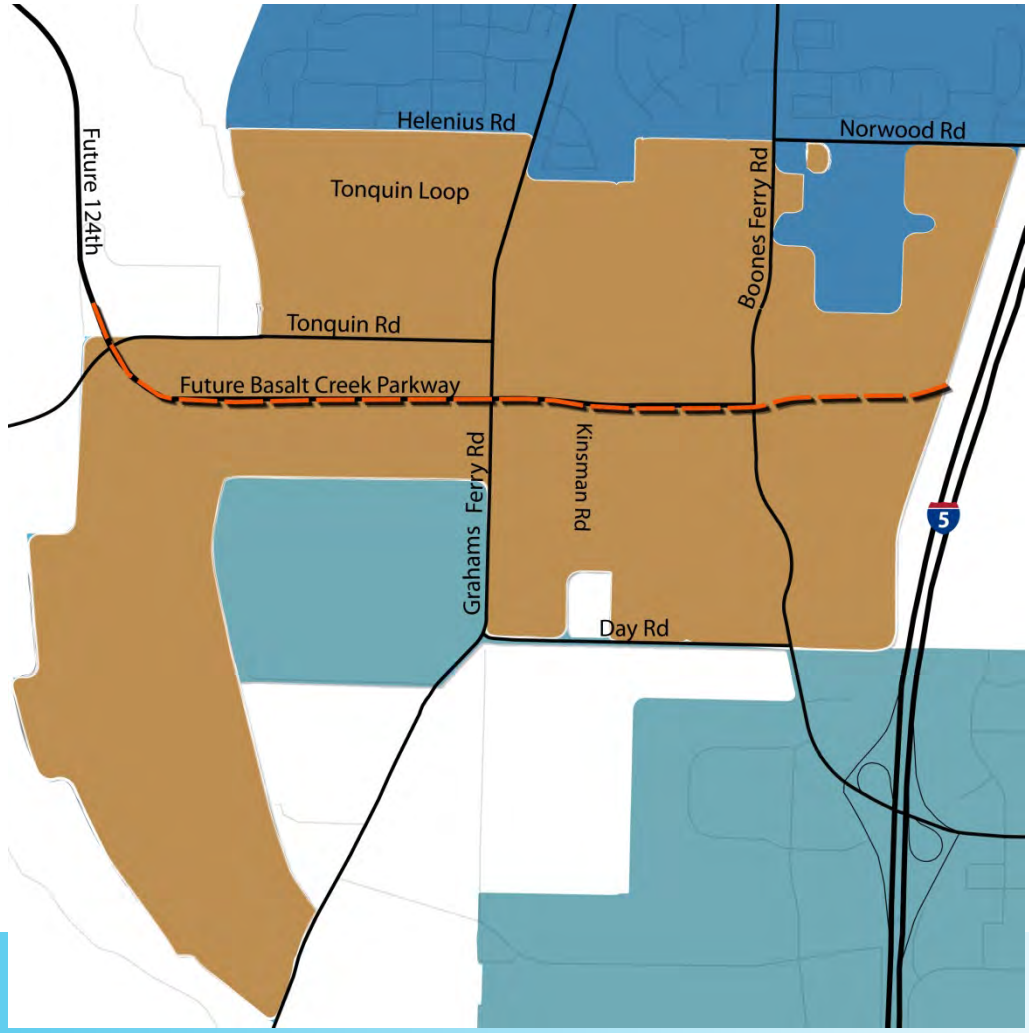
Boundary Option 3



Boundary Option 4

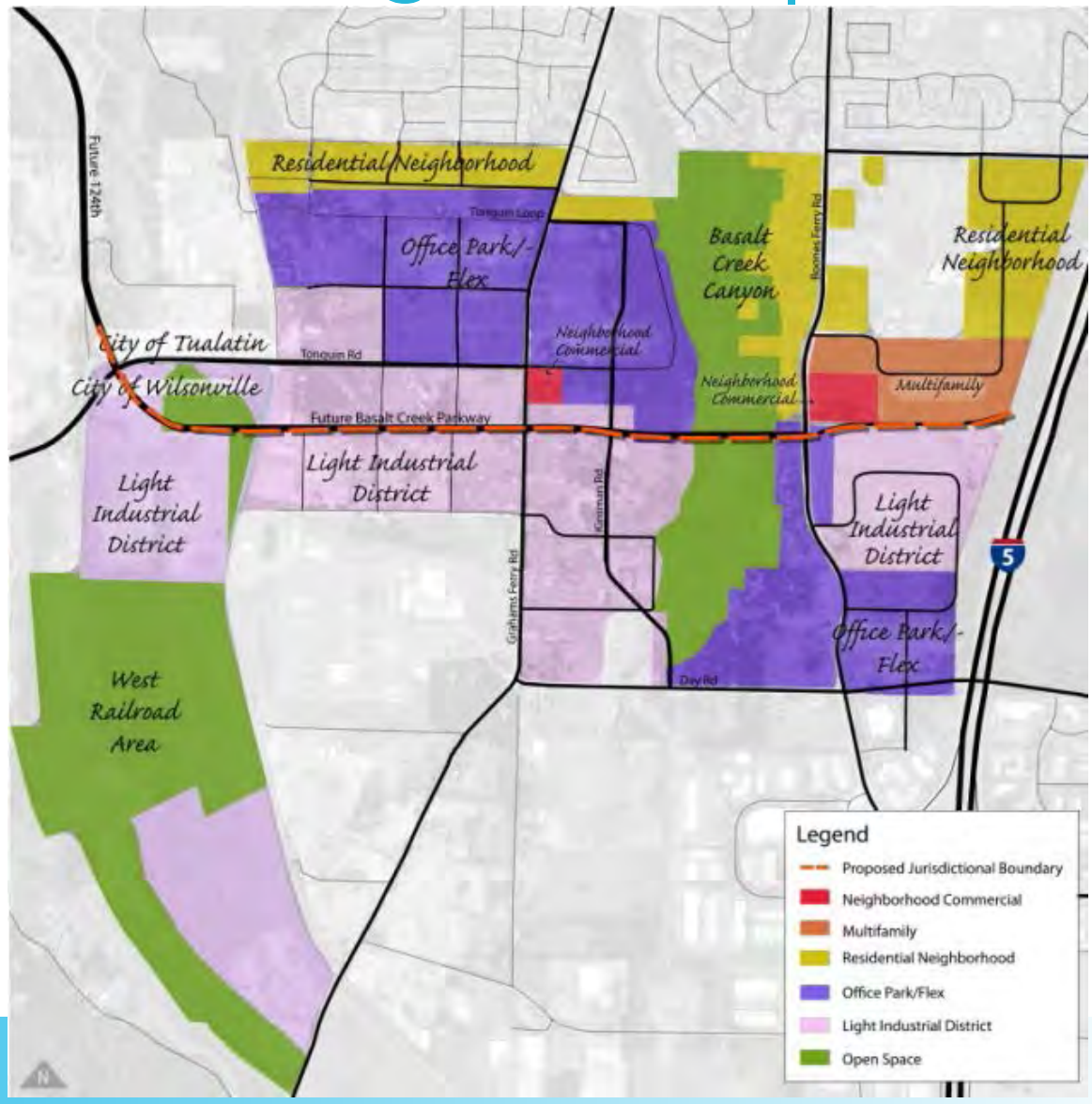
Basalt Creek Concept Plan

Final Jurisdictional Boundary follows the Basalt Creek Parkway



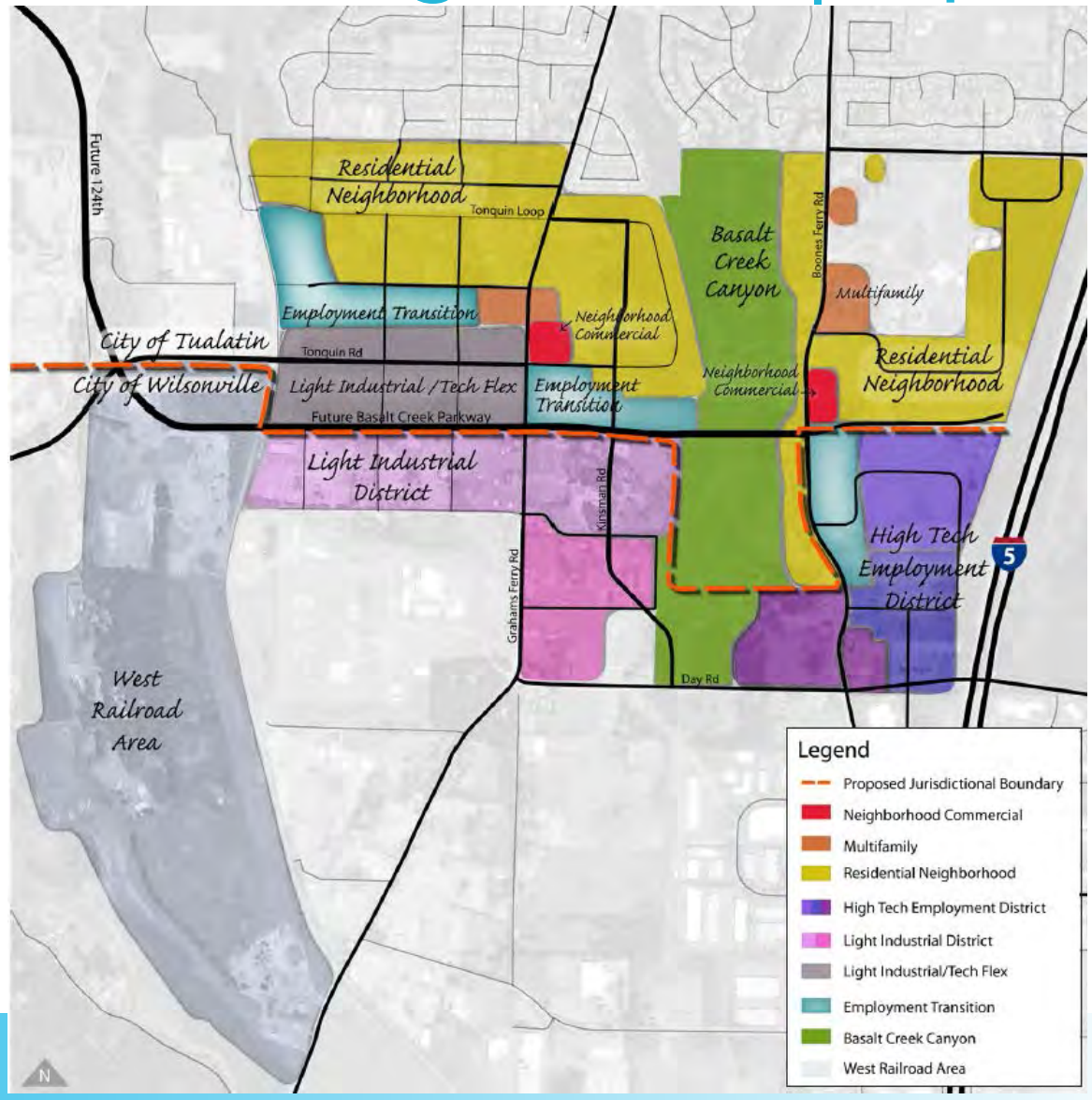
Basalt Creek Concept Plan

Scenario Progression | Base Case



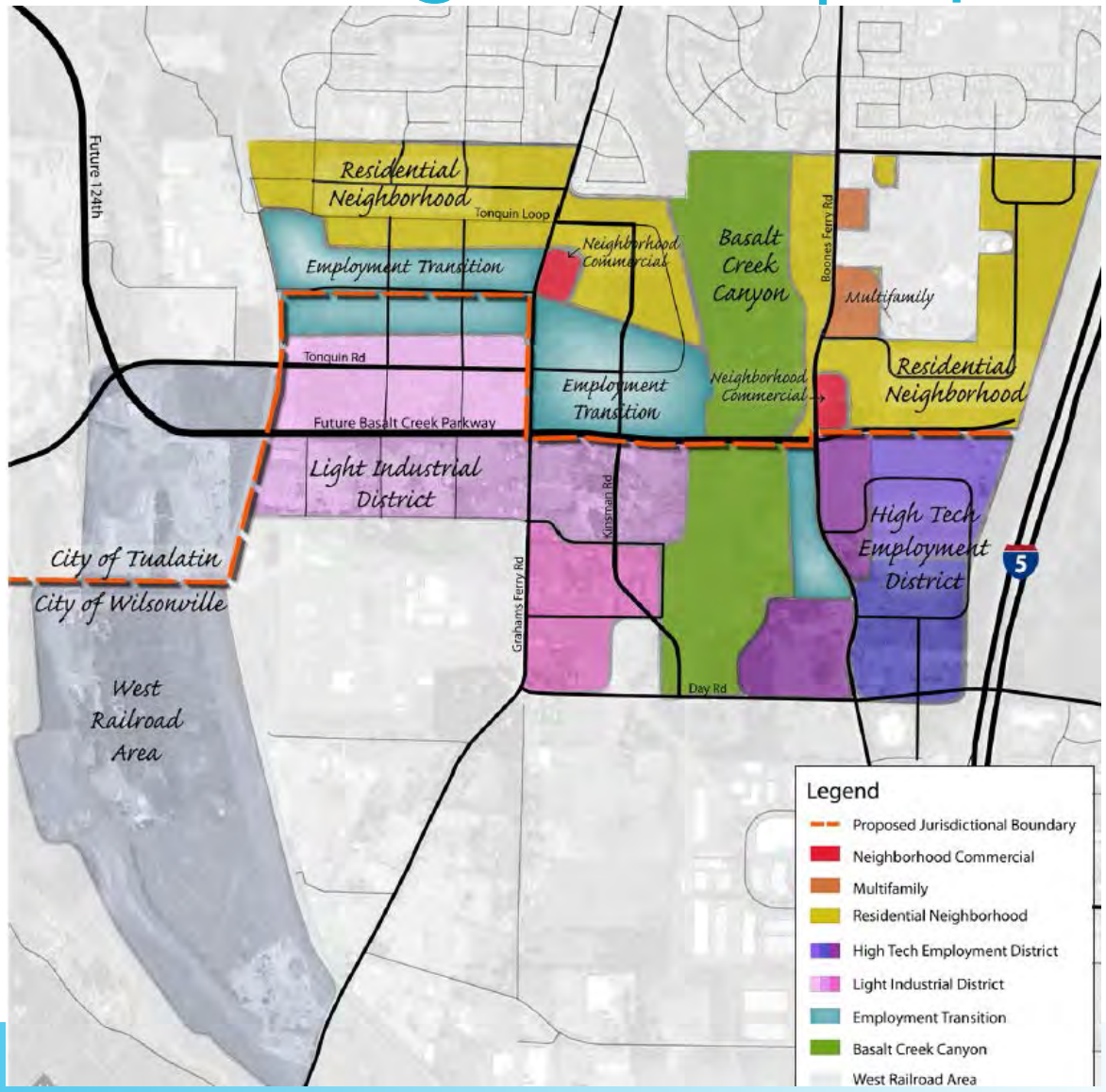
Basalt Creek Concept Plan

Scenario Progression | Option 1

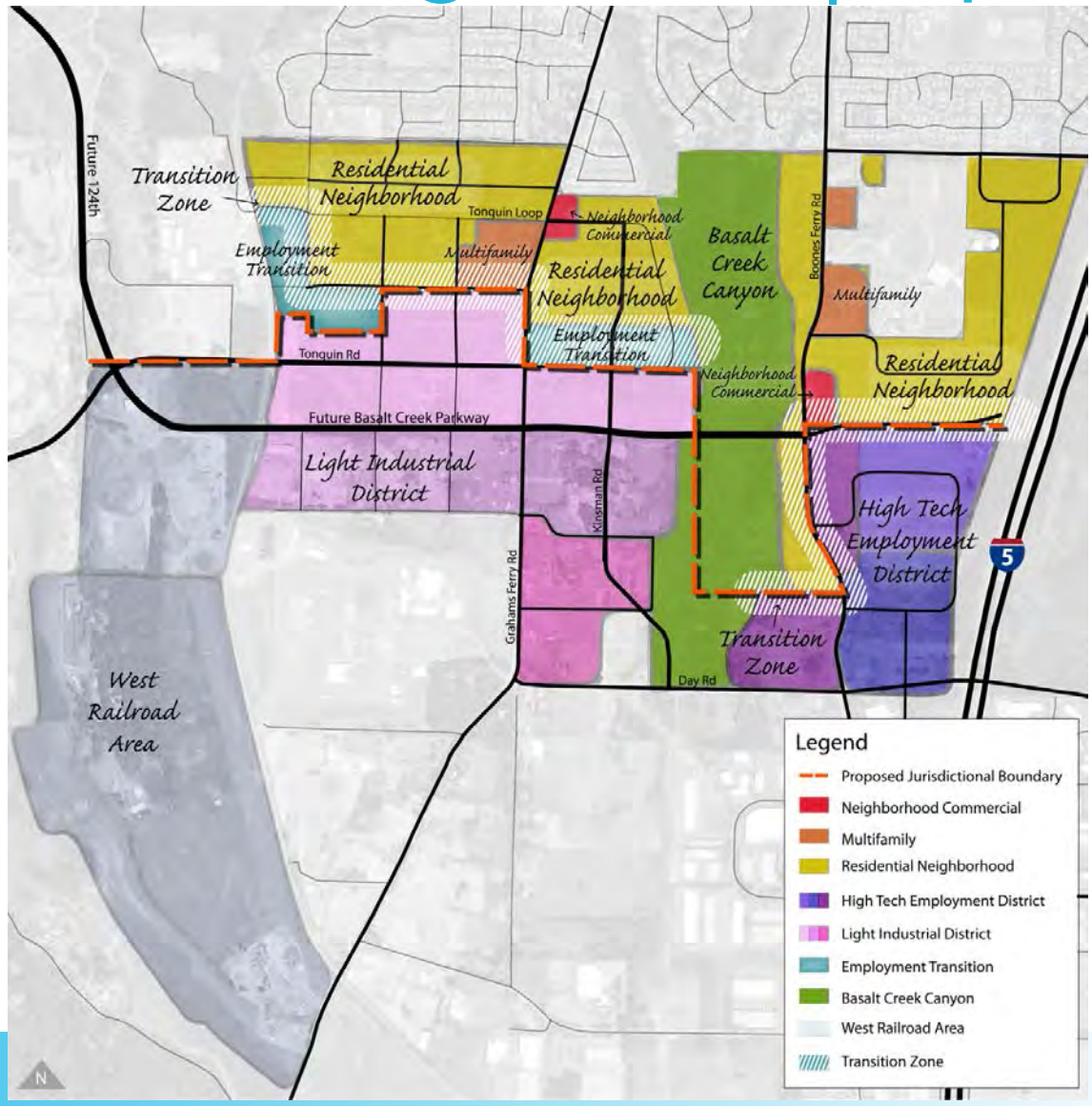


Basalt Creek Concept Plan

Scenario Progression | Option 2

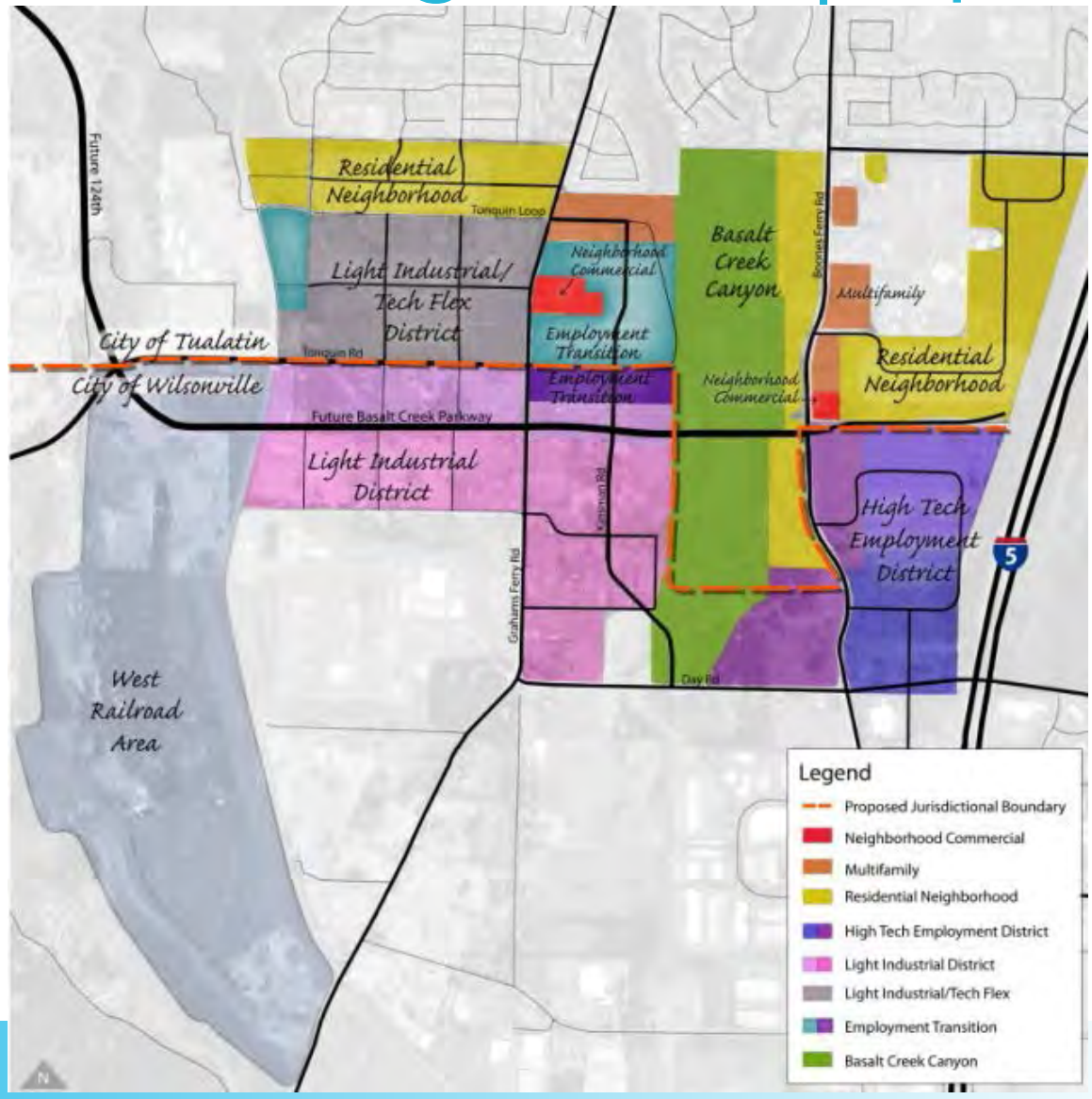


Scenario Progression | Option 3



Basalt Creek Concept Plan

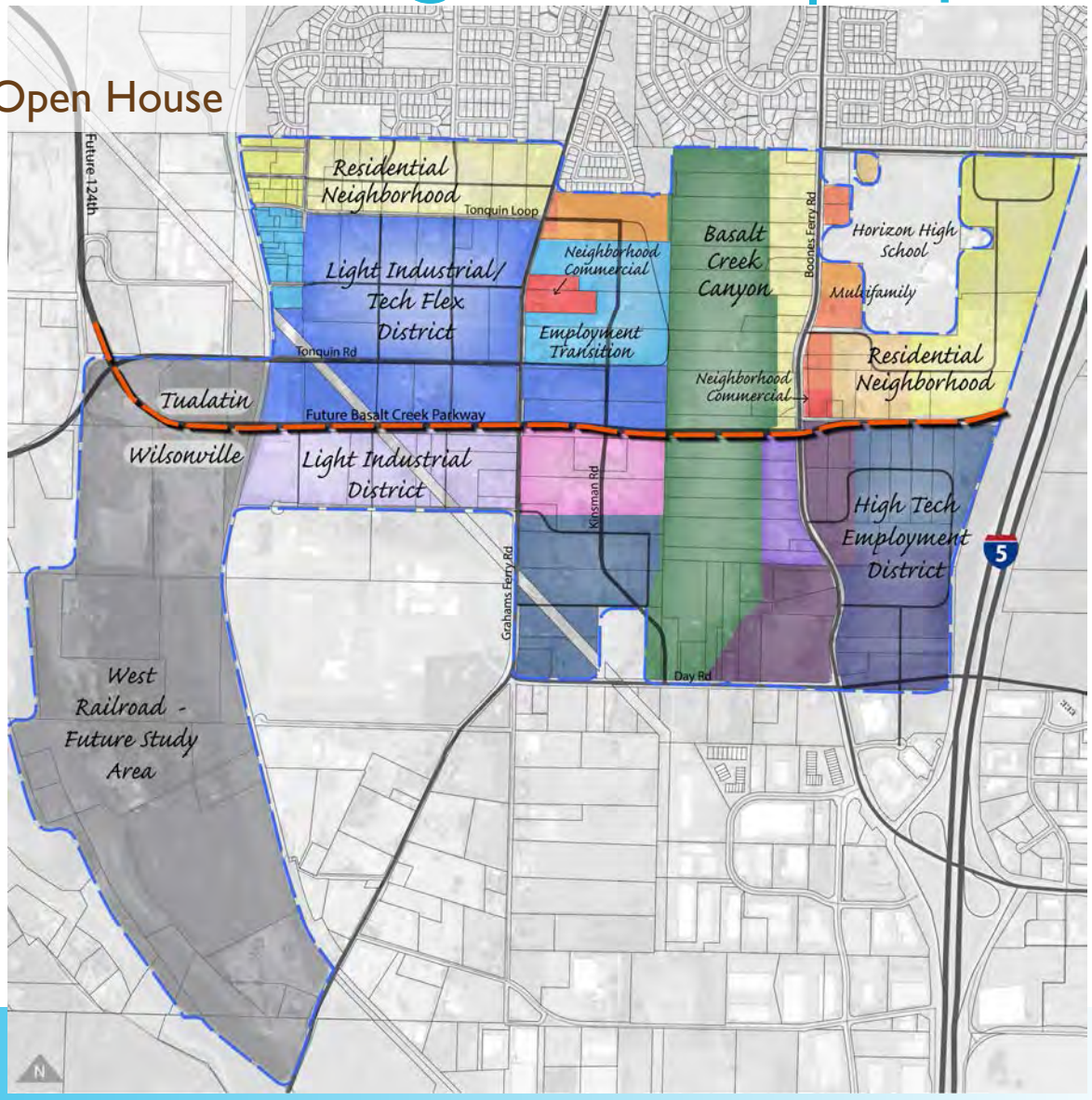
Scenario Progression | Option 4



Basalt Creek Concept Plan

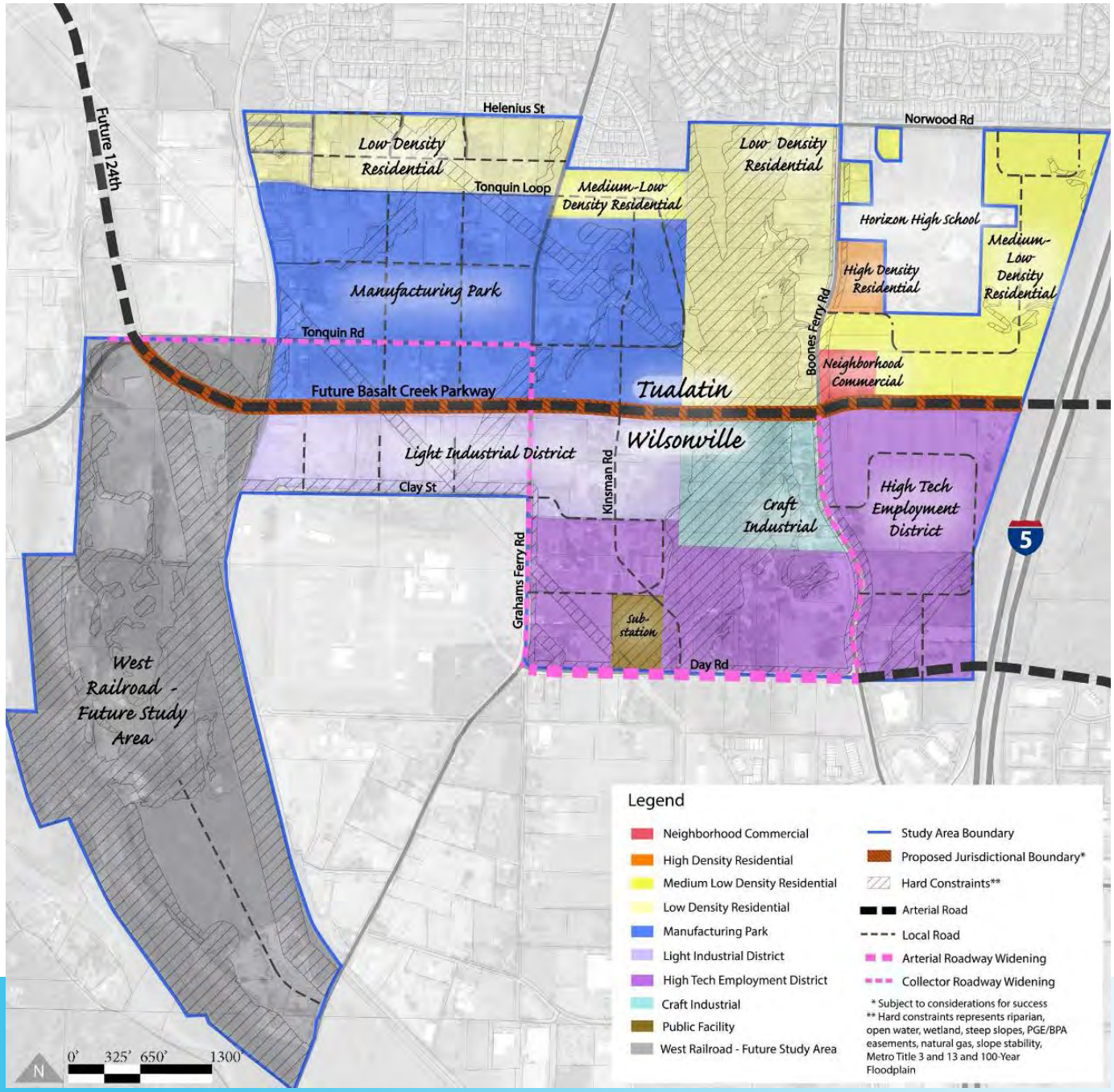
Scenario Progression | Option 5

Option 5
April 2016 Open House



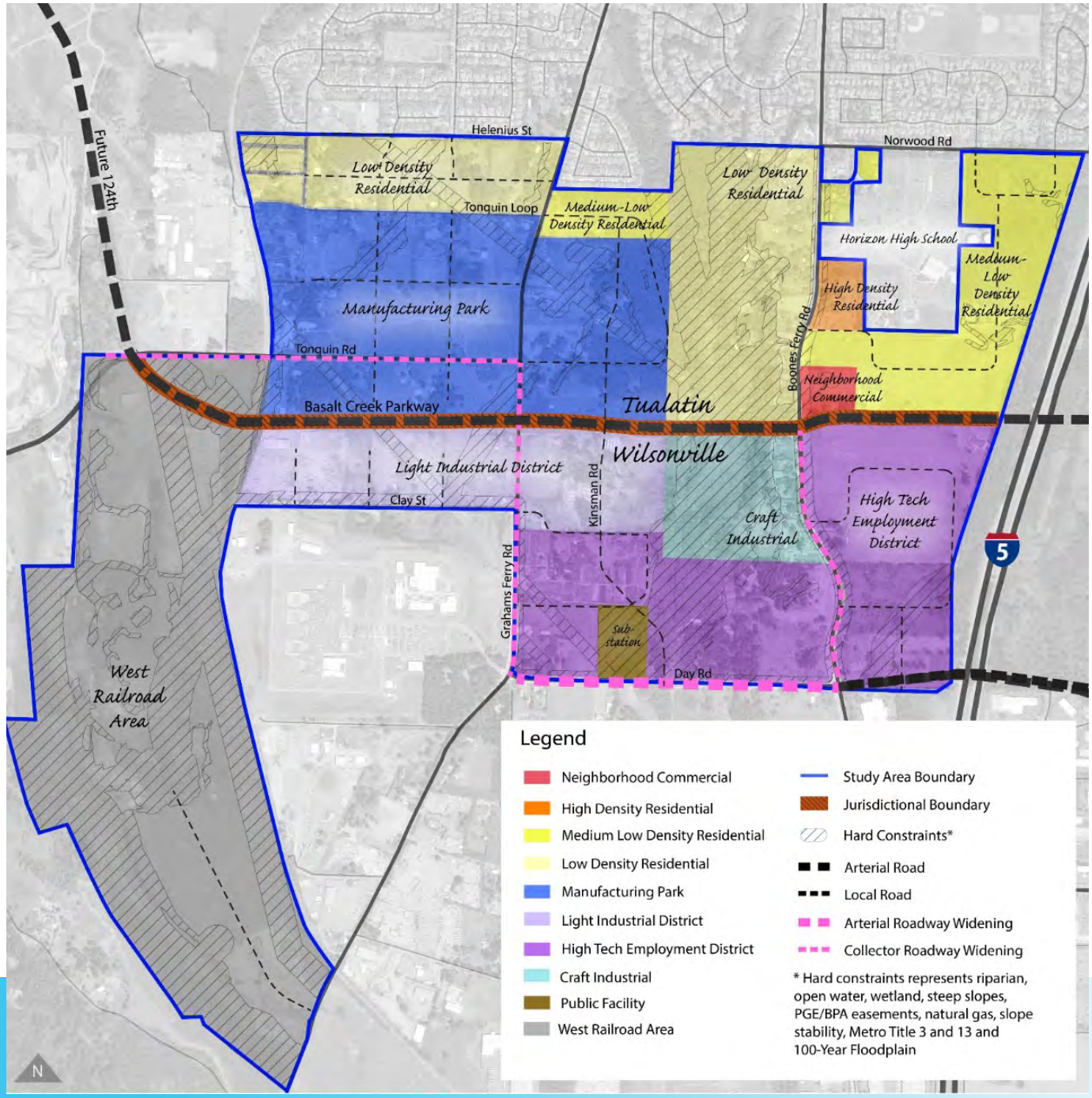
Basalt Creek Concept Plan

Preferred Land Use Concept | Sept 2016



Basalt Creek Concept Plan

Concept Plan Map
April 2018



Basalt Creek Concept Plan

Boundary Option 1	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	6	58	55	-	-	-	-	-	34	34	-	-	-	-
Small Lot Single Family (T)	10	87	80	-	-	-	-	-	50	50	-	-	-	-
Small and Medium Lot Single Family (T)	59	401	369	-	-	-	-	-	232	232	-	-	-	-
Large Lot Single Family (T)	50	292	268	-	-	-	-	-	169	169	-	-	-	-
Small Pad Retail (T)	3	-	-	36	36	-	-	-	26	-	26	-	-	-
Light Industrial / Tech Flex (T)	34	-	-	689	24	132	533	-	263	-	17	49	197	-
Employment Transition (T)	26	-	-	773	-	773	-	-	286	-	-	286	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	201	906	836	1,498	60	905	533	-	1,102	526	43	335	197	-
Wilsonville														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7	36	34	154	37	48	67	2	92	21	27	18	25	1
Single User Manufacturing (W)	21	-	-	253	3	160	63	27	95	-	2	59	23	10
Single User Warehousing (W)	27	-	-	317	8	110	-	199	120	-	5	41	-	74
High Tech Single User (W)	15	-	-	532	5	234	293	-	199	-	4	87	108	-
Multi User Manufacturing Small Tenants (W)	19	-	-	316	4	59	218	36	119	-	3	22	80	13
Multi User Manufacturing Large Tenants (W)	38	-	-	282	9	13	-	260	107	-	7	5	-	96
Employment Low - Area of Special Concern (W)	59	-	-	119	4	6	-	110	46	-	3	2	-	41
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	188	36	34	1,973	69	630	641	633	776	21	50	233	237	234
Total All	389	942	870	3,471	129	1,535	1,174	633	1,878	548	94	568	434	234

Boundary Option 2	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	2	17	16	-	-	-	-	-	10	10	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	43	292	269	-	-	-	-	-	169	169	-	-	-	-
Large Lot Single Family (T)	49	289	266	-	-	-	-	-	167	167	-	-	-	-
Small Pad Retail (T)	2	-	-	20	20	-	-	-	14	-	14	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	34	-	-	993	-	993	-	-	368	-	-	368	-	-
Light Industrial / Tech Flex - Low Density (T)	4	1	1	29	1	6	23	-	12	1	1	2	8	-
Open Space	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	155	756	697	1,043	21	999	23	-	833	439	15	370	8	-
Wilsonville														
Live-Work (W)	-	-		-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	13.4	68.66	64.54	291.70	70.80	90.33	127.04	3.53	174.07	40.66	51.68	33.42	47.01	1.30
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.1	-	-	585.09	13.89	203.71	-	367.50	221.48	-	10.14	75.37	-	135.97
High Tech Single User (W)	21.3	-	-	766.61	6.98	337.62	422.02	-	286.16	-	5.09	124.92	156.15	-
Multi User Manufacturing Small Tenants (W)	30.6	-	-	503.04	6.39	93.78	345.83	57.03	188.43	-	4.67	34.70	127.96	21.10
Multi User Manufacturing Large Tenants (W)	37.7	-	-	282.12	8.93	13.09	-	260.10	107.60	-	6.52	4.84	-	96.24
Employment Low - Area of Special Concern (W)	55.1	-	-	111	4	5	-	103	42	-	3	2	-	38
Open Space	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	235	69	65	2,814	114	917	964	820	1,123	41	83	339	357	303
Total All	390	825	762	3,857	134	1,916	986	820	1,955	480	98	709	365	303

Boundary Option 3	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	6	124	117	-	-	-	-	-	74	74	-	-	-	-
Townhomes (T)	5	46	43	-	-	-	-	-	27	27	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	56	382	352	-	-	-	-	-	222	222	-	-	-	-
Large Lot Single Family (T)	38	223	205	-	-	-	-	-	129	129	-	-	-	-
Small Pad Retail (T)	3	-	-	35	35	-	-	-	25	-	25	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	12	-	-	365	-	365	-	-	135	-	-	135	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	144	865	799	400	35	365	-	-	664	503	25	135	-	-
Wilsonville														
Live-Work (W)	-	-		-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	16	84	79	357	87	111	156	4	213	50	63	41	58	2
Single User Manufacturing (W)	22	-	-	274	3	173	69	29	103	-	2	64	25	11
Single User Warehousing (W)	50	-	-	585	14	204	-	367	221	-	10	75	-	136
High Tech Single User (W)	22	-	-	792	7	349	436	-	296	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	40	-	-	663	8	124	456	75	249	-	6	46	169	28
Multi User Manufacturing Large Tenants (W)	33	-	-	250	8	12	-	230	95	-	6	4	-	85
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	187	84	79	2,922	127	972	1,117	706	1,177	50	93	360	413	261
Total All	331	949	878	3,322	162	1,337	1,117	706	1,841	553	118	495	413	261

Boundary Option 4	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	4	84	79	-	-	-	-	-	50	50	-	-	-	-
Townhomes (T)	9	79	74	-	-	-	-	-	47	47	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	312	287	-	-	-	-	-	181	181	-	-	-	-
Large Lot Single Family (T)	23	135	124	-	-	-	-	-	78	78	-	-	-	-
Small Pad Retail (T)	1	-	-	17	17	-	-	-	12	-	12	-	-	-
Light Industrial / Tech Flex (T)	41	-	-	846	29	162	655	-	323	-	21	60	242	-
Employment Transition (T)	20	-	-	600	-	600	-	-	222	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	168	699	647	1,463	45	763	655	-	965	407	33	282	242	-
Wilsonville														
Live-Work (W)	-	-		-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7.6	39.05	36.70	165.89	40.26	51.37	72.25	2.00	99.00	23.12	29.39	19.01	26.73	0.74
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.0	-	-	584.80	13.88	203.61	-	367.32	221.37	-	10.13	75.33	-	135.91
High Tech Single User (W)	22.1	-	-	792.27	7.21	348.92	436.15	-	295.74	-	5.26	129.10	161.37	-
Multi User Manufacturing Small Tenants (W)	24.8	-	-	407.55	5.18	75.98	280.18	46.21	152.66	-	3.78	28.11	103.67	17.10
Multi User Manufacturing Large Tenants (W)	33.4	-	-	249.98	7.91	11.60	-	230.47	95.34	-	5.77	4.29	-	85.27
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	163	39	37	2,475	77	865	857	675	967	23	57	320	317	250
Total All	331	738	683	3,937	123	1,627	1,512	675	1,932	431	90	602	559	250

Boundary Option 5	Acreage	Housing Units/Gross Acre	Housing Units	Households/ Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	ing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin																						
Garden Apartments 2-story (T)	4	21.13	84	19.87	79	-	-	0%	-	0%	-	0%	-	0%	-	50	12.52	50	-	-	-	-
Townhomes (T)	9	9.16	79	8.61	74	-	-	0%	-	0%	-	0%	-	0%	-	47	5.43	47	-	-	-	-
Small Lot Single Family (T)	10	8.92	89	8.21	82	-	-	0%	-	0%	-	0%	-	0%	-	52	5.17	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	6.80	312	6.25	287	-	-	0%	-	0%	-	0%	-	0%	-	181	3.94	181	-	-	-	-
Large Lot Single Family (T)	22	5.88	128	5.41	118	-	-	0%	-	0%	-	0%	-	0%	-	74	3.41	74	-	-	-	-
Small Pad Retail (T)	1	-	-	-	-	11.31	17	100%	17	0%	-	0%	-	0%	-	12	8.26	-	12	-	-	-
Light Industrial / Tech Flex (T)	72	-	-	-	-	20.41	1,468	3%	50	19%	282	77%	1,136	0%	-	561	7.80	-	37	104	420	-
Employment Transition (T)	20	-	-	-	-	29.47	600	0%	-	100%	600	0%	-	0%	-	222	10.90	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	7	-	3%	-	20%	-	77%	-	0%	-	-		-	-	-	-	-
Open Space	10	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Tualatin Total	194		692		640		2,085		67		882		1,136		-	1,199	6.17	403	49	326	420	-
Wilsonville																						
Live-Work (W)	-	15	-	14	-	15	-	100%	-	0%	-	0%	-	0%	-	-		-	-	-	-	-
Employment Transition (W)	1	5	6	5	6	22	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Single User Manufacturing (W)	22	-	-	-	-	12	274	1%	3.03	63%	173	25%	69	11%	29	103	4.59	-	2	64	25	11
Single User Warehousing (W)	50	-	-	-	-	12	585	2%	13.88	35%	204	0%	-	63%	367	221	4.42	-	10	75	-	136
High Tech Single User (W)	22	-	-	-	-	36	792	1%	7.21	44%	349	55%	436	0%	-	296	13.40	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	14	-	-	-	-	16	222	1%	2.83	19%	41	69%	153	11%	25	83	6.17	-	2	15	57	9
Multi User Manufacturing Large Tenants (W)	22	-	-	-	-	7	163	3%	5.17	5%	8	0%	-	92%	151	62	2.86	-	4	3	-	56
Employment Low - Area of Special Concern (W)	-	-	-	-	-	2	-	3%	-	5%	-	0%	-	92%	-	-		-	-	-	-	-
Open Space	6	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Wilsonville Total	137		6		6		2,064		39		783		669		572	781	5.72	4	28	290	248	212
Total All	331		698		646		4,149		106		1,665		1,805		572	1,980	5.98	407	77	616	668	212

Land Use Concept	Acreage	Housing Units/Gross Acre	Housing Units	Households/ Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	Warehousing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin																						
High Density Residential	3.36	21.13	71	19.87	67	-	-	0%	-	0%	-	0%	-	0%	-	42	12.52	42	-	-	-	-
Medium-Low Density Residential	59.83	6.80	407	6.25	374	-	-	0%	-	0%	-	0%	-	0%	-	236	3.94	236	-	-	-	-
Low Density Residential	24.83	5.88	146	5.41	134	-	-	0%	-	0%	-	0%	-	0%	-	85	3.41	85	-	-	-	-
Neighborhood Commercial	2.89	-	-	-	-	11.31	33	100%	32.66	0%	-	0%	-	0%	-	24	8.26	-	24	-	-	-
Manufacturing Park	92.95	-	-	-	-	20.41	1,897	3%	65	19%	364	77%	1,468	0%	-	725	7.80	-	47	135	543	-
Open Space	10.37	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Tualatin Total	194.23		624		575		1,929		98		364		1,468		-	1,111	5.72	362.4	71.2	134.8	543.0	-
Wilsonville																						
Craft Industrial	1.25	5	6	5	6	21.70	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Light Industrial District	35.30	-	-	-	-	16.46	581	1%	7.39	19%	108	69%	400	11%	66	218	6.17	-	5	40	148	24
High Tech Employment District	94.47	-	-	-	-	20.28	1,916	1%	24.01	45%	870	38%	733	15%	289	717	7.59	-	18	322	271	107
Open Space	5.62	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Wilsonville Total	136.64		6		6		2,524		38		987		1,144		356	951	6.96	3.8	27.7	365.1	423.3	131.5
Total All	331		630		581		4,453		136		1,351		2,611		356	2,062	6.23	366.2	99.0	499.9	966.2	131.5

Metro Title 11 Compliance Memorandum

In response to a shortfall in industrial land, a 2004 study[1] identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, and parcel size; distribution to regional transportation, necessary services, accessibility; and proximity to existing like uses.

Two areas of land identified in Metro Ordinance No. 04-1040B as good candidates for industrial development now comprise the Basalt Creek planning area. The main section of the Basalt Creek area (referred to in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to relatively flat parcels and its proximity to the I-5 corridor and to an existing industrial area in Wilsonville. The ordinance states "…the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses."

3.07.1120 Planning for Areas Added to the UGB

A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to section 3.07.1110(c)(7) or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection (c) by the date specified by the ordinance or by section 3.07.1455(b)(4) of this chapter.

B. If the concept plan developed for the area pursuant to section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration 3.07 - 60 (Updated on 01/06/16) and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.

C. Comprehensive plan provisions for the area shall include:

1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;

Findings:

In 2004, Metro identified the Basalt Creek area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed Ordinance 4-1040B to annex the area into the existing Urban Growth Boundary (UGB), to ensure sufficient regional supply of land for employment growth over the next twenty years.

In 2011 four jurisdictions entered into an Intergovernmental Agreement for the purposes of jointly planning the Basalt Creek Concept Plan area. The Cities of

[1] As documented in the Existing Conditions Report Appendix A to the Basalt Creek Concept Plan, the study referenced is an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro's 2002 Urban Growth Report).

Tualatin and Wilsonville, Washington County and Metro all signed the agreement and reaffirmed this commitment when the IGA was reinstated in September of 2016. The reinstatement and the original IGA are included in this document as Attachment A.

The original IGA in 2011 identified that the partner agencies would consider both Basalt Creek and the West Railroad area as single concept plan called the Basalt Creek Planning Area. The Cities and the County agreed to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be a benefit to the County, Cities and their residents.
Basalt Creek planning area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

In the most recent Metro forecast for the area (Gamma Version provided at TAZ level), Basalt Creek planning area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). Details regarding forecast can be found in Appendix A starting on page 17. The Buildable Lands Analysis (see Appendix E) influenced the most appropriate locations for employment-based land uses within the planning area. See Section *Basalt Creek Concept Plan* beginning on page 7

Basalt Creek Concept Plan land use designations are consistent with Ordinance 4-1040B. The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses. See a Figure 8 *Basalt Creek Land Use Concept Map* in the plan document. Further description of the land uses continues under *Jurisdictional Boundary, Land Use and Development* on page 29.

While the major purpose of the area is to provide land for employment opportunities, the Basalt Creek Concept Plan also includes some residential areas to the north and northeast of the proposed jurisdictional boundary, which will be in the City of Tualatin following adoption. Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the planning area. These land use designations were further refined,

and appropriate densities selected to provide for regional employment capacity and housing while limiting traffic congestion.

The mix of housing types proposed was designed to coordinate with existing adjacent residential neighborhoods. The mix includes low, medium-low and high-density housing, which provides the opportunity for a range of different housing types, tenure and prices. See Table 3 *Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction* for a breakdown of buildable acreage and density by land use designation in the plan document.

It is not necessary for this designation to be removed from the residential land already identified in the northern portion of the of the Basalt Creek area upon adoption of the Concept Plan. Ordinance 4-1040B allowed for land north of the "South Alignment" of the connector right of way to be designated Outer Neighborhood.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;

   Findings: Basalt Creek Concept Plan establishes a new jurisdictional boundary between Tualatin and Wilsonville in order to determine which parts of the planning area can be annexed into and served by each city in the future. Both cities comprehensive plans require annexation prior to or simultaneous with a development application. The Basalt Creek Concept Plan includes a provision that this area is added to existing urban services agreements. Ensuring service provision is also a requirement of City of Wilsonville code and a component of the Urban Planning Area Agreements each City has with Washington County. City of Tualatin's development code (Section 31.067) currently calls out an annexation procedure 'to be used in conjunction with Metro Code 3.08 and Oregon Revised Statutes for annexing territory to the City Limits." See the *Implementation and Phasing Strategy* section starting on page 52 of the plan document.

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to section 3.07.1455(b)(2) of this chapter;

   Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, and housing was allowed specifically to address concerns for necessary buffering of adjacent uses. Metro Council has not specified number and

types of housing units or average density per net developable acres. See section *Basalt Creek Concept Plan* beginning on page 7.

The Basalt Creek Concept Plan balances land use types and densities to meet obligations for providing regional employment capacity (Metro Gamma forecast) while limiting negative impacts on congestion and traffic levels (trip caps). In addition, the scenarios vetted by the Project Management Team (PMT) and each City Council sought efficient provision of services, fully analyzing the transportation, infrastructure, park, natural resource, and land use implications of various development patterns to form the basis for the Concept Plan. See *Scenario Testing and Concept Plan Development* starting on page 13 in the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

4. Provision for affordable housing consistent with Title 7 of this chapter if the comprehensive plan authorizes housing in any part of the area.

Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, which allows housing specifically to address concerns for necessary buffering of adjacent uses.

The final and preferred land use scenario includes a mix of low, medium-low and high-density housing projected to produce 575 households in Tualatin and 6 live/work units in Wilsonville, which provides the opportunity for a range of different housing types, tenure and prices to meet the needs of the city, county and region. See Table 3 *Summary of Development Types identified for Basalt Creek Planning Area by Jurisdiction* for a breakdown of households by land use designation, associated densities, and acreages.

Preliminary strategies to achieve a diverse range of housing types including affordable housing include, but are not limited to: private and non-profit partnerships, waivers, subsidies, grant funding , update and streamline zoning code (i.e. additional flexibility with accessory dwelling units, allow smaller lots, density bonuses, reduce parking requirements) programs to lower the cost of development, additional funding sources to pay for infrastructure, programs that decrease operational costs, programs that provide financial assistance to homeowners and renters. These strategies will be reviewed during Tualatin's comprehensive planning update.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

5. Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

   Findings: Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. The facilities for provision of schools will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website http://www.sherwood.k12.or.us/information/bond-visioning-process).

   The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide input to the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.
   Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area. See subsection *Schools* under section *Civic Uses* beginning on page 40 in the plan document for a discussion of school facility considerations. Also, see Attachment B for written confirmation from both school districts.

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers.

Findings:

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating the new parkland, open spaces, natural areas and trails in the planning area into existing regional networks.

The planning area provides an interesting opportunity for different types of parks, given the variety of uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises. Cities will determine and adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Area, including the use of their current SDCs for parks.

Both cities are currently going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek area in the types of services and facilities that will be needed to serve residents and business in this area. See subsection *Parks and Open Space* under section *Civic Uses* beginning on page 41 of the plan document.

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the planning area, but a minimum park space of a 15 to 20-acre Neighborhood Park in Tualatin is needed to serve residents and businesses in the planning area. The facilities for provision of parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, Cities, and other service providers would use their site selection and land acquisition processes to acquire the land

needed for these facilities. A discussion of Scenario Planning is located in the section *Scenario Testing and Concept Plan Development* on page 13 of the plan document.

The Basalt Creek Concept Plan also identifies opportunities for bike and pedestrian connections in conjunction with the planned development pattern. Additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards, respectively, and opportunities for additional active transportation connects are identified in the Concept Plan (e.g. across the future Basalt Creek Parkway, to the Ice Age Tonquin Trail, and potentially, along the western edge of the Basalt Creek Canyon). Map is included under Bicycle and Pedestrian Framework (Figure 10). A discussion of the *Bicycle and Pedestrian Framework* begins on page 36 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan;

   Findings: Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) for the area, which is also coordinated with the Metro Regional Transportation Plan and integrated into the Concept Plan's Roadway Framework map. Basalt Creek Parkway, currently under construction, will be a major east-west arterial, with limited access, creating a new connection between I-5 and 99W and the employment areas in the South County Industrial Area. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops. See the *Transportation* section beginning on page 32 of the plan document for more discussion.

   Each city will amend TSPs to accommodate the future transportation system outlined in the Basalt Creek Transportation Refinement Plan and described in the Basalt Creek Concept Plan, Figure 9 on page 35.

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

8. Provision for the financing of local and state public facilities and services; and 3.07 - 61 (Updated on 01/06/16)

Findings: Prior to annexation into a city of any of the land in the planning area, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County in order to build out the transportation network as set forth in the 2013 Basalt Creek TRP. The Concept Plan acknowledges this, and it will be a component of the amended UPAAs. See *Key Transportation Solutions* on page 32 of the plan document.

The Cities acknowledge that significant improvements will be needed to the existing and future transportation network in the Basalt Creek Concept Plan area. To achieve the vision established by the Cities and Washington County in the 2013 Basalt Creek (TRP), Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and identify funding strategies. The Cities acknowledge that success of the Basalt Creek Concept Plan area depends on being served by an adequate transportation system as identified in the TRP.

Sewer and water infrastructure systems can be financed in several ways. Typically, the developer is expected to finance the extension of services and each City has a method of reimbursing the developer for installing infrastructure when other development hooks in if they choose to elect this option. Each City may decide to participate in financing, for example, by providing for the formation of a Local Improvement District or another type of funding mechanism. See section *Implementation and Phasing Strategy* beginning on page 52 of the plan document for a discussion of financing options.

Public stormwater systems are typically accommodated for in the public right-of-way and costs are included with a road project or other right-of-way development. Stormwater systems outside of the public right-of-way are assumed to be part of private development costs and are not estimated as a part of this plan. See section *Stormwater Drainage* on page 51 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.

Findings: The Basalt Creek Concept Plan includes considerations to maintain the integrity of the transportation network in this employment area. The Basalt Creek Concept Plan includes land uses designed to result in trips consistent with those modeled and used to establish the Basalt Creek TRP. Thus, local trip generation should not exceed capacity and thus, maintain the integrity of the network outlined in the TRP. The Cities will also work cooperatively to evaluate future regional

transportation projects and decisions, beyond those identified in the TRP, which could direct additional traffic to the Basalt Creek Concept Plan Area. These projects will be evaluated to ensure that system capacity and adequate regional funding is available for needed improvements to mitigate additional regional traffic.
See Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo (Appendix G) Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour).

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

D. The county or city responsible for comprehensive planning of an area shall submit to Metro a determination of the residential capacity of any area zoned to allow dwelling units, using a method consistent with a Goal 14 analysis, within 30 days after adoption of new land use regulations for the area.

Findings: The land use scenarios developed through the Concept Plan provided dwelling unit projections; residential zoning and capacity analysis will occur as part of each city's adoption of comprehensive plan amendments.
Conclusion: Basalt Creek Concept Plan meets this requirement.

(Ordinance 98-772B, Sec. 2. Ordinance 99-818A, Sec. 3. Ordinance 01-929A, Sec. 8. Ordinance 02-964, Sec. 5. Ordinance 05-1077C, Sec. 6. Ordinance 05-1089A, Sec. 2. Ordinance 07-1137A, Sec. 3. Ordinance 10-1238A, Sec. 5. Ordinance 11-1252A, Sec. 1. Ordinance 15-1357.)

3.07.1130 Interim Protection of Areas Added to the UGB

Until land use regulations that comply with section 3.07.1120 become applicable to the area, the city or county responsible for planning the area added to the UGB shall not adopt or approve:

A. A land use regulation or zoning map amendment that allows higher residential density in the area than allowed by regulations in effect at the time of addition of the area to the UGB;
B. A land use regulation or zoning map amendment that allows commercial or industrial uses not allowed under regulations in effect at the time of addition of the area to UGB;
C. A land division or partition that would result in creation of a lot or parcel less than 20 acres in size, except for public facilities and services as defined in section 3.07.1010 of this chapter, or for a new public school;

Findings: When the land was added to the UGB, Washington County designated the land as FD-20 (Future Development 20 Acres) which is their "holding" zone. See Appendix A Existing Conditions Report page 10 for a discussion on the current zoning of the area.

D. In an area designated by the Metro Council in the ordinance adding the area to the UGB as Regionally Significant Industrial Area:
    1. A commercial use that is not accessory to industrial uses in the area; and

2. A school, a church, a park or any other institutional or community service use intended to serve people who do not work or reside in the area.

(Ordinance No. 98—772B, Sec. 2. Amended by Ordinance No. 99—818A, Sec. 3, Ordinance No. 10—1238A, Sec. 5; and Ordinance NO. 11—1252A, Sec. 1).

Attachments

Attachment A – Reinstated IGA between partner agencies

Attachment B – Correspondence from Tigard- Tualatin School and Sherwood School District (not yet received 7/18/18 from Sherwood School District)

WASHINGTON COUNTY
OREGON

Memorandum

Date: Oct. 4, 2016

To: Metro, City of Wilsonville, & City of Tualatin

From: Kris Brannan, Management Analyst

RE: IGA CA 16-1110 Basalt Creek

Enclosed you will find a fully executed copy of the Reinstated IGA for the Basalt Creek planning area.

If you have any questions please let me know. My phone number is (503) 846-3694. My email address is: kris_brannan @co.washington.or.us

Thank you.

Kris Brannan | Management Analyst
Washington County Department of Land Use & Transportation
Planning and Development Services | Long Range Planning
155 N First Avenue, Suite 350, MS 14 | Hillsboro, OR 97124

503-846-3694 direct | 503-846-4412 fax

kris_brannan@co.washington.or.us | www.co.washington.or.us/lut

CA 16-1110

REINSTATEMENT OF CONTRACT NO. BCC 11-0470
ADDENDUM NO. 2.0

The INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE "BASALT CREEK" AND "WEST RAILROAD" PLANNING AREAS, identified as Contract No. BCC 11-0470,is hereby reinstated by the parties pursuant to Washington County Purchasing Rule 10-180.

The contract is hereby amended by the parties, this amendment modifies the original contract number being BCC 11-0470.

The IGA is reinstated and amended as follows:
Original language is represented with the strikethrough and new language is underlined.

On page 6 of 10, Section D, paragraph 5 (paragraph before Attachments list) which states:

This IGA shall become effective upon full execution by all parties. The effective date of this IGA shall be the last date of signature on the attached signature pages. This IGA shall be in effect until the CITIES and COUNTY amend their respective UPAAs and incorporate the Basalt Creek Concept Plan into each CITIES respective comprehensive plans or until ~~5 years following the execution of this IGA, whichever occurs earlier~~ three years from the effective date of this Addendum 2.0, whichever occurs earlier.

Effective Date of Amendment: 9/1/2016 or upon last date of signature.

All other terms and conditions of the original IGA shall remain in full force and effect.

Washington County:

Signature

9/23/16
Date

Rob Massar
Printed Name

Asst. County Administrator
Title

Metro:

Signature

9/27/16
Date

Elissa Gertler
Printed Name

Planning Director
Title

Scott Robinson
Deputy Chief Operating officer

City of Tualatin:

Signature

9/12/16
Date

Sherilyn Lombos
Printed Name

City Manager
Title

City of Wilsonville:

Signature

9/21/16
Date

Bryan Cosgrove
Printed Name

City Manager
Title

Form revised 9/06/07

INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE "BASALT CREEK" AND "WEST RAILROAD" PLANNING AREAS

This Intergovernmental Agreement (IGA) is entered into by the following parties: METRO, the Portland area metropolitan service district; WASHINGTON COUNTY, a political subdivision in the State of Oregon, hereinafter referred to as "COUNTY"; and the CITY OF TUALATIN and CITY OF WILSONVILLE, incorporated municipalities of the State of Oregon, hereinafter referred to as "CITIES".

Whereas, in 2004 METRO's Council added two areas known as the Basalt Creek and West Railroad Planning Areas, located generally between the CITIES, to the Urban Growth Boundary (UGB) for industrial uses, via Metro Ordinance No. 04-1040B; and

Whereas, METRO conditioned that these UGB expansion areas undergo Title 11 concept planning as defined in Metro Code Chapter 3.07, cited as the Urban Growth Management Functional Plan ("UGMFP"), and that the concept planning be in accordance with Exhibit F of Metro Ordinance 04-1040B; and

Whereas, on June 10, 2010 the METRO Council adopted its 2035 Regional Transportation Plan ("2035 RTP") via Metro Ordinance 10-1241B, with a Project List including an extension of SW 124th Avenue (Project #10736) south of SW Tualatin-Sherwood Road and several projects related to the proposed I-5 to Hwy 99W Connector Project Alternative 7 "Southern Arterial", which is planned as a continuous east-west roadway between I-5 and Hwy 99W passing through the subject UGB expansion areas; and

Whereas, in recognition of the immediate needs of the region, the parties of this IGA support the extension of SW 124th Avenue from Tualatin-Sherwood Road to the vicinity of Tonquin Road, and ultimately to Boones Ferry Road via an east-west alignment yet to be determined through the planning efforts initiated pursuant to this IGA; and

Whereas, METRO has allocated $365,000 of Construction Excise Tax funding to CITIES to pay for Concept Planning in the subject area; and

Whereas, COUNTY and CITIES have agreed to consider both areas in a single concept planning effort, and to refer to the two subject UGB expansion areas generally as the "Basalt Creek Planning Area;" and

Whereas, COUNTY currently has primary planning responsibility in the subject area; and

Whereas, COUNTY and CITIES wish to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be of benefit to COUNTY, CITIES, and their residents; and

Whereas, Oregon Statewide Planning Goal 1 requires public involvement and Goal 2 requires intergovernmental coordination, this IGA is intended to indicate to private property owners in the area, METRO, the State of Oregon, and all other interested parties the cooperative nature of the planning effort being undertaken by the CITIES and COUNTY for the Basalt Creek Planning Area; and

Whereas, COUNTY and the CITIES anticipate amending existing Urban Planning Area Agreements (UPAAs) between the CITIES and the COUNTY to reflect the future limits of each city and to establish requirements for transfer of planning authority to the respective city.

Now, therefore, COUNTY, the CITIES, and METRO agree as follows:

A. Subject Land Area

1. The Basalt Creek Planning Area subject to this IGA is depicted on Exhibit 1.

B. Agency Roles and Responsibilities

1. COUNTY will:

   a. Allow CITIES to jointly take the lead in managing concept planning of the Basalt Creek Planning Area, in coordination with COUNTY, METRO, and the Oregon Department of Transportation ("ODOT"), recognizing that the CITIES will complete the concept planning in compliance with Title 11 of the UGMFP and the CITIES will ultimately be responsible for providing urban level services and governance to the area. The foregoing statement does not create or imply any obligation on the part of the CITIES under this agreement to fund right-of-way acquisition or to construct the I-5/99W "Southern Arterial."

   b. Retain planning authority for the Basalt Creek Planning Area until such authority is transferred to the CITIES, pursuant to the terms of UPAAs with each city, as amended pursuant to Section D of this IGA.

   c. In coordination with the parties to this IGA and ODOT, provide funding, establish a scope of work, retain a consultant, and provide project management services for planning of the major roadway system in the Basalt Creek Planning Area, including preliminary project development for the SW 124th Avenue extension project from Tualatin-Sherwood Road to SW Boones Ferry Road, whether following existing right-of-way alignments

or new right-of-way alignments, which may include portions of an east-west arterial that is consistent with the future "Southern Arterial" elements outlined in the 2035 RTP.

It is acknowledged that the RTP requires compliance with specific conditions before the construction of the "Southern Arterial." Consistency with the "Southern Arterial" elements of the RTP can be assured only when the conditions related to the "Southern Arterial" have been fully addressed. However, due to the immediate needs of the region in the interim period, the RTP allows the extension of SW 124th Avenue, as described in the paragraph above, to be completed with minimal extra conditions.

In an effort to provide timely answers to the property owners in the Basalt Creek Planning Area, a sufficient amount of this study must be complete within six (6) months following the effective date of this IGA in order to allow the Cities to begin concept planning. Accordingly, this task is budgeted to last for up to six (6) months. As part of the transportation planning effort, COUNTY will address the following in coordination with the CITIES, METRO and ODOT:

i. The conditions related to the 'Southern Arterial' in the METRO 2035 RTP (as described in Exhibits 2, 3, and 4), as applicable;
ii. Strategies for maintaining freight access to and freight mobility within the planning area;
iii. Potential I-5/Elligsen Road interchange improvements, including a split-diamond interchange option;
iv. Potential I-5 overcrossing north of Elligsen Road interchange; without a direct connection to I-5, which does not preclude arterial options on the east side of I-5; and
v. Potential roadway connections directly to I-5, subject to satisfaction of applicable 2035 RTP conditions.

d. Consider acquisition of right-of-way and/or construction of portions of the SW 124th Avenue extension project improvements as described in Paragraph B.1.c. above, subject to availability of funding.

e. In order to preserve the ability for a future potential roadway connection, consider acquisition of right-of-way for a potential future east-west arterial roadway connection between SW Boones Ferry Road and I-5, subject to availability of funding. It is acknowledged that no new east-west roadway may be constructed between SW Boones Ferry Road and I-5 until applicable RTP "Southern Arterial" conditions have been satisfied.

f. In coordination with CITIES, consider potential funding and/or construction of permanent or interim improvements to the existing roadway network in

and adjacent to the planning area prior to funding and/or construction of the "Southern Arterial."

2. CITIES will:

   a. Assume primary project management responsibly for concept planning of the Basalt Creek Planning Area, in coordination with COUNTY and METRO, effective as of the date of execution of this IGA. Concept planning shall conform to Metro UGMFP Title 11 requirements in effect when the subject planning areas were added to the Urban Growth Boundary.

   b. Mutually agree upon a future city limit boundary through the concept planning process.

   c. Incorporate into the final Basalt Creek Concept Plan and any city comprehensive plans, transportation plans and/or implementing regulation amendments those major transportation facilities identified by COUNTY, in collaboration with METRO, CITIES, and ODOT, pursuant to B.1. above. CITIES shall incorporate into their amended plans and regulations reasonable measures to identify and assist in the protection of the approved major transportation facility corridors from development encroachment in order to implement the final Basalt Creek Concept Plan as agreed upon by the parties to this IGA. The parties to this IGA acknowledge that such reasonable protection measures are subject to constitutional limitations on property takings, and are not intended to require the CITIES to in any way violate constitutional property protections or to incur a financial obligation to purchase right-of-way to preserve the identified transportation corridors. It is acknowledged by the parties to this IGA that construction of some new roadway facilities may be subject to the conditions set forth in the RTP relative to the proposed I-5 to 99W Connector Project Alternative 7 Southern Arterial (refer to Exhibits 2, 3, and 4).

3. METRO will:

   a. Provide CET funding to CITIES for concept planning activities in the subject planning area.

   b. Participate in ongoing concept and transportation planning efforts with COUNTY and CITIES as warranted.

C. Coordination of Concept Planning Activities

1. COUNTY and CITIES shall:

   a. Engage in a facilitated concept plan partnering and scoping session following the execution of this IGA.

b. Provide all parties to this IGA and ODOT with appropriate opportunities for participation, review and comment on the proposed concept planning efforts. The following procedures shall be followed by the CITIES and the COUNTY to notify and involve the other parties in the process to prepare the concept plan:

   i. COUNTY and the CITIES shall transmit notice of meetings related to the concept plan to all parties to this IGA at least one week prior to the scheduled meeting. This includes any technical advisory committee meetings, open houses, Planning Commission or Planning Advisory Committee meetings, City Council or Board of Commissioner meetings and similar meetings, etc.

   ii. The CITIES or COUNTY shall notify the other parties no less than forty-five (45) days prior to the initial public hearing for proposed comprehensive plan, transportation plan or implementing regulation amendments.

   iii. The CITIES shall transmit draft documents to COUNTY for its review and comment before finalizing. COUNTY shall have ten (10) business days after receipt to submit comments in writing. Lack of response shall be considered "no objection" to the drafts.

   iv. The CITIES shall respond to the comments made by COUNTY either by a) revising the draft document, or b) by letter to COUNTY explaining why the comments are not addressed in the documents.

   v. Comments from the COUNTY shall be given consideration as part of the public record on the concept plan.

2. COUNTY shall provide the CITIES with notice of development actions requiring notice within the Concept Plan area, according to the following procedures:

   a. The COUNTY shall send by first class mail or as an attachment to electronic mail a copy of the public hearing notice which identifies the proposed development action to the other agency, at the earliest opportunity, but no less than ten (10) business days prior to the date of the scheduled public hearing. The failure of the CITIES to receive a notice shall not invalidate an action if a good faith attempt was made by the COUNTY to notify the CITIES.

   b. The CITIES receiving the notice may respond at their discretion.

3. In addition to the above, COUNTY shall make reasonable efforts to provide the CITIES with copies of pre-application conference notes regarding potential

development applications within the subject planning area, as well as encouraging all potential development applicants to contact the CITIES for additional information on the concept planning efforts.

D. Urban Planning Area Agreements (UPAAs)

1. Both the CITIES have UPAAs with COUNTY that will have to be amended upon adoption of the final Basalt Creek Concept Plan, as agreed upon by the parties to this IGA.

2. The CITIES and COUNTY agree that the amended UPAAs will reflect which areas within the Basalt Creek Planning Area will be governed by which city, as determined through the concept planning process, and that the respective areas will be under the CITIES respective jurisdictions, and not the COUNTY, as the areas urbanize.

3. The amended UPAAs will specify conditions to be met prior to COUNTY transfer of planning authority to each of the CITIES, such as adoption of comprehensive plans, transportation plans and/or implementing regulation amendments by each of the CITIES necessary to implement the final Basalt Creek Concept Plan, as agreed upon by the parties to this IGA.

4. It is recognized that COUNTY adopts annual land use and transportation work programs, and this concept planning effort will require coordination to fit within the work program of COUNTY.

This IGA shall become effective upon full execution by all parties. The effective date of this IGA shall be the last date of signature on the attached signature pages. This IGA shall be in effect until the CITIES and COUNTY amend their respective UPAAs and incorporate the Basalt Creek Concept Plan into each CITIES respective comprehensive plans or until 5 years following the execution of this IGA, whichever occurs earlier.

Attachments:

Exhibit 1 – Plan Areas Map
Exhibit 2 – Excerpt from Regional Transportation Plan
Exhibit 3 – Regional Transportation Plan Appendix 3.3 (I-5/99W Conditions)
Exhibit 4 – Excerpt from Regional Transportation Plan Project List

(Four separate signature pages follow)

CITY OF TUALATIN, Oregon

By: _____
Lou Ogden
Mayor

Date: 6-13-2011

ATTEST:

By: _____

APPROVED AS TO LEGAL FORM

Brenda L. Braden
CITY ATTORNEY

CITY OF WILSONVILLE, Oregon

By: _____
Tim Knapp
Mayor

Date: June 8, 2011

ATTEST:

By: _____

WASHINGTON COUNTY

By: Roy R Rogers
Andy Duyck
Chair, Board of County Commissioners

Date: 6-21-11

ATTEST:

By: _____

APPROVED WASHINGTON COUNTY
BOARD OF COMMISSIONERS
MINUTE ORDER # 11-131
DATE 6/7/11
BY Barbara Hejtmanek
CLERK OF THE BOARD

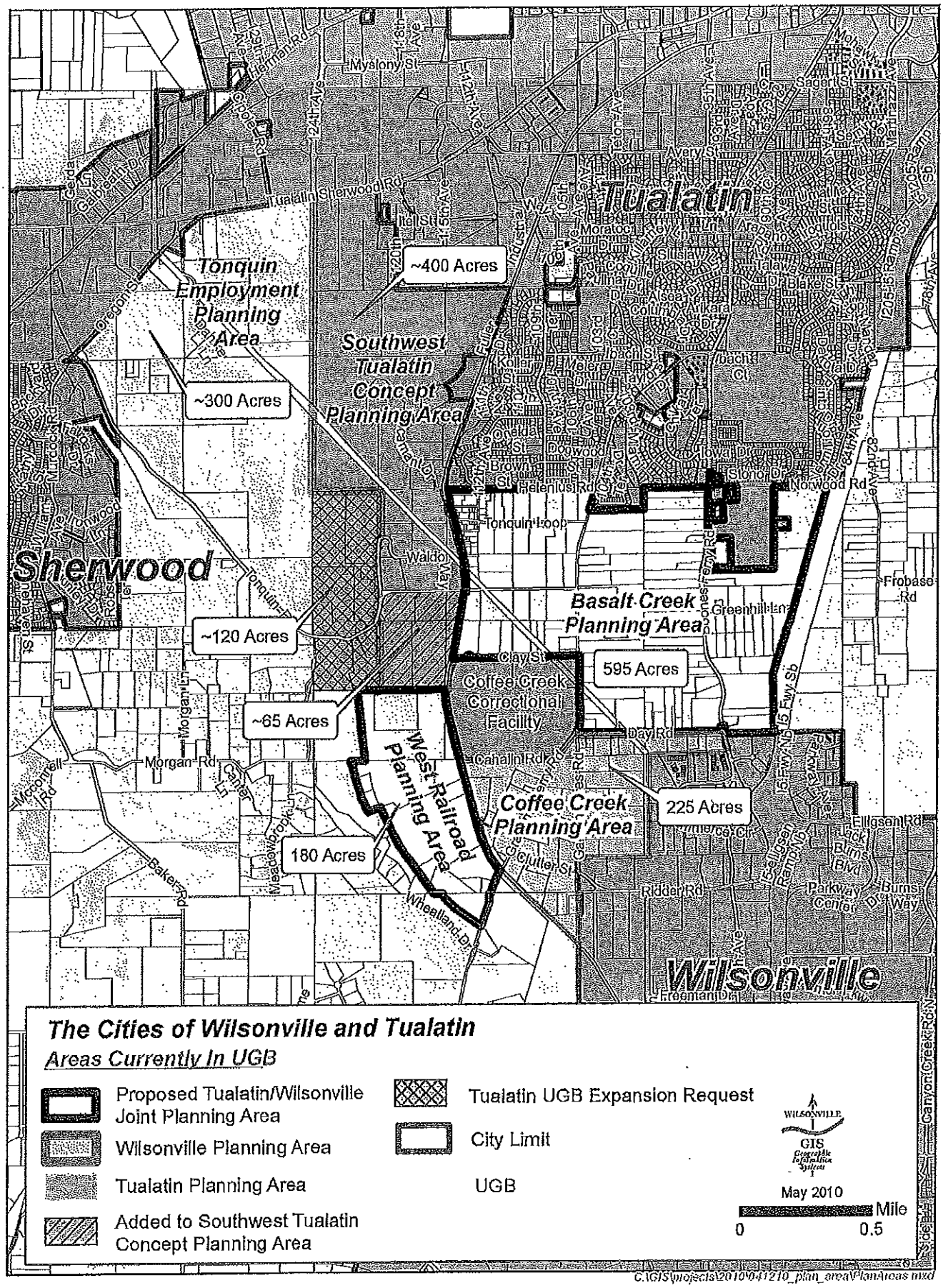
METRO

By: _____
Dan Cooper
Acting Chief Operating Officer

Date: 7/7/11

APPROVED AS TO FORM:

By: _____
Alison Kean Campbell
Acting Metro Attorney


Tualatin
Sherwood
Wilsonville
~400 Acres
Tonquin Employment Planning Area
~300 Acres
Southwest Tualatin Concept Planning Area
~120 Acres
~65 Acres
West Railroad Planning Area
180 Acres
Basalt Creek Planning Area
595 Acres
Coffee Creek Correctional Facility
Coffee Creek Planning Area
225 Acres
Tonquin Loop
Waldo Way
Greenhill Ln
Clay St
Day Rd
Cahalin Rd
Ridder Rd
Wheatland Dr
Morgan Rd
Baker Rd
Frobase Rd
Ellingson Rd
Burns Way
Parkway Center
Norwood Rd
Myslony St
Sherwood Rd
Tualatin Rd
Boones Ferry Rd
Tonquin Rd
Oregon St
Cipole Rd
Mcconnell Rd
Center Ln
Meadowlark Ln
Freeman Dr
Canyon Creek Rd N
The Cities of Wilsonville and Tualatin
Areas Currently In UGB
Proposed Tualatin/Wilsonville Joint Planning Area
Wilsonville Planning Area
Tualatin Planning Area
Added to Southwest Tualatin Concept Planning Area
Tualatin UGB Expansion Request
City Limit
UGB
WILSONVILLE GIS
May 2010
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0
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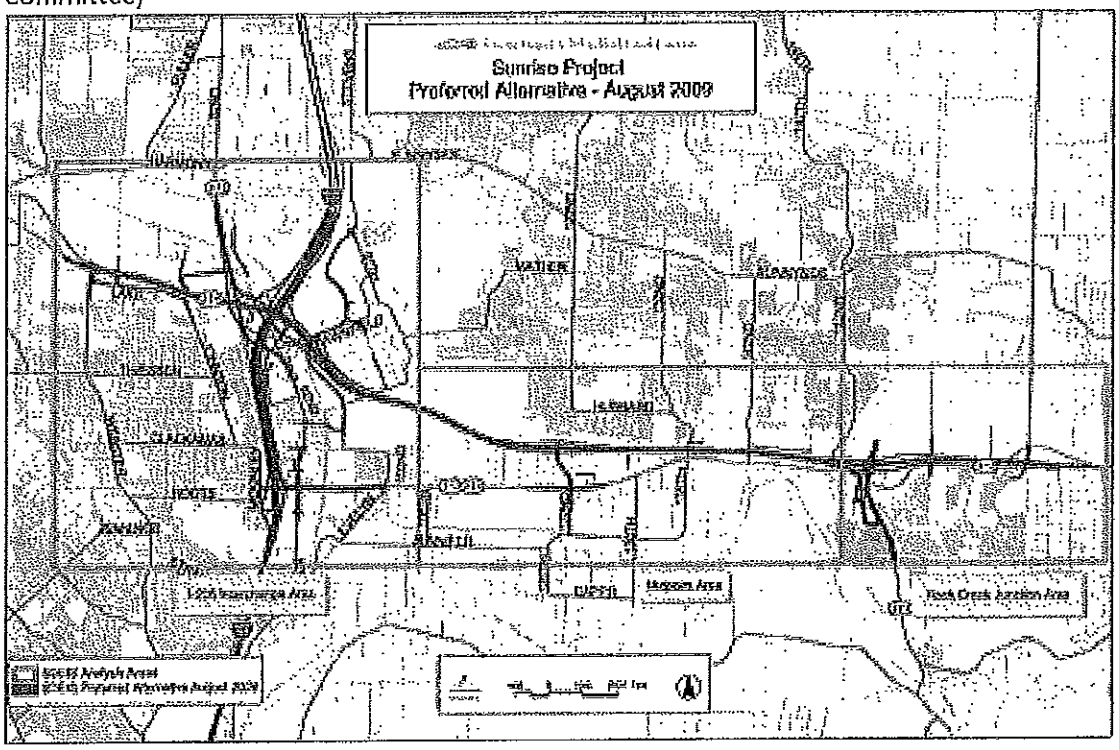
and OR 212 corridor study will provide further direction for solutions in this corridor. Further map refinements and project recommendations may be identified through this work.

Figure 6.2
Sunrise Project Preferred Alternative (as Recommended by the project's Policy Review Committee)



6.3.2.3 I-5/99W Connector Study Recommendations and Implementation (Tigard to Sherwood - Mobility Corridor #20)

Between 2006 and 2009, the I-5/99W Corridor Study identified a number of improvements in this corridor to support access to 2040 land uses, address existing deficiencies and serve increased travel demand. One primary function of this route is to connect the Washington Regional Center to the cities of Tigard, Tualatin and Sherwood, and provide access to the Tualatin/Sherwood Industrial Area and Tualatin National Wildlife Refuge. This corridor provides shortline heavy rail access to the region from the Willamette Valley and connects agricultural areas to the interstate highway system in this region. This mobility corridor also serves as a secondary gateway to the region, connecting communities in Yamhill County and the Central Oregon Coast to the Portland metropolitan region.

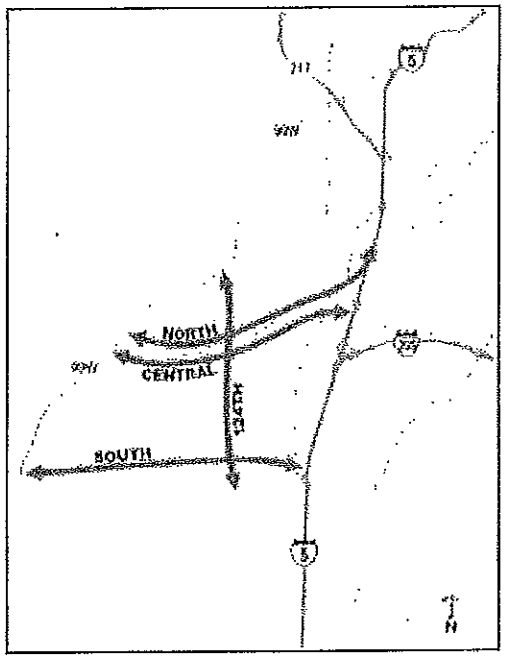
In February 2009, the I-5/99W Connector Project Steering Committee (PSC) was unable at the end of its process to reach a unanimous recommendation for the I-5/99W Corridor Study as required by the PSC Partnership Agreement in order to forward a Recommended Corridor Alternative to the

RTP. However, there was unanimous agreement on some aspects of the Connector that could be reflected in the RTP:

- Identify projects for inclusion in the RTP with minimal extra conditions, particularly the extension of SW 124th from SW Tualatin Sherwood Road to the I-5/North Wilsonville Interchange,
- Identify conditions to be met before a new Southern Arterial is implemented to ensure integration with surrounding land use and transportation plans, particularly an I-5 South Corridor Study,
- Determine an incremental phasing plan to ensure the projects with the most benefit that can reasonably be built within the 20-year horizon be included in the RTP Financially Constrained list.

The recommendations for the I-5/99W Corridor Study proposed for inclusion in the RTP are based upon the conclusions reached by the Project Steering Committee (PSC) as follows:

- The 3 options consisting of a new limited access expressway from I-5 to OR 99W (2 alignments north of Sherwood and 1 alignment south of Sherwood) were unacceptable due to high impact on the natural and built environment, the need for extensive improvements to I-5, high cost and concern about the potential for induced growth to Yamhill County, and
- The option focused on expanding Tualatin-Sherwood Road was unacceptable due to the very large size it would need to be and the resulting impacts on the Tualatin and Sherwood Town Centers.
- The alternative recommended is based upon the principle that it is preferable to spread the traffic across three smaller arterials rather than one large expressway. The analysis concluded this approach could effectively serve the traffic demand, would provide better service to urban land uses in the Tualatin/Sherwood area, especially industrial lands, and could be built incrementally based upon need to serve growth and revenue



The I-5/99W Corridor Study recommended a variety of transportation investments to improve the area's road, transit, bicycle, pedestrian and trail networks and to distribute traffic across a network of three arterials so that no single route would function as a defacto through "connector." The RTP places additional conditions on the "Three Arterial" recommendation and implementation.

availability. The overall concept is structured around a Northern, Central and Southern arterial providing east-west access between OR 99W and I-5 with an extension of SW 124th providing north-south connectivity (see diagram).

The City of Wilsonville was and continues to raise objections to the Southern Arterial component throughout this process. The City is very concerned about growing I-5 congestion and the City's dependence on effective access to the two I-5 interchanges. The City is concerned that the Southern Arterial connecting into the I-5/North Wilsonville interchange will significantly increase traffic and impair that access.

When the PSC considered the recommendation, the Clackamas County Commission representative introduced a series of amendments to the conditions to ensure that the Southern Arterial would be examined in greater detail to:

- evaluate alignment options and their environmental impact;
- integrate the proposal with the concept plan and transportation system plan for the newly expanded UGB area and any new Urban Reserves that are designated in the area;
- address any requirements that may result from adoption of an exception to Goal 14 (if needed) for an urban facility outside the UGB;
- integrate the proposal with a Tigard to Wilsonville Corridor Study (Corridor #3) to ensure these east-west arterials and I-5 itself could effectively function together; and
- determine the most appropriate approach to connecting the Southern Arterial to I-5, including options for an interchange at the I-5/North Wilsonville interchange or consideration of extending the Southern Arterial across I-5 to Stafford Road east of I-5, thereby providing better access to I-205.

The Project Steering Committee acknowledged many significant issues to be addressed before the Southern Arterial can proceed to construction, and approved the proposed conditions unanimously. The detailed conditions can be found in Appendix 3.3.

Typically, there is a need to transition from a "planning" level of detail to a "project" level of detail which involves better definition of alignments and designs and consideration of impacts on the natural and built environment and how to mitigate those impacts. These conditions proposed by the Project Steering Committee add in the need to integrate the recommendation with land use planning for recent UGB expansion areas and potential Urban Reserves (still to be defined) and the importance of integrating the overall system for the area with an I-5 corridor strategy.

The RTP places additional conditions on the "Three Arterial" recommendation and implementation, as reflected below:

Short-term phasing strategy (2008-2017)

- Identify replacement solutions for the Tualatin Road project recommended by the I-5/Connector study as part of the next Tualatin TSP update. This project was removed from the RTP based on community concerns and lack of support by the Tualatin City Council. The two-lane connection from the Tualatin Road/Herman road intersection to I-5 at Lower Boones Ferry Road was not intended to serve through traffic, but rather to provide access to the surrounding industrial area and neighborhoods. The planning work will consider alternative alignments and designs across the Tualatin River and I-5 near the I-5/Lower Boones Ferry Road interchange to mitigate impacts. If Tualatin (through their TSP update) does not identify project(s) to adequately address the capacity/connectivity issues identified in this are, then the RTP will be amended to direct the Corridor Refinement Plan effort for corridors #2, 3 and 20 to address this need in that planning effort. The need would go unaddressed until completion of that corridor refinement plan, or the next RTP update.
- Begin construction of the Tonquin Trail (RTP Projects #10092 and #10854).
- Upgrade existing streets to two lanes with turn lanes, traffic signal timing, bike lanes and sidewalks, including Herman Road, Tualatin-Sherwood Road, 95th Avenue (RTP Projects #10715, #10718, #10852).
- Add southbound auxiliary lane from I-205 to I-5/Elligsen Road and northbound auxiliary lane from I-5/Elligsen Road to I-205 interchange. (RTP Projects #10872 and #11177)
- Conduct more detailed project planning and begin construction of a two-lane extension of SW 124th Avenue (RTP Project #10736: 124th Avenue) from Tualatin-Sherwood Road to I-5/North Wilsonville interchange to support its operation as an industrial access route. The planning work will further consider potential impacts on the existing development and the natural environment. It will also include more detailed definition of the design and alignment to mitigate impacts and to integrate with land use and transportation plans for the area.
- Conduct more detailed planning to meet all of the conditions placed on new Southern Arterial project, including:

    1. Conduct the I-5 South Corridor Refinement Plan (includes I-5 from Portland to Tigard, I-5 from Tigard to Wilsonville, and OR 99W from I-5 through Tigard and Sherwood) and land use planning for areas recently added to the urban growth boundary and any land designated as urban reserves. These planning efforts will include opportunities for further public participation and input.

    2. Conduct more detailed project planning on potential Southern Arterial impacts on existing development and the natural environment to develop more detailed definition of the design and alignment to mitigate impacts and coordinate with land use and transportation plans for the area, including integration with land use plans for UGB expansion areas and Urban Reserves, conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3 and 20, and resolution of access between I-5 and southern arterial with no negative

impacts to I-5 and I-205 beyond the forecast No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for the southern arterial. This planning effort will include opportunities for further public participation and input.

Tualatin-Sherwood Road is sized in the recommended alternative based upon the expectation there will be a Southern Arterial and will fail due to insufficient capacity without a Southern Arterial and further expansion is incompatible with the plans for the Tualatin and Sherwood Town Centers. If the Southern Arterial is dropped through future studies, there is a major unresolved issue addressing east-west travel through this area. The RTP will need to be amended to direct the Corridor Refinement Plan effort for corridors #2, 3 and 20 to address this need. The need would go unaddressed until completion of that corridor refinement plan, or the next RTP update.

Medium-term phasing strategy (2018-2025)

- Widen existing streets to four lanes with turn lanes, traffic signal timing, bike lanes and sidewalks, including Tualatin-Sherwood Road, Roy Rogers Road, Boones Ferry Road and Herman Road (RTP Projects #10568, #10700, #10708, #10732 and #10735)
- Program right-of-way acquisition for the Southern Arterial project in the 2018 - 2025 time period to allow time to conduct the I-5 South refinement plan and land use plans for designated urban reserves in the area.

Longer-term phasing strategy (2026-2035)

- Construct the Southern Arterial connection to I-5 or other surface arterials in the vicinity of the I-5/North Wilsonville Interchange when all the project conditions are met.

6.4 CONGESTION MANAGEMENT PROCESS

A key change from SAFETEA-LU was an updated requirement for a CMP for metropolitan planning organizations (MPOs) in Transportation Management Areas (TMAs – urban areas with over 200,000 in population). This change is intended to build on the previous requirement of a congestion management system (CMS), placing a greater emphasis on management and operations and enhancing the linkage between the CMP and the long-range regional transportation plan (RTP) through an objectives driven, performance-based approach.

A CMP is a systematic approach for managing congestion that provides information on transportation system performance. It recommends a range of strategies to minimize congestion and enhance the mobility of people and goods. These multimodal strategies include, but are not limited to, operational improvements, travel demand management, policy approaches, and additions to capacity. The region's CMP will advance the goals of the 2035 RTP and strengthen the connection between the RTP and the Metropolitan Transportation Improvement Program (MTIP). A "Roadmap" of the region's CMP can be found in Appendix 4.4.

At their meeting on February 25, 2009, the PSC agreed on the following conditions as amended from those presented to them in the Alternative 7 Recommendation Memorandum dated February 17, 2009 to accompany the RTP recommendation of Alternative 7:

1. **Future phasing plans for implementing Alternative 7 projects must take into consideration the transportation, environmental, and economic impacts of advancing some improvements sooner than others.** The sequencing of affordable improvements should be done in a manner that does not create new transportation problems or liabilities for the vitality of affected jurisdictions.
2. **The timing and priority of an I-5 corridor study must be considered in the RTP adoption process for Alternative 7.** The connector project development process emphasized the need for a corridor study along I-5 from Portland to the Willamette River. The results of this study may affect the timing and designs of some improvements within Alternative 7.
3. **Access between I-5 and the southern arterial must be resolved.** Additional study is required to fully understand the impacts and trade offs between transportation solutions and land use, economic and environmental consequences of a new southern arterial. The impacts on rural lands are of particular importance and must be further evaluated before pursuing an exceptions process. The study area may need to be expanded to include connections to Stafford Road and additional areas along the OR 99W corridor that were not included in the alternatives analysis. The alternatives analysis process determined the general corridor location for the new southern arterial. However, additional preliminary engineering and planning work is needed to determine the optimal access option and configuration for connecting the southern arterial to I-5, OR 99W, and other arterials in the expanded study area. Construction of the southern arterial should be conditioned on defining the I-5 improvements needed to accommodate it and ensuring no negative impacts to I-5 and I-205 occur beyond the forecast No-Build condition as a result of Alternative 7. Options to be explored include modifying the I-5/North Wilsonville Interchange into a tight split-diamond interchange, or extending a new arterial connection crossing over I-5 and connecting to Stafford Road and/or Elligsen Road on the east side of I-5 for regional traffic benefits.
4. **Completion and construction of major project elements is subject to compliance with the National Environmental Policy Act (NEPA) and design refinement.** The Alternative 7 concept provides only the general locations and functional characteristics of new transportation facilities. A fully collaborative public/agency involvement and environmental analysis process must be conducted in developing the design details of any major construction element of Alternative 7. Subsequent project development work will need to define the actual alignments and designs of each of these facilities within the framework of these general parameters. On-going coordination with the Tualatin River National Wildlife Refuge must also occur to ensure optimum compatibility of Alternative 7 elements with refuge objectives.
5. **Land Use Concept Planning for UGB expansion areas should be coordinated with the refinement of these transportation recommendations.**
6. **The design of the southern arterial; must incorporate any conditions that may come out of land use goal exceptions processes (if required) by Metro, Washington County, and Clackamas County.** Portions of Alternative 7 may require exceptions under state land use goals that have not yet been studied or approved in order to be adopted in the RTP and to achieve needed federal and jurisdictional approvals. The extent of this issue may be affected by Metro's coming decisions on rural/urban land use reserves. Portions of proposed new transportation facilities are outside Metro's jurisdictional boundaries and will require coordination of actions between Metro and other affected jurisdictions. Possible design requirements may include forms of access management and land use control measures.
7. **State highway system routing and ODOT mobility standards must be key considerations in the design and future ownership of improvements within Alternative 7.** Current RTP assumptions are that a new limited-access connector would be built between I-5 and 99W, and that this roadway would become the new state route, possibly replacing OR 99W through Tigard. Alternative 7 does not result in

a limited-access connector, which may result in OR 99W remaining the designated state highway route through Sherwood, King City and Tigard.

8. **Strategic protection of right-of-way should be considered by agencies for the Alternative 7 elements within the UGB and along potential alignments where land development could conflict with the future implementation of corridor improvements.** Protective measures could include property setbacks, dedication of right-of-way, specific acquisition(s), and/or right-of-way purchases within the UGB consistent with NEPA process.

Following agreement on the above conditions, PSC representatives of Washington County, ODOT, Metro, and the cities of Tualatin and Sherwood voted in favor of recommending Alternative 7 with the conditions as amended above. PSC representatives of the City of Wilsonville and Clackamas County voted against this recommendation.

2035 RTP Project List
Basalt Creek Planning Area
City-County-Metro IGA
Exhibit 4
Page 1 of 1

Metro Project ID	Nominating Agency	Facility Owner / Operator	Project/Program Name	Project Start Location (Identify starting point of project)	Project End Location (Identify terminus of project)	Local Functional Classification	Project Purpose	Description	Estimated Cost ($2007)	Estimated Cost (YOE$)	Time Period	Federal FC Project	2040 Land Use	Mobility Corridor or Community Building?	HCT Priority as Adopted by JPACT and Metro Council	Primary Mode	Secondary Mode(s)	Project located in EJ Community?	Project located in Goal 5 Resource s?
10598	Washington Co.		I-5/99W Southern Arterial ROW	Hwy. 99W	I-5	Arterial	Provide congestion relief.	Purchase right-of-way when all project conditions are met: including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and southern arterial with no negative impacts to I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	$ 90,000,000	$ 133,221,986	2008-2017		Industrial area	CB		Roads/bridges	Freight	Yes	
10736	Tualatin	Tualatin	124th Ave	Tualatin-Sherwood	Tonquin	Minor Arterial	Economic development and freight movement	Construct new street from Tualatin-Sherwood to Tonquin Rd - 5 lanes.	$ 82,500,000	$ 122,120,154	2008-2017	x	Industrial Area	CB		Roads/bridges	Freight		Yes
11339	Washington Co.		I-5/99W Southern Arterial Improvements	Hwy. 99W	124th Ave. Extension	Arterial	Provide congestion relief.	Construct the initial 2-3 lane arterial phase of the Southern Arterial from OR99W to the SW 124th Ave. Extension when all project conditions are met: including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and southern arterial with no negative impacts to I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	$ 130,000,000	$ 263,356,147	2018-2025		Industrial area	MC		Roads/bridges			
11340	Washington Co.		I-5/99W Southern Arterial Improvements	Hwy. 99W	I-5	Arterial	Provide congestion relief.	Expand to 4-5 lanes to serve growth in the area after improvements to Tualatin-Sherwood Rd. and an improved connection from SW Tualatin Rd. to the I-5/Lower Boones Ferry Rd. interchange and when all project conditions are met: including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and southern arterial with no negative impacts to I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	$ 80,000,000	$ 239,896,266	2026-2035		Industrial area	MC		Roads/bridges			
11342	Washington Co.		I-5/99W Connector Southern Arterial/I-5 Interface	Hwy. 99W@ I-5		Arterial	Improve access to and from the Southern Arterial and I-5	Connect the Southern Arterial to I-5 or other surface arterials in the vicinity of the N. Wilsonville interchange when all project conditions are met: including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and southern arterial with no negative impacts to I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	$ 50,000,000	$ 149,935,166	2026-2035		2040 Corridor	MC		Roads/bridges	Throughways		

APPROVED BY TUALATIN CITY COUNCIL
Date 6-13-11
Recording Secretary

STAFF REPORT
CITY OF TUALATIN

TO: Honorable Mayor and Members of the City Council

THROUGH: Sherilyn Lombos, City Manager

FROM: Ben Bryant, Management Intern
Alice Rouyer, Community Development Director

DATE: 06/13/2011

SUBJECT: Resolution Authorizing an Intergovernmental Agreement for Concept Planning the Basalt Creek Area

---

ISSUE BEFORE THE COUNCIL:

At the City Council Meeting on April 25, 2011, staff presented a draft Intergovernmental Agreement (IGA) between Metro, Washington County, the City of Tualatin, and the City of Wilsonville regarding the Basalt Creek Concept Plan. Since that meeting, City staff has collaborated with the other parties to fine-tune the IGA attached to this report. The resolution, also attached, would authorize the Mayor to sign this agreement.

RECOMMENDATION:

Staff recommends that the City Council approve the attached resolution, authorizing the Mayor to sign the proposed Intergovernmental Agreement with Metro, Washington County, and the City of Wilsonville.

EXECUTIVE SUMMARY:

Purpose of Agreement

- Gain Washington County's support for having the two cities complete a concept plan for the Basalt Creek area, which is outside of the land covered by Tualatin's current Urban Planning Area Agreement;
- Outline Washington County's commitment to complete a plan for the major roadway system through the Basalt Creek area;
- Outline a commitment from Washington County to inform and coordinate with Tualatin and Wilsonville on any development applications in the Basalt Creek planning area prior to annexation; and
- Delineate responsibilities of the respective parties of this agreement.

Importance of the Agreement

In an effort to refine the projects listed in the Regional Transportation Plan (RTP), Washington County has agreed to conduct a transportation analysis in the Basalt Creek planning area. Work will not commence on this study until all parties have signed the attached agreement.

Collaboration

The IGA that is before the Council for consideration is the product of in-depth discussion and collaboration between staff members at the cities of Tualatin and Wilsonville, Washington County, and Metro. This collaboration was necessary to ensure that the planning process meets regional desires and

respects local visions. Council approval of this agreement, along with the approval of the other jurisdictions, will signify our commitment to continue collaborative efforts to envision the future of the Basalt Creek planning area.

Conclusion
Approval of this agreement is an integral aspect of the Washington County funded transportation analysis to extend SW 124th Avenue. In an effort to use time and resources efficiently, our partners wish to solidify a commitment to collaborate throughout the transportation and concept planning process.

Next Steps
There will be more opportunities for the Tualatin City Council and City staff to participate and voice input during the transportation analysis. Staff will continue to provide the City Council with updates on transportation related issues as the process moves forward.

Attachments: A - Resolution
B - Intergovernmental Agreement

RESOLUTION NO. 5041-11

A RESOLUTION AUTHORIZING AN INTERGOVERNMENTAL AGREEMENT WITH METRO, WASHINGTON COUNTY AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREA (BASALT CREEK / WEST RAILROAD PLANNING AREA)

WHEREAS in 2004 the Metro Council added an area located generally between the CITIES to the Urban Growth Boundary (UGB) for residential and industrial uses in Metro Ordinance No. 04-1040B; and

WHEREAS the CITIES have agreed to refer to the area generally as the "Basalt Creek Planning Area"; and

WHEREAS concept planning has never been completed for these properties; and

WHEREAS the CITIES and the COUNTY wish to work together to complete transportation and concept planning for this area to assure carefully planned development in the Basalt Creek/West Railroad Planning Area Planning Area that will be of benefit to both CITIES, The COUNTY and their residents.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. The City Council authorizes the Mayor to sign an Intergovernmental Agreement substantially similar to the attached agreement entitled "INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE 'BASALT CREEK' AND 'WEST RAILROAD' PLANNING AREAS"

Section 2. This Resolution is effective upon adoption.

INTRODUCED AND ADOPTED this 13th day of June, 2011.

CITY OF TUALATIN, Oregon

By _____
Mayor

ATTEST:

By _____
City Recorder

From: David Moore
To: Aquilla Hurd-Ravich
Subject: Re: Basalt Creek Concpet Plan
Date: Tuesday, July 03, 2018 3:32:56 PM

Hi Aquilla,

As discussed, TTSD has no plans for new facilities in or near the Basalt Creek area.

David

David Moore, CFO
Tigard-Tualatin School District
503-431-4016

On Mon, Jul 2, 2018 at 1:33 PM, Aquilla Hurd-Ravich <AHURD-RAVICH@tualatin.gov> wrote:

> Hello David,
>
> It has been quite some time since we last connected on the Basalt Creek Concept Plan, a joint effort between City of Wilsonville and City of Tualatin. We are very near the end of the planning process and getting ready for adoption by both City Councils. Based on the land uses assigned in the concept plan the area will produce approximately 581 households. We have drafted the findings below to address Metro's code requirements for concept plans. One of which requires us to address school facilities. The last time we talked about school facilities for these new households was at a 2016 meeting with multiple agencies, and at that time we understood that the Sherwood School District did not have any plans to locate a new facility in the Basalt Creek area.
>
> While we understand the Basalt Creek Concept Planning Area is in the Sherwood School District we included Tigard-Tualatin School District due to the proximity of the area to Tualatin High School. In order to address Metro's code requirements we need a written response confirming the Tigard-Tualatin School District has no plans to locate a new facility in the planning area or if there are plans to locate a school there we should discuss.
>
> 3.07.1120 Planning for Areas Added to the UGB
>
> (C) (5). Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;
>
> > Findings: Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow

the District to accommodate an additional 2,000 students district-wide (according to information on the District's website http://www.sherwood.k12.or.us/information/bond-visioning-process).

The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide support and concurrence with the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area.

This is such a long email that I will give you a call to follow up with any questions you may have.

Thank you,

Aquilla Hurd-Ravich

Community Development Director

City of Tualatin | Community Development Department

503.691.3018 | www.tualatinoregon.gov

Please note my new office phone number

From: Phil Johanson
To: Aquilla Hurd-Ravich
Cc: rfagliano@sherwood.k12.or.us; Karen Perl Fox; Jim Rose
Subject: Re: Basalt Creek Concept Plan
Date: Friday, July 20, 2018 9:37:32 AM

Dear Acquilla,

The Sherwood School District has followed the development of the Basalt Creek Concept plan. We understand that the draft plan provides for approximately 581 households.

We have been asked whether the Sherwood School District has plans to site new facilities in the planning area to address expected student growth. We are monitoring projected student growth. However, the Sherwood School District presently does not have plans to locate school facilities within the planning area.

Sincerely,

Phil Johanson

On Mon, Jul 2, 2018 at 1:29 PM, Aquilla Hurd-Ravich <AHURD-RAVICH@tualatin.gov> wrote:

> Hello Phil and Rob,
>
> It has been quite some time since we last connected on the Basalt Creek Concept Plan, a joint effort between City of Wilsonville and City of Tualatin. We are very near the end of the planning process and getting ready for adoption by both City Councils. Based on the land uses assigned in the concept plan the area will produce approximately 581 households. We have drafted the findings below to address Metro's code requirements for concept plans. One of which requires us to address school facilities. The last time we talked about school facilities for these new households was at a 2016 meeting with multiple agencies, and at that time we understood that the Sherwood School District did not have any plans to locate a new facility in the Basalt Creek area.
>
> We need a written response confirming the Sherwood School District has no plans to locate a new facility in the planning area or if there are plans to locate a school there we should discuss. Also, if you are able to comment about how new students may be served that would be helpful. We included language from your website which describes the purpose of the bond measure passed in 2016. Given that Basalt Creek Concept Plan is in the Sherwood School District it seems that the bond measure could be one measure to accommodate new students.
>
> 3.07.1120 Planning for Areas Added to the UGB
>
> (C) (5). Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

Findings: Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website http://www.sherwood.k12.or.us/information/bond-visioning-process).

The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide support and concurrence with the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area.

This is such a long email that I will give both of you a call to follow up with any questions you may have.

Thank you,

Aquilla Hurd-Ravich

Community Development Director

City of Tualatin | Community Development Department

503.691.3018 | www.tualatinoregon.gov

Please note my new office phone number

MEMORANDUM

Basalt Creek: Guiding Principles and Evaluation Criteria

TO: Basalt Creek Project Management Team (Cities of Tualatin and Wilsonville)
FROM: Leila Aman, Project Lead, Fregonese Associates
DATE: December 29, 2014
RE: Guiding Principles and Evaluation Criteria for the Basalt Creek Concept Plan

Purpose of Guiding Principles

Guiding Principles are intended to represent the collective interests and goals for the Basalt Creek planning area. The guiding principles provide a framework for gathering input and developing transparent and meaningful measures that can help inform the decision making process.

Purpose of Scenario Indicators

Indicators are the outputs of evaluation criteria which are created near the beginning of the scenario planning process. They generally reflect the guiding principles as well as previously adopted community goals. Indicators may also be related to new or emerging community goals or issues: such as transit access, housing costs, or air quality.

The indicators will be used during the development and evaluation of the scenarios within Envision Tomorrow to communicate the benefits, impacts and tradeoffs of different policy choices and investments. Using Envision Tomorrow, alternative scenarios are tested and refined, and then compared and evaluated based on their indicator performance. Indicators enable Envision Tomorrow users to tie the scenario results to the community values and guiding principles.

In practice, this approach not only allows the public to visualize their region's future, final plans created using our scenario planning process will come with a dashboard of indicators so policymakers can monitor their progress and make adjustments along the way, in concert with established guiding principles and long-term vision.

Guiding Principles

Qualitative Guiding Principles

1. Maintain and complement the Cities' unique identities

The cities of Wilsonville and Tualatin each have unique qualities that draw people to live and work there. Those qualities should be maintained and enhanced by development in the Basalt Creek planning area.

2. **Capitalize on the area's unique assets and natural location**

   Development in the planning area should preserve and leverage the natural beauty of Basalt Creek by protecting key natural resources and sensitive areas while minimizing the negative impacts of new development. Recreation opportunities should be made accessible in the area through the creation of new open spaces and trails and integrating them with existing regional networks.

3. **Explore creative approaches to integrate jobs and housing**

   Long distances between centers of employment and residential neighborhoods can cause long travel times, congestion and pollution. Planning for the Basalt Creek area should consider a range of methods (and the feasibility of those methods) for integrating residential and employment land uses to create more high quality living and working environments.

4. **Create a uniquely attractive business community unmatched in the metropolitan region**

   Planning for the Basalt Creek area should capitalize on its unique assets - the location of the planning area near the center of one of the region's largest clusters of employment land, projections for rapid employment growth in the local market, and superior access to major transportation routes (I-5, I-205 and Highway 217) – to facilitate development of high quality employment facilities and opportunities that will benefit both the local and regional economies.

5. **Ensure appropriate transitions between land uses**

   While integration of housing and employment can enrich a community, there remains a need for physical separation between uses that might negatively impact one another. Land uses should be arranged within the study area to minimize these impacts, such as excessive noise, traffic, nighttime light, or air pollution. Use of buffers to mitigate auditory, aesthetic, and safety impacts may include swaths of vegetated land, sound walls, or commercial development (among others).

Quantitative Guiding Principles

Associated measures from Envision Tomorrow and other quantitative analysis that will be conducted as part of the concept planning process are described.

6. **Meet regional responsibility for jobs and housing**

   Population and employment forecast performance

Using output from the Envision Tomorrow scenario modeling tool added jobs and housing units will be compared back to the regional forecast estimate (from Metro's Gamma model) for jobs and households within the planning area.

7. Design cohesive and efficient transportation and utility systems

Evaluation of Wet Infrastructure

Aggregate water and sewer requirements will be developed for each of the three (3) alternatives. A comparison will be provided indicating required capacity and potential infrastructure elements based on each alternative land use plan and the existing systems inventory.

Performance of transportation systems

Motor vehicle transportation system for each of three alternatives will be evaluated including the development of future year 2035 PM peak hour volumes using a focus-area travel demand model. Intersection operation analysis (level of service and v/c ratios) based on the forecasted 2035 PM volumes will be conducted using Synchro.

Internal water consumption and Landscaping water consumption

Water consumption has a major impact both financially and environmentally. Water bills can make up a large proportion of household or business utility costs, and excessive water consumption can put a strain on water supplies and infrastructure, especially in regions with water scarcity. Anticipated domestic and irrigation water consumption by residential households and commercial or industrial businesses will be estimated based on existing usage patterns within Tualatin and Wilsonville.

8. Maximize assessed property value

Building value and local revenue

Adding new housing and employment space to a community brings additional tax revenue that can be used for new infrastructure and services to support new and existing residents and businesses. Different scenarios can produce different amounts of tax revenue (property tax, sales tax and transportation impact fee (TIF)) due to the differing values of particular building types and locations. .

9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

Percent of Natural Area Protected within the planning area

Types of natural areas to be considered for protection from development include:

- *Wetlands and Floodplains*
- *Metro Title 3 Lands*
- *Metro Title 13 Lands*

Some development may occur in these areas. However, the proportion of total development planned for non-environmentally sensitive areas should be maximized in order to preserve habitat, ecosystem services, open space, and recreation opportunities in the planning area.

Environmentally sensitive lands are identified and described in the Basalt Creek Existing Conditions Report.

Total jobs allocated to prime flat industrial lands within the planning area

The largest proportion possible of new jobs forecasted for the planning area should be allocated to lands identified as suitable for industrial and/or office development, one factor of which is the absence of sensitive environmental features and constraints.

Land suitable for industrial and/or office development is identified and described in the Basalt Creek Existing Conditions Report.

Acres of impervious surface

Impervious surface can have a negative impact on the health of a region's waterways. Instead of soaking in and filtering through the soil, rainwater runs off impervious surfaces, washing many polluting substances such as pesticides and oils into streams and other aqueous habitats. Increasing impervious surface runoff also increases the volume of runoff, and the speed which the water is delivered to streams, resulting in higher peak flows.

10 Considerations for Success

In addition to the Guiding Principles, the Joint Council also identified ten key elements for successful implementation of the Basalt Creek Concept Plan:

1. **Sewer**. Each City will serve its own jurisdiction area independently, to the extent reasonably possible, with the understanding that future agreements may be needed to address potential cooperative areas.

2. **Stormwater.** Each City will serve its own jurisdiction area independently, to the extent reasonably possible, consistent with the respective National Pollutant Discharge Elimination System (NPDES) stormwater permits, with the understanding that future agreements may be needed to address potential cooperative areas**.**

3. **Metro Title 4 Land.** The Basalt Creek Concept Planning Area is currently mapped and identified as an "Industrial Area" in Metro's Title 4 Code, which allows both housing and employment designations. The Cities agree to implement the land uses identified in the Basalt Creek Concept Plan.

4. **Transportation Funding**. The Cities acknowledge significant improvements will be needed to the existing and future transportation network as identified in the 2013 Basalt Creek Transportation Refinement Plan (TRP). In order to implement the TRP, Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and funding strategies.

5. **Future Regional Transportation Projects in the Basalt Creek Area.** The Cities will coordinate with Washington County and Metro to evaluate future regional transportation projects and decisions, beyond those identified in the TRP that affect its planned system capacity.

6. **Trips**. Proposed development will be reviewed by each City for impacts to the transportation system and consistency with the Concept Plan trip targets to achieve transportation system goals for the area.

7. **Basalt Creek Parkway and I-5 Crossings.** The Cities acknowledge the Basalt Creek Parkway and I-5 crossings identified in the TRP are critical to successful implementation of the Basalt Creek Planning Area. The Cities will seek to coordinate timely regional investments in these crossings to implement the Basalt Creek Concept Plan.

8. **North-South Local Street (Kinsman Road)**. Kinsman Road is planned as a local route both north and south of the jurisdictional boundary that will not connect to the Basalt Creek Parkway.

9. **Basalt Creek Canyon**. The Cities recognize the natural resource value of the Basalt Creek Canyon. Each city will comply with Metro Titles 3 and 13. The Cities also recognize the benefits of locating north/south trails near the Basalt Creek Canyon and bicycle connections that would connect the cities and other trail systems and be an asset for both residents and employees in the area.

10. **Public Transportation**. Robust transit services are critical to supporting the land uses envisioned in the Basalt Creek Planning Area. The Cities agree to coordinate efforts on how SMART and TriMet can best provide service throughout the area.

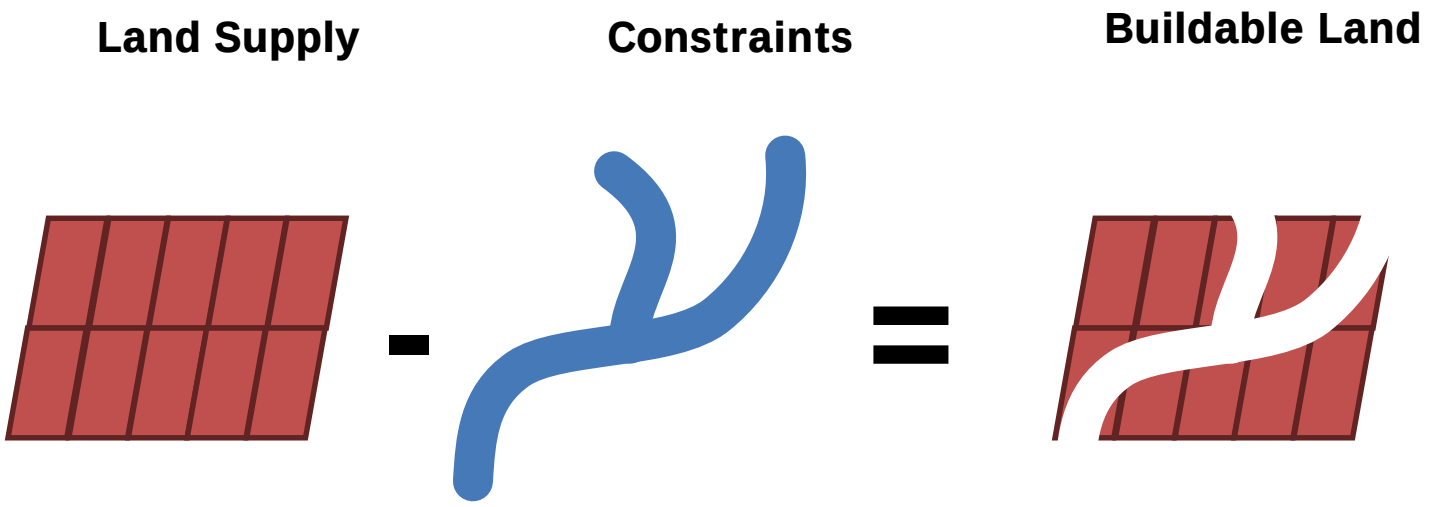
Buildable Lands Summary

Presented August 2014

Buildable Land

Buildable Lands =

Land Supply – Constraints (Environmental & Policy)



Analysis/Methodology

- Separate hard and soft constraints
  - Hard constraints will be excluded from the buildable land analysis
  - Soft constraints limit and guide development and were partially excluded from the buildable land analysis

- Parcels categorized into:
  - Vacant
  - Stable (residential use with higher building value)
  - Redev (site has redevelopment potential and/or is non-residential)

Basalt Creek

Environmental Hard Constraints:

- Mix of Clean Water Services, Title 3 and basic constraints

- Basic environmental constraints are:
  - Open Water
  - Streams
  - Wetlands
  - Steep Slopes (25% and greater)
  - Slope Stability
  - Title 3
  - Floodplains (50% land reduction)
  - Title 13 (20% land reduction)

Basalt Creek

Manmade Hard Constraints:

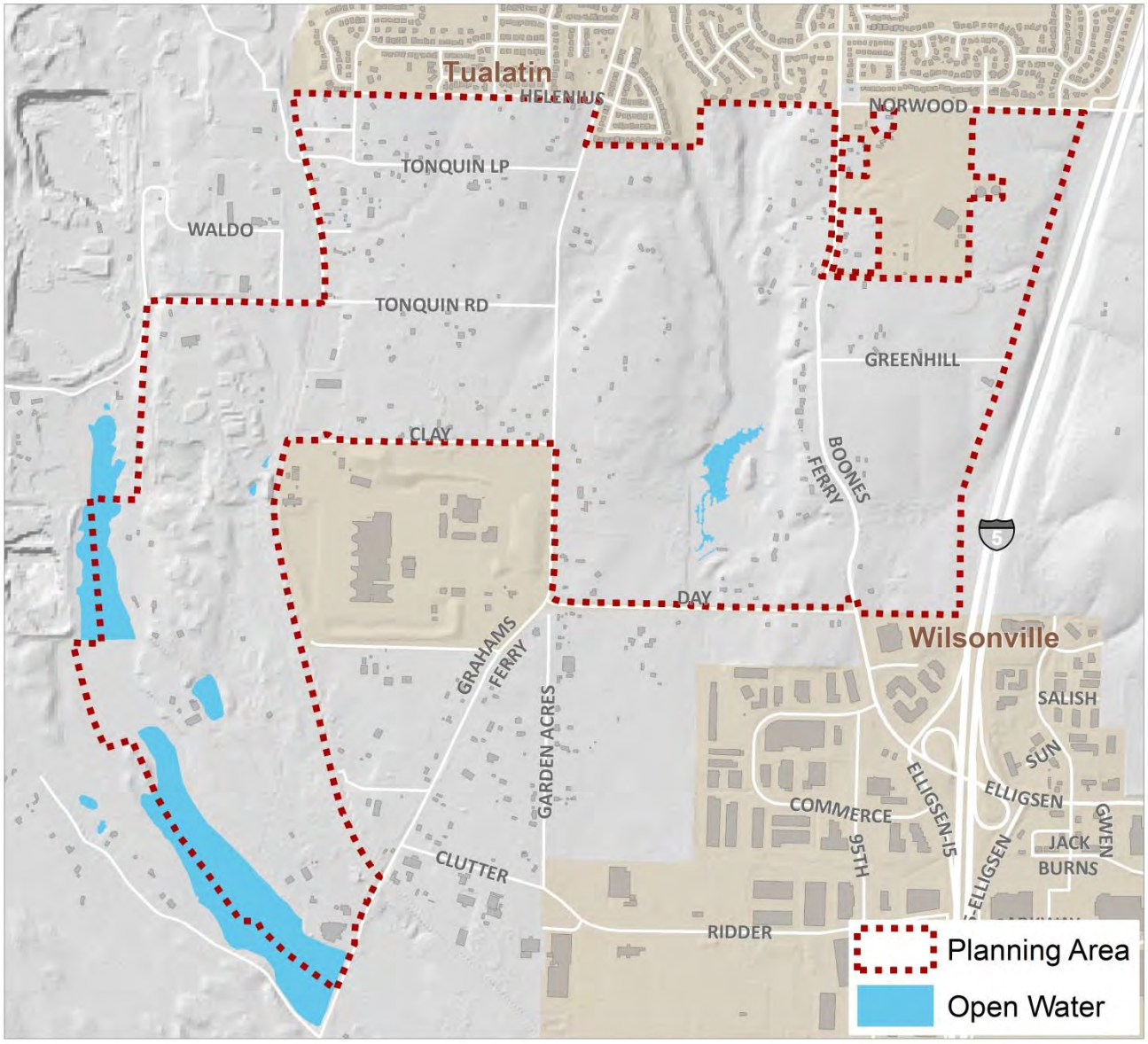
- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline

Basalt Creek

Soft constraints:

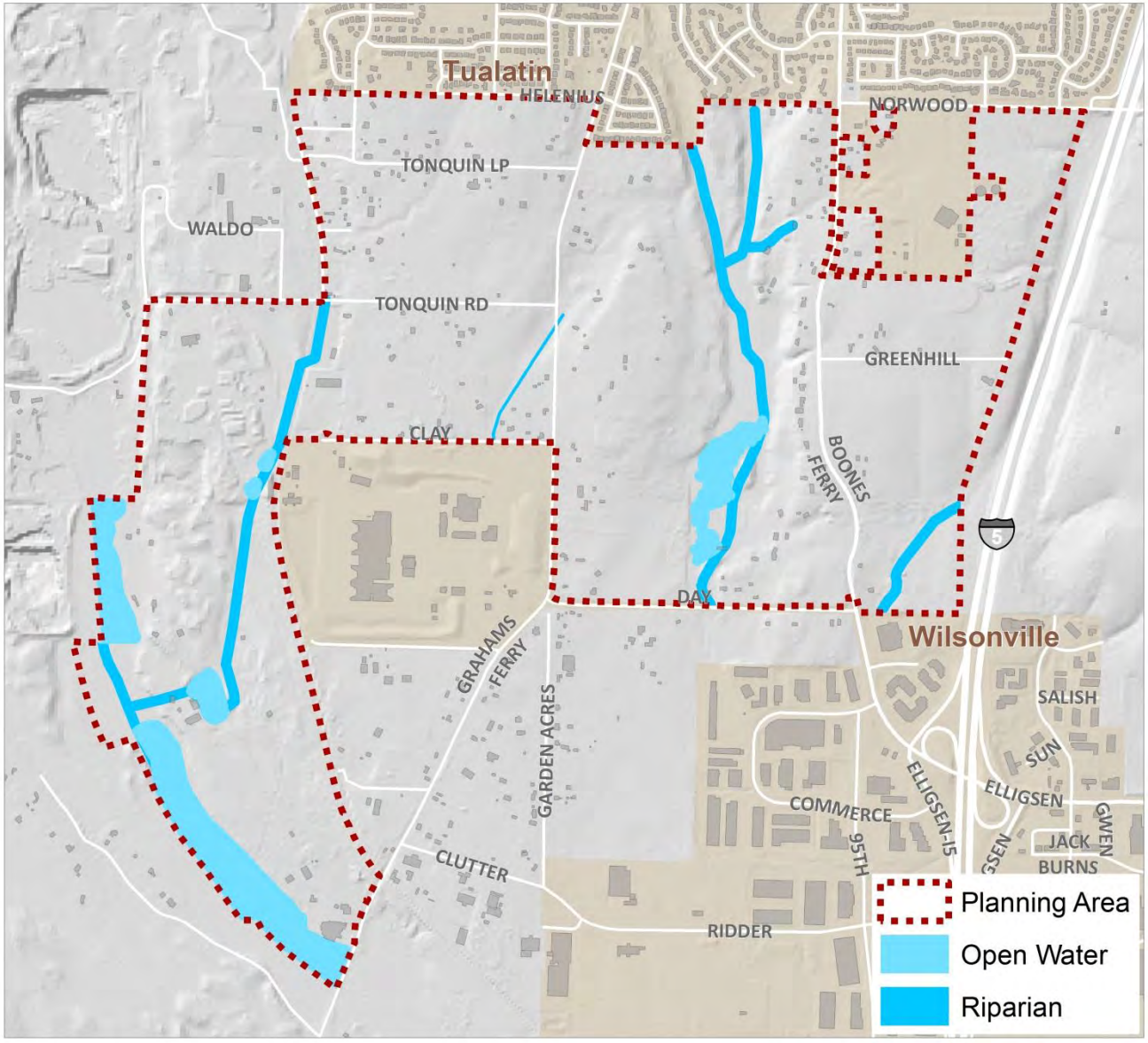
- Title 13
  - In addition to hard constraints, development in Title 13 land should be avoided where possible
- Road projects
  - East West Connection
  - Boones Ferry Road Widening
  - 2035 Overcrossing
- Others
  - 10%+ slopes regarding industrial development

Open Water



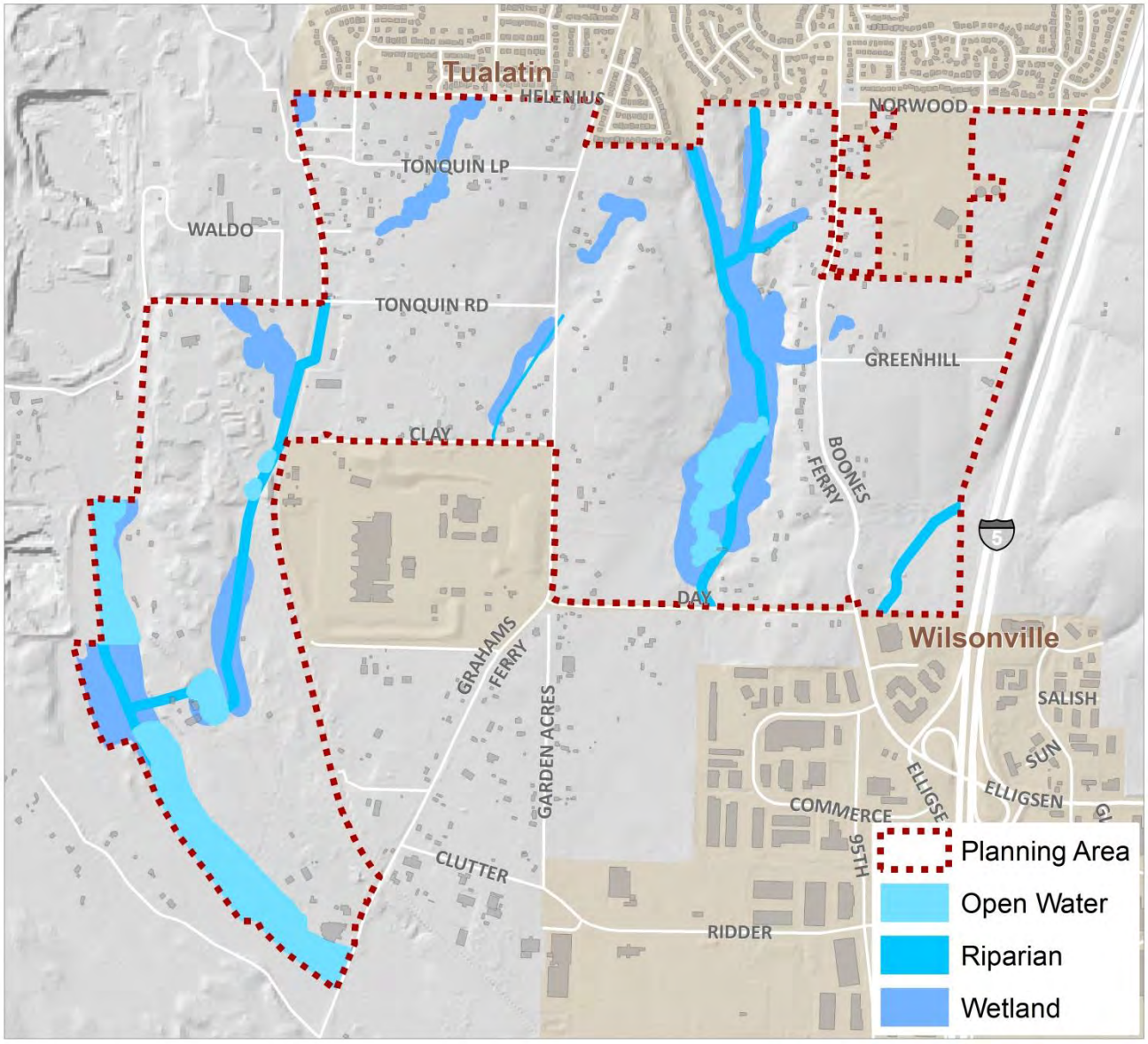
- **49** acres constrained
- Two sources:
  - Digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
  - David Evans and Associates – 75% engineering files 124th Extension
- For constraints analysis:
  - Open water - **50ft** buffer

Streams - Riparian



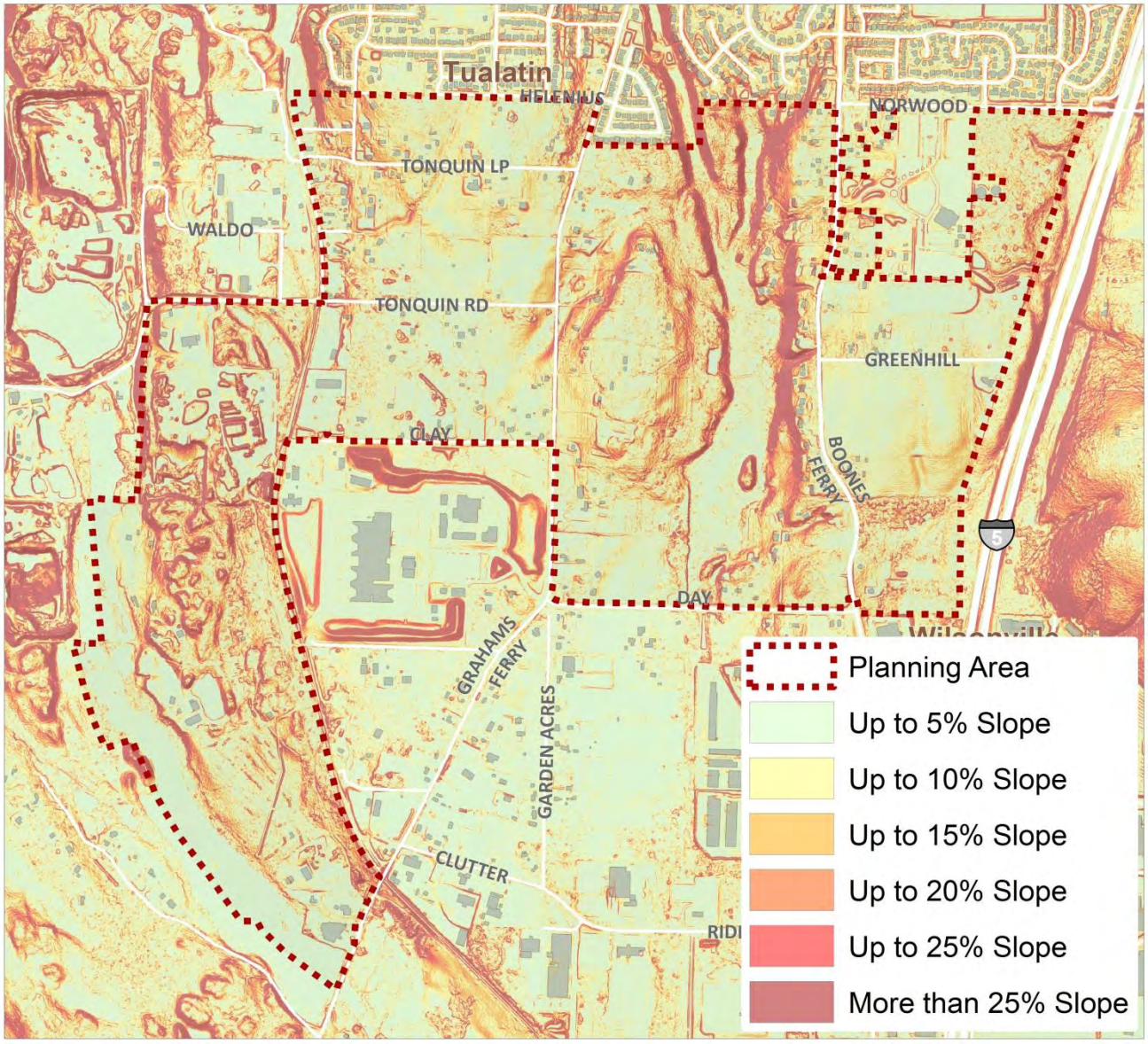
- **31** acres constrained
- Three categories of streams:
  - Natural stream – 18,845 feet
  - Underground stream – 789 feet
  - Intermittent stream – 1,402 feet
- Stream categories determined:
  - by visual survey of 2013 and 2012 (leaf free) aerials and intermittent stream through comment by Kerry Rappold, City of Wilsonville
  - Fieldstudy performed by City of Wilsonville
- For constraints analysis:
  - Natural stream - 50ft buffer
  - Intermittent stream - 15ft buffer

Wetlands



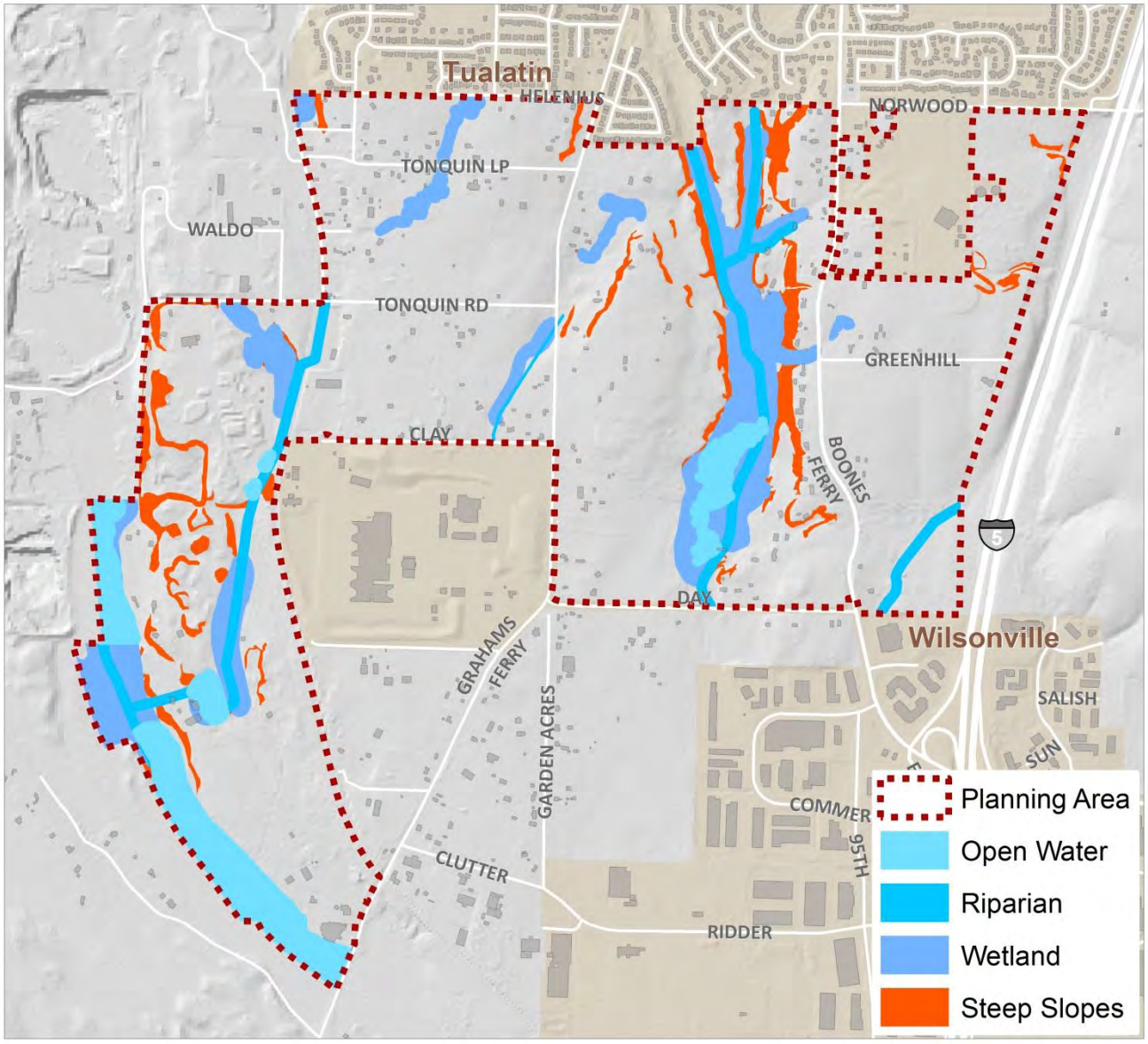
- **70** acres
- Sources are:
  - RLIS
  - Wetland Delineation Report for Proposed Boones Ferry Widening
  - David Evans and Associates – 75% engineering files 124th Extension
  - additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
- For constraints analysis:
  - Wetlands - **50ft** buffer
  - Isolated wetland and smaller than a half acre – **25**ft buffer

Steep Slopes



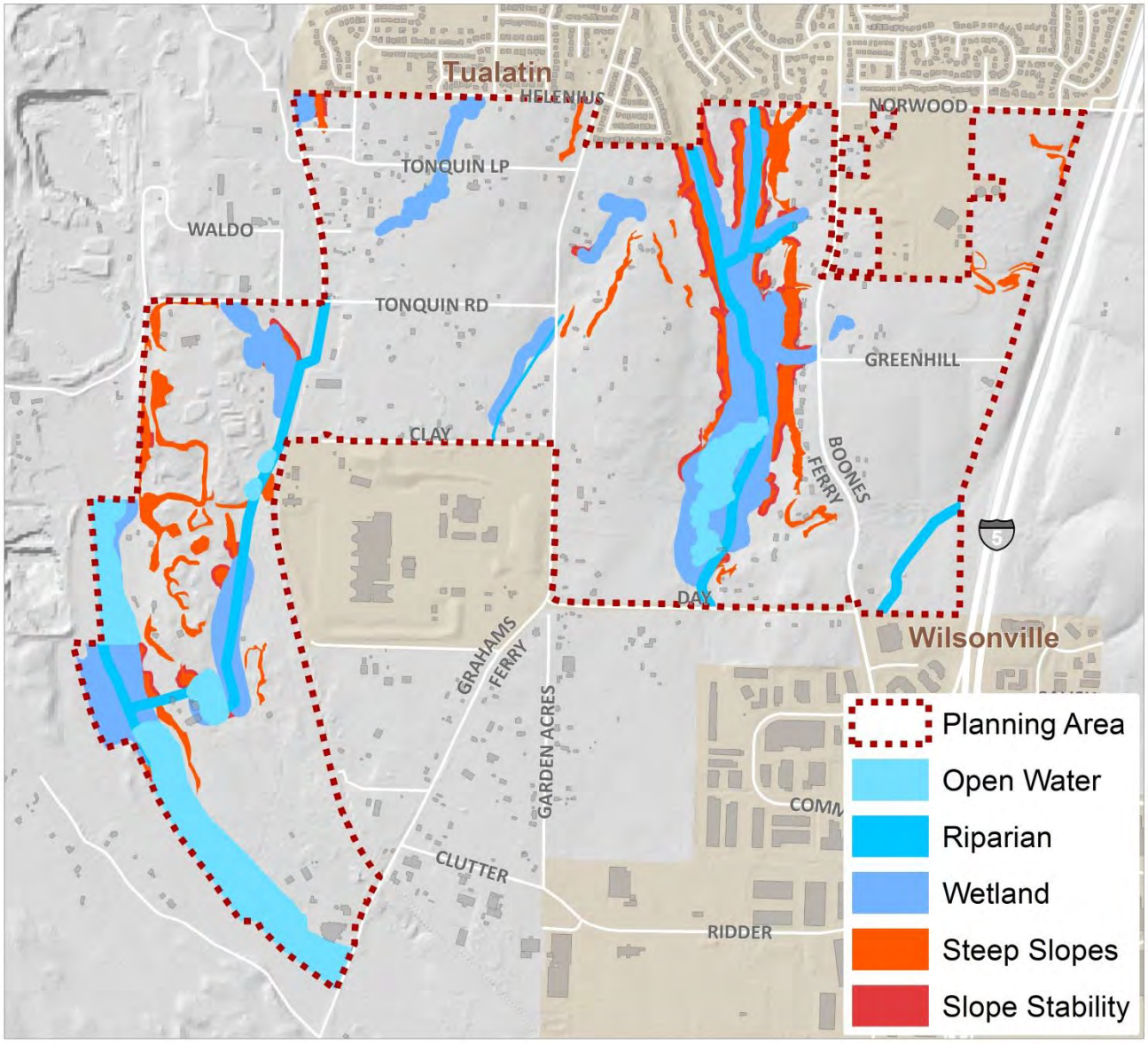
- For constraints analysis:
  - Using slopes from 3ft DEM
  - Non-isolated slopes, greater than half an acre, natural and or along a riparian area

Steep Slopes



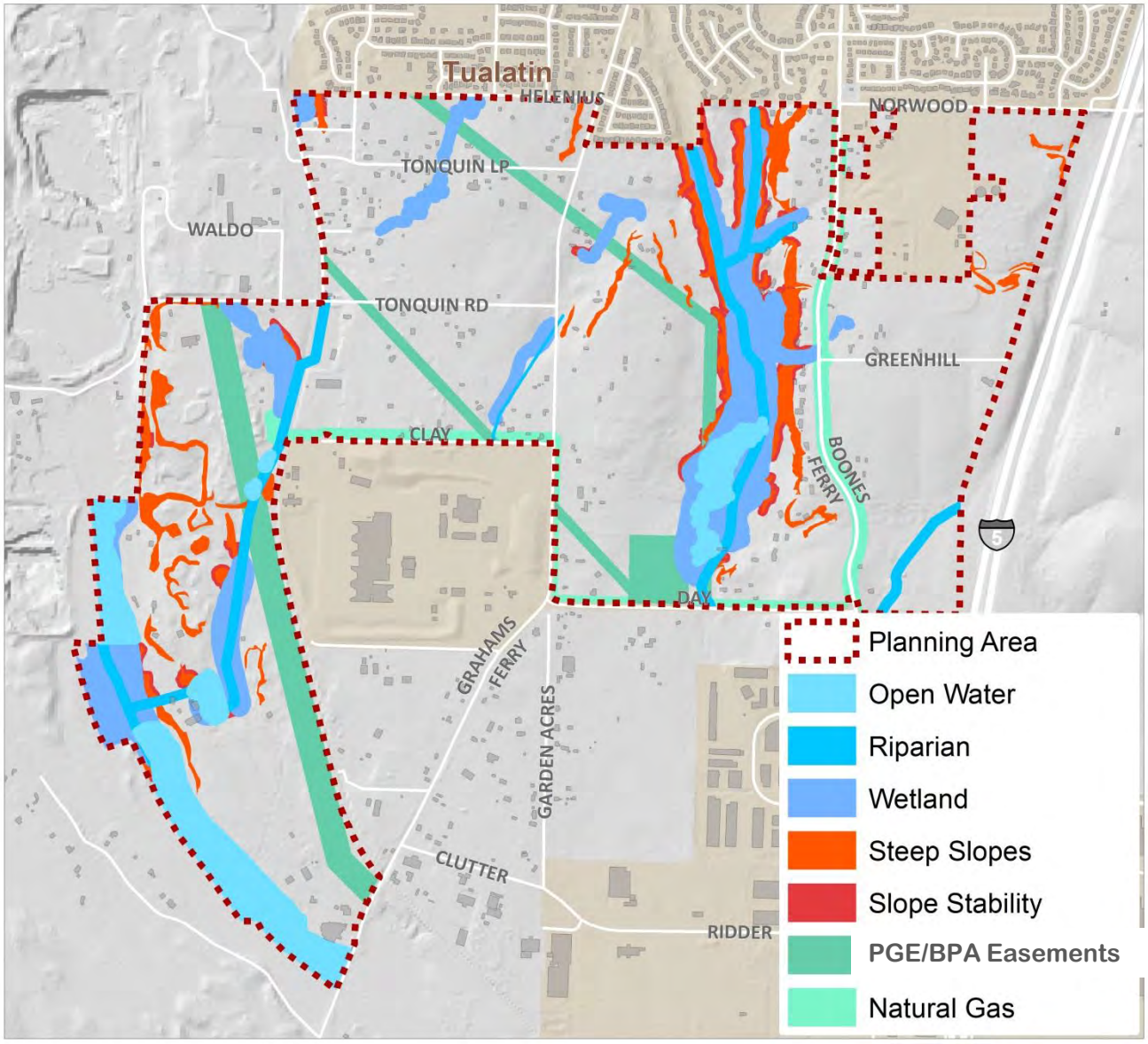
- **40** additional acres constrained for steep slopes (25% and above)

Slope Stability



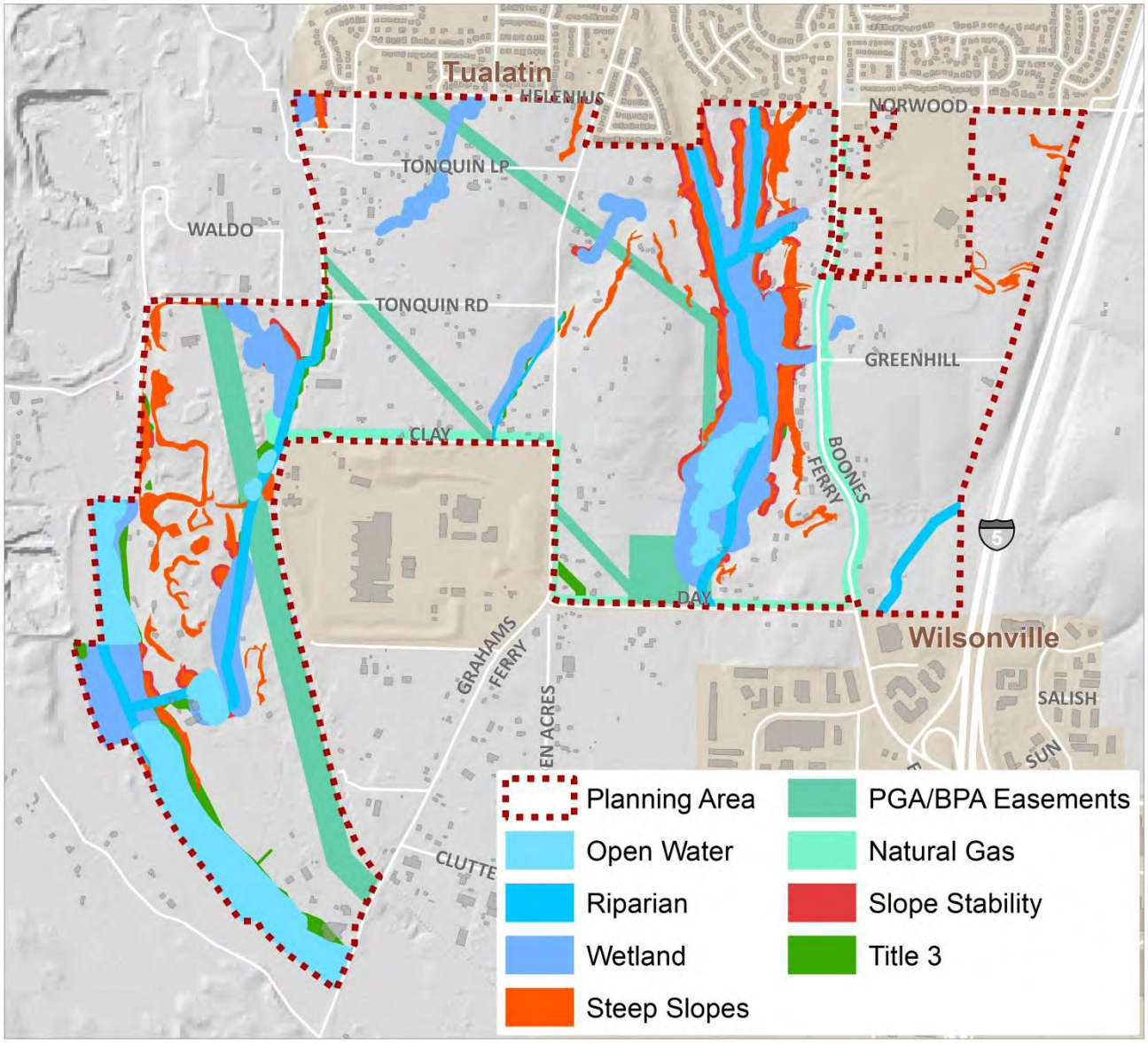
- **11** additional acres constrained as buffer to steep slopes
- Buffer needed for up to 200 feet from vegetated corridor
- CWS request an additional 35ft for steep slopes within vegetated corridor
- Measured from top of bank/break in 25% slope

Utilities



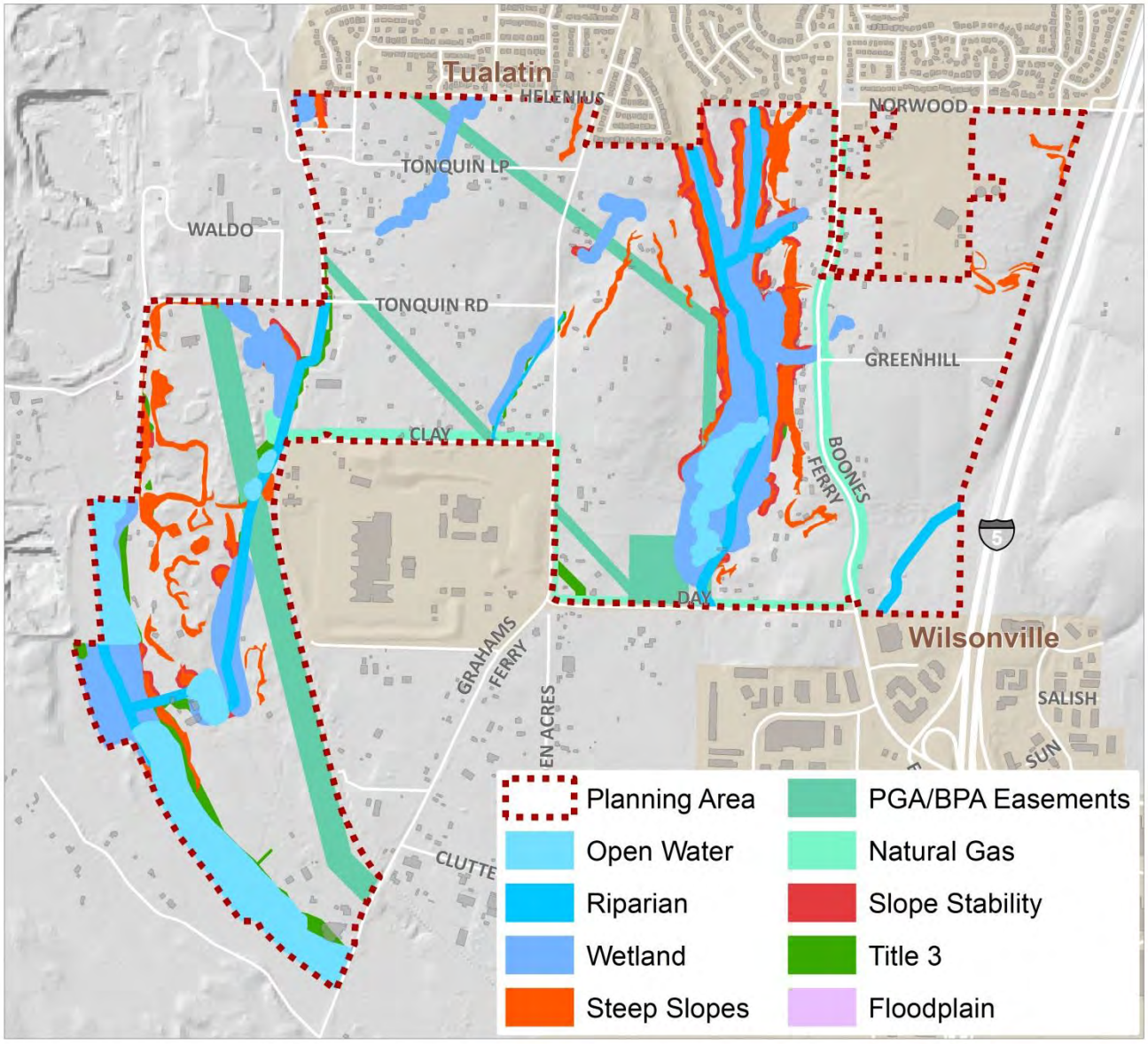
- **84** additional acres constrained
- Almost 16,000 feet of transmission lines crossing the area
- 2 easements:
  - BPA 42.3 acres
  - PGE 18.0 acres plus 4.1 acres substation
- 2 natural gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

Title 3 (Metro)



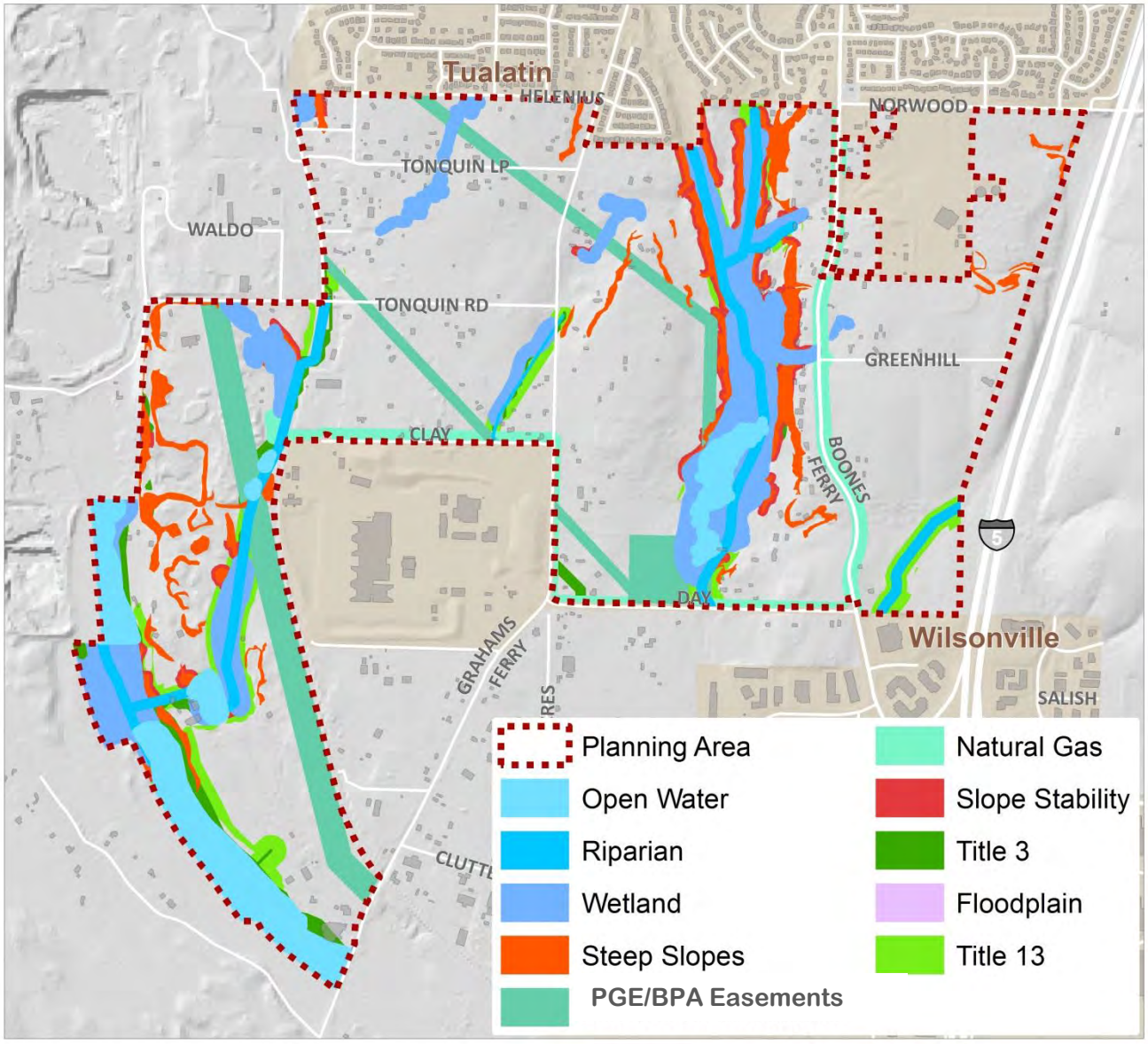
- In addition to the above analysis, Title 3 adds **8** acres of land that was not previously constrained

Floodplains



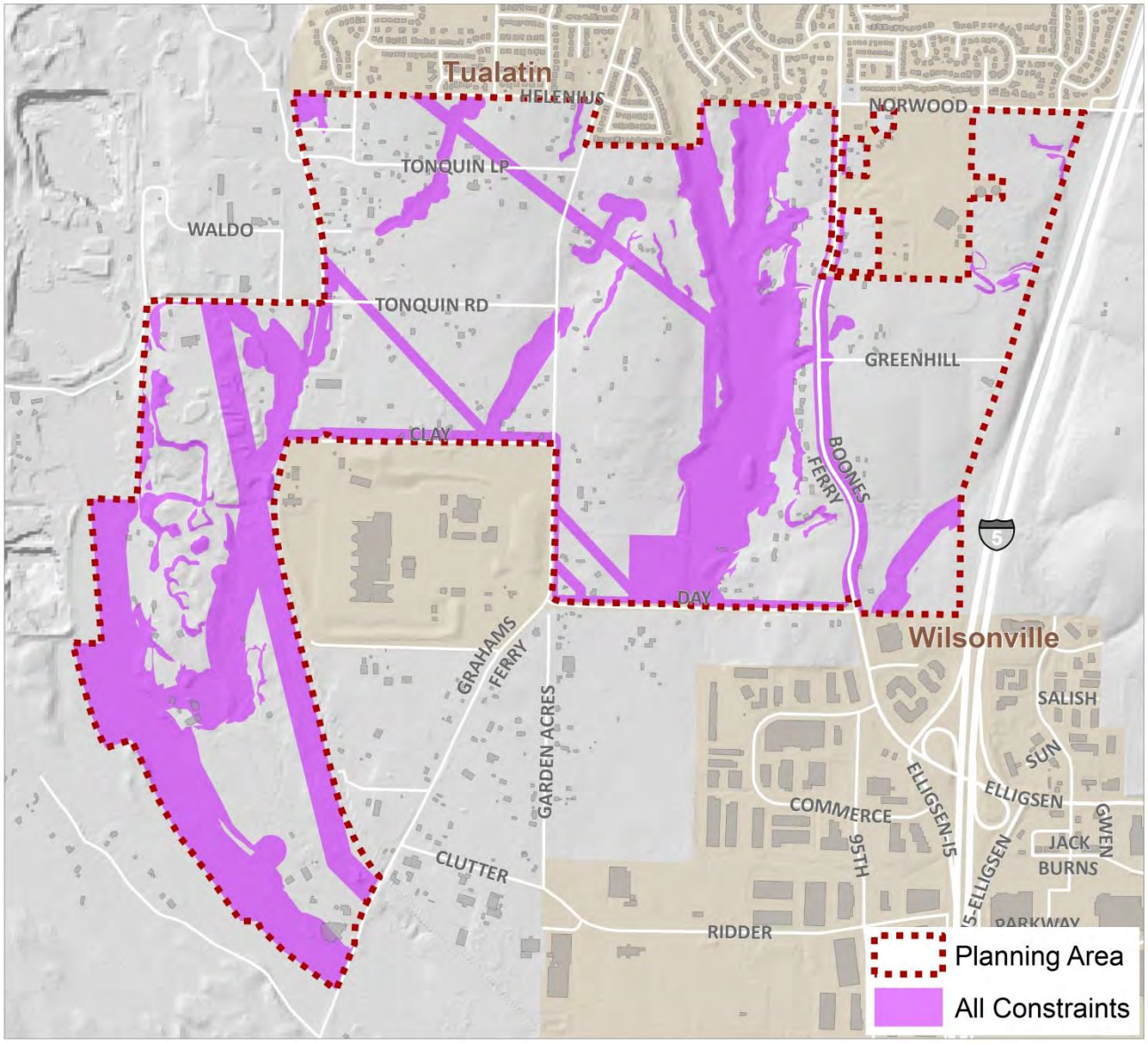
- For constraints analysis:
  - 50% of land in floodplains is removed
- Results in only **0.01** additional acres of previously unconstrained land

Title 13



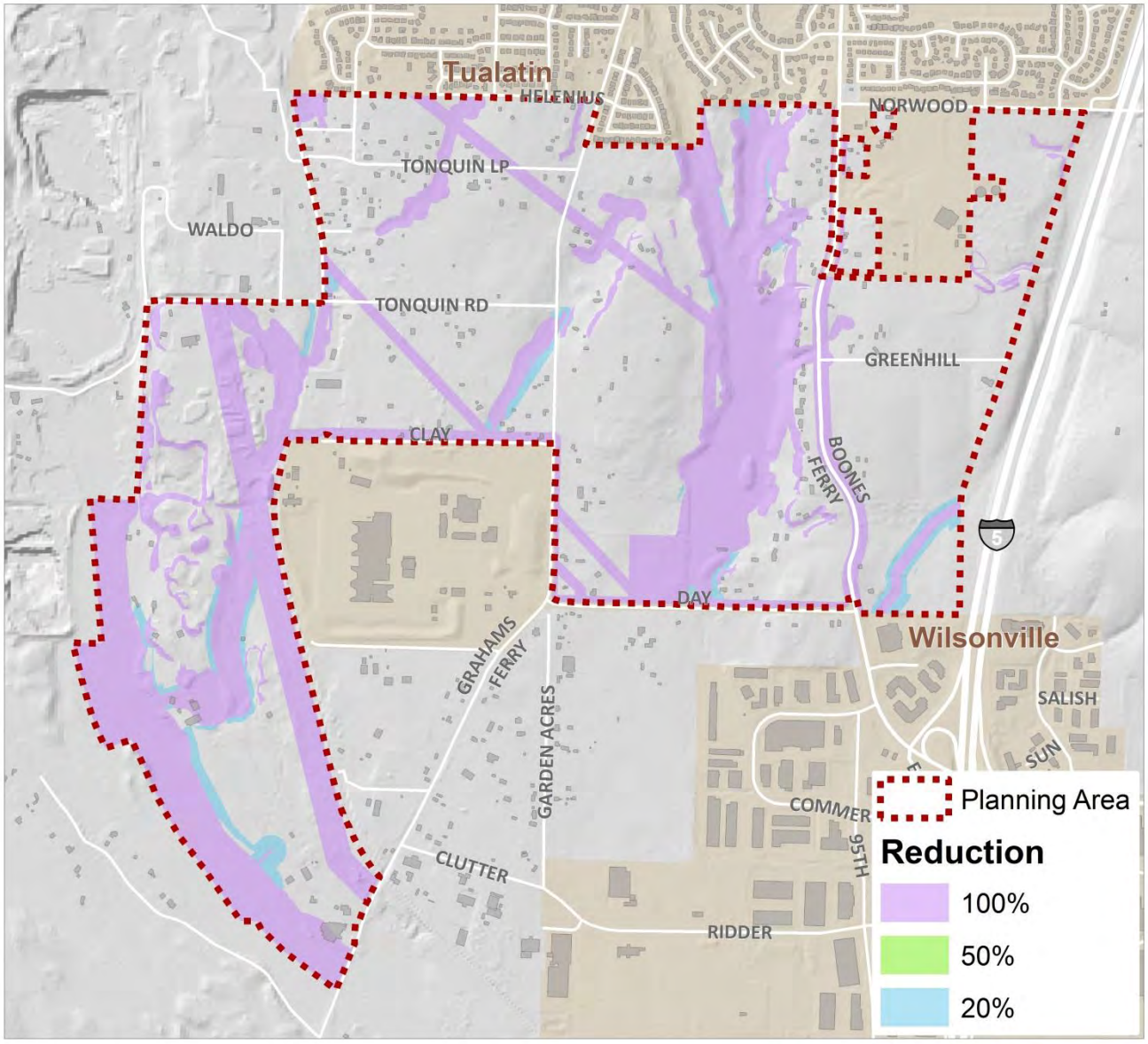
- Based on METRO requirement to set aside 20% of land for protection in Riparian Class I and II, **4** additional acres are constrained

All Constraints



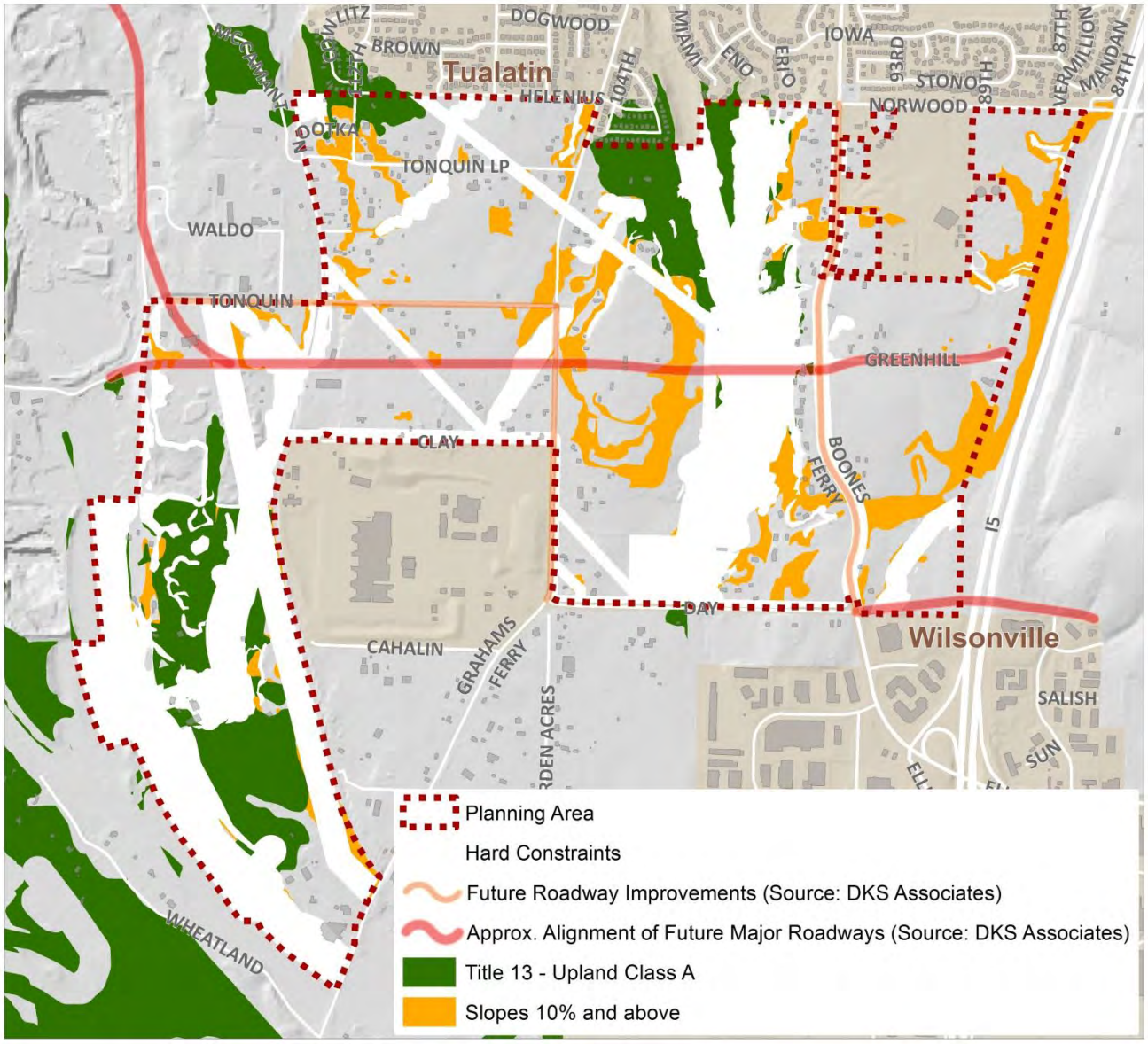
- A total of **296** acres are constrained
- Study area total is **847** acres
- **35%** of the Basalt Creek area is constrained

All Constraints



- **35%** of the Basalt Creek area is constrained

Soft Constraints



- 10% slopes and greater
- Title 13 Upland Class A
- Various road projects
- These soft constraints are a consideration when planning development but no land was removed from buildable lands based on these categories

Land Supply

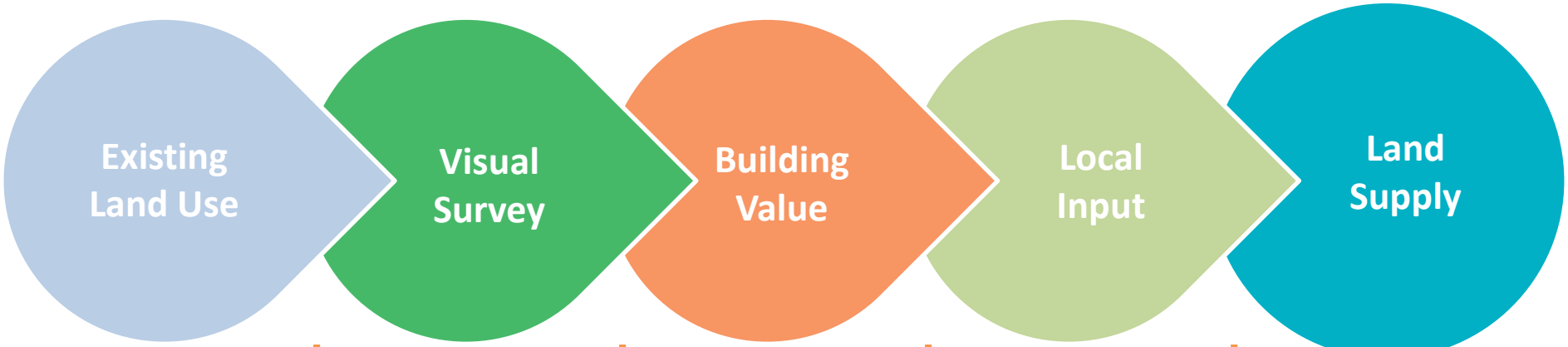
- Three elements:
  - Vacant Land – Land ready to build, no major structure on site
  - Redev Land – Land with some redevelopment potential
  - Stable Land – Land and structures on it will not change in the future

Vacant Land

Redev Land

Stable Land

Four-Step Methodology

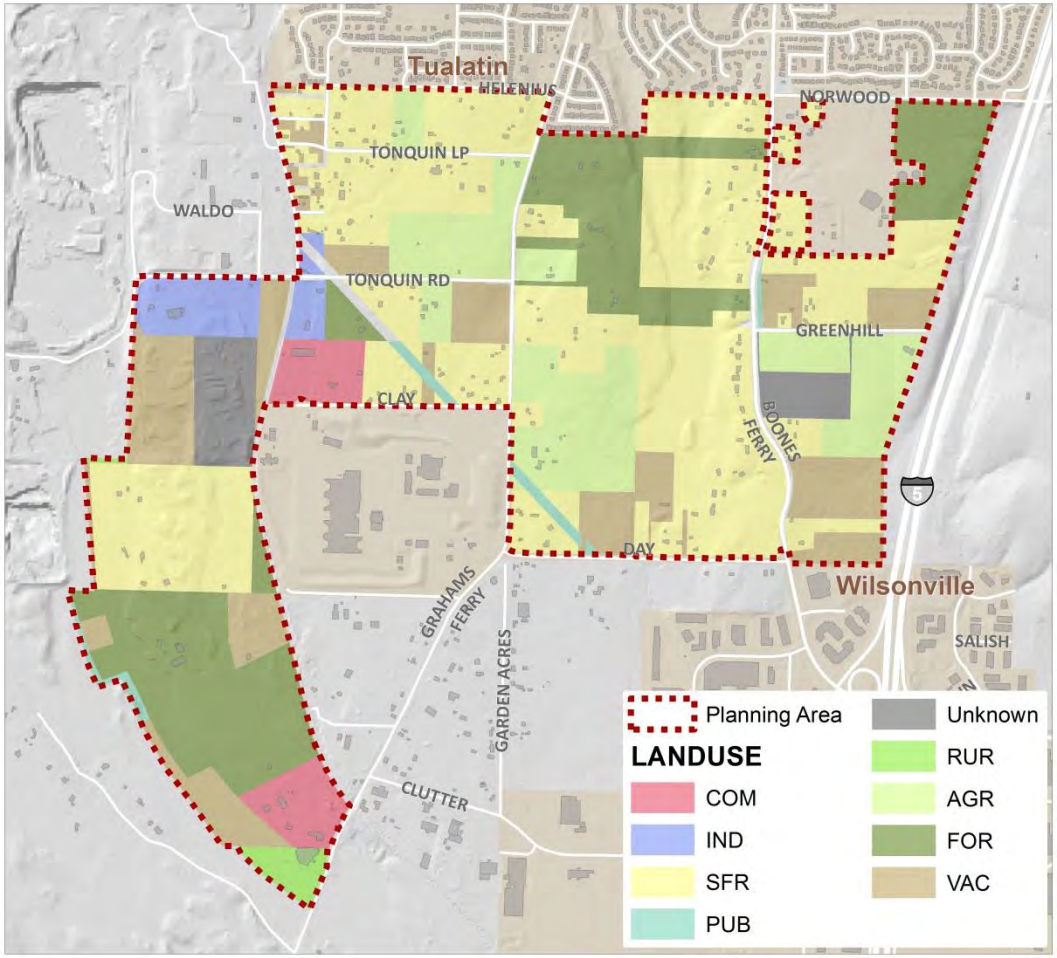


1. Land use provided by tax lot data via RLIS (Metro data)
2. Ground proofing using aerials and online tools
3. Define “stable” building value
4. Refine analysis with local input

Land Use

1. Step

- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



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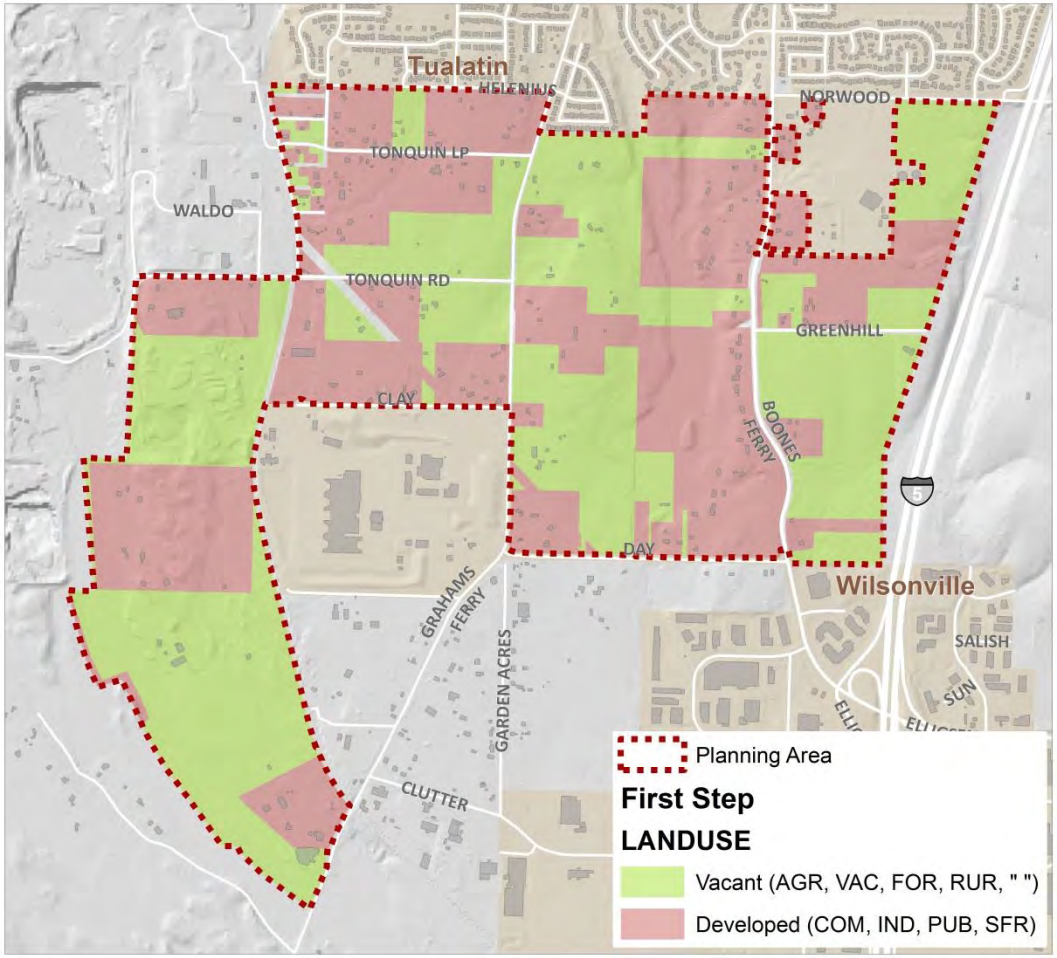
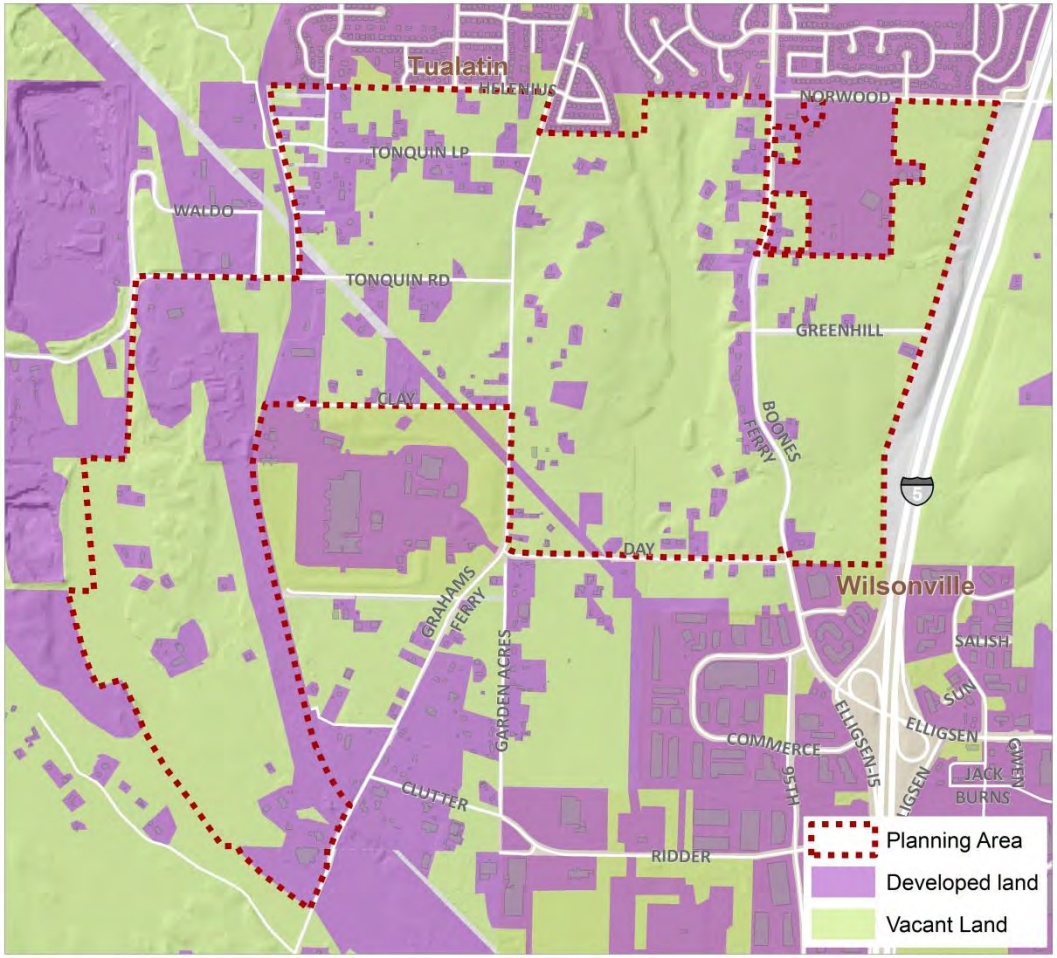


Visual Survey

2. Step

- Vacant and developed land (RLIS March 2014)
  - Does not limit itself to taxlots
  - Uses “Cookie Cutter” around buildings



Visual Survey

2. Step

- Adjust for large amount of partially vacant or “unused” land
  - Uses “Cookie Cutter” around buildings
    - Split to allow for backyard
    - Split, where lot becomes “natural”
  - Via visual survey of aerial, Google Map Street View, and Bing Map Bird’s Eye
  - Use RLIS coverage as guide

Split lot

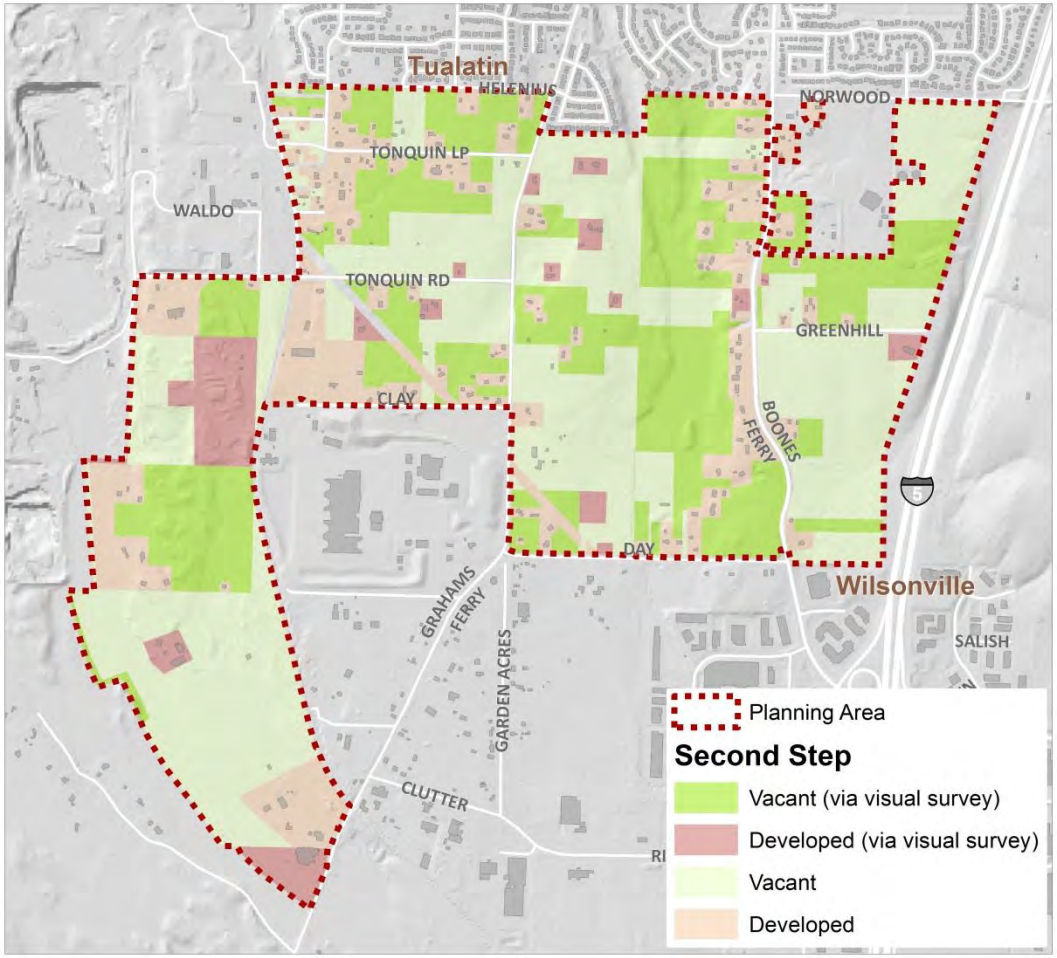
Split lot

From vacant to developed

Visual Survey

2. Step

- This map shows additional developed land based on visual survey that was first identified as vacant based on the land use



Building Value

3. Step

- What is “Stable”:
  - No changes to the taxlot are expected
    - No growth
    - No additional employment
    - No additional housing unit
    - Minor improvements to property but not much more

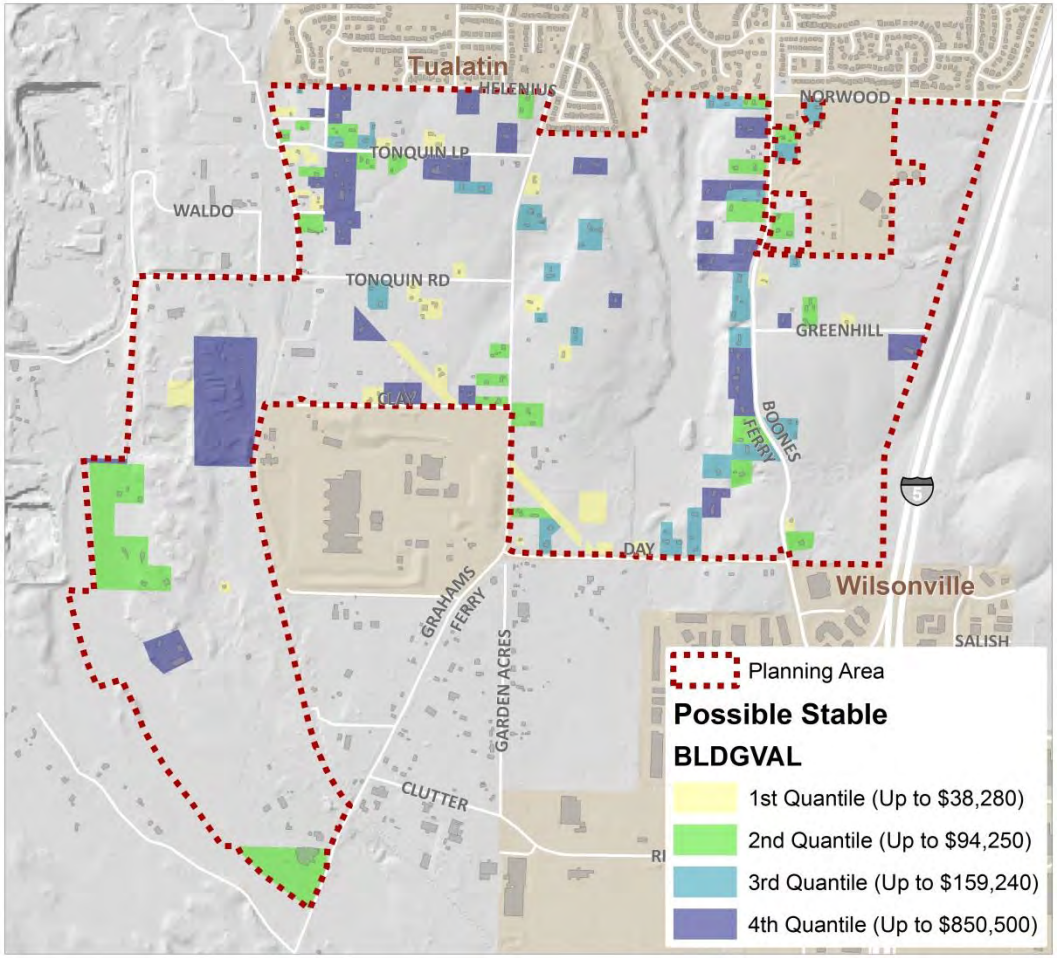
Newer Single Family Home

Older Single Family Home

Building Value

3. Step

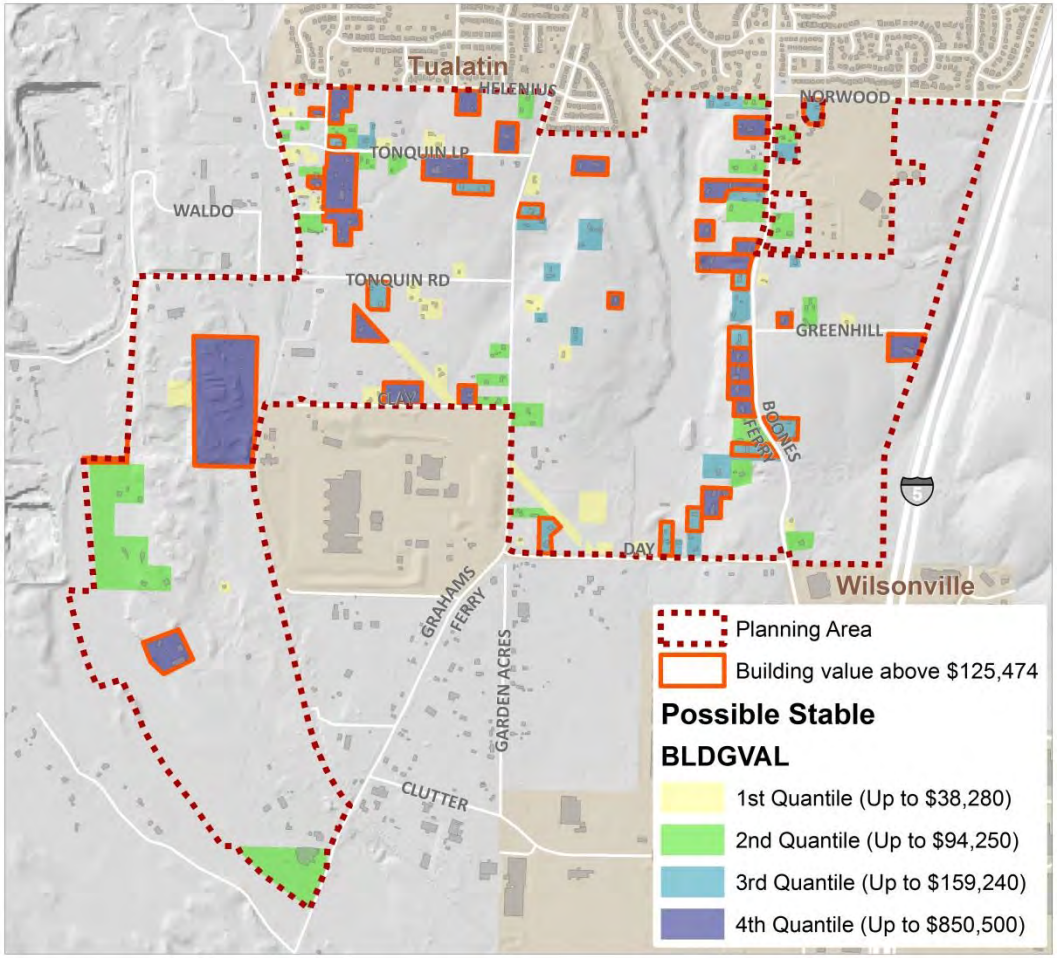
- Select only residential
  - Exclude COM and IND land uses which are considered more likely to redevelop no matter the building value
- Quantiles:
  - In which range falls a specific building?
  - 50% of building values are below $95,000



Building Value

3. Step

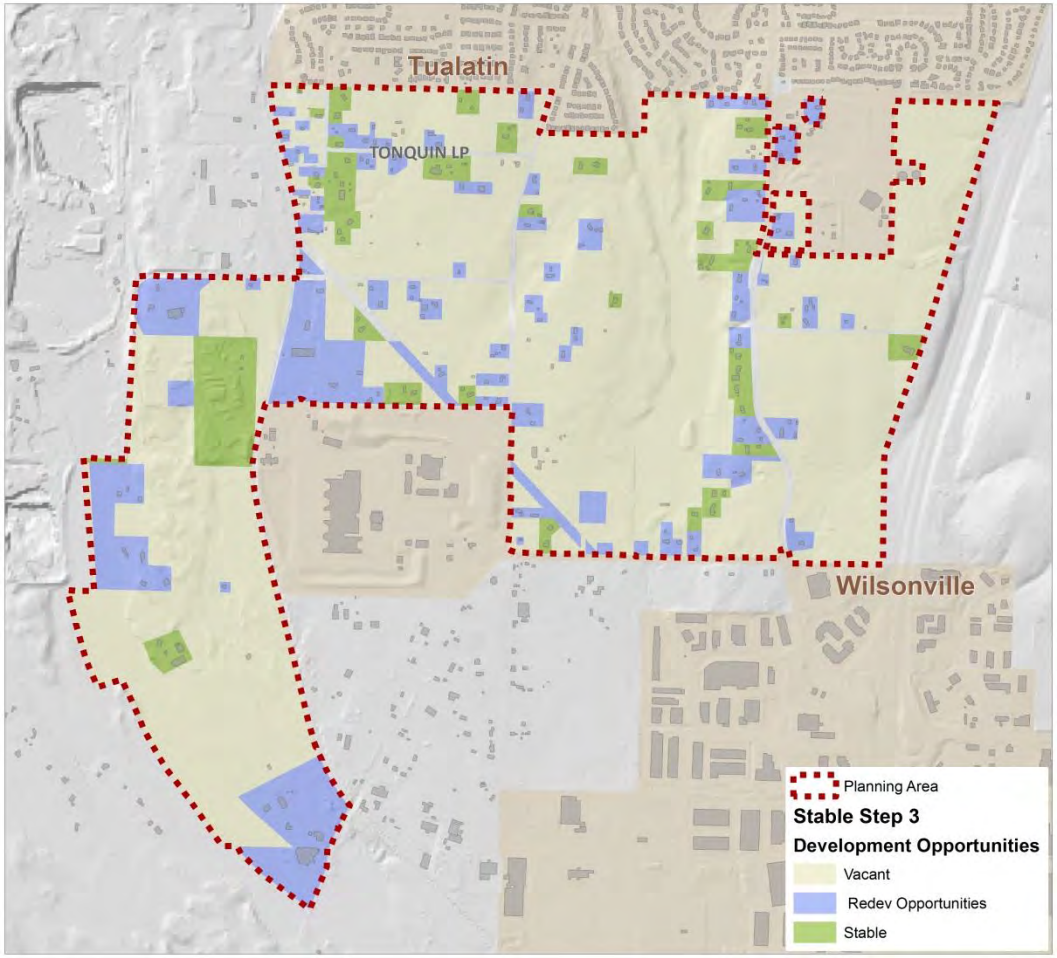
- Assuming higher building values will be stable
  - Average building value is **$125,474**



Building Value

3. Step

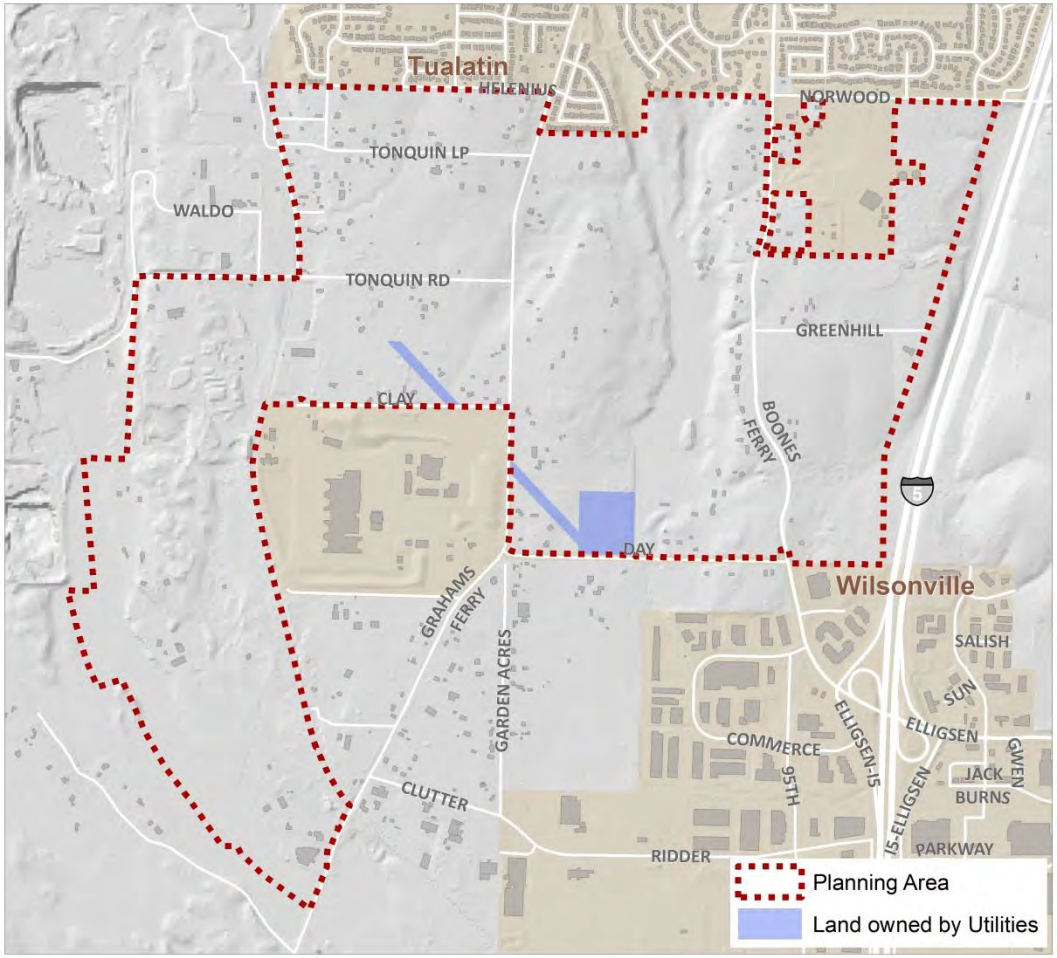
- Introduced “stable”
  - Non commercial buildings only
  - On developed land
- Assuming higher building values will be stable
  - Average building value is $125,474
  - Set limit to **$150,000,** based on owner input
    - Existing rural development are more likely to redevelop under/with an urban footprint
    - Know of site that the owner would like to redevelop (current building value is about $145,000)
- **34** sites identified as stable



Local Input

4. Step

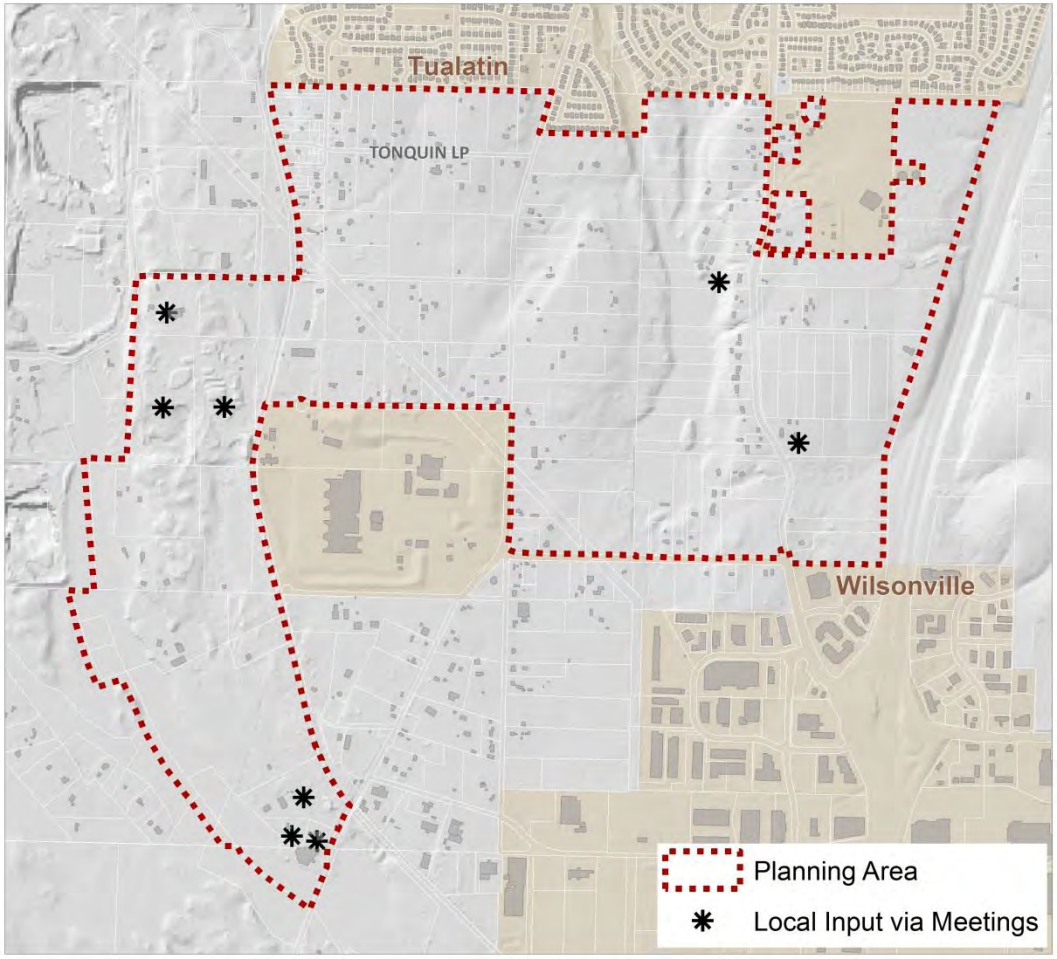
- Utilities
  - PGE sub station
  - BPA Properties



Local Input

4. Step

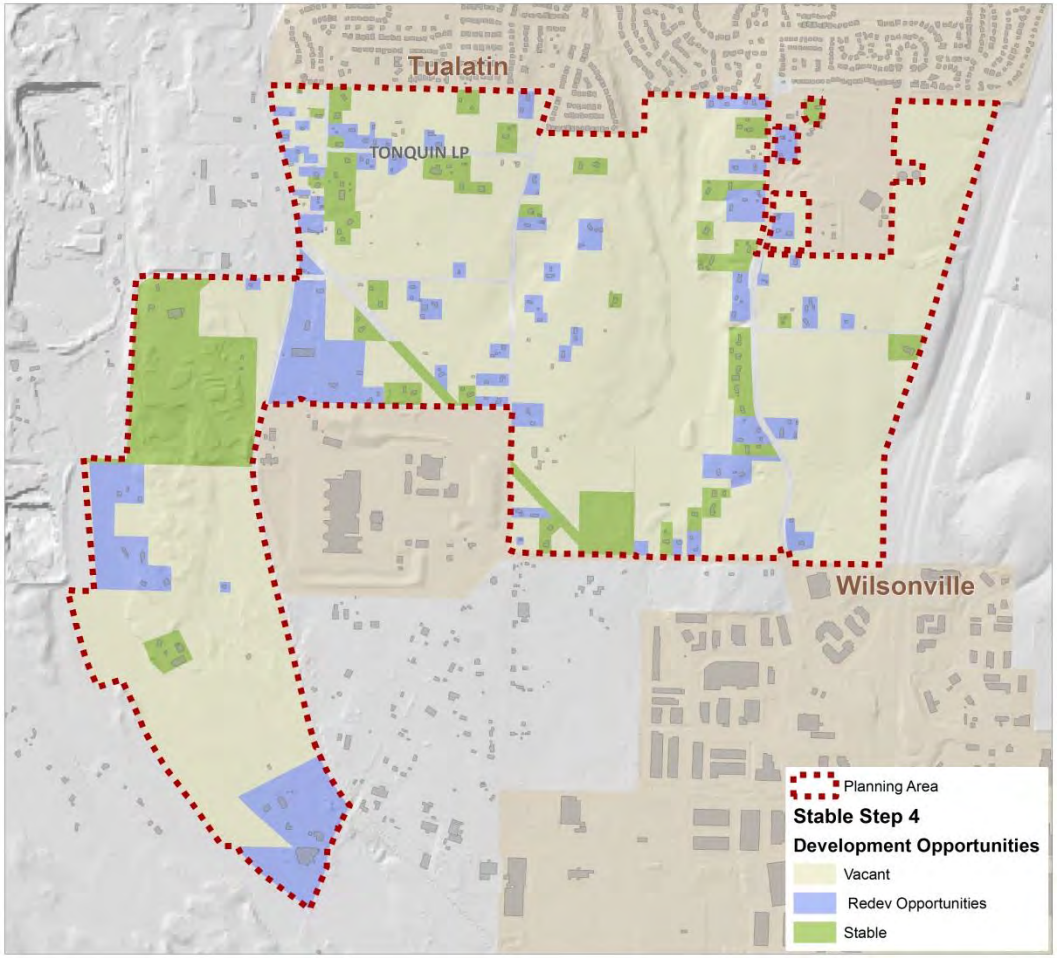
- Local Input
  - Stakeholder meetings
  - Focus group meetings



Local Input

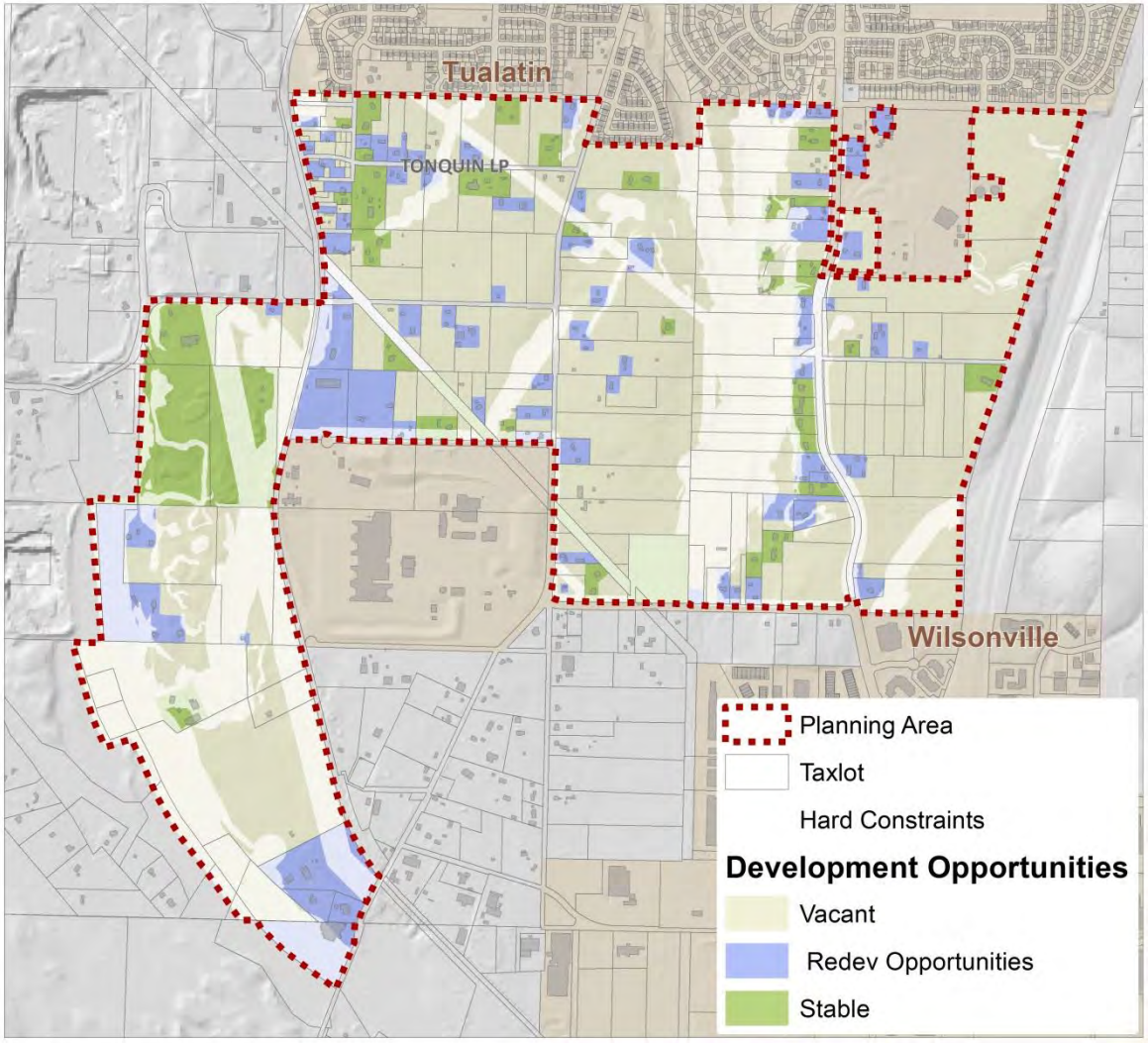
4. Step

- **43** sites identified as stable, based on:
  - Building value
  - Local Input
- **596** acres are vacant
- **117** acres are available for redevelopment



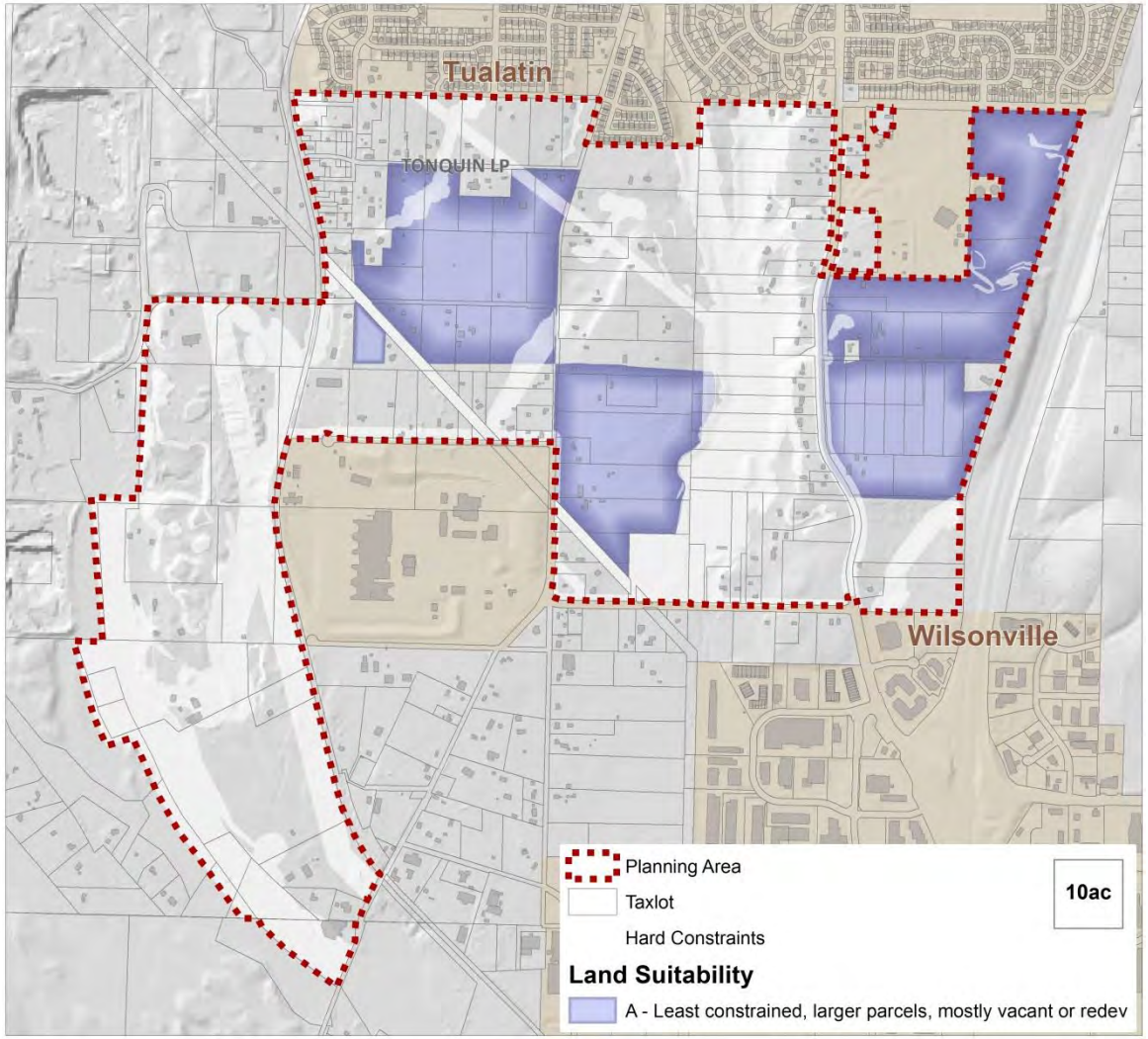
Suitable Sites

- Multiple Sites vary by:
  - Taxlot size
  - Amount of constraints
  - Vacancy and redevelopment opportunities



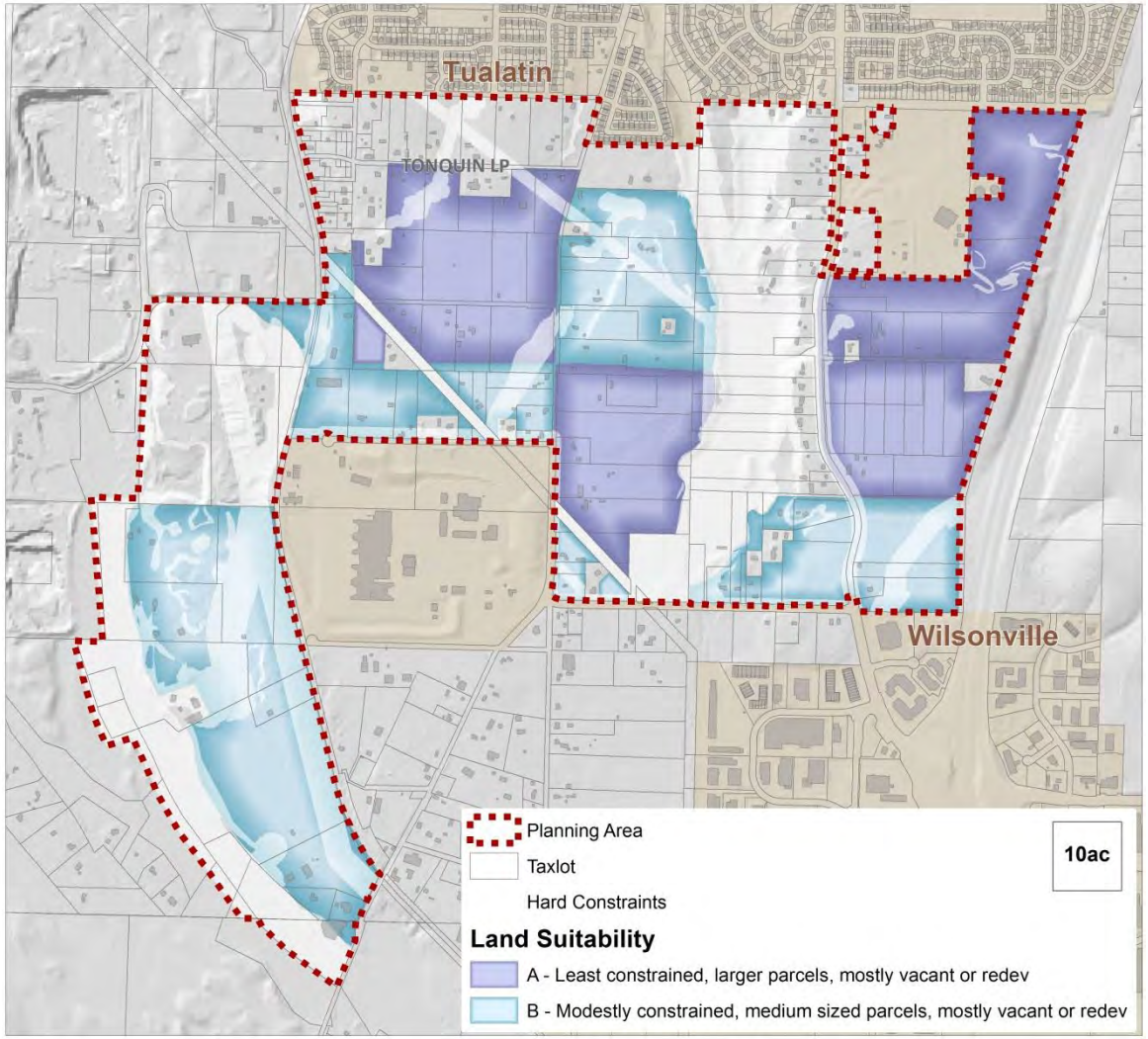
Suitable Sites

- Suitability A:
  - Larger parcels
  - Least constrained
  - Mostly vacant, might have redevelopment opportunities
  - 214 buildable acres (does not exclude built road network, etc.)



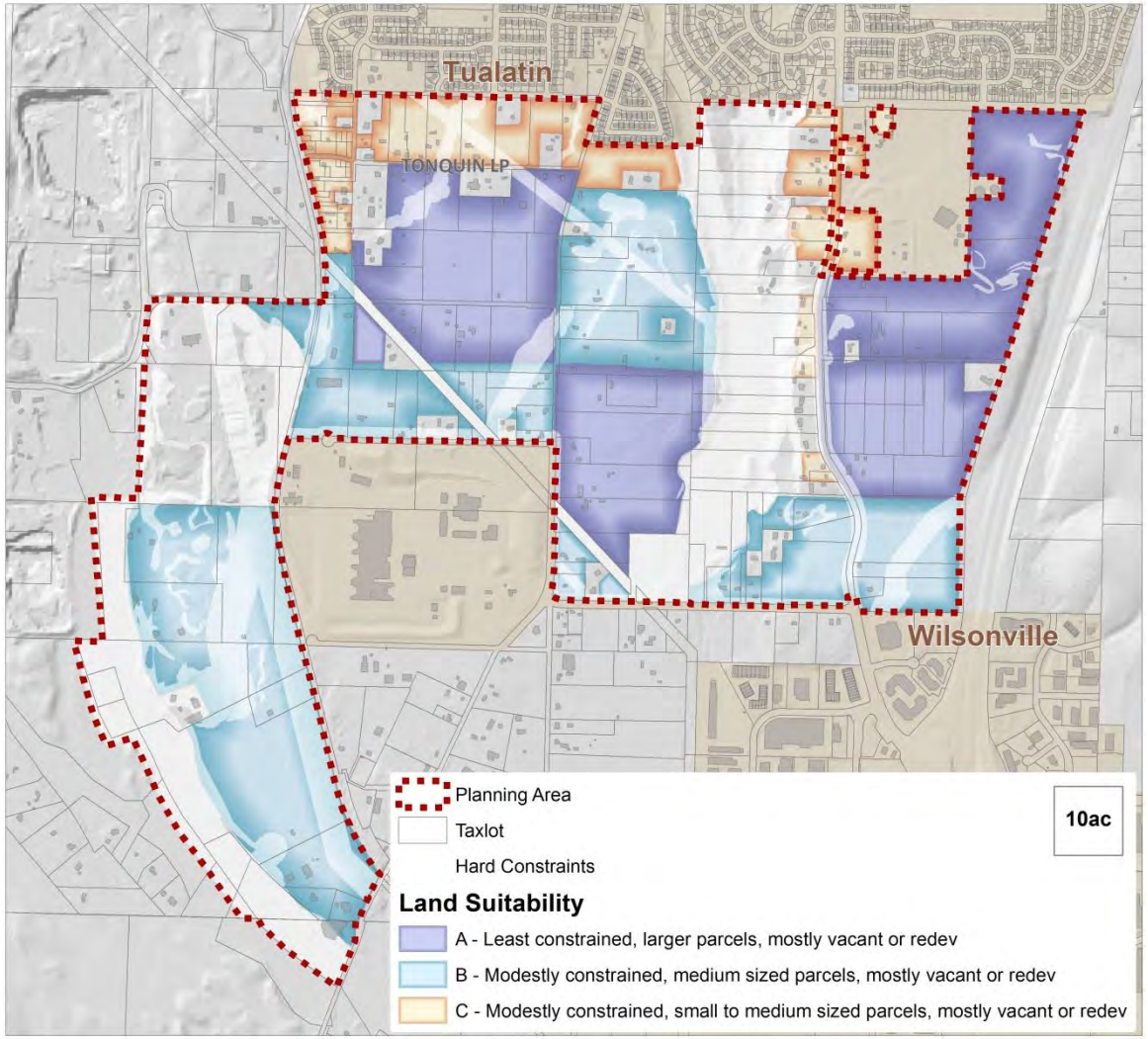
Suitable Sites

- Suitability B:
  - Medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 193 buildable acres (does not exclude built road network, etc.)



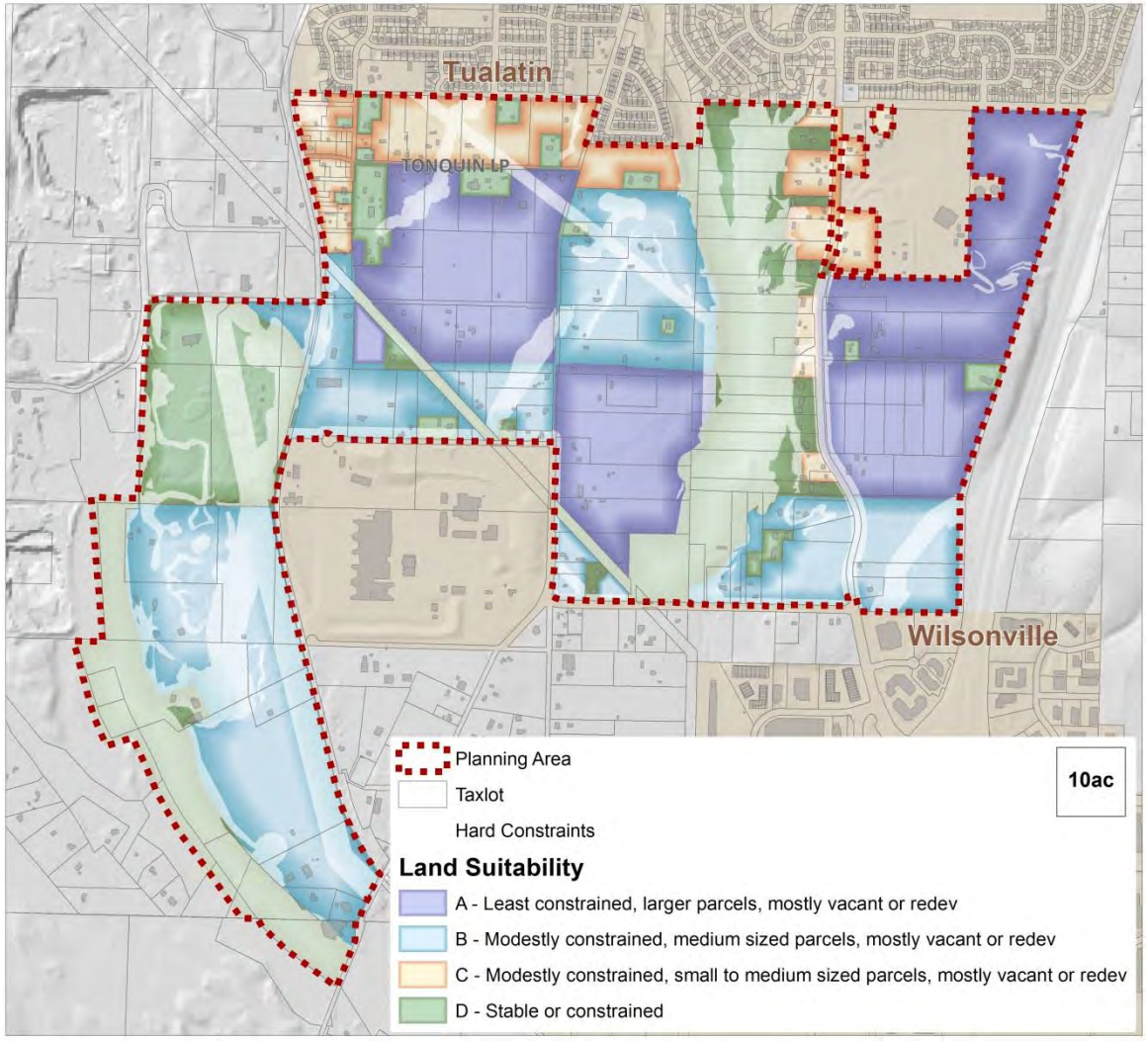
Suitable Sites

- Suitability C:
  - Small to medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 64 buildable acres (does not exclude built road network, etc.)



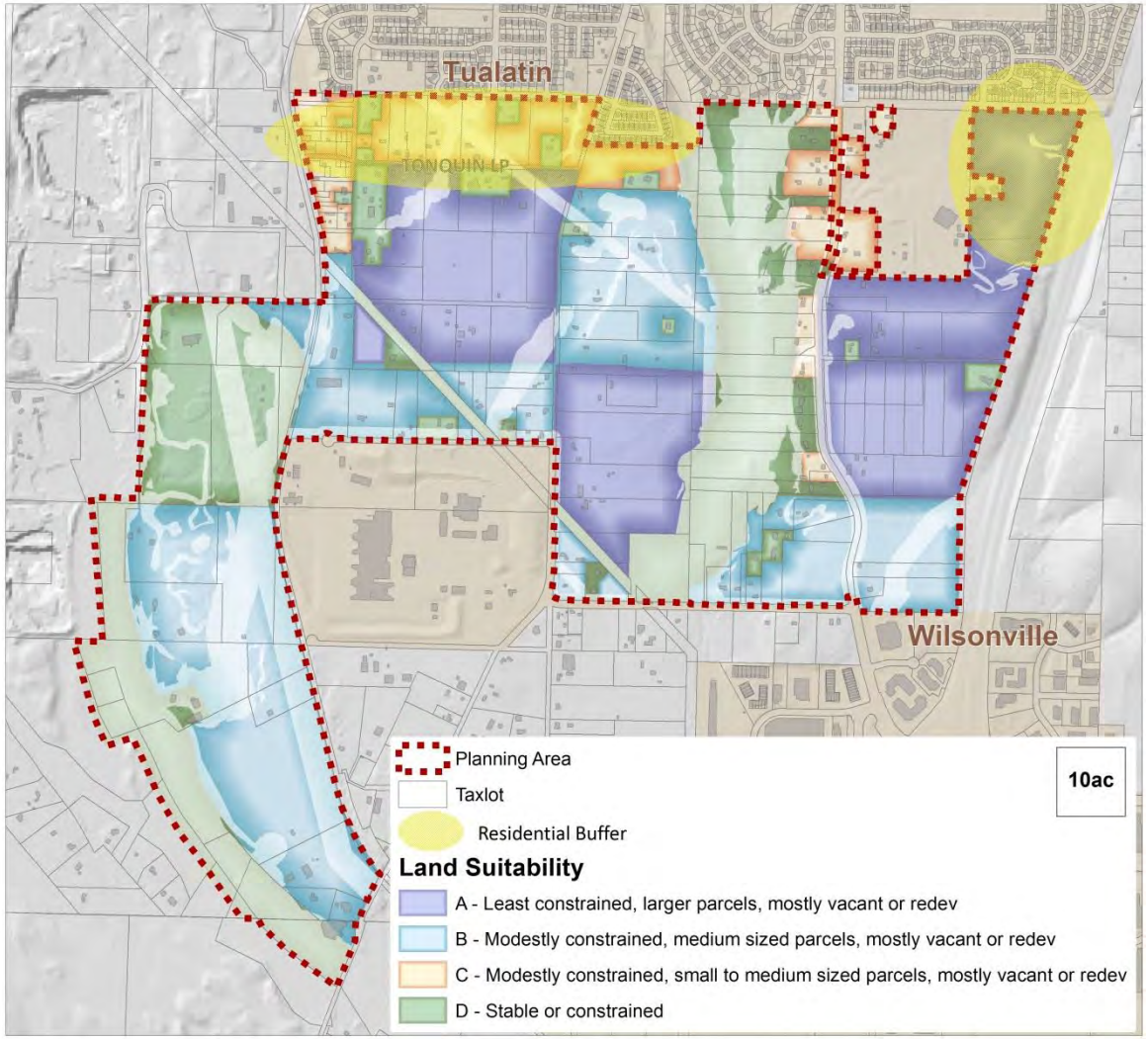
Suitable Sites

- Suitability D:
  - Stable or mostly constrained
  - 82 “buildable” acres (does not exclude built road network, etc.)



Suitable Sites – Residential Buffer

- Residential Buffer:
  - 63 buildable acres (does not exclude built road network, etc.)



Buildable Land à la Envision*

Site	Constrained Acres	Vacant Acres	Redev Acres
Suitability A	15	197	12
Suitability B	79	144	47
Suitability C	12	38	20
Suitability D	136	12	1

*based on parcel file (excludes roadways and stable parcels)

BASALT CREEK
CONCEPT PLAN

MARKET ANALYSIS

DRAFT

PREPARED FOR

City of Tualatin Oregon

City of WILSONVILLE OREGON

PREPARED BY

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Contents

Executive Summary

Located between Tualatin's residential neighborhoods to the north and Wilsonville's employment center to the south, Basalt Creek is currently a relatively rural area that is positioned for significant change and urbanization due to its prime location within the growing Portland metropolitan region. Leland Consulting Group (LCG) has prepared this market analysis as one component of the Basalt Creek Concept Plan. Its purpose is to provide Basalt Creek stakeholders with information regarding the outlook for industrial, office, residential, and retail development in Basalt Creek and adjacent areas, and to inform the Concept Plan as this process moves forward. This executive summary condenses the key points of the analysis; details are explained in the body of the report. The key findings and recommendations of this market analysis are:

Industrial and Office Market. Basalt Creek is located near the center of one of the region's largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek. A market area—including the cities of Tualatin, Wilsonville, and Sherwood and some surrounding areas—was defined for this market analysis in order to provide a baseline to estimate future subregional employment and population growth.

The Metro regional government projects rapid employment growth of 2.3 percent annually for the market area through 2035, about 40 percent faster than the employment growth in the region (1.7 percent), indicating that ongoing business expansion and job creation is expected for these three cities in the southwestern metropolitan area.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories are well suited to locate at Basalt Creek.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990s and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to "onshore," shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development in both cities is significantly larger (more than seven times) than the amount of office development, and this general dynamic is expected to persist for the foreseeable future.

Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in Basalt Creek will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit; a growing and educated workforce; and established and expanding industry clusters.

Based on past industrial and office development, and future growth projections, LCG absorption projects employment land at Basalt Creek to develop at a rate of eight to 10 net acres per year. However, the pace of build out will depend on economic conditions, the availability of employment land in other nearby areas, infrastructure such as roads and sewer, and other factors. Building and site sizes should vary widely, and FARs will remain consistent with those seen in the past.

Housing Market. Significant population growth is anticipated for Tualatin, Wilsonville, and the Portland metropolitan region over the next two decades. Metro's gamma population model shows that Tualatin and Wilsonville will add 1,170 and 3,649 households respectively between 2010 and 2035. Metro projects that the market area will add about 10,900 households during this time period, an increase of 39 percent. These population increases will result in demand for housing at Basalt Creek through 2035, assuming that the area can compete effectively with other potential residential locations.

Basalt Creek's location is also a positive: the study area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. It should be noted, however, that Basalt Creek is located in the Sherwood School District rather than the Tigard-Tualatin School District, and therefore school-age children will head west rather than north for school. The market area's current demographics are encouraging for new housing development. When compared to the Portland metropolitan area, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

However, housing demand is expected to shift somewhat in the future because of decreasing housing sizes, an aging population, the popularity of walkable communities, and other factors. By combining current and future housing demand indicators, this market analysis provides three different housing development scenarios, all of which assume a mix of single-family detached, single-family attached, and multifamily housing. Housing diversity and flexibility (the opportunity to adjust the housing mix) is important to developers in any large area, since they need to be able to build for many different household types, and respond to changing market conditions. This report does not propose a specific number of households in the study area, since residents and decision makers have yet to define precisely which areas will be set aside for residential development.

Retail/Commercial Market. The likely amount and location of retail in Basalt Creek will need to be revisited later in the concept planning process, after more specific programs for employment and residential development are established. It is often said that "retail follows rooftops" and jobs, and without more confidence about the number of homes and jobs that will be in the area, it is difficult to project retail demand.

With that said, some generalizations can be made. Because there are several major regional and subregional retail nodes located to the north and south of the study area—at Bridgeport Village, central Tualatin, and in Wilsonville—any commercial space built in Basalt Creek is most likely to primarily serve local residents and employees. These larger centers are located at I-5 interchanges, whereas retail at Basalt Creek would be further from interchanges. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies, and restaurants, supplemented by other local goods and services.

Retail is likely to be located at key intersections on either Boones Ferry or Grahams Ferry Roads, the major north-south arterials in Basalt Creek, and potentially along the planned East-West connector, which will also carry considerable traffic and afford high visibility to retailers.

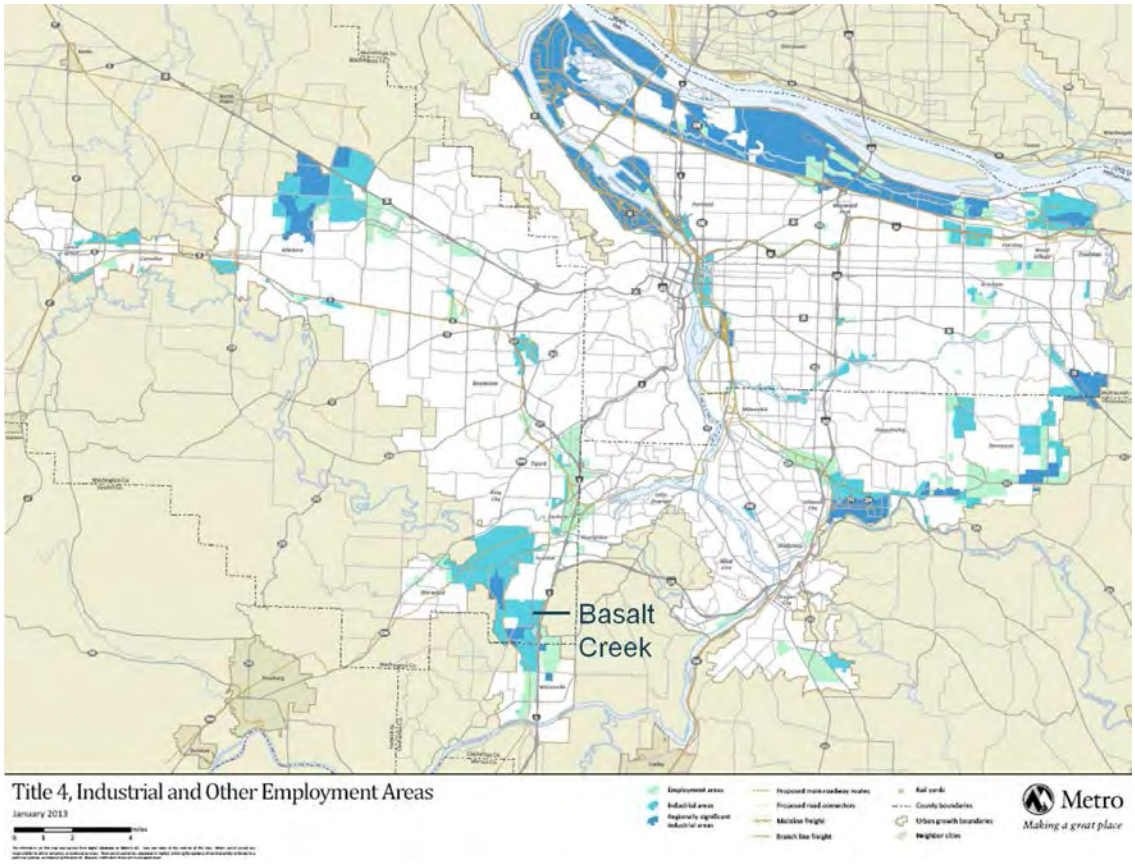
Industrial and Office Market Analysis

Regional Employment Context

As shown in Figure 1, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland metropolitan region, including areas in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro, though smaller than the employment lands near PDX Airport.

A major feature and competitive advantage of this "Southwestern Metro" employment cluster in general, and Basalt Creek in particular, is its immediate access to I-5, the West Coast's most important transportation route. Via I-5, Basalt Creek is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. I-205 and Highway 217 are also close by and easily accessible. These freeway connections are a major benefit for industrial—for whom distribution is an important site selection factor—and office-based businesses—which require access for their clients, suppliers, workforce, and collaborators.

Figure 1. Geographic Context: Title 4 Industrial and Other Employment Areas (Metro)



Source: Metro.

Industrial and Office Development, 1980 to 2014

The figures below show the pace of industrial and office development in the cities of Tualatin and Wilsonville, beginning in 1980. The bars represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical development trends are one data set that shapes expectations for future employment development in both cities and Basalt Creek.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

Figure 2. Industrial Development, Tualatin and Wilsonville, 1980 to 2014

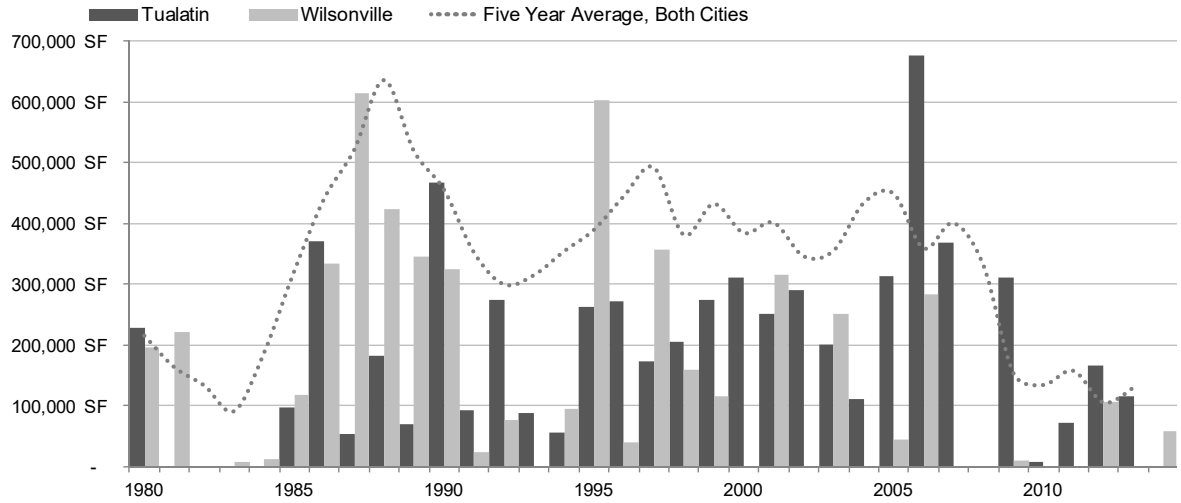
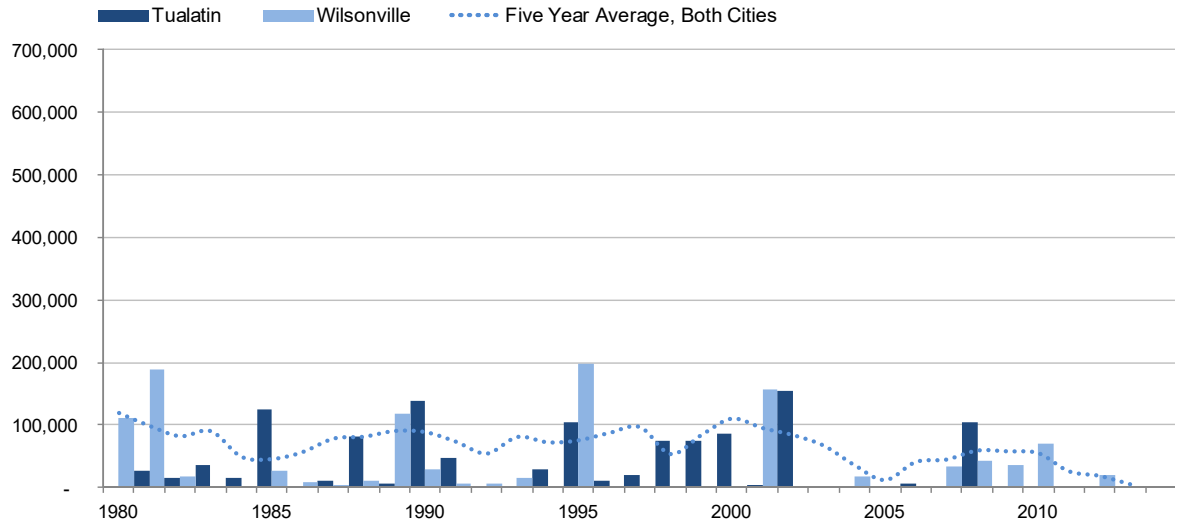


Figure 3. Office Development, Tualatin and Wilsonville, 1980 to 2014



Source, both figures: CoStar, Leland Consulting Group.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers. Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s.

Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

Employment Building and Site Attributes

Table 1 below shows some key attributes of industrial and office development in Tualatin and Wilsonville.

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land, which provides a good benchmark for total demand in Wilsonville, including Basalt Creek, going forward.
- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings.
- Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro's analysis and future projections.

Table 1. Attributes of Industrial and Office Development in Tualatin and Wilsonville

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
Total Area (SF)	10,470,000	8,390,000	18,860,000	1,260,000	1,250,000	2,510,000
Av. Annual Development, 1980 - 2014						
Annual Building Development (SF)	186,960	150,980	337,940	34,632	32,985	67,617
Annual Land Development (Acres)	26.8	16.3	43.1	5.3	8.3	13.6
Building Averages, 2000 - 2014						
Average Building Size (SF)	60,224	80,000	-	31,807	35,000	-
Average Site Size (Acres)	9.1	6.5	-	4.2	2.0	-
Typical Floor Area Ratios (FAR)	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

Source: CoStar, Leland Consulting Group. SF: Square feet; FAR: Floor area ratio, the ratio of a building's size in square feet (or gross building area) to the size of the piece of land upon which it is built.

Note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes

distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figure 4 and Figure 5.

Figure 4. Typical Industrial Buildings: Office/Distribution and Flex

The first building pictured below is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.

Figure 5. Headquarters Office Building (Mentor Graphics)

The Mentor Graphics building is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.

Employment Outlook

Table 2 below shows Metro's gamma employment forecast for the 2010 to 2035 time period. Key aspects of this forecast that are relevant to Basalt Creek are:

- Employment in the Basalt Creek market area is expected to grow at 2.3 percent annually between 2010 and 2035, about 40 percent faster than the three-county metro area rate (1.7 percent). Employment in all three cities within the market area is expected to grow relatively rapidly—at a higher annual rate that than their populations, and a higher rate than regional population growth (see Table 6 for population growth projections).
- Tualatin and Wilsonville are expected add 12,267 and 10,346 jobs respectively over the 25-year Metro forecast period. In total, the market area is expected to add 36,786 jobs, an increase of 78 percent over the 47,005 jobs currently in the market area.
- This significant growth can be expected to drive consistent demand for employment land and buildings, including industrial, office, and commercial space, both in Basalt Creek and in other employment areas in the market area over the 2010 to 2035 time period.

Table 2. Metro Employment Forecast, 2010 to 2035

Jurisdiction	Employment			
	2010	2035	Change	CAGR
City of Tualatin	22,972	35,239	12,267	1.7%
City of Wilsonville	17,073	27,419	10,346	1.9%
City of Sherwood	4,216	9,252	5,036	3.2%
Basalt Creek Market Area	47,005	83,791	36,786	2.3%
Clackamas County	137,946	210,444	72,498	1.7%
Multnomah County	419,164	597,331	178,167	1.4%
Washington County	232,019	382,812	150,793	2.0%
Three County Total	789,129	1,190,587	401,458	1.7%

Source: Metroscope Gamma Forecasts, Published Feb 07, 2013, http://www.oregonmetro.gov/regional-2035-forecast-distribution.

Figure 6. Projected Employment Growth (2010-2035)

Source: Metro Gamma Forecast; Leland Consulting Group.

Table 3 shows Metro's analysis of past and future employment growth in the Metropolitan Statistical Area (MSA), completed for the Draft 2014 Urban Growth Report. This data shows employment changes for a larger area—the seven-county MSA---than the three-county data above.

Table 3. Employment: Past Growth and Future Projections, Seven-County MSA

Time Period	Annual Growth Rate
1960 - 1980	3.74%
1980 - 2000	2.60%
2000 - 2020	1.17%
2020 - 2040	1.24%

Source: Metro, Mid Range projection, Draft 2014 Urban Growth Report, Appendix 1a.

A key take away from this data is that while employment in the region will continue to grow, it will grow more slowly during the build out period for Basalt Creek (likely largely during the 2020 to 2040 time period) than during the most rapid periods of employment growth (1960 to 2000). Based on this projection and conversations with area brokers, LCG projects that employment land absorption during Basalt Creek's build out period should be faster than 2000 to 2014 (which includes the recession and its aftermath), but slower than during the rapid growth period of 1980 to 2000, and the 1990s in particular.

Industrial Development Outlook

Private sector analysis of the demand for industrial space is consistent with Metro's projections in that most observers expect a resurgence of demand as the economy recovers from the recession. Nationwide, industrial development is anticipated to accelerate due to increased long-term demand for industrial properties from firms whose businesses involve research and development, advanced manufacturing, general manufacturing, and warehousing. While private sector development forecasts are often focused on a short to medium-term (e.g., one to five years) time frame, rather than the long-term (20-year) time frame for this plan, the dynamics described below are significant and are supportive of industrial development at Basalt Creek. According to the Urban Land Institute's 2014 *Emerging Trends in Real Estate*:

> **Industrial.** Industrial real estate will get a boost in 2014 as the U.S. economy continues to improve and as retailers and manufacturers have made the shortening of the supply chain their top priority for the foreseeable future. Warehousing stands out as the strongest prospect in both investment and development in 2014—not only among industrial subsectors and niche markets, but across all types of subsectors and niche markets… Warehousing is a clear favorite when survey respondents recommended action…The strength of warehousing reflects the expanding influence of e-commerce distribution networks…
>
> **The Return of Manufacturing.** "Manufacturing is coming back to the U.S., and it's coming back faster than we thought. Back in 2011, no one thought we would see anything until 2015. Now, we are seeing dozens of companies moving back to the U.S. because the economics are shifting," says a labor economist. "A key driver of this trend is that labor costs in China are rising, with wages increasing by about 15 to 20 percent a year and the steady appreciation of the Chinese yuan against the dollar. Manufacturers are seeing very long supply chains, and there are increasing concerns about intellectual property."

Portland's industrial market is heating up in response to these trends. In late 2013 and early 2014, a number of new industrial projects have been announced totaling about 1.5 million square feet; one is the 800,000-square-foot PDX Logistics Center (18.3-acre building) to be built near PDX Airport. A speculative investment of this magnitude shows significant confidence in the Portland market. Eight additional major projects are reportedly in the planning pipeline. Industrial brokers at Kidder Matthews report an "industrial land shortage" and that the "greatest demand is seen in the I-5 corridor," a submarket that includes Wilsonville and Tualatin.

Office Development Outlook

Office development nationally and regionally is not expected to bounce back with the same resiliency as industrial space. Office development in the short and long term faces several challenges. In the short term, the Portland region's employment levels have only just recovered this year to their 2008 pre-recession levels. While office vacancies are far lower than they were several years ago, there is not yet pressure for new development. As Table 4 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6 percent of the total regional inventory of nearly 47 million square feet. Tualatin's current vacancy rate of 20.5 percent suggests a soft market, though that space will be occupied in the long term.

Table 4. Current Office Market Summary, Portland Metro Region

Market	Existing Inventory		Vacancy	YTD Net	Under Const. &	Class A
	# Blds	Total RBA	%	Absorption	Complete YTD	Rates
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	$21.53
Tigard	226	3,313,116	10.4%	35,859	0	$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	$20.50
Totals	**1,379**	**46,903,725**		**181,309**	**288,000**	

Source: CoStar, Leland Consulting Group.

Of more concern for new office development at Basalt Creek are several long-term trends. Companies are becoming much more efficient than ever before with their office space, and thus, requiring less of it. Greater efficiencies are being achieved through smaller dedicated desk spaces; employees who work out of the office on the road, from home, or other locations; and less storage for fewer paper files. In addition, companies have gotten more reluctant to take on long-term obligations such as expanded leases. These trends are expected to continue, and in some cases accelerate in the future, and therefore, demand for office space as a function of total employment is likely to be less in the future.

In conclusion, in the near and potentially long term, office development is likely to be slower than industrial development throughout the Portland region. As shown in Figure 2 and 4, much more industrial development than office development has taken place in Tualatin and Wilsonville in recent decades, and LCG expects this trend to continue at Basalt Creek.

Tualatin and Wilsonville's Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities' main economic development plans relevant to Basalt Creek are shown below.

Table 5. Relevant Economic Development Plans

Tualatin	Wilsonville
• Economic Development Strategic Plan (2014) • Industry Cluster Analysis (2014) • Southwest Tualatin Concept Plan (2010)	• Economic Opportunities Analysis (EOA) Update (Final Draft, 2012) • Coffee Creek Master Plan (2007)

Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin's Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57 percent of Tualatin's jobs fall within its five key industry clusters, which also provide wages that are on average 70 percent ($35,000) higher than those in all other industries.

Clusters reflect the community's strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future. (Wilsonville's EOA uses the term industry "sectors." The terms cluster and sector are used interchangeably here.)

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters. The economic figures included below are drawn from the Cities' economic development plans.

- **Advanced Manufacturing and Related.** This cluster is a significant driver of both cities' economies. It is Tualatin's largest cluster, accounting for 22 percent of jobs in the city. It accounts for a significant portion of Wilsonville's economy; computer and electronic product manufacturing was Wilsonville's largest industry sector as of 2012, and includes several of the city's largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

  The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the southwest metro economy. The Cities are looking for ways to capitalize on OIT's presence and to strengthen partnerships between the school and private business.

  Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster's ongoing success.

- **Corporate and Professional Services.** This cluster accounts for 12 percent of Tualatin's jobs, and was the second largest industry sector in Wilsonville as of 2012. Major employers include Portland General Electric and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.
- **Health Care and Medical Related.** This cluster is important in both cities: it is the third largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center, among Tualatin's largest employers, and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care employers as of completion of the EOA were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

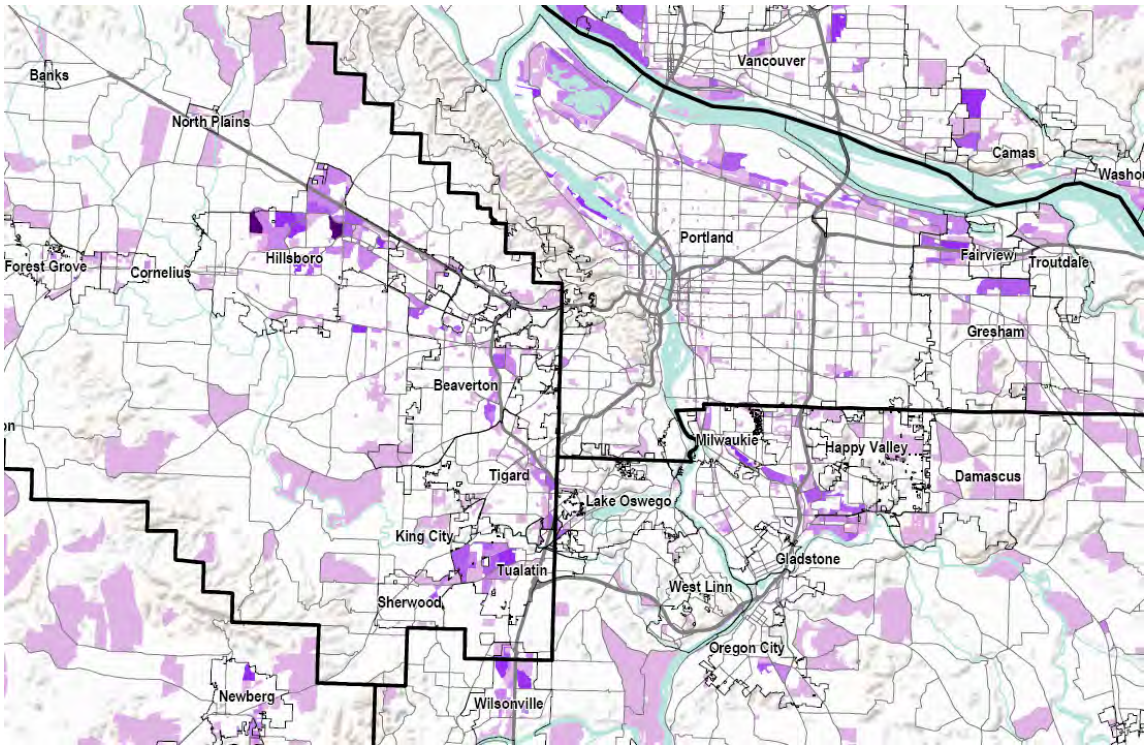
  Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Commercial zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

- **Other Industrial Clusters.** Both Cities have identified additional industrial target clusters that could locate in Basalt Creek. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: Food Processing and Distribution, and Wood, Paper, Printing, and Related. Wilsonville identified a number of other industrial business types: Light Manufacturing and Warehouse/Showroom Operations; Specialty Contractors and Construction Firms; Sustainable Product Manufacturing and Distribution; Miscellaneous Manufacturing, and Wholesale Trade.

  Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.
- **Other Professional and Commercial Services.** Wilsonville's EOA also identifies Creative Services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to Corporate and Professional Services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.
- **Other Clusters.** Some clusters may or may not be a good fit for inclusion at Basalt Creek, depending on the Concept Plan. An example is Tourism and Recreation, which was identified by Wilsonville.

Figure 7. Number of Manufacturing Employees



Source: Institute for Metropolitan Studies, Portland State University.

Figure 8. Lam Research Facility, Tualatin

The semiconductor equipment manufacturer is the city's largest private employer, and a leader in the city's advanced manufacturing cluster.

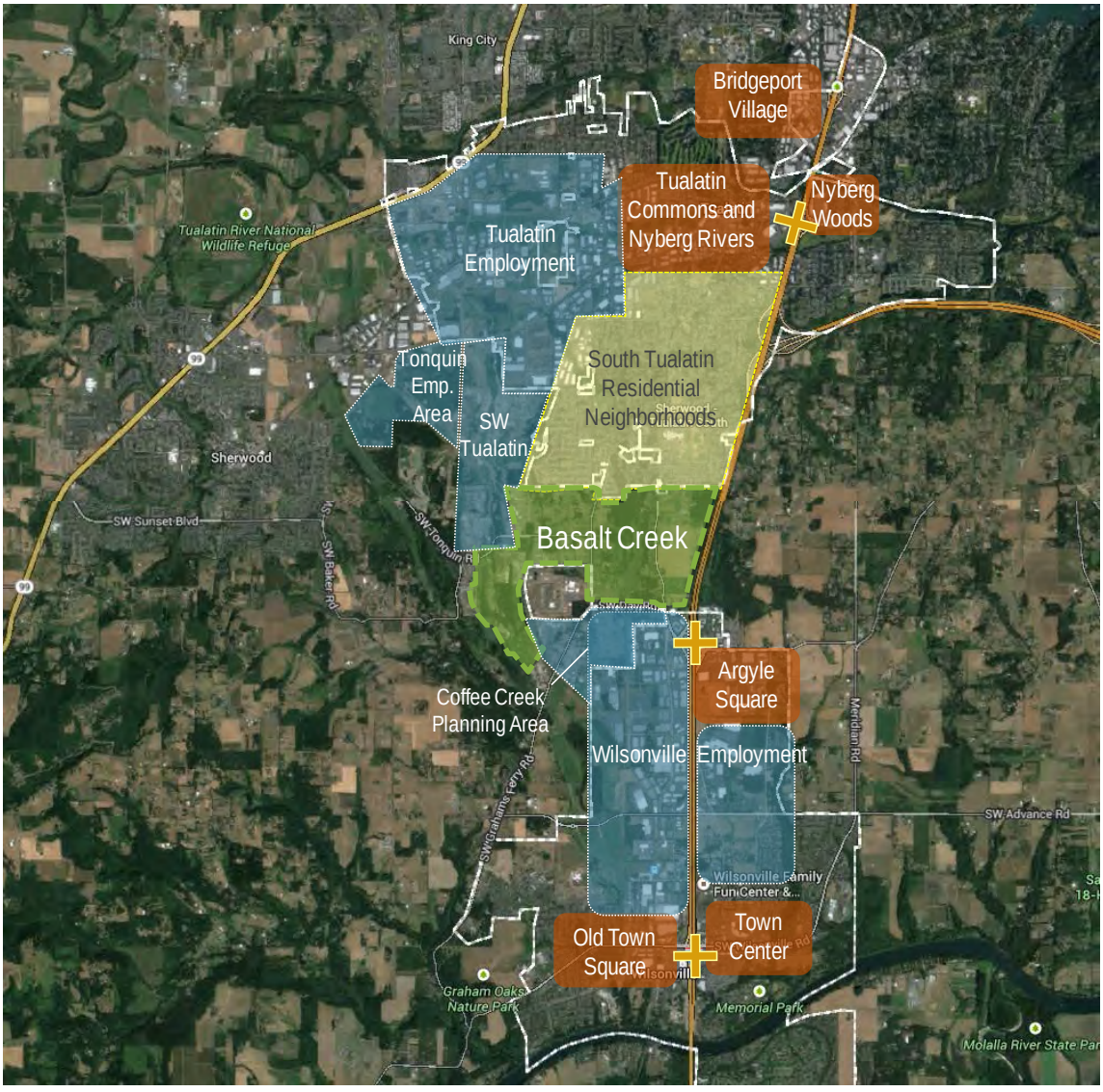
Photo credit: Tualatin Chamber.

Subregional Context

Figure 9 below shows the Basalt Creek study area and the key employment, commercial, and residential areas nearby, along with three I-5 freeway interchanges. This map shows that Basalt Creek is located at the heart of a large, contiguous series of employment areas, which will provide Tualatin and Wilsonville with the land area to build on and expand their advanced manufacturing, corporate services, and other key industry clusters.

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124th Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. This large agglomeration of employment areas creates momentum, and will also be a source of competition for Basalt Creek.

Figure 9. Basalt Creek Geographic Context



Source: Leland Consulting Group. ***Note: Employment, commercial, and residential area boundaries are approximate.***

Established Employment Areas. The Tualatin and Wilsonville employment areas are developed areas that have capacity to continue to add businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

The City of Wilsonville is currently at work developing a Light Industrial Form Based Code (FBC) intended to streamline approval of light industrial and office employment, while at the same time ensuring high-quality urban design. The FBC will apply to the Coffee Creek industrial area, but could also apply to Basalt Creek Creek and other areas.

Planned Employment Areas. Southwest Tualatin, Tonquin, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property owner initiated.

- The Southwest Tualatin Concept Plan Area is approximately 614 gross acres and is planned for a mix of light industrial, high tech, and campus employment users. Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area is a 225-gross-acre area that was master planned by the City of Wilsonville in 2007. It is adjacent to Basalt Creek on the south side of Day Road. In addition to industrial development throughout the area, the City's vision includes the development of an office corridor on Day Road (the dividing line between the Coffee Creek and Basalt Creek areas). No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis the industrial and office development are as follows:

Strengths and Competitive Advantages

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Long-term growth projections for employment and population in the southwest Portland metro area.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce.

- Market success of recent industrial, office, and retail developments.

Challenges

- Vision and regulation: This Concept Plan, and subsequent Comprehensive Plan and zoning amendments, need to be in place prior to development.
- Planning, financing, and construction of new infrastructure.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout Basalt Creek. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the study area and divide the area into east and west sections.
- The market for new office development continues to be slow. However, the study area will not be ready for private development for several years, which may allow enough time for this market to recover.

Absorption and Build Out

Employment development—including industrial and office land development—is expected to take place in Basalt Creek at a pace of about eight to 10 buildable acres annually, assuming zoning is in place and urban infrastructure (roads, sanitary sewer, and water) are available. The pace of development will depend on economic conditions at the time of development, the location of transportation and other improvements, and the number of other nearby employment areas also available for development, among other factors. This represents a 30 to 40 percent capture rate of Wilsonville's annual average of 25 acres of employment land development (see Table 1) and is reasonable given that employment development can also be expected to take place at Coffee Creek and "infill" within existing urbanized parts of the city. The projection is also consistent with the estimates provided by developers interviewed for this project. If development at Coffee Creek and on infill sites is highly constrained, then development at Basalt Creek could accelerate.

Buildings in Basalt Creek are expected to range widely in terms of site and building sizes. However, the FARs for most buildings should fall between 02. And 0.4 FARs and be surface parked. Higher density buildings with some structured parking may be feasible at special locations, or in later years after the market has matured.

Housing Market Analysis

Demographic Context

Table 6 summarizes Metro's 2010 to 2035 gamma projections of household growth for the cities of Tualatin and Wilsonville, and other geographies relevant to Basalt Creek. Some key take aways are:

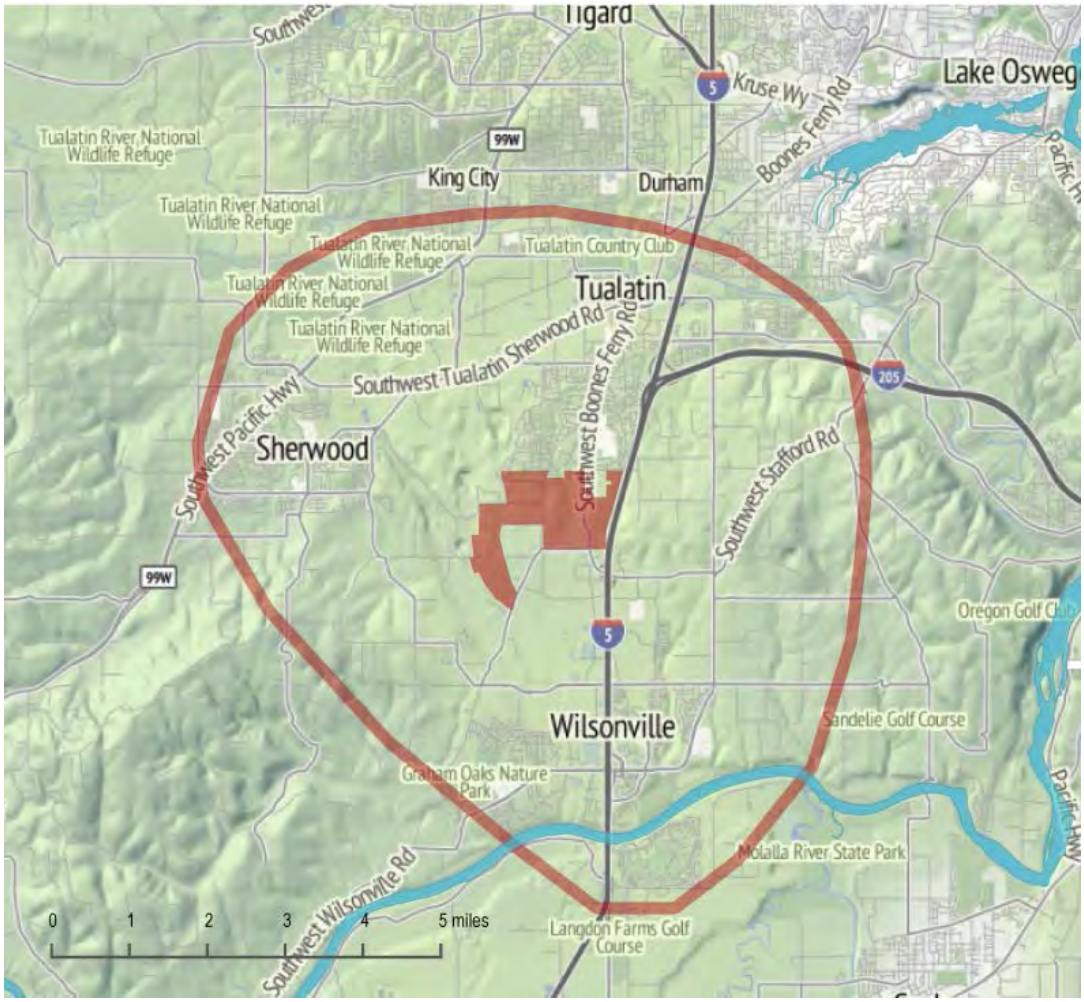
- The number of households in the three-county Metro area is expected to grow relatively quickly, at a 1.5 percent Compound Annual Growth Rate (CAGR), between 2010 and 2035, and thus add more than 11,000 households per year.
- Metro forecasts that Tualatin and Wilsonville will grow throughout the forecast period, with the number of households in Wilsonville projected to grow at a faster rate (1.5 percent) than Tualatin (0.4 percent). According to Metro, in 2010, Tualatin's average household size (2.61 persons) was slightly larger than Wilsonville's average (2.48 persons). Metro projects this difference will essentially remain through 2035, though Tualatin's household size will decrease somewhat (to 2.55 persons).
- The Basalt Creek market area (see Figure 10) was also defined in order to evaluate demographic trends that cross city and county boundaries. The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. This market area is the area from which new residents of Basalt Creek are most likely to come, based on Leland Consulting Group's market research.
- The consistent projected household growth in the region, market area, and subject cities suggest that there will be demand for new homes within the market area generally and Basalt Creek specifically through 2035, assuming that Basalt Creek is effectively planned and made available for development.

Table 6. Demographic Forecasts for Market Area and and Metro Region

Jurisdiction	Households			
	2010	2035	Change	CAGR
City of Tualatin	10,000	11,170	1,170	0.4%
City of Wilsonville	7,859	11,508	3,649	1.5%
City of Sherwood	6,316	7,269	953	0.6%
Basalt Creek Market Area	27,825	38,704	10,879	1.3%
Clackamas County	146,324	208,437	62,113	1.4%
Multnomah County	304,649	442,546	137,897	1.5%
Washington County	202,647	289,592	86,945	1.4%
Three County Total	653,620	940,575	286,955	1.5%

Source: Metroscope Gamma Forecasts, Published Feb 07, 2013, http://www.oregonmetro.gov/regional-2035-forecast-distribution.

Figure 10. Basalt Creek Market Area



Source: Fregonese Associates, Leland Consulting Group.

Table 7 below and Table 8 on the following page provide additional perspective on the demographics of the subject cities when compared to the Portland MSA.

The City of Tualatin, when compared to the Portland MSA, has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher capita incomes. A larger share of residents have college degrees (43 percent) and are employed in white collar jobs (67.4 percent) compared to the region.

Wilsonville, when compared to the Portland MSA, has a higher percentage of family households and smaller households. This is likely because the city has a higher share of young households (in the 25 to 34 age category) and seniors, Baby Boomers, and retirees (65+ category). Each of these age groups has different housing preferences. Like Tualatin, Wilsonville has a larger share of residents with college degrees (43 percent) and white collar jobs (67.4 percent) than the region. (The data below shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas.)

Table 7. Demographic Summary

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
Comparison to Portland MSA:	More families Larger HHs Higher HH Incomes Higher PC Incomes More college degrees More white collar emp.	Fewer families Smaller HHs More Gen Y More Boomers More low-income HHs More college degrees More white collar emp.	More families Larger HHs Higher HH incomes Higher PC incomes More college degrees More white collar emp.	
Population	26,520	21,235	73,786	2,296,285
Number of Households	10,170	8,638	28,121	896,982
Family Households (2010 Census)	68%	59%	68%	64%
Household Size (Average)	2.60	2.32	2.57	2.52
Household by Size (2010 Census)				
1 and 2 person households	57%	68%	58%	61%
3 and 4 person households	33%	25%	32%	29%
5 + person households	10%	7%	10%	10%
Median Household Income	$64,324	$59,812	$70,256	$57,441
Per Capita Income	$32,672	$31,995	$33,336	$30,135
Population By Age				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
Median Age	35.7	37.0	36.6	37.5

Source: ESRI Business Analyst, Leland Consulting Group.

The Basalt Creek market area is similar to Tualatin in many ways. When compared to the Portland MSA, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

Table 8. Demographic Summary (Continued)

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	SW Metro Market Area	Portland MSA
Education and Employment				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivilent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
Occupation				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
Housing				
Median Home Value	$331,190	$349,927	$337,289	$275,516
Housing Tenure				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Source: ESRI, Leland Consulting Group. 2013 data except where noted.

In general, these demographics are favorable to housing development in Basalt Creek; they also reflect the types of residents most likely to locate in Basalt Creek.

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin's population. The neighborhoods—including roads, street trees, parks, and schools—create a positive environment for residential development within Basalt Creek, particularly along the northern edge. It should be noted, however, that Basalt Creek is located in the Sherwood School District, not the Tigard-Tualatin School District, and therefore, school age children in Basalt Creek would need to travel west to Sherwood, rather than north, for classes.

Regional and National Demographic Trends Affecting Housing

It is important to note that over the coming decades the metropolitan region's demographics are expected to become more like Wilsonville's demographics today, and somewhat less like Tualatin. Table 9 compares the age group split in the cities of Tualatin and Wilsonville today with Washington County's demographics in 2010 and projected demographics in 2035. The biggest change is that older households are expected to comprise a larger share of the total population, with a smaller share in the 35 to 64 age category. Household sizes are also expected to decrease. Washington County is used here as a proxy for the age groups and household types most likely to live in the Basalt Creek market area in coming years, and because Metro and the State of Oregon both produce long-range estimates for the County.

Table 9. Demographic Comparison of Subject Cities in 2013 and Washington County 2035 Projection

Age Group	City of Tualatin 2013	Washington County 2010	City of Wilsonville 2013	Washington County 2035
0 - 19	35%	34%	31%	30%
20 - 34	15%	15%	17%	14%
35 - 64	42%	40%	38%	38%
65+	8%	10%	15%	19%
Total	100%	100%	100%	100%

Source: Office of Economic Analysis, State of Oregon; ESRI Business Analyst, Leland Consulting Group.

The figures below further emphasize the demographic trend that is referred to as the aging of the Baby Boomers or the "silver tsunami," which is expected to have a significant impact on housing demand. As Baby Boomers, those born between 1946 and 1964, retire and begin to consider selling their homes and relocating, they are expected to have a major impact on housing markets. Many will be selling medium and large size single-family homes and looking for smaller homes with lower maintenance and upkeep, and the freedom to "lock and leave" home to visit family and friends, and vacation elsewhere. Many will also keep their homes.

Figure 11 highlights several points. The population of all age categories is growing between 2015 and 2035—the period during which Basalt Creek is expected to build out—and there should be demand for housing that meets the needs of all of these groups. The 65+ population will grow the most. The effect of this growth will be even more pronounced since these are relatively small households and thus more housing units are needed to serve the same population. The population of the 35 to 64 age category, and their children, under 19, will also grow significantly. This group is likely to re-occupy many of the single-family homes now in the market area, and new homes in Basalt Creek. The size of the 20 to 34 age group is not expected to increase much. This is because Generation Y / Millenials, now in their 20s and early 30s, is a large age cohort, and the age cohort behind them is expected to be smaller. Generation Y is driving the apartment boom now taking place in urban and mixed-use areas throughout the metro region.

Figure 11. Net Population Change by Age Group, 2015 to 2035, Washington County

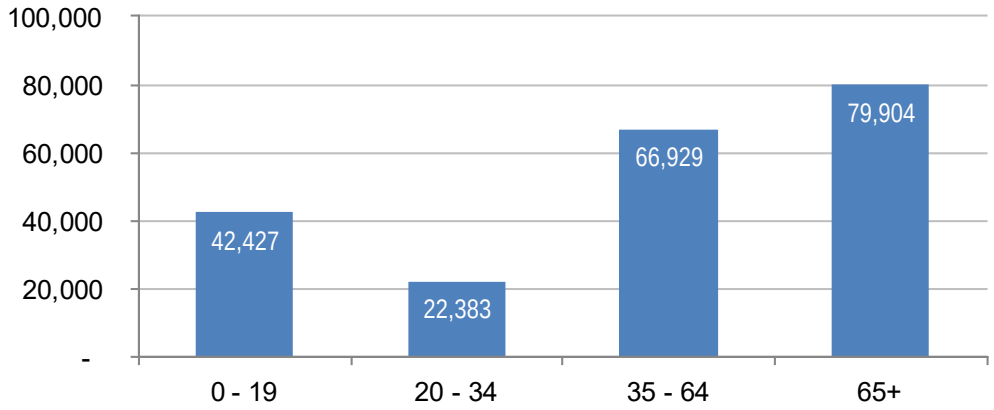
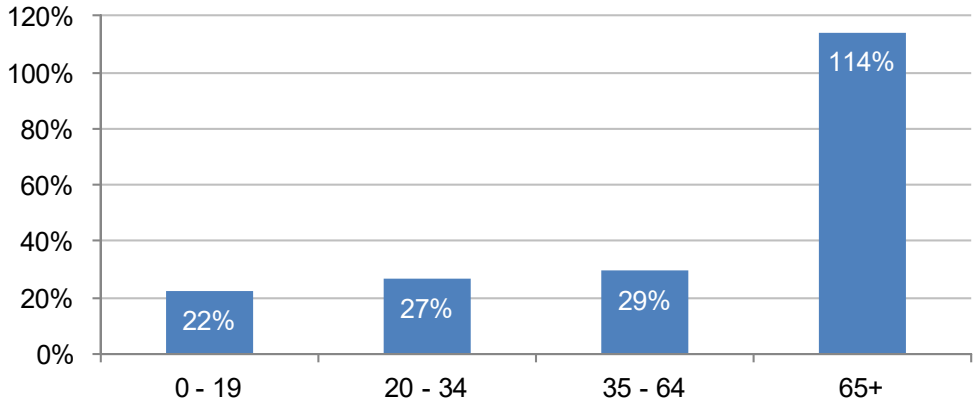


Figure 12. Percent Population Increase by Age Group, 2015 to 2035, Washington County, Oregon



Source: Office of Economic Analysis, State of Oregon; Leland Consulting Group.

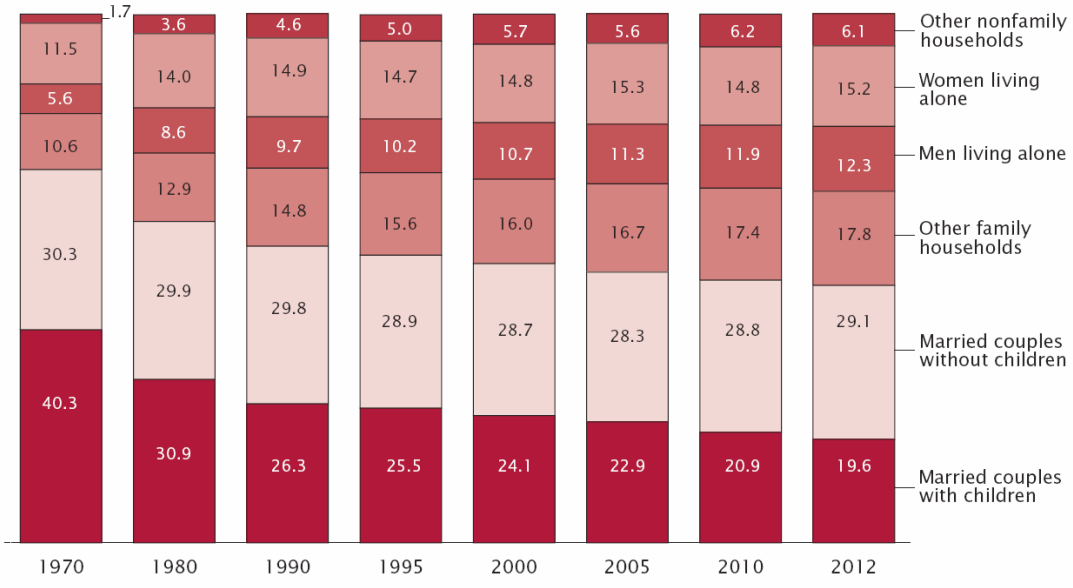
Figure 12 shows that, as a percentage of the current population, the growth in the 65+ age group will be far greater than growth in the other age groups. While the numerical increase (shown in Figure 11) is only slightly greater than the increase in other population groups, the percent increase is far greater. Therefore, our perception of this change, and its impact—on housing, health care, and other parts of society—is likely to be greater.

Some urban planners have identified four demographic groups that have seen the highest rate of growth in recent decades and are expected to continue growing in the coming decades. These are the “four S groups:”

- Seniors
- Singles
- Single-parent households
- Starter households

The growth in these groups nationwide is shown in Figure 13 below, along with the significant decrease in married couples with children as a share of all households. This strongly suggests that future housing demand, and the housing mix in residential neighborhoods, will continue to shift from single-family homes to a broader mix of housing types.

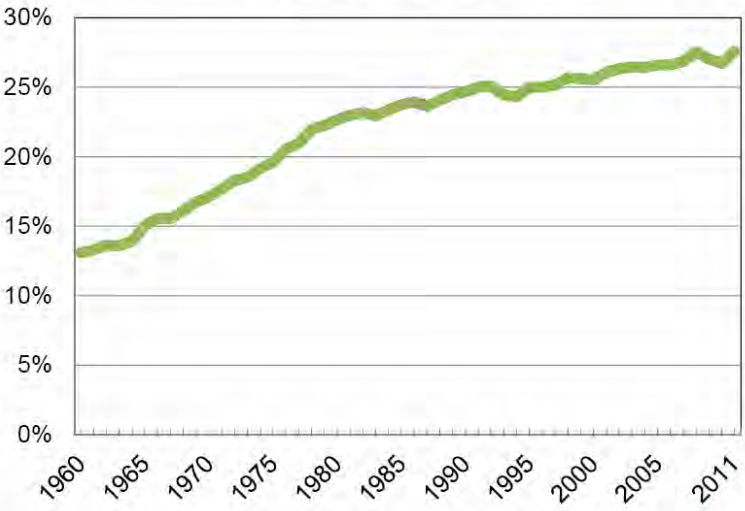
Figure 13. Households by Type, United States



Source: US Census Bureau.

Figure 14 shows the growth in the percent of households nationwide with one person. The share of one-person households doubled between 1960 and 2011. Two-person households are also making up a larger share of the national and regional population. Sixty percent of households in the market area, and 68 percent of Wilsonville's households, are one or two-person households. These households are the core drivers of demand for housing types such as small lot single-family homes, attached single-family homes (townhouses and duplexes), and multifamily housing (apartments, condominiums, and senior housing).

Figure 14. Percent of Households with One Person, United States



Source: US Census Bureau.

Community Preferences

Of course, real estate and home buying is all about "location, location, location"—in other words, the community, city, or neighborhood in which a given home is located. Since 2004, the National Association of Realtors (NAR) has conducted a nationwide poll to better understand what Americans are looking for in their future homes and communities. This is the most robust, widely-applicable survey instrument available to suggest how housing demand is evolving. One important focus of this poll is testing Americans' interest in the features of what are variously called "walkable communities," "complete communities," or "traditional neighborhood development." Such communities tend to be pedestrian friendly—parks, schools, shops and businesses are located within walking distance of homes—and contain a range of different housing types where households of different ages and sizes can live (single-family homes, townhouses, and multifamily housing).

Figure 15 shows how people responded when asked, "Do you think there is too much, too little, or the right amount of each of the following in the area close to where you live?" Respondents most often felt that there are too few features such as safe routes for walking and biking, public transit, a diversity of housing, and shops and restaurants within an easy walk.

Figure 15. Which Neighborhood Amenities are in Demand?

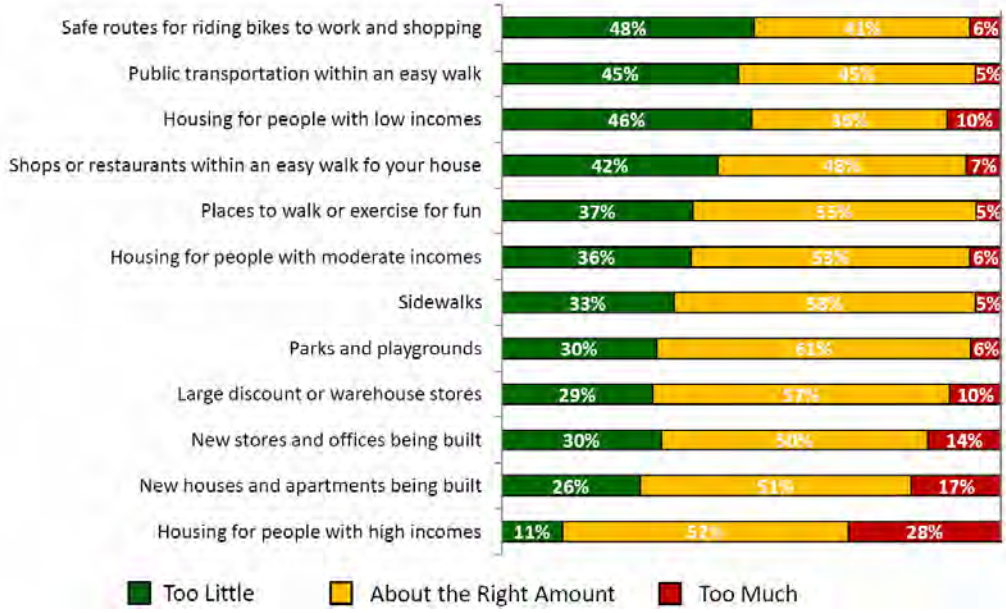


Figure 16 shows how people responded when asked to select the house where they would prefer to live when provided with two community options. By nearly a two-to-one margin, Americans prefer a neighborhood where they can walk to stores and businesses. The preference is significantly more pronounced among those who recently purchased a home or are currently in the market.

Figure 16. Community Preferences

Source, both figures: National Community Preference Survey, National Association of Realtors, October 2013.

Housing Types

Table 10 and the images that follow show categories of housing that are used to estimate demand in the Basalt Creek area. While there are many different categories and subcategories of housing, these five housing types are representative of the vast majority of housing being built now and in the recent past in the Portland metropolitan region, and in the market area in particular. The net density (number of housing units that can be accommodated on buildable land) of various housing types will vary depending on conditions such as slope, wetlands and environmental constraints, property ownership, streetscape features such as sidewalks and parking strips, and other factors; the net densities shown below are based on the average density of numerous built and planned projects.

Table 10. Housing Types

Housing Type	Lot Size			Net
	Low	Average	High	Density
Large Lot Single Family	6,000	**7,500**	8,500	6.0
Medium Lot Single Family	4,000	**5,000**	6,000	7.5
Small Lot Single Family	2,500	**3,500**	4,000	11.0
Attached Single Family: Townhomes and Duplexes	1,000	**2,250**	2,500	16.0
Multifamily: Apts, Condos, and Senior Housing	NA	**NA**	NA	25.0

Large Lot Single-Family

Medium Lot Single-Family

Small Lot Single-Family

Single-Family Attached

Multifamily

Recent Housing Development

Table 11 shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; and due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large and medium lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20 percent of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums, and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin's multifamily housing is clustered further north near the Tualatin Town Center, Tualatin-Sherwood Road, and Bridgeport Village. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport, completed in 2013, is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20 percent of total housing in many communities during the past five decades.

Wilsonville's housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large and medium lot single-family housing. Again, this is likely to due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four S groups in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66 percent) is partially due to the large number of new 20 and 30-something households recently formed, which will slow in coming years. Villebois' housing mix is similar to that in Wilsonville overall; however, during the time period surveyed (2000 to 2012) a larger percentage of small lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois' developers and NAR surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and homes sizes, especially when the surrounding neighborhood is attractive and walkable.

Table 11. Residential Development in Tualatin and Wilsonville by Housing Type

Housing Type	Tualatin Recent Permits	Wilsonville Recent Permits	Villebois Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
Total	100%	100%	100%

Sources: HUD; City of Wilsonville, New Home Trends, Leland Consulting Group. Due to data availability, Table 11 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

Basalt Creek Housing Scenarios

Table 12 shows the residential development scenarios developed by Leland Consulting Group for Basalt Creek. Rather than a single recommendation, these scenarios represent a continuum of options for the area. Typically, there is no single residential land use program that is "correct" in the marketplace, especially because of the significant growth in all households projected to occur in the market area. Rather, public policy, community aspirations, the vision of developers and land owners, and the type of multidisciplinary planning now taking place in this Concept Plan can help to shape the type of community expected, and the proper housing markets to pursue. An average net density (across all housing products) for each scenario is shown below. The density of each product type is shown in Table 10 on page 29.

Scenario 1 can be thought of as reflecting the "status quo"—a housing mix similar to what has been built in Tualatin between 2004 and 2014. This is used as a status quo benchmark since Tualatin's residential neighborhoods are in closest proximity to Basalt Creek. Eighty percent of the homes in this scenario are either large lot or medium lot single-family homes. While these homes are likely to appeal to families with children and many smaller households, this scenario may have an undersupply of small lot and attached single-family homes which will appeal to the growth in 65+ households and one and two-person households. There is less housing diversity in this scenario than other scenarios, and the predominance of large lot homes is likely to make it more challenging to create the type of walkable neighborhoods that 60 percent of those polled by the National Association of Realtors prefer.

Scenario 2 largely relies on the housing preferences expressed in the 2013 Realtors Survey. The one exception is that the 20 percent multifamily share was maintained from Scenario 1 to reflect historical multifamily construction patterns in Tualatin and Wilsonville. This scenario reflects the demand for small lot single-family, attached single-family, and multifamily expressed in the survey, and also greater share of these products in Wilsonville. Nonetheless, 75 percent of the housing remains single-family detached housing. The average density is just under 10 dwelling units per net buildable acre. This scenario contains a broader diversity of housing products and will be more suitable for a walkable community than Scenario 1.

Table 12. Residential Development Scenarios

	Scenario 1	Scenario 2	Scenario 3
Percent of Units by Type			
Large Lot Single Family	44%	10%	5%
Medium Lot Single Family	36%	41%	23%
Small Lot Single Family	0%	24%	43%
Attached Single Family	0%	5%	9%
Multifamily	20%	20%	20%
Total	100%	100%	100%
Net Density	7.7	9.6	10.9

Source: Leland Consulting Group.

Scenario 3 is similar to Scenario 2 but attempts to make several adjustments for changing housing demand. First, more demand is shifted to towards small lot single-family homes in response to stated preferences for such homes when they are located in a neighborhood where businesses and other amenities are located in close walking distance. Second, slightly higher demand for attached housing (duplexes, clustered cottage homes, and townhouses) is assumed because of the significant increase in 65+ aged households, and because of preferences for smaller homes in walkable communities. The multifamily share remains the same. Seventy percent of all housing remains single-family detached housing.

Retail Market Analysis

Retail, commercial services, and commercial office space (e.g., medical and dental offices) may be feasible in Basalt Creek. However, the market for these goods and services cannot be determined without first establishing one or more land use alternatives for employment, housing, and other uses in Basalt Creek. Nearby residents and employees generate the main demand for retail and since the amount and location of these are unknown at this time, the amount and location of retail cannot be determined.

Despite these significant unknowns, the following observations can be made about retail in Basalt Creek.

Market

In addition to new residents and employees that may locate in Basalt Creek, the residents of the Tualatin neighborhoods located immediately to the north are an important source of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000 households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through Basalt Creek to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on passby traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 today according to ESRI Business Analyst, which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest metro area and beyond. The 124th Avenue Extension, now being built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

These demand factors should be taken into account along with housing and employment projections for the study area in order to estimate the total amount of supportable retail.

Types of Retail Centers

Retail in Basalt Creek is likely to be built in the formats shown in Table 13: corner store, convenience centers, and/or neighborhood centers. These types of retail generally serve residents and employees within a one-half mile to three-mile radius, and are usually located on arterial roads such as Boones Ferry and Grahams Ferry Roads.

Neighborhood centers are typically anchored by a grocery store and usually include five to 15 smaller in-line tenants which may include pharmacy, food/restaurant, bakery, beauty, technology, financial services, and other tenants. Convenience centers and corner stores are smaller retail nodes that serve their immediate surroundings; they may be anchored by a convenience store (e.g., 7 Eleven) or simply include four to 10 tenants similar to those listed above.

Larger retail formats, such as community centers, regional shopping malls, and lifestyle centers, typically require immediate access to and visibility from a major freeway interchange or other major transportation infrastructure (e.g., high-capacity transit in downtown Portland); a large existing population base; and minimal immediate competition. There is already a series of established major retail clusters located around the freeway interchanges to the north and south. These clusters serve subregional and/or regional shoppers who sometimes travel a half hour or more to shop there. Each has very good access to and visibility from I-5. It is highly unlikely that retail at Basalt Creek could effectively compete against these centers for a share of the regional retail market, because the competition is well established and its freeway access is generally superior.

Table 13. Types of Retail Centers

Retail Center Type	Gross Retail Area	Dwellings Necessary To Support	Average Trade Area	Anchor Tenants
Corner Store	1,500 - 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 - 30,000	2,000	1 mile radius	Specialty food or pharmacy
Neighborhood Center	60,000 - 90,000	6 - 8,000	2 mile radius	Supermarket and pharmacy
Community Center	100,000 - 400,000	20,000+	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group.

Timing

“Retail follows rooftops.” In other words, in most cases, residential (and employment) development come first, and then retail follows, simply because retail needs local shoppers in order to survive. Any retail space in Basalt Creek is likely to be built following significant residential and employment development. Details will depend on the concept plan prepared for the study area.

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MEMORANDUM

DATE: June 17, 2016

TO: Basalt Creek Concept Plan Project Team

FROM: Ray Delahanty, AICP

SUBJECT: Basalt Creek Concept Plan Transportation Analysis and Solutions P#14044-000-005

This memorandum presents the forecast approach, future transportation analysis, and recommended solutions for the Basalt Creek Concept Plan.

FORECASTING

This section documents the assumptions and methodology used for developing traffic forecasts for the Basalt Creek Concept Plan. The process outlined below was used to forecast traffic volumes for the operational analysis of the land use and transportation network alternatives. Key assumptions of the methodology, including regional land use, hour of analysis, and baseline infrastructure, are outlined in the sections that follow. The key assumptions are:

- Use current Gamma model regional land use (household and employment) assumptions
- Use PM peak hour without the "peak-spreading" for the analysis hour
- Assume all Basalt Creek area projects from the Basalt Creek Transportation Refinement Plan (BCTRP) except for the East-West I-5 Overcrossing

Regional Land Use

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations.

Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. While the Basalt Creek Transportation Refinement Plan (BCTRP) used Metro's 2008 RTP (Regional Transportation Plan) model for forecasting, the Concept Plan analysis uses the Gamma model land use, which was also used for the recently adopted 2014 Regional Transportation Plan (RTP).

Analysis Hour

Metro's PM peak hour model relies on an underlying demand matrix (trip table) that determines the origins and destinations for all trips within the model. The Gamma model allows for two different potential PM peak hour demand matrices:

- A standard (non-peak-spread) matrix, which reflects the full PM peak hour demand.

- A "Peak-Spread" matrix, which assumes that some potential peak hour trips will move to other hours (e.g., traveling in the 4-5 PM hour rather than the 5-6 PM hour), meaning there is less demand on the system overall.

For this project, the standard (non-peak-spread) matrix was used for forecasting. This approach is also consistent with the Washington County 2035 TSP.

Transportation Projects

Forecasting results depend partly on the projects that are assumed for the Basalt Creek area, as well those assumed for adjacent areas. Since this is a 2035 forecast, Washington County's latest 2035 Gamma model was used. This model's transportation network includes projects considered likely to be in place by 2035.

For the Basalt Creek area, we reviewed both the BCTRP and the newly released project list for the Metro 2014 RTP, which lists projects reasonably likely to be funded by 2040. Table 1, below, shows potential capacity-related projects from the RTP list and indicates which projects we are assuming to be in place by 2035.

Table 1: 2014 RTP Projects Assumed for 2035 Forecasting

Project Number	Project and Description	RTP Time Period	In Place by 2035?
10736	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10853	Kinsman Rd. Extension (Ridder Rd. to Day St.) – new three-lane roadway extension	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95th Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	**No**

Source: http://www.oregonmetro.gov/regional-transportation-plan

Two projects, the Day Road Overcrossing and the East-West Overcrossing, are anticipated to be in place in the 2033-2040 time frame. For our 2035 forecasting effort, all projects in Table 1 are assumed to be in place by 2035 **except for the East-West Arterial Overcrossing**. This project was assumed to be the last one needed for the BCTRP (after the Day Road Overcrossing), and a portion of the project is outside the Urban Growth Boundary.

Therefore we assume the project is not considered likely to be part of the network by 2035, and is not included in the 2035 network assumptions.

Additional Note on Kinsman Road Extension

Subsequent to much of the Concept Plan's baseline forecasting, the City of Wilsonville removed project 10853, the Kinsman Road Extension between Ridder Road and Day Road, from its Transportation System Plan (TSP)'s list of likely funded projects. The City will instead develop Garden Acres Road between Ridder Road and Day Road as a north-south collector roadway in the area. These changes are reflected in the forecasting for the recommended network.

FINDINGS

This section presents results of motor vehicle operations analysis for the Concept Plan's preferred land use alternative and associated trip generation characteristics. Two roadway network options were analyzed and compared to a previous network alternative.

Roadway Network

The planned roadway network includes the facilities shown in Table 1, except for the East-West Arterial Overcrossing and the Kinsman Road Extension. Previous Concept Plan network alternatives included a new collector roadway aligned to the north of the Kinsman Road Extension. This collector roadway connected from SW Day Road to SW Tonquin Loop Road, parallel to SW Grahams Ferry Road. This roadway was referred to as North Kinsman Extension, and was intended to create a full collector connection from SW Ridder Road to SW Tonquin Loop Road. Subsequently, SW Kinsman Road between SW Ridder Road and SW Day Road was dropped from the Wilsonville TSP's list of likely funded projects, making the North Kinsman Extension a less useful collector-level connection.

The roadway network also includes local streets needed to provide access and circulation to existing development and developable parcels. The planned network is shown in the figures on the following page. Two options were analyzed to address the North Kinsman extension and compare to the previous analysis, which assumed SW Kinsman Road as a collector from SW Ridder Road to SW Tonquin Loop Road (see Figure 1):

- **North Kinsman as Local Connection.** This option retains North Kinsman as a facility connecting SW Tonquin Loop Road to SW Day Road, but classifies it as a local street. This means the SW Kinsman Road/SW Day Road intersection is stop-controlled, and not signalized as it was under the BCTRP. This option is shown in Figure 2.
- **North Kinsman without Grade-Separated Crossing of Basalt Creek Parkway.** This option retains parts of the North Kinsman facility in order to provide access and circulation, but does not provide a complete north-south connection with grade separation across the Basalt Creek Parkway. This option is shown in Figure 3.

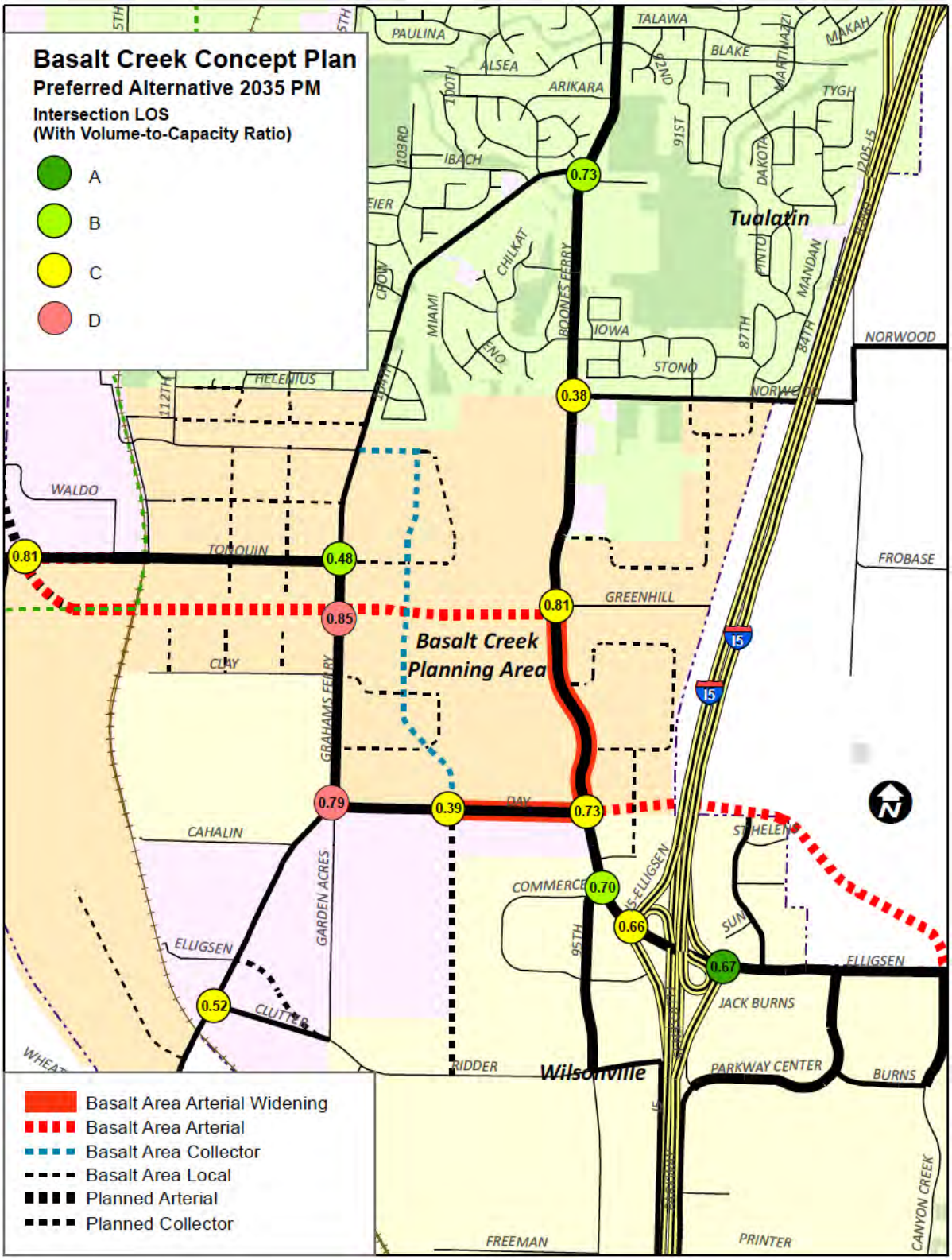


Figure 1: Concept Plan Network with Full Kinsman Road Extension

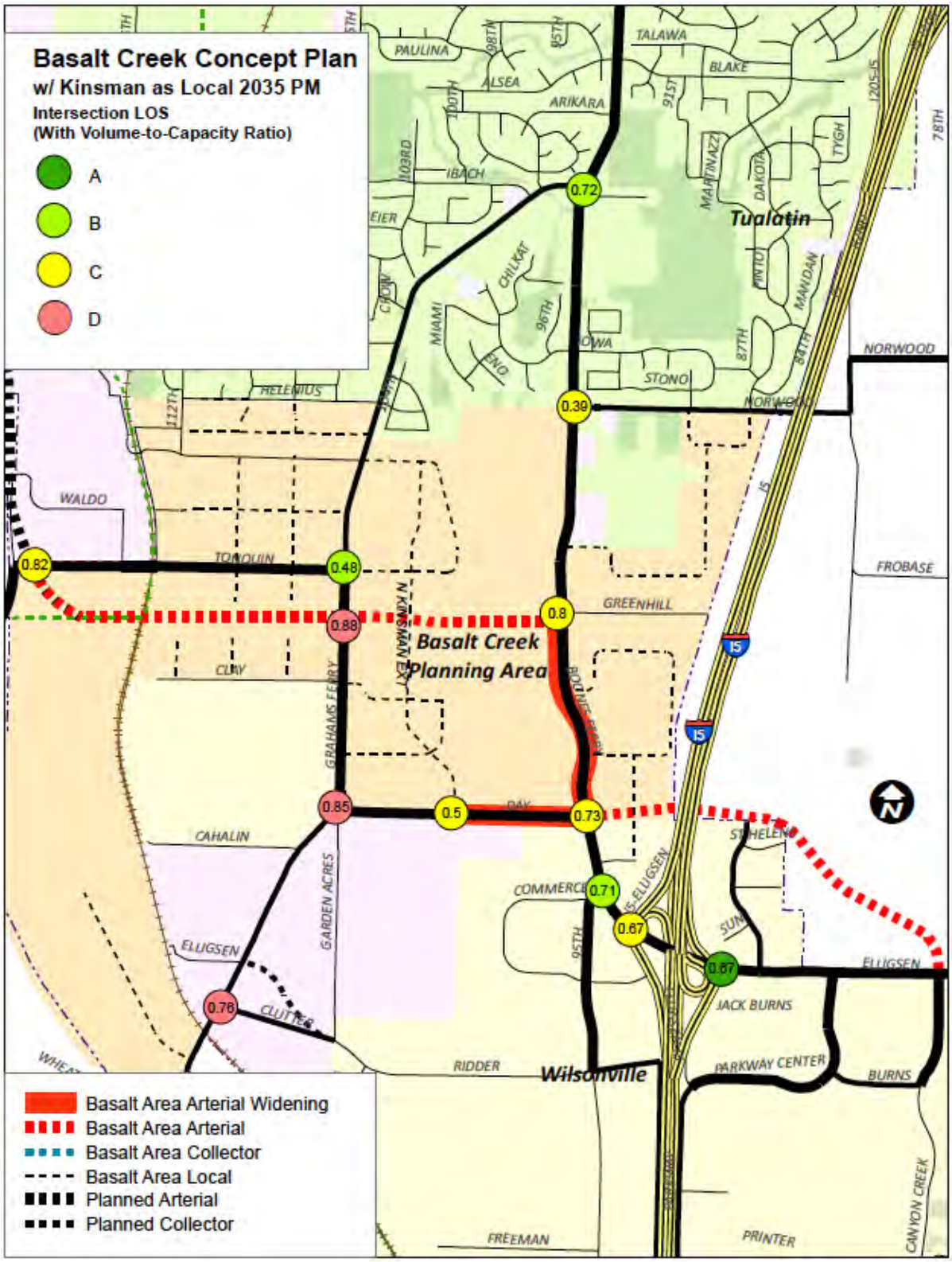


Figure 2: Concept Plan Network with Kinsman Road as Local Connection

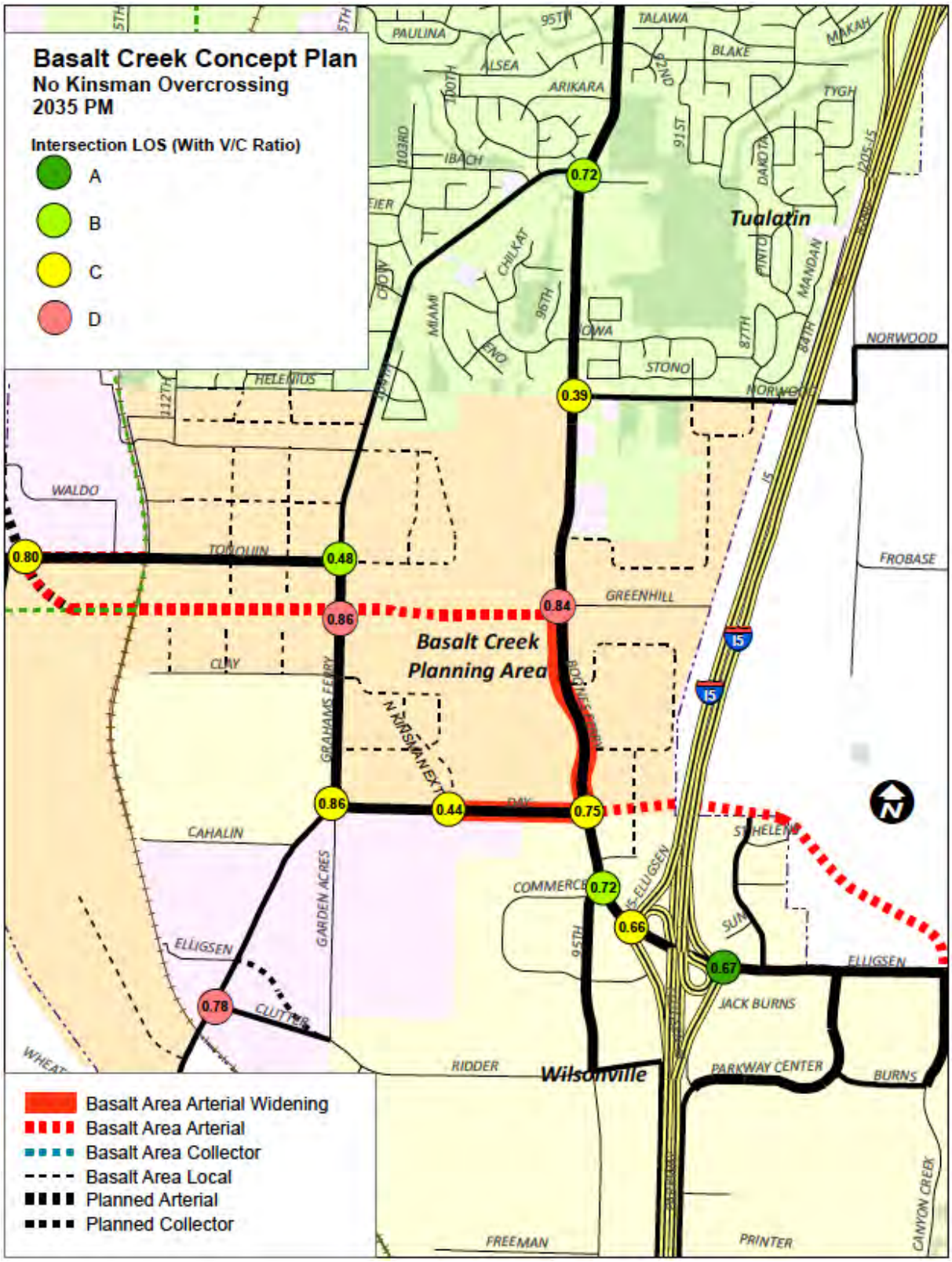


Figure 3: Concept Plan Network Without Kinsman Road Overcrossing

Motor Vehicle Operations

Intersection turning movement volumes for the two network options were developed for the 2035 PM peak hour based on the approach described in the Forecasting section above. Results, with a comparison to the previous alternative with a full Kinsman collector are shown in Table 2 below.

Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour)

Intersection	Jurisdiction	Mobility Target	Full Kinsman Collector (Tonquin Loop to Ridder)		Kinsman as Local		No Kinsman Crossing	
			PM LOS	PM V/C	PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd	ODOT	0.85	A	0.67	A	0.67	A	0.67
I-5 SB/Elligsen Rd	ODOT	0.85	C	0.66	C	0.67	C	0.66
Boones Ferry Rd/95th Ave	Washington County	0.99	B	0.70	B	0.71	B	0.72
Boones Ferry Rd/Day Rd	Washington County	0.99	C	0.73	C	0.73	C	0.75
Boones Ferry Rd/Basalt Creek Parkway	Washington County	0.99	C	0.81	C	0.80	D	0.84
Boones Ferry Rd/Ibach St	Washington County	0.99	B	0.73	B	0.72	B	0.72
Boones Ferry Rd/Norwood Rd	Washington County	0.99	A/C	0.38	A/C	0.39	A/C	0.39
Grahams Ferry Rd/Clutter Rd	Washington County	0.99	A/C	0.52	A/D	0.76	A/D	0.78
Grahams Ferry Rd/Day Rd	Wilsonville	D	D	0.79	D	0.85	C	0.86
Grahams Ferry Rd/Basalt Creek Parkway	Washington County	0.99	D	0.85	D	0.88	D	0.86
Grahams Ferry Rd/Tonquin Rd	Washington County	0.99	B	0.48	B	0.48	B	0.48
124th Ave/Tonquin Rd	Washington County	0.99	C	0.81	C	0.82	C	0.80
Kinsman Rd/Day Rd	Wilsonville	D	C	0.39	A/C	0.50	A/C	0.44

Worst mainline LOS/worst side street LOS reported for unsignalized intersections

As shown in the above table, all intersections meet future mobility standards under both Kinsman options as well as the full Kinsman Collector alternative. The removal of Kinsman Road between SW Ridder Road and SW Day Road has the most impact at SW Grahams Ferry Road/SW Clutter Road and SW Grahams Ferry Road/SW Day Road. These two intersections experience increased traffic volumes as drivers that might have used the Kinsman Extension use SW Grahams Ferry Road south of SW Day Road instead.

Differences between the two North Kinsman Road options are minor, as the North Kinsman extension primarily serves as access to properties between Grahams Ferry Road and the Basalt Creek, and serves very little through traffic when the overcrossing is in place. The largest difference in operations is at SW Boones Ferry Road/Basalt Creek Parkway, where the option with no North Kinsman overcrossing experiences slightly higher volumes. Without the overcrossing in place, more vehicles are expected to travel north on SW Boones Ferry Road and then west on the Basalt Creek Parkway rather than accessing the Basalt Creek Parkway via SW Day Road and SW Grahams Ferry Road.

Active Transportation

While all network options analyzed above perform acceptably in terms of intersection capacity, connections for modes other than the motor vehicle are an important consideration. If a North Kinsman overcrossing of the Basalt Creek Parkway is not built, a connection for people biking and walking in the area east of SW Grahams Ferry Road should still be provided. A multi-use path along the west edge of the Basalt Creek, passing underneath the Basalt Creek Parkway, would provide this needed connection.

TECHNICAL MEMORANDUM

Basalt Creek Utility Infrastructure Concept Plan

PREPARED FOR:	Fregonese Associates
PREPARED BY:	Kelli Barton/CH2M
DATE:	May 27, 2016
PROJECT NUMBER:	491811
REVISION NO.:	Revision 1: September 22, 2016
	Revision 2: June 25, 2018
	Revision 3: July 18, 2018
APPROVED BY:	Mark Anderson/CH2M

Introduction

The conceptual sanitary sewer, water, and stormwater systems were updated based on the selected jurisdictional boundary that follows the proposed East-West connector. This memorandum describes the conceptual system designs, provides conceptual cost estimates for the sanitary sewer and water systems and funding strategies, and discusses development phasing. Conceptual level sizing and design were completed for cost estimating purposes. Modeling and detailed design were not completed as part of this work and detailed pipe sizes, slopes, flows, and updated cost estimates will be completed during the design phase. Conceptual level cost estimates are preliminary for comparison of alternatives and have a +100%/-50% accuracy. The Tualatin service area includes the Southwest Tualatin area west of the railroad (Tonquin Loop) and north of SW Tonquin Rd that is outside of the Basalt Creek planning boundary.

Overview of Conceptual Utility Designs

Sanitary Sewer System

The sanitary sewer conceptual design for the Basalt Creek planning area is shown in Figure 1. The Clean Water Services (CWS) and Wilsonville service basins are based on the proposed jurisdictional boundary. This design requires five pump stations to serve the Clean Water Services (CWS) service area and one pump station to serve the Wilsonville service area, and the sewers generally flow to the south and west, following the slope of the existing ground. The sanitary system uses gravity as much as possible, follows existing and proposed roadways and trails, and was designed to avoid streams and natural areas.

The conceptual sewer system connects to the existing CWS/Tualatin system at SW 112th Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system at SW Day Road and the planned extension of SW Kinsman Road, and at SW Garden Acres Road and SW Cutter Road.

The area immediately west of Basalt Creek, north of the jurisdictional boundary is shown as being served with a pump station to the CWS/Tualatin system, but could also be served by gravity to Wilsonville. If the gravity option is selected, it would require an intergovernmental agreement between

the cities. In the area just west of Boones Ferry Road and east of Basalt Creek in both Tualatin and Wilsonville service boundaries, residents will be required to install grinder pumps to connect to the proposed gravity systems. The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential to develop due to several constraints including slope, geology, wetlands, habitat, and existing uses. The sanitary system and pump station to serve this area have been included as a separate column in the cost estimate but would only be required if and when development occurs.

There are three areas that will require boring or very deep excavations greater than 25 feet deep, which are highlighted in yellow in Figure 1. There are a few other areas that require excavations around 20-25 feet.

Design Assumptions and Principles

The following design assumptions were made for the conceptual sanitary system design. Local laterals and service connections have not been included in the concept layout.

- Minimum sewer depth = 10 feet
- Maximum sewer depth = 25 feet
- Minimum pipe slope = 0.004 (for an 8-inch diameter pipe)
- Minimum sanitary pipe slopes from Clean Water Services Design and Construction Standards:

Minimum Sanitary Pipe Slopes

Pipe Diameter (inches)	Minimum Slope
6	0.006
8	0.004
10	0.0028
12	0.0022
15	0.0015
18	0.0012

The sanitary system design followed these guiding principles for the layout:

- Use gravity as much as possible
- Follow existing or proposed roadways
- Follow property lines or tax lot boundaries when not possible to follow roads
- Follow land use boundaries (not serving Undeveloped Natural Area land use areas)
- Avoid streams and significant natural areas

Flow Calculations

Loading estimates were calculated using the Land Use Scenario 5. Peak flows were calculated for each connection point into the existing Tualatin and Wilsonville systems. Dry weather flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below.

$$Peak\ Dry\ Weather\ Flow\ (DWF) = Residential\ EDU * 2.4 \frac{people}{EDU} * 80 \frac{gal}{person * day} * 1.6\ peak\ factor$$

$$Peak\ Dry\ Weather\ Flow\ (DWF) = \frac{Comm./Ind.\ Area\ (sq.ft.)}{1000 \frac{sq.ft.}{person}} * 40 \frac{gal}{person * day} * 1.2\ peak\ factor$$

Wet weather flows were calculated based on the developable areas, not including the areas designated as “Open Space” land use, based on the Land Use Scenario 5 areas provided by Fregonese Associates. The wet weather flows were calculated using the following equation. An inflow and infiltration rate of 2,500 gallons per acre per day (gpad) is a conservative estimate within the range listed in the CWS

Sanitary Sewer Master Plan (2009) and the maximum value computed in the Wilsonville Wastewater Master Plan (2014).

$$Wet\ Weather\ Flow\ (WWF) = Developed\ Area\ (ac.) * 2{,}500 \frac{gal}{ac.* day}$$

The total peak flow was calculated by adding the wet and dry weather flows together, as follows.

$$Peak\ Sewer\ Flow = Dry\ Weather\ Flow\ (DWF) + Wet\ Weather\ Flow\ (WWF)$$

The estimated sewer flows at the connection points to the existing system are summarized in Table 1.

Table 1.
Estimated Sewer Flows at Connections to the Existing Systems

Connection Point	Estimated Sewer Flow (gal/d)
112th and Helenius (Tualatin)	375,800
Grahams Ferry and Helenius (Tualatin)	166,400
Boones Ferry near Norwood (Tualatin)	202,200
Norwood and Vermillion (Tualatin)	107,600
Kinsman Road Extension Sewer (Wilsonville)	357,700
Garden Acres and Clutter (SW RR Area, Wilsonville)	600

Cost Estimate and Preliminary Sizing

The cost estimate for the sewer system is provided in Table 4. Project costs include pipe costs, rock excavation, pump station capital costs, pump station operations and maintenance costs for 30 years, engineering/legal/admin fees (25%), and contingency (30%). Upgrades to the existing downstream systems are not included in the cost estimates.

Pipe installation costs were gathered from the Tualatin Sewer Master Plan (2002) and escalated to 2016 dollars. The construction costs are based on pipe diameter and average depth of bury, and include the costs of manholes and service laterals. An average diameter of 8 inches was used for pipes in the Wilsonville service system and diameters of 8 inches (approximately 34,000 linear feet) and 10 inches (approximately 2,200 linear feet, located along the northwestern edge of the proposed system) were used for pipes in the Clean Water Services (CWS) service system, based on the preliminary sizing completed at the downstream connection points. All force mains were assumed to be 6 inches in diameter.

The rock excavation cost was calculated based on information from geotechnical investigations and the estimated depth of trench. Based on the boring summary map and geotechnical data available, the Basalt Creek planning area was divided into regions where we expect to require rock excavation for 50%, 20% or 10% of the pipe installations. In order to quantify the amount of pipe that will require rock excavation, a percentage of the pipe length was assumed to require rock excavation based on the region the pipe is located in. Figure 3 (attached) outlines the regions that fall into the three categories. The regions were determined based on the depth to rock (from boring information), approximate depth of bury for pipes, and amount of data in the area. Areas with shallow depths to rock, greatly varying depths to rock, and/or that have a lack of data are assumed to have 50% of the pipe length requiring rock excavation. The area circled in the northeast is where the depths varied for different sewer layout alternatives. For this region, if the average depth of the pipe is deep (>20 feet), it was assumed that 40% of the pipe length required rock excavation and if average depth of the pipe is shallow (<20 feet), it was assumed that 20% of pipe length required rock excavation.

To estimate the linear footage of rock excavation required, the length of each pipe was multiplied by the percentage denoted by the region it is in. Unit costs for rock excavation were developed for two trench depths (15 feet and 20 feet) and the price for the depth closest to the average depth of bury for each pipe were applied to the rock excavation length for that pipe. The unit costs for rock excavation were $30/LF for a 15-foot deep trench and $90/LF for a 25-foot deep trench. The cost of rock excavation was added to the pipe unit costs.

A few segments of pipe require very deep sewers (shown in yellow on Figure 1) and will be installed by boring. The cost of boring was estimated at $500 per linear foot and includes the cost of pipe.

Table 2 provides an estimate of the length of pipe requiring a shallow (<20 feet) or deep (>20 feet) trench, as used in the rock excavation cost estimate, as well as the total length of pipe. The estimated length of excavation was calculated using a percentage of the total length of each stick of pipe (10%, 20%, or 50%) based on location, as description above.

Table 2.
Summary of Estimated Excavation Lengths

		Tualatin Service Area	Wilsonville Service Area
Shallow (<20 feet) Excavation	Estimated Length of Excavation (feet)	11,672	7,152
	Total Length of Pipe (feet)	38,190	23,430
Deep (>20 feet) Excavation	Estimated Length of Excavation (feet)	1,531	1,093
	Total Length of Pipe (feet)	4,776	2,274

Existing System Improvements

Upgrades to the existing downstream systems may be required to accommodate the anticipated flows from the Basalt Creek planning area. These upgrades have not been included in the conceptual design and cost estimate.

NOTE TO EDITOR: CH2M is working on updating the Tualatin Master Plan to reflect the Basalt Creek concept plan and these results could be incorporated later.

Water System

The conceptual drinking water systems are shown in Figure 2 and are divided by the jurisdictional boundary. Each system is a looped system, which requires water lines for each city located along the proposed east-west arterial road.

The Basalt Creek planning area has the potential to be served for drinking water supply from either Tualatin or Wilsonville. The existing service zones (levels B and C) from both communities would provide the necessary hydraulic pressure to provide service within the planning area. The Tualatin pressure zones that will be used to serve the Basalt Creek are Zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet). A majority of the service area can be served by Pressure Zone B, but a small portion will require Pressure Zone C. The reservoirs intended to service this area are the newly constructed C-2 (1-MG) Reservoir, the Norwood Reservoirs B-1 (2.2-MG) and B-2 (2.8-MG). In addition to the B level storage reservoirs, the Portland Supply Main using a control valve would also serve pressure zone B. In order to provide service to the pressure zone C areas in the planning area, Wilsonville has identified a need to install a booster pump station. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the cost estimate for drinking water for Wilsonville.

The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential for development. Service lines in this area would only need to be constructed if and when development occurs. The Coffee Creek system is shown outside of the Basalt Creek planning area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road). This portion of the system would be installed and funded by the Coffee Creek development.

Flow Calculations

Water demand estimates were calculated using Land Use Scenario 5. Peak flows were calculated for the proposed Tualatin and Wilsonville service areas. Peak flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below.

Residential water demand of 80 gallons/person/day is consistent with Wilsonville's Water Master Plan (2012) and 90 gallons/person/day is consistent with Tualatin's Water Master Plan (2013). Industrial/commercial water demand of 1,000 gallons/acre/day is consistent with Wilsonville's and Tualatin's master plans.

$$Peak\ Residential\ Flow = Residential\ EDU * 2.4\frac{people}{EDU} * 80\ or\ 90\frac{gal}{person * day} * 2.2\ peak\ factor$$

$$Peak\ Commercial/Industrial\ Flow\ = Comm./Ind.\ Land\ Area\ (ac) * 1000\frac{gal}{ac * day} * 2.2\ peak\ factor$$

Flow estimates for the final layout are provided below.

Table 3.
Estimated Water Demand

	Tualatin	Wilsonville	Both
Peak Daily Demand (gal/d)	573,019	290,734	863,753
Average Annual Demand (gal/d)	260,463	132,152	392,645

Cost Estimate and Preliminary Sizing

The cost estimate for drinking water is based on construction costs for installing pipes. Construction costs for drinking water pipe construction were gathered from the Tualatin Water Master Plan (January 2013) and escalated to 2016 dollars. The pipe installation costs are based on pipe diameter, and do not include rock excavation or excessive dewatering. For drinking water, a pipe diameter of 12 inches was used for water lines along SW Grahams Ferry Road, SW Boones Ferry Road, and the proposed East-West connector. An average diameter of 8 inches was used for the remaining pipes. Preliminary pipe sizing was completed for cost estimating purposes, but further analysis is needed to confirm fire flow requirements in industrial areas. Drinking water pipes are shallower than sanitary sewer pipes, so rock excavation costs were estimated at 3% of the pipe installation cost. The conceptual cost estimate for the water system is provided in Table 2.

Stormwater System

The conceptual stormwater system design includes the layout for stormwater pipes in the public right-of-way and does not include private stormwater system designs. Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or discharge permits. At locations where the City of Tualatin's pipe system connects to the City of Wilsonville's pipe system, the upstream stormwater discharged into Wilsonville's system shall meet or exceed Wilsonville's stormwater management requirements.

Cost Estimate

Public stormwater costs are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are paid for by the developer, and developer costs for the stormwater systems have not been estimated.

Funding Strategies

The utility improvements will be funded by a combination of public and private entities. The cities of Tualatin and Wilsonville, with support from district entities, such as Clean Water Services and Metro, will fund public utility improvements and private developers/land owners will generally pay for utilities on private properties and certain enabling projects to allow for development to occur. The City of Tualatin and the City of Wilsonville will be responsible for the publicly-funded water and storm system improvements in their respective jurisdictions. For the sanitary sewer system, the City of Wilsonville will fund all public improvements in their jurisdiction, and the City of Tualatin will fund public gravity pipelines, while pump stations and forcemains are paid for by the service provider, Clean Water Services. There are opportunities for shared funding and partnering agreements for specific projects.

Cost estimates were developed for the conceptual sanitary sewer and water systems. The cost estimates summarize the anticipated costs for the cities, Clean Water Services, and private developers. For both systems, the cost for pipes that are 8 inches in diameter and smaller are paid for by the developer. Pipes that are greater than 8 inches in diameter have a cost share between the city and the developer, where the developer pays for the equivalent of installing 8-inch pipes and the city pays for the difference between the cost for the design pipe size and the cost for an 8-inch pipe. For the sanitary sewer system in the CWS/Tualatin jurisdiction, pump station and force main costs are paid for by the service provider, Clean Water Services (CWS), and pump station capital costs are SDC creditable (pump station operations and maintenance costs are not SDC creditable). For the sanitary sewer system in Wilsonville, pump station and forcemain costs are paid for by the city. City, service provider, and developer costs for the sanitary system are summarized in Table 4 and city and developer costs for the drinking water systems are summarized in Table 5. The southwest railroad (SW RR) area has a lower potential to develop and the costs for this area have been included as a separate column since they would only be required if and when development occurs.

Table 4.
Cost Estimate Summary for Conceptual Sewer System

	Tualatin/CWS Service Area			**Wilsonville Service Area**		**Wilsonville SW RR Area**	
Item	***Tualatin***	***CWS***	***Developer***	***Wilsonville***	***Developer***	***Wilsonville***	***Developer***
Pipe Costs (8")			$8,033,000		$3,443,000		$1,818,000
Pipe Costs (Upsize 8" to 10")	$34,000						
Force Mains (6")		$1,523,000				$55,000	
Rock Excavation		$66,000	$422,000		$161,000	$6,000	$145,000
Pump Station Capital Cost		$2,638,000				$678,000	
Total Construction Costs	**$34,000**	**$4,227,000**	**$8,455,000**	**$0**	**$3,605,000**	**$740,000**	**$1,963,000**
Pump Station O&M Cost (30 years)*		$5,599,000				$1,120,000	
Subtotal	**$34,000**	**$9,826,000**	**$8,455,000**	**$0**	**$3,605,000**	**$1,860,000**	**$1,963,000**

Table 4.
Cost Estimate Summary for Conceptual Sewer System

Item	Tualatin/CWS Service Area			Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	***CWS***	***Developer***	***Wilsonville***	***Developer***	***Wilsonville***	***Developer***
Engineering/Admin /Legal (25%)	$9,000	$2,457,000	$2,114,000	$0	$901,000	$465,000	$491,000
Contingency (30%)	$10,000	$2,948,000	$2,536,000	$0	$1,081,000	$558,000	$589,000
TOTAL	**$53,000**	**$15,231,000**	**$13,105,000**	**$0**	**$5,588,000**	**$2,883,000**	**$3,043,000**

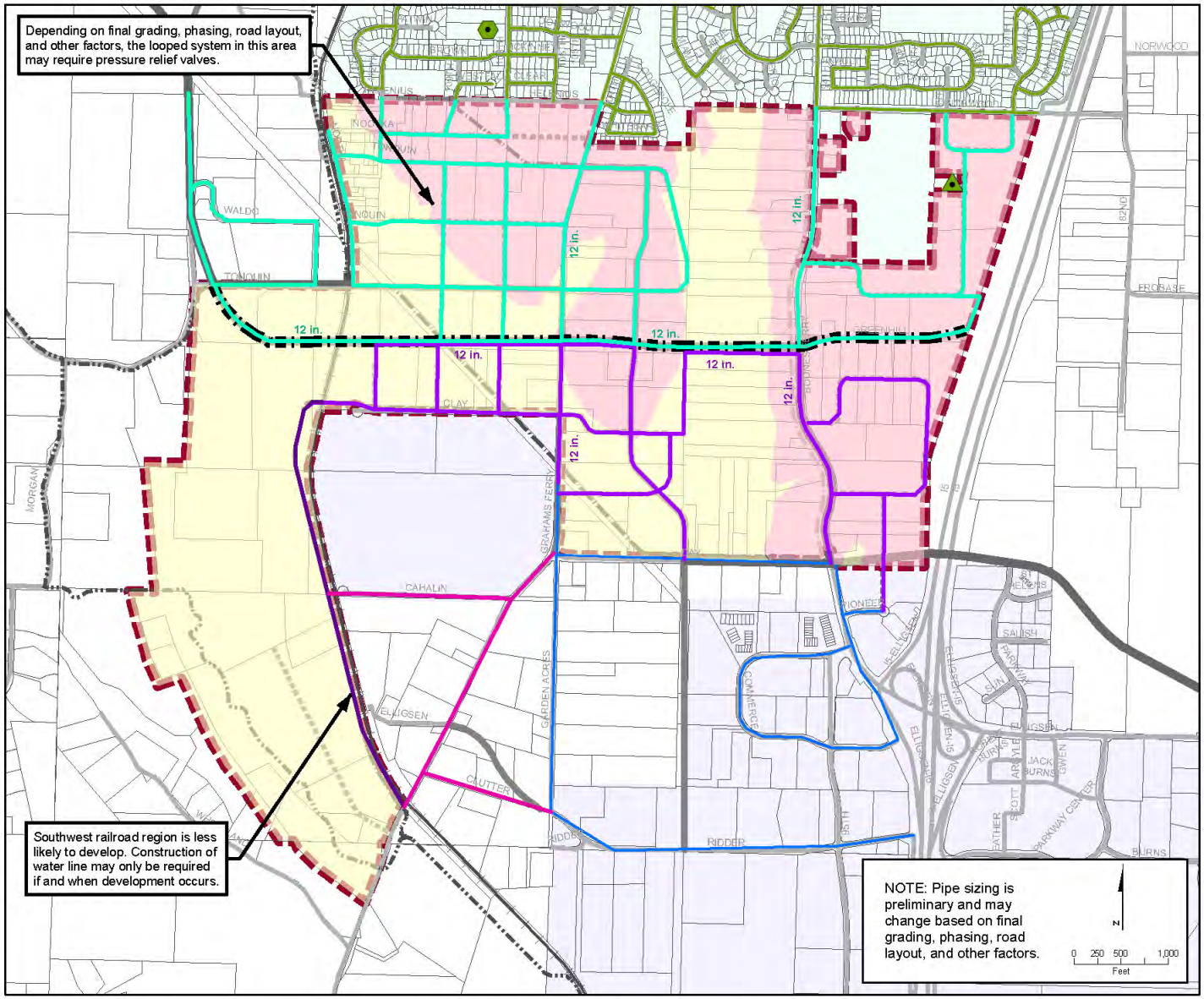
*Pump Station O&M costs are not SDC creditable

Table 5.
Cost Estimate Summary for Conceptual Water System

Item	Tualatin Service Area		Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	***Developer***	***Wilsonville***	***Developer***	***Wilsonville***	***Developer***
Pipe Cost (8")		$5,228,000		$2,666,000		$521,000
Pipe Cost (Upsize 8" to 12")	$871,000		$421,000			
Rock Excavation (3%)		$157,000		$80,000		$16,000
Total Construction Cost	**$871,000**	**$5,385,000**	**$421,000**	**$2,746,000**	**$0**	**$537,000**
Engineering/Admin/Legal (25%)	$218,000	$1,346,000	$105,000	$687,000	$0	$134,000
Contingency (30%)	$261,000	$1,66,000	$126,000	$824,000	$0	$161,000
Total Project Cost	**$1,351,000**	**$8,347,000**	**$652,000**	**$4,257,000**	**$0**	**$832,000**
Wilsonville Booster PS			$609,000			
TOTAL	**$1,351,000**	**$8,347,000**	**$1,261,000**	**$4,257,000**	**$0**	**$832,000**

Development Phasing

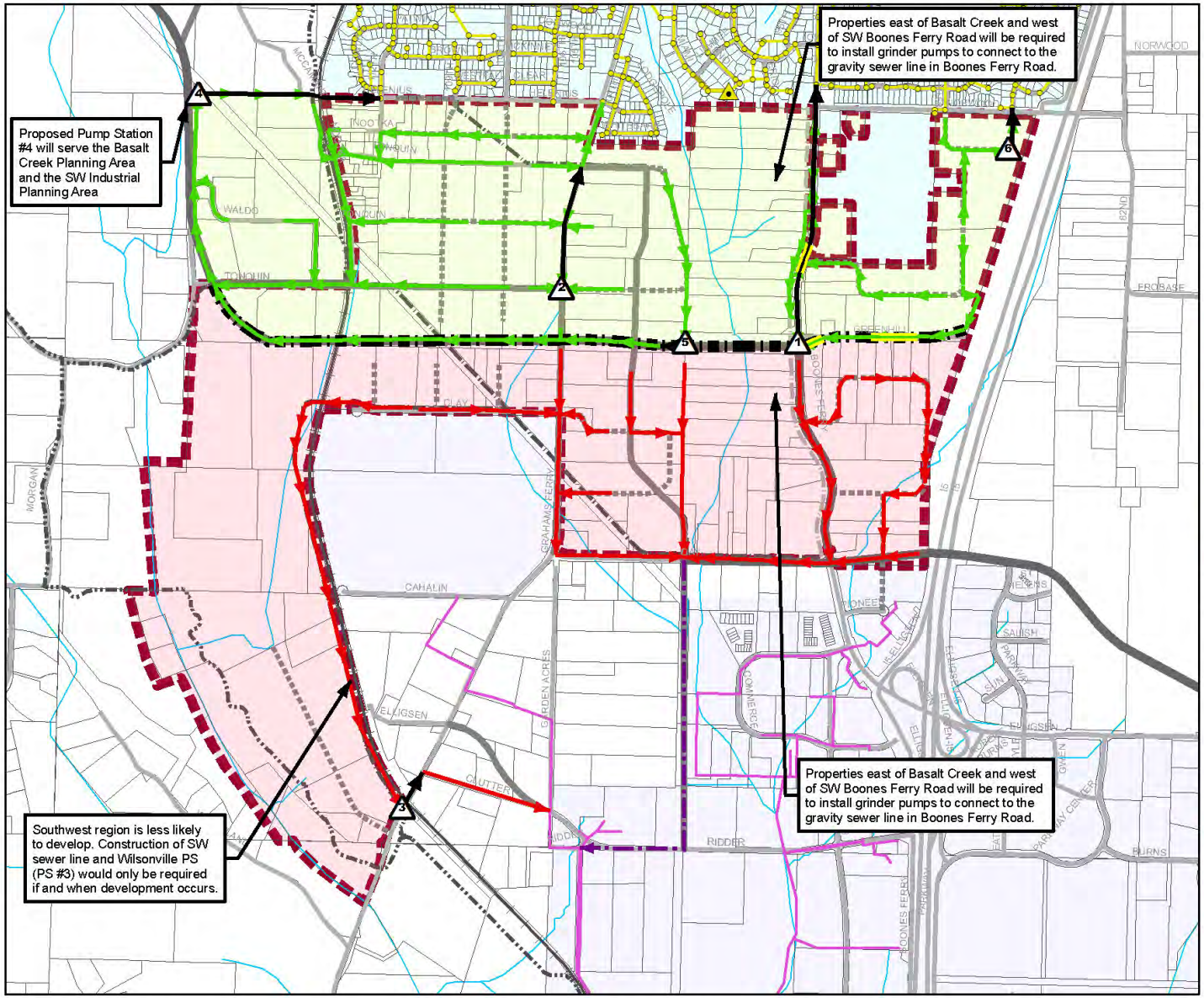
Utility improvements will be made as properties are annexed into each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the planning area that are adjacent to the existing cities and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements. Some enabling projects may be required to be constructed prior to development to connect properties to existing systems. For example, the sanitary sewer pump station in the northeast corner of the planning area may be required in order for development in that sewer basin to occur.

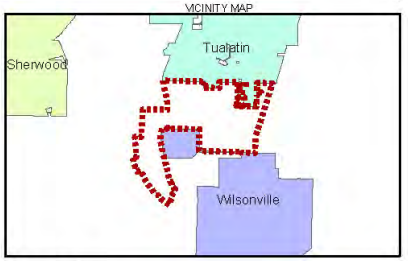


Selected Water System Design

Basalt Creek Planning Area

March 2016





Legend

- Proposed Pump Stations
- Proposed Forcemains
- Proposed CWS Service System
- CWS Service Boundary
- Proposed Wilsonville Service System
- Wilsonville Service Boundary
- Deep Bore Segment (over 25' deep)
- Jurisdictional Boundary
- Planned SW Kinsman Rd Extension Sewer
- Existing CWS/Tualatin Pump Stations
- Existing CWS/Tualatin Gravity System
- Existing CWS/Tualatin Forcemains
- Existing Wilsonville System
- Proposed Arterial Roads
- Proposed Collector Roads
- Proposed Local Roads
- Proposed Bike/Ped Off-Street
- Proposed Trails (by Others)
- Existing Railroad
- Existing Roads
- Existing Bike/Ped On-Street
- Taxlots
- Streams
- Planning Area

City Boundaries

- Sherwood
- Tualatin
- Wilsonville

N

0 250 500 1,000
Feet

Selected Sewer Alternative
Basalt Creek Planning Area
March 2016

CH2MHILL.

Basalt Creek Transportation Refinement Plan Recommendations

Introduction

The Basalt Creek transportation planning effort analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs.[1] This document reflects the Policy Advisory Group's unanimous approval of the transportation investments, next steps for policy and plan updates, and potential funding strategies described in this document.

The Basalt Creek Transportation Refinement Plan was a joint effort involving:

- Washington County
- City of Tualatin
- City of Wilsonville
- Metro
- The Oregon Department of Transportation
- Area Citizens

Purpose

The purpose of this refinement plan was to determine the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, which is currently an unincorporated urban area of Washington County between the cities of Tualatin to the north, and Wilsonville to the south (see Figure 1). This plan refines recommendations from the I-5/99W Connector Study and the Regional Transportation Plan, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area.

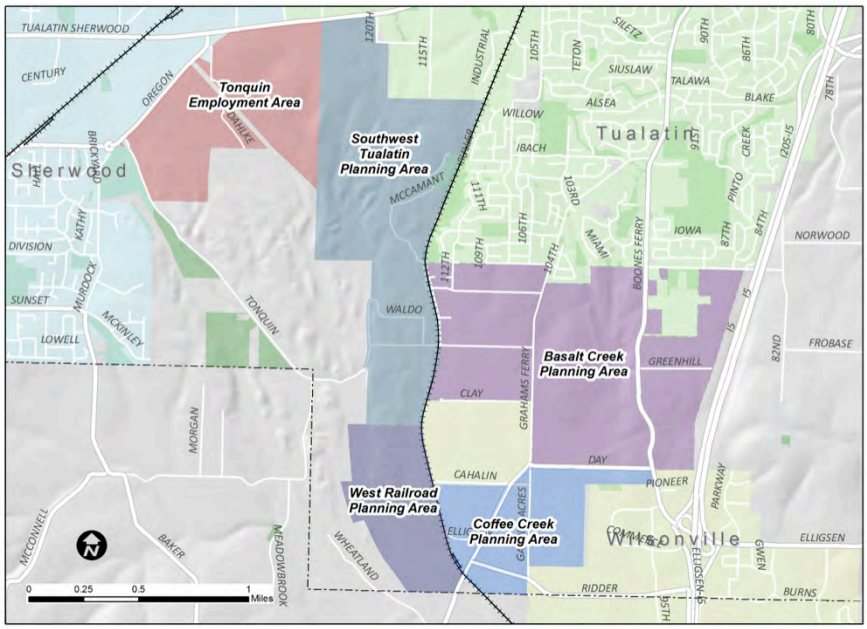


Figure 1: Basalt Creek Planning Area Location

Planning Context

The need to plan for the future transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. Basalt Creek currently lacks the multi-modal transportation facilities needed to support economic and urban-level development. Several planning

[1] See *Basalt Creek Transportation Refinement Plan Technical Report* for more information.

efforts, summarized below, provide background and context for the Basalt Creek Transportation Refinement Plan.

- The **I-5/99W Connector Study** recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek Planning Area, south of Tonquin Road. The present planning effort aims to further define the location of the connection between the SW 124th Avenue Extension and the I-5/Elligsen interchange in a manner that does not preclude the future Southern Arterial west of SW 124th.
- The **2035 Regional Transportation Plan** (RTP) calls for detailed project planning and near-term construction of an extension of SW 124th Avenue from Tualatin-Sherwood Road to the I-5/Elligsen Road interchange, supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas. The RTP also calls for the near-term construction of the Tonquin Trail (see below).
- The **Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area** together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.
- The **SW 124th Avenue Extension** Project, currently underway, is planning and designing the corridor described in the RTP from Tualatin-Sherwood Road to Tonquin Road. The present planning effort aims to extend the corridor to I-5 as envisioned in the RTP and ensure consistency with current SW 124th Avenue project.
- Washington County's **Boones Ferry Road** improvement project, also currently underway, provides pedestrian and bicycle improvements and an intermittent center turn lane between Norwood Road and Day Road. It is an assumed improvement for the Basalt Creek area.
- Near-term construction of the **Tonquin Trail** is called for in the RTP. The master plan identifies an alignment for new bicycle and pedestrian connections between Sherwood, Tualatin, and Wilsonville, with connections to the larger regional trail system. The Tonquin Trail will travel through the Southwest Tualatin Concept Plan Area and the Tonquin Employment Concept Plan Area, and is an assumed improvement within the Basalt Creek Transportation Refinement Plan.
- **Transportation System Plan** updates for Washington County, Tualatin, and Wilsonville are currently underway. Washington County will incorporate recommendations from this refinement plan into the County TSP update. The cities of Tualatin and Wilsonville will not incorporate these recommendations into their current TSP updates, but will carry the recommendations into land use concept planning and future TSP updates.

Facility Considerations and Characteristics

At the outset of this effort, agencies articulated a set of considerations to guide selection of the preferred transportation system as well as preferred characteristics of the primary east-west facility through the area.

- **Guiding considerations** included: ability to fund and phase improvements, level of impacts (environmental, right-of-way, etc.), support for development, consistency with regional policy, and traffic operations performance.
- **Facility characteristics** included: for the primary arterial connection, a 45 mph prevailing speed and access spacing of one-half mile to one mile to improve capacity.

Recommendation

The Policy Advisory Group (PAG), which consists of elected officials and key staff from the project's five partner agencies, recommends the following elements as part of an overall Action Plan (illustrated in Figure 2) for the area.

Roadways

The final recommendation is for a combination of new and improved roadways through the Basalt Creek area. The key new roadway through the area is a five-lane east-west extension of SW 124th Avenue, aligned south of Tonquin Road and extending east to Boones Ferry Road. The recommendation also includes improvements to existing roadways in the area, such as Tonquin Road, Grahams Ferry Road, Boones Ferry Road, and Day Road.

Protection of right-of-way for the new east-west roadway from the 124th Avenue extension to Boones Ferry Road is a key element of this recommendation. Right-of-way protection and purchase will be addressed separately, concurrent with the Basalt Creek land use concept planning.

During the planning process, the City of Wilsonville expressed concern about the structural condition of Day Road (i.e., failing roadway base and resulting pavement deterioration) and its ability to carry freight traffic for further development of industrial lands. While the Basalt Creek Transportation Refinement Plan focused on roadway needs related to capacity, the PAG agreed that the function of the arterial network in the Basalt Creek area includes providing roadways with adequate structural design for regional freight needs. Therefore, the PAG agreed that the project recommendations include a commitment to address the construction, operations, and maintenance of the arterial network through the concept planning process.

Overcrossings

The ability to construct two new I-5 overcrossings, including an off-street multi-use path, should be preserved in order to provide for future circulation and connectivity across the Basalt Creek area and into areas east of I-5. These overcrossings are recommended as long-term improvements and are likely not needed until 2035 or later. Forecasts show that the second overcrossing is not needed unless surrounding urban reserve areas east of I-5 and south of I-205 are developed. This refinement plan is neutral on the timing of urban reserves development, and therefore does not specify the timing and order of overcrossing improvements.

Active Transportation

All improved roadways in the Action Plan include bike lanes and sidewalks consistent with Washington County urban standards. This recommendation also includes integration of the regional Tonquin Trail into the transportation network. Metro, in close coordination the cities of Tualatin, Wilsonville, Sherwood, and Washington and Clackamas counties, led the master planning effort that identified a preferred alignment that travels through the Basalt Creek Planning Area. Roadway cross-sections and right-of-way purchases for the future east-west facility will consider needs for the Tonquin Trail in the design for the railroad overcrossing and improvements to Tonquin Road between Morgan Road and Tonquin Loop Road. Design for the east-west facility should also consider providing an of-street multi-use path that connects to the Tonquin Trail and extends east of I-5. Details of how this multi-use path will be integrated with the east-west facility design will be refined during later land use concept planning.

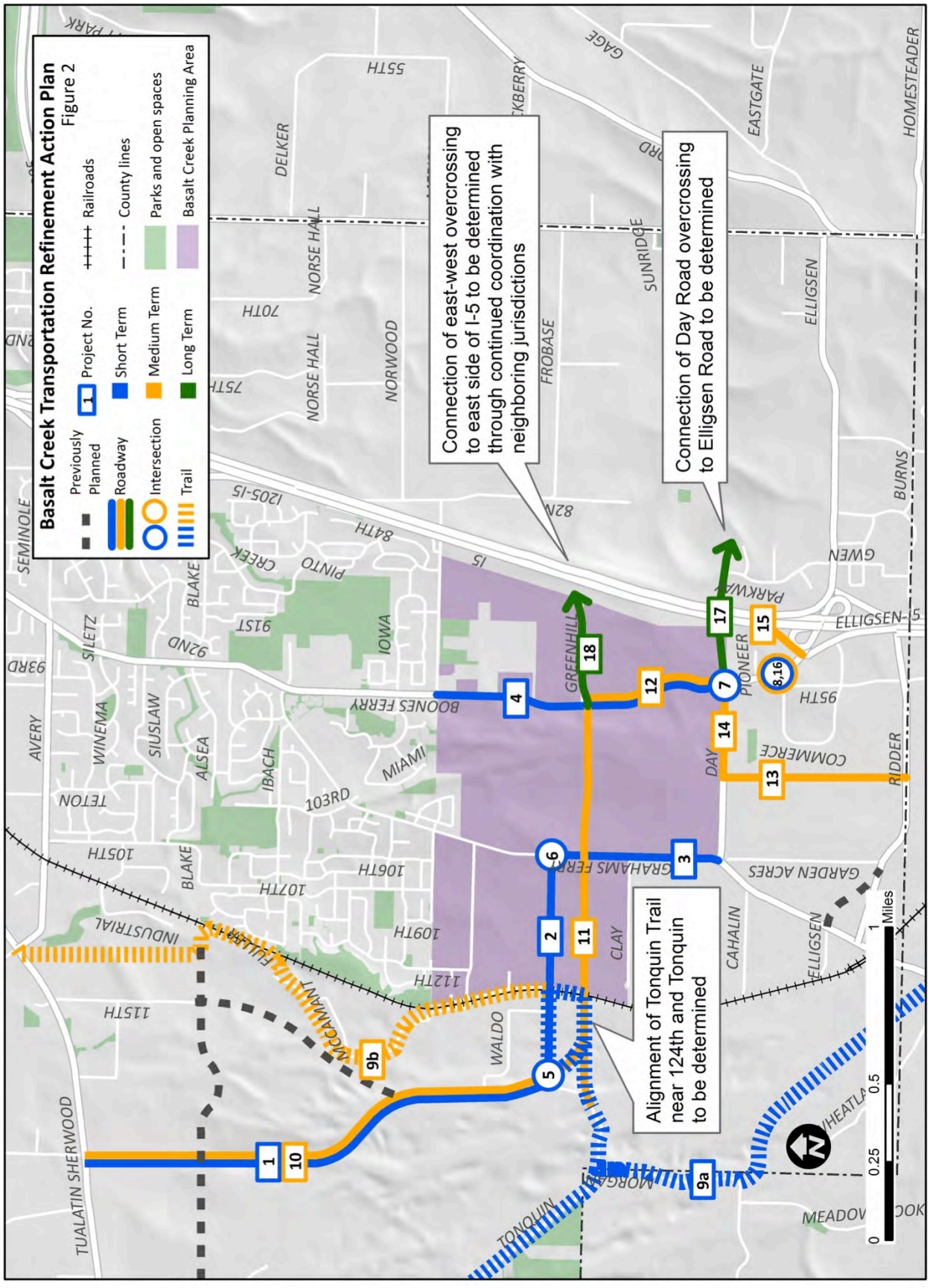
Action Plan

The recommended Action Plan consists of 18 transportation investments, shown in Figure 2. Timing of projects was prioritized through an analysis of likely transportation needs in 2020, 2030, and 2035 based on growth assumptions from the adopted Regional Transportation Plan. Because of uncertainty regarding the years during which development in the Basalt Creek Planning Area and surrounding areas will occur, phasing for investments is classified as short-term, medium-term, and long-term. Descriptions of these investments, as well as timing and the funding needed, are shown in Table 1. Cost estimates include right-of-way.

Table 1: Basalt Creek Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost ($2012)
1	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			$20,000,000
2	Tonquin Road (124th Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road[1]	x			$10,500,000
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			$5,400,000
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			$10,800,000
5	124th Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			-[2]
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			$500,000
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			-[3]
8	Boones Ferry Road/95th Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			$2,500,000
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			$8,900,000[4]
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		$7,100,000[4]
10	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		$14,000,000
11	East-West Arterial (124th Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail[5]		x		$57,900,000
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		$1,100,000
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		$10,400,000
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		$5,800,000
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		$500,000
16	Boones Ferry Road/95th Avenue Intersection: Access management		x		-[6]
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	$33,700,000-$44,100,000[7]
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	$38,000,000
	TOTAL	$59M	$97M	$72-82M	$228-238M

[1] Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around $2,000,000
[2] Cost included in Project 1
[3] Coordinate with Project 4. Cost of approach lane included in estimate for Project 12
[4] Tonquin Trail cost estimated by Metro as part of trail planning effort
[5] Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed
[6] Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal
[7] Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at $33,700,000, and alignment to Canyon Creek Road is estimated at $44,100,000


Basalt Creek Transportation Refinement Action Plan
Figure 2
Previously Planned
Roadway
Intersection
Trail
Project No.
Short Term
Medium Term
Long Term
Railroads
County lines
Parks and open spaces
Basalt Creek Planning Area
Connection of east-west overcrossing to east side of I-5 to be determined through continued coordination with neighboring jurisdictions
Connection of Day Road overcrossing to Elligsen Road to be determined
Alignment of Tonquin Trail near 124th and Tonquin to be determined
Miles
0
0.25
0.5
1
N

Each investment adds important improvements to the major transportation system in the Basalt Creek area to support future development, adding new multimodal facilities and upgrading existing facilities to urban standards. Although not shown on the map, it is expected that future concept planning will identify locations for additional, lower-classification roads and other transportation facilities to serve future development as well.

Are these new projects?

While cost estimates for the entire recommendation may total as high as $238,000,000, all of the 18 projects have some relation to investments already planned in the adopted RTP. Table 2 shows projects from the RTP that have overlap or similarity to projects contained in the Action Plan. **Note that many of these projects are different in scope from those contained in the Action Plan, and will have different cost estimates. Future RTP updates may include updated cost estimates from this study.**

Table 2: Related projects from the Regional Transportation Plan

RTP ID	RTP Project	Related Action Plan Projects	Time Period	Cost ($2007)
10736	124th Avenue: Construct new street from Tualatin-Sherwood Road to Tonquin Road: 5 lanes	1,5,10,11	2008-2017	$82,500,000
10590	Tonquin Road: Realign and widen to three lanes with bike lanes and sidewalks (Oregon Street to Grahams Ferry Road)	2,6	2018-2025	$28,406,000
10588	Grahams Ferry Road: Widen to three lanes, add bike/pedestrian connections to regional trail system and fix undersized railroad crossing (Helenius Street to Clackamas County line)	3	2008-2017	$28,000,000
10732	Boones Ferry Road: Widen to five lanes (Norwood Road to Day Road)	4,7,12	2018-2025	$40,050,000
10852	95th/Boones Ferry/Commerce Circle Intersection Improvements	8,16	2008-2017	$2,500,000
10854	Tonquin Trail: Construct multi-use trail with some on-street segments (Tualatin-Sherwood Road to Clackamas County line)	9a,9b	2008-2017	$3,000,000
10853	Kinsman Road extension with bike lanes and sidewalks (Ridder Road to Day Road)	13	2008-2017	$6,500,000
11243	Day Road reconstruction to accommodate trucks (Grahams Ferry Road to Boones Ferry Road)	14	2008-2017	$3,200,000
11342	I-5/99W Connector Southern Arterial/I-5 Interface[1]	15,17,18	2026-2035	$50,000,000

[1] Construction of projects specifically related to the I-5/99W Connector Southern Arterial, such as the I-5 interface, are contingent on certain project conditions being met. See Regional Transportation Plan for details.

Policy and Plan Updates

Recommendations in this plan allow new concept planning efforts to move forward and provide guidance for updates of existing transportation plans.

Basalt Creek and West Railroad Area Concept Planning

The transportation system recommended in this plan becomes the framework for more detailed land use concept planning of the Basalt Creek Planning Area and West Railroad Planning Area by the cities of Tualatin and Wilsonville. Key recommendations to be carried forward during concept planning include:

- Protection of the major transportation facility corridors from development encroachment.
- Coordination of the local transportation system with the transportation investments included in this plan (unless amended by the parties of this study). Each roadway in the Basalt Creek area has access spacing standards that protect the safety and operations of the system, and these standards help determine appropriate local street connections. The new east-west facility is limited to accesses at 124th Avenue, Grahams Ferry Road, and Boones Ferry Road.
- Detailed concept planning in the Basalt Creek area should consider multi-use path connections to the Tonquin Trail that emphasize directness and minimize conflicts, enhancing bicycle and pedestrian access to new residential and employment areas. In the West Railroad area, concept planning will also include sections of the Tonquin Trail.

Regional Transportation Plan

In many cases, this transportation refinement plan provides new detail and cost estimates for projects that are already in the adopted RTP. These refined project descriptions, cost estimates, and timing considerations should be considered when projects are forwarded to Metro for the next RTP update. Examples of RTP projects that overlap with projects in this refinement plan include:

- 10590 (Tonquin Road). Action Plan project #2 includes a grade-separated railroad crossing, which is not included in the RTP project description.
- 10852 (95th/Boones Ferry/Commerce). Action Plan projects 8 and 16 will require further coordination with ODOT to determine geometry and timing of intersection improvements.
- 11243 (Day Road). Action Plan project #14, which widens part of Day Road, should also upgrade the roadway structure and pavement conditions to accommodate increasing heavy truck volumes. Although project #14 applies only to the section of Day Road between Kinsman Road and Boones Ferry Road, funding of roadway reconstruction between Kinsman Road and Grahams Ferry Road should also be discussed as part of land use concept planning.
- 10854 (Tonquin Trail). Action Plan projects #2, #5, #11 all need to consider Tonquin Trail in their design, including most recent alignment information and cost estimates from the trail master plan.

Washington County TSP Update

Most of the projects included in the Action Plan are new facilities in unincorporated Washington County or improved facilities already under County jurisdiction. An amendment to update the Washington County TSP will be done in 2013 to incorporate the descriptions, cost estimates, and timing of these projects.

Tualatin and Wilsonville TSP Updates

The Cities of Tualatin and Wilsonville are also currently updating their transportation system plans. However, because concept planning for Basalt Creek will include agreement on the future city limit boundary between the two cities, as well as more detailed transportation network considerations, the projects included in this plan will not be incorporated as part of the current TSP updates. Future TSP updates may reflect elements from this refinement plan by amending project lists, maps, and funding strategies.

Funding

Funding for some short-term Action Plan projects has already been programmed by Washington County through their Major Streets Transportation Improvement Program (MSTIP). This includes $16.9 million ($10.9 million in MSTIP funding and $6 million from other sources) for an interim two-lane extension of SW 124th Avenue from Tualatin-Sherwood Road to Tonquin Road. It also includes an additional $10 million for right-of-way purchase or other improvements from the list identified by this Plan. Washington County has also provided $11 million in funding for the current Boones Ferry Road improvement project.

While this recommendation does not identify a specific overall funding strategy for the Action Plan, there are many existing revenue sources that may be used to fund the recommended investments. **Many are subject to a state or regionally competitive process where success can hinge on having a broadly supported plan in place.**

The revenue sources listed below form the basis of the financially constrained Regional Transportation Plan and related project list, which already contains many of the recommended Basalt Creek investments. The RTP assumes federal, state, and local sources, all of which will be key to funding the Action Plan.

Federal

Based on MAP-21[2] legislation, sources may include:

- **National Highway Performance Program (NHPP).** These funds are intended for rehabilitation and expansion of principal arterials, especially those with important freight functions.
- **Regional Surface Transportation Program (STP) funds.** These funds may be used for virtually any transportation purpose short of building local residential streets.
- **Congestion Mitigation/Air Quality (CMAQ) funds.** These funds typically support biking, walking, and transit projects, and other projects that help to achieve air quality standards.
- **Transportation Alternatives (TA) funds.** TA takes the place of previous programs such as Transportation Enhancements and Recreational Trails, and may be used to fund a variety of non-motorized projects.

[2] For more information see http://www.fhwa.dot.gov/map21/

These funds are allocated to projects through a state or regionally managed competitive process for inclusion in the Metropolitan Transportation Improvement Program (MTIP) and the State Transportation Improvement Program (STIP).

State

State sources include the statewide gas tax, vehicle registration fees, and weight-mile taxes on trucks. These funds typically go to road and bridge maintenance projects, but funding for projects of regional significance, such as those provided by Oregon House Bill 2001 Jobs and Transportation Act (JTA), may be made available for modernization. Again, having a plan in place allows projects to access funds when new funding opportunities become available.

Local

A variety of local funding sources are available, although some, such as urban renewal and local improvement districts, are subject to approval. Sources may include:

- Washington County Major Streets Transportation Improvement Program (MSTIP)
- Local portion of State Highway Trust Fund
- Local gas tax
- Transportation System Development Charges (SDCs) or Transportation Development Taxes (TDTs) levied on new development
- Urban renewal funding
- Developer contributions
- Local improvement districts (LIDs)

Basalt Creek Concept Plan: Acknowledgements

Joint Council

Tualatin City Council

Mayor Lou Ogden
Council President Monique Beikman
Councilor Wade Brooskby
Councilor Frank Bubenik
Councilor Joelle Davis
Councilor Nancy Grimes
Councilor Ed Truax
Councilor Jeff DeHaan
Councilor Robert Kellogg
Councilor Paul Morrison

Wilsonville City Council

Mayor Tim Knapp
Council President Scott Star
Councilor Julie Fitzgerald
Councilor Susie Stevens
Councilor Charlotte Lehan
Councilor Kristin Akervall

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David Moore

TriMet
Tom Mills

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Paul Hennon
Rich Mueller
Ross Hoover

Tualatin Valley Fire and Rescue
Brian Sherrard

Tualatin Valley Water District
Todd Perimon
Todd Heidgerken

Washington County
Chris Deffebach
Renus Kelfkens
Russell Knoebel
Karen Savage

Wilsonville/West Linn School District
Tim Woodley

City of Wilsonville Natural Resources
Kerry Rappold

BASALT CREEK CONCEPT PLAN

Attachment B: Basalt Creek Concept Plan Conclusionary Findings (Final 7.23.2018)

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CONCLUSIONARY FINDINGS
July 23, 2018

In support of Approval of Resolution 2697
BASALT CREEK CONCEPT PLAN

Definition of a Conceptual Land Use Plan:
The Wilsonville Comprehensive Plan does not define or provide specific direction for conceptual land use plan elements. For the purpose of this staff report, the following description is used:

A conceptual land use plan addresses the general character of proposed land uses, transportation, natural resources, public facilities, and infrastructure strategies for a study area. It uses a pictorial presentation to show the ultimate development layout of a site, which may be developed, in successive stages or subdivisions. A conceptual plan need not be completely engineered, but it should have sufficient detail to illustrate the site's inherent features and probable development pattern.

Comprehensive Plan Supporting Documents:
All of the documents listed on pages 5-6 of the Comprehensive Plan, including amendments that may subsequently be made, should be considered to be supportive of the contents of the Comprehensive Plan. However, only those documents that have been specifically adopted by the City Council as part of the Comprehensive Plan shall have the force and effect of the Plan. Adoption of the Basalt Creek Concept Plan is not a land use decision. It is supportive of the Comprehensive Plan, but is not being adopted as a sub-element. Following adoption of the Concept Plan and subsequent amendment of the Urban Planning Area Agreement with Washington County, Comprehensive Plan Amendments will be adopted.

WILSONVILLE DEVELOPMENT CODE

Section 4.032. <u>Authority of the Planning Commission</u>.

(.01) As specified in Chapter 2 of the Wilsonville Code, the Planning Commission sits as an advisory body, making recommendations to the City Council on a variety of land use issues. The Commission also serves as the City's official Committee for Citizen Involvement and shall have the authority to review and make recommendations on the following types of applications or procedures:

B. Legislative changes to, or adoption of new elements or sub-elements of, the Comprehensive Plan;

<u>Response:</u> The Basalt Creek Concept Plan is a support document of the Wilsonville Comprehensive Plan, and as such is not a land use action. However, it will guide future Comprehensive Plan and Development Code amendments. The Planning Commission conducted a public hearing on July 11, 2018, providing the City Council with a recommendation on the Basalt Creek Concept Plan. The City Council is the final local authority on this Plan. **These criteria are satisfied.**

Section 4.033. Authority of City Council.

(.01) Upon appeal, the City Council shall have final authority to act on all applications filed pursuant to Chapter 4 of the Wilsonville Code, with the exception of applications for expedited land divisions, as specified in Section 4.232. Additionally, the Council shall have final authority to interpret and enforce the procedures and standards set forth in this Chapter and shall have final decision-making authority on the following:

B. Applications for amendments to, or adoption of new elements or sub-elements to, the maps or text of the Comprehensive Plan, as authorized in Section 4.198.

E. Consideration of the recommendations of the Planning Commission.

Response: The City Council has received a recommendation from the Planning Commission to adopt the Basalt Creek Concept Plan. The City Council is the final local authority regarding adoption of the Basalt Creek Concept Plan, which will be adopted via Resolution as a supporting document of the City's Comprehensive Plan. **These criteria are satisfied.**

(.02) When a decision or approval of the Council is required, the Planning Director shall schedule a public hearing pursuant to Section 4.013. At the public hearing the staff shall review the report of the Planning Commission or Development Review Board and provide other pertinent information, and interested persons shall be given the opportunity to present testimony and information relevant to the proposal and make final arguments why the matter shall not be approved and, if approved, the nature of the provisions to be contained in approving action.

(.03) To the extent that a finding of fact is required, the Council shall make a finding for each of the criteria applicable and in doing so may sustain or reverse a finding of the Planning Commission or Development Review Board. The Council may delete, add or modify any of the provisions pertaining to the proposal or attach certain development or use conditions beyond those warranted for compliance with standards in granting an approval if the Council determines the conditions are appropriate to fulfill the criteria for approval.

Response: Following the public hearing before the Planning Commission on July 11, 2018, the Planning Director scheduled an August 6, 2018, public hearing before the City Council, at which time the Council will review the findings and recommendations provided by the Planning Commission. **At conclusion of the public hearing process before the Council, these criteria will be satisfied.**

Section 4.198. Comprehensive Plan Changes - Adoption by the City Council.

(.01) Proposals to amend the Comprehensive Plan, or to adopt new elements or sub-elements of the Plan, shall be subject to the procedures and criteria contained in the Comprehensive Plan. Each such amendment shall include findings in support of the following:

A. That the proposed amendment meets a public need that has been identified;

B. That the proposed amendment meets the identified public need at least as well as any other amendment or change that could reasonably be made;

C. That the proposed amendment supports applicable Statewide Planning Goals, or a Goal exception has been found to be appropriate; and

D. That the proposed change will not result in conflicts with any portion of the Comprehensive Plan that is not being amended.

Response: Preparation of the Basalt Creek Concept Plan is a City Council Goal. The Concept Plan addresses regional requirements to responsibly plan for and ultimately serve and govern areas added to the city's Urban Growth Boundary (UGB). This package (City Council Resolution 2697 and Planning Commission Case File #LP18-0005) does not include any proposed amendments to the Comprehensive Plan. The Basalt Creek Planning Area was added to the city's UGB in 2004 to help meet a regional industrial lands need. Accordingly, the Concept Plan has been prepared in compliance with the requirements of Metro's Urban Growth Management Functional Plan Title 11. In addition, the vision and guiding principles in the Concept Plan follow the tenets of the Comprehensive Plan and will be the basis of future text and map proposals. **The above criteria are satisfied.**

WILSONVILLE COMPREHENSIVE PLAN

Citizen Involvement
Goal 1.1: *To encourage and provide means for interested parties to be involved in land use planning processes, on individual cases and City-wide programs and policies.*

Policy 1.1.1*: The City of Wilsonville shall provide opportunities for a wide range of public involvement in City planning programs and processes.*

Response: A Public Involvement Plan directed the citizen involvement during the Basalt Creek Concept Planning process (see Appendix B to the Basalt Creek Concept Plan). Attachments 3-10 and 13-16 of the Basalt Creek Concept Plan Record (Attachment C) contain a list of public outreach efforts and public meetings that were conducted as part of the planning process as well as a complete summary of public involvement activities and comments. The Cities of Wilsonville and Tualatin jointly hosted two widely-advertised public forums to present and discuss the project's findings and recommendations. At every stage of the project, documents and maps were posted to the City-hosted project web page and project updates were sent to property owners and interested parties nearly monthly during the duration of the project. The project was highlighted in the City newsletter, which is mailed to every property in the 97070 zip code and the Wilsonville Spokesman.

The City Council and Planning Commission conducted numerous work sessions (including Joint Council work sessions between the Tualatin and Wilsonville City Councils) on the guiding principles, different land uses and jurisdictional boundary scenarios, conceptual infrastructure systems, natural resources and open spaces, and recommendations contained in the Basalt Creek Concept Plan. These work sessions were televised, streamed online, and open to the public. The Council and the Commission have received public testimony in regular meetings under citizen input regarding various aspects of the draft Concept Plan. City Staff also met with numerous property owners, including site visits, to discuss the project. Public notice of the public hearing was mailed to property owners in the Basalt Creek area, affected agencies and a list of interested individuals, as well as posted in three locations throughout the community, included in the local newspaper, and emailed to the interested parties list. **The above criteria have been met.**

Implementation Measure 1.1.1.a: *Provide for early public involvement to address neighborhood or community concerns regarding Comprehensive Plan and Development Code changes. Whenever practical to do so, City staff will provide information for public review while it is still in "draft" form, thereby allowing for community involvement before decisions have been made.*

Response: The Planning Commission practice is to conduct a minimum of one work session per legislative agenda item allowing for early involvement into the concepts being proposed. The Commission held numerous work sessions on this project (see Attachment 3, Public Meeting Index Record, to Attachment C). Staff reports, technical analysis and memoranda were posted on the project website throughout the project, and draft versions of the Concept Plan and all supporting documents have been available in paper and digital form, as well as on the City web site, since project inception. **This criterion is met.**

Implementation Measure 1.1.1.e: *Encourage the participation of individuals who meet any of the following criteria:*

1. *They reside within the City of Wilsonville.*
2. *They are employers or employees within the City of Wilsonville.*
3. *They own real property within the City of Wilsonville.*
4. *They reside or own property within the City's planning area or Urban Growth Boundary adjacent to Wilsonville.*

Response: Through the public open house process, work sessions, public notification, website and public hearing schedule, the City has encouraged the participation of a wide variety of individuals representing the groups listed above. Project updates were sent to property owners within the Planning Area and interested parties nearly monthly during the duration of the project. **This criterion is met.**

Implementation Measure 1.1.1.f: *Establish and maintain procedures that will allow any interested parties to supply information.*

Response: The established procedures, public notification processes and City website notifications allow interested parties to supply information. The Commission and Council citizen input portions of regular meetings have also provided an important venue for citizen communication on the Plan. Citizen Input and information supplied can be found in Attachments 7 and 15 of Attachment C. **This criterion is met**.

Goal 1.2: *For Wilsonville to have an interested, informed, and involved citizenry.*

Policy 1.2.1: *The City of Wilsonville shall provide user-friendly information to assist the public in participating in City planning programs and processes.*

Response: Through the two public open houses, regularly mailed project updates, Planning Commission and City Council work session schedules, public hearing notices, e-news updates, Planning Commission meeting minutes, project-related materials and announcements on the City website, and Spokesman/Boones Ferry Messenger articles, the City has informed and encouraged the participation of a wide variety of individuals. **This criterion is met**.

Policy 1.3: *The City of Wilsonville shall coordinate with other agencies and organizations involved with Wilsonville's planning programs and policies.*

Implementation Measure 1.3.1.b *Where appropriate, the City shall continue to coordinate its planning activities with affected public agencies and public utilities. Draft documents will be distributed to such agencies and utilities and their comments shall be considered and kept on file by the City.*

Response: Regional partners, affected public agencies and public utility providers participated on the project's Agency Review Team (ART) that met three times during the planning process to review key deliverables and provide input on the Concept Plan. The Plan was also recently distributed to the ART to keep them informed and to solicit any comments. In addition, these representatives and others from interested agencies received updates and draft documents through the mailings to Interested Parties of the Basalt Creek Concept Plan. **This criterion is met**.

Urban Growth Management
Goal 2.1: *To allow for urban growth while maintaining community livability, consistent with the economics of development, City administration, and the provision of public facilities and services.*

Policy 2.2.1: *The City of Wilsonville shall plan for the eventual urbanization of land within the local planning area, beginning with land within the Urban Growth Boundary.*

Response: The Basalt Creek Concept Plan supports the Comprehensive Plan in its approach to planning for future employment growth and industrial development in the Basalt Creek Planning Area. The Concept Plan is the vehicle that will lead to Comprehensive Plan map and text amendments, providing the framework for future urbanization of the area. **This criterion is met**.

School and Educational Services
Policy 3.1.10: *The City of Wilsonville shall continue to coordinate planning for educational facilities with all three local school districts and Clackamas Community College.*

Response: The Basalt Creek Planning Area is located in the Sherwood School District. A representative from the District participated on the project's Agency Review Team and received updates sent to the project's interested parties. Wilsonville is not planning for residential growth in the area and as a result will not need to plan for siting schools in the Planning Area. **This criterion is met.**

Parks/Recreation/Open Space
Policy 3.1.11: *The City of Wilsonville shall conserve and create open space throughout the City for specified objectives including park lands.*

Response: The Basalt Creek Concept Plan identifies the need for parks and open space amenities in the Planning Area to serve future employees and residents (see Attachment A, Basalt Creek Concept Plan, page 42). As a primarily industrial area, the Wilsonville portion of the Basalt Creek Planning Area could provide smaller pocket parks, industrial waysides, and active recreational amenities for daytime employees and visitors, and the City of Tualatin will provide a neighborhood park to serve existing and future residents. The Plan also identified the Basalt Creek Canyon natural area, which spans both cities, as a significant opportunity to provide

a regionally-connected off-street trail and open space in the Planning Area. Both Cities will coordinate on trail planning particularly as it relates to the Basalt Creek Canyon. The boundary of the Basalt Creek corridor will be refined and mapped as SROZ consistent with the policies of the Comprehensive Plan and the Wilsonville Development Code at the time of annexation and development review. Areas of the site also include a BPA powerline easement, upland habitat and other natural and open areas that are supportive of the above Policy. The Concept Plan is consistent with the adopted 2007 citywide Parks and Recreation Master Plan. **This criterion is met.**

Transportation
GOAL 3.2: *To encourage and support the availability of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling and transit in order to avoid principal reliance upon any one mode of transportation.*
Policy 3.2.1 *To provide for safe and efficient vehicular, transit, pedestrian and bicycle access and circulation.*
Implementation Measure 3.2.1.a *Provide a safe, well-connected, and efficient network of streets and supporting infrastructure for all travel modes.*
Policy 3.2.2 *To provide for a mix of planned transportation facilities and services that are sufficient to ensure economical, sustainable and environmentally sound mobility and accessibility for all residents and employees in the city.*

Response: The Basalt Creek Concept Plan contains a transportation framework that focuses on connectivity, circulation and safety. The Plan has been developed with multiple modes of transportation in mind, with the major new roads and improvements to be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) adopted by City Council (see Appendix J). The Concept Plan also outlines bicycle and pedestrian enhancements including an opportunity for a separated-grade crossing of the Basalt Creek Parkway, off-street trail planning, and potential transit routes (see Attachment A, Basalt Creek Concept Plan, Figure 11). The transportation framework in the Plan is directly supportive of the above transportation goals, policies and implementation measures. **These criteria are satisfied.**

GOAL 3.4: *To facilitate the safe, efficient and economic flow of freight and other goods and services within the city and the region.*
Policy 3.4.1: *Upgrade and or complete the street network on the west side of I-5, including in the Coffee Creek and Basalt Creek areas, to serve the warehousing, distribution, and other industrial uses located there.*

Response: The Basalt Creek Concept Plan contains a transportation framework that focuses on connectivity, circulation and safety. The 2013 Basalt Creek TRP determined the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area. The transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. The Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily

for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.

Major new roads and improvements will be constructed as laid out in the 2013 TRP, which is also coordinated with the 2014 Metro Regional Transportation Plan (RTP). Basalt Creek Parkway, portions of which are currently under construction, will be a major east-west arterial, with limited access (connecting only at Grahams Ferry and Boones Ferry Roads), creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road to five lanes, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops. **These criteria are satisfied.**

Land Use and Development

Policy 4.1.2*: The City of Wilsonville shall encourage commercial growth primarily to serve local needs as well as adjacent rural and agricultural lands.*

Policy 4.1.2*: The City of Wilsonville shall encourage light industry compatible with the residential and urban nature of the City.*

Response: The Basalt Creek Concept Plan identifies a range of industrial and employment uses appropriate for the Basalt Creek Planning Area (see Attachment A, Basalt Creek Concept Plan, Figure 8). In the Wilsonville portion of the Planning Area, small retail establishments may be allowed consistent with City Code that support the businesses and employees in the area. In the Tualatin portion, a small neighborhood retail node has also been drawn to provide the opportunity for localized commercial services for surrounding residential, employment and rural land uses. **This criterion is met.**

Policy 4.1.3*: The City of Wilsonville shall encourage light industry compatible with the residential and urban nature of the City.*

Implementation Measure 4.1.3.a: *Develop an attractive and economically sound community.*

Implementation Measure 4.1.3.b: *Maintain high-quality industrial development that enhances the livability of the area and promotes diversified economic growth and a broad tax base.*

Implementation Measure 4.1.3.c: *Favor capital intensive, rather than labor intensive, industries within the City.*

Implementation Measure 4.1.3.d: *Encourage industries interested in and willing to participate in development and preservation of a high-quality environment. Continue to require adherence to performance standards for all industrial operations within the City.*

Implementation Measure 4.1.3.e: *Site industries where they can take advantage of existing transportation corridors such as the freeway, river, and railroad.*

Implementation Measure 4.1.3.f: *Encourage a diversity of industries compatible with the Plan to provide a variety of jobs for the citizens of the City and the local area.*

Implementation Measure 4.1.3.j: *All industrial areas will be developed in a manner consistent with industrial planned development in Wilsonville. Non-industrial uses may be allowed within a Planned Development Industrial Zone, provided that those non-industrial uses do not limit the industrial development potential of the area.*

Response: The Basalt Creek Planning Area is located adjacent to other industrial and employment areas in the City of Wilsonville, including the Coffee Creek Industrial Area, and has long been part of the City's vision for an attractive business district at the north end of the community adjacent to, and with great access to, I-5. Wilsonville land uses identified in the Basalt Creek Concept Plan include a mix of employment development types and a modest opportunity for live/work housing (see Attachment A, Basalt Creek Concept Plan, Figure 8). These land uses include light industrial, high-tech employment, and craft industrial. This mix encourages a diversity of industries and employment opportunities for citizens, provides flexibility to meet a range of market demands, and focuses on high-quality industrial development, supporting the adjacent and nearby industrial areas. The possibility for live/work housing is within the Craft Industrial designated areas, which are located on parcels adjacent to the Basalt Creek corridor, a significant natural resource, and residentially-designated areas in the Tualatin planning area of the Concept Plan. These planned uses are compatible with existing and planned uses in the City as well as nearby Tualatin. As outlined in the Concept Plan, the Wilsonville employment development types are also consistent with industrial planned development in the City, with the residential (live-work) and retail uses being integrated with and not limiting the industrial uses in the Planning Area. The Concept Plan also identifies significant natural resources, which businesses will be required to preserve. The Concept Plan supports and encourages light industry compatible with the Comprehensive Plan, existing and long-term development of the City. **This criterion is met**.

STATEWIDE PLANNING GOALS

Statewide Planning Goal #1 - Citizen Involvement (OAR 660-015-0000(1)): *To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

Response: Please refer to the Public Involvement Plan located in Appendix B and to Attachments 3-10 and 13-16 of Attachment C for the complete public involvement and comment summary. Two public open houses and numerous work sessions were held with both the Planning Commission and City Council throughout the project. The project web site has been updated regularly containing all of the information and maps created for the project. City Staff have met with numerous property owners over several years always being readily available to answer specific questions. The City of Wilsonville has provided notice of public hearings before the Planning Commission and City Council consistent with the Planning and Land Development Ordinance requirements. Such notices were published in the Wilsonville Spokesman, and were provided to a list of interested agencies, emailed to interested parties, mailed to interested parties and property owners in the Planning Area, mailed to each property owner in and within 250 feet of the Wilsonville portion of the planning area, and posted in three locations throughout the City and on the City's website. At the upcoming public hearing, the public will be afforded an opportunity to provide public testimony. **This Statewide Planning Goal is met.**

Statewide Planning Goal #2 - Land Use Planning (**OAR 660-015-0000(2)):** *To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

Response: This goal is implemented through the applicable Goals and Policies in the Land Use and Development section of the Wilsonville Comprehensive Plan. Because the Basalt Creek Concept Plan is a supporting element of the City's Comprehensive Plan, the application to adopt the Plan was processed pursuant to the legislative decision process outlined in the City Code. The Plan is consistent with Statewide Planning Goal 2. **This goal is met.**

Statewide Planning Goal #5 – Natural Resources, Scenic and Historic Areas, and Open Spaces (OAR 660-015-0000(5)): *To protect natural resources and conserve scenic and historic areas and open spaces.*

Response: This goal is implemented through the applicable Park/Recreation/Open Space Goals and Policies in the Public Facilities and Services sections of the Comprehensive Plan. The City Code contains specific review criteria for establishing a Significant Resource Overlay Zone (Development Code Section 4.139.00, SROZ Ordinance) to ensure that designated Goal 5 resources are appropriately considered when development is proposed. Goal 5 resources were considered as part of the Plan. Appendix A of the Concept Plan outlines all the existing Natural and Historic Resources in the planning area, including the Basalt Creek corridor. These resources will be refined and mapped as SROZ consistent with the policies of the Comprehensive Plan and the Wilsonville Development Code at the time of annexation and development review. **This goal is met.**

Statewide Planning Goal # 7 – **Areas Subject to Natural Disasters and Hazards (OAR 660-015-0000(7)):** *To protect people and property from natural hazards.*

Response: Areas subject to natural disasters and hazards, such as floodplain or steep slopes have been considered in the development of the Buildable Lands Inventory for the Basalt Creek Concept Plan which can be found in Appendix A. **This goal is met.**

Statewide Planning Goal #8 – Recreational Needs (OAR 660-015-0000(8)): *To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.*

Response: The Basalt Creek Concept Plan identifies important recreational opportunities for the employees and residents nearby and in the Planning Area through the use of trails and open spaces, particularly near the Basalt Creek natural area (see Attachment A, Basalt Creek Concept Plan, Figure 11). The Concept Plan calls for coordination between the Cities to provide a trail near the Basalt Creek natural area. It also outlines the potential to connect this trail, via bike and pedestrian facilities, to the regional Ice Age Tonquin Trail, a 22-mile trail alignment through Wilsonville, Tualatin, and Sherwood, which includes a section bordering the Basalt Creek Planning Area, and is intended to complement the Ice Age Floods National Geological Trail Planning (the national trail will be a network of driving routes with spurs for biking and walking, from Montana to the Pacific Ocean). **This goal is met.**

Statewide Planning Goal #9 – Economic Development (OAR 660-015-0000(9)): *To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.*

Response: Metro added the Basalt Creek Planning Area to the UGB in 2004 as it was identified as suitable for industrial development due to relatively flat parcels and its proximity to the I-5 corridor and to an existing industrial area in Wilsonville. The ordinance states the Planning Area "…is most suitable for warehousing and distribution, among other industrial uses." The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan (see Attachment A, Basalt Creek Concept Plan, Figure 8). Basalt Creek planning area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region. The portion of the Basalt Creek Concept Planning Area designated as future City of Wilsonville is planned for a variety of employment-based uses: warehouse, manufacturing, high-tech, and craft industrial. This diverse economic activity will provide a range of job opportunities for the state, region and local cities with easy access adjacent to I-5. **This goal is met.**

Statewide Planning Goal #11 – Public Facilities and Services (OAR 660-015-0000(11)):

Response: The Basalt Creek Concept Plan outlines conceptual systems for the type, locations and delivery of public facilities and services in a manner that best supports the proposed land uses. The Concept Plan covers transportation, schools, parks, drinking water, sanitary sewer and stormwater systems (see Attachment A, Basalt Creek Concept Plan, pages 33 – 52). The Concept

Plan also outlines the service boundaries for other public services such as libraries and law enforcement will be extended by each City to incorporate the Basalt Creek Planning Area into their respective service districts. The Concept Plan provides direction for and will be integrated into future facility and capital improvement plans. **This goal is met.**

Statewide Planning Goal #12 – Transportation (OAR 660-015-0000(12)): *To provide and encourage a safe, convenient and economic transportation system.*

The Basalt Creek Concept Plan contains a transportation framework that focuses on connectivity, circulation and safety. The Plan has been developed with multiple modes of transportation in mind, with the major new roads and improvements to be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) adopted by City Council (see Appendix J). The Concept Plan also outlines bicycle and pedestrian enhancements, including an opportunity for a separated-grade crossing of the Basalt Creek Parkway, off-street trail planning, and potential transit routes. **This goal is met.**

Statewide Planning Goal #14 – Urbanization (OAR 660-015-0000(14)): *To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

Response: Metro added the Basalt Creek Planning Area to the UGB in 2004 to meet a regional industrial lands need. The Concept Plan accommodates urban employment inside the Planning Area, consistent with the identified need, to ensure efficient use of land, and to provide for livable communities. The employment types identified in the Concept Plan utilize land more efficiently. The Concept Plan also calls for appropriately designed transitions between different land use patterns as well as the protection of, and provision of access to, significant natural resources in the area to provide a more livable community. The Concept Plan identifies amending the City's Urban Planning Area Agreement (UPAA) with Washington County as the first step in implementing the Plan and enabling urbanization in the Planning Area. The UPAA addresses the planning authority, coordination, and future service provisions in new urban areas. **This goal is met.**

METRO URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN (UGMFP)

Title 3: Water Quality and Flood Management – *Protect the beneficial water uses and functions and values of resources within the Water Quality and Flood Management Areas by limiting or mitigating the impact on these areas from development activities and protecting life and property from dangers associated with flooding.*

Response: The City of Wilsonville is in compliance with Title 3 of the UGMFP. Figure 12 in the Basalt Creek Concept Plan depicts the land constraints in the Planning Area including Title 3 areas (see Appendix A for more information). This information will direct the mapping of riparian corridors and wetlands into the City's Significant Resource Overlay Zone (SROZ) that will be required at the time of annexation and development. **This title is met.**

Title 4: Industrial and Other Employment Areas – *Provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial and Employment Areas.*

Response: The Basalt Creek Planning Area is mapped as a Metro Title 4 Industrial Area. The majority of the acreage in the Basalt Creek Planning Area (see Figure 8 in the Basalt Creek Concept Plan) is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses. This information will direct Comprehensive Plan Amendments, following adoption of the Concept Plan and subsequent amendment of the Urban Planning Area Agreement with Washington County. The City of Wilsonville is in compliance with Title 4 of the UGMFP; Comprehensive Plan land use designations, and future zoning classifications, will be consistent with the requirements in Title 4 of the UGMFP. **This title is met.**

Title 11: Concept Planning – Please refer to Appendix D of the Basalt Creek Concept Plan for a full analysis of the Urban Growth Management Functional Plan requirements for concept planning urban reserves. **Appendix D in Attachment A demonstrates compliance with the requirements of Title 11.**

Title 13: Nature in Neighborhoods – *Conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape; and to control and prevent water pollution for the protection of the public health and safety, and to maintain and improve water quality throughout the region.*

Response:
The City of Wilsonville is in compliance with Title 13 of the UGMFP. Figure 12 in the Basalt Creek Concept Plan depicts the land constraints in the Planning Area including Title 13 riparian and upland habitat areas (see Appendix A for more information). This information will direct the mapping of riparian corridors, wetlands, and upland habitat areas into the City's SROZ that will be required at the time of annexation and development review. **This title is met.**

GENERAL CONCLUSIONARY SUMMARY OF FINDINGS

The Basalt Creek Concept Plan complies with, and demonstrates that the City's adopted policies comply with, applicable Statewide Planning Goals, Metro regulations including Title 11, the Wilsonville Comprehensive Plan, and applicable provisions of the City's Development Code.

BASALT CREEK CONCEPT PLAN

Attachment C: Basalt Creek Concept Plan Record (see individual attachments for document links)

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BASALT CREEK CONCEPT PLAN RECORD
CITY COUNCIL RESOLUTION No. 2697

August 6, 2018

REVISED 8/6/2018 4:45 PM

RECORD INDEX

CITY COUNCIL RESOLUTION 2697 ADOPTING A CONCEPT PLAN FOR THE BASALT CREEK PLANNING AREA

ATTACHMENT A	BASALT CREEK CONCEPT PLAN AND TECHNICAL APPENDICES (FINAL)
ATTACHMENT B	BASALT CREEK CONCEPT PLAN CONCLUSIONARY FINDINGS (FINAL 7.23.2018)
ATTACHMENT C	BASALT CREEK CONCEPT PLAN RECORD
ATTACHMENT 1	BASALT CREEK CONCEPT PLAN AND TECHNICAL APPENDICES
ATTACHMENT 2	CONCEPT PLAN FINDINGS REPORT
ATTACHMENT 3	PUBLIC MEETING INDEX RECORD
ATTACHMENT 4	JOINT CITY COUNCIL MEETING PACKETS AND MINUTES
ATTACHMENT 5	WILSONVILLE PC AND CC MEETING MINUTES EXCERPTS (updated to include 06.13.2018 PC Approved Minutes)
ATTACHMENT 6	METRO RESOLUTION AND MEETING PACKET
ATTACHMENT 7	CITIZEN INPUT
ATTACHMENT 8	OPEN HOUSE SUMMARIES
ATTACHMENT 9	BOONES FERRY MESSENGER - BFM
ATTACHMENT 10	MAILED / EMAILED UPDATES TO INTERESTED PARTIES
ATTACHMENT 11	BASALT CREEK CONCEPT PLAN PLANNING COMMISSION RECORD INDEX
ATTACHMENT 12	PC HEARING PRESENTATION 07.11.2018
ATTACHMENT 13	PC MEETING MINUTES EXCERPT 07.11.2018 (07.23.2018 draft, not approved)
ATTACHMENT 14	PLANNING COMMISSION RESOLUTION LP18-0005 (approved 7.11.2018)
ATTACHMENT 15	CITIZEN INPUT SUBMITTED TO CITY OF TUALATIN (received 7.20.2018)
ATTACHMENT 16	CITY OF TUALATIN PC AND CC MEETING MINUTES (received 7.20.2018)
ATTACHMENT 17	METRO BCCP LETTER WILSONVILLE COMPLIANCE
ATTACHMENT 18	TESTIMONY FROM PETER O. WATTS, (received 8.6.2018 4:00 pm)

BASALT CREEK CONCEPT PLAN

Attachment 1: Basalt Creek Concept Plan and Appendices 7.11.18 PC Hearing

File path:
https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning/page/84121/c._bc_record_attachment.01._basalt_creek_concept_plan_and_appendices_7.11.18_pc_hearing.pdf

The appendices can be accessed here:
https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning_commission/meeting/packets/12611/bccp_technical_appendices.pdf

BASALT CREEK CONCEPT PLAN

Attachment 1: Basalt Creek Concept Plan and Appendices 7.11.2018 PC Hearing

The appendices can be accessed here: https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning_commission/meeting/packets/12611/bccp_technical_appendices.pdf

Basalt Creek Concept Plan

JULY 2, 2018 DRAFT

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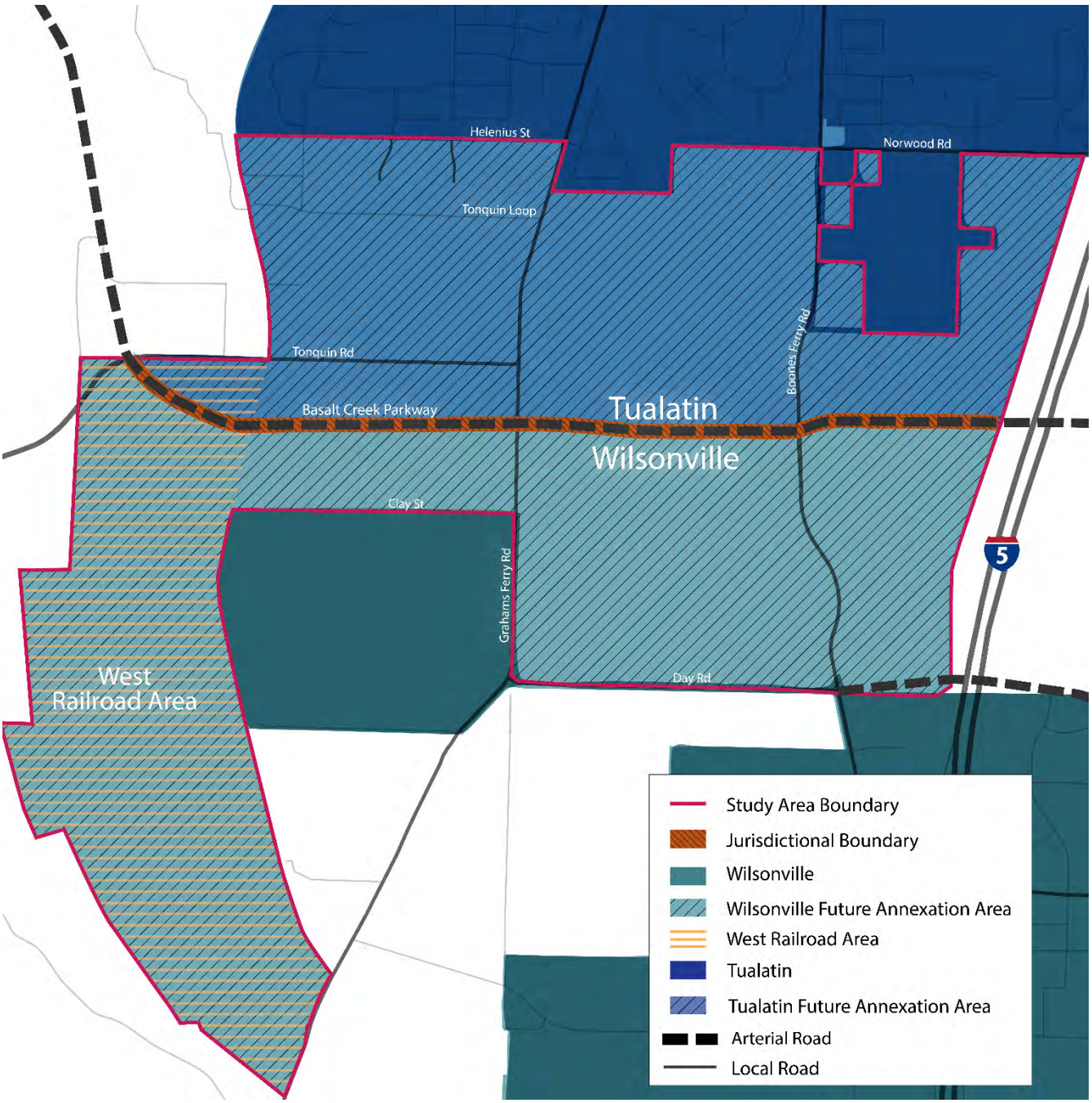
Introduction

The Basalt Creek Planning Area

The Basalt Creek Planning Area consists of 847 acres located in Washington County between the Cities of Tualatin and Wilsonville. The Planning Area is irregularly shaped, generally oriented east-west with an extension southward at the western edge, which is commonly referred to as the West Railroad Area. The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The rest of the Basalt Creek Planning Area is bound by Norwood and Helenius Roads to the north, Interstate 5 (I-5) to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham's Ferry and then westward again on Clay Road. The area also has distinctive natural features, particularly its namesake - Basalt Creek - and the surrounding wetlands habitat running north-south through the eastern half of the Planning Area. The primary existing land uses in Basalt Creek are rural agriculture, industrial, and rural residential consisting of low-density single-family housing. Washington County recently completed construction of a portion of the Basalt Creek Parkway, extending 124th Avenue and connecting Tualatin-Sherwood Road to Grahams Ferry Road. In the future, the Parkway will run east-west across the Planning Area between Grahams Ferry Road and Boones Ferry Road, and eventually extend over I-5. The parkway will be a high-capacity major freight arterial with limited access to local streets providing industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas.

Figure 1 Basalt Creek Planning Area and jurisdictional boundaries.



A more detailed description of the Planning Area, including natural and historic resources, existing land uses and regulatory context can be found in the Existing Conditions Report (Appendix A).

What is a Concept Plan?

A concept plan identifies a vision and guides future land use and transportation decisions for the planning area. It helps ensure the area has the land capacity to contribute to meeting local and regional land use and transportation goals. Concept plans also ensure compliance with state land use goals,

regional policies, and other plans, including existing transportation plans. A concept plan sets the framework for future development and outlines an implementation strategy for future provision of urban services (water, sanitary sewer, and storm water systems), public services (such as transit, parks, and open space), and protection of natural and cultural resources.

Basalt Creek Concept Plan

The Basalt Creek Concept Plan guides development in the Basalt Creek Planning Area over the next twenty years. To accomplish this, the plan:

- Establishes a vision for urbanization of the Basalt Creek Planning Area that will meet local and regional goals
- Coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County
- Establishes a new jurisdictional boundary between Tualatin and Wilsonville (to determine which parts of the Planning Area may be annexed into and served by each city)
- Identifies preferred land uses across the area
- Recommends high-level designs for transportation and infrastructure systems to support future development consistent with local, regional and state goals
- Sets specific action items and implementation measures

Figure 2 Basalt Creek Planning Area in regional context.

In 2004, Metro identified the Basalt Creek Planning Area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed an ordinance in 2004 to annex land into the existing Urban Growth Boundary (UGB), which included the Basalt Creek Planning Area, to ensure a sufficient regional supply of land for employment growth over the next twenty years. Based on Metro's 2014 Employment and Housing Forecast, Metro projected the region would grow by 474,000 people and 365,000 jobs by

2035. The Basalt Creek Planning Area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). A detailed explanation of these figures and the Industrial Land Alternative Analysis can be found in the Existing Conditions Report (Appendix A, starting on page 17).

In the Metro region, areas brought into the UGB are required to have a land use and transportation Concept Plan before urban development can occur. The intent of the Basalt Creek Concept Plan is to meet this requirement and provide a roadmap for the development of the area that is consistent with state, regional and local land use planning laws. This Concept Plan involved a collaborative effort between two local jurisdictions – the Cities of Tualatin and Wilsonville.

While several concept plans were developed over the last decade for other UGB annexation areas (e.g. Southwest Tualatin Plan, Tonquin Employment Area Plan, and Coffee Creek Industrial Area), Basalt Creek is somewhat unusual. Its large size, location between (rather than at the edge of) other urbanized areas, and requirement to be jointly planned by two different cities—each with their own identity, goals and local governance—make it different from most other concept plans.

While the process and context were unique, the final Basalt Creek Concept Plan incorporates the key elements consistent with other concept plans and meets all state and regional requirements for a concept plan.

Table 1 Summary Table of Basalt Creek Concept Plan Elements

Element	Description
Jurisdictional Boundary	Follows the alignment of the Basalt Creek Parkway centerline with Tualatin to the north and Wilsonville to the south.
Land Use and Development	Land uses in Wilsonville focus on employment, while Tualatin has a mix of employment and housing. Housing in the northern part of the area is meant to buffer existing residential neighborhoods from non-residential land uses. There is a small retail node just east of the Basalt Creek Canyon and north of the jurisdictional boundary in the Planning Area, which will serve residents and workers. The land suitability analysis influenced the most appropriate locations for employment-based land uses. Land use types and densities were balanced to meet obligations for providing regional employment capacity while limiting negative impacts on congestion and traffic levels.
Transportation	Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP), which is also coordinated with the 2014 Metro Regional Transportation Plan (RTP). Basalt Creek Parkway, portions of which are currently under construction, will be a major east-west arterial, with limited access (connecting only at Grahams Ferry and Boones Ferry Roads), creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road to five lanes, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops.
Bicycle and Pedestrian Framework	Opportunities for bike and pedestrian connections are identified, and additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards.

Transit	Transit service in the area will be coordinated between TriMet and SMART. Service will build on existing bus routes to enhance service and provide good connectivity both north-to-south and east-to-west through the Planning Area.
Parks & Open Space	The Basalt Creek Canyon natural area spans both cities and there are opportunities for regionally-connected trails and open space in the Planning Area. The Cities will each work to create a park plan for the area as part of their respective citywide plans and will coordinate on trail planning particularly as it relates to the Basalt Creek Canyon.
Natural Resources	The Cities recognize that the Basalt Creek Canyon is a significant natural resource and have agreed to coordinate on a joint approach to natural resource management practices. There are also significant riparian and upland habitat areas in the West Railroad Area. All natural resources in the Planning Area are mapped on Figure 13.
Water	Each city will provide its own drinking water infrastructure within its jurisdiction, with connections to existing water lines.
Sewer	Each city will provide sanitary sewer service for development within its jurisdiction to the extent reasonably possible with the understanding that a future agreement may address potential cooperative areas. Tualatin will coordinate with its provider – Clean Water Services (CWS) – to extend service to this area.
Stormwater	New stormwater infrastructure will be primarily integrated with the local road network. Tualatin, Wilsonville and CWS acknowledge they must follow requirements established for their respective stormwater MS4 permits. Much of the area is in a basin that drains toward Wilsonville. Each City will serve its own jurisdictional area. The Cities and CWS will adopt an Intergovernmental Agreement that addresses areas where cooperative stormwater management is needed.
Implementation Strategies and Tools	Recommendations for a public facilities phasing plan include conceptual overviews of the recommended facilities and Class 5 concept level costs and a general overview of possible funding strategies. The development phasing will include recommended near and long-term strategies for land use development. Implementation recommendations include sequential action items necessary for implementing the plan and readying the Basalt Creek Planning Area for future development.

The Planning Process

The Basalt Creek Concept Plan was developed through several years of planning that included extensive research and analysis and a variety of opportunities for input from stakeholders and citizens. The public was engaged at key points and invited to participate through a visioning workshop, an open house, online surveys, and community outreach meetings. The full Public Involvement Plan can be found in Appendix B.

Decision Making Process

The Tualatin and Wilsonville City Councils were the ultimate decision-making body for the final Basalt Creek Concept Plan. Joint Council meetings were held involving both City Councils at important project milestones. This role included approval of the guiding principles, selection of the preferred land use scenario, and identification of the future jurisdictional boundary and key elements of the plan. Individual City Council meetings were also held to provide periodic updates and discuss measures, ordinances, and resolutions specific to each city to adopt and implement the Basalt Creek Concept Plan. To ensure the greatest level of cooperation and collaboration with local and regional partners, the planning process

included a project management team with staff from both cities, an advisory Agency Review Team (ART), and both cities' Planning Commissions.

Joint Council

Joint City Council meetings were held at key decision-making stages in the project with the Joint Council serving as the final decision-making body for the plan. There were five Joint Council meetings between October 2013 and December 2015. The purpose of Joint Council meetings was to approve Guiding Principles, determine jurisdictional boundaries, select a preferred land use scenario, and identify key elements for the final concept plan. All Joint Council meetings were advertised and open to the public. Themes from the Joint Council meetings were further developed into the Guiding Principles and included:

- Meeting regional responsibility for jobs & housing
- Capitalizing on the Planning Area's assets
- Protecting existing neighborhoods
- Maintaining cities' unique identities
- Exploring creative approaches to land use, including integration of employment and housing
- Ensuring appropriate transitions between land uses
- Integrating high-quality design and amenities for employment

Project Management Team

The Project Management Team (PMT) was composed of each city's project managers, department directors, relevant staff, and project consultant (see Appendix K for full list of members).

The PMT met regularly to check the status of major deliverables, track and maintain a regular project schedule, coordinate materials for individual and Joint Council work sessions and meetings, plan public events and outreach strategies, and develop consistent messaging for project outcomes. The Project Consultant team representatives participated in the PMT meetings on a bi-weekly basis as needed. The plan's content was guided and produced by the project consultant team and reviewed by the PMT.

Agency Review Team

The Agency Review Team (ART) represented local service providers and regional partners, who advised staff members of both cities about regulatory and planning compliance (see Appendix K for full list of members). Input gathered from the ART was incorporated into the Concept Plan and included in regular staff updates to the Planning Commissions and City Councils. Involvement was required for some key agencies that needed to approve or concur with the Concept Plan, while other agencies were invited to participate in the planning process as their advice was needed on specific issues. Metro, CWS, Washington County, and the Sherwood, Tigard-Tualatin and West Linn-Wilsonville school districts participated in the ART to provide support and concurrence with the Concept Plan.

In addition to the above-mentioned, ART member agencies included the Oregon Department of Transportation (ODOT), Tualatin Valley Fire & Rescue, and the Bonneville Power Administration (BPA). Other agencies were invited to the planning process when their specific advice was necessary, specifically the City of Sherwood, City of Tualatin (including Planning, Community Development, Building, Community Services, Economic Development, Engineering, Parks and Recreation, and Public

Works departments/divisions), City of Wilsonville (including Planning, Community Development, SMART Transit, Public Works, Engineering, Parks and Recreation, Natural Resources, and Building departments/divisions), Clackamas County, Northwest Natural, Portland General Electric, and Tri-Met. This collaborative analysis and joint decision-making set a framework for the Basalt Creek Concept Plan to have the greatest possible chance for success for the community.

The ART met three times throughout the project – in June and September of 2014, and then again in February 2016. The first meeting provided an opportunity to present an overview of the Basalt Creek Concept Plan project and process to the ART and inform members of key milestones and decision points where their input would be needed. The project consultant also presented the proposed methodology for the Existing Conditions report, particularly soliciting feedback on the market analysis, infrastructure analysis, and transportation analysis components. The second meeting served to solicit feedback from ART members on the draft Existing Conditions report, clarify issues surrounding infrastructure, provide an overview of public feedback, and present the land suitability analysis for review. The third meeting was held on February 19, 2016 to further discuss transit, parks and open spaces, schools, parks, and trails.

Information Gathering

The project consultant conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. This research included land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks. The Existing Conditions Report provides additional background information in Appendix A.

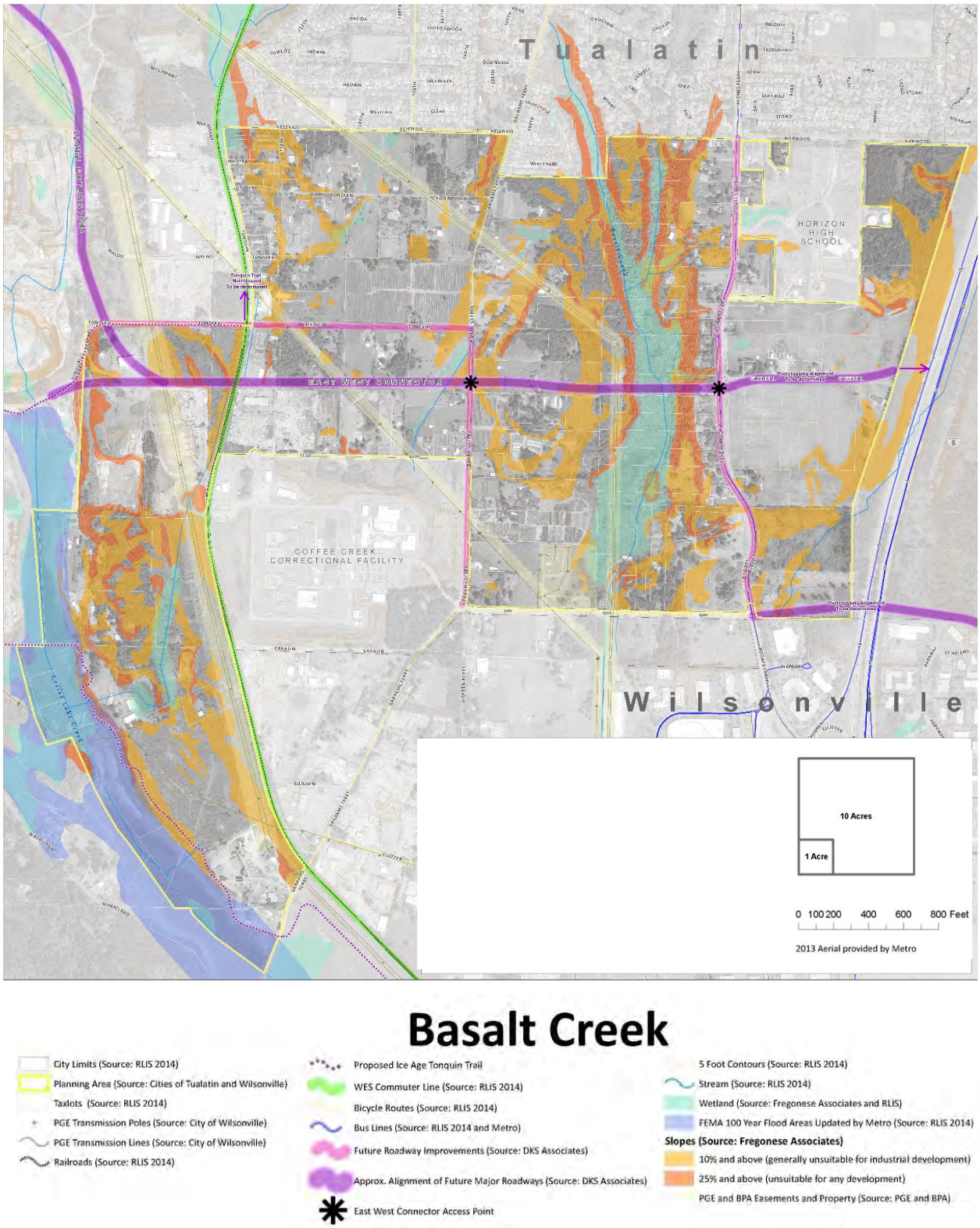
Public Involvement Plan

A Public Involvement Plan, developed by the PMT, was used to guide outreach strategies and events throughout the planning process (Appendix B).

Public Workshop

The planning process began with a community workshop for the Basalt Creek Concept Plan on June 17, 2014. This was a visioning workshop and open house attended by roughly 40 people and solicited input on priorities and preferences for future land use and transportation in the Planning Area. Key outputs included initial scenarios that identified important issues for the area, including a desire to keep the Basalt Creek Canyon as open space, the need for residential buffer areas, traffic challenges and ideas for new parks. Results indicated a preference for appropriate transitions between land uses and protection of existing neighborhoods, but an openness to a range of employment and commercial uses. Instant polling at the workshop was combined with the results of the online survey for a total of 160 responses from participants living both inside and outside the Planning Area. Survey results included a strong interest in public access to natural resources and were less focused on housing or industrial warehousing. This participation informed the establishment of Guiding Principles for the project.

Figure 3 Example of the Basalt Creek Planning Area Base Map used for workshop activity. Participants used these maps to draw and design a vision for future uses of the Basalt Creek Planning Area.



Stakeholder Interviews/Focus Groups

The Basalt Creek concept planning process included over a dozen focus group meetings and stakeholder interviews with developers and property owners in June and July 2014. Developer discussions included industrial, office, retail, residential, and mixed-use development. Knife River, Coffee Creek Correctional, Ibach Citizen Involvement Organizations and the Chamber of Commerce from each City also provided input. These discussions focused on future industrial development types, housing preferences, land assembly, and employer amenities. Property owners expressed a desire for flexibility in land uses and concern over how development will impact quality of life in the area. Developers were concerned with industrial development types changing, along with changing housing preferences, the land assembly challenge, and what employers will consider amenities in the area. These discussions informed the Concept Plan's market analysis, land suitability analysis, building prototypes, development types and land use placements for testing different land use scenarios for the Planning Area.

Open House

A second open house was held on April 28, 2016 to share the draft Concept Plan elements, including land use, road network and improvements, transit, bike, pedestrian and trail network improvements, parks, natural areas, and infrastructure systems. Members of the public were invited to share feedback on the Concept Plan generally as well as specific options for future parks, natural areas, and the bike, pedestrian and trail network. Participants expressed general support for the preferred alternative presented at the Open House, and during instant polling, shared a desire to use the area for recreation, neighborhood parks and conservation areas.

Email and Website Updates

The Project Management Team (PMT) typically sent monthly updates to those on the interested parties list via email and to property owners via postal mail, which included approximately 300 people. Council and Planning Commission work sessions and updates were scheduled and held throughout the project, including before critical milestones and Joint Council meetings, all of which were open to the public and notice provided on City websites and the project website.

Scenario Testing and Concept Plan Development

What is Scenario Planning?

Scenario planning is a tool used to estimate the likely future effects of growth and development patterns in a specific area. This information helps local governments make decisions about what type of land use, transportation and infrastructure plans and policies will best meet community needs in the future. Scenario planning helps identify challenges and opportunities for desired growth and allows exploration of different approaches to achieve the community vision for an area. Unlike a plan, scenarios are very specific, intending to model likely future land uses. Learning from these, a plan can be developed to allow for several beneficial scenarios.

Scenario Planning for Basalt Creek Planning Area

Scenarios were used to understand how different land use decisions, infrastructure investments, other regulations and policies might impact the future outcomes in Basalt Creek – and how well they achieve

the guiding principles. The scenarios that were designed and tested for the Basalt Creek Planning Area integrated many different variables (such as different land uses and service areas) and the relationships between those variables. By modifying the scenarios, the impact of different sets of decisions were able to be better understood.

The scenario testing for Basalt Creek sought to answer questions about the implications of various development and infrastructure options. Taken together, these questions formed objectives for the scenario evaluation.

- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

The project team created and evaluated a Development Base Case and tested Alternative Development Scenarios. These development scenarios used existing buildings from both jurisdictions to model potential future development and reflect existing zoning and development regulations in the Envision Tomorrow modeling program (see Appendices C1 and C2).

During the scenario development process, jurisdictional boundary discussions were ongoing and different scenarios considered different boundary alternatives. A series of five scenarios were developed in an ongoing iterative process that tested the following variables: the location and amount of different land uses, the location of the jurisdictional boundary, location of service boundaries, and design of infrastructure systems. The PMT also developed performance measures associated with the Guiding Principles, in addition to local and regional goals, to compare the different scenarios. As a complex set of conditions, the variables tested were interrelated and needed to be combined in scenarios to understand how changes in one variable impacted the others.

These scenarios were vetted by the project's PMT and each City Council, and then fully analyzed for the transportation, infrastructure, and land use implications. Based on these analyses, discussions among the PMT, and feedback from the Joint Councils, a preferred scenario was developed. The preferred scenario became the basis for the Basalt Creek Concept Plan.

Final Plan Development

The final phase of the project included further refinement of the Concept Plan using the preferred scenario, setting the jurisdictional boundary, and drafting an implementation strategy for the Concept Plan. The final Basalt Creek Concept Plan was designed to meet all the requirements associated with areas added to the urban growth boundary (see Title 11 Compliance Memo in Appendix D) and was forwarded to Metro for review. The Councils from the City of Tualatin and the City of Wilsonville each adopted the Concept Plan by resolution. Comprehensive Plan amendments and implementation strategies and tools are to be consistent with this Plan.

Concepts that Shaped the Plan

Guiding Principles represent the collective interests and goals for the Basalt Creek Planning Area as agreed to and established by the Joint Council. They provided a framework for gathering input and developing transparent and meaningful measures that helped inform the decision-making process for this plan (see Appendix E for Guiding Principles Memo which provides further descriptions).

1. Maintain and complement the Cities' unique identities
2. Capitalize on the area's unique assets and natural location
3. Explore creative approaches to integrate jobs and housing
4. Create a uniquely attractive business community unmatched in the metropolitan region
5. Ensure appropriate transitions between land uses
6. Meet regional responsibility for jobs and housing
7. Design cohesive and efficient transportation and utility systems
8. Maximize assessed property value
9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

In addition to the Guiding Principles, during a Joint Council meeting, the Councils also identified ten key elements for successful implementation of the Basalt Creek Concept Plan that relate to key functions such as the sewer, water, and transportation services, land use and natural resources in the area. These considerations informed the key elements of the Concept Plan (see Appendix E for 10 Considerations of Success for further descriptions).

Planning Area Conditions

The project consultant team conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. The project team studied land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks.

Planning Context and Urban Growth Boundary

The Portland Metropolitan Area Urban Growth Boundary (UGB) includes three counties and 24 cities. Metro administers the UGB, which includes a mandatory six-year assessment of whether it includes sufficient land to accommodate 20 years of expected development for residential and job growth.

During the 2004 analysis, Metro identified a shortfall of industrial land and a study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, parcel size, accessibility to regional transportation and necessary services, and proximity to existing industrial uses. Several areas of land identified as good candidates for industrial development were added to the UGB by Metro via Ordinance 04-1040B in 2004, two of which comprise the Basalt Creek Planning Area. The current 2040 Growth Concept Map identifies the Basalt Creek Planning Area as industrial, but the Ordinance does provide some flexibility to include housing in the Planning Area. The

Ordinance identified outer neighborhood as a potential land use in the northern portion of the Planning Area, to provide some housing and a buffer for existing residential neighborhoods in Tualatin.

The industrial designation from Metro is defined within the Regional Framework Plan's Glossary as "an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses."

The Land

Landscape Context

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that shaped the landscape of the Columbia River Gorge and the Willamette Valley during the last Ice Age. The Ice Age Tonquin Trail Master Plan describes the area as "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the Planning Area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds." Remains from the Ice Age floods that can be seen in and around the Basalt Creek Planning Area include glacial deposits, scablands, kolk ponds (ponds formed by eddies during the Missoula Floods), and flood channels. The terrain includes significant slopes of more than 25% and with a change in elevation from 250 ft above mean sea level (amsl) to a maximum elevation of 350 ft amsl.

Existing Land Use

The primary existing land uses in the Basalt Creek Planning Area are rural agriculture, industrial and rural residential consisting of low-density single-family housing. There are areas of agricultural uses, including a nursery, landscaping supply, and blueberry farms. Existing industrial land users include gravel quarries and cement manufacturing in the northwest corner of the Planning Area. The existing housing in the area consists of detached single-family on large lots. A significant portion of single-family homes are located on the eastern edge of the Basalt Creek Canyon along Boones Ferry Road.

Adjacent Land Uses

The Planning Area is bounded to the north by Tualatin residential neighborhoods, to the south by Wilsonville commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands.

- The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north of the Planning Area. These neighborhoods are zoned a mix of low- and medium-low density residential and are comprised primarily of high-quality, detached, single-family homes. Also, to the north is the 30-acre campus of Horizon High School (a private high school). The campus is bordered on three of its sides by the Planning Area.
- To the west, the Planning Area is bordered by unincorporated portions of Washington County including the Southwest Tualatin Concept Plan area where active quarries and an asphalt plant are located. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area. Most of this land is undeveloped or vacant at this time.

- South of the Planning Area are existing and planned commercial, office and industrial uses located within the City of Wilsonville. The employment areas around SW Commerce Circle, Ridder Road, and 95th Avenue include advanced manufacturing, clean tech, warehouse, distribution, and logistics businesses. The Coffee Creek Planning Area abuts the Basalt Creek Planning Area along the south side of Day Road and south and west to the existing Wilsonville city boundary. The City adopted a Master Plan and Industrial Form-based Code for this area to create a high caliber business district.
- Adjacent to the southern border of the Planning Area is Coffee Creek Correctional Facility. This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.

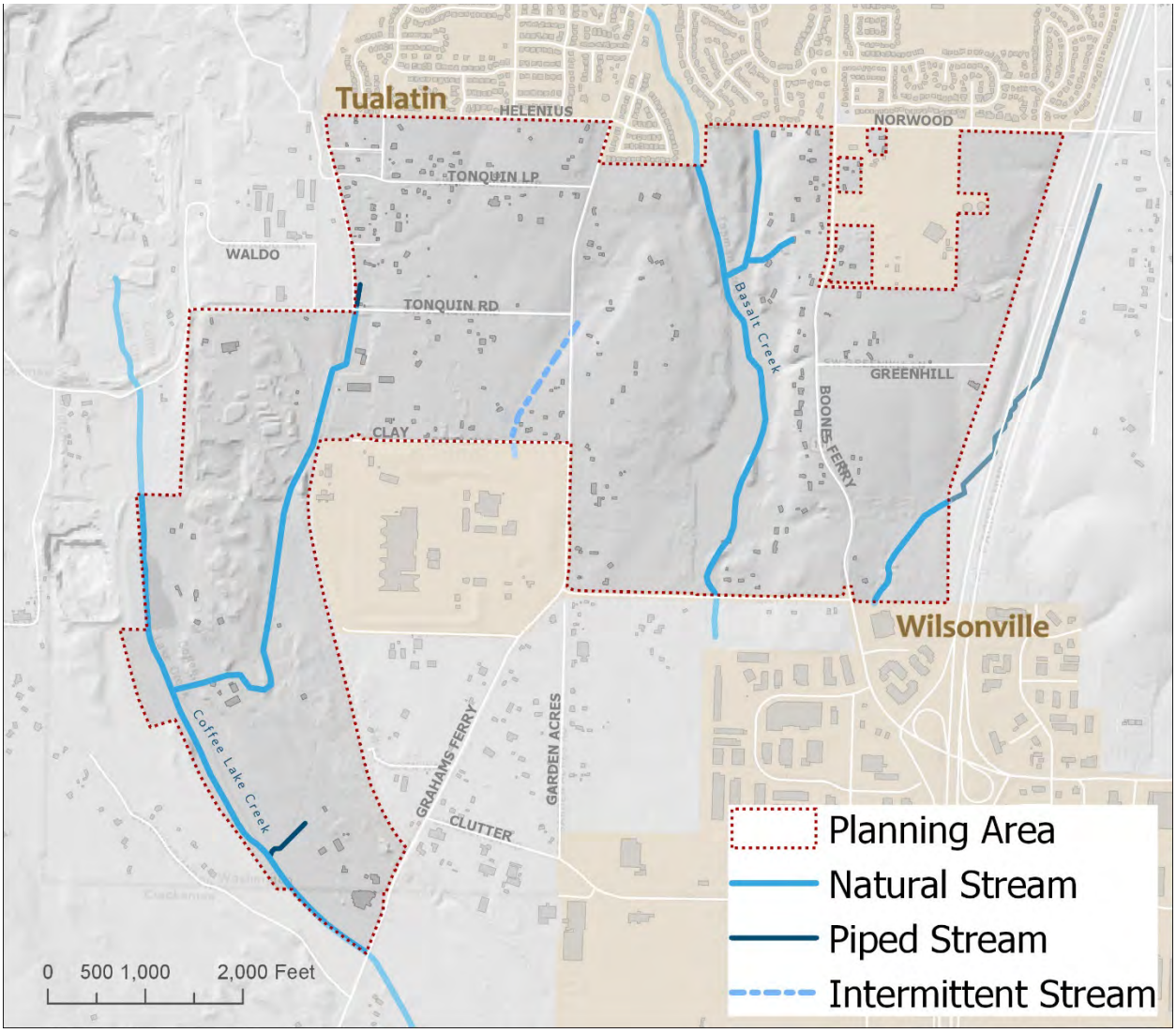
Natural Resources

Wetlands, floodplain, upland habitat, streams, open water and riparian areas provide important natural resources in the planning area. Within the Basalt Creek Canyon and Coffee Lake Creek basin, there are open water, emergent and scrub-shrub wetlands. The small, forest patches scattered throughout the planning area provide travel corridors and habitat for a variety of species including Red-legged Frogs and the Pileated Woodpecker. Land suitability studies for this area identified constrained lands including 18,845 feet of natural streams; 1,402 feet of underground or piped streams, defined as water that flows under the surface in a definite channel; and 789 feet of intermittent streams in the Planning Area.

There are two main streams in the Planning Area, Basalt Creek (also known as Seeley's Creek or Tappin Creek) and Coffee Lake Creek and its east tributary, which run through the West Railroad Area. There is also an underground, piped stream near I-5 along the eastern edge of the Planning Area. Coffee Lake Creek forms the western boundary of the Planning Area. There are also 69 acres of wetlands (8% of the Planning Area), including 49 acres of open water in the Planning Area.

There are 116 acres of land designated by Metro as Water Quality and Flood Management Areas. Following Metro's designations and associated regulations, local jurisdictions determine development rules and requirements that affect these areas. Clean Water Services, who regulates environmental lands in the City of Tualatin and elsewhere in Washington County and the City of Wilsonville, have local ordinances in place that go beyond the level of conservation otherwise required by Metro. Existing local standards from each City would apply upon annexation of property into either Wilsonville or Tualatin.

Figure 4 Map of Streams by Category.



Buildable Lands Assessment

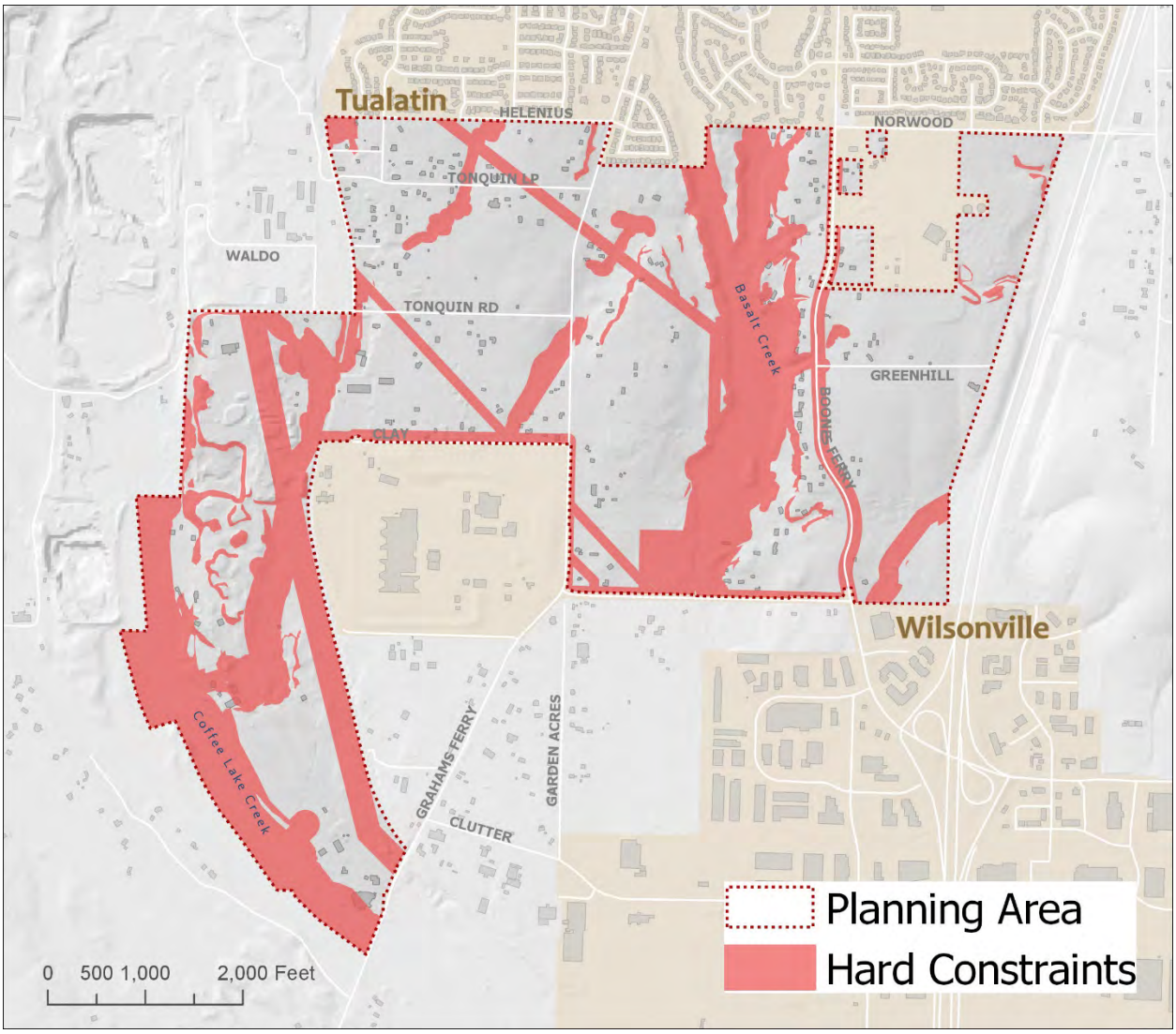
A buildable lands assessment for the Basalt Creek Planning Area (see Appendix F) screened out parcels where there is limited or no development potential to identify the places where development is most suitable given the environmental and regulatory context. There is a range of factors that influence development potential within the Planning Area, but they can be divided into two categories: hard and soft constraints. Hard constraints are either physical attributes or legal requirements that prohibit new development. These areas are excluded from the analysis. Soft constraints are where physical attributes or legal requirements allow some development with guidance on appropriate land uses and development densities. Assumptions regarding the amount of development in these areas followed Metro guidelines calling for restrained development.

Land Suitability Analysis

Determining the development capacity for the Planning Area starts with the buildable lands assessment and then further analyzes the land supply to estimate development capacity on any given parcel. The Planning Area includes land that is constrained by streams and easements. This land supply analysis then evaluates existing land uses, as provided by tax lot data via Metro's Regional Land Information System (RLIS), visual surveys of the area via aerial photographs and online tools such as Google Earth, and site visits for verifying stream conditions and alignments.

After completing this more detailed review of the land supply to determine development suitability, the land suitability analysis is combined with the buildable lands assessment to remove constrained land and to create a geographically referenced database of developable land within the Planning Area.

Figure 5 Map of Hard Constraints within the Basalt Creek Planning Area.

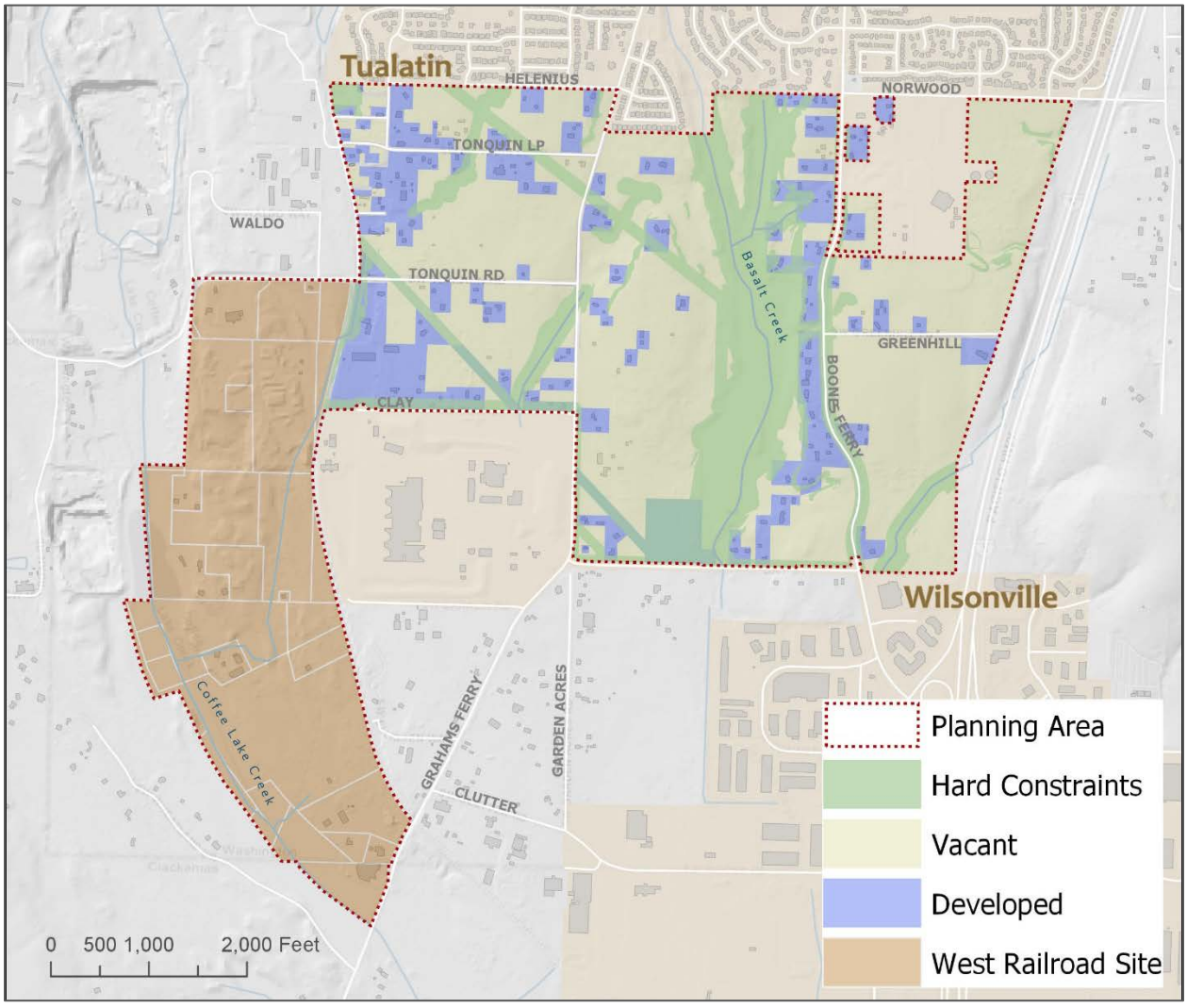


The goal is to classify every parcel within the Planning Area into one of the categories described below:

Table 2 Land Supply within the Basalt Creek Planning Area by Type and with Acreage.

Land Supply by Type and Acreage Land Type	Acres	Description
Vacant Land	331	Unconstrained land that is ready to build with no major structures located on the site
Developed Land	125	Land already built upon which includes acreage covered by roadways
Constrained Land	153	Land that cannot be built upon due to environmental or other hard constraints
West Railroad Area	238	Excluded from development plan due to large amount of constraints and limited access
Total Land Supply	**847**	

Figure 6 Land Supply by Type.



There were no redevelopment assumptions incorporated in this analysis. The values associated with the existing buildings were high enough to preclude redevelopment for purposes of determining the development types used during scenario testing. Thus, the developable land estimate for the Planning Area is 331 acres. This analysis forms the foundation for determining land use and development capacity on each parcel in the Planning Area. The development plan for the Basalt Creek Planning Area excludes the West Railroad Area from development due to the large amount of constraints on the land and limited access.

Infrastructure and Services

Roadways

The Concept Plan looked at the existing transportation system and the planned transportation system developed as part of the TRP, which includes phased investments to support regional and local transportation needs through 2035. The plan provides 18 transportation investments broken into short, medium and long-term projects, all of which are important to ensure that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to the 124th Avenue extension, the future and partially constructed Basalt Creek Parkway.

Sanitary Sewer

Currently, no sewer service is provided to the Planning Area. Existing homes use septic systems. Wastewater conveyance to the south of the Planning Area is under jurisdiction of the City of Wilsonville. Sewer service to the north of the Planning Area in Tualatin is provided by the City of Tualatin and Clean Water Services.

The nearest treatment facility to the north of the Planning Area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). Eight gravity sewer mains exist near the north Planning Area boundary that could provide connection points for wastewater from the Basalt Creek Planning Area into the Tualatin collection system. The Victoria Woods Pump Station and associated force main are also located just to the north of the Planning Area boundary. From these connection points, wastewater flows by gravity toward the AWTF, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park. Pump stations will be required to lift flows from the Planning Area into the existing gravity system. Expansion of the service district area to include Tualatin's portion of the Basalt Creek Planning Area needs to be approved by Clean Water Services at time of Annexation.

The nearest treatment facility to the south of the Planning Area is the City of Wilsonville Wastewater Treatment Plant (WWTP), located approximately 3.2 miles south of the Planning Area. This facility was recently expanded to accommodate growth within the current city limits and allow for additional buildout to accommodate growth outside the city limits in Urban Growth Boundary expansion areas. Approximately half (300 acres) of the Basalt Creek Planning Area was accounted for in the year 2030 build-out capacity assessment conducted as part of the facility expansion.

The City of Wilsonville's Coffee Creek Master Plan identifies a new sanitary main line to be constructed. After the adoption of that plan, more analysis was completed and determined the appropriate location of the sanitary sewer line to be along Garden Acres Road from Ridder Road and extending north to near Day Road and then continuing up Grahams Ferry Road. A second sanitary sewer line will extend from Garden Acres east and north to Day Road extending east to Boones Ferry Road. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows

from the Basalt Creek Planning Area to the WWTP. The Sanitary Sewer Collection System Master Plan has analyzed a range of potential flows from the Planning Area.

The Tualatin Sanitary Sewer Master Plan Update is currently being updated and includes the Basalt Creek Planning Area as a sewer basin. The City of Wilsonville updated its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) which included the Basalt Creek Planning Area as a contributing area. The resulting updated master plans identify the improvements needed to increase the capacity of each system to convey flow from the Basalt Creek Planning Area.

Drinking Water

The Basalt Creek Planning Area currently has no municipal water infrastructure in place. Tualatin currently purchases its municipal water from the Portland Water Bureau. The City of Wilsonville Water Treatment Plant draws its potable water from the Willamette River. Based on the topography, the Basalt Creek Planning Area could be served from the south through The City of Wilsonville's distribution system or from the north through the City of Tualatin's distribution system. Lower elevations of the Basalt Creek Planning Area can be adequately served through existing lines in Wilsonville's Pressure Zone B.

Stormwater

Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Planning Area are under the jurisdiction of Washington County and may not have capacity for future urban conditions. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. Culverts may need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite retention or infiltration is required when the location of public drainage or the topography of the site make connection to the system not economically feasible.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek Basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

The City of Wilsonville's 2012 Stormwater Master Plan identifies capital improvement Project CLC-3 to restore a portion of the Basalt Creek channel, west of Commerce Circle, to increase capacity. The master plan also identifies Project CLC-1 for construction of a wetland for stormwater detention purposes, north of Day Road, to serve an area that includes the Basalt Creek Planning Area. The July 2014 Updated Prioritized Stormwater Project List identifies CLC-3 as a mid-term project (6 to 10 years) and CLC-1 as a long-term project (11 to 20 years).

Locations where stormwater runoff from the Basalt Creek Planning Area could connect to existing stormwater infrastructure will require evaluation of the conveyance systems at time of development.

Schools

The Planning Area falls within the Sherwood School District, which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School. Most of these schools are within three miles of the edge of the Basalt Creek Planning Area.

The Planning Area is near Tualatin High School, one of two high schools in the Tigard-Tualatin School District. The district also includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to 1,000 students in the future. Existing parks, libraries, and schools are mapped in the Existing Conditions Report (see Appendix A).

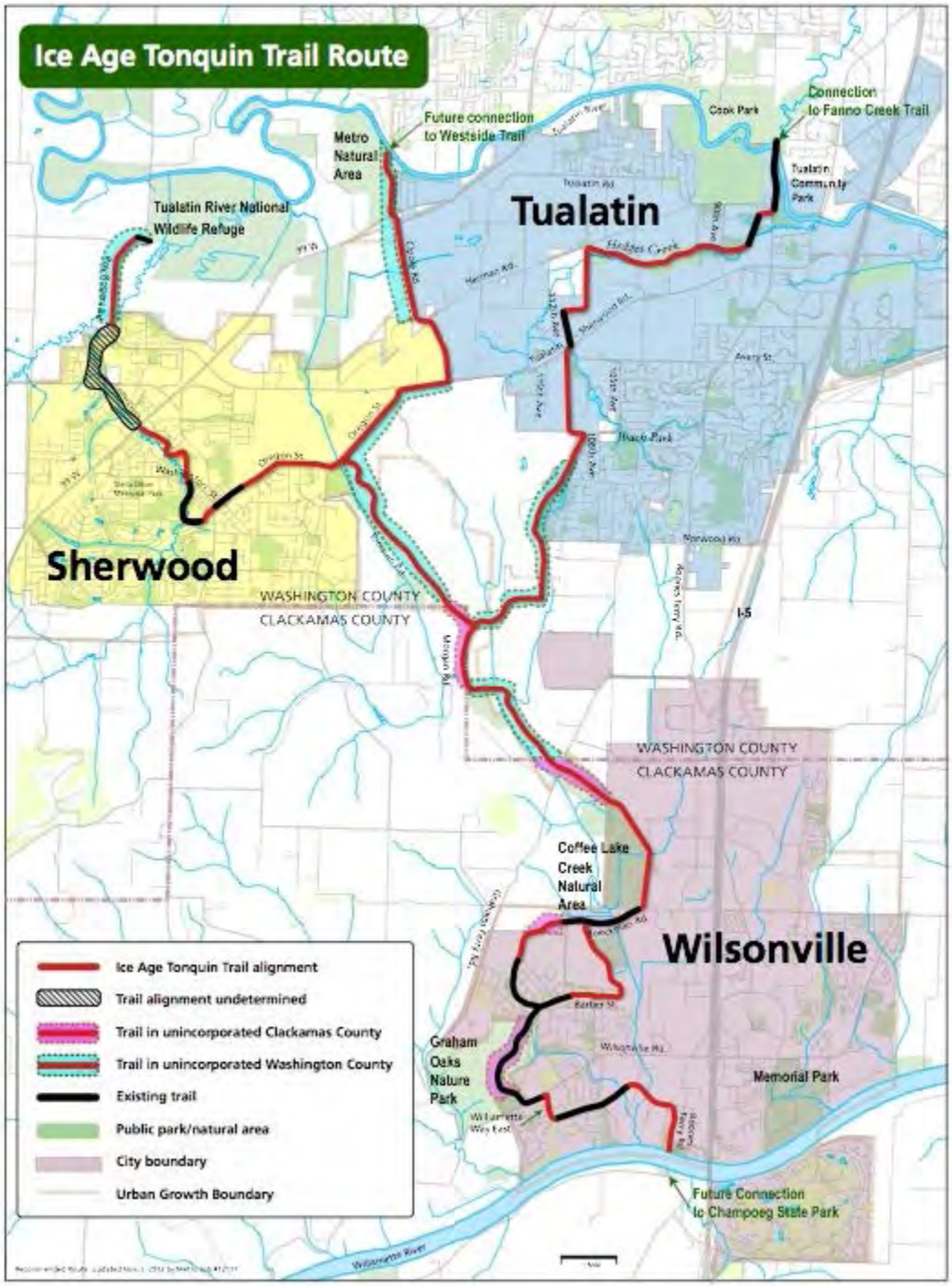
Parks

No parks currently exist within the Planning Area. Wilsonville Parks owns and maintains 16 different public parks, the closest of which is Canyon Creek Park located in Northeast Wilsonville on the other side of I-5. It has 1.41 developed acres and 6.87 acres of natural area popular for picnics and walking. The Other Wilsonville parks are located approximately 2 miles south of the Planning Area, including Graham Oaks Nature Park, which will be connected to the Planning Area when the regional Ice Age Tonquin Trail is complete. City of Tualatin Parks and Recreation owns and maintains 9 different parks, with Ibach Park being the closest to the Planning Area. Ibach includes an award winning and nationally recognized playground that incorporates Tualatin's pre-historic, Native American, and pioneering past, with information on the cultural and natural history of the area.

Trails

Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a section traversing the Basalt Creek Planning Area.

Figure 7 Map from the Ice Age Tonquin Trail Master Plan



Market Analysis

A market analysis (Appendix G) to identify the expected development potential for the Basalt Creek Planning Area as a future industrial and urban growth area was conducted by Leland Consulting Group.

The Planning Area is contiguous with several other employment and industrial areas in the southwestern part of the Portland metropolitan region. The market area for the Concept Plan includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. Each of these three cities is expecting business expansion and job creation. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Industry clusters in which both cities are already highly competitive are expected to continue and provide significant business and job growth in the future. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. The amount of industrial development (including warehousing, production, flexible office/industrial space, high tech, etc.) in both cities is significantly larger than the amount of office development. Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space.

Employment development in the Planning Area will benefit from a number of competitive advantages. A major feature and competitive advantage of this "Southwest Metro" employment cluster in general, and the Basalt Creek Planning Area in particular, is its immediate access to I-5, the west coast's most important transportation route. Additional advantages are access to I-205, Highway 217, nearby arterial roads, and transit service, a growing and educated workforce, and established and expanding industry clusters nearby. Employment corridors are located along transportation arterials that include the 124th Avenue Extension and the Basalt Creek Parkway located east west along the future jurisdictional boundary.

The market area's location and current demographics are also encouraging for new housing development. The Planning Area is immediately south of several south Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The neighborhoods create a positive environment for residential development along the northern edge of the Basalt Creek Planning Area.

The Planning Area is already served by several major regional and sub-regional retail nodes located nearby—Bridgeport Village, central Tualatin, and Wilsonville's Argyle Square. Any commercial space built in the Basalt Creek Planning Area will primarily serve residents and employees, as is consistent with Metro's employment area designation.

Concept Plan for Basalt Creek

Concept Plan Overview

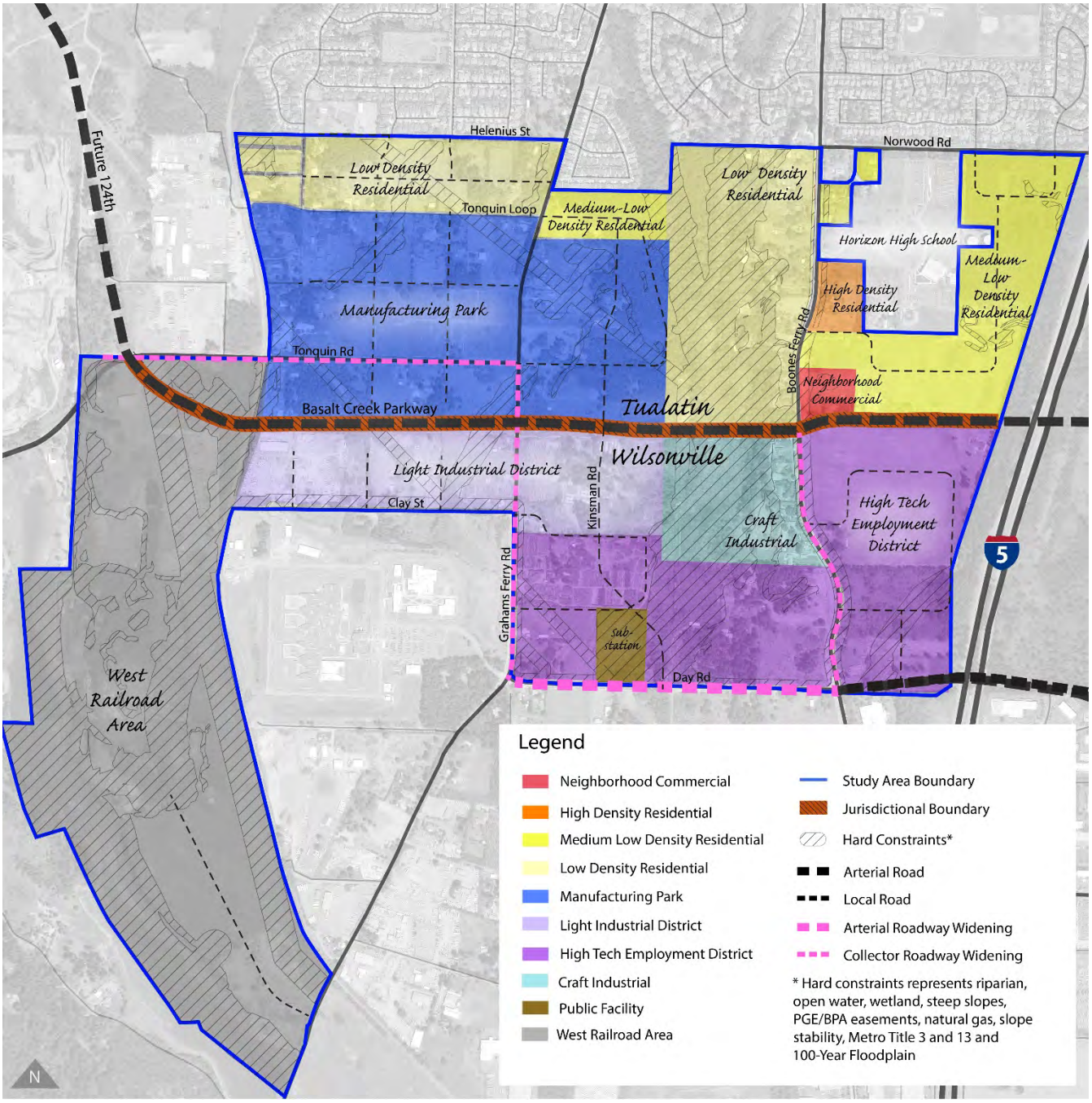
The Basalt Creek Concept Plan guides development within the Planning Area over the next twenty years. It identifies preferred land uses across the area and coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County. The partnership between the two cities which shaped this Plan must continue during implementation to drive successful development in the future.

In Ordinance No. 04-1040B, the Metro Council concluded that the Basalt Creek Planning Area can be planned for industrial use given there are urban services in the vicinity and that urbanization will have no effect on agricultural practices on adjacent land due to its isolation from agricultural activities. The Metro Council identified the area as the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region. The land use framework for the Concept Plan supports job growth in the area, while preserving natural space, buffering residential areas, and improving connectivity throughout the Planning Area.

Key considerations and conclusions informed the Basalt Creek Concept Plan:

- While there is a unified Concept Plan for the Basalt Creek area, it was also important to customize the land use types and implementation measures for each city.
- Natural features, topography, and future roads identified in the Basalt Creek TRP influenced infrastructure service areas and the jurisdictional boundary.
- Operating separate infrastructure systems along the jurisdictional boundary affords each jurisdiction the ability to develop and manage their own public utility systems.
- The topography and geology in this area may present development challenges and infrastructure costs may be higher than average.
- Various employment types impact performance of the transportation system differently; for example, retail uses generate more trips than industrial or warehousing.
- There are uncertainties in estimating assessed value and property tax revenue of future development due to unpredictability of the market and the extent to which the modeled development types will be built over time; likewise, it is difficult to accurately estimate SDC revenue for future development.
- The West Railroad Area has significant environmental, infrastructure, and transportation constraints and costs to serve new development; this area is likely to take longer to develop than the rest of the Planning Area. When there is development interest, future planning would need to be conducted.

Figure 8 Basalt Creek Land Use Concept Map



Key Elements of the Concept Plan

- Jurisdictional Boundary Determination
- Land Use and Development
- Transportation
- Transit
- Bicycle, Pedestrian and Trail
- Parks and Open Space
- Natural Resources
- Water
- Sewer
- Stormwater
- Implementation & Phasing

Jurisdictional Boundary, Land Use and Development

The Basalt Creek Planning Area is divided between the Cities of Tualatin and Wilsonville, and the Basalt Creek Parkway serves as the jurisdictional boundary between the two. Of the 847 acres in the Basalt Creek and West Railroad Areas, approximately 367 acres will be in the Tualatin planning area and 480 acres will be in the Wilsonville planning area. The land use patterns in the Concept Plan are responsive to the setting and to the existing conditions. Since the area is well suited and intended for industrial and housing uses, much of the Planning Area is designated for employment land uses. The Concept Plan land use pattern also anticipates the inclusion of transitional areas via development design standards to buffer new industrial land from adjacent existing uses and neighborhoods.

The land use designations on the map represent real-world development types. Each development type (i.e. Manufacturing Park) is defined by a set of buildings, which are based on real buildings in each of the cities. Tualatin's land use designations which are north of the jurisdictional boundary are consistent with its current development code, and Wilsonville's land use designations, south of the jurisdictional boundary, are consistent with its current development code.

Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the Planning Area. These land use designations were further refined, and appropriate densities selected to provide for regional employment capacity and housing while also maintaining traffic counts consistent with the TRP.

Tualatin land uses include a mix of residential and employment development types, with the housing land use designations in the northern and northeastern portions of the Planning Area. The Plan calls for a small retail node just east of the Basalt Creek Canyon located to serve residents and workers. Wilsonville land uses include a mix of employment development types and a modest opportunity for live/work housing. These land uses support adjacent and nearby industrial areas such as the Coffee Creek Industrial Area and provide flexibility to meet a range of market demands. These uses could also be a good fit for the City's Industrial Form-based Code, recently adopted for the Coffee Creek Industrial Area, if the City wanted to extend it north into the Basalt Creek Planning Area.

Development Types

Table 3 Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction

Jurisdiction	Land Use Designation	Buildable Acreage	Households		Employment	
			Count	Density per Gross Acre	Count (jobs)	Jobs per Gross Acre
Tualatin	High Density Residential	3.36	67	19.9	-	-
	Medium-Low Density Residential	59.83	374	6.3	-	-
	Low Density Residential	24.83	134	5.4	-	-
	Neighborhood Commercial	2.89	-	-	33	11.3
	Manufacturing Park	92.95	-	-	1,897	20.4
	Functionally Unbuildable	10.37	-	-	-	-
	Tualatin Subtotal	**194.23**	**575**		**1,929**	
Wilsonville	Craft Industrial	1.25	6	4.8	27	21.7
	Light Industrial District	35.30	-	-	581	16.5
	High Tech Employment District	94.47	-	-	1,916	20.3
	Functionally Unbuildable	5.62	-	-	-	-
	Wilsonville Subtotal	**136.64**	**6**		**2,524**	
Total		**330.87**	**581**		**4,453**	

Tualatin

Employment. The Concept Plan allocates substantial land as Manufacturing Park, which is expected to accommodate 1,897 new jobs, calculated based on the expected square footage of development in this area and the average square footage needed per employee. The Manufacturing Park is located along the northern edge of the future Basalt Creek Parkway on the land west of Basalt Creek Canyon, including both sides of Tonquin Road and Graham's Ferry (as shown on the above map).

Housing. Most of the remaining land north of the proposed Basalt Creek Parkway (beyond employment land) is allocated to a mix of residential uses at varying densities. The Concept Plan organizes residential land uses into two general areas that are intended to have easy access to services and be connected to parks, schools, and natural areas.

1. The plan focuses the lowest density housing (a mixture of low-density and medium-low density) along the northern portion of the Planning Area and low density along the west side of Boone's Ferry Road, adjacent to existing neighborhoods of Tualatin. This land is expected to accommodate 134 new households.
2. The eastern portion of the Tualatin future annexation area is anticipated to be a mixture of high and medium-low density residential; the land immediately east of Boones Ferry Rd is intended for high density housing; The remainder of the land east and south of Horizon School is planned for medium-low density residential. This eastern subarea is expected to accommodate 407 new housing units in Tualatin. This land is near the intersection between Boones Ferry Road and the new Basalt Creek Parkway.

Commercial. Neighborhood Commercial is planned north of the jurisdictional boundary and east of the Basalt Creek Canyon at, or near, the northeast corner of the intersection of Boones Ferry Road / Basalt Creek Parkway. It is intended to serve residents and workers.

Wilsonville

High-Tech Employment District. Most of the buildable acres in the Planning Area south of the proposed Basalt Creek Parkway are devoted to a mix of higher-density employment land. The High-Tech Employment District is expected to accommodate the largest number of jobs (1,916) with a mix of warehousing, manufacturing and office buildings. This land use is in the southern and eastern sections of the Planning Area, covering all Wilsonville land east of Boones Ferry Road and most of the land south of Clay Street extending to Day Road and bordered to the west by Coffee Creek Correctional Facility.

Craft Industrial. The southwest corner of the intersection of Boones Ferry Road and the new Basalt Creek Parkway is planned as Craft Industrial, which allows for a mix of smaller-scale commercial uses, which may include live-work units. These envisioned development types respond to the topography on those parcels and their location directly south across the Parkway from residential land and southwest of the neighborhood commercial node across the Parkway in Tualatin. Craft Industrial is a better fit with those surrounding uses, providing a transition to the higher intensity employment uses to the south. This area allows less than 20 percent residential use and is expected to accommodate 27 new jobs and 6 new housing units in the form of live-work units.

Light Industrial District. This land is located across the southern edge of the future Basalt Creek Parkway just north of Coffee Creek Correctional Facility and will be able to accommodate 581 new jobs primarily in warehousing and light manufacturing.

West Railroad Future Planning Area

The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The area is heavily constrained by wetlands habitat (as seen in Figure 5), steep slopes, and fragmented property ownership. Initial estimates show it would be costly to serve this area with adequate water, sewer, and transportation infrastructure due to

its location. These initial cost estimates for the infrastructure are included in Appendix H (Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo) and Appendix I (Basalt Creek Concept Plan Infrastructure Technical Memo). Topography and the PNWR line also create a relative separation between this area and the rest of the Basalt Creek Planning Area as well as access issues for freight trucks. Given these constraints, the area has potential for resource conservation and future public access to nature. Additional land uses may be appropriate but will need further analysis.

Because it is considered to have much lower development potential than the rest of the Planning Area, a future land use scenario was not created for this area at this time – it is being considered an area for future study and consideration. Once development and the extension of infrastructure occurs in the rest of Basalt Creek as well as the Coffee Creek Industrial Area, additional analysis should be completed on infrastructure service costs and appropriate land uses. The West Railroad Area is south of the Basalt Creek Parkway and in the City of Wilsonville future annexation area. Wilsonville's Comprehensive Plan amendment to adopt this Concept Plan will include a designation of Area of Special Concern for the West Railroad Area. The area will require master planning before any development occurs.

Transportation

Key Transportation Solutions

The TRP sets the layout of major new roads and improvements for the area. Prior to land annexing into either city, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County to build out the transportation network as set forth in the TRP. The network must also coordinate with plans for the area as set out in the Metro Regional Transportation Plan.

The Basalt Creek Parkway, of which the segment between 124th Avenue/Tonquin Road to Grahams Ferry Road is already under construction, is the major east-west arterial through the area. The Parkway allows for limited local access providing important freight connections between Tonquin, Southwest Tualatin, and Basalt Creek Employment Areas to I-5. It also serves as a future jurisdictional boundary between Tualatin and Wilsonville.

Additional road improvements are necessary to handle projected traffic levels as the area develops, including adding capacity to north-south collectors and Day Road as well as two additional I-5 crossings (at Day Road and Greenhill). As the area develops, property owners will plan and build local roads connecting to this network. These roadway improvements will include enhanced bike and pedestrian facilities and connections to the future transit system.

Roadway Network

The roadway network for the Basalt Creek Concept Plan is shown in Figure 9. The transportation network includes projects considered likely to be in place by 2035. Metro's model for forecasting depends partly on the projects planned for the Basalt Creek Planning Area, as well as those planned for the region (Metro's 2035 Gamma model). Metro's 2014 RTP, which lists projects reasonably likely to be funded by 2040, informed this analysis. Table 4 shows potential capacity-related projects from the 2014 RTP list. The projects in the RTP originate from the Basalt Creek TRP (see Figure 10 below).

The planned roadway network includes the projects and facilities described in Table 4 below, with one exception. The East-West Arterial Overcrossing is not included on Figure 9 as that segment of the Basalt Creek Parkway is anticipated to be constructed after 2040. Figure 9 also depicts where local connections may be needed to provide access and circulation to existing development and developable parcels. Both Level of Service (LOS) and Volume to Capacity (V/C) performance measures are shown. Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two performance measures of intersection operations.

Level of Service: relates the traffic service to a given flow rate of traffic and divides the quality of traffic into six levels ranging from Level A to Level F. A represents the best traffic where the driver has the freedom to drive with free flow speed and Level F represents the worst quality of traffic.

Volume-to-capacity (v/c) ratio: A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. A lower ration indicates smooth operations and minimal delays as the ratio approaches 1.0 congestion increases and performance is reduced. Above that the intersection is at capacity and considered failing.

Table 4 2014 RTP Projects Assumed for 2035 Forecasting

Project Number	Project and Description	TRP Time Period	In Place by 2035?
10736	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95th Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	**No**

Source: http://www.oregonmetro.gov/regional-transportation-plan

Figure 9 Transportation Preferred Alternative 2035

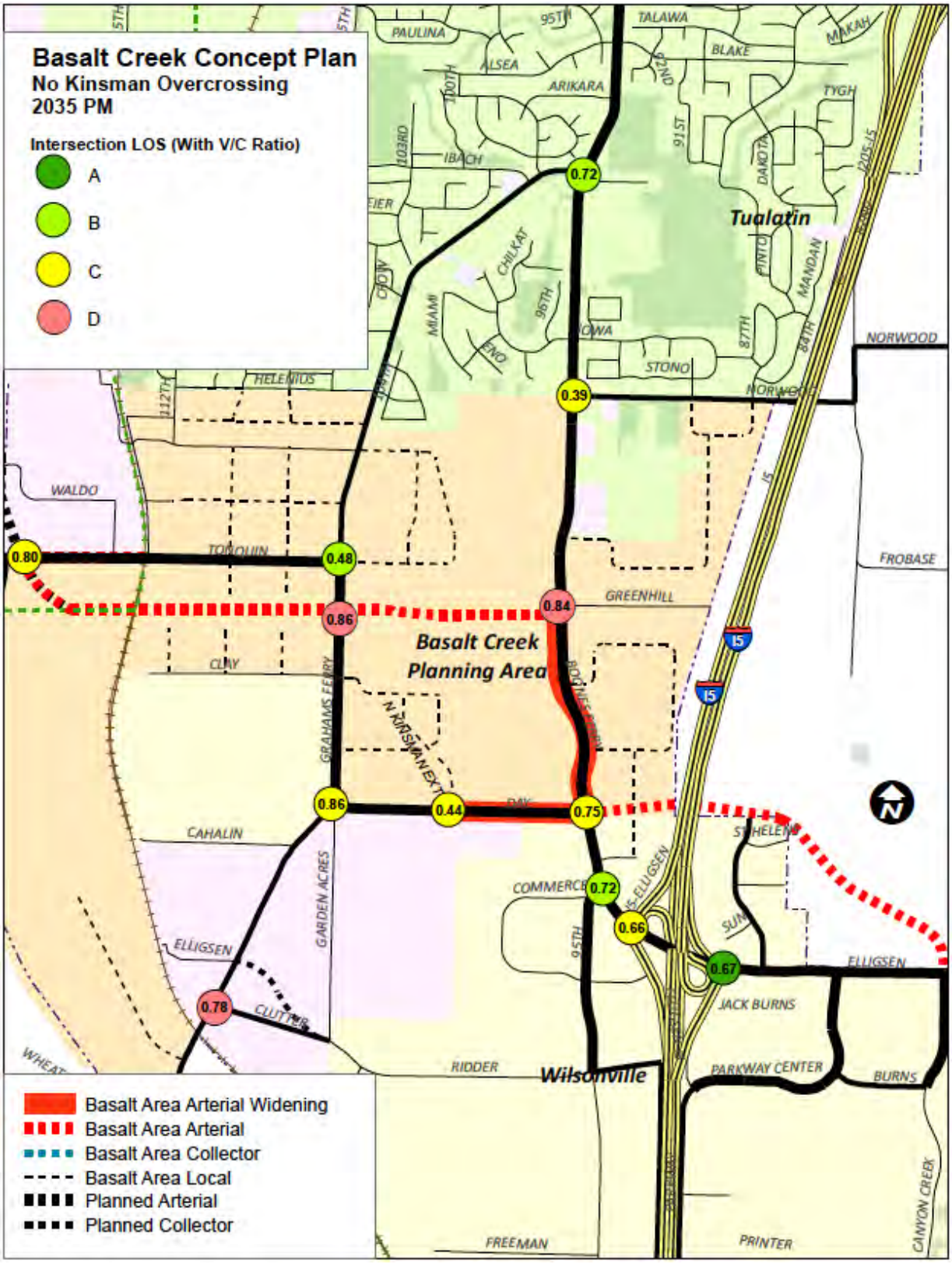
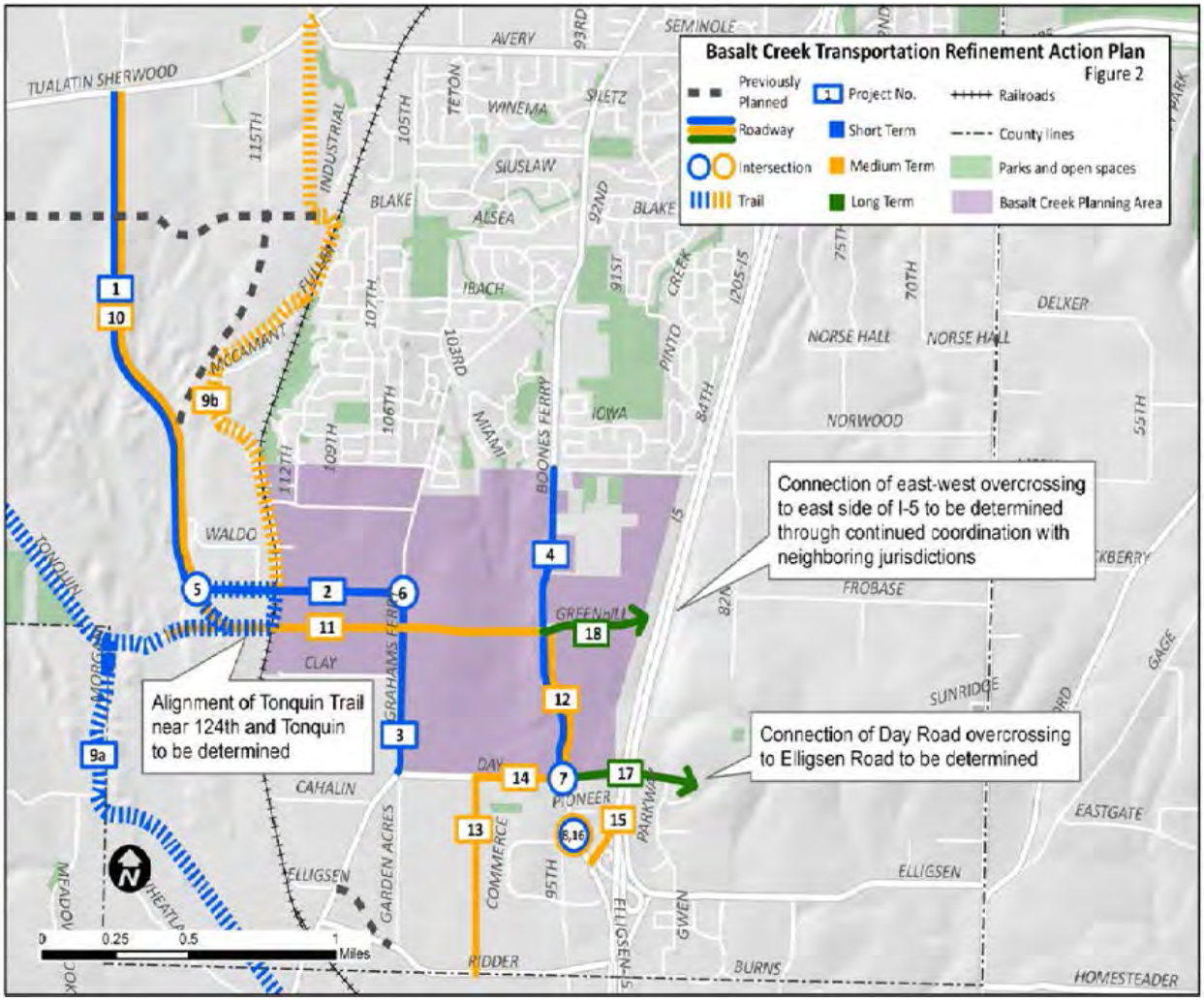


Figure 10 Basalt Creek Transportation Refinement Plan



See Appendix J for more information on the full project list.

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations. Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. Table 5 outlines the trip generation by land use in the Planning Area. The trips generated by the land uses in the Concept Plan are consistent with the trip generation assumed in the TRP and the 2014 RTP.

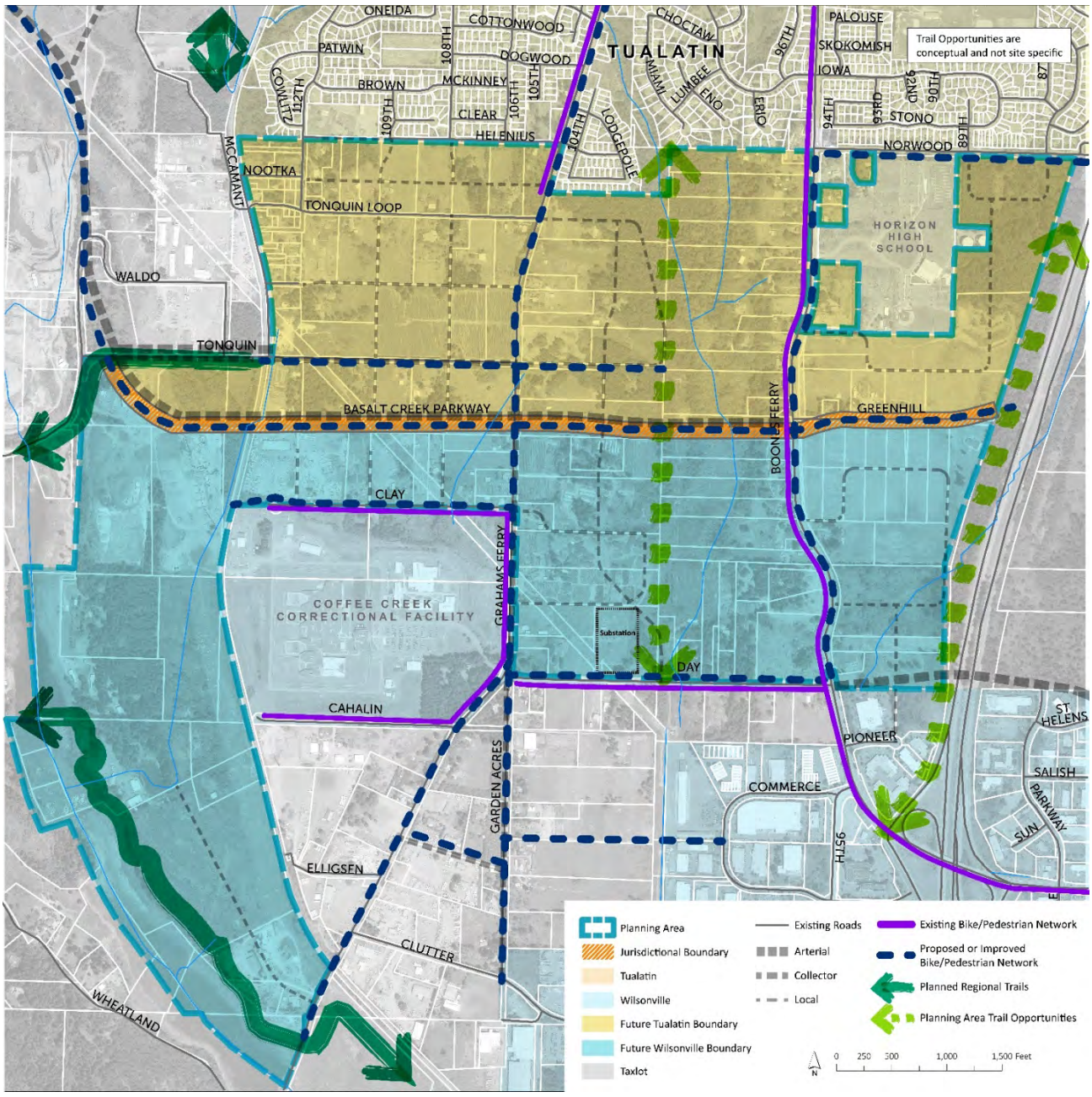
Table 5 Trips by Land Use Designation

Jurisdiction	Land Use Designation	Trips	Trips per Acre
Tualatin	High Density Residential	42	12.52
	Medium-Low Density Residential	236	3.94
	Low Density Residential	85	3.41
	Neighborhood Commercial	24	8.26
	Manufacturing Park	725	7.80
	Tualatin Subtotal/Average	1,111	5.72
Wilsonville	Craft Industrial	16	12.95
	Light Industrial District	218	6.17
	High Tech Employment District	717	7.59
	Wilsonville Subtotal/Average	951	6.96
Planning Area	**Planning Area Average**		**6.23**
	Total Trips	**2,062**	

Bicycle and Pedestrian Framework

As noted in the existing conditions, the bicycle and pedestrian network is incomplete in the Planning Area. Additional bike and pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards and in conjunction with predicted traffic flows. The map below illustrates the location of these proposed upgrades, along with identified trail opportunities that would further enhance connectivity in the Planning Area and to surrounding areas.

Figure 11 Bikes, Trails, and Pedestrian Network Map



While existing bike and pedestrian facilities run along Boones Ferry Road, Day Road, and sections of Grahams Ferry Road, planned improvements will increase safety and completeness. The additional facilities will offer significant east/west connections along the new Basalt Creek Parkway and Tonquin Road as well as an important north/south connection along the length of Graham's Ferry Road within the Planning Area. These improvements will make connections between the proposed neighborhood commercial area on Boones Ferry Road with residential neighborhoods and employment areas as well as the future transit network. Given the nature of the Basalt Creek Parkway, an over or underpass may be preferred or necessary to make the best bike/pedestrian connections in the Planning Area.

Coordination between the cities, Washington County, Metro, ODOT, and possibly BPA will be necessary for a feasibility study, implementation and funding.

Most participants polled at the April 2016 Open House suggested they would like to use future bike and pedestrian facilities to access recreation or for exercise, with almost half anticipating using these facilities at least once a week. These new connections will not only provide improved connectivity but also valuable access to local recreational areas, trails, and natural areas.

With the conservation of significant natural areas, the plan outlines opportunities to connect these spaces to pedestrian and bike facilities in key locations to create active and passive recreation, outdoor education, and public art amenities. The two main opportunities for trails within the Basalt Creek Planning Area are a Basalt Creek Canyon Ridge Trail and the I-5 easement Trail, which are shown in Figure 11 as Planning Area Trail Opportunities marked by large light green arrows. When trail alignments are considered in the future, access to the natural resource will not take priority over protection and enhancement.

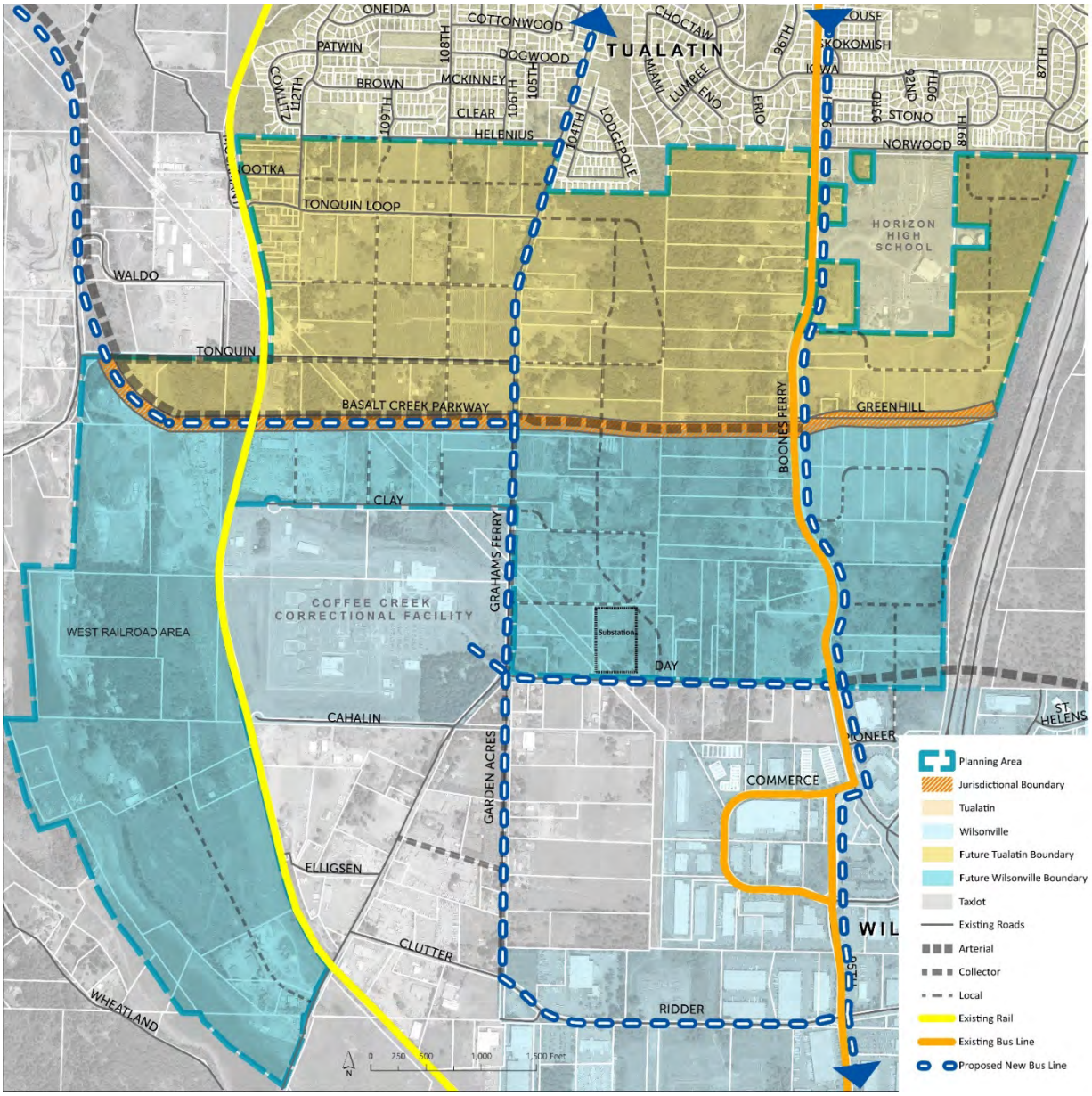
Currently, Basalt Creek Canyon is a barrier to east/west movement through the Planning Area. A north/south connection to the west of the Canyon would further improve the network and make connections to east/west roads that run north and south of the Canyon. The Basalt Creek Canyon Ridge Trail opportunity would be located upland, not within Basalt Creek, near or along the ridge of the Basalt Creek Canyon. This trail could be connected to the regional trail network by extending Tonquin Road with bike/pedestrian facilities across Graham's Ferry to the new ridge trail. There is also opportunity to create a trail parallel to I-5 in the ODOT regional easement that would provide an additional north/south connection that would connect to existing bike and pedestrian facilities.

Decision-making on investments should prioritize connections that link pedestrian and bike networks to transit stops and near locations with higher planned density. Potential funding sources for improving the bike/pedestrian network include Washington County (MSTIP) and Metro (i.e. MTIP, RFFA, SW Corridor, Natural Area Bonds).

Coordination with Metro, Tualatin Community Services Department, and the Wilsonville Parks and Recreation Department will be necessary to establish a local trail network with regional connections. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional implementation of the regional Ice Age Tonquin Trail, which is intended to complement the Ice Age Floods National Geological Trail Planning (the national trail will be a network of driving routes with spurs for biking and walking, from Montana to the Pacific Ocean). The preferred alignment for the regional Ice Age Tonquin Trail includes a section bordering the Basalt Creek Planning Area as part of a 22-mile trail alignment through Wilsonville, Tualatin, and Sherwood with trail facility types varying by location based upon landscape and setting. The Ice Age Tonquin Trail is intended to connect in the north to the Tualatin River Greenway Trail, Fanno Creek Trail, and the Westside Trail, and to the south to the Willamette River.

Future Transit Framework

Figure 12 Future Transit Framework



The creation of additional bus lines along existing and new routes in the Basalt Creek Planning Area will be necessary to increase connectivity and to support the job and household growth envisioned for this area. Transit service in the area requires coordination between TriMet and SMART to enhance service along existing bus routes and to provide effective connections north-to-south and east-to-west through the Planning Area. This service would also provide access to surrounding and regional employment centers and residential neighborhoods. Transit service should facilitate riders commuting to and from work and visiting major local destinations such as the Wilsonville and Tualatin Town Centers. As such, transit service should reflect development and density patterns as the area grows.

SMART and TriMet routes will be integrated with the bike, pedestrian, and trail services with key access points along Grahams Ferry Road, Boones Ferry Road, Day Road, SMART Central, and the Correctional Facility. All extensions will comply with ADA requirements. SMART will continue to serve Wilsonville, including the areas annexed within the Planning Area into Wilsonville. The Cities will work with TriMet to integrate with SMART service. Lawmakers and staff will work together to ascertain the impacts of and process for a possible service boundary change.

The existing Portland and Western Railroad (PNWR) runs along the western side of the Basalt Creek Planning Area. In addition to transporting freight, it also provides the Westside Express Service (WES), a commuter rail line serving Beaverton, Tigard, Tualatin and Wilsonville. WES runs on weekdays during the morning and afternoon rush hours, with trains every 30 minutes, connecting commuters to both the TriMet and SMART transit systems. The feasibility of a new WES station serving the Basalt Creek Planning Area should be studied with increased development and ridership demand.

Civic Uses

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the Planning Area, but a minimum park space of a 15- to 20-acre Neighborhood Park is needed to serve Tualatin residents and businesses in the Planning Area. The facilities for provision of schools and parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, cities, and other service providers would use their site selection and land acquisition processes to acquire the land needed for these facilities. Locations of any necessary facilities will be determined through a collaborative planning effort between the cities and service providers, as such they are not included on any plan maps. Cities have decided to provide library services for the Basalt Creek population through existing libraries that will be sized to accommodate the additional demand.

Schools

Capacity is the main concern for school planning. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Planning Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 1,156 future households in the Basalt Creek Planning Area.

The Planning Area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

The Basalt Creek Planning Area is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website http://www.sherwood.k12.or.us/information/bond-visioning-process).

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The Planning Area is located very close to Tualatin High School. The Tigard-Tualatin

School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the Planning Area and currently serves 160 students but plans significant expansion in the future.

The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the Planning Area. Although, the Basalt Creek Planning Area could provide opportunities for shared facilities, such as parks and recreation spaces.

Parks and Open Space

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating new parkland, open spaces, natural areas and trails in the Planning Area and connecting to existing regional networks.

The Planning Area provides an interesting opportunity for different types of parks, given the variety of land uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Cities will determine specific locations of facilities as part of citywide parks planning and implementation, and will adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Planning Area, including the use of their current System Development Charges for parks. Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises.

At the time of this writing, both cities are going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek Planning Area in the types of services and facilities that will be needed to serve residents and businesses in this area. Each City will include their respective portions of the Basalt Creek area in their independent Parks and Recreation Master Plan.

Natural, Historical and Cultural Resources

Overview

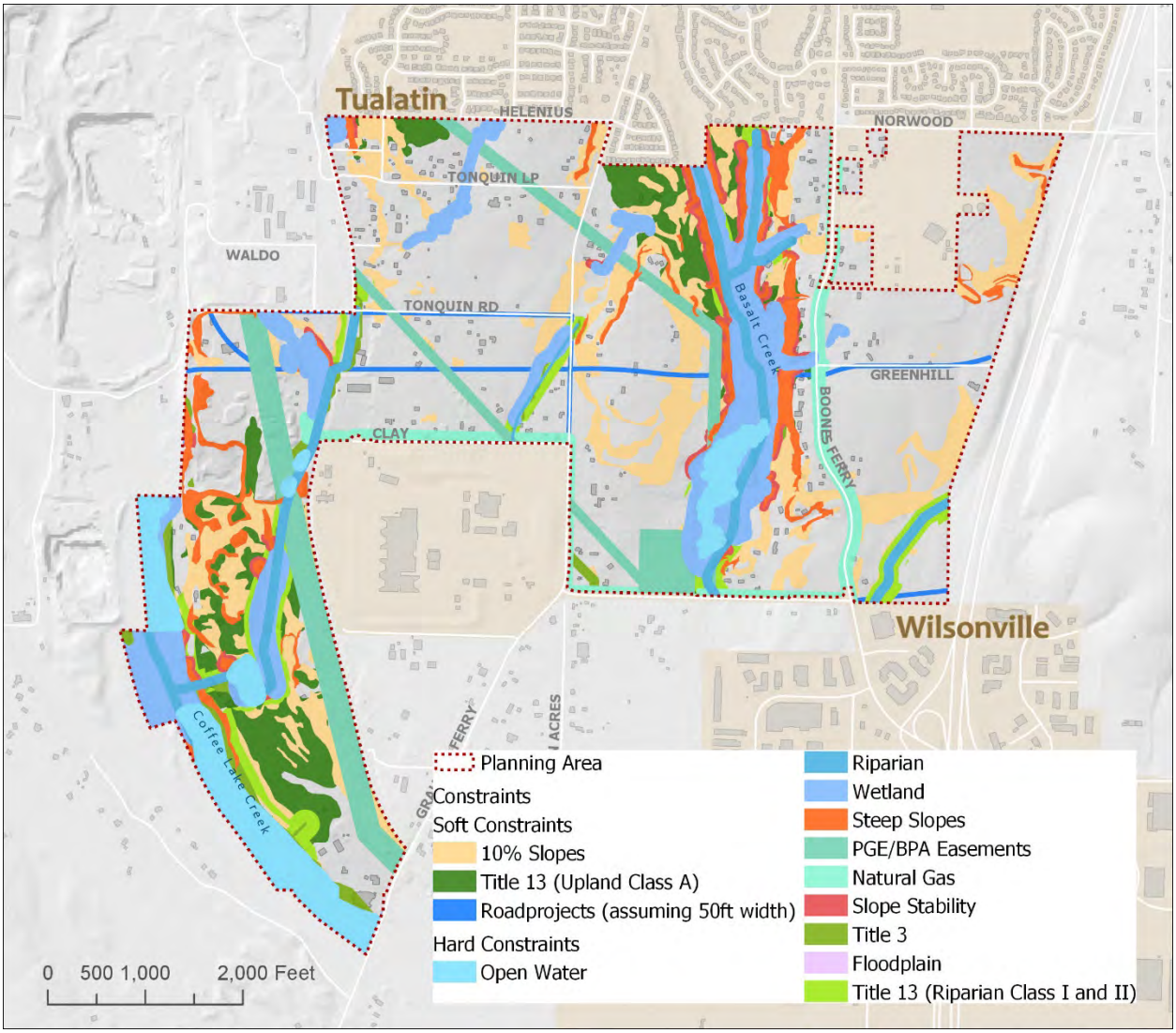
The future vitality of the Basalt Creek Planning Area hinges on development that efficiently locates job growth on the land most suited for it, while preserving and capitalizing on the natural and cultural resources in the area. The identification of environmentally sensitive lands followed the regulatory framework described briefly below and is illustrated on the Natural Resources Map (Figure 13) and in the Existing Conditions Report (Appendix A starting on page 86).

Developable lands for all scenario planning incorporated these findings. Since Clean Water Services and Wilsonville have local regulations compliant with state and regional environmental protection requirements, and in some cases that go above and beyond basic requirements, the constraints analysis used them as a foundation for determining the necessary buffering around a natural feature.

Environmental constraints are summarized below and unless otherwise noted were fully excluded from the developable land input in the scenario testing for the Basalt Creek Concept Plan:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Figure 13 Natural Resources Map



Regulatory Framework for Conserving Natural Resources

Oregon Statewide Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

Goal 5 protects natural resources and conserves scenic and historic areas and open spaces by directing local governments to adopt protection programs. Titles 3 and 13 of Metro's Urban Growth Management Functional Plan implements Goal 5 in the Portland Metro region.

Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which includes wetlands and riparian areas. An inventory was conducted in 2001. There are 116 acres of land in the Basalt Creek Planning Area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3. These lands are restricted for development and buffered by a vegetated corridor. Any development within the vegetated corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures. As a result of Title 3, these lands were excluded from the developable lands input in the scenario testing.

Table 6 Title 3 Wetlands by Category and Acres

Category	Acres	Description
Open Water	49 acres	Includes 50 ft. buffer
Streams	31 acres	Includes 15 to 50 ft. buffers
Wetlands	69 acres	Includes 25 to 50 ft. buffers

Metro Title 13: Nature in Neighborhoods

Title 13 requires local jurisdictions to protect and encourage restoration of a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. Metro's regional habitat inventory in 2001 identified the location and health of fish and wildlife habitat based on waterside, riparian and upland habitat criteria. These areas were named Habitat Conservation Areas.

Table 7 Title 13 HCA Categories with Acreage

HCA Categories	Acres	Description
Riparian Wildlife Habitat Class I	130	Area supports 3 or more riparian functions
Riparian Wildlife Habitat Class II	31	Area supports 1 or 2 primary riparian functions
Riparian Wildlife Habitat Class III	7	Area supports only secondary riparian functions outside of wildlife areas
Upland Wildlife Habitat Class A	103	Areas with secondary riparian value that have high value for wildlife habitat
Upland Wildlife Habitat Class B	72	Area with secondary riparian value that have medium value for wildlife habitat
Upland Wildlife Habitat Class C	37	Areas with secondary riparian value that have low value for wildlife habitat

Designated Aquatic Impact Areas	52	Area within 150 ft. of streams, river, lakes, or wetlands that are not considered regionally significant natural resources but could have some adverse impacts

Development in Title 13 areas is not prohibited but generally discouraged within the Basalt Creek Planning Area. Areas designated Riparian Habitat Classes I and II require 20% reduction in developable lands. Low impact design and mitigation strategies would be important to any development that might happen to maintain the function of these important ecological areas.

Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and existing local standards from each City would apply upon annexation of a Planning Area property into either Wilsonville or Tualatin. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat, including the Tualatin River Watershed and the entire City of Tualatin. Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, riparian corridors, and vegetated corridors. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development can only be permitted through review of a Significant Resource Impact Report (SRIR) analyzing the impacts of development within mapped significant resource areas.

Natural Resource Protection and Enhancement Strategies

Most of the land with environmental constraints is in or near Basalt Creek Canyon and the West Railroad Area. To protect the natural areas, the Cities have agreed to management practices consistent with Metro Title 3 and 13. The Canyon is very valuable to the area and it needs to be protected, while also having visual or physical public access points in appropriate locations to connect to the bicycle, pedestrian and recreational facilities in the area and to serve the needs of residents and local employees. Future protection and enhancement opportunities may include: controlling invasive plant species, such as reed canary grass, Himalayan blackberry and English ivy, reintroducing native plants into aquatic and upland habitats, retaining and installing snags and woody debris. Important species include Red-legged Frogs, the Pileated Woodpecker, Oregon white oak, Ponderosa pine, and Geyer willow (see Appendix A for more information).

Cultural Resources

Community members through the planning process have identified the old Carlon Schoolhouse as a historically significant landmark. It sits off Grahams Ferry Road near Day Road and was in use as a school until the late 1800s. While the area has an interesting geologic history, it has not been identified as a resource for any significant archaeological artifacts.

Figure 14 Picture of the Carlon Schoolhouse from Tualatin Life Newspaper on August 19, 2014 by Loyce Martinazzi

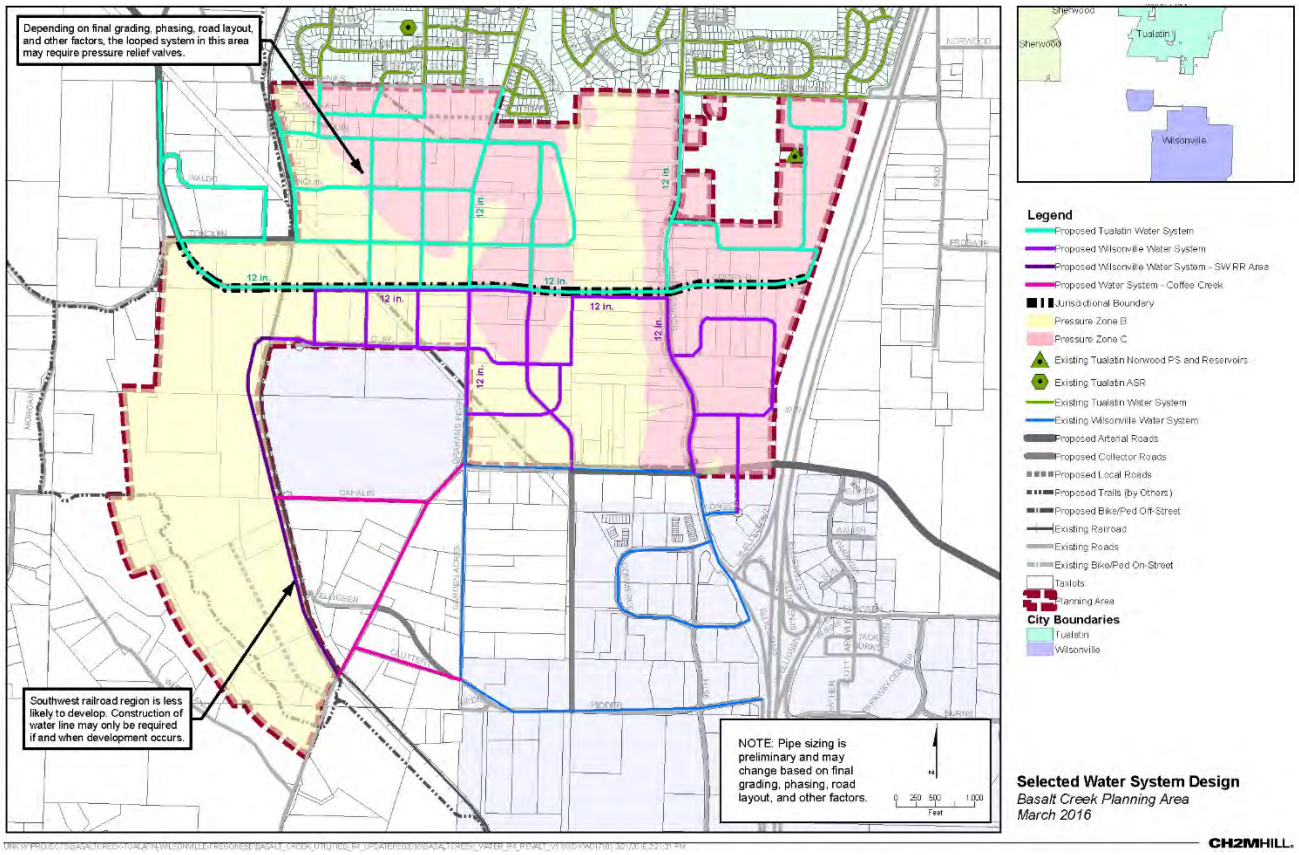
Infrastructure

For the conceptual infrastructure systems, high level planning calculations were completed to estimate water demand and sewer flows (Appendix I). These values can vary widely depending on the actual future development. Each City's individual master plans will be used to provide demand and flow projections when further planning the area.

Water

The conceptual water systems designed to serve the Basalt Creek Planning Area are shown below in Figure 15. The systems are independent looped systems that will not be connected to each other. Water lines for each city may be located along the proposed east-west arterial road, the future Basalt Creek Parkway, and other roadways throughout the Planning Area.

Figure 15 Water Systems Concept for Basalt Creek Planning Area



The existing service zones (levels B and C) from both communities provide sufficient pressure to provide service within each city's planning area. The Tualatin pressure zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet) will serve the Basalt Creek Planning Area. To provide service to Wilsonville's pressure zone C area (ground elevations 275 feet to 410 feet), the City has identified a need to install a booster pump station to serve the higher elevation areas (above approximately 285 feet) south of Greenhill Road. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the City's city-wide cost estimates.

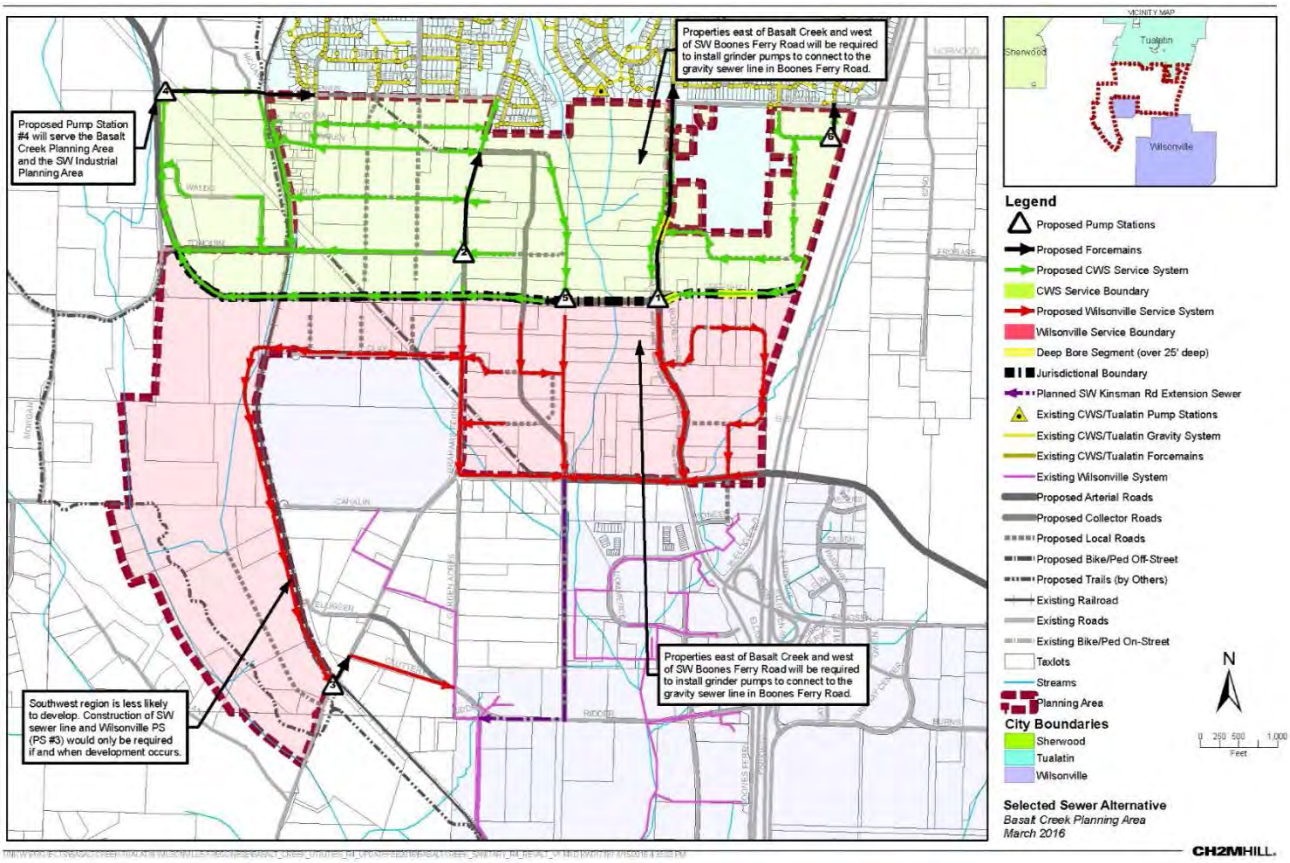
The Coffee Creek water system is shown outside of the Basalt Creek Planning Area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road) to illustrate Wilsonville's water system and how to connect services to the West Railroad Area. That portion of the system would be installed and funded by development within the Coffee Creek Master Plan area.

The West Railroad Area has a much lower potential for development due to several constraints including slope, geology, wetlands, habitat areas, access, and existing uses. Cost estimates to serve this area have been included as a separate column but would only be required if and when development occurs.

Sanitary Sewer

The conceptual sanitary sewer systems are shown in Figure 16. While topography will be a major challenge, the sanitary systems use gravity as much as possible and sewers generally flow to the south and west following the slopes of the existing ground and along existing and proposed roadways and trails to avoid streams and natural areas. These systems include new pump stations, which are used to lift wastewater to higher elevations where it can then be transported by gravity flow systems.

Figure 16 Sanitary Sewer Systems Concept for Basalt Creek Planning Area



Five pump stations are proposed to serve the Tualatin system, managed and maintained by Clean Water Services (CWS), and one pump station is required for the proposed Wilsonville system.

In the area between Basalt Creek Canyon and Boones Ferry Road in both Tualatin and Wilsonville service boundaries, residents and business owners who wish to connect to the proposed gravity system (or are

required due to septic failure) likely will require a private grinder pump to connect to public sewer. A grinder pump consists of a collection tank that grinds waste and pumps it to the public sewer system.

The conceptual sewer system connects to the existing Tualatin system at SW 112th Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system in Garden Acres Road to SW Day Road, Grahams Ferry Road and Boones Ferry Road (the sewer line initially contemplated in the Coffee Creek Master Plan and included in the analysis for this Concept Plan has changed, shifting from a SW Kinsman Road extension to Garden Acres Road).

Stormwater Drainage

Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. Each City will serve its own jurisdiction area independently. The Cities acknowledge that they must follow requirements established in their guiding respective NPDES (National Pollution Discharge Elimination System) MS4 (Municipal Separate Storm Sewer System) permits. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or stormwater management plans. Public stormwater systems are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are assumed to be part of the development costs, which have not been estimated.

Implementation and Phasing Strategy

Implementation Measures

Implementing the Concept Plan will take a predictable path in this area:

- First, each City will work with the County to update their Urban Planning Area Agreement.
- Each City will also amend its comprehensive plan to include the essential elements of the Concept Plan.
- Next, the Cities ensure that the zoning and/or development code is updated to enable development in the Planning Area, and includes appropriate zoning standards
- Generally, annexation is predicated on investor interest, and the expectation is that investors will finance the extension of services.
- Either city may decide to invest in service extension as a way to spur development or may decide to help a group of investors develop an area, for example by providing the formation of a Local Improvement District of other funding mechanism.

Action Items

1. Amend Urban Planning Area Agreements

Comprehensive planning within the regional Urban Growth Boundary (UGB) is coordinated between Washington County and cities through Urban Planning Area Agreements (UPAAs). Upon adoption of the Concept Plan both Cities will work with the County to update their respective UPAAs. The UPAAs will acknowledge the future jurisdictional boundary and outline what areas may be annexed into by each city. The amended UPAAs provide the transfer of planning authority to the Cities enabling them to proceed with annexation and development.

2. Amend Comprehensive Plans

Tualatin, which has a "one map" system where the zoning and comprehensive plan are essentially the same map, will be adopted after adoption of the Concept Plan anticipated by May 2019.

Wilsonville, which has a "two map" system where the Comprehensive Plan shows future conditions and not necessarily zoning, will adopt Comprehensive Plan amendments soon after the adoption of the Concept Plan. The Comprehensive Plan amendments will draw from the Concept Plan and use its definitions of uses and standards to design the amendments.

3. Assure zoning is compatible with future land use

Each city will need to assess its zoning codes and ensure that they permit the anticipated uses with appropriate development standards. This will be made fairly easy in that each city has its own development types, drafted around current zoning code standards. However, new uses anticipated in some of the development types will need some zoning code amendments.

In addition, the Cities will need to consider special design elements of the Concept Plan and determine if their respective development codes need to be updated. Specifically, the City of Tualatin will want to

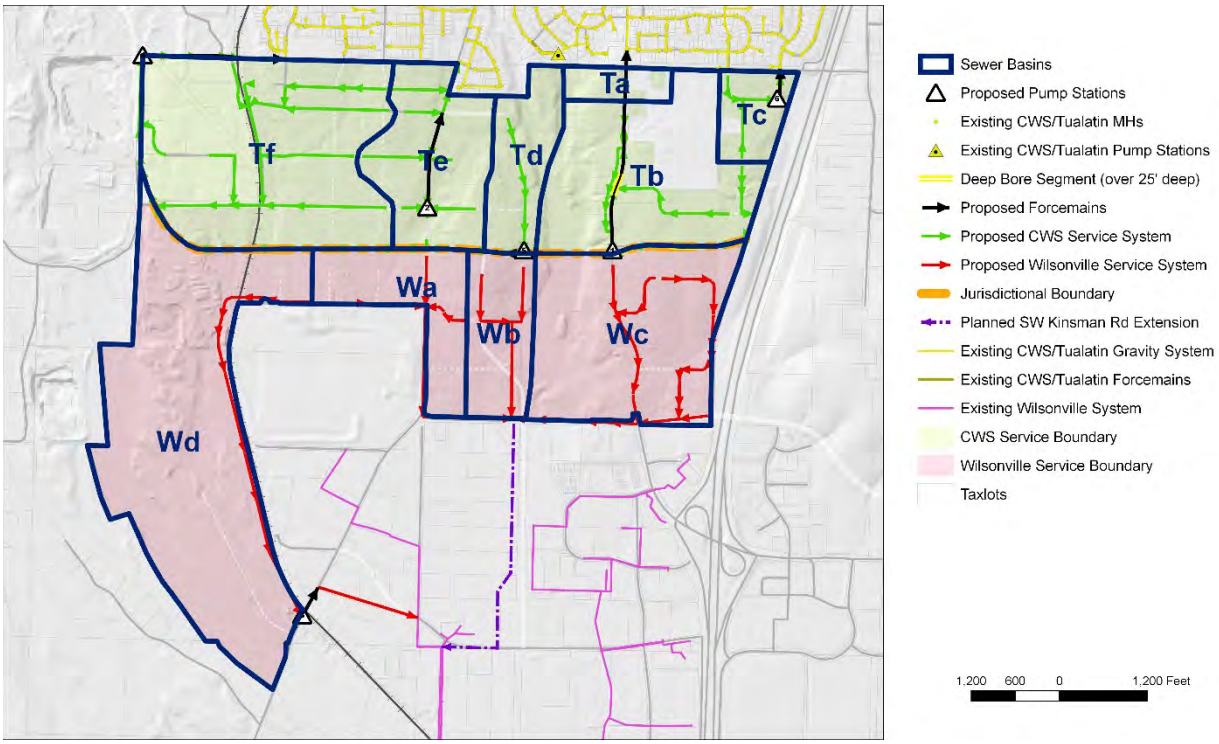
determine what design standards are relevant to creating appropriate transitions between residential and employment uses, and the City of Wilsonville will want to consider the application of its Industrial Form-based Code to help create a uniquely attractive business community.

4. Annex as demand occurs based on feasible phasing

Utility improvements will be made as properties are annexed and developed in each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the Planning Area that are adjacent to the existing city services and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements.

The most formative of the utilities (sewer, water and roads) will be sanitary sewer. This is because it is a gravity system that must be hooked into an existing sanitary system or drained to a pump station that will lift the sewage via pressure line to an existing sanitary line.

Figure 17 Implementation Map



Based on the Sewer Master Plan, several natural phasing districts are evident. These are shown on Figure 17. Tualatin has six potential phases based on existing sewer basins and five pump stations. No one sewer basin is dependent on the other, so these areas could develop in any sequence. If the initial installation can install the pump station and pressure line, development can proceed in increments, from the pump station uphill to the extent of the sewer basin. Figure 17 shows Tualatin stages advancing from Ta through Tf.

Wilsonville has four basins, three gravity and one with a pump station. Figure 17 shows phasing progressing from Wa through Wd. District Wd, which serves the West Railroad Area, is the most

constrained and likely to see development last in the Planning Area. The other three are gravity lines that can be constructed independently. They can proceed from the inlet to the existing gravity system uphill in the basin.

In both cities, the water and transportation infrastructure can be installed as needed although some enabling projects may be required to be constructed prior to development to connect properties to existing systems. Efficiency may be achieved when the underground utilities are constructed concurrently with the transportation system.

5. Consider capital improvements to spur development

In both systems, the sewer basin is large enough that it contains several property owners. Each city has a method of reimbursing the developer for installing infrastructure when other development hooks in. However, the Cities may find that in some cases, the property owners of developers cannot finance the infrastructure themselves. In that case, the city may decide to participate in one of several ways:

- Finance the infrastructure themselves, charging reimbursement as projects hook up
- Create a cooperative financing district such as a Local Improvement District or Reimbursement District, that would allow the infrastructure to be installed by a primary party and paid off over time by the property owners, relieving some of the burden of a large capital financial commitment
- Develop the infrastructure as an inducement for desired development, such as for an important job creating project

6. Master planning processes

Many of the ideas proposed in this Concept Plan will require project development to determine the specific needs, feasibility, locations, costs, and other details through each City's master planning process. Typically master plans are completed for infrastructure services, parks, open space, and trails. Master plans include public involvement processes, including Planning Commission review and City Council adoption.

Existing Conditions Report

Basalt Creek Planning Area

October 2014

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I. Introduction

In the Metro region, areas brought into the Urban Growth Boundary are required to have a land use and transportation Concept Plan. The intent of the Concept Plan is to provide a roadmap for the development of the area consistent with state, regional and local land use planning laws. This Existing Conditions report is the first step in the development of the Concept Plan for the Basalt Creek planning area. It includes detailed information on the existing landscape, regulatory, infrastructure, social and economic conditions within and relevant to the planning area.

The information presented in this Report provides the foundation from which to understand development capacity within the planning area, and the regulatory context in which development will occur. Here, analysis paints a quantitative picture of future growth potential, and identifies both opportunities and constraints for development of the area, using the regulatory framework as a guide.

This Report will inform land use and transportation decisions related to the Basalt Creek planning area, and provide the basis for the Concept Plan. The report is organized into eight sections (including introduction):

II. Local and Regional Planning Context

Summarizes regional and local plans that influence the planning area. These plans also include regulatory requirements related to land development and provide an explanation of the area's regional role, as well as the constraints guiding the location of future development.

III. Natural and Historic Resources

Summarizes the natural and environmental features of the area and identifies historic or cultural resources within the planning area. This section provides a context for how environmental features might shape development in the planning area as both amenities and constraints.

IV. Public Facilities

Summarizes school, fire, library, park and police resources within or adjacent to the planning area. This information will inform decisions about additional resources that may be needed within the planning area to support projected growth.

V. Commercial, Industrial and Residential Real Estate Markets

Analyzes the existing markets for employment and residential development relevant to the planning area. This section provides a foundation for understanding future real estate demand to inform the development of a land use plan that can accommodate projected growth and promote economic development.

VI. Infrastructure

Provides a detailed assessment of water, sewer and stormwater infrastructure capacity relevant to the planning area. This information provides a foundation for developing an infrastructure plan that is integrated with the existing system and provides efficient and cost effective solutions to serve the area.

VII. Transportation

This section describes information on projects planned and under development within the planning area and provides an overview of the transportation planning that has been completed to date. This section describes the transportation framework from which to build the local network as part of the Concept Plan.

VIII. Land Capacity Analysis

The land capacity analysis is a quantitative and spatial analysis of the planning area that implements the regulatory framework and identifies infrastructure and transportation constraints. This analysis provides the canvas on which to paint the Concept Plan.

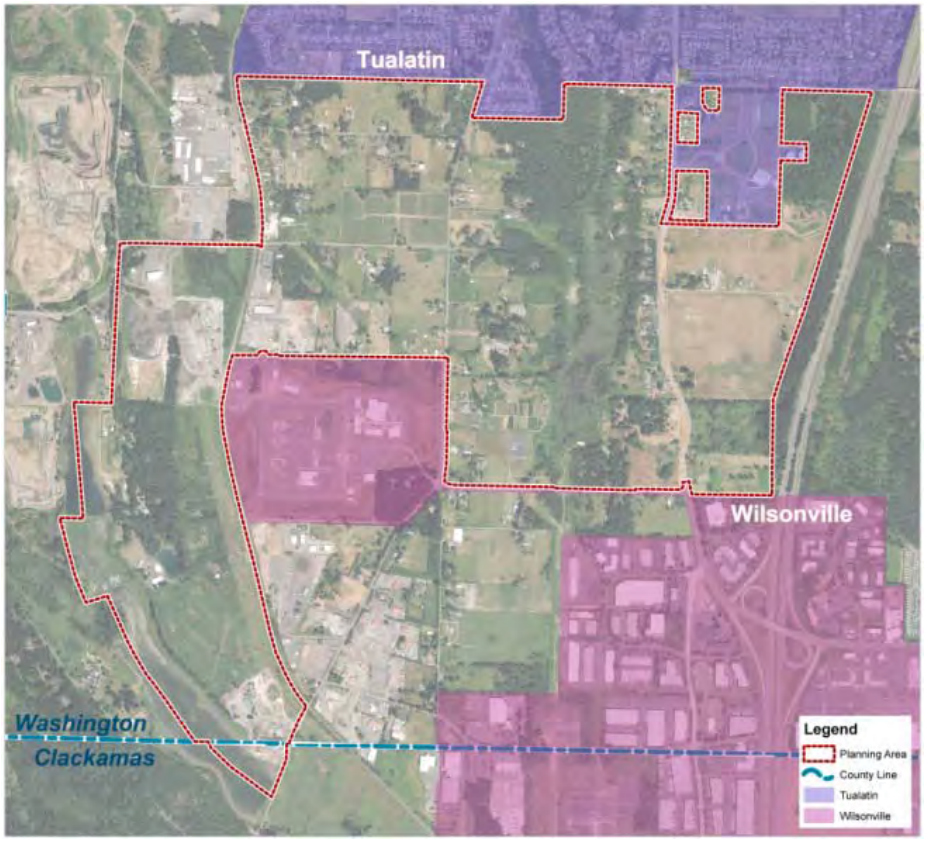


Figure 1 Basalt Creek planning area, City of Wilsonville and City of Tualatin boundaries. Source: Fregonese Associates 2014.

Planning Area Boundaries

The Basalt Creek planning area consists of 847 acres between the cities of Tualatin (to the north) and Wilsonville (to the south). It is primarily within Washington County, with a very small portion in the southwest corner located in Clackamas County (Figure 1).

The planning area is irregularly shaped, with a "finger" that extends southward from the western side. Generally referred to as the West Railroad area, this portion is divided from the rest of the study area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The majority of the Basalt Creek planning area is generally bounded by Norwood and Helenius Roads to the north, I-5 to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham's Ferry and then westward again on Clay Road.

The southern residential communities in Tualatin and Horizon High School are not included in the study area. However, three large noncontiguous parcels in the area around Horizon High School are included in the planning area, as they are privately owned (Figure 2).

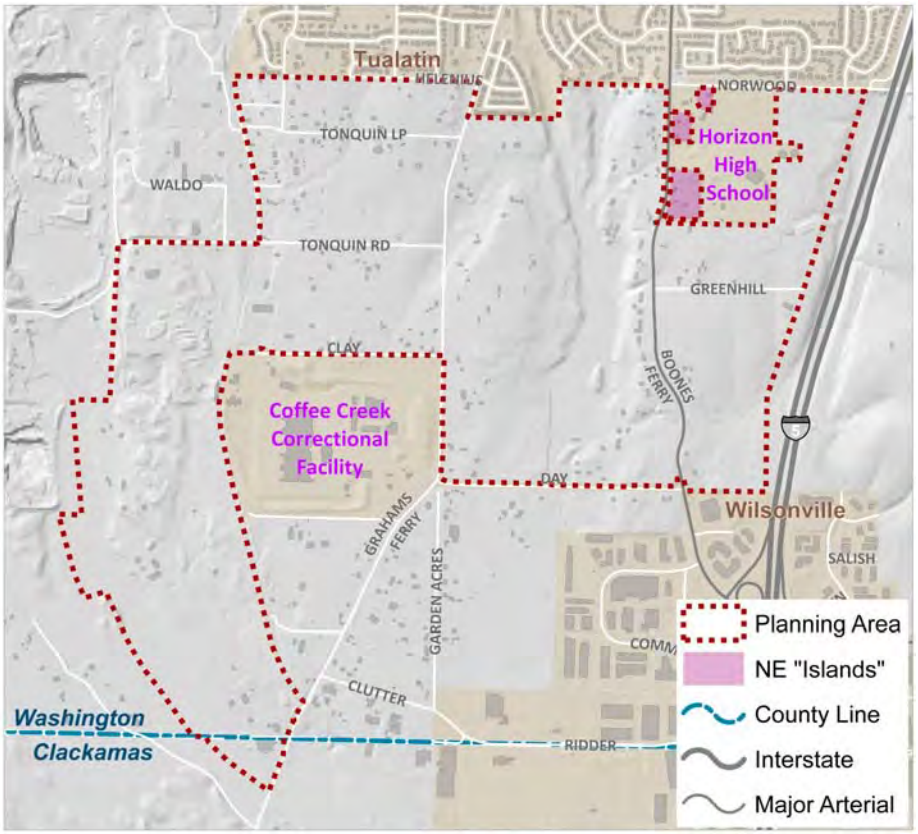


Figure 2 Planning area "islands, "Coffee Creek Correctional Facility and Horizon High School campus. Source: Fregonese Associates 2014.

II. Local & Regional Planning Context

Current Zoning

The majority of the Basalt Creek planning area falls within Washington County and is zoned as Future Development 20-Acre District (FD20). This interim designation was applied to the area following inclusion in the UGB (2004), through Washington County Ordinance No. 671 (2007). This designation will apply until the final Concept Plan is approved and Comprehensive Plan designations for the Basalt Creek area are adopted by each jurisdiction. The FD20 zoning designation is intended to encourage retention of existing land uses until these steps are complete. FD20 restricts subdivision of existing parcels into tax lots smaller than 20 acres.[1]

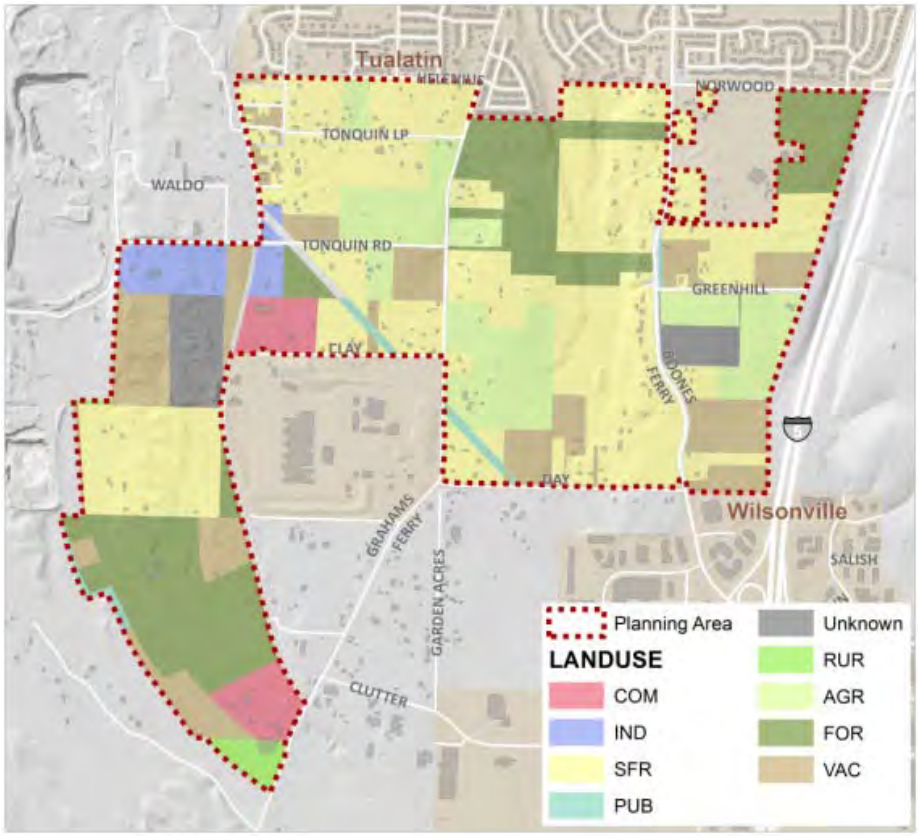


Figure 3 Existing land use in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Each jurisdiction (Tualatin and Wilsonville) has a property owner-initiated annexation process, so changes to current zoning will happen at the time of annexation, on a parcel-by-parcel basis. A very small area (7.8 acres), in the southwest corner of the planning area falls within unincorporated Clackamas County (Figure 1), and is zoned as Rural Residential Farm Forest 5-Acre District (RRFF5).

[1] For a full description of allowed and prohibited uses in the FD-20 zone see the Washington County Community Development Code Section 308.

Existing Land Uses

The primary existing land uses in Basalt Creek are rural agriculture, industrial and some rural residential consisting of low-density single-family housing (Figure 3). There are substantial areas of agricultural uses, including nurseries (such as Chick-a-Dee Gardens Nursery), landscaping supply (Pro Gro, in the furthest southwest corner of the planning area) and blueberry farms, among others. Existing industrial land users include gravel quarries and cement manufacturing (Knife River Corporation) in the northwest corner (Figure 4).

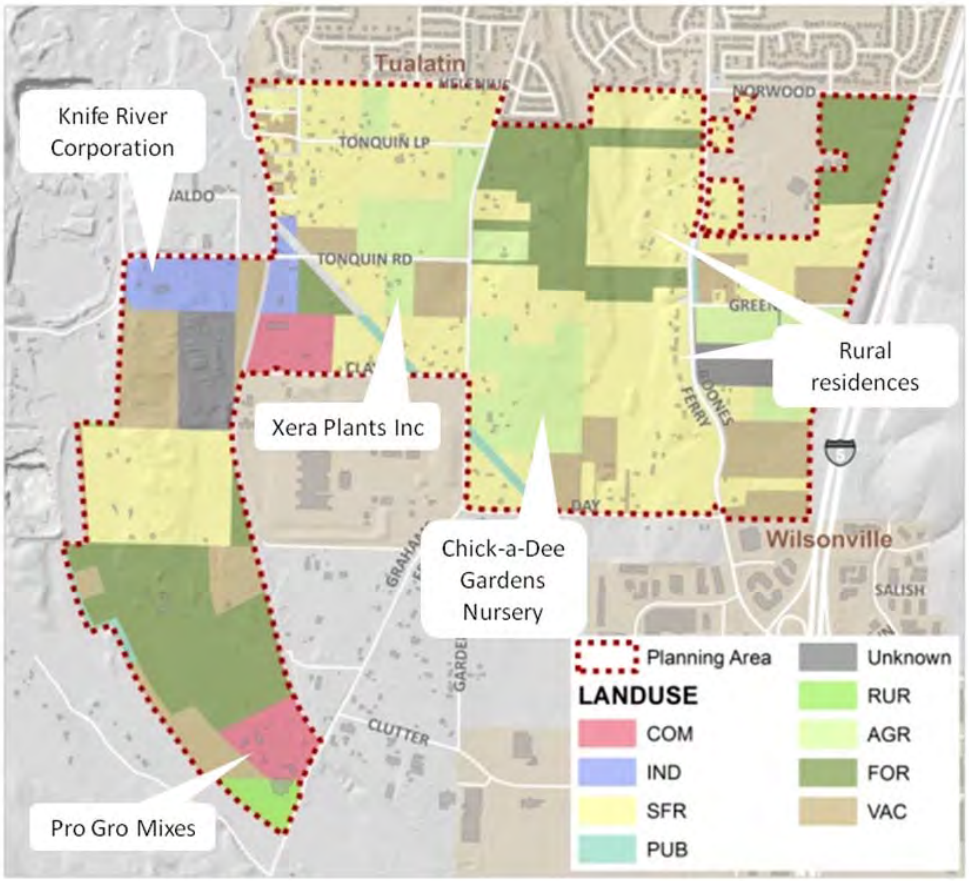


Figure 4 Locations of major businesses and residential areas in the Basalt Creek planning area. Source: Fregonese Associates, RLIS, Google Maps 2014.

Currently, 239 people live in the area in 90 single-family housing units, and 258 employees work in the area (Figure 5). The existing housing in the Basalt Creek area is detached single-family on large lots. Several single family homes are located on the eastern edge of the Basalt Creek ravine along Boones Ferry Road.

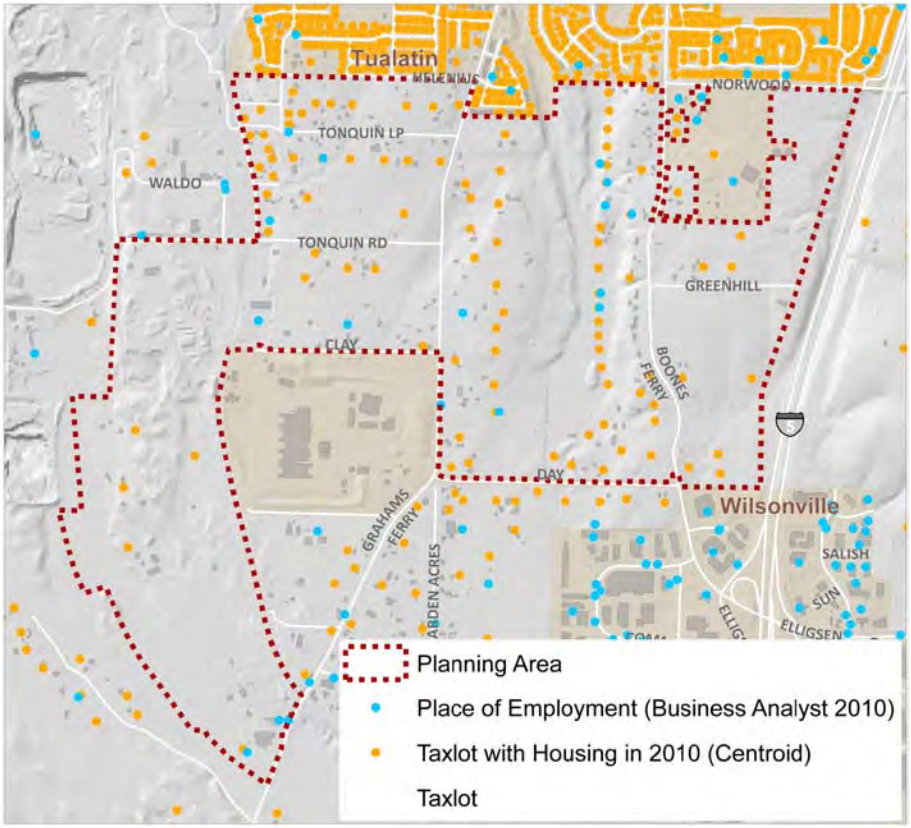


Figure 5 Existing Housing Units and Employment in the Basalt Creek planning area Source: Fregonese Associates, ESRI Business Analyst 2014.

Adjacent Land Uses

The planning area is bounded to the north by Tualatin residential neighborhoods, to the south by commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands (Figure 6).

The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north. These neighborhoods are comprised primarily of high-quality, detached, single-family homes. Also to the north is the 30-acre campus of Horizon High School. The campus is bordered on three of its sides by the planning area (Figure 7). To the west, the planning area is bordered by unincorporated portions of Washington County (within the Southwest Tualatin Concept Plan area) and active quarries--including the Knife River Corporation quarry and asphalt plant, which falls partially in the planning area along Western Railroad. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area (though not yet fully annexed). Most of this land is undeveloped or vacant.

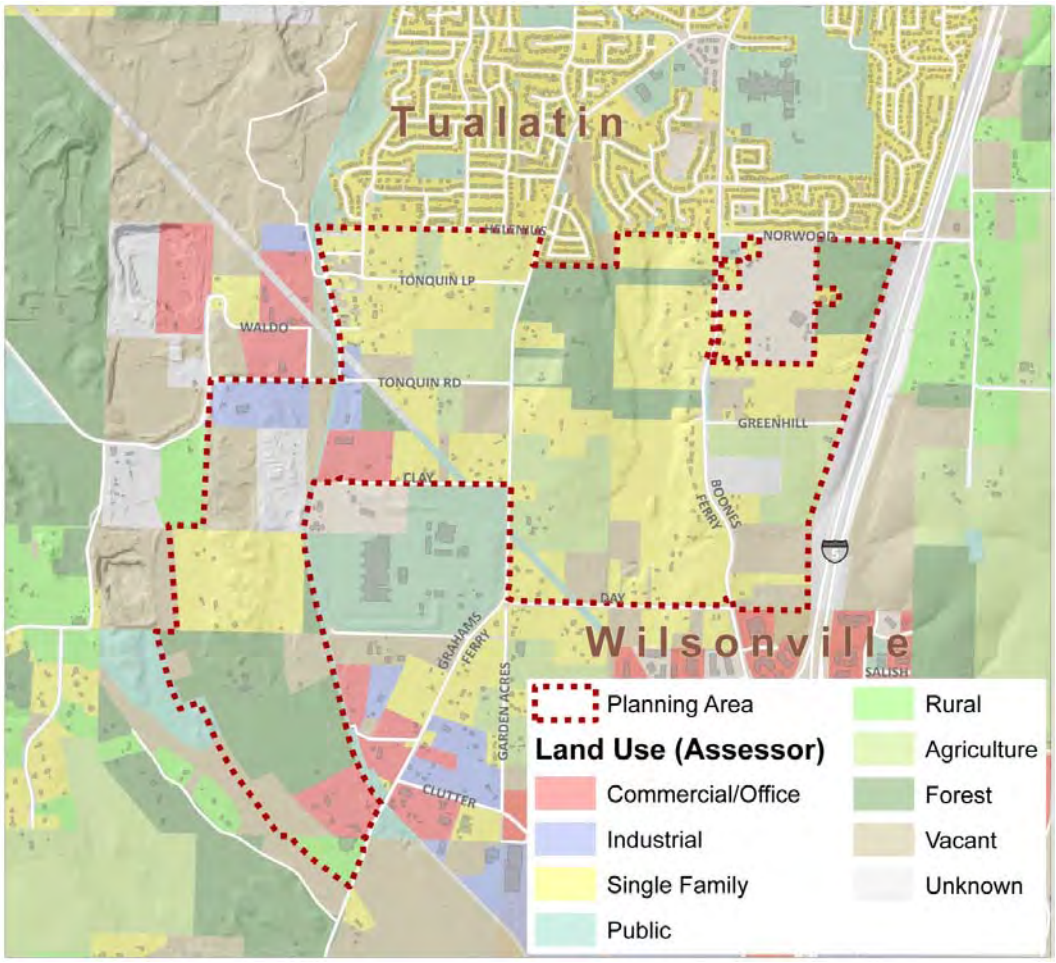


Figure 6 Land Uses Adjacent to Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

South of the planning area are commercial, office and industrial uses located within the City of Wilsonville. Also adjacent to the southern border of the planning area is Coffee Creek Correctional Facility (Figure 8). This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating small number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.[2]

South of the Correctional Facility, also abutting the planning area, along the south side of Day Road, is the Coffee Creek planning area, for which the City adopted a Master Plan for industrial development. Figure 9 shows the Basalt Creek planning area and its geographic relationship to the Coffee Creek, Southwest Tualatin and Tonquin Employment planning areas. Figure 9 also shows existing commercial and industrial and employment areas.

[2] Reynolds, Vicki. Public Information Officer for Coffee Creek Correctional Facility. Personal communication, July 2nd, 2014.

Figure 7 Aerial image of the Horizon High School Campus (30 acres), just outside of the planning area. Source: Fregonese Associates 2014.

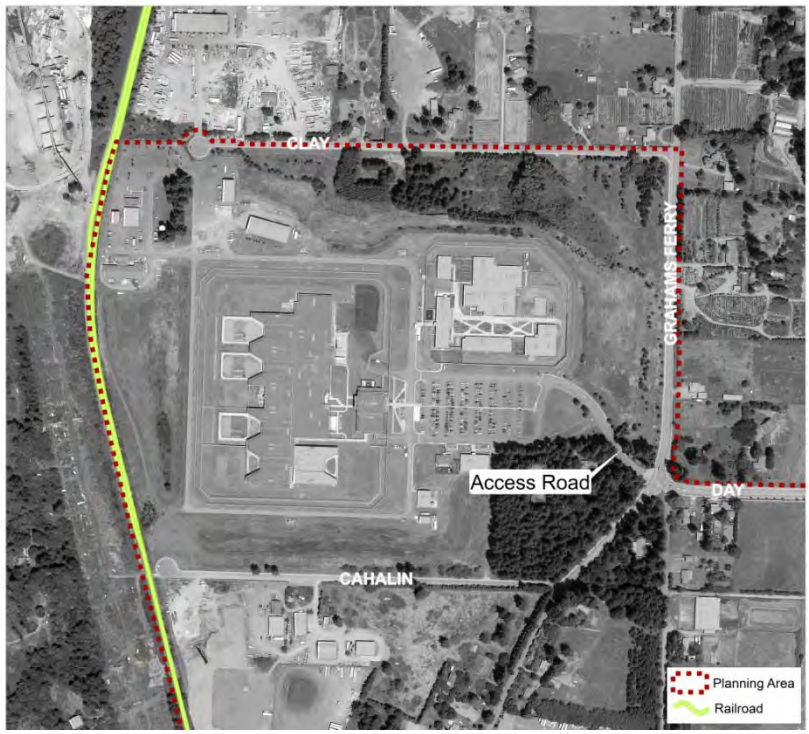


Figure 8 Aerial image of Coffee Creek Correctional Facility (108 acres). Source: Fregonese Associates 2014.

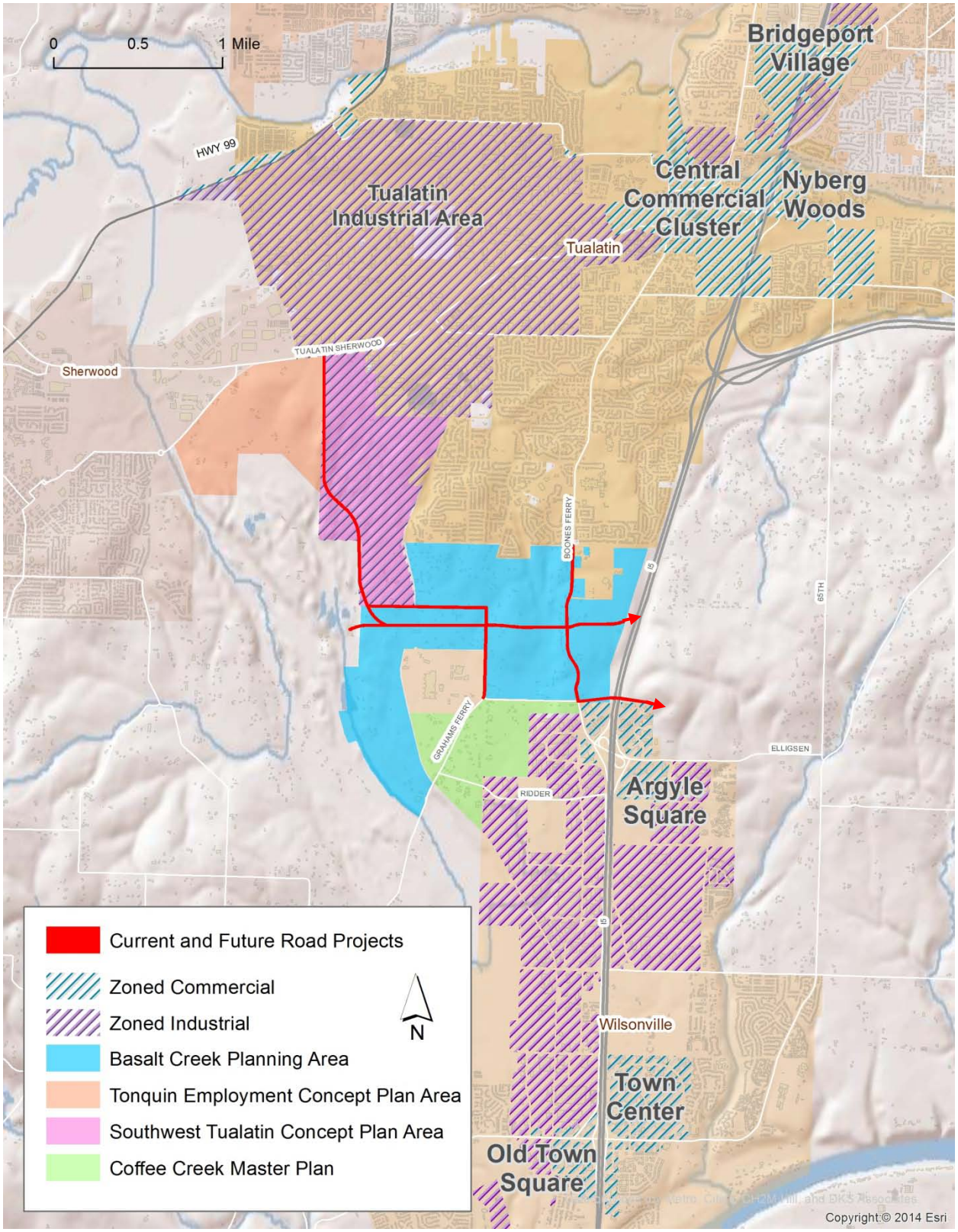


Figure 9 Planning and employment areas near the Basalt Creek planning area. Source: Fregonese Associates, Cities of Tualatin and Wilsonville 2014.

Regional Plans and Regulatory Requirements

The 25 cities and three counties within the Portland Metropolitan Area share a single Urban Growth Boundary (UGB), administered by the Metro Regional Government. As required by state law, Metro assesses its Urban Growth Boundary every five years to determine whether it includes sufficient land to accommodate 20 years of development for residential, commercial, and industrial uses. In 2002 Metro passed Ordinance No. 02-696B, expanding the UGB by over 20,000 acres to accommodate forecasted increases in housing and jobs though the year 2022. This brought land around Damascus, Oregon City, Tualatin, Wilsonville, Beaverton and Hillsboro into the UGB.

In reviewing the 2002 expansion ordinance, the Land Conservation and Development Commission (LCDC) found that "the Council added capacity to the UGB but did not add sufficient capacity to accommodate the full need for land for industrial use." In 2003 the LCDC ordered the Metro Council to add capacity to the UGB for the unmet portion of industrial land needs. Metro evaluated land adjacent to the UGB to determine which land would be most suitable for industrial employment. In 2004 the Council released an appendix to the 2002 Urban Growth Report that included an Employment Land Need Analysis for the years 2002-2022, in addition to an Industrial Land Alternative Analysis Study. These studies were used to identify additional industrial lands to be included in the 2004 ordinance.

Criteria used by the Council to determine suitability of land for industrial uses included soil classification (with a preference for lowest suitability farmlands), earthquake hazard, slope steepness, and parcel size (with a preference for larger parcel size). Among those lands deemed suitable, further factors to identify Industrial Areas and Regionally Significant Industrial Areas included: distribution (area serves to support industrial land for major regional transportation facilities), service (availability and access to specialized utilities), access (within two miles of I5, I-205, I-84, State Route 224), proximity (located within close proximity of existing like uses) and primary use (predominately industrial uses).[3]

Two areas of land identified in the 2004 ordinance as good candidates for industrial development now comprise the Basalt Creek planning area. In Ordinance 04-1040B, these two areas are referred to as the Coffee Creek (partial) and Tualatin study areas. The main section of the Basalt Creek area (identified in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to its proximity to the I-5 corridor, and to an existing industrial area (in Wilsonville). In addition, portions of the area are relatively flat. The ordinance notes that, due to these characteristics, "…the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses."[4]

At the time of the Ordinance's adoption, two major concerns were identified that resulted in additional conditions being placed upon the planning area: First, residents expressed concerns about compatibility between Tualatin's southern neighborhoods and the proposed industrial uses in the planning area. Secondly, the cities of Tualatin and Wilsonville desired to preserve the opportunity to choose an

[3] A detailed description of the methodology used for identifying Industrial Land can be found in Exhibits D and E to Ordinance No. 04-1040B, an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro's 2002 Urban Growth Report).
[4] Metro Ordinance No. 04-1040B Exhibit G P17

alignment for the I-5/99W connector as the southern portion of the alignment passes through the Tualatin study area. In response to these concerns the Metro Council extended the deadline for Title 11 planning. The revised deadline called for Title 11 Concept Planning to occur within two years following the final alignment for the I-5/99W connector or within seven years, whichever was shorter.[5]

It is further stated in the 2004 ordinance (in response to the community concerns about transitions from residential to industrial lands) that so long as the South Alignment of the connector falls close to the one shown on the 2040 growth concept map it will serve as a buffer between the residential development to the north and industrial development to the south. Within the Ordinance a special section dedicated to specific conditions for particular areas states that "If the selected right of way for the connector follows the approximate course of the 'South Alignment' as shown in the Regional 2040 Growth Concept map…the portion of the Tualatin Area that lies north of the right of way shall be designated 'outer neighborhood' on the Growth Concept map; the portion that lies south shall be designated 'industrial.' The ordinance further states, "The government responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area."[6]

As defined in the Metro Regional Framework Plan, a designation of "outer neighborhood" describes areas outlying cities that are primarily residential, relatively further from employment and shopping areas than other residential areas, and have larger lot sizes and lower population densities than inner neighborhoods.[7]

The Metro Regional Framework Plan describes the industrial designation as "an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses."[8]

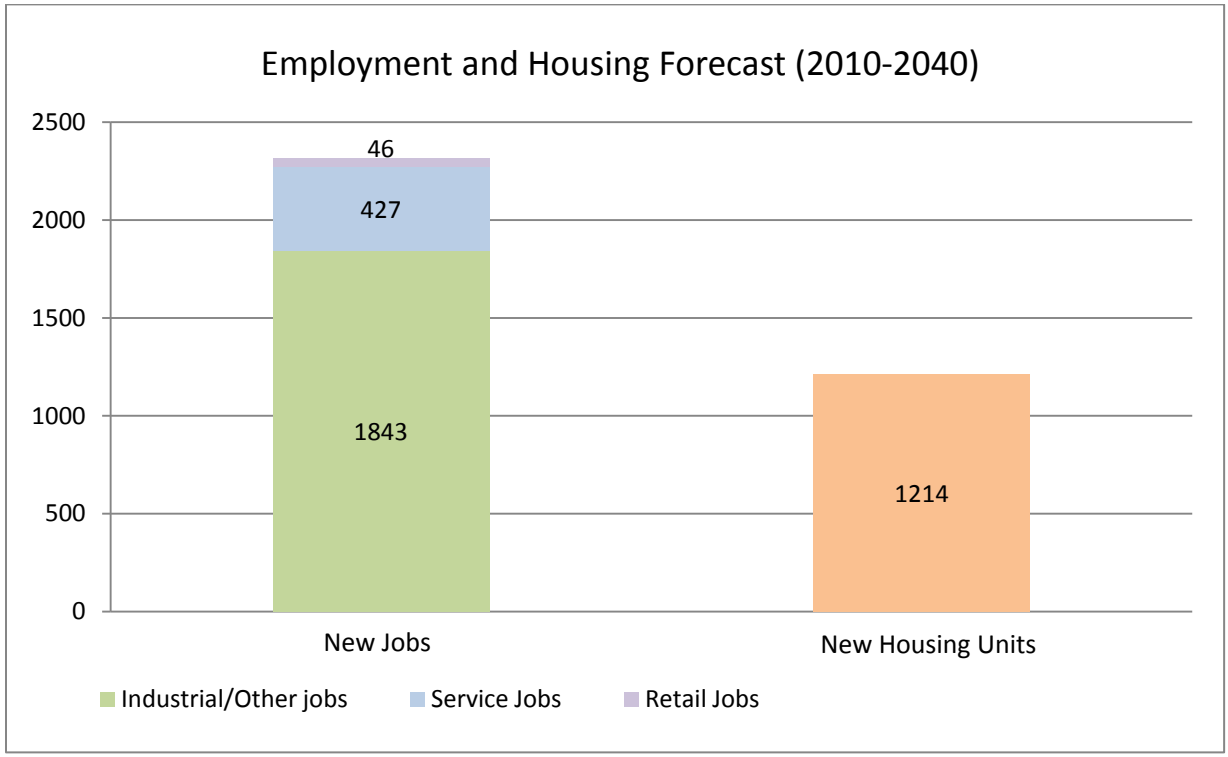
As stated in the 2004 Ordinance, the planning timeline for the Basalt Creek area was extended to allow for the planning of the I-5/99W Connector. The I-5/99W Connector Study recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek planning area, south of Tonquin Road. The Basalt Creek Transportation Refinement Plan (TRP) established the specific alignment for this arterial (now referred

[5] Metro Ordinance No. 04-1040B Exhibit F P2. The relative complexity of planning for this area (due to its equidistance from two cities, and the regional infrastructure improvements being considered in and around Basalt Creek) led Metro to grant an extension for compliance, moving the deadline from 2012 to September 2016 (through a Urban Growth Management Functional Plan compliance request).
[6] Metro Ordinance No. 04-1040B P3
[7] Metro Regional Framework Plan Appendix G-J Glossary P369
[8] Metro Regional Framework Plan Appendix G-J Glossary P366

to as the East-West Connector). The TRP was completed in 2013 and several priority projects were adopted in the 2010 Regional Transportation Plan.[9]

The current 2040 Growth Concept Map identifies the Basalt Creek planning area as industrial, but the ordinance does provide some flexibility to include housing in the planning area. Table 1 summarizes the most recent forecast estimate (the Gamma Version) for the Basalt Creek planning area at the Transportation Analysis Zone (TAZ) level. An older forecast (the Beta Version), upon which the Basalt Creek Transportation Refinement Plan (TRP) was based, projected somewhat higher employment levels by 2035. Both forecasts will be used in concept planning for the Basalt Creek area, with the forecasts serving as "sideboards," representing the high and low ends of the range of households and jobs the area may need to accommodate. The geographical units used for the forecasts are called Transportation Analysis Zones (TAZs). The boundaries and identification numbers of TAZs changed between the Beta (older) and Gamma (newer) forecast, and are both depicted on the map in Figure 10.

Table 1 Employment and Housing Forecast 2010-2035. Source: Metro 2014.



[9] An update to the Regional Transportation Plan (RTP) was published July 18th, 2014. Because the analysis for this report was completed before that date, 2014 RTP updates are not considered here. The updated Regional Transportation Plan can be accessed here: http://www.oregonmetro.gov/regional-transportation-plan

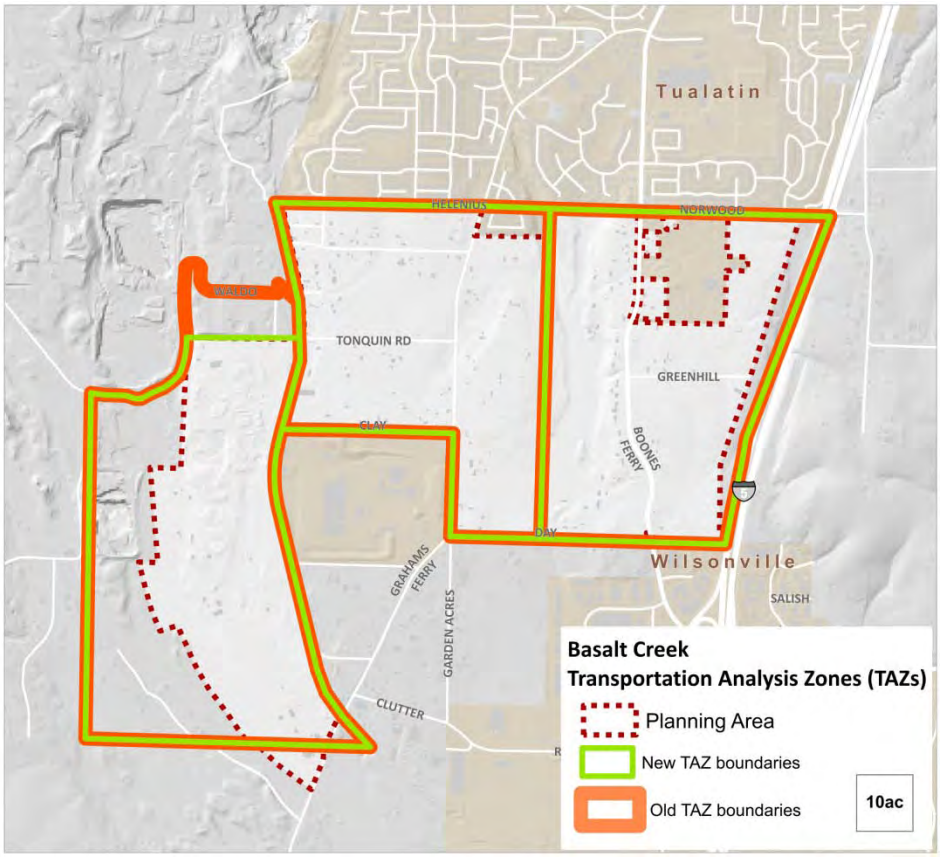


Figure 10 Transportation Analysis Zones (TAZs) covering the Basalt Creek planning area Source: Fregonese Associates, RLIS 2014.

Local Plans

The following section provides a brief summary of local plans, focused on identifying the policies and goals relevant to the Basalt Creek planning area. Within these plans are goals and policies for transportation, land use planning and economic development. These will be used to guide the development of the concept plan and comprehensive plan recommendations.

Joint Plans

Basalt Creek Transportation Refinement Plan (2013)

This plan was a joint effort between the Cities of Tualatin and Wilsonville, Washington County, and Metro. The primary purpose of the Refinement Plan is to establish a major transportation connection from Tualatin-Sherwood Rd to I-5 in North Wilsonville through the Basalt Creek planning area. This connection was identified as a regional transportation priority in order to connect and provide access to existing and future hubs of industrial land uses.

Through the Refinement Plan process, an alignment was established for what is, for now, being referred to as the East-West Connector (Project 11, Figure 11). It is intended to be a new major arterial with five

lanes and vehicle access limited to three intersections – 124th Avenue (anticipating a southward extension of 124th to Tonquin Road in the near future, see Projects 1 and 10 in Figure 11), Graham's Ferry Road and Boones Ferry Road. Tonquin Road (Project 2 in Figure 11) will be improved but left as a parallel three-lane property-access road.

While the primary focus of the Refinement Plan was establishing the alignment of the aforementioned East-West Connector, it includes recommendations for an additional 17 transportation investments broken into short, medium, and long term phases. These include improvements to Grahams Ferry Road, Boones Ferry Road, and Day Road to adequately meet the need for improved regional freight mobility.

Improvements to the section of Boones Ferry Road between Norwood and Day Roads have already been completed. This new roadway includes bike lanes and sidewalks. These projects combined with the East-West Connector provide the foundation for a robust transportation network and ensure the Elligsen Road interchange will function at a high level. The project to extend 124th Avenue is in the design phase, with an estimated completion date of December 2016.

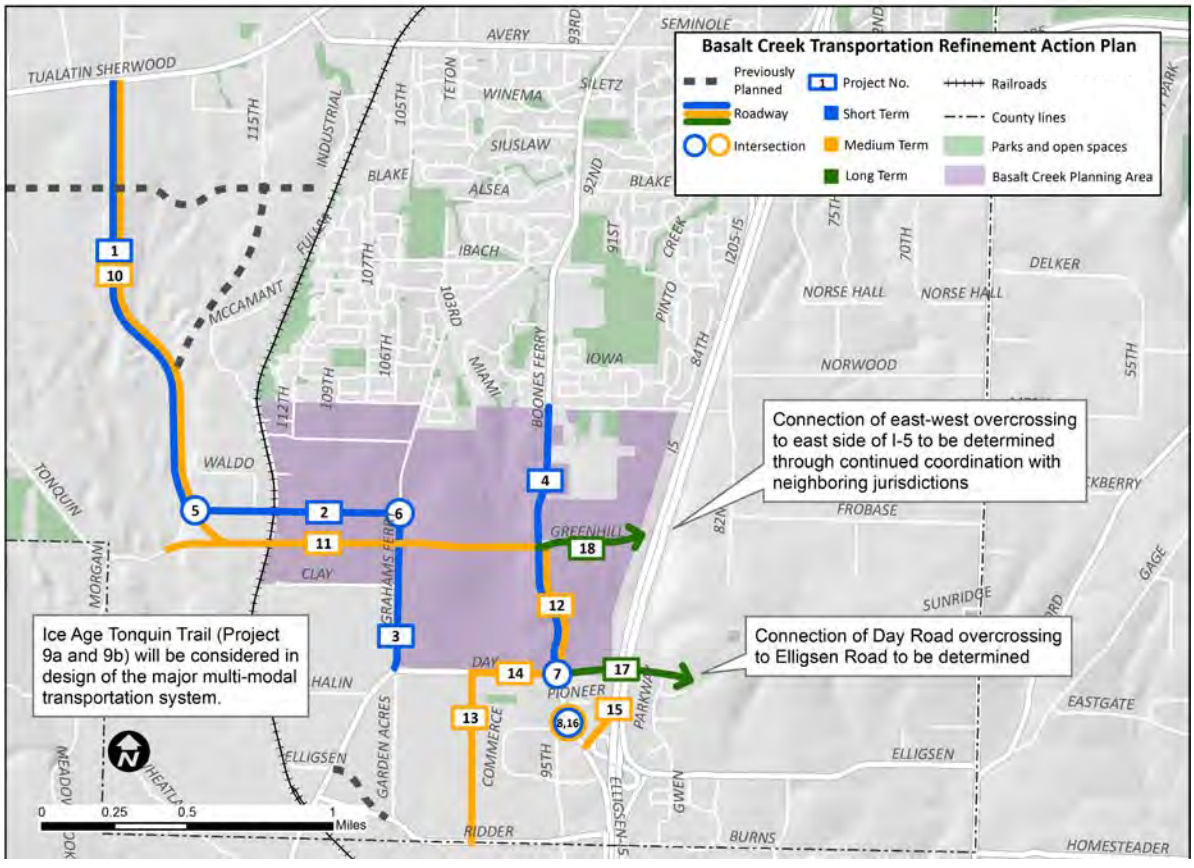


Figure 11 Projects identified in the Basalt Creek Transportation Refinement Plan (TRP).

Wilsonville

Transportation System Plan (2013)

The TSP integrates goals to reduce vehicle collision rates, decrease VMT (vehicle miles travelled) per capita, and minimize vehicle delays for truck trips per capita. Other objectives include significantly increasing connectivity for walking and biking trips. Policy 27 of the plan states an intention to "upgrade and/or complete the street network on the west side of I-5, including Coffee Creek and Basalt Creek areas, to serve the warehousing, distribution, and other industrial uses located there." The TSP proposes widening of Grahams Ferry Road if called for by the Basalt Creek Transportation Refinement Plan.

Economic Development Strategy (2012)

This document was an update to a 2007 Economic Opportunities Analysis. The Strategy was produced to guide City investments and regulations as well as supporting efforts from the private sector. The resulting recommendations are long-term strategies oriented toward deliberative, balanced, efficient and fair economic development. These include: prioritizing land use and infrastructure planning, balancing economic development with quality of life, and treating all businesses fairly (whether they are new or established). The Strategy reviews factors impacting the Wilsonville economy, which will also have a substantial impact on economic development in the Basalt Creek planning area. Some of these include: regional and interstate accessibility; vacant land base; a balance between the number of jobs and available housing units, and local industry clusters. Actions from the Strategy include workforce development, promoting infill development and redevelopment, and streamlining the development code and permitting process, among others.

Parks & Recreation Master Plan (2007)

The goal of the Parks and Recreation Master Plan is to promote "active and passive recreation opportunities in a safe, accessible, and comprehensive system of facilities, parks, trails and open spaces to support the recreational interests of citizens of all ages." The plan calls for implementation of the Ice Age Tonquin Trail Master Plan in partnership with Metro, the Cities of Sherwood and Tualatin, and Washington County.

Water System Master Plan Update (2012)

This update of the 2002 Water System Plan encompasses Wilsonville's network of water pipelines, storage tanks, valves and hydrants. Its objective is to assure that good quality public facilities and services are available with adequate (but not excessive) capacity to meet community needs, serving all urban development within the incorporated City limits. In anticipation of future development, industrial demand estimates were increased by 25% to reflect potential redevelopment, infill, and higher-use water customers within existing structures. The planning process resulted in the creation and utilization of a "highly accurate and dynamic hydraulic model" of the water system that can be used to quickly investigate potential system impacts from new users. The plan does not specifically address the Basalt Creek planning area, though it includes the adjacent area on the south side of Day Road.

Stormwater Master Plan (2012)

This plan aims to implement a stormwater program that supports quality of life and meets regulatory requirements. It includes cross section illustrations of streetscape improvements recommended to mitigate stormwater issues. Stormwater patterns in the Basalt Creek planning area will impact stormwater management in Wilsonville, as Basalt Creek discharges into the Coffee Lake Creek wetlands west of the railroad, approximately midway between SW Freeman Drive and SW Boeckman Road. This plan notes that Basalt Creek overtops its banks during moderate storm events, flooding the parking lot along the western side of the Commerce Circle Business Park. Construction of a wetland for stormwater detention is a proposed flooding mitigation measure. The recommended location is at the crossing of Day Road over Basalt Creek, to provide temporary storage for increased runoff from future industrial development north of Day Road and decrease flooding around Commerce Circle.

Tualatin

Tualatin Tomorrow Vision and Strategic Action Plan (2014)

This Plan puts forth a vision for Tualatin in 2030. The plan includes an I-5/99W Connector to separate long-haul and regional commercial–industrial and commuter traffic from local traffic on Tualatin-Sherwood Road. Strategy TTC13 is to increase regional transit linkages (bus and rail, for example) with the cities of Sherwood, Lake Oswego, and Portland.

City Council Goals (2013-2015, updated Feb. 2014)

Basalt Creek is specifically mentioned in Goal #8 of this City Council goals document, which is to "expand opportunities for vibrant parks and recreational facilities including greenway trails and bike/pedestrian trails." Sub-goal 8.4 is to "plan and preserve natural resources through the Basalt Creek Concept Plan," with the Community Development and Community Services Departments identified as playing leading roles in achieving this goal. Other goals include: a connected, informed and engaged citizenry, enhanced transportation options, and an expanded tax base strengthened through smart, balanced growth.

Transportation System Plan Update (2014)

This update to the 2001 TSP includes seven project goals: access and mobility, safety, vibrant community, equity, economy, health and the environment, and feasible implementation. It includes recommendations to serve the varying needs of transit riders, bicyclists, pedestrians, freight traffic, and drivers. The Basalt Creek area was included within the Tualatin planning area boundary and thus is considered in this plan's recommendations. The plan includes findings from the Basalt Creek Transportation Refinement Plan and includes the widening of Boones Ferry Road south of Norwood (now complete), the southward extension of 124th Avenue, and the upgrade of Grahams Ferry Road from a minor to major collector. It proposes looking for a potential shared use park-and-ride location in south Tualatin to expand transit access for residents of that area, which would also be useful for future residents of the northern part of the Basalt Creek planning area.

The TSP also includes adding more bus pullouts along Boones Ferry Road, possibly extending into the Basalt Creek planning area. The bike/pedestrian map indicates the addition of a multiuse path across the northern portion of the Basalt Creek planning area. WES service enhancements are also explored, including the possibility of extending the line south of Wilsonville, adding more frequent service, and construction of an additional WES station in the south of Tualatin (near the Basalt Creek planning area). The TSP also discusses possible expansion of the Tualatin Shuttle program.

Linking Tualatin Market Study (2012)

As part of the Linking Tualatin project a market study was prepared that outlines current and anticipated market conditions impacting viable development forms in the north part of the City. It covers housing, retail, office and industrial/flex space market conditions and demand projections. This study should be considered in planning for Basalt Creek because it is in the same general market area. This study also lists viable near-to-mid-term development forms,, which may also be appropriate for Basalt Creek. Key conclusions of the study include:

- The Primary Market Area (City of Tualatin) can expect continued growth in residential, retail, office and industrial uses
- The lower rents achievable in a suburban setting will limit some of the development types that the market is likely to bring into the area.
- Significant increases in density can be achieved without greatly raising construction costs.

Economic Development Strategic Plan

This plan describes a high-level strategy to direct local economic development efforts in the City of Tualatin. It recognizes priorities for infrastructure development and quality of life addressed by other master plans, in addition to identifying important industry clusters. The Plan recommends approaches to retain and expand existing businesses as well as attract new businesses. The five target industry clusters identified include: advanced manufacturing; health care and related businesses; corporate and business services; food processing, distribution and wholesale; wood, paper, printing and related businesses.

Water Master Plan (2013)

The Water Master Plan was a comprehensive analysis of the City of Tualatin's water system. The plan covers Tualatin's network of water pipelines, storage tanks, valves and hydrants. Its purpose is to identify system deficiencies, determine future water distribution system supply requirements, and recommend water system facility improvements that correct existing deficiencies and provide future system expansion. The Plan did not anticipate the Basalt Creek planning area, as concept planning and determination of the city limit boundary had not been complete. At the time of its writing, it was expected that the Water Master Plan would be updated in the future to include Basalt Creek.

Sanitary Sewer Master Plan (2014)

The 2014 Sanitary Sewer Master Plan is currently on hold until completion of the Basalt Creek planning process. It will provide a comprehensive analysis of the city's sanitary sewer system, including Tualatin's network of gravity & force main lines and pump stations. Its purpose is to identify system deficiencies, determine future collection system requirements, and recommend sanitary sewer system facility improvements that correct existing deficiencies and provide future system expansion.

Area Plans

Coffee Creek Master Plan (2007)

The Coffee Creek planning area is comprised of 216 acres to the south of the Basalt Creek area. It has been designated by Metro as a Regionally Significant Industrial Area (RSIA) and includes strict limits on the amount and size of retail, service, residential and office uses allowed to be developed there. Forecasts in the Plan suggest that between 1,736 and 1,890 jobs could be added to the area between 2006 and 2026, with over 90% identified as industrial.

No parcels in the planning area have been annexed yet; Wilsonville's process is property-owner initiated and the area has seen little development since the Plan's adoption. The City has identified form-based code as a tool to streamline the development process and is creating a Form Based Code (FBC) and pattern book to apply to the Coffee Creek area.[10] More information about how new infrastructure in the Coffee Creek and Basalt Creek planning areas might be coordinated, see Section V: Infrastructure.

Southwest Tualatin Concept Plan (2010)

The Southwest Tualatin Concept Plan (SWCP) is a guide for the industrial development of a 614-acre area (448 net buildable acres) located outside the city south of SW Tualatin-Sherwood Road and generally between SW 115th and 124th Avenues. The Southwest Tualatin area is adjacent to and directly west of the Basalt Creek planning area, and is adjacent to/east of the Tonquin Employment Area. It extends south to Tonquin Road and is located in the vicinity of the Tigard Sand and Gravel quarry. A portion of the area was designated a Regionally Significant Industrial Area (RSIA) by Metro in 2004, with the assumption that it would be developed with a mix of light industrial and high-tech uses in a campus-like setting. The Concept Plan estimates that 3,500 new jobs will be located in the area by the year 2035 (2010 forecast).[11]

Currently there is no water or sewer infrastructure in this planning area. However, the City of Tualatin Water and Sewer Master Plans both include the Concept Plan area in the hydraulic modeling and capital improvement project (CIP) identification. Recommended improvements include:

[10] City of Wilsonville Community Development Department webpage: http://www.ci.wilsonville.or.us/594/Light-Industrial-Form-Based-Code. Retrieved August 21st, 2014.
[11] This number is slightly smaller than the result from Metro's model, which forecast in 2005 that 3,735 new jobs would be added to the area by 2035.

Water

- A new Level A reservoir (CIP Project R-1) and pipeline projects (P-6 and P-16)
- 13,000 linear feet of 16-inch-diameter pipe to provide a looped water supply

Sewer

- A new 24-inch pipeline located in Tualatin-Sherwood Road, extending from the Concept Plan area/URA easterly to SW Avery Street;
- Increase existing 12- to 21-inch pipe to 18-inch and 36-inch pipeline extending from near the SW Tualatin Sherwood Road/SW Avery Street intersection to the existing Bluff/Cipole Trunk
- Upsize existing trunk line pipe diameters.

Stormwater

- New conveyance system along roadways
- Facilitie(s) to treat and detain (if necessary) site development runoff

The sequencing of infrastructure construction will be coordinated with the timing of development in the area, as well as with the Basalt Creek planning area.

Tonquin Employment Area Concept Plan (2010)

This planning area is comprised of 300 acres designated industrial land northwest of (but not adjacent to) the Basalt Creek planning area. It is bounded on its eastern edge by the future 124th Avenue extension. It was added to the UGB in 2004 and will be annexed to the City of Sherwood on a case-by-case, property owner-initiated basis. Creation of an Employment Industrial Zone is proposed to implement this plan. The regional employment forecast projects the addition of 2,290 more jobs during the next 20 years, 83% being industrial and 17% a mix of retail, commercial, services and office.

III. Natural and Historic Resources

The purpose of this section is to describe the natural and historic resources in the planning area, as well as the regulatory framework through which they may be protected, conserved or mitigated for.

Natural Features

The Basalt Creek planning area is named for the creek flowing north to south through the area, eventually draining into the Willamette River. Basalt Creek has alternatively been known as Seeley's Creek and Tappin Creek. The area primarily drains into the Willamette River; a small area in the northeast corner drains into the Tualatin River.

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that formed the Columbia River Gorge and the Willamette Valley during the last Ice Age. Remains from the Ice Age floods that can be seen in and around the Basalt Creek planning area include glacial erratic, scablands, kolk ponds, flood channels and ripple marks. Today, the area has been described as being "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the planning area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds."[12]

In 2009, federal legislation was passed to create the National Park Service's Ice Age Flood National Geologic Trail in order to bring the dramatic story of the Ice Age Floods to the public's attention. The Trail is intended to be a network of marked touring routes extending across parts of Montana, Idaho, Washington and Oregon, with several special interpretive centers located across the region. This federal legislation will help bring funding and tourism to local trails that will be a part of the region-wide Ice Age Trail network. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a several-mile section traversing the Basalt Creek planning area (Figure 12).

[12] Ice Age Tonquin Master Plan, 2012 P24: http://www.oregonmetro.gov/sites/default/files/tonquin_trail_master_plan.pdf

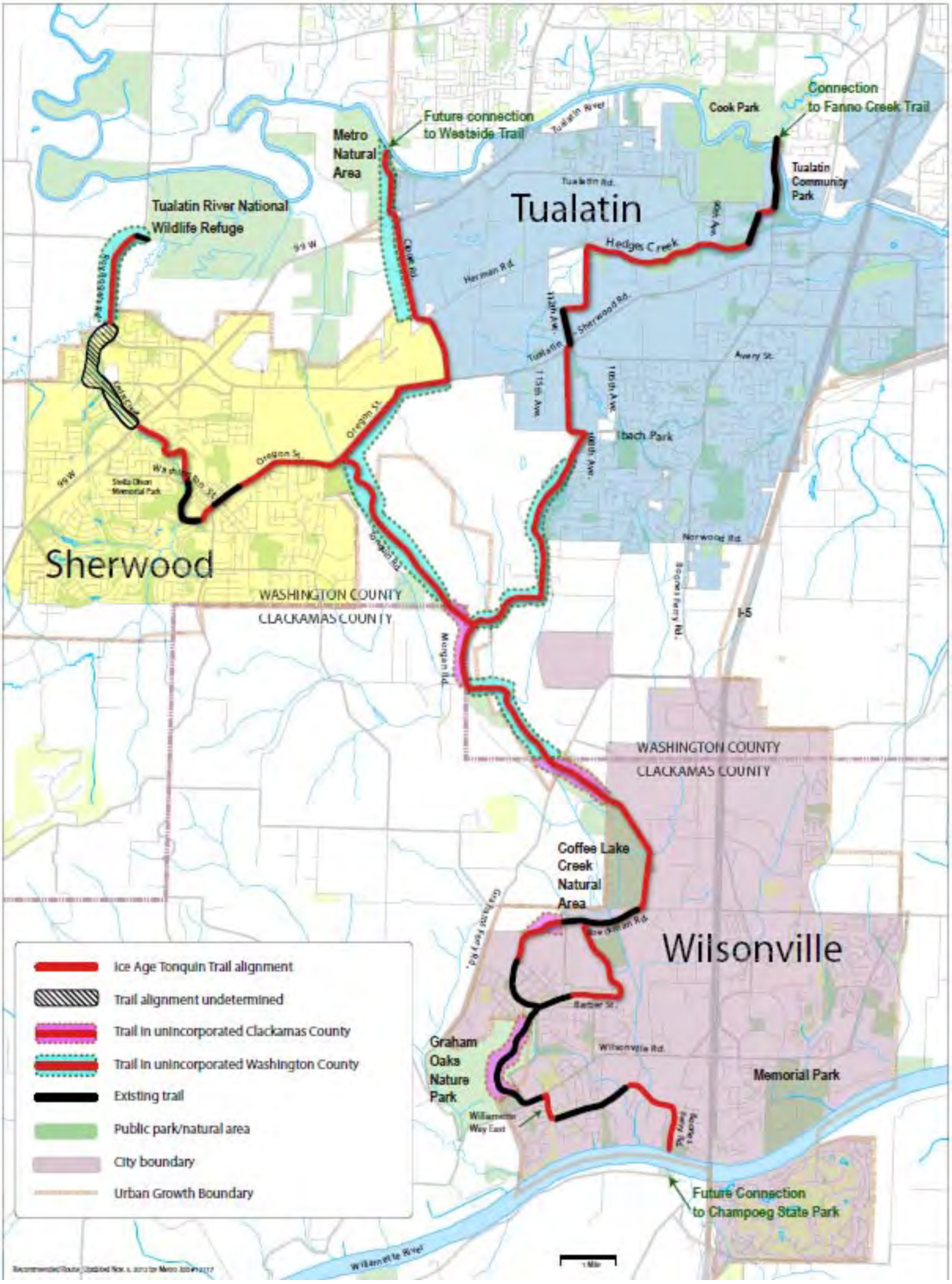


Figure 12 Proposed Trail Alignment from Metro's Ice Age Tonquin Trail Master Plan, 2013.

Groundwater Hydrology

The Basalt Creek planning area falls primarily in the Middle Willamette Sub Basin, with a very small section in the northeast corner falling in the Tualatin Sub Basin (Figure 13). Within the Middle Willamette Sub Basin, the planning area is predominately in the Abernethy Creek Watershed (the small portion in the Tualatin Sub Basin is in the Fanno Creek Watershed). Abernethy Creek flows for approximately 16 miles through the hills east and north of Oregon City, joining the Willamette River from the east. The total drainage area of Abernethy Creek is 30 square miles.[13]

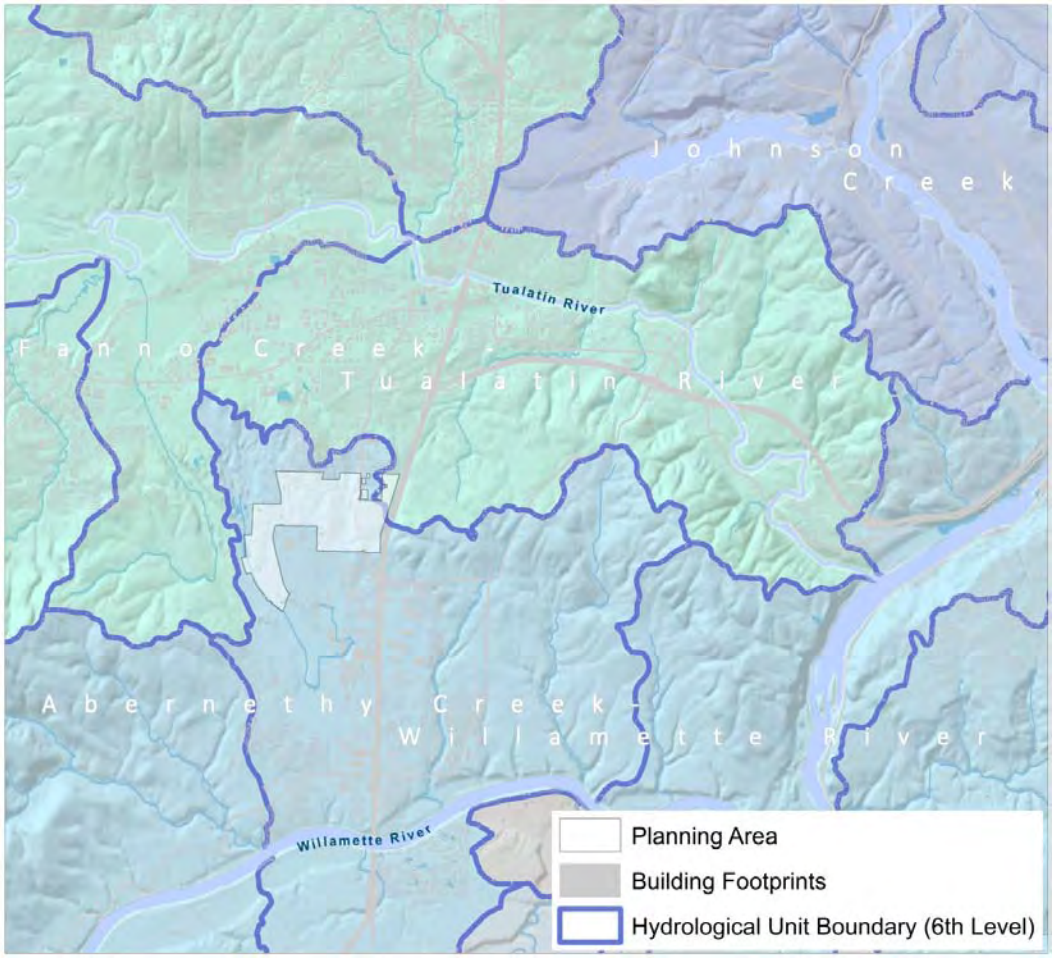


Figure 13 Basalt Creek planning area in the context of the Middle Willamette and Tualatin River Watersheds. Source: Fregonese Associates, RLIS 2014.

Soils

Hydrologic soils are assigned a letter designation of A, B, C or D, based on the rate of water transmission through the soil, or how well the soil drains. Class A soils have the best infiltration and drainage. Class B soils will infiltrate water into the soil somewhat quickly and drain marginally well. They have a lower

[13] Flood Insurance Study for Clackamas County, Oregon, Vol. 1 (2008) http://oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/37-clackamas-co-fis-vol1/file

runoff potential. Class C soil infiltrates fairly poorly and drains poorly. Class D soils infiltrate water into the soil very slowly and have correspondingly high runoff potential. There is no Class A soil in the planning area (Figure 14). Well-drained soils comprise 85% of the area and 13% of the area is comprised of poorly draining soils. The remaining 1.7% is split between moderately well- and somewhat-poorly drained soils.

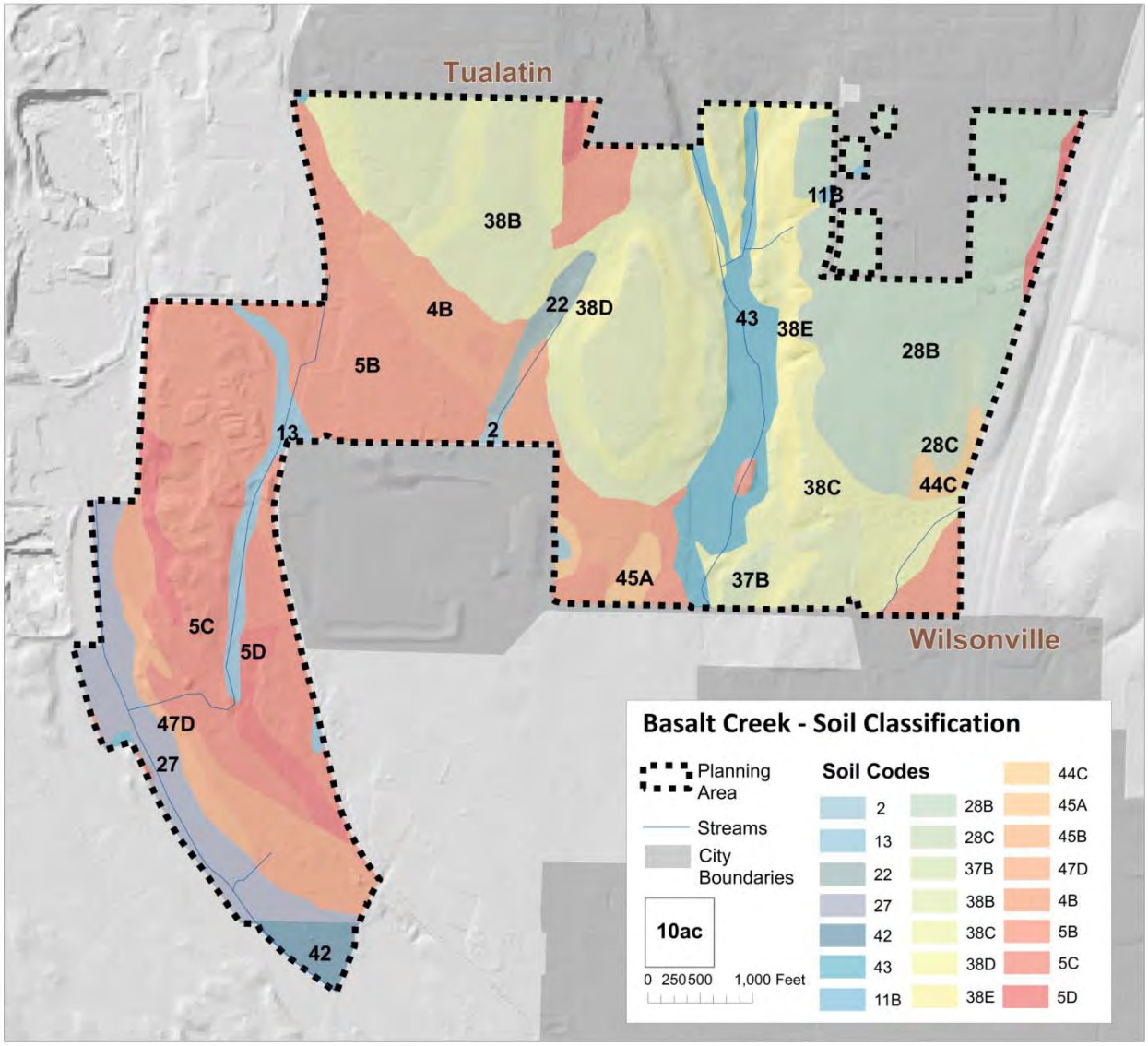


Figure 14 Hydrologic Classification of Soils in the Basalt Creek planning area. Source: Fregonese Associates, USDA Soil Survey 2014.

Table 2 Descriptions of Hydrologic Soil Classifications from Figure 14. Source: USDA Soil Survey 2014.

Map Symbol	Soil Code	Soil Description	Acres	% of Planning Area	Drainage
	2	Amity silt loam	1.9	0.2%	Somewhat poorly drained
	13	Cove silty clay loam	15.2	1.8%	Poorly drained
	22	Huberly silt loam	8.2	1.0%	Poorly drained
	42	Humaquepts, ponded	7.5	0.9%	Poorly drained
	43	Wapato silty clay loam	41	4.8%	Poorly drained
	11B	Cornelius and Kinton silt loams, 2 to 7 percent slopes	0.9	0.1%	Moderately well-drained
	28B	Laurelwood silt loam, 3 to 7 percent slopes	109	12.9%	Well-drained
	28C	Laurelwood silt loam, 7 to 12 percent slopes	10.4	1.2%	Well-drained
	37B	Quatama loam, 3 to 7 percent slopes	4	0.5%	Moderately well-drained
	38B	Saum silt loam, 2 to 7 percent slopes	131.5	15.5%	Well-drained
	38C	Saum silt loam, 7 to 12 percent slopes	102.7	12.1%	Well-drained
	38D	Saum silt loam, 12 to 20 percent slopes	12.1	1.4%	Well-drained
	38E	Saum silt loam, 20 to 30 percent slopes	30.1	3.6%	Well-drained
	44C	Willamette silt loam, 7 to 12 percent slopes	5.7	0.7%	Well-drained
	45A	Woodburn silt loam, 0 to 3 percent slopes	7.2	0.9%	Moderately well-drained
	47D	Xerochrepts-Rock outcrop complex	10.3	1.2%	Well-drained
	4B	Briedwell silt loam, 0 to 7 percent slopes	50.2	5.9%	Well-drained
	5B	Briedwell stony silt loam, 0 to 7 percent slopes	148.7	17.6%	Well-drained
	5C	Briedwell stony silt loam, 7 to 12 percent slopes	55.1	6.5%	Well-drained
	5D	Briedwell stony silt loam, 12 to 20 percent slopes	25.9	3.1%	Well-drained
	Subtotals		839.4	99.1%	

Streams and Wetlands

There are two main streams running through the planning area – Basalt Creek (also known as Seeley's Creek or Tappin Creek) and an unnamed, intermittent creek to the west. Coffee Lake Creek forms the western boundary of the planning area (Figure 15).

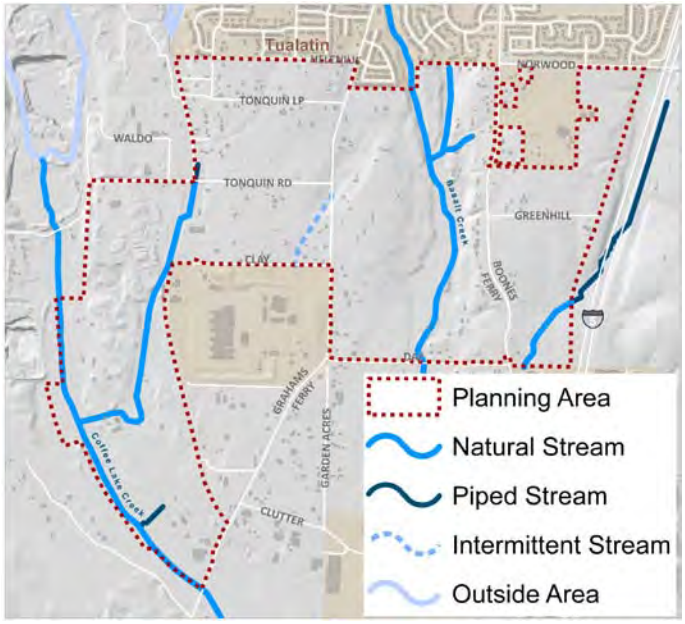


Figure 15 Natural, Underground and Intermittent Streams in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

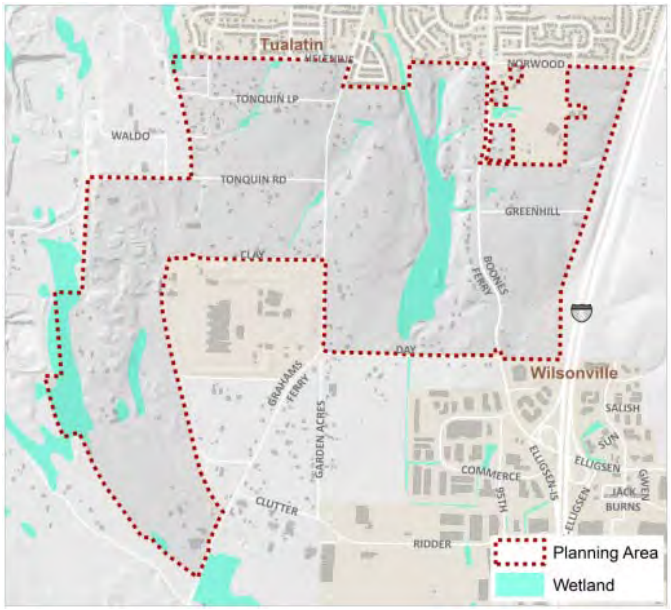


Figure 16 Wetlands in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

Through a combination of RLIS data and field work by the City of Wilsonville it has been determined that there are 11,478 feet of natural streams, 8,157 feet of underground streams and 1,402 feet of intermittent streams in the planning area.[14] In the plan area there are 69 acres of wetlands (8% of the planning area (Figure 16), including 49 acres of open water.

Floodplain

On the western border of the planning area (Figure 17) there are 53 acres of land (6% of the area) around Coffee Lake Creek that are within the 1% annual chance flood event area, as designated by the Federal Emergency Management Agency (FEMA) in a 2005 revision of the Washington County Flood Insurance Study (FIS).[15] The small portion of the planning area within Clackamas County is unaffected by the 1% annual chance flood event area, as identified in the Clackamas County FIS (2008).[16]

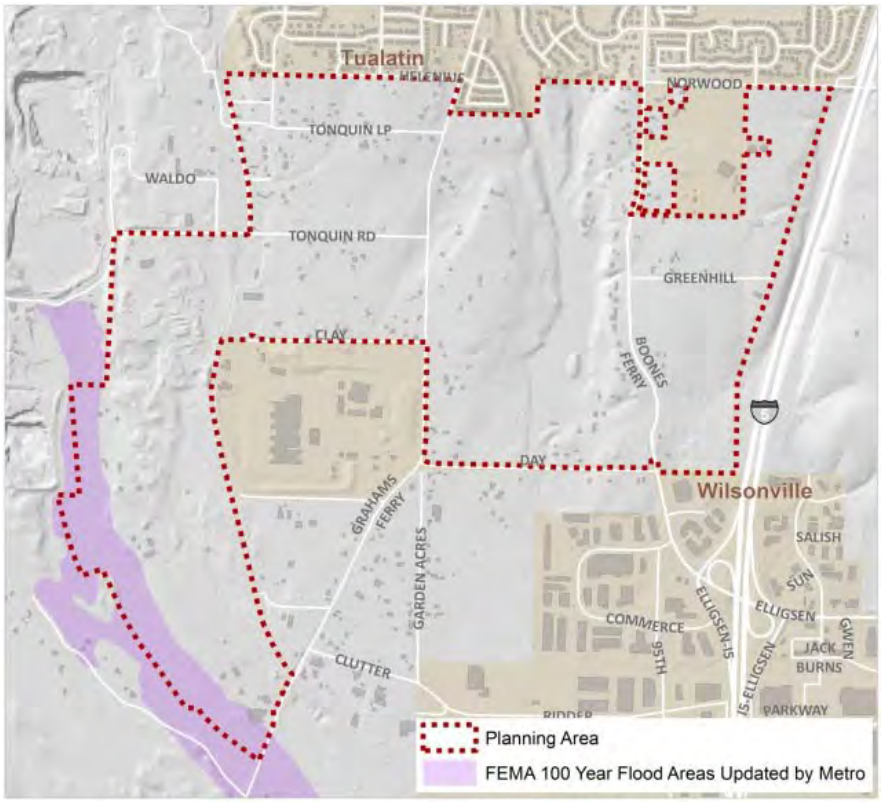


Figure 17 FEMA 1% annual chance flood event area in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014, FEMA 2007.

[14] Data sources: RLIS, Wetland Delineation Report for proposed Boones Ferry widening, additional wetlands digitized by FA based on 2013 and 2012 (leaf free) aerials.

[15] In 2005 the original 1980 FIS study was revised to incorporate new floodplain data for Ash Creek, Fanno Creek and Summer Creek in the unincorporated areas of Washington County in response to the largest flood event to occur since 1980, the November 1996 flood along Fanno Creek. Source: http://www.oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/174-washington-co-fis-2005-part1/file

[16] FIS for Clackamas County, Oregon, 2008.

Regulatory Framework for Conserving Natural Resources

Oregon Land Use Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

The purpose of Goal 5 is to protect natural resources and conserve scenic and historic areas and open spaces. It directs local governments to adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. In the Metro region Titles 3 and 13 of Metro's Urban Growth Management Functional Plan provides a regional framework for local governments to implement Goal 5.

Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

Metro's Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which include wetlands and riparian areas. In 2001 Metro conducted a regional inventory of wetlands and riparian areas protected by Title 3.

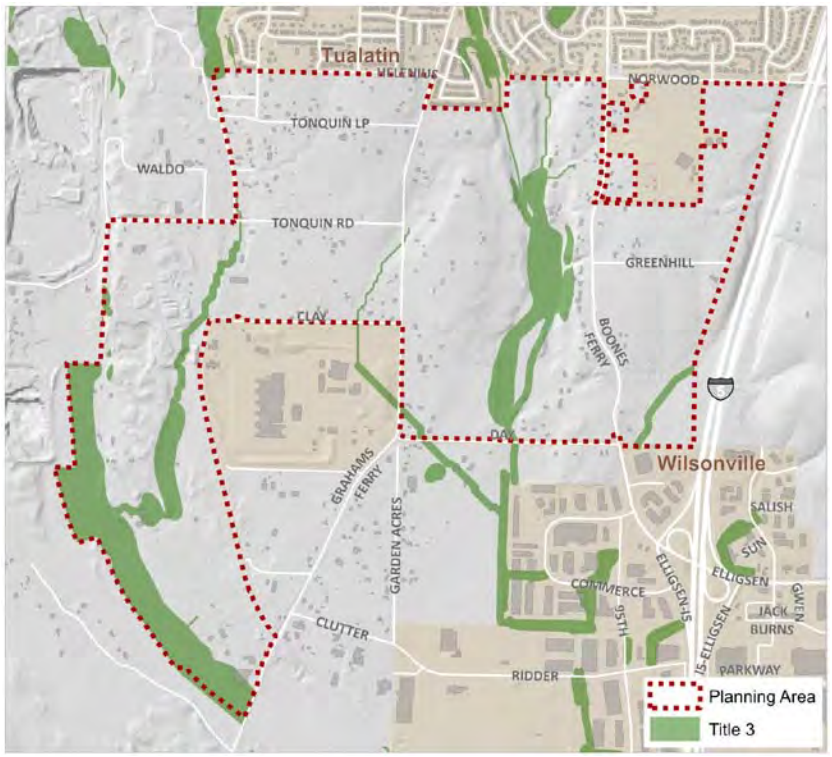


Figure 18 Title 3 lands (116 acres; 14% of total area) in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

There are 116 acres of land in the Basalt Creek planning area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3 (Figure 18). These lands are restricted for development and buffered by a vegetated corridor (the width of which is determined by factors described in the Natural Resources section of this document). Any development within the vegetated

corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures, as determined by the performance standards described in Metro's Title 3. Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and so existing local standards from each City would likely apply upon annexation of a planning area property into either Wilsonville or Tualatin.

Metro Title 13 – Nature in Neighborhoods

Title 13 is a policy requiring local jurisdictions to protect and encouraging them to restore a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. In 2001 Metro conducted a regional habitat inventory and identified the location and health of fish and wildlife habitat based on different sets of criteria for waterside, riparian and upland habitat. These areas were named Habitat Conservation Areas (HCAs).

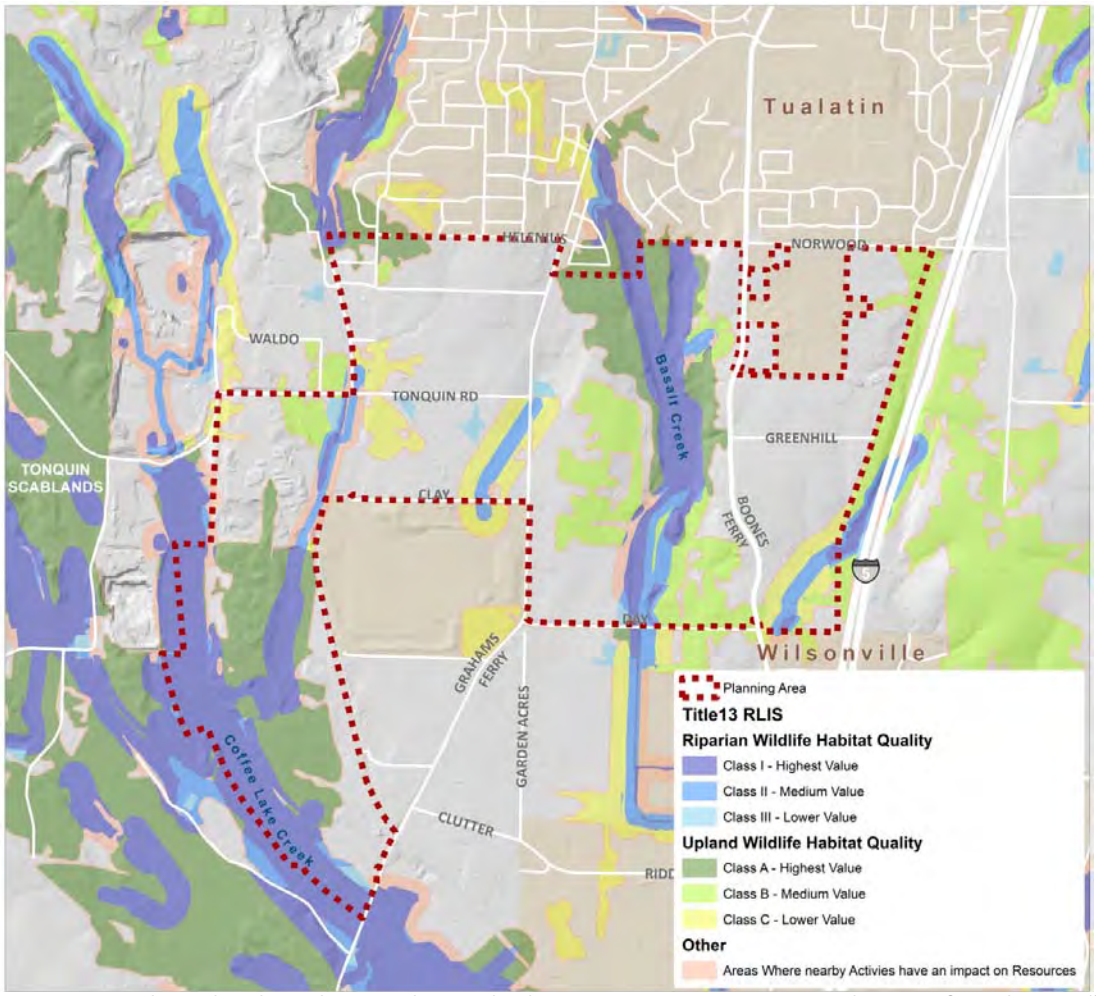


Figure 19 Title 13 lands in the Basalt Creek planning area (431 acres total, 51% of total area).[17] Source: Fregonese Associates, RLIS 2014.

[17] Note that most of these lands, other than Classes I and II of Riparian Habitat, can still accommodate some level of development.

Development is not restricted in HCAs on land that was brought into the UGB before December 28, 2005[18]. However, it is strongly encouraged that HCAs are taken into consideration during the concept planning process. Development in areas designated as protected under Title 13 in the Basalt Creek area is generally discouraged. If development does take place incorporation of low impact design and mitigation strategies to maintain the functionality of these important ecological areas will be important.

In the planning area there are 130 acres designated as Riparian Wildlife Habitat Class I, 31 acres designated as Class II, and 7 acres Class III. In addition, 103 acres are designated as Upland Wildlife Habitat Class A, 72 acres are Class B, and 37 acres are Class C (Figure 19). Designated impact areas comprise 52 acres.

Washington County Comprehensive Plan – Rural/Natural Resource Element

No land within the planning area is identified by the Washington County Comprehensive Plan as a Significant Natural Resource. The nearest Significant Natural Resource area is comprised of the Tonquin Scablands, to the west of Coffee Lake Creek.

Clean Water Services Design & Construction Standards (2007)

Clean Water Services (CWS) is the regional agency that manages stormwater in the urban areas of the Tualatin River Watershed, including the entire City of Tualatin. CWS holds a regional National Pollutant Discharge Elimination System (NPDES) storm water permit. *Chapter 3: Sensitive Areas and Vegetated Corridors* describes the methodology used by CWS to determine mitigation requirements in sensitive areas such as vegetated corridors surrounding streams and wetland habitat.

Table 3 Vegetated Corridor Widths Adjacent to the Sensitive Area Where Activity is Not Redevelopment. Source: Clean Water Services Design and Construction Standards, Chapter 3.

Sensitive Area Type	Width: Slope < 25%	Width: Slope ≥ 25%
Existing or created wetlands:		
< 0.5 acres and isolated	25 ft	Variable from 25-200 ft
< 0.5 acres and isolated	50 ft	Variable from 50-200 ft
≥ 0.5 acres	50 ft	Variable from 50-200 ft
Natural lakes, ponds, and in-stream impoundments	50 ft	Variable from 50-200 ft
Springs:		
Intermittent flow	0	15 ft.
Perennial flow	50 ft.	Variable from 50-200 ft
Intermittent Streams draining:		
< 10 acres	0	0
≥ 10 to < 50 acres	15 ft	Variable from 50-200 ft
≥ 50 to < 100 acres	25 ft	Variable from 50-200 ft
≥ 100 acres	50 ft	Variable from 50-200 ft
Perennial Streams:		
Other than Tualatin River	50 ft	Variable from 50-200 ft
Tualatin River	125 ft	Variable from 50-200 ft

[18] Metro Title 13: Nature in Neighborhoods 2007, S3.07 P85.

These standards exceed the level of conservation required by Metro's Title 3 (Table 3). Permitted development must comply with CWS's Design and Construction Standards & Service Provider Letters (SPLs) for impacts to vegetated corridors.

City of Wilsonville – Significant Resource Overlay Zone (SROZ)

Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, and riparian corridors around significant resources and upland habitat, as well as vegetated corridors around areas designated as Significant Resources. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development is allowed in portions of the SROZ (i.e. upland forests), but can only be permitted through review of a Significant Resource Impact Report (SRIR). An SRIR is a report that delineates specific resource boundaries and analyzes the impacts of development within mapped significant resource areas.[19] A table comparing these methodologies can be found in Section *VIII: Land Capacity Analysis.*

Table 4 Metro Water Quality Resource Area Slope Calculations. Source: Metro 2014.

Protected Water Feature Type	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (Setback)
Primary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft
Primary Protected Water Features	≥ 25% for 150 ft or more	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	200 ft
Primary Protected Water Features	≥ 25% for less than 150 ft	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	Distance from starting point of measurement to top of ravine (break in ≥ 25% slope), plus 50 ft
Secondary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	15 ft
Secondary Protected Water Features	≥ 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft

[19] Full requirements for an SRIR can be found in Section 4.139.05 of the Wilsonville Zoning Code (pp. B-133 - 138). Section 4.139 also outlines mitigation standards for development encroaching on an Impact Area or Significant Resource Overlay Zone as well as development activities that would trigger a Class I or II Administrative Review Process, in addition to a list of special provisions.

Cultural and Historic Resources

In addition to the unique geologic history of the Basalt Creek area, community members have identified the old Carlon Schoolhouse (Figure 20) as being historically significant. Off Grahams Ferry Road, behind Chick-a-Dee Nursery and not far from Day Road, the structure has often been overlooked as an important historic school that was used in the late 1800s, up until just before the first Tualatin schools. In 1939, the Carlon School District consolidated with Tualatin. It is still in good condition, maintained through a foundation.[20]

Figure 20: The Carlon Schoolhouse. Source: Martinazzi, Loyce. Tualatin Life Newspaper August 19, 2014.

[20] Addington, Yvonne, Board Member of Tualatin Historical Society. Email communication, August 19th, 2014.

IV. Public Facilities

Schools

The study area falls within the Sherwood School District (88J), which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School (Figure 21).

The planning area is near Tualatin High School, one of two high schools in the Tigard Tualatin School District. The district includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to a 1,000 students in the future.[21]

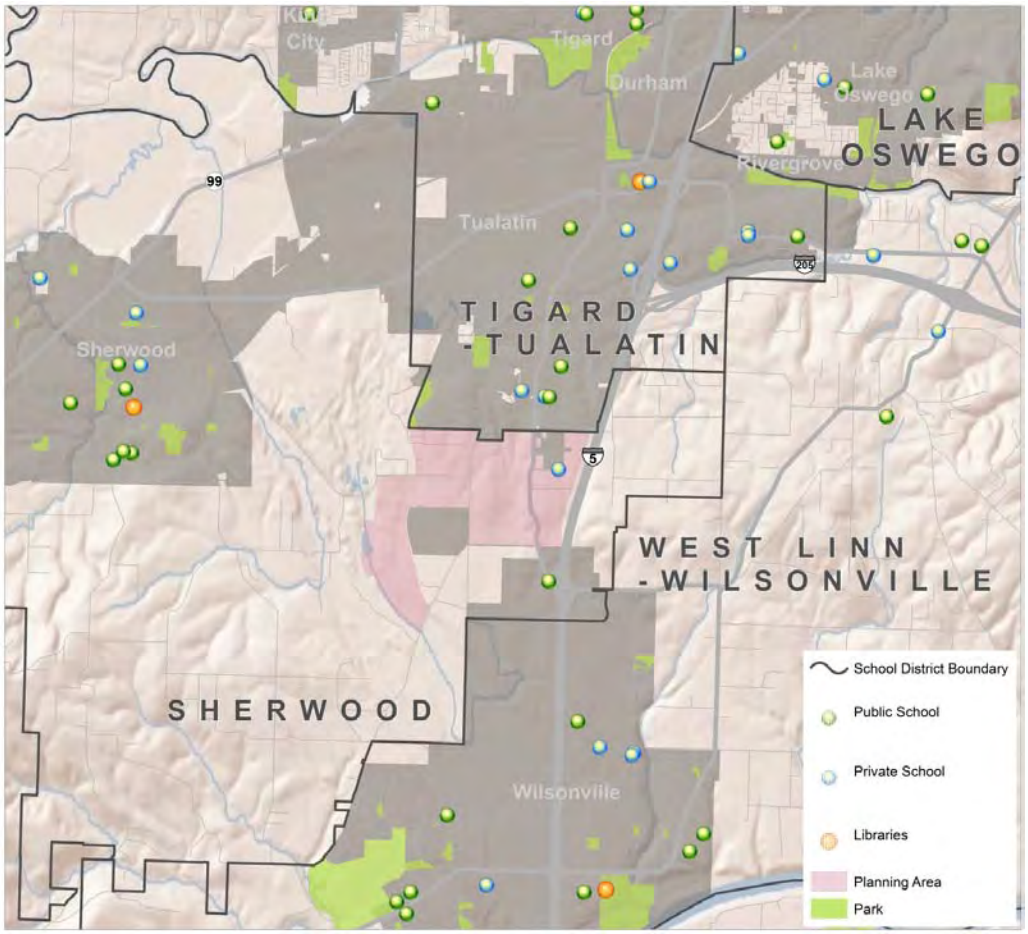


Figure 21 Schools, libraries and parks near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

[21] Levasa, Roger. Director of Development for Horizon Church. Personal communication July 31st, 2014.

Parks

Wilsonville Parks owns and maintains 16 different public parks. City of Tualatin Parks and Recreation owns and maintains 9 different parks (Figure 21).

Libraries

There are three libraries in the general vicinity of the planning area (Figure 21): the Tualatin Public Library located at 18878 SW Martinazzi Avenue, serving 24,420 residents, the Wilsonville Public Library located at 8200 SW Wilsonville Road, and the Sherwood Public Library at 22560 SW Pine Street, which serves 17,579 residents.

Fire

There are three Tualatin Valley Fire & Rescue (TVF&R) stations in general proximity of the Basalt Creek area (Stations 33, 34, 52). The TVF&R training center is just west of the planning area boundary (Figure 22).

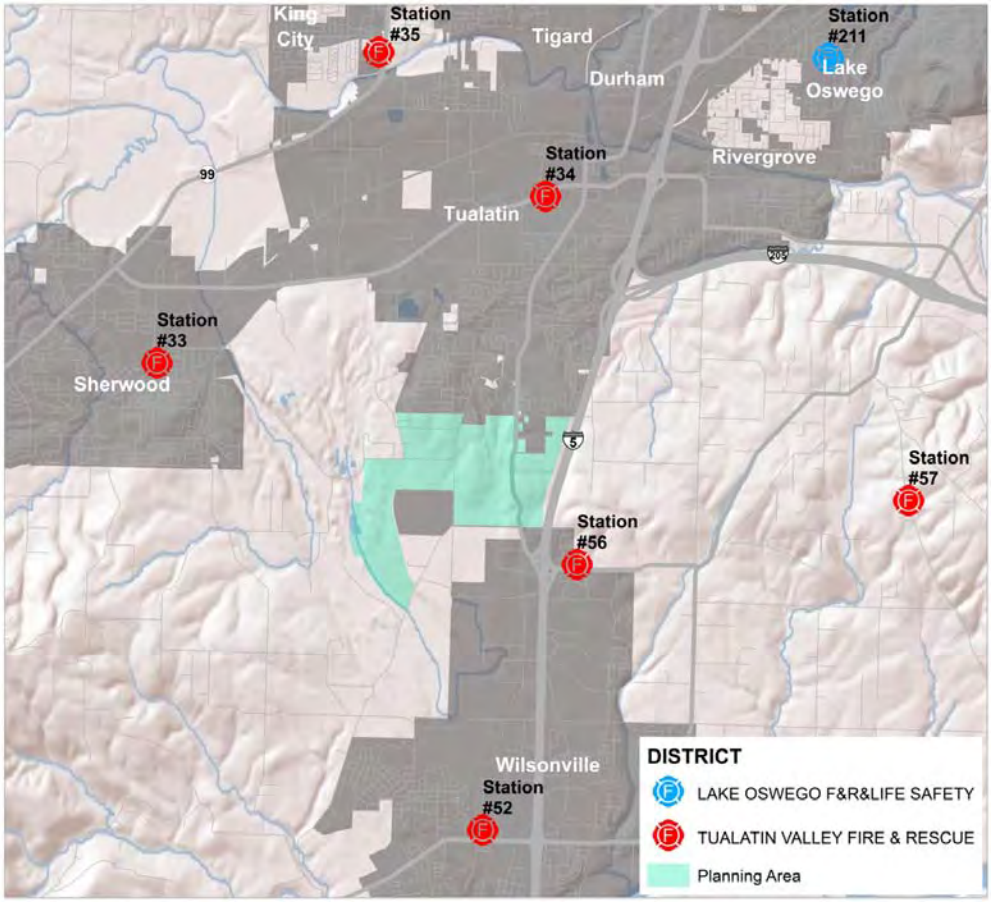


Figure 22 Fire station locations and service area boundaries near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Police

Currently the Washington County Sheriff's Office provides law enforcement services in the Basalt Creek planning area. The Washington County Sheriff's Department and Jail are located about twenty miles from the planning area, in downtown Hillsboro.

Wilsonville contracts with the Clackamas County Sheriff's Office to provide law enforcement services to the City. The contract makes certain special services available to the City as well, including its detectives division, hazardous materials team, special investigations unit and traffic team. It also provides the city with a dedicated chief of police, school resource officer, and detective, in addition to 15 deputies. The Clackamas County Jail facility is located about 20 miles east of Wilsonville, in Oregon City.

The Tualatin Police serve the area inside the city's limits. The police department consists of 38 sworn officers and an additional 8.5 professional staff members providing administrative support.[22] The department includes a detective unit, police services unit, school resource unit, Honor Guard (volunteer-based), park rangers, police reserves and a traffic team. The Tualatin Police Department does not have a facility to hold prisoners, and utilizes the Washington County Jail in Hillsboro.

[22] Tualatin Police Department Website: http://www.tualatinoregon.gov/police/police-services-unit retrieved July 31st, 2014.

V. Commercial, Industrial & Residential Real Estate Markets

The purpose of this section is to provide a picture of existing real estate market conditions and the outlook for office, residential, and retail development in Basalt Creek and adjacent areas.

Figure 23 Photo of planning area: Grahams Ferry Road, looking north into the Basalt Creek planning area. Source: Leland Consulting Group 2014.

Industrial and Office Market

Basalt Creek is located near the center of one of the region's largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek). A market area was defined for this report so results can be compared with future analysis (Figure 24). The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas.

The Metro Regional Government projects rapid employment growth of 2.3% annually for the market area through 2035—about 40% faster than the employment growth in the overall region (1.7 %). This pattern indicates that ongoing business expansion and job creation is expected for these three cities, comprising a large portion of the southwestern metropolitan area.

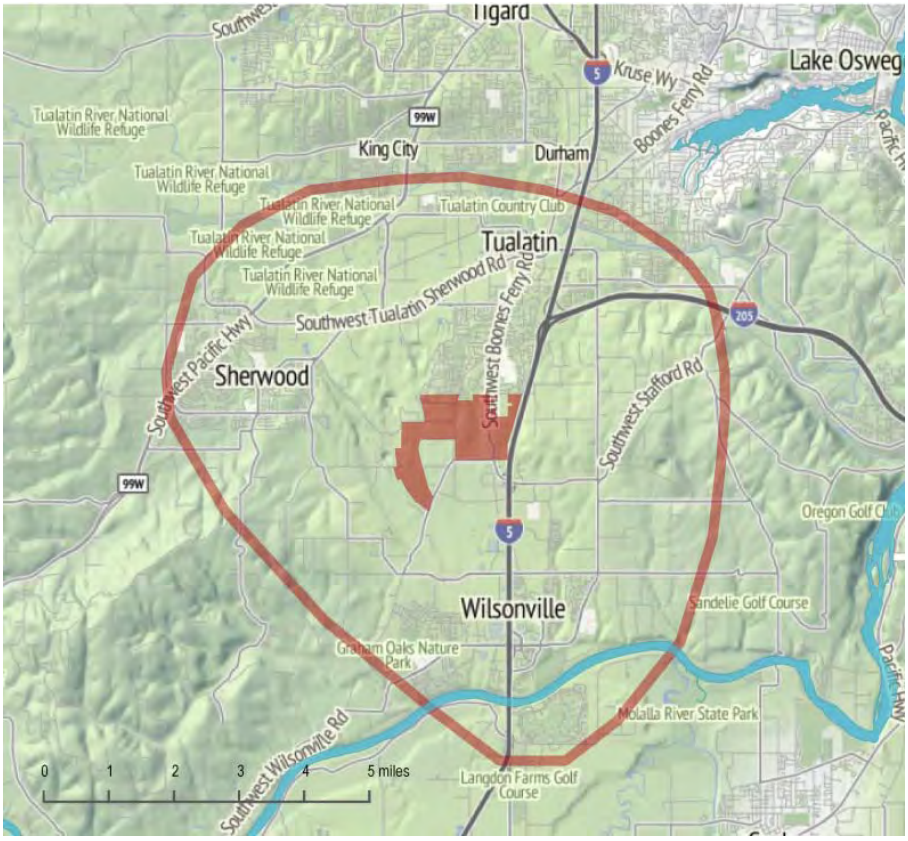


Figure 24 Market Analysis Area for the Basalt Creek area. Source: Leland Consulting Group, 2014.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories would be well-suited to locate in the Basalt Creek planning area.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990's and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to "onshore" jobs (bring employment back from overseas), shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development (including warehousing, production, flexible office/industrial space, etc.) in both cities is significantly larger (more than seven times) than the amount of office development. This general dynamic is expected to persist for the foreseeable future.

Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one- to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs up to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in the Basalt Creek area will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit service; a growing and educated workforce; and established and expanding industry clusters.

Housing Market

Basalt Creek's location is also an asset for residential development for housing: the planning area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The market area's current demographics are encouraging for new housing development. When compared to the Portland Metropolitan Area overall, this market area has a higher percentage of family households, larger households, higher household and per capita incomes, residents with college degrees, and residents who work in white collar jobs.

Retail/Commercial Market

There are already several major regional and sub-regional retail nodes located to the north and south of the planning area—at Bridgeport Village, central Tualatin, and in Wilsonville. Thus any commercial space built in Basalt Creek will most likely serve primarily local residents and employees. These larger centers are located at I-5 interchanges. Retail in the Basalt Creek area would not have this same advantage. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies and restaurants, and supplemented by other local goods and services.

Industrial and Office Market Conditions

Regional Employment Context

As discussed in *Section I: Local and Regional Planning Context*, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland Metropolitan Region, including those in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro (though smaller than the employment lands near Portland International Airport).

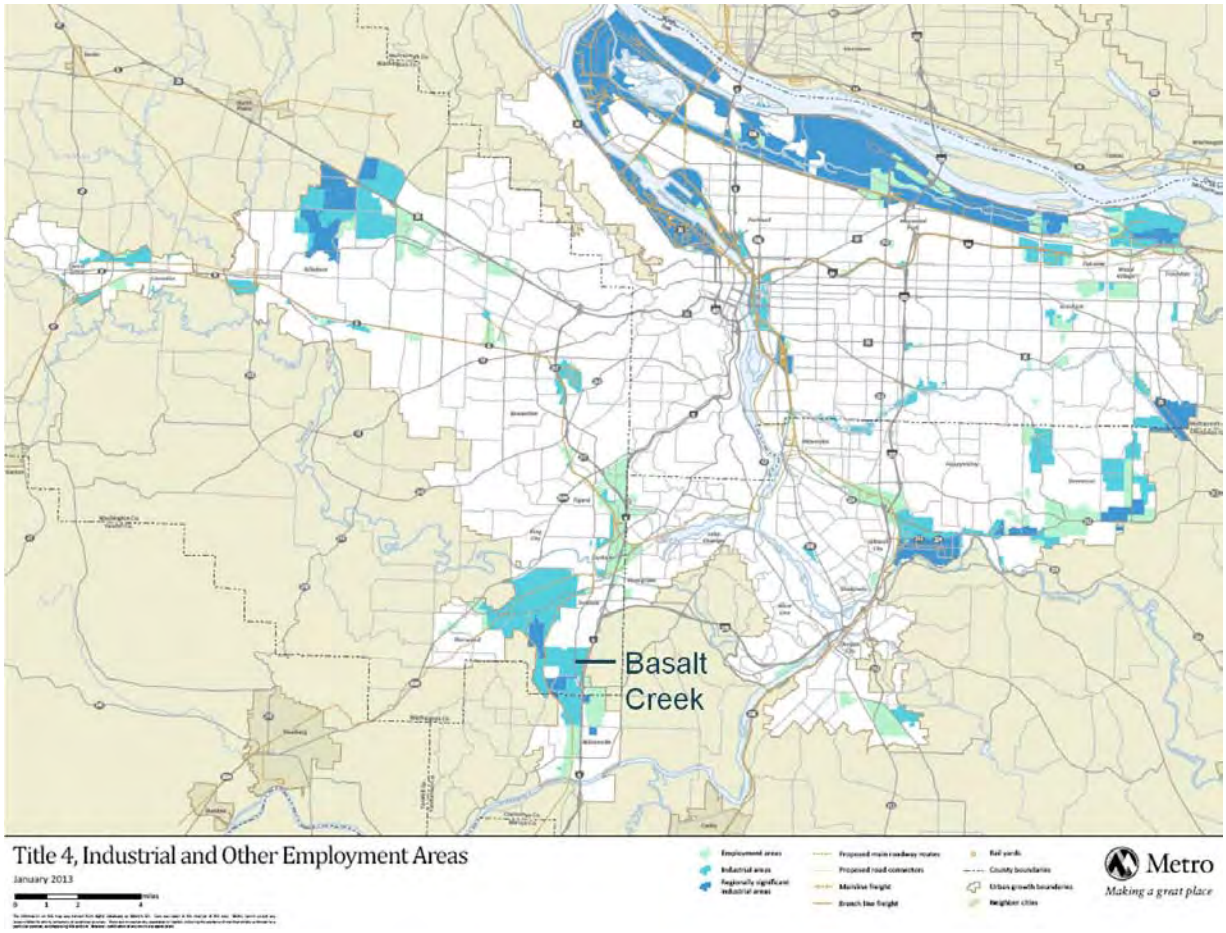


Figure 25 Title 4 Industrial and Other Employment Areas in Portland Metro Area. Source: Metro 2014.

A major feature and competitive advantage of this "Southwest Metro" employment cluster in general--and the Basalt Creek area in particular--is its immediate access to I-5, the west coast's most important transportation route (Figure 25). Via I-5, the Basalt Creek area is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. Interstate-205 and Highway 217 are also close by and easily accessible from the area. These freeway connections are a major benefit for industrial users (for whom distribution is an important site selection factor) and office-based businesses (which require access for their clients, suppliers, workforce, and collaborators).

Industrial and Office Development, 1980 to 2014

Figure 26 and Figure 27 below show the pace of industrial and office development in the cities of Tualatin and Wilsonville beginning in 1980. The vertical columns represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical

development trends are one data set that shapes expectations for future employment development in both cities and the Basalt Creek planning area.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

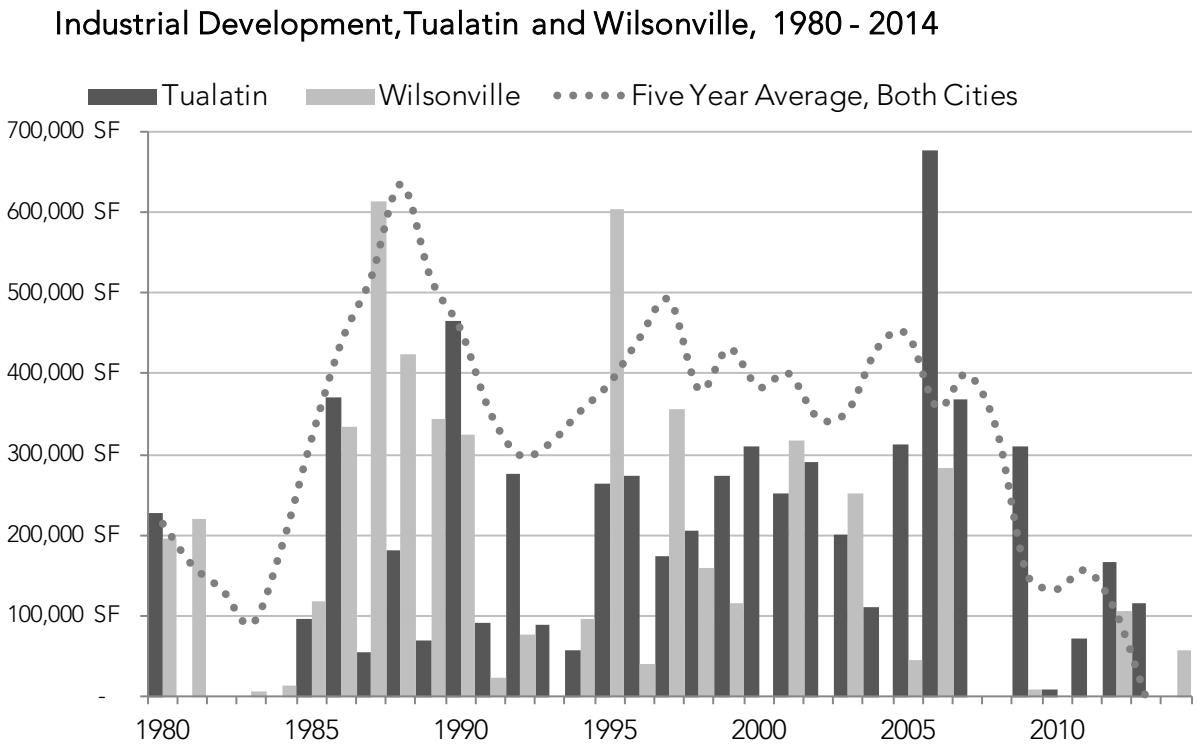


Figure 26 Industrial Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

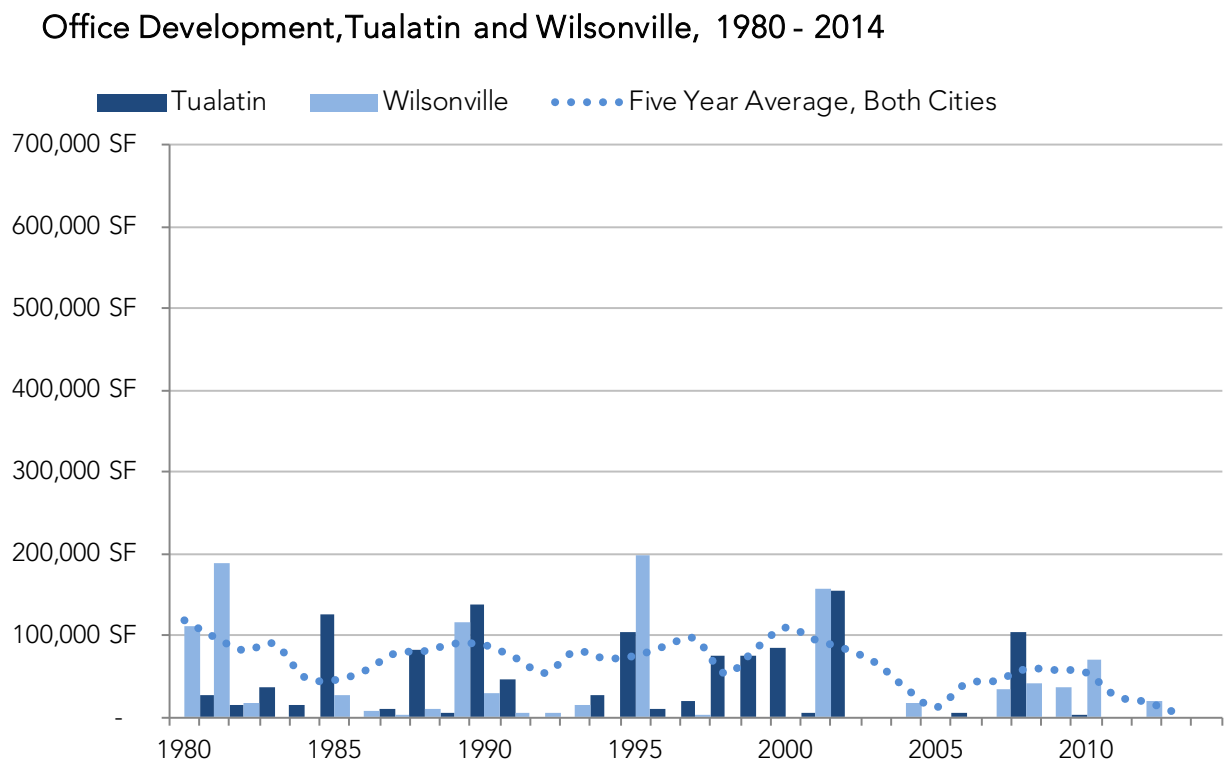


Figure 27 Office Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers (see Figure 26). Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s (Figure 27). Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

Employment Building and Site Attributes

Table 5 shows some key attributes of industrial and office development in Tualatin and Wilsonville. From looking at these attributes, it can be determined that:

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land. Tualatin has seen about 32 acres of employment land development per year, 26.8 acres of industrial land, and 5.3 acres of office land. Employment land in Basalt Creek is likely to develop more slowly than this pace because there is less

developable land in the study area than the cities as a whole. However, development in Tualatin and Wilsonville can be used to gauge the rate of employment land development in Basalt Creek.

- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings. Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro's analysis and future projections.

Table 5 Attributes of Industrial and Office Development in Tualatin and Wilsonville. Source: CoStar, Leland Consulting Group 2014. SF: Square feet; FAR: Floor area ratio, the ratio of a building's size in square feet (or gross building area) to the size of the piece of land upon which it is built.

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
Total Area (SF)	10,470,000	8,390,000	18,860,000	1,260,000	1,250,00	2,510,000
Av. Annual Development, 1980 - 2014						
Square Feet	186,960	150,980	337,940	34,632	32,985	67,617
Acres	26.8	16.3	43.1	5.3	8.3	13.6
Building Averages, 2000 - 2014						
Square Feet	60,224	80,000	-	31,807	35,000	-
Acres	9.1	6.5	-	4.2	2.0	-
Typical Floor Area Ratios (FAR)	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

It is of note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figures Figure **28**, Figure **29** and Figure **30**.

Typical Industrial Buildings: Office/Distribution and Flex

The first building pictured below (Figure 28) is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below (Figure 29) is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.

Figure 28 Example of typical building with a mix of office space and warehouse/distribution space.

Figure 29 Example of typical flex industrial building, located in Tualatin.

Headquarters Office Building (Mentor Graphics)

The Mentor Graphics building (Figure 30) is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.

Figure 30 Mentor Graphics Headquarters Office Building in Wilsonville.

Office Development Outlook

Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space. Office development in the short- and long-term faces several challenges. In the short-term, the Portland region's employment levels have just recovered in 2014 to their pre-recession (2008) levels. While office vacancies are far lower than several years ago, there is not yet market pressure for new development. As Table 6 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6% of the total regional inventory of nearly 47 million square feet. Tualatin's current vacancy rate of 20.5% suggests a soft market, though that space will be occupied in the long term. The market is expected to improve as the region and nation continue to recover from the recession, and businesses grow and add jobs. However, office development is not expected to return to levels seen in the 1990s without a major upturn in the economy.

Table 6 Current Office Market Summary, Portland Metro Region. Source: CoStar, Leland 2014.

Market	Existing Inventory		Vacancy	YTD Net	Under Const. &	Class A
	# Blds	Total RBA	%	Absorption	Complete YTD	Rates
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	$21.53
Tigard	226	3,313,116	10.4%	35,859	0	$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	$20.50
Totals	**1,379**	**46,903,725**		**181,309**	**288,000**	

Tualatin and Wilsonville's Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities' main economic development plans relevant to Basalt Creek are shown in Table 7 below.

Table 7 Relevant Economic Development Plans. Source: Cities of Tualatin and Wilsonville.

Tualatin	Wilsonville
• Economic Development Strategic Plan (2014) • Industry Cluster Analysis (2014) • Linking Tualatin Market Study (2012) • Southwest Tualatin Concept Plan (2010)	• Economic Development Strategy (2012) • Coffee Creek Master Plan (2007)

Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin's Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57% of Tualatin's jobs fall within its five key industry clusters, which also provide wages that are on average 70% ($35,000) higher than those in all other industries.

Clusters reflect a community's strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future.[23]

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters[24]:

Advanced Manufacturing (and related activities)

This cluster is a significant driver of both cities' economies. It is Tualatin's largest cluster, accounting for 22% of jobs in the city. It accounts for a significant portion of Wilsonville's economy; computer and electronic product manufacturing was Wilsonville's largest industry sector as of 2012, and includes several of the city's largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the Southwest Metro economy. The Cities are looking for ways to capitalize on OIT's presence and to strengthen partnerships between the school and private businesses.

Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster's continued success.

Corporate and Professional Services

This cluster accounts for 12% of Tualatin's jobs, and was the second-largest industry sector in Wilsonville as of 2012. Major employers include: Portland General Electric (PGE) and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including: a

[23] Wilsonville's EOA uses the term industry "sectors." The terms cluster and sector are used interchangeably here

[24] The economic figures included below are drawn from the Cities' economic development plans.

skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.

Health Care and Medical-Related.

This cluster is important in both cities: it is the third-largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center (among Tualatin's largest employers), and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care-related employers (as of completion of the 2012 Economic Development Strategy) were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Center zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

Other Industrial Clusters.

Both Cities have identified additional industrial target clusters that could locate in the Basalt Creek area. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: food processing and distribution, and wood, paper, printing, and related industrial activities. Wilsonville identified a number of other industrial business types: light manufacturing and warehouse/showroom operations; specialty contractors and construction firms; sustainable product manufacturing and distribution; miscellaneous manufacturing; and wholesale trade.

Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.

Other Professional and Commercial Services.

Wilsonville's 2012 Economic Development Strategy also identifies creative services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to corporate and professional services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.

Figure 31 Lam Research Facility, Tualatin. Photo credit: Tualatin Chamber.

Sub-Regional Context

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124th Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. Regional connectivity will be challenged due to the limited access nature of the East-West Connector. This large agglomeration of employment areas has the potential to create economic momentum, and also the potential to be a source of competition for the Basalt Creek area. This is because the areas can project a powerful combined brand, while also competing for individual employers who are looking for sites.

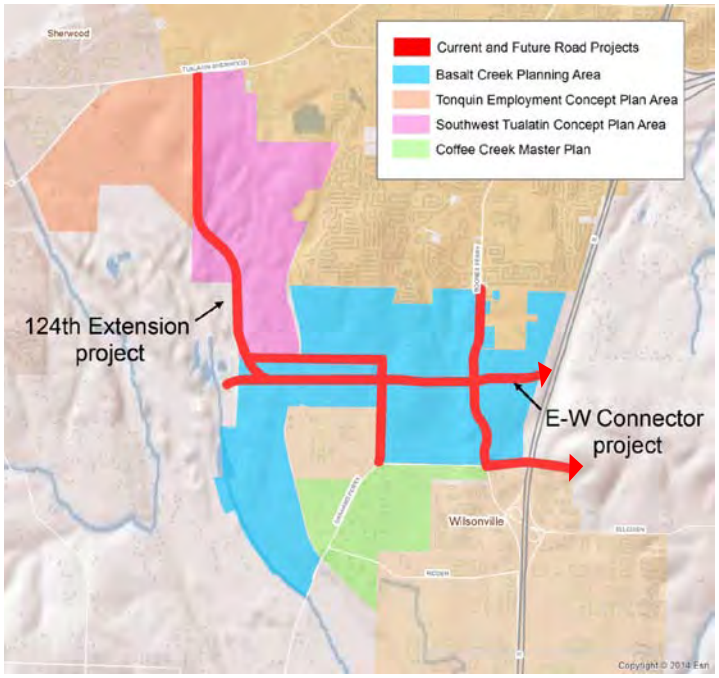


Figure 32 Major TRP road projects in relationship to the Basalt Creek planning area and planned areas nearby Source: Fregonese Associates 2014.

Established Employment Areas

The Tualatin and Wilsonville employment areas have capacity for additional businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

Planned Employment Areas

Southwest Tualatin, Tonquin Employment Area, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property-owner initiated. The following summarizes the current activity in each of the planning areas.

- The Southwest Tualatin concept plan area: Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area: No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and a financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis industrial and office development are as follows:

Strengths and Competitive Advantages

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce
- Market success of recent industrial, office, and retail developments

Challenges

- Vision and regulation. This Concept Plan and subsequent Comprehensive Plan and zoning amendments need to be in place prior to development.
- Planning, financing, and construction of new infrastructure. This is because roads, water, sanitary sewer, and other infrastructure for urban expansion areas are expensive. Cities are often focused on maintaining and improving existing infrastructure and therefore do not budget to make extensive extensions. Developers of individual sites typically cannot afford to build out a comprehensive set of infrastructure to serve multiple properties.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout the Basalt Creek area. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the planning area, dividing it into east and west sections.
- The market for new office development continues to be slow. However, the planning area will not be ready for private development for several years, which may allow enough time for this market to recover.

Housing Market Analysis

Demographic Context

The City of Tualatin, compared to the Portland Metropolitan Statistical Area (MSA), has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher per capita incomes. A larger share of residents has college degrees (42.3%) and is employed in white collar jobs (67.5%) compared to the region. Tables Table **8**, Table **9** and Table **10** provide additional perspective on the demographics of the subject cities compared to the Portland MSA.

Wilsonville, compared to the Portland MSA, has a higher percentage of family households and smaller households--likely because the city has a higher share of young households (in the 25-34 age category) and seniors, Baby Boomers, and retirees. Each age group has different housing preferences. Wilsonville also has a larger share of residents with college degrees (39.3%) and white collar jobs (70.1%).[25]

While the Basalt Creek market area includes both Tualatin and Wilsonville, its demographics are generally more similar to those in Tualatin. When compared to the Portland MSA, the market area has a

[25] Data shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas

higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs. In general, these demographics are favorable to housing development in the Basalt Creek area; they also reflect the types of residents most likely to locate in the planning area.

Table 8 Demographic Summary of the Basalt Creek planning area. Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

	Tualatin	Wilsonville	Basalt Creek
Comparison to Portland MSA:	• More families • Larger HHs • Higher HH Income • Higher PC Income • More college degrees • More white collar emp.	• Fewer families • Smaller HHs • More Gen Y • More Boomers • More low-income HHs • More college degrees • More white collar emp.	• More families • Larger HHs • Higher HH incomes • Higher PC incomes • More college degrees • More white collar emp.

Table 9 Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

Demographic Attribute	Tualatin	Wilsonville	Basalt Creek	Portland MSA
Population	26,520	21,235	73,786	2,296,285
Number of Households	10,170	8,638	28,121	896,982
Family Households (2010 Census)	68%	59%	68%	64%
Household Size (Average)	2.60	2.32	2.57	2.52
Household by Size (2010 Census)				
1 and 2 person	57%	68%	58%	61%
3 and 4 person	33%	25%	32%	29%
5 + person	10%	7%	10%	10%
Median Household Income	$64,324	$59,812	$70,256	$57,441
Per Capita Income	$32,672	$31,995	$33,336	$30,135
Population By Age				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
Median Age	35.7	37.0	36.6	37.5

Key: Low High

Table 10 Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI, Leland Consulting Group. 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
Education and Employment				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivalent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
Occupation				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
Housing				
Median Home Value	$331,190	$349,927	$337,289	$275,516
Housing Tenure				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Key: Low High

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin's population. The neighborhoods—including low volume local roads, street trees, parks, and schools—create a positive environment for residential development within the Basalt Creek area, particularly along the northern edge.

Recent Housing Development

Table 11 below shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master-planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large- and medium-lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20% of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums,

and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin's multifamily housing is clustered further north near downtown Tualatin, between Tualatin-Sherwood Road and Avery Street, and the Bridgeport Village area. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport (under construction) is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20% of total housing in many communities during the past five decades.

Wilsonville's housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large- and medium-lot single-family housing. Again, this is likely to due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four "S groups" in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66%) is partially due to the large number of new 20- and 30-something households recently formed, which will slow in coming years. Villebois' housing mix is similar to that in Wilsonville overall. However, during the time period surveyed (2000 to 2012) a larger percentage of small-lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois' developers and National Association of Realtors (NAR) surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and home sizes, especially when the surrounding neighborhood is attractive and walkable.

Table 11 Residential Development in Tualatin and Wilsonville by Housing Type. Sources: HUD; City of Wilsonville, New Home Trends, Leland Consulting Group. Due to data availability, Table 12 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

Housing Type	Tualatin	Wilsonville	Villebois
	Recent Permits	Recent Permits	Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
Total	100%	100%	100%

Retail/Commercial Market Analysis

In addition to new residents and employees that may locate in the Basalt Creek area, the residents of the Tualatin neighborhoods located immediately to the north are important sources of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000

households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through the Basalt Creek area to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on pass-by traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 in 2014[26], which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest Metro area and beyond. The 124th Avenue Extension, which will be built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area, are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

[26] Source: ESRI Business Analyst, 2014

VI. Infrastructure

The objective of this section is to identify existing stormwater, wastewater conveyance and treatment, and potable water infrastructure that could be used to provide services for the Basalt Creek planning area. Existing jurisdictions and service agreements are also described, in addition to discussion of important areas of special consideration in and near existing receiving waters.

Policy Guidance on Infrastructure

The discussion in this section is framed by the Cities' desire to have a better understanding of how provision of services such as wastewater collection and treatment and potable water distribution serving Basalt Creek can function in the most efficient and economical manner.

Specifically the Cities are interested in determining, from a technical standpoint, if wastewater can be conveyed and treated more efficiently and cost-effectively by relying on gravity or if pump stations are more appropriate. This should consider improvement costs related to the collection systems (such as incremental pipe capacity needs in both cities; pump station construction, long term operations and maintenance costs; and treatment capacity needs at both treatment plants). Should pump stations be less desirable from a technical standpoint, what are non-technical issues that would need to be resolved? Part of answering this question is to identify where specific areas of Basalt Creek naturally drain and whether it makes sense from a technical point of view for wastewater to cross jurisdiction boundaries. This evaluation raises a policy question for the City of Wilsonville of whether or not they are willing to collect and treat wastewater that could be generated by land outside of their City supposing the service lines and jurisdictional lines are not the same.

Additionally, the Cities desire to evaluate and determine if there are efficiencies for the water system if the source of water is from the Willamette River. Another topic to explore is if it is a good idea to interconnect the two systems. The Cities are asking if it makes more sense to provide water services to Basalt Creek from the south rather than from the City of Tualatin's existing system. This exploration presents another policy question for the City of Tualatin about accepting water from the Willamette River.

Stormwater Infrastructure

Existing stormwater infrastructure within the Basalt Creek planning area consists of roadside drainage ditches and culverts. Culverts in the planning area are under the jurisdiction of Washington County and range from 12 to 30 inches, as shown in Figure 33. It is assumed that the existing culverts may not have capacity for future urban conditions and will need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite detention or infiltration is required. Roadway drainage for SW Boones Ferry Road was recently transferred from the jurisdiction of Oregon Department of Transportation (ODOT) to that of Washington County, but the County does not yet have the

geographical information system (GIS) data available. Culverts to the south of the planning area are part of the City of Wilsonville stormwater system.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

Existing stormwater drainage basins based on existing topography and infrastructure are also shown in Figure 33, along with Oregon State Planning Goal 5, Significant Resource Areas near receiving waters. As can be seen in Figure 33, large portions of the planning area are Significant Resource Areas. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the planning area.

The City of Tualatin is a co-permittee of Clean Water Services (CWS) watershed-based National Pollutant Discharge Elimination System (NPDES) permit, which includes the municipal separate storm sewer system (MS4) stormwater discharge permit. The City of Tualatin owns and operates the stormwater system within the city.

The City of Wilsonville owns and operates the public stormwater conveyance system to the south of the planning area. The City of Wilsonville is an NPDES MS4 co-permittee with Clackamas County and twelve other cities and service districts within the County (Permit Number 101348).

The City of Wilsonville's 2012 Stormwater Master Plan identifies a capital improvement project to restore a portion of the Basalt Creek channel to increase capacity to accommodate impacts caused by a reverse grade south of Day Road near the Commerce Circle area. The project is programmed for mid-term (6 to 10 years) implementation in the July 2014 Prioritized Stormwater Capital Improvement Plan (July 2014 Prioritized Project list). The master plan also identifies a regional detention facility to serve an area that includes the Basalt Creek planning area. This project is identified in the July 2014 Prioritized Project List as a long-term project (10 to 20 years).

Locations where stormwater runoff from the Basalt Creek plan area could connect to existing stormwater infrastructure in the future are shown in Figure 33 and summarized in Table 12. Should these locations be considered to receive stormwater discharge from the Basalt Creek plan area, the downstream conveyance system will need to be evaluated for capacity and condition.

Wastewater Infrastructure

Currently, no sewer service is provided to the planning area. Existing homes are, therefore, assumed to be using individually permitted and managed septic systems, but a public records request has not been made to confirm this assumption for each property in the planning area.

Wastewater Collection and Conveyance

Wastewater conveyance to the north of the planning area is under the jurisdiction of the City of Tualatin, who maintains a service agreement with CWS for wastewater collection and treatment at the Durham Advanced Wastewater Treatment Facility located at 16060 SW 85th Avenue in Tigard, a straight line distance of approximately 2.5 miles north of the Basalt Creek planning area. The City owns the

wastewater conveyance system (up to 18-inch diameter) within the City, while CWS owns larger pipes, pump stations, force mains, and treatment facilities.

Eight gravity mains exist near the north planning area boundary and could provide connection points for wastewater from the Basalt Creek plan area into the Tualatin collection system. The 200 gpm Victoria Woods Pump Station and associated force main are also located just to the north of the planning area boundary, west of the southern end of SW Eno Place. From these connection points, wastewater flows by gravity toward the treatment plant, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park and associated force main. Pumping would be required to lift flows from the planning area into the existing gravity system.

Wastewater conveyance to the south of the planning area is under jurisdiction of the City of Wilsonville. Wastewater from the City of Wilsonville is conveyed to and treated at the Wilsonville Wastewater Treatment Plant located at 9275 SW Tauchman Street, approximately 3.2 miles south of the planning area.

The City of Wilsonville's Coffee Creek Industrial Area Plan identifies a new sanitary main line to be constructed in a future segment of Kinsman Road between Ridder and Day Roads. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows from the Basalt Creek planning area. Three existing possible connection points into the Wilsonville collection system were also identified. From these connection points, wastewater flows by gravity to the Wilsonville Wastewater Treatment Plant. The ongoing Sanitary Sewer Collection System Master Plan project has analyzed a range of flows from the planning area to identify trunk capacity, pipe size, and improvements needed to accept flow from the planning area. Connection Point 10 at Pioneer Road in Commerce Circle would require a lift station to deliver flow from the planning area into the Wilsonville system.

A brief description and location of the eight potential points of connection to the Tualatin conveyance system and three existing potential points of connection to the Wilsonville conveyance systems are shown in Figure 34 and summarized in Table 13. Wilsonville's planned sanitary main line in Kinsman Road is also shown in Figure 34.

Consideration of the Basalt Creek Planning Area in Sanitary Sewer Master Plans

The *Tualatin Sanitary Sewer Master Plan Update* has been put on hold until the Basalt Creek planning process is complete. The City of Wilsonville is in the process of updating its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) and is including Basalt Creek as a contributing area. The resulting updated master plans will identify improvements needed to increase the capacity of each system to convey flow from the Basalt Creek planning area.

Clean Water Services conducted a system capacity evaluation to accept flows from the Basalt Creek planning area and the SW Concept Plan Area in addition to flows from the City of Tualatin (CH2M HILL, 2012). This study assumed that flow contributions would be routed to the Sherwood trunk line (located north of Tualatin-Sherwood Road) rather than through local service lines. A lift station would be required to convey flow from the Basalt Creek area to the Sherwood trunk line. The distribution of flow

to each of the cities and where connections need to be made will be determined as part of the Basalt Creek Concept Plan.

Wastewater Treatment

The nearest treatment facility to the north of the planning area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). This facility currently receives about 22.6 million gallons per day (mgd) in dry weather flow (CWS, 2013). Future flow projections, updated in 2011, did not include any areas outside of the existing Durham AWTF service area (CH2M HILL, 2011). Therefore, treatment of Basalt Creek wastewater flows at the Durham facility will require review of the plant capacity and analysis of impacts to level of service within the existing service area. In addition, expansion of the service district area to include the Basalt Creek planning area (or any portions thereof) needs to be evaluated.

The nearest treatment facility to the south of the planning area is the City of Wilsonville Wastewater Treatment Plant (WWTP). This facility was recently expanded to an average dry weather flow capacity of 4 mgd, with flow projections and design bases of improvements accounting for an ultimate buildout capacity of 7 mgd. The current 4 mgd is capacity designed to accommodate growth within the current city limits, and the 7 mgd buildout capacity is designed to accommodate additional growth areas outside the city limits. Expansion to 7 mgd can be achieved by adding a third primary clarifier and adding a membrane bioreactor to the aeration basins. Approximately half (300 acres) of the Basalt Creek planning area (identified as the “North Wilsonville” area in the technical assessments) was accounted for in the year 2030 buildout capacity assessment (7 mgd). Early development of the Basalt Creek planning area, in conjunction with other planned developments will require review of the timing of the next WWTP expansion phase.

Potable Water Infrastructure

The delivery of potable water to customers is impacted by many factors. Of the many requirements, pressure and flow are two that are closely tied and impact all water infrastructure decisions. Residential water service typically has a minimum pressure of 30 pounds per square inch (psi) and a maximum dictated by plumbing code of 80 psi. The pressure in a gravity fed system similar to the Wilsonville and Tualatin systems is constantly fluctuating based on the demand on the system at any given time. As demand goes up, reservoir levels go down, causing pressure in the system to be reduced. When demand reduces, water is placed/pumped back into the reservoirs, bringing the system pressure back. Storage requirements on a system are driven by customer demand and fire flow requirements because these reservoirs are not only providing system pressure, but also emergency storage.

In order to evaluate how the Basalt Creek area will be served with water, the existing City of Wilsonville and City of Tualatin Water Master Plans were reviewed. Below is a summary of the information gathered from those reports, and how that might impact water service to the Basalt Creek planning area.

City of Tualatin

The City of Tualatin water system currently provides drinking water to approximately 26,000 people, through 6,700 residential, commercial, industrial and municipal connections. The system consists of four hydraulically connected pressure zones that include five steel storage reservoirs with a combined storage capacity of 13 MG. A sixth storage reservoir with an additional 1.0 MG capacity (in level C) is anticipated to be online in fall 2015. The water supply is purchased wholesale from the Portland Water Bureau with a maximum available capacity of 10.8 mgd. The current (2013) MDD is 9.5 mgd, providing approximately 1.3 mgd of excess capacity at this time. Projected MDD in 2039, without the Basalt Creek planning area, is 14.2 mgd. Table 14 shows the City's existing pressure zones.

City of Wilsonville

The City of Wilsonville's water system currently provides drinking water to approximately 21,000 people. The system consists of three hydraulically connected services areas (A, B, and C) supplied by three steel storage reservoirs and a small underground concrete reservoir (Charbonneau) with a capacity of 7.6 million gallons (MG). Table 15 shows the capacity and hydraulic grade of each of the pressure zones.

The water supply source is the Willamette River Water Treatment Plant jointly owned by the City of Wilsonville and the Tualatin Valley Water District (TVWD). The plant has a current rated capacity of 15 mgd, but the buildings and piping and some of the unit processes were designed for an ultimate supply capacity of 70 mgd, with Wilsonville owning 20 mgd and TVWD owning 50 mgd of that capacity. The plant was designed for on-site expansion. TVWD sold 5.0 mgd of treated water capacity to the City of Sherwood in 2006. Based on Wilsonville's 2012 Water Master Plan, projected (2020) maximum day demands (MDDs) for the plant is 14.9 mgd, which includes the 5.0 mgd delivery to Sherwood, plus a 0.75 mgd allowance for new industrial users.

Basalt Creek Planning Area

The Basalt Creek planning area currently has no municipal water infrastructure in place. The area topography ranges from approximately 250 feet above mean sea level (msl) to a maximum elevation of 350 feet msl. Based on the topography, the Basalt Creek planning area could be served from the south through The City of Wilsonville's distribution system (Pressure Zones B and C) or from the north through the City of Tualatin's distribution system from Pressure Zone B and C. Lower elevations of the Basalt Creek planning area (below elevation 285) can be adequately served by Wilsonville's Pressure Zone B through existing 15-inch and 18-inch distribution lines that are adjacent to the area. A political factor in determining service boundaries is Tualatin's requirement for a public vote before switching to water supply from the Willamette River; the City currently receives its potable water primarily from the Bull Run reservoir near Mount Hood. A vote would only be required if Willamette River water was used to serve a part of Basalt Creek that ended up within Tualatin's jurisdiction.

Tualatin's and Wilsonville's Pressure Zone C reservoirs are located adjacent to each other on the East Side of I-5. The I-5 pipe crossings that connect to these reservoirs are in different locations. Analysis

needs to be completed to determine if the existing pipe configurations from each of these reservoirs provide adequate pressures to serve the higher elevations of Basalt Creek with emergency water demands. To provide for the additional flow to these higher elevations, it may be necessary to add booster pumping capacity within each City's water system. The City of Wilsonville master plan identifies a future I-5 crossing for their Zone C reservoir as well as a future Pressure Zone D reservoir that would address pressure needs to the higher elevations. Figure 35 identifies the potential pressure zones and existing adjacent infrastructure.

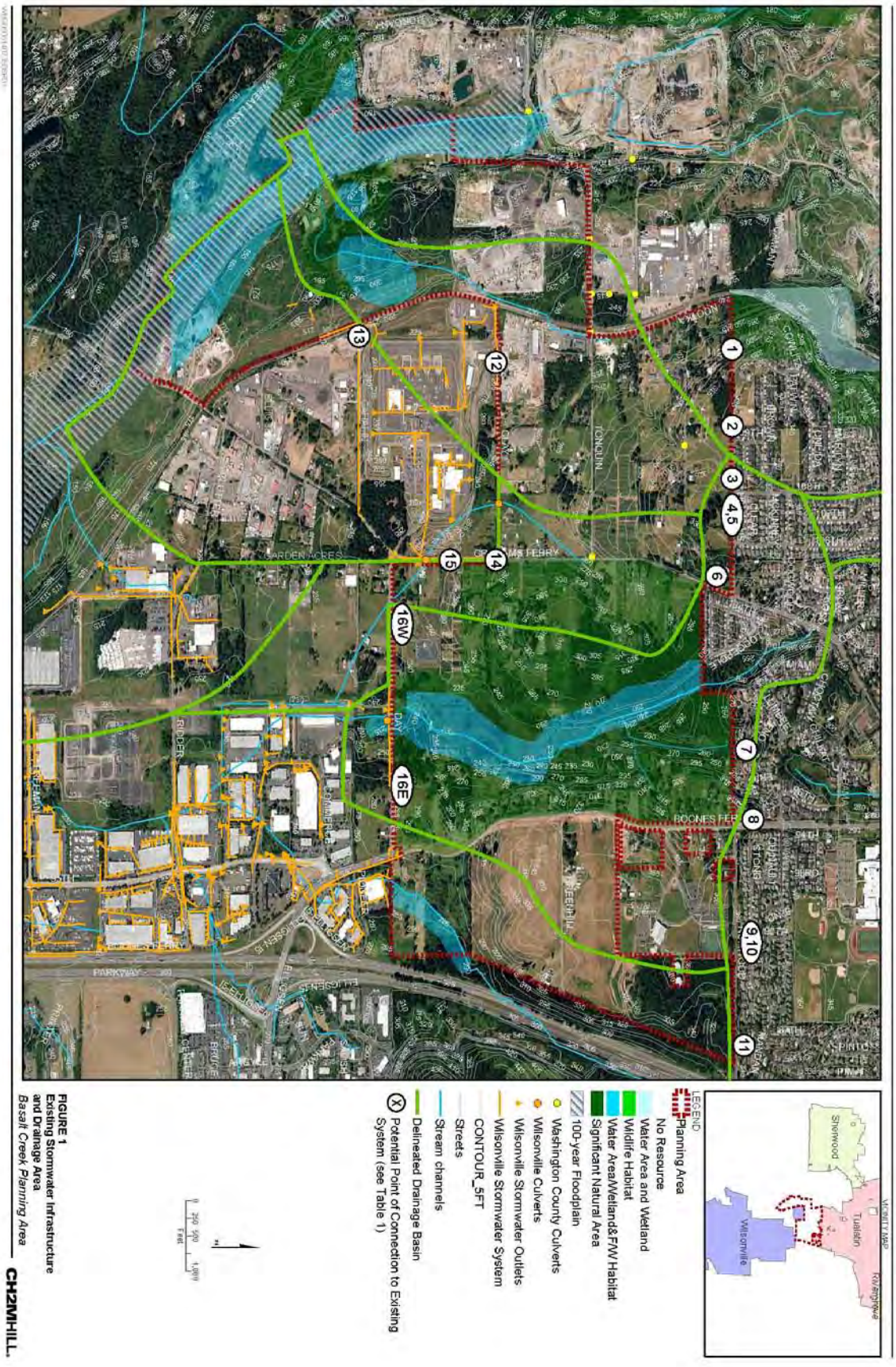


Figure 33 Existing Stormwater Infrastructure and Drainage Area near the Basalt Creek planning area
Source: CH2M Hill, 2014

Table 12 Potential Points of Connection to Existing Stormwater Facilities for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Description	Location	Outlet
1	12-inch PVC	112th Ave.	Outfall at SW Cowlitz Dr. to Kolk Pond, approximately 900 feet from planning area.
2	12-inch PVC	109th Ave. and in Helenius Rd. to the east of	Detention facility at SW Helenius Rd. between 109th Ave. and SW 108th Ave.
3	12-inch PVC	108th Ave.	Connection Points 3 through 6 all outlet to Basalt Creek, which runs through the eastern portion of the planning area. The outfall is located west of Lodgepole Rd. Basalt Creek runs south through the planning area, then through piped and natural channels for approximately 3 miles to the confluence with Coffee Lake Creek, which then flows another 1.5 miles through natural and straightened channels to the Willamette River. Basalt Creek forms a part of the City of Wilsonville's stormwater drainage system.
4	12-inch PVC	106th Ave.	
5	12-inch PVC	Helenius Rd., east of 106th Ave.	
6	12-inch PVC	Grahams Ferry Rd. at Whitebark Ln. and at Helenius St.	
7	Detention and/or water quality facilities	South of Eno Pl. and Erio Pl.	Both facilities outlet to Basalt Creek.
8	15-inch ADS	Boones Ferry Rd. at Stono Dr.	Connection Points 8 through 10 ultimately outfall to a natural watercourse approximately 0.5 mile to the north of the planning area near Columbia Dr. and Chehalis St. in Tualatin. This watercourse then flows north for approximately 2.5 miles through natural and piped conveyance to the Tualatin River.
9	15-inch CSP	Stono Dr. between Boones Ferry Rd. and 89th Pl.	
10	18-inch CSP	89th Pl.	
11	12-inch CSP	Mandan Dr.	Outfalls at the Chieftain/Dakota Greenway outfall to a natural watercourse, which then flows 2.6 miles northeast to the Tualatin River.
12	12-inch capped lateral (N)	Clay Rd.	Capped lateral connects to 12-inch main line in Clay Rd., which connects to private 12-inch line. This system outlets to a tributary of Coffee Lake Creek.
13	42-inch pipe	Cahalin Rd. south of Coffee Creek Correctional Facility	Outlets to a tributary to Coffee Lake Creek, 3.4 miles upstream of the Willamette River (via natural and straightened reaches).
14	12-inch capped laterals (N and E)	Intersection of Grahams Ferry Rd. and Clay Rd.	Two capped laterals connected to 12-inch main line in Grahams Ferry Road. Outlets to Basalt Creek tributary crossing north of Day Rd.
15	12-inch capped laterals (E)	Grahams Ferry Rd. between Clay Rd. and Day Rd.	Two capped laterals connected to main line in Grahams Ferry Rd, connected to 12-inch main line, which outlets to Basalt Creek tributary

Map ID	Description	Location	Outlet
			crossing north of Day Rd.
16E and 16W	12-inch and 15-inch pipe	Day Rd, east of Grahams Ferry Rd.	12-inch pipe connects curb inlets east and west of Basalt Creek culverts to 15-inch main line, which outlets to detention/water quality facility west of the Basalt Creek culverts, then connects to open and piped Basalt Creek channel to join Coffee Lake Creek after approximately 2 miles, which then flows an additional approximately 1.75 miles to the Willamette River.

ADS = Advanced Drainage Systems; CSP = corrugated steel pipe; PVC = polyvinyl chloride.

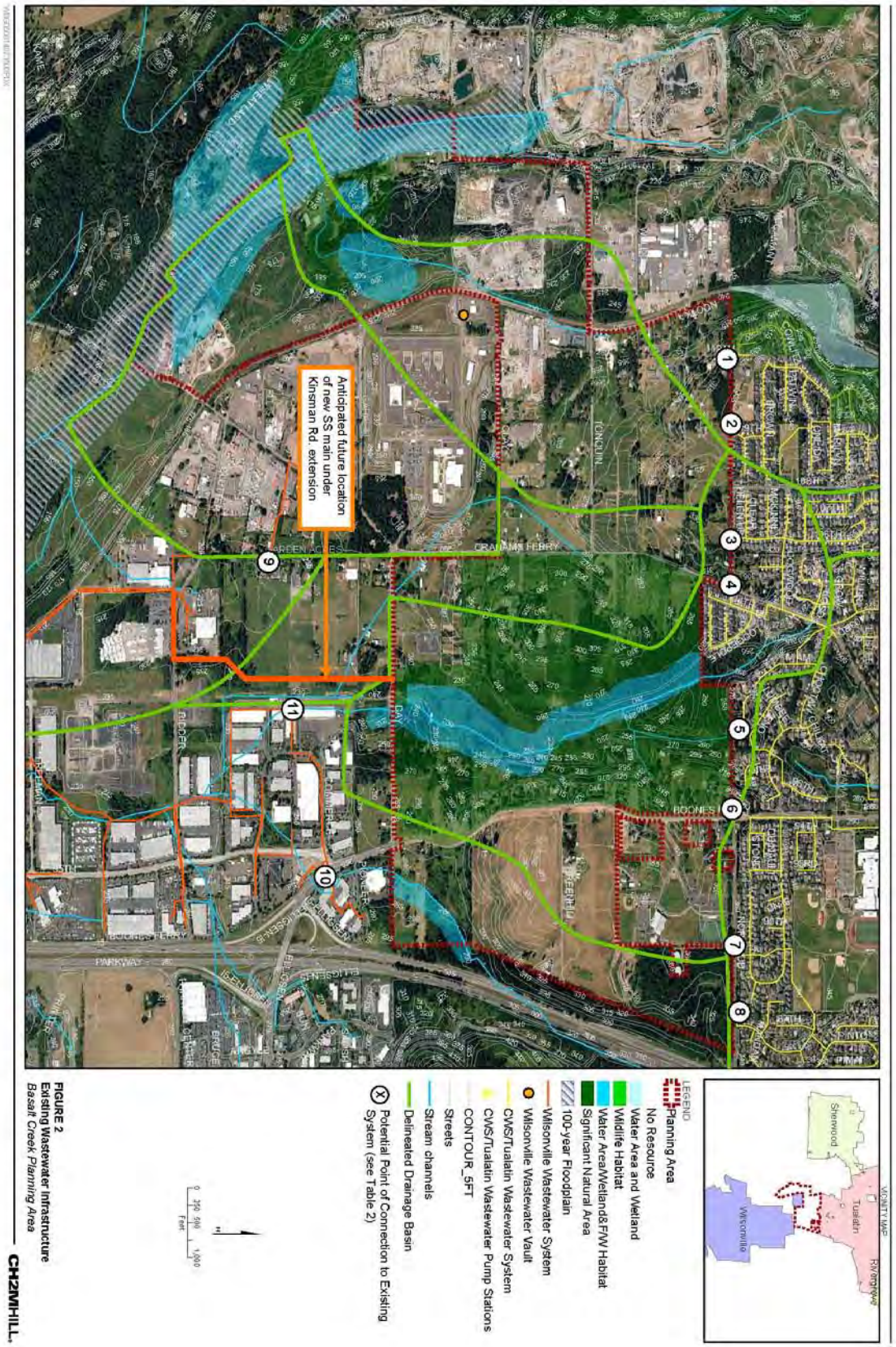


Figure 34 Map of Existing Wastewater Infrastructure near the Basalt Creek planning area. Source: CH2M Hill 2014.

Table 13 Potential Points of Connection to Existing Wastewater Systems for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Facility Description	Location
1	10-inch gravity main	112th Ave.
2	8-inch gravity main	109th Ave.
3	8-inch gravity main	106th Ave.
4	8-inch gravity main	Grahams Ferry Rd. @SW Helenius Rd
5	Victoria Woods Pump Station	Eno Pl.
6	8-inch gravity main	Boones Ferry Rd.
7	8-inch gravity main	Southwest of the intersection of Norwood Ave. and 89th Ave.
8	8-inch gravity main	Vermillion Dr.
9	18-inch gravity main	Garden Acres Rd.
10	8-inch gravity main	Boones Ferry Rd. at Pioneer Court (Commerce Circle area)
11	12-inch gravity main	West of Commerce Circle

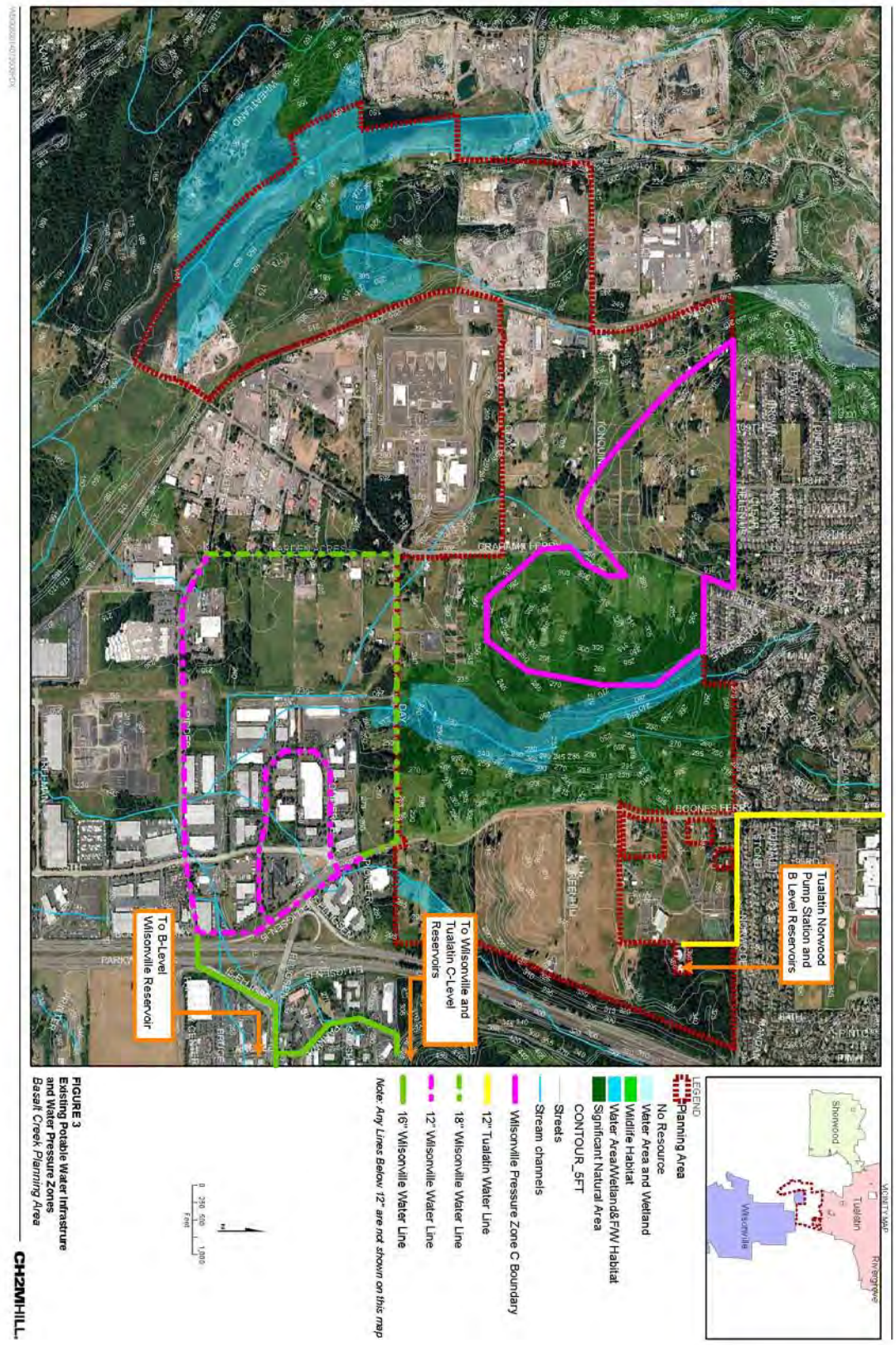


Figure 35 Map of existing potable water infrastructure and water pressure zones in and near Basalt Creek planning area. Source: CH2M Hill 2014.

Table 14 City of Tualatin Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Maximum/Minimum Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	295	7.2
B	399	5.0
C	506	1.8
Bridgeport	360	-

Table 15 City of Wilsonville Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Static Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	320	0.6
B	400	5
C	506	2

VII. Transportation

This section documents the existing transportation system and presents the planned transportation system developed as part of the Basalt Creek Transportation Refinement Plan (TRP). The purpose of the TRP was to identify a major transportation connection between 99W and I-5, in furtherance of the I-5/99W Connector Studies which call for additional east-west traffic alternatives. The plan provides 18 transportation investments broken into short, medium and long term phases, all of which are critical to ensuring that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to 124th Avenue extension. This section discusses the pedestrian and bicycle existing and planned facilities, the current transit system and planned improvements to transit, and details the motor vehicle conditions for base year (2010) and future year (2035) conditions based on the Basalt Creek TRP.

Motor Vehicle System

This section documents base year and future year motor vehicle demand, presents intersection operations, and describes the planned improvements for the motor vehicle system.

Motor Vehicle Demand

Existing a.m. and p.m. peak hour (2010) motor vehicle volumes in the Basalt Creek planning area were collected for the Basalt Creek Transportation Refinement Plan, the SW 124th Avenue Extension Study, the Tualatin TSP, and the Wilsonville TSP. The 2010 volumes, along with percentage of truck traffic, are displayed in Figure 36. These plans applied the Metro Regional travel demand model to estimate 2035 future year p.m. peak hour motor vehicle volumes. The resulting 2035 volumes are displayed in Figure 37.

The Basalt Creek Transportation Refinement Plan applied the Metro regional travel demand model (2009 RTP), which provides estimates of both existing year (2005) and future year (2035) p.m. peak hour trips entering and exiting Transportation Analysis Zones (TAZs). TAZs divide the Portland Metro region into areas that represent sources of vehicle trips within the area, based on a combination of the roadway network, land use information, the Urban Growth Boundary (UGB), zoning, and comprehensive plan designations. Because the demand model covers both TAZs within and around the Basalt Creek planning area, the 2035 model volumes account for both local and regional growth.

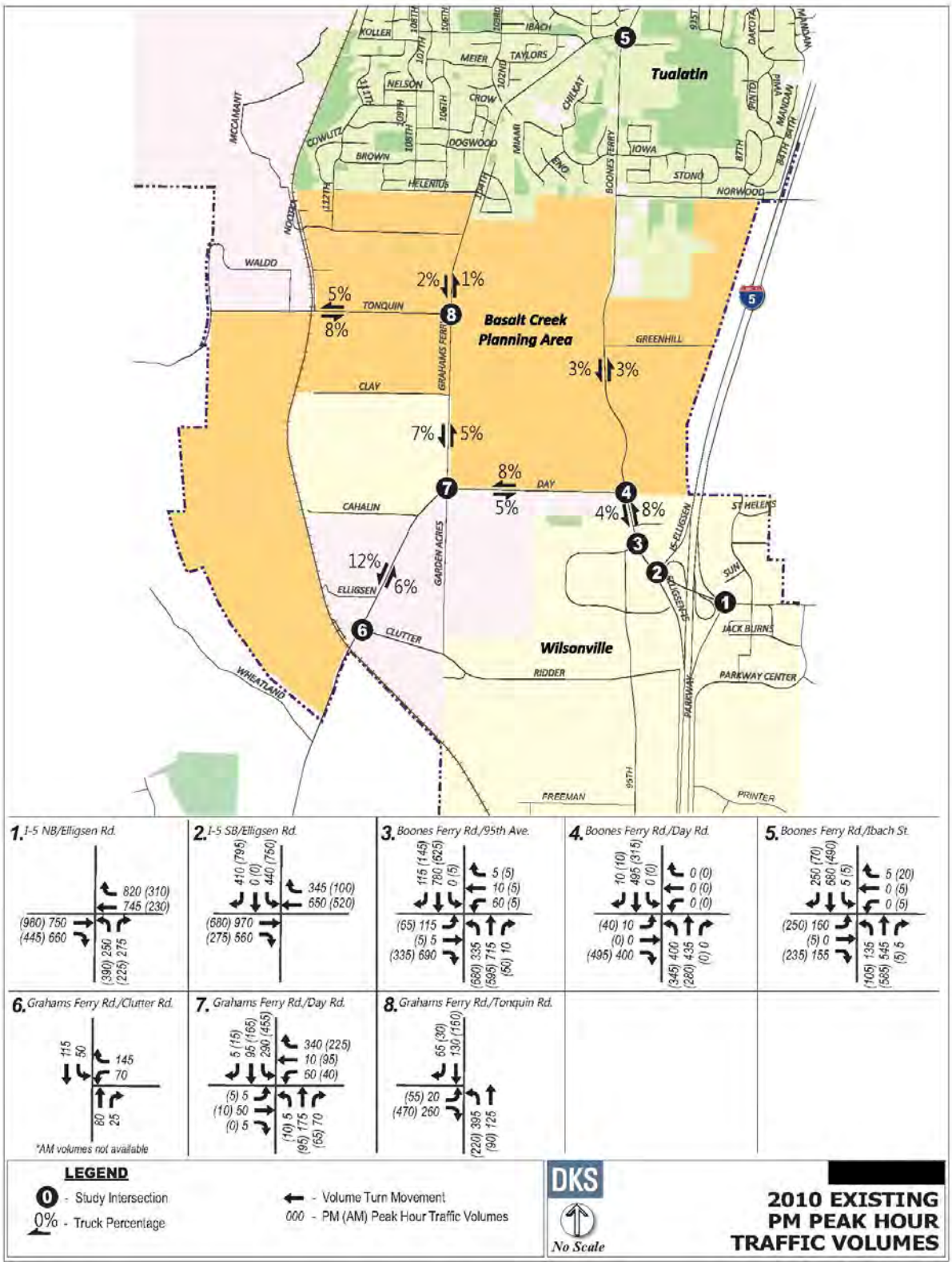


Figure 36 2010 Existing PM Hour Traffic Volumes by intersection in planning area. Source: DKS Associates 2014.

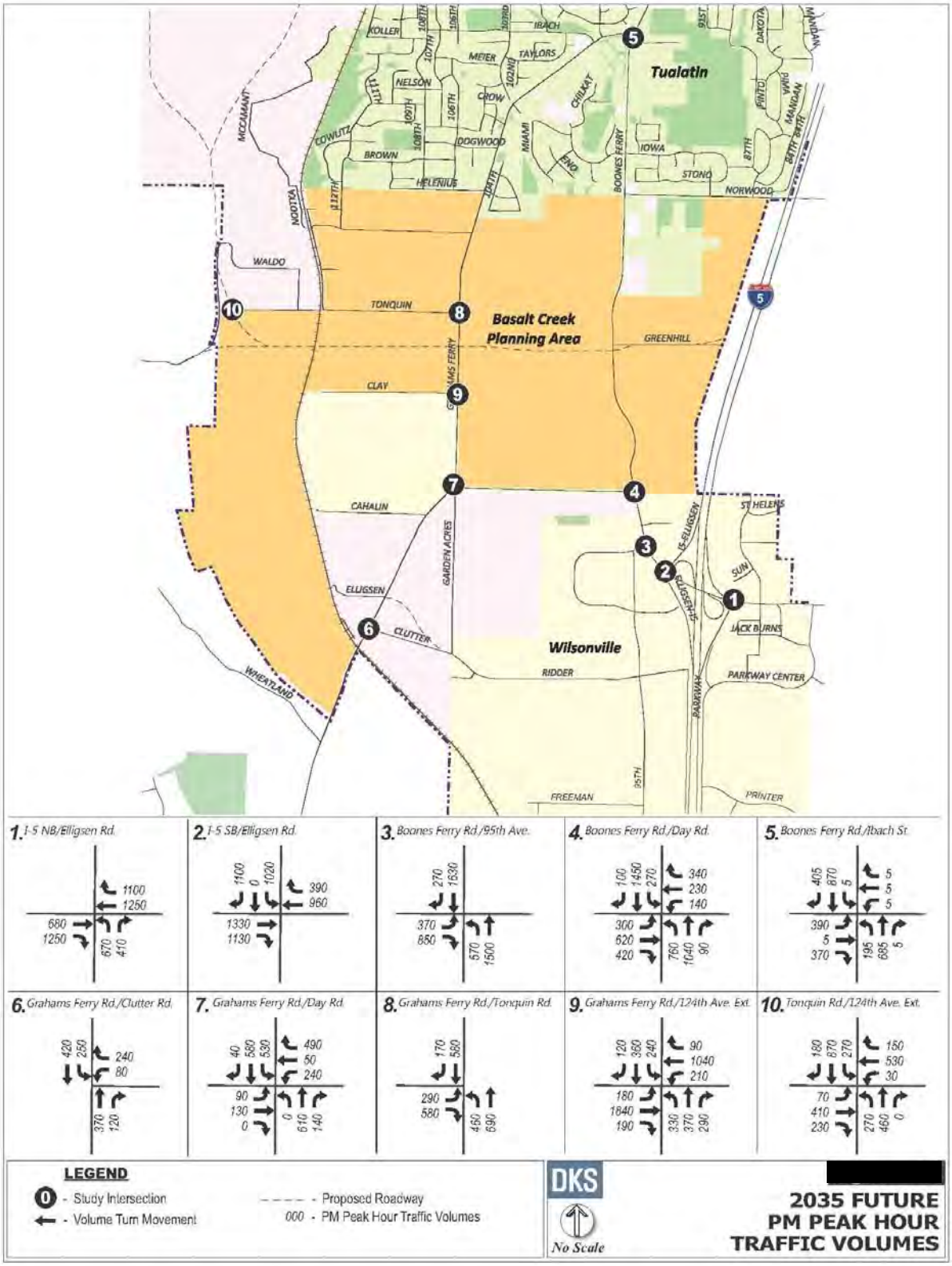


Figure 37 2035 Future PM Hour Traffic Volumes by intersection planning area. Source: DKS Associates 2014.

As shown in Figure 38, the Basalt Creek planning area is made up of three TAZs. Table 16 provides model trip p.m. peak hour estimates for each of the three TAZs. Between 2005 and 2035, the planning area is expected to generate an additional 2,255 trips—a 460% increase from the 2005 estimate of 490 trips.

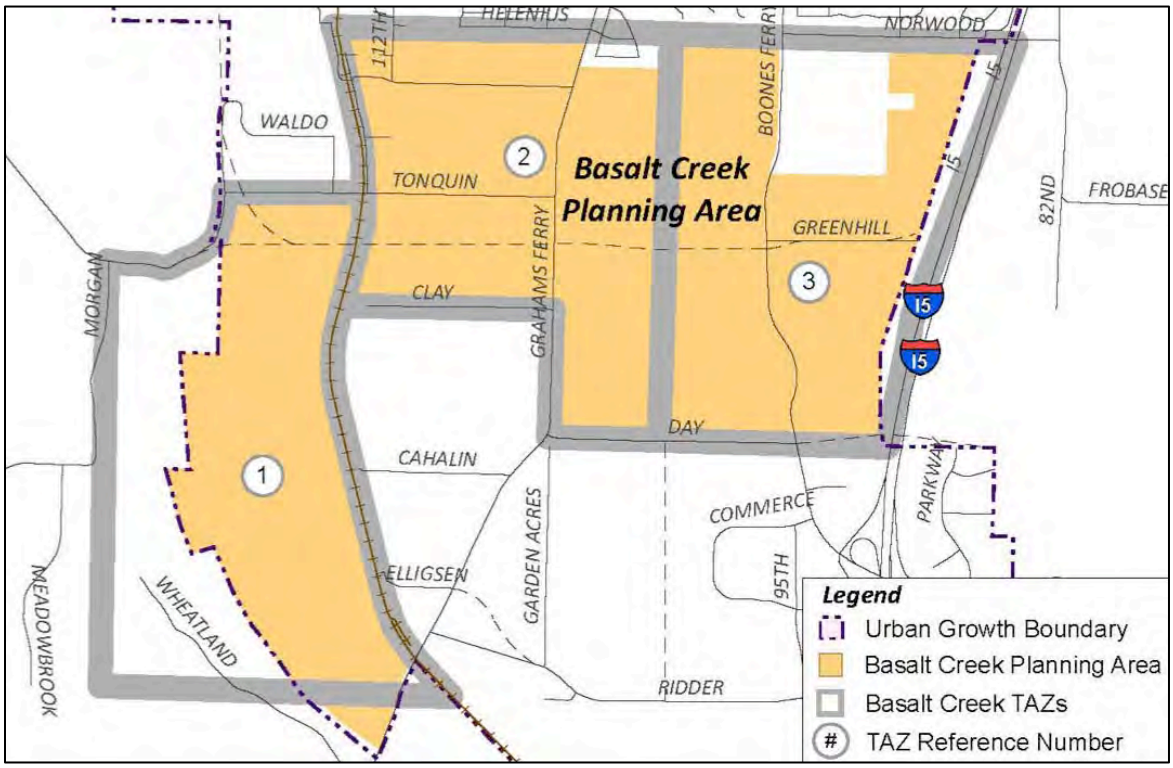


Figure 38 Basalt Creek planning area TAZ Structure. Source: DKS Associates 2014

Table 16 Basalt Creek planning area Estimated PM Peak Hour Trips[27]. Source: DKS, Metro.

TAZ	2005			2035		
	Entering	Exiting	Total	Entering	Exiting	Total
1	99	267	366	308	559	867
2	50	32	82	528	416	944
3	27	15	42	506	428	934
Total	*176*	*314*	***490***	*1,342*	*1,403*	***2,745***

[27] Within Metro's regional model, TAZs 1-3 are represented by regional TAZs 1019, 1013, and 1014, respectively.

The growth between the 2005 and 2035 model volumes was interpolated to represent model growth for the smaller 2010-to-2035 time increment. This interpolated growth was added to the base year (2010) traffic volumes shown in Figure 36, resulting in the forecast 2035 volumes shown in Figure 37.

Motor Vehicle Operations

Based on the volumes shown in Figure 36 and Figure 37, previous planning studies have documented motor vehicle conditions near the Basalt Creek planning area for existing conditions and for the future planning horizon year 2035. The 2035 motor vehicle conditions assume that the 18 projects in the Basalt Creek Transportation Refinement Plan's Action Plan, shown in Table 18 and Figure 39, will be constructed by 2035.[28] The resulting 2010 and 2035 p.m. peak hour intersection operations are shown in Table 17.

Table 17 P.M. Peak Hour Motor Vehicle Operations. Source: DKS Associates, Metro 2014.

Intersection	Jurisdiction	Mobility Target	Existing Year (2010)		Future Year (2035)	
			PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd [A]	ODOT	0.85	A	0.55	B	0.82
I-5 SB/Elligsen Rd [A]	ODOT	0.85	C	0.60	C	0.89
Boones Ferry Rd/95th Ave [A]	Washington County	0.99	C	0.84	C	0.87
Boones Ferry Rd/Day Rd [A]	Washington County	0.99	C	0.64	E	0.99
Boones Ferry Rd/Ibach St* [B]	Washington County	0.99	B	0.70	D	0.98
Grahams Ferry Rd/Clutter Rd* [C]	Washington County	0.99	A/B	0.31	A/F	>1.50
Grahams Ferry Rd/Day Rd [A]	Wilsonville	D	B	0.55	D	0.95
Grahams Ferry Rd/East-West Arterial [A]	Washington County	0.99	-	-	E	1.00
Grahams Ferry Rd/Tonquin Rd [A]	Washington County	0.99	A/B	0.44	C	0.88
124th Ave/Tonquin Rd [D]	Washington County	0.99	-	-	F	>1.50

Bolded and Red indicates intersection does not meet mobility targets
Worst mainline LOS/worst side street LOS reported for unsignalized intersections
*Existing year is 2011 for these intersections
[A] Operations from: Basalt Creek Transportation Refinement Plan, November 2012.
[B] Operations from: Tualatin Transportation System Plan, February 2013.
[C] Operations from: Wilsonville Transportation System Plan, June 2013.
[D] Operations from: SW 124th Ave Extension Traffic Impact Analysis Hybrid Scenario Report, January 2013.

[28] Not all 18 projects may be included in the 2014 financially constrained RTP project list.

As shown in the above table, five of the ten study intersections are expected to operate worse than the accepted level of mobility in the 2035 p.m. peak hour.[29] While the mobility target shown for the I-5 ramps is 0.85, it may be increased to 0.90 if it can be shown with at least 95 percent probability that queues will not spillback onto the mainline or to the portion of the ramp needed for safe deceleration. Therefore, it is possible that the I-5NB/Elligsen Road intersection may meet the mobility target if queuing is not an issue. Further study is needed for a higher level of certainty.

It is important to note that the forecasting for Basalt Creek Transportation Refinement, 124th Avenue Analysis, and the two city TSPs was performed using earlier versions of the regional travel demand model that assumed more intense development in Basalt Creek and other adjacent areas. The regional model has since been updated (with Metro's "Gamma" model version, for the 2014 Regional Transportation Plan). While the new model was not used for the analysis summarized in this report, it is significant that the overall trip numbers for the planning area are lower due to a decreased forecast for housing units and retail jobs (which produce far more trips than industrial or other commercial employment). This decreased trip forecast (Table 18), in combination with a concept plan that will strategically consider appropriate land uses, multimodal transit networks, local road connections and existing plans for road expansions, will likely mitigate some of the operational deficiencies shown in Table 17.

Table 18 Comparing Housing and Employment Forecasts for 2025 in the Basalt Creek planning area. Source: Metro 2014.

	New Households	New Retail Employment	New Service Employment	Other New Employment	Total New Employment
Forecast used in Basalt Creek TRP (Beta Version)	1386	467	581	1514	2562
New Forecast (Gamma Version)	1214	46	427	1843	2316
Change between Beta and Gamma forecasts	-172	-421	-154	+329	-246

The 124th Avenue extension is planned to be a five lane roadway; however, the operations shown for the 124th Avenue/Tonquin Road intersection assume 124th Avenue as a three lane facility. As a five lane facility, it is possible that the intersection may meet the mobility target.

At the time of the Basalt Creek Transportation Refinement Plan, the 2035 operational analysis assumed that the East-West Connector (i.e., 124th Avenue south of Tonquin Road) would be located north of Tonquin. However, the arterial is currently planned to be located south of Tonquin. Therefore, operations in Table 17 may vary—especially the Grahams Ferry Road/East-West Connector and Grahams Ferry Road/Tonquin Road intersections—assuming the south alignment of the arterial.

[29] Operational issues may also exist in the a.m. peak hour for one or more of the study intersections. Morning peak hour analysis was not available for this study.

Basalt Creek Transportation Refinement Plan Projects

The Basalt Creek Transportation Refinement effort included a recommendation for phased investments to support regional and local transportation needs through 2035. The resulting Action Plan includes the projects shown in Table 18 and Figure 39. Analysis showed that the entire set of projects would be needed to support the local and regional growth reflected in the adopted 2035 RTP model (discussed earlier), and all projects on the list are included in the assumed network on which the operations results shown in Table 17 were based.

The Action Plan project list represents the transportation framework needed to accommodate the RTP's future growth assumptions. However, this framework is different from a list of "reasonably likely" projects (i.e., projects from a financially constrained plan) that would inform a Transportation Planning Rule analysis that would support changes to comprehensive plan/zoning designations. Table 18 includes information on whether each project is identified in the Federal RTP (i.e., reasonably likely) or whether the project was from the State RTP or another source (i.e., not reasonably likely).

Major capacity improvements beyond those listed in Table 18 are not anticipated. Therefore, the trips generated in the study area, as shown in Table 16, are considered "sideboards" for the Basalt Creek planning area, meaning that trip generation lower than these totals should allow the Action Plan network to operate acceptably in 2035. Within this framework, the East-West Connector is a special case requiring further discussion.

East-West Connector Considerations

While the East-West Connector project is not part of the federal financially constrained project list in the adopted RTP, the first phase of this facility has been fast-tracked and funding has been identified for construction between 124th Avenue/Tonquin Road and Grahams Ferry Road and is recommended to be included in the 2014 financially constrained RTP list. Therefore, this section (part of Washington County's 124th Avenue Extension project) can be considered "reasonably likely" for TPR purposes.

Partner agencies on the Basalt Creek Transportation Refinement Plan identified key characteristics that should be included in the East-West Connector in order to support development. These included:

- Design for 45 mph and posted speed limit of 45 mph
- Access spacing of one-half mile to one mile

This means the only accesses provided within the study area would occur at the Grahams Ferry Road and Boones Ferry Road intersections. Additional roadway or pedestrian/bicycle crossings between the north and south sides of the facility would need to be grade-separated.

Table 19 Basalt Creek Refinement Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost ($2012)	Previously Planned?
1	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			$20,000,000	Federal RTP
2	Tonquin Road (124th Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road[1]	x			$10,500,000	Federal RTP
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			$5,400,000	Federal RTP
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			$10,800,000	In design
5	124th Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			-[2]	-
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			$500,000	Federal RTP
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			-[3]	-
8	Boones Ferry Road/95th Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			$2,500,000	Federal RTP
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			$8,900,000[4]	Federal RTP
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		$7,100,000[4]	Federal RTP
10	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		$14,000,000	Federal RTP
11	East-West Arterial (124th Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail[5]		x		$57,900,000	State RTP
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		$1,100,000	State RTP
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		$10,400,000	Federal RTP
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		$5,800,000	Similar to RTP project
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		$500,000	No
16	Boones Ferry Road/95th Avenue Intersection: Access management		x		-[6]	-
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	$33,700,000 - $44,100,000[7]	State RTP
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	$38,000,000	State RTP
	TOTAL	$59M	$97M	$72-82M	$228-238M	

[1] Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around $2,000,000

[2] Cost included in Project 1

[3] Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

[4] Tonquin Trail cost estimated by Metro as part of trail planning effort

[5] Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed
[6] Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal
[7] Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at $33,700,000, and alignment to Canyon Creek Road is estimated at $44,100,000
* Time frames may shift with updates to the RTP

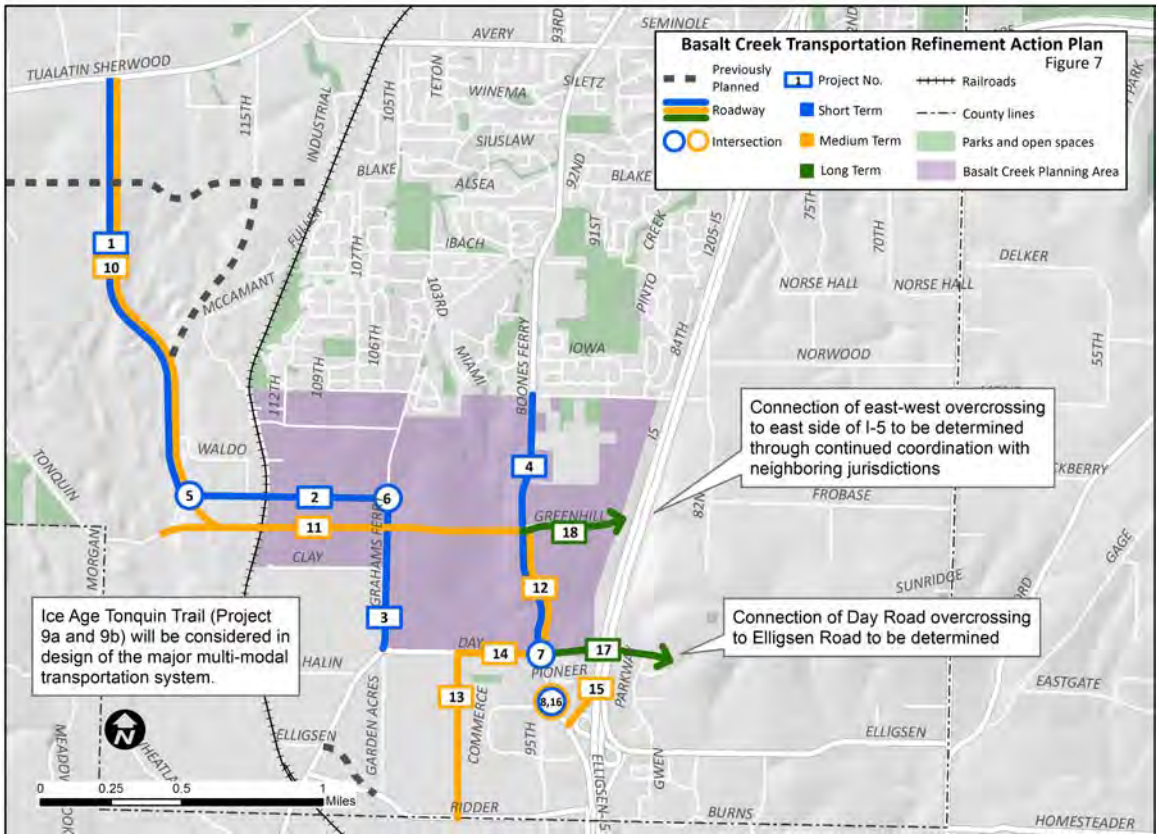


Figure 39 Basalt Creek Transportation Refinement Plan (TRP)

Pedestrian and Bicycle System

The Basalt Creek planning area is primarily served today by Tonquin Road, Grahams Ferry Road, and Boones Ferry Road. However, except for Boones Ferry Road, as shown in Figure 41 and Figure 42, these roads generally do not provide adequate pedestrian and bicycle connections to the Basalt Creek planning area.

While there are adopted design standards and several planned projects that address deficiencies in the existing pedestrian and bicycle system, there are a few rural roads in the Basalt Creek planning area without planned pedestrian and bicycle improvements, including:

- 112th Avenue south of Brown Street
- Clay Street

- Grahams Ferry Road north of Tonquin Road
- Tonquin Loop

As the area develops, these rural roads should be improved to meet urban standards.

Transit System

TriMet currently runs a bus route on Boones Ferry Road through the Basalt Creek planning area (Route 96). This route connects north Wilsonville (at Commerce Circle), Tualatin, and downtown Portland with frequent commuter service during the weekdays. As shown in Figure 39, the route runs along Boones Ferry Road with stops spaced approximately ¼ mile through the Basalt Creek planning area. Weekend transit service, however, is not provided in the planning area.

South Metro Area Regional Transit (SMART) runs transit service to Commerce Circle via Route 2X (Barbur Boulevard Transit Center to SMART Central with a stop at the Tualatin Park & Ride and Route 5 (Commerce Circle to SMART Central). Route 2X runs limited service to Commerce Circle Monday through Friday; Route 5 runs with frequent service Monday through Friday.

TriMet's WES commuter rail service runs along the rail tracks through the planning area, connecting Wilsonville to Beaverton. While it stops in Wilsonville and Tualatin, it currently does not stop in the planning area.

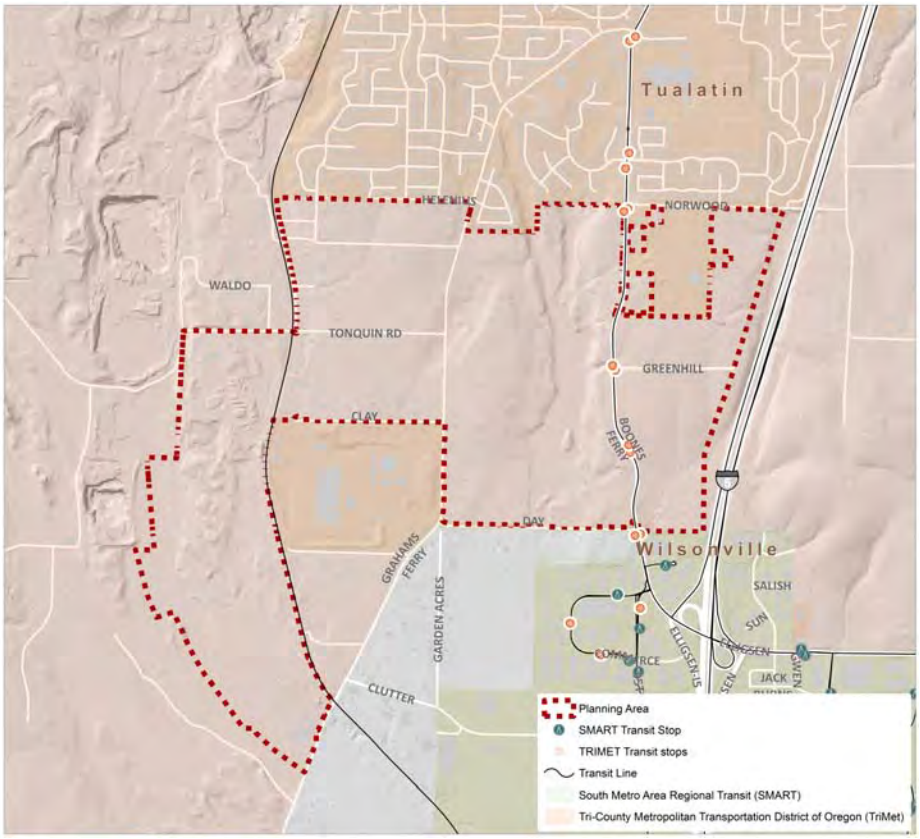


Figure 40 Transit service boundaries for TriMet and SMART in and around Basalt Creek area

Overall, the combined TriMet/SMART transit system meets the needs of the typical commuter—outside of typical commute hours, however, transit service in the Basalt Creek plan area is nonexistent.
Two projects have been identified to enhance the transit system adjacent to the Basalt Creek planning area. These projects are from the Tualatin Transportation System Plan, which did not plan for projects in the planning area, and are estimated with a medium-term planning horizon (i.e., five to ten years):

- Look for potential park-and-ride locations south of Bridgeport Village.
- Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible

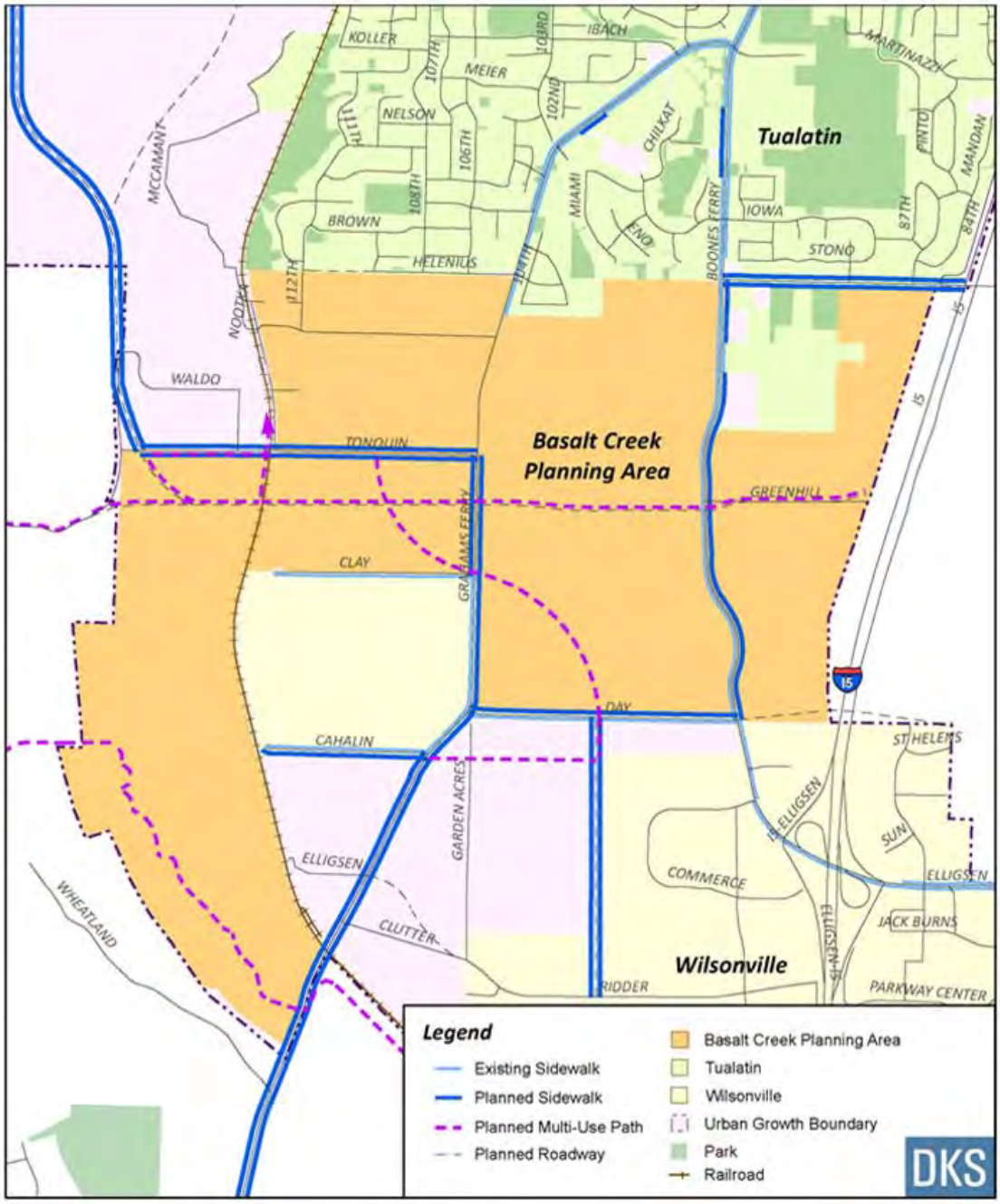


Figure 41 Existing Pedestrian system in Basalt Creek planning area. Source: DKS Associates 2014

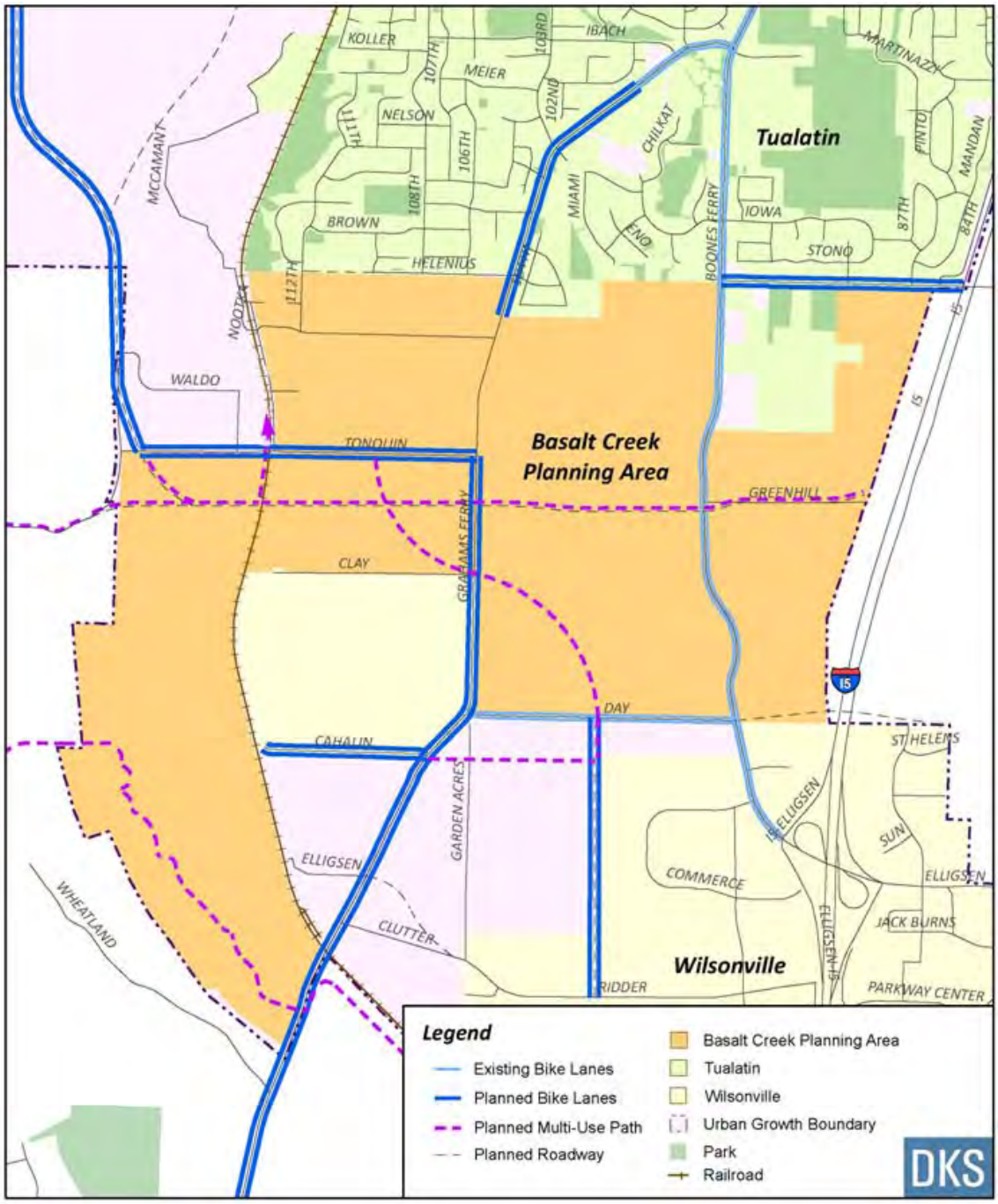


Figure 42 Existing bicycle system in Basalt Creek planning area. Source: DKS Associates 2014

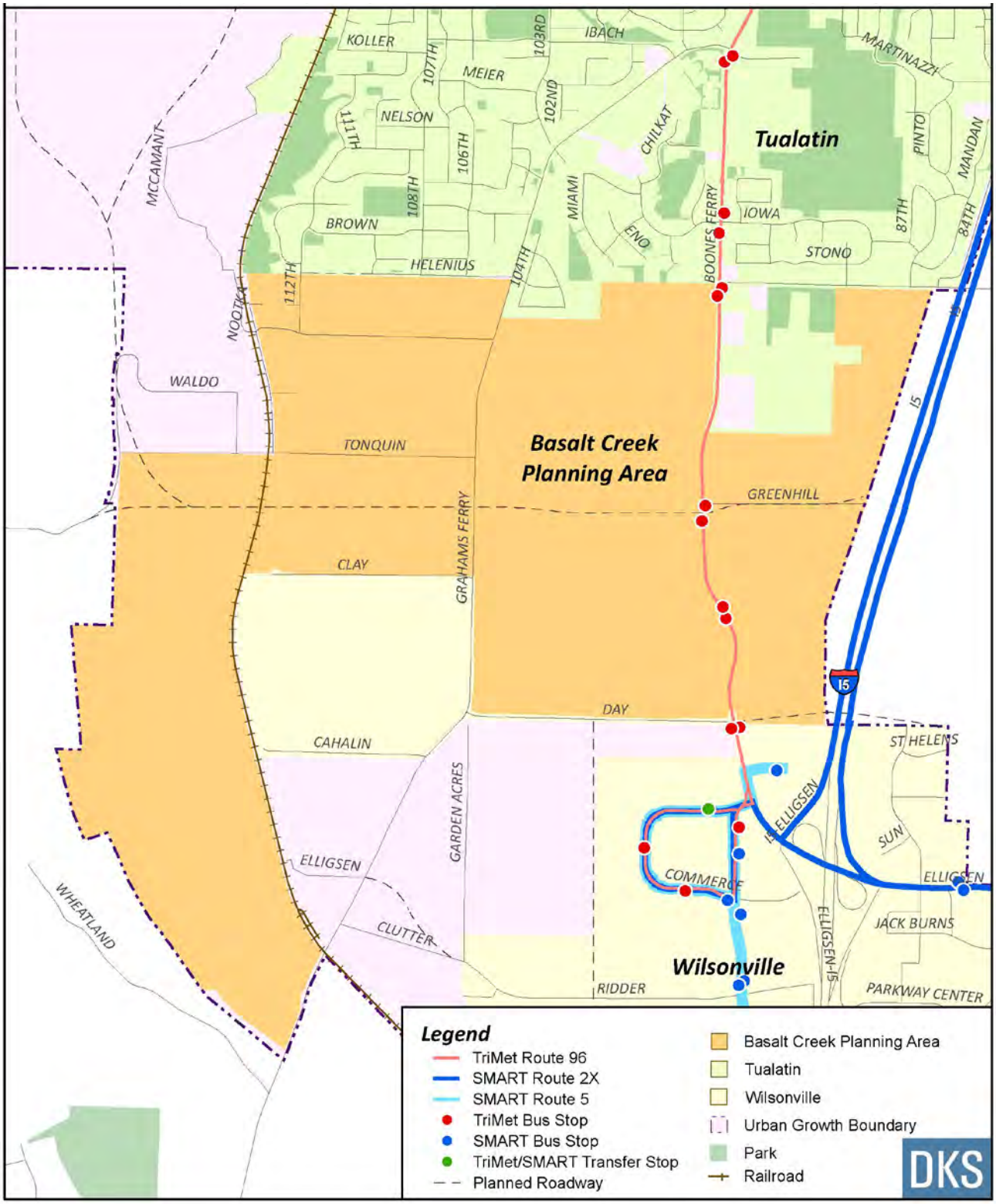


Figure 43 Existing transit system in Basalt Creek planning area. Source: DKS Associates 2014

VIII. Land Capacity Analysis

The bulk of this section describes the methods and data sources used to perform the land capacity analysis for the Basalt Creek planning area. The results of the analysis are presented toward the end of the section.

Methodology

The land capacity analysis is an estimate of the development potential within the planning area to provide a realistic estimate of where and how much land can be developed. The analysis is twofold: an assessment of "buildable lands" – areas that are suitable for development given the physical and regulatory constraints on the land, and two, an assessment of the land supply within the planning area. Land supply is an assessment at the parcel level that identifies areas that are not constrained and are either vacant or redevelopable.

Buildable Lands

The buildable lands assessment focuses primarily on identifying places where there is limited or no development potential. These areas are screened out from the analysis to identify the places where development is most suitable given the environmental and regulatory context. There are a range of factors that influence development potential within the planning area, but they can be generally divided into two categories: hard and soft constraints. Hard constraints are either physical or legal requirements that prohibit new development. These areas will be fully excluded from the analysis with the assumption that no new development will occur in them. Soft constraints are also based on physical or legal requirements but do allow for some development, and provide guidance for assigning appropriate land uses and intensities. The analysis of constraints for the purpose of assessing land capacity focused primarily on environmental and manmade constraints. A conservative approach is taken in this analysis toward development in and around environmental constraints to emphasize preservation of natural resources.

Hard Constraints

State, regional and local laws provide a range of protections for environmental features and habitat. This analysis provides a framework that meets:

- Oregon Statewide Planning Goal 5
- Metro Regional Functional Plan Requirements (Titles 3 and 13)
- Clean Water Services (CWS) Regulations
- City of Wilsonville Significant Resource Overlay Zone (SROZ) Development Code

Since local regulations are compliant with state and regional land use requirements, and in some cases go above and beyond what is required, this analysis uses the CWS and Wilsonville SROZ requirements as

the foundation for determining constraints. For the purpose of this analysis, where methodologies differ the approach that offers more protection is taken into account. The major differences between CWS and Wilsonville's SROZ requirements are summarized in Table 20 below. The chief difference between the two is that Wilsonville differentiates for size and location of wetland and includes more drainage area classes.

Table 20 Comparing methodologies[30] for buffering natural resources between Clean Water Services and Metro's Title 3/City of Wilsonville. Source: Fregonese Associates, Clean Water Services, City of Wilsonville and Metro 2014.

COMPARING BUFFERING METHODOLOGIES

WATER FEATURE	CWS	SROZ and Title 3
Primary Water Feature	50 ft	50 ft
Primary Water Feature -- With steep slope	Up to 200 ft	Up to 200 ft
Secondary Water Feature	15 ft/25 ft/50 ft	15 ft
Secondary Water Feature -- With steep slope	Up to 200 ft	50 ft
Slope Stability	Top of ravine plus 35 ft	

It should be noted that when actual development takes place, a more detailed and site-specific analysis will be undertaken and will include application of local regulations. The analysis in this report provides a detailed but high-level assessment of buildable lands for the purpose of creating the concept plan.

Hard constraints are split into two major categories: environmental and manmade. Basic environmental constraints are summarized below:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Unless otherwise noted all of the constraints described above are fully excluded from the land being considered for development in this analysis.

[30] For definitions of features, please refer to CWS's Design and Construction Standards - Chapter3, City of Wilsonville's Significant Resource Overlay Zone (SROZ) Ordinance, and Metro's Urban Growth Management Functional Plan

The following describes the environmental hard constraints methods and findings in more detail. Maps showing the environmental constraints (open water, wetlands, streams, floodplains, and Title 3 and 13 areas) can be found in *Section III: Natural and Historic Resources*.

Open water

All areas of open water in the planning area were digitized by Fregonese Associates based on 2013 and 2012 leaf-off aerials.[31] Forty-nine (49) acres of open water (which includes a 50-foot buffer surrounding water features) were excluded from the analysis.

Streams

Three categories of streams were defined for the analysis and include:

- Natural streams (18,845 feet)
- Underground streams (789 feet)
- Intermittent streams (1,402 feet)

Stream categories determined by visual survey of 2013 and 2012 leaf-off aerials and intermittent stream and through field checks conducted by the City of Wilsonville. For the constraints analysis the following buffers were applied:

- Natural streams (50 foot buffer)
- Intermittent streams (15 foot buffer)

Underground streams were not considered in the analysis. A total of 31 acres of streams and associated buffers were excluded from the analysis.

Wetlands

Wetlands were identified using RLIS, the Wetland Delineation Report for Proposed Boones Ferry Widening, and additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf-off) aerials. For the constraints analysis the following wetland buffers were applied:

- Wetlands (50-foot buffer)
- Isolated wetland and smaller than a half acre (25-foot buffer)

A total of 69 acres of wetlands and buffer areas were excluded from the analysis.

[31] Leaf-off aerials are aerial photos taken during a season (usually winter) when there is a lack of foliage on deciduous tree and shrub species, and ground features (including water bodies) can be seen more distinctly.

Floodplains

Areas identified by FEMA as being within the 1% annual chance flood event area were constrained by 50% for the analysis, resulting in a total of 53 acres of land within the 100 year floodplain.

Title 3-Designated Land

Title 3 is a regulatory designation used by Metro to protect riparian resources such as streams, wetlands and floodplains. Title 3 restricts development within these areas to protect natural resources as well as life and property threatened by flooding. There are 116 acres of Title 3 land within the planning area.

Steep Slopes

Steep slopes were analyzed using RLIS data and digitized slopes by Fregonese Associates using a 3-foot digital elevation model (DEM) provided by Metro (Figure 44). Using RLIS, only 41 acres of steep slopes were identified. The 3-foot DEM provides additional accuracy and added nine additional acres of steep slopes, for a total of 50 acres of slopes. The analysis includes non-isolated slopes, greater than half an acre, natural and or along a riparian area. These areas are excluded from the analysis.

Figure 44 Map showing classification of slopes by steepness in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

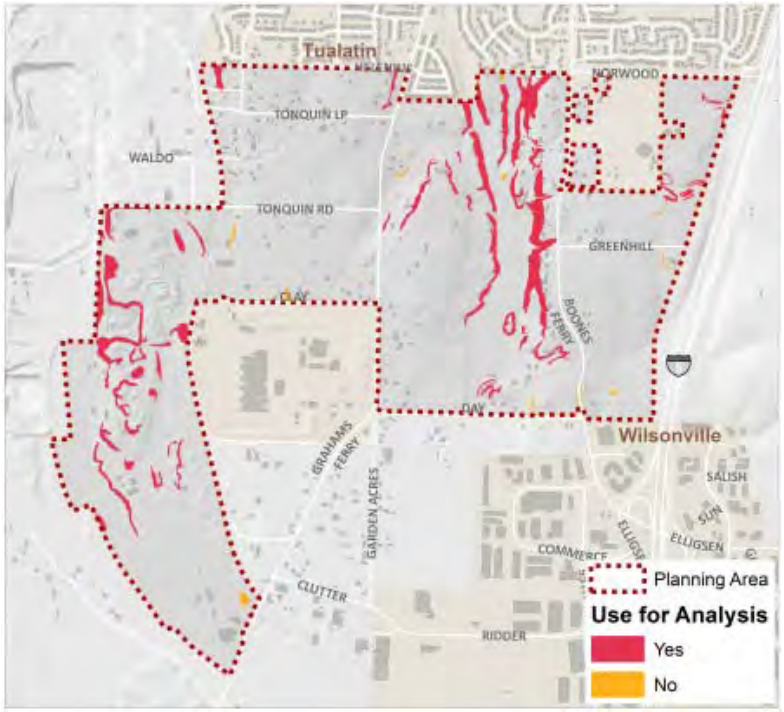


Figure 45 Slopes over 25% in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

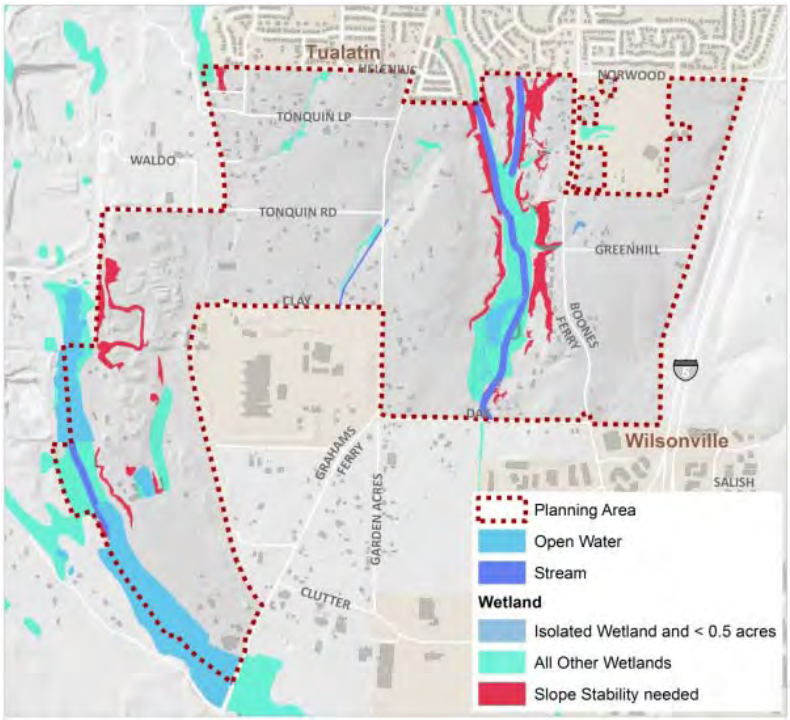


Figure 46 Slope stability in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Slope Stability

Clean Water Services has a requirement for slope stability within vegetated corridors. CWS requires an additional 35 feet for steep slopes within a vegetated corridor from top of ravine. This affects streams, open water and wetlands. The slope stability is in effect for a distance of up to 200 feet. This removes an additional area of 11 acres from the analysis (Figure 46).

Manmade Constraints

Basic manmade constraints include:

- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline
- Roads
  - Existing
  - Future/planned roads and expansions included in the Basalt Creek Transportation Refinement Plan

All of the manmade constraints are fully excluded from the buildable lands. The following describes the methodology and findings for the manmade constraints:

- Almost 16,000 feet of transmission lines crossing the area
- Two Easements:
  - BPA: 42.3 acres
  - PGE: 18.0 acres plus 4.1 acres substation
- Two Natural Gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

Roads

There are four major road projects:

- East-West Connector (6,460 feet)
- 124th Ave. Extension (890 feet)
- Boones Ferry Road (4,860 feet)
- Two 2035 I-5 Overcrossings (approx. 4,000 feet)

Soft constraints:

- Inverse buffering of tax lots along the alignments by 10-foot increments to accommodate for projects

Additional road projects:

- 11,512 feet

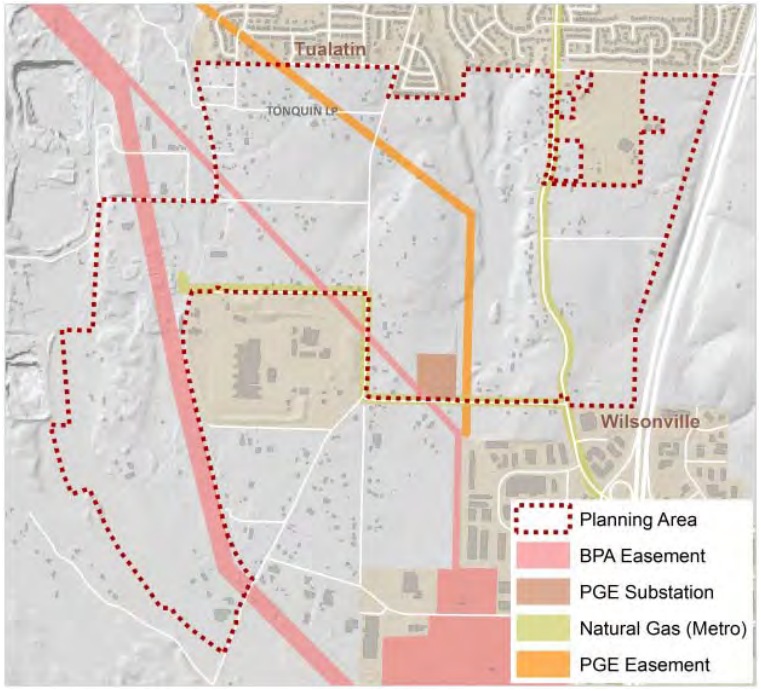


Figure 47 Infrastructure constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

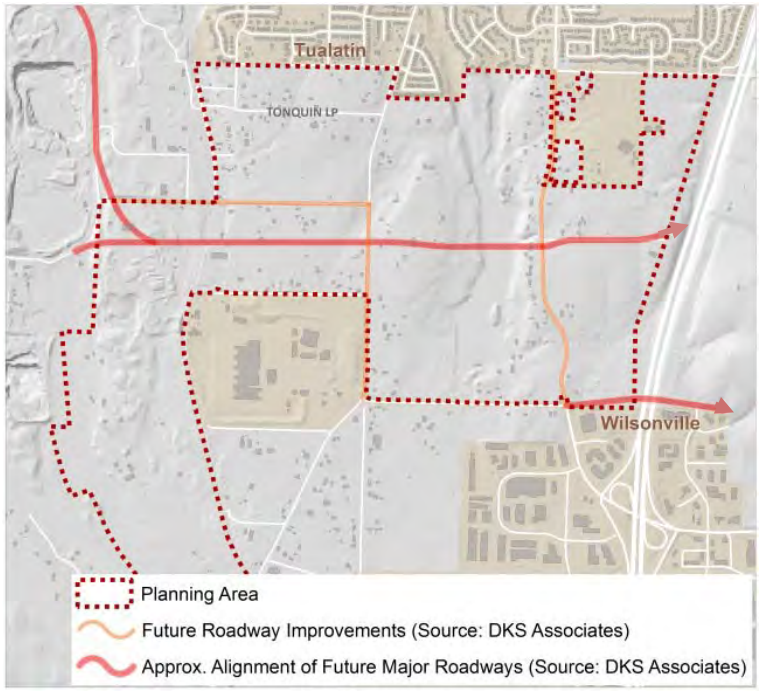


Figure 48 Road constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Soft Constraints

Soft constraints provide guidance for determining suitability for different land uses in areas that are environmentally constrained. Two key soft constraints are included in the analysis: Slopes greater than 10% (as a constraint for industrial suitability) and Title 13 protections of upland habitat

Title 13 – Designated Land

Title 13 refers to Nature in Neighborhoods. It was adopted by Metro in 2007 as an enhancement to Title 3. Title 13 encourages the protection of habitat and conservation efforts. For our analysis we restricted development within the Riparian Class I and II**.** There are 431 acres of Title 13-designated land in the planning area. For the constraints analysis, the developable acreage was reduced by 20%. Title 13 is considered a soft constraint, as it is a policy guidance designation but not regulatory.

Constraints Summary

Overall 35% (297 acres) of the total land area within the Basalt Creek planning area is constrained.

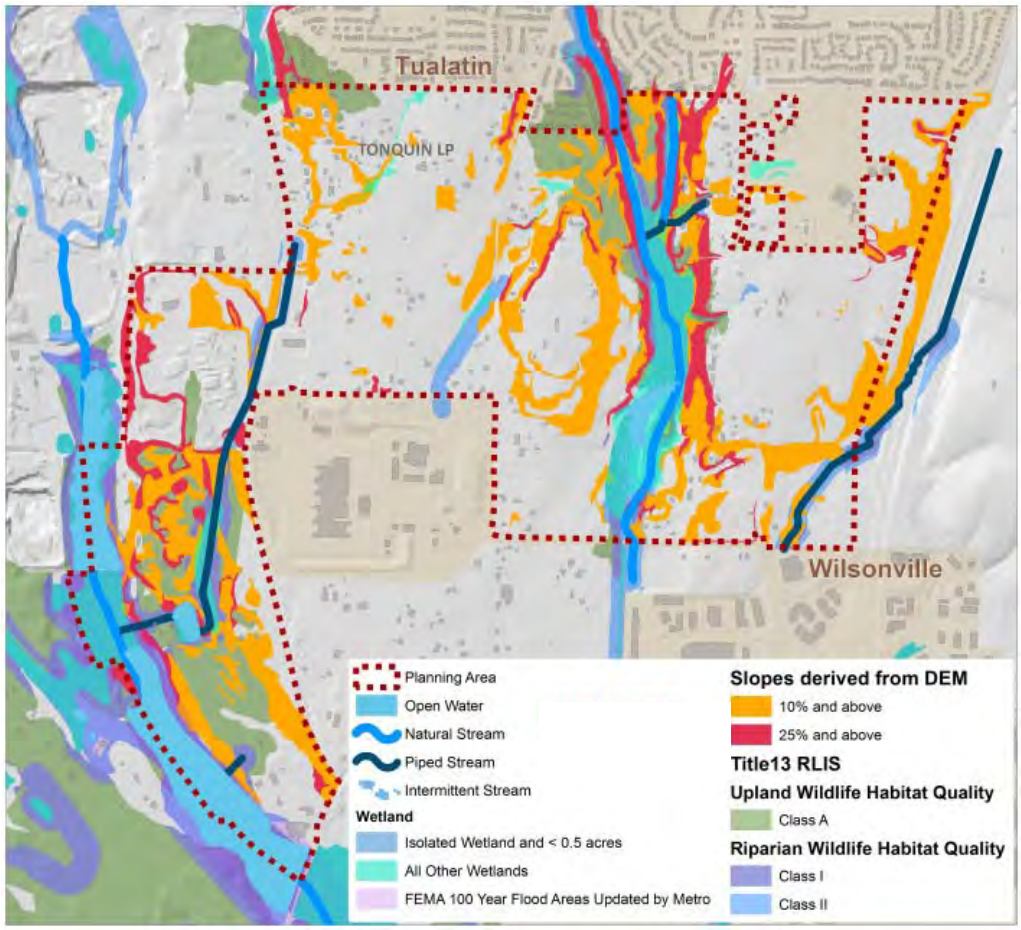


Figure 49 Map of development constraints (excluding roads) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Figure 50 below illustrates the land area that is either fully or partially constrained based on the methodology described above.

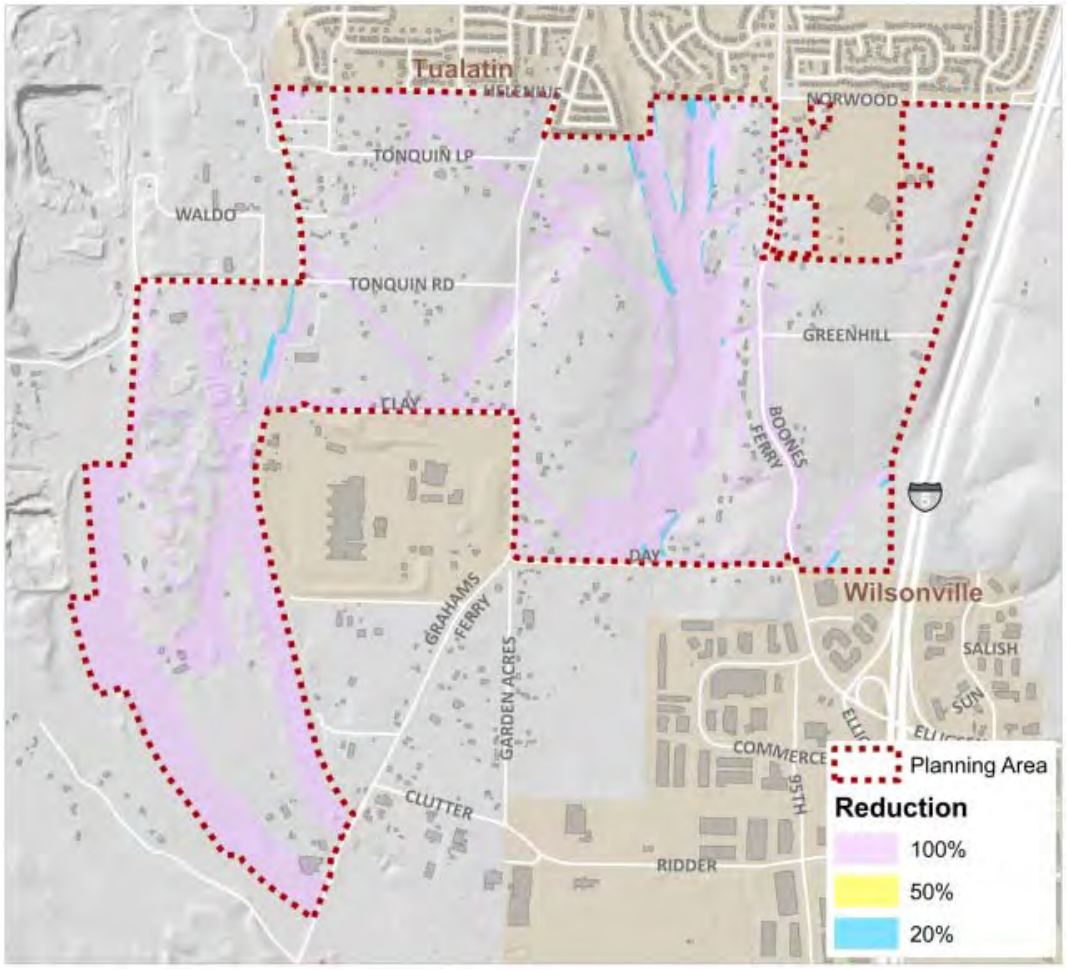


Figure 50 Map of all constrained area (hard constraints) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Land Supply

The second step in the buildable lands analysis examines the potential for new development or redevelopment of existing uses within the planning area. While much of the land within the planning area is vacant, there are existing businesses, homes and other uses within the area that are considered. This part of the analysis brings together the buildable lands analysis with an assessment of developable land within the planning area to provide an estimate of land supply available for development. This analysis is conducted at the tax lot level because land uses are tied to property lines.

The outcome of this analysis is to classify every parcel within the planning area into one of the three categories described below:

- Vacant Land – Land ready to build, no major structure on site
- Redevelopable Land – Land with existing uses but have redevelopment potential
- Stable Land – Land and structures on it will not change in the future

The land supply analysis is then combined with the buildable lands to create a geographically referenced database of land capacity within the planning area.

The land supply analysis is based on four major steps (Figure 51):

- Existing Land Use – Land use provided by tax lot data via RLIS
- Visual Survey – Ground proofing via aerials and online tools
- Building Value – Define "stable" and redevelopment potential via building value
- Local Input – Refine analysis with local input

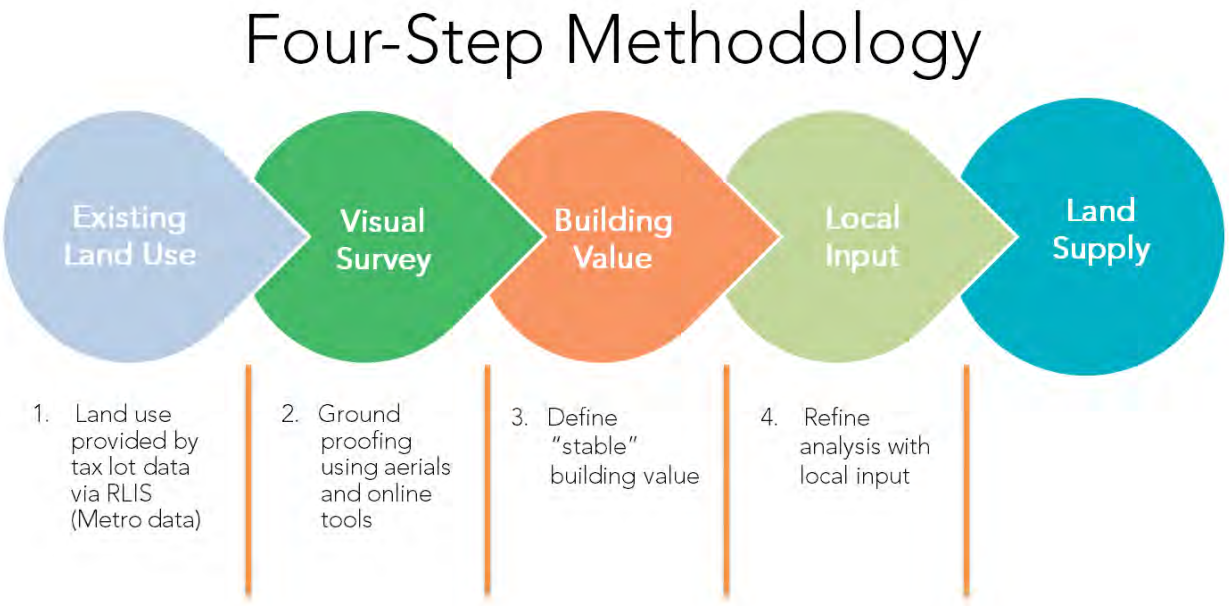


Figure 51 Graphic illustration of four-step methodology for analyzing land supply. Source: Fregonese Associates 2014.

Existing Land Use

In this step parcels are categorized into either developed or vacant land. Step one is based on existing land use using tax lot data provided by RLIS. Parcels that are considered developed are classified in RLIS as:

- Commercial
- Industrial
- Public
- Residential

Parcels that are considered vacant are classified in RLIS as:

- Rural
- Forest
- Agriculture
- Unknown
- Vacant

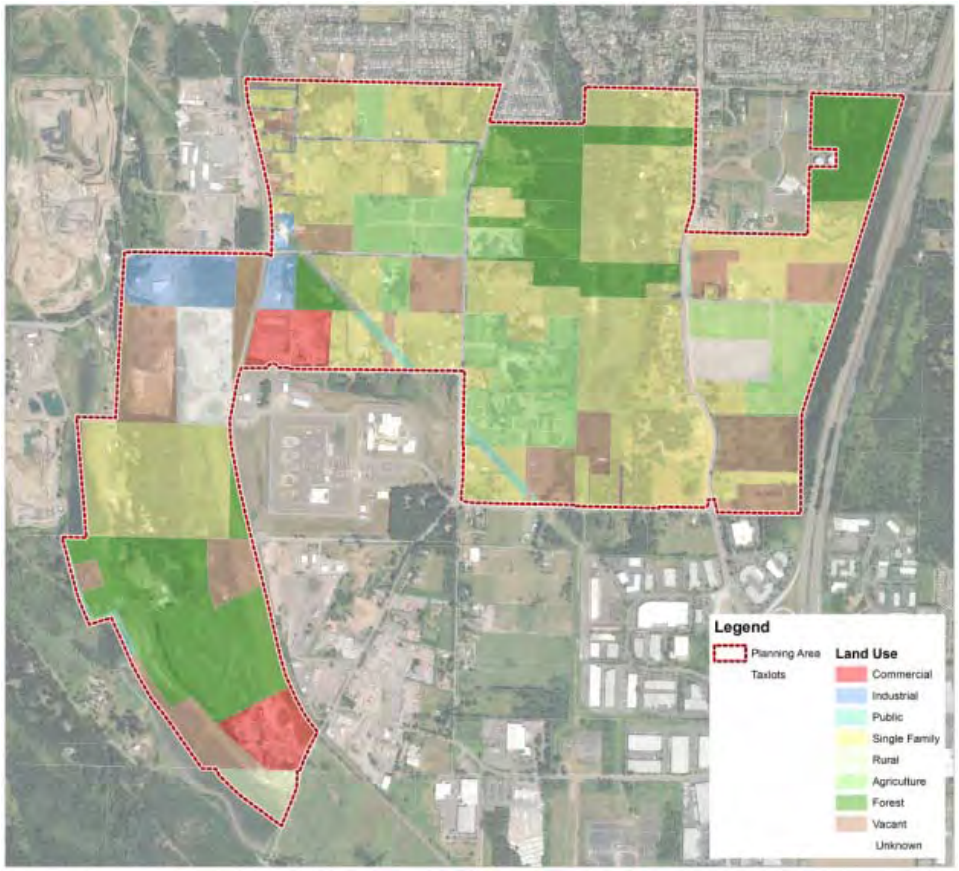


Figure 52 Map of existing land uses inside Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Visual Survey

In step two Fregonese Associates used a visual survey, other data resources and online tools to confirm and refine tax-lot-based classification of developed and vacant land. First, the vacant and developed land inventory (RLIS March 2014) was utilized to further refine the tax-lot-based analysis. The vacant and developable lands inventory is not limited to the tax lot lines and uses a "cookie cutter approach" around buildings to adjust for large amount of "unused" land on a development lot that may have an existing structure. Using this dataset as a guide in parallel with aerial photography, Google Map Street View, and Bing Map Bird's Eye the parcel dataset was refined.

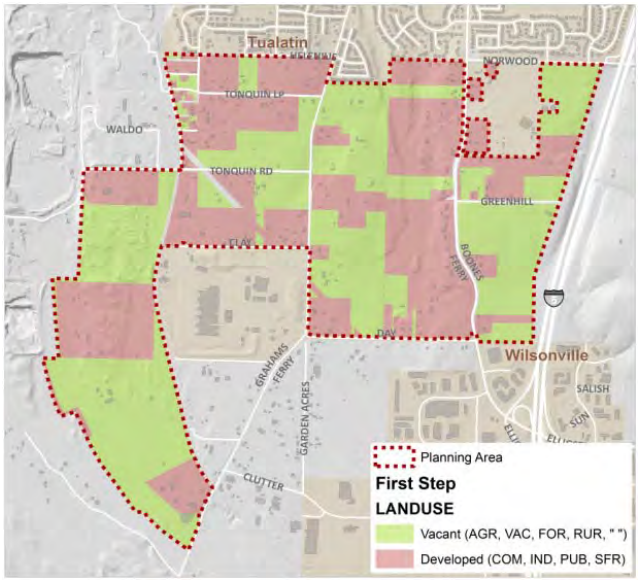


Figure 53 Vacant and Developed land as identified by Metro data. Source: Fregonese Associates, RLIS 2014

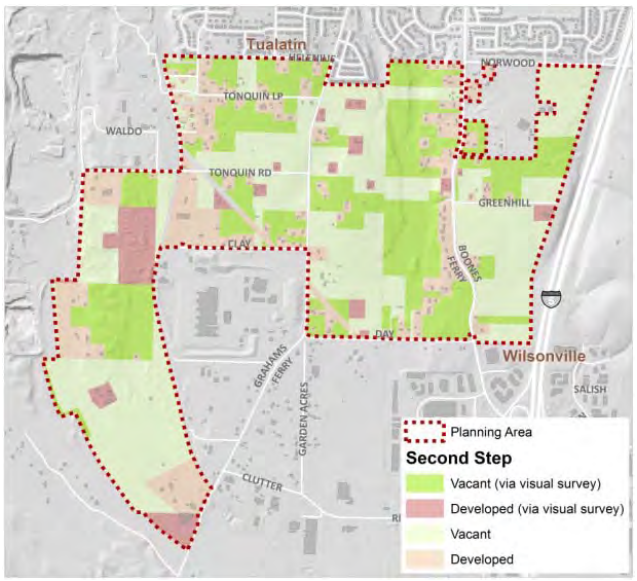


Figure 54 Map of Vacant and Developed land identified via visual survey in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Building Value

Once vacant and developed lands were identified an assessment of redevelopment potential was conducted. This step analyzes developed parcels classified under steps 1 and 2 and subdivides them into two categories: redevelopable or stable. Redevelopable means there is an existing use that will likely redevelop over the planning period and can thus be considered as part of the land capacity. Tax lots defined as stable are where no changes in existing land use are expected, so no additional growth in households and employment are expected. Tax lots classified as stable are fully excluded from the buildable lands.

First, tax lots with non-commercial structures on developed land were classified as stable. This captures residential uses in the planning area. The average building value ($125,474) was then used to create a break point for building value to estimate redevelopment potential. Tax lots with a building value of $150,000 or more were included in the analysis as "stable" the remainder are classified as redevelopable This cutoff point was based on a combination of average building value and input from local property owners about their interest in redeveloping. [32]

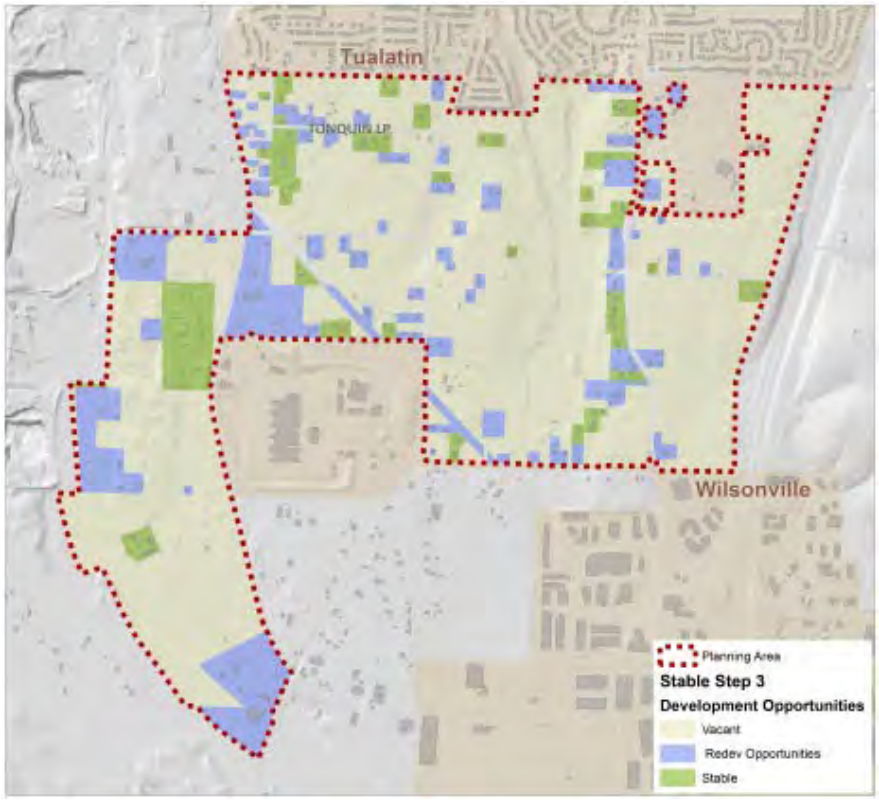


Figure 55 Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data and visual survey data. Source: Fregonese Associates, RLIS 2014.

[32] Raising the cutoff from $125,000 to $150,000 makes an assumption that most properties will redevelop as they have been developed previously under rural circumstances. There are a reasonable number of properties in the third and fourth quantiles of property values that are stable, but not as many as are likely to redevelop.

Local Input

The final step refines the stable and redevelopable tax lot inventory using information gathered through the planning process. A number of stakeholder interviews and focus groups were held with property owners in the planning area. Input gathered from these meetings was used to refine the assumptions from steps 1-3.

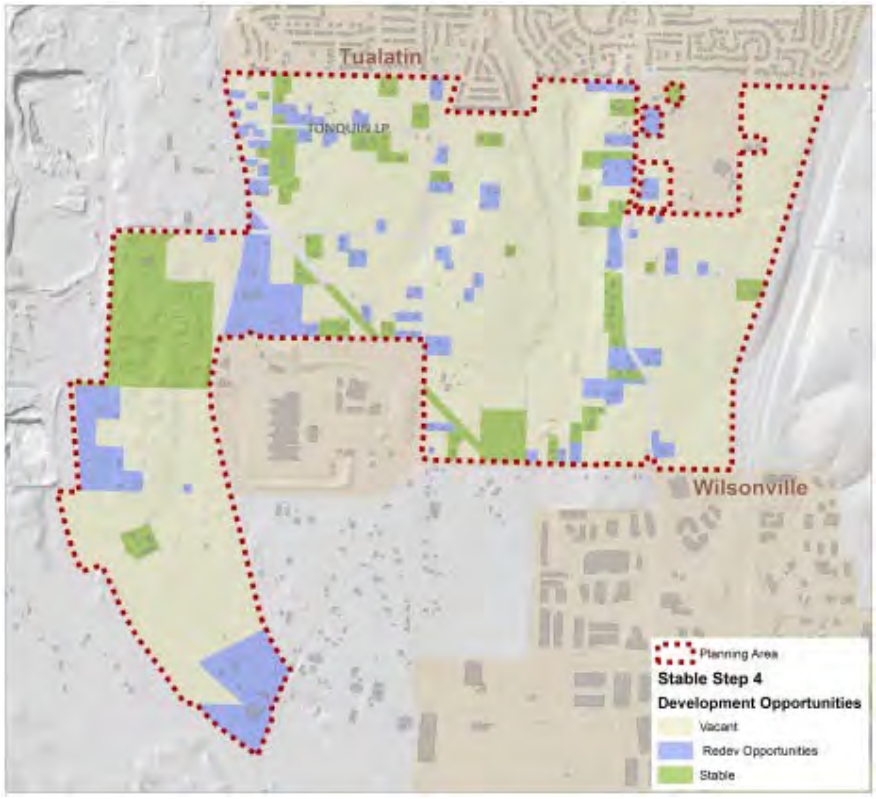


Figure 56 Final Map of Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data, visual survey data, and local input from property owners. Source: Fregonese Associates, RLIS, local property owner input 2014.

Land Supply Findings

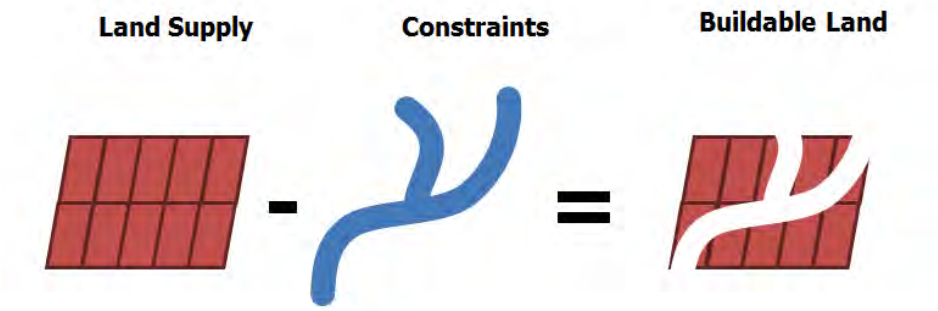
Through the process described above 43 tax lots within the planning area are defined as stable. Absent any constraints the land supply for the planning area includes:

- 596 acres of vacant land
- 117 acres of land with redevelopment potential
- 109 acres of stable land

The remaining acreage is covered by roads.

Land Capacity

The final step in determining the land capacity for the planning area brings together the buildable lands and the land supply analysis to provide a robust estimate of land development capacity within the planning area.



The land capacity estimate for the planning area is 391 acres. This land capacity analysis will form the foundation for determining land use suitability and creating the development alternatives in the next phase of the project.

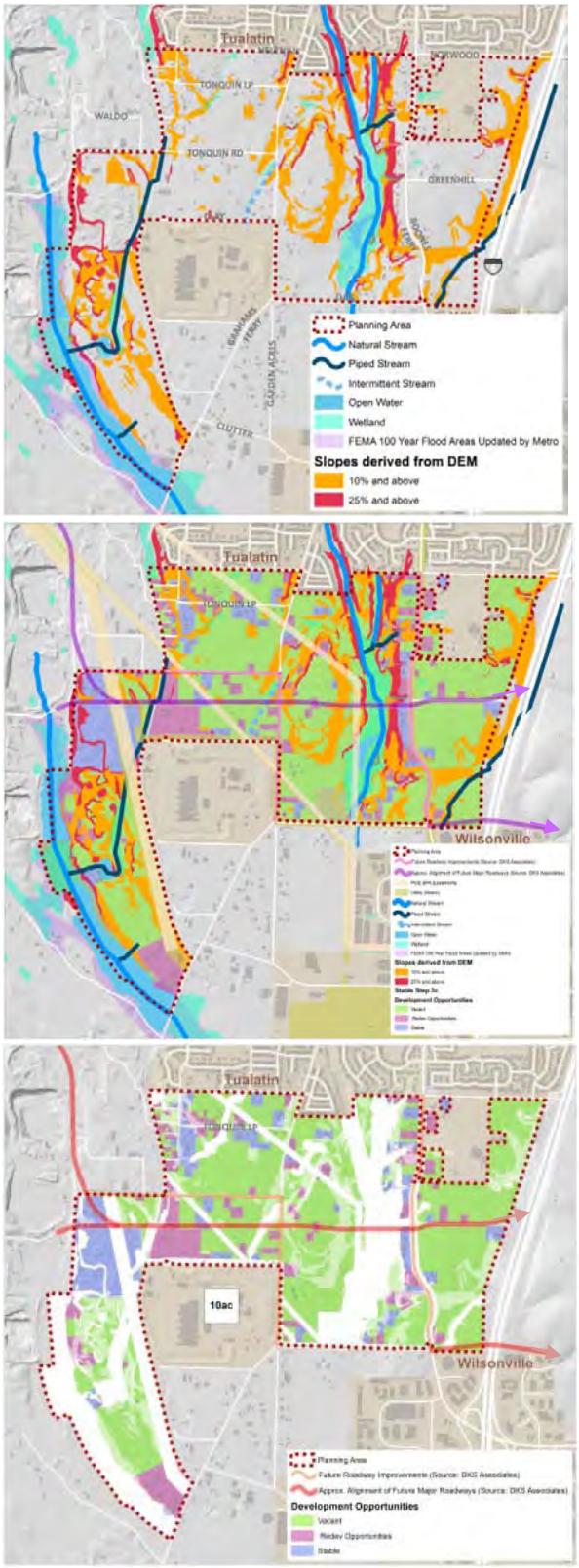


Figure 57 Sequence of maps illustrating the data and steps used to determine the total acreage of developable land in the Basalt Creek planning area. Source: Fregonese Associates 2014.

Public Involvement Plan
Basalt Creek Concept Plan
April 2014

OVERVIEW

This document outlines the Public Involvement Plan for the Basalt Creek Concept Plan and includes in detail the outreach, education and communication services that the project team, comprised of the Fregonese Associates Team (FA Team) and staff from Tualatin and Wilsonville, will use to engage the pubic and stakeholders in development of the Concept Plan. The FA team will work closely with cities of Tualatin and Wilsonville Project Management Team (PMT) to coordinate and develop a transparent planning process based on the best available data, including meaningful public engagement strategies to prioritize critical issues. The FA Team will communicate clear and realistic growth scenarios and ultimately develop consensus around an achievable preferred land use strategy.

This memo is organized around four ***major tasks***:

I. Engagement Materials
II. Targeted Stakeholder Outreach
III. Public Events and Online Surveys
IV. Informational Updates & Announcements

Within each of the major tasks, ***task deliverables*** from the detailed scope of work are included and outlined in detail. For each ***task deliverable,*** the Public Involvement Strategy includes the following information:

- **Description and Purpose**
  Describes the purpose of the deliverable to provide context for the activity and its relationship to the overall project
- **Materials**
  Each task deliverable may contain one or more than one set of materials, which will be identified in this section
- **Roles**
  Anticipated roles are indentified for the PMT and FA Team within each task

Roles and Responsibilities Framework

- The **Fregonese Associates Team** (FA Team) refers to the prime project consultant, Fregonese Associates, and includes the sub-consultants CH2M Hill (CH2M), Leland Consulting Group (LCG),

and DKS Associates (DKS), collectively referred to in this document as the FA Team. As the prime consultant, Fregonese Associates staff will lead the consultant team, working as the point of contact for the PMT, identifying methods and analysis approach, developing the outreach strategy, and managing the project timeline based on the agreed-upon work program.

- **Project Management Team** (PMT) consists of the project managers from the Cities of Tualatin and Wilsonville. The project managers from each city will make decisions as a team and communicate with the FA Team as one decision-making entity. To streamline the revision process throughout the project, the FA Team requests that all feedback is consolidated through the PMT. Once established, the agreed-upon deadlines for review must be met to keep the project on schedule. The PMT will manage the process of keeping staff from their respective individual cities informed during plan development. The PMT will also coordinate information distributed to the community. Any information distributed publicly for the Basalt Creek Concept Plan will be reviewed in advance by the PMT.
- The **Agency Review Team** (ART) is tasked with the primary role of advising staff members of both cities about regulatory and planning compliance. Input gathered from the ART will be included in regular staff updates to the Planning Commissions and City Councils. Involvement in this group will be required for some key agencies that need to approve or agree with the concept plan, while other agencies will be invited to participate in the planning process when their advice is needed on specific issues. The ART will include members from the following organizations:
    - Essential Agencies
        - Metro
        - ODOT
        - Tualatin Valley Fire & Rescue
        - Washington County
        - Bonneville Power Administration
    - Invited Agencies
        - City of Sherwood
        - City of Tualatin (Departments other than Community Development/Planning)
        - City of Wilsonville (Departments other than Community Development/Planning)
        - Clackamas County
        - Clean Water Services
        - Northwest Natural
        - Portland General Electric
        - Sherwood School District
        - SMART
        - Tigard/Tualatin School District
        - Tri-Met
        - Wilsonville/West-Linn School District

  Major agreements will be discussed at meetings, but some elements or decisions for moving forward with technical work may be made outside of team meetings. As appropriate, the ART

will be consulted with and informed. As requested, additional staff from each agency will be copied on communications for meetings, review of materials, and general coordination.

- **Joint Council** refers to Council Meetings involving Councils from both the City of Tualatin and the City of Wilsonville. The Tualatin and Wilsonville City Councils will be the ultimate decision-making body for the final Basalt Creek Concept Plan. Both City Councils are tasked with approving the guiding principles, selecting the preferred land use scenario (which will also include the provision of public services), identifying future jurisdictional boundaries, and approving the Final Basalt Creek Concept Plan.
- The **Tualatin City Council** and the **Wilsonville City Council** will convene independently to review and discuss issues that require greater input from their respective City Councils. Specifically, measures, ordinances, and resolutions to amend the individual Cities' Codes will be needed to implement the final plan. The Tualatin City Council and the Wilsonville City Council will receive regular briefings from their respective staff throughout the planning process.
- The role of the **Tualatin Planning Commission** and the role of the **Wilsonville Planning Commission** will be to consider input gathered through community engagement and from the ART and make recommendations to their respective City Councils. In addition, they will serve in their advisory capacity to respectively amend the Tualatin Community Plan Map and the Wilsonville Development Code and Comprehensive Plan to implement the final Basalt Creek Concept Plan.

Revision Process

For all deliverables there will generally be two rounds of review and document editing, with approximately one week for each round (one week for the PMT to review an initial draft, and another week for the consultant to make revisions and submit to PMT for final comments and edits). This timeframe, however, is general. The exact timeframe for the revision process of each deliverable will be determined on a case-by-case basis according to the level of complexity and lead time necessitated by respective public meeting laws of each City. For example, materials for use at Individual and Joint Council meetings must be submitted to city recorders' offices at least one week in advance of the meeting date. In some cases, the PMT may need more than one week to submit comments to the consultant, as they will be coordinating and consolidating comments between the Cities of Wilsonville and Tualatin.

Public Involvement Strategy Goals

The Cities of Tualatin and Wilsonville are committed to public involvement that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns
- Facilitates equitable and constructive communication between the public and project team
- Empowers residents to become involved with the project
- Encourages participation with other planning efforts in both cities
- Provides the public with balanced and objective information to help them understand the problem, alternatives, opportunities and solutions

- Offers alternative accommodations to encourage participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language
- Builds on existing communication networks and resources of both cities

Types of Involvement

The following categories can be used to group public participation activities by depth of engagement. A table below organizes these activities by stakeholder group, while the "Communication Methods" section presents the same information, organized by milestones. It is important to note that many outreach activities can achieve multiple levels of engagement, depending on the activity objective, design, and contextual factors.

Informing

This level of participation will focus on educating and informing all interested parties (even those who are just peripherally interested) about the project background, status updates, public events and participation opportunities and major milestones and decision points. The level of technical detail about a given topic will be tailored to be audience-appropriate. For example, the level of detail about environmental constraints analysis methodology will be greater at an ART meeting than at a public open house, because ART members are staff or regulating and enforcing agencies. However, more detailed information will often be made available to the public should a reasonable request for it be made. Informing is themost broadly used level of engagement in many cases because it is a precursor to higher levels of engagement and must reach a large number of stakeholders.

Consultation

Consultation with stakeholders entails asking them to provide input on the goals, alternatives and plan. This level of engagement is critical for identifying major issues and concerns among particular stakeholder groups as well as the general public. Different opportunities for providing input will be designed to be appropriate for a range of stakeholders. In essences, this level involves "checking in" with stakeholders to say, "did we get it right?" Surveys and open houses can achieve this level of engagement, among others.

Participation

Participation requires that stakeholders are helping to define and shape project goals, evaluating options and alternatives, and possibly helping to shape recommendations to be included in the plan. Public meetings, workshops, or work sessions can achieve this level of engagement.

Collaboration

Stakeholders help to craft alternatives in collaborative engagement activities. It involves a high level of project detail and usually long-term commitment to reviewing background documents. Technical experts as well as elected officials and decision-makers are commonly leaned upon to perform these duties, though citizen advisory committees and stakeholder group representatives may also contribute substantial efforts. The audience for this level of engagement includes stakeholders who have a higher

level of interest in the project and those who will be interested and impacted by the outcomes of the project.

Partnership

The most engaged level of participation, partnership entails shared responsibility for developing and implementing solutions, as well as decision-making authority. This level of engagement frequently occurs at the institutional level, with public agencies and elected bodies, as well as private-sector representatives, cooperating to agree upon and apply solutions to realize the best possible outcomes for the public interest. The City Councils of Tualatin and Wilsonville will have the final decision making authority for the project. Informed by the input from the public workshop and staff, the City Councils will review information and make their recommendations.

Communication Methods

The project team will utilize online and print communication methods to inform stakeholders about public events and opportunities to participate in the development of the plan. The following list identifies public activities and the expected communication methods which will be used to advertise these activities and events.

Council meetings for either City:

- Community calendars for individual cities
- Basalt Creek project website

Public workshop and open house announcements, including online surveys:

- Community Calendars for both Cities
- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of draft plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of final plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

STAKEHOLDER GROUP	OUTREACH ACTIVITY	PROJECT TOPICS	PARTICIPATION LEVEL				
			Partner	Collaborate	Involve	Consult	Inform
Property Owners	1. Focus group	Project background, Existing conditions, Guiding principles, Alternative scenarios			x		x
	2. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
	3. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
Business Owners	1. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
Developers	1. Focus group	Project background, Existing Conditions, Development opportunities & barriers				x	x
Residents	1. One-on-one interviews	Existing conditions, Guiding principles, Alternative Scenarios				x	x
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	x
General Public	1. Project website	Project background, Project Calendar, Project FAQ, Public event announcements/reminders, Online survey link, Comment form					x
	2. Posted flyers	Workshop & open house announcements/reminders					x
	3. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					x
	4. Facebook/Twitter	Link to project website, Brief project updates, Link to Online Survey, Link to online comment form, Public event announcements/reminders, Results of open houses & Workshops, Results of elected officials' and public agency decision points, Link to draft Concept Plan, Link to final Concept Plan					x
	5. Newsletters	Project background, Project updates, Public event announcements/reminders, Results of public events, Results of Elected officials and public agency decision points					x
	6. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				x	
	7. Online Comment form	All				x	
Informed Public	1. Open House	Alternative scenarios, Draft preferred scenario		x			
	2. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios		x			
	3. Draft Review	Draft preferred scenario		x			
	4. Public Hearings	Final preferred scenario, Jurisidictional boundary			x		
Hard-to-reach Groups	1. Phone calls	Project background, Public event announcements/reminders					x
	2. Mailers	Project background, Public event announcements/reminders					x
	3. Multi-lingual materials	Project background, Public event announcements/reminders					x
Elected Officials	1. Informational briefings	Project updates, Public feedback, Major milestones (existing conditions, draft and preferred scenarios), Preparation for decision points				x	
	2. Work sessions	Concept plan discussion, Jurisdictional boundary discussion		x			
	3. Draft review	Jurisdictional boundary, Finalconcept plan		x			
	4. Plan acceptance	Jurisdictional boundary, Finalconcept plan	x				
Non-profits, schools, religious and advocacy groups	1. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					x
	2. One-on-one interview	Existing conditions, Guiding principles, Alternative scenarios				x	
	3. Open House	Alternative scenarios, Draft preferred scenario			x		
	4. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios			x		
Media	1. Press releases	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					x

I. OUTREACH MATERIALS

Deliverables

1. General Milestone Calendar
2. Project Branding (Logo)
3. Stakeholder Contact List
4. Periodic Email Updates
5. Press Releases
6. Newsletter Articles
7. Materials for Project Website
8. Social Media

1. General Milestone Calendar

Description and Purpose

A milestone calendar will be created to communicate an overview of the project process and timeline to the general public, key stakeholders and decision makers. The General Milestone Calendar will be an attractive, easy-to-understand flow diagram communicating the timing and sequence of major project milestones, public engagement opportunities and decision points. This graphic will be utilized in print, online and in presentations.

The purpose of a general milestone calendar is to:

a) Facilitate public understanding of the general flow and sequencing of project tasks
b) Alert the public, key stakeholders and decision makers in advance of critical junctures where their input is needed, including but not limited to:
    a. Public meetings and events
    b. Review/comment periods for draft concepts and documents
c) Communicate updates in the timing or sequencing of key milestones

Materials

Key dates to show on the General Milestone Calendar will include but not be limited to the following:

- ART meetings
- Joint Council Meetings
- Planning Commission Meetings
- Development of Guiding Principles
- Existing Conditions Report
- Public Workshop
- Development of Alternative Scenarios
- Public Open House

- Development of Final Plan
- Plan Acceptance Decision
- Availability of draft jurisdictional boundary memo for public review (review/comment period)

Roles

Project Management Team

- Review and provide feedback on General Milestone Calendar
- Distribute the final General Milestone Calendar to agency leads and other decision makers

FA Team

- Design the Draft General Milestone Calendar
- Integrate comments and feedback
- Deliver final Calendar (electronic format) to the PMT and upload to project webpage

2. Project Branding

Description & Purpose

The FA Team will develop a project logo which will be used on all outreach materials, reports and the website to create and reinforce the project identity. The purpose of branding is to establish a recognizable identity for the project. The FA Team will provide web and print-ready formats of the final logo to the PMT. File formats will include JPEG, Adobe Illustrator and PNG.

Materials

A project logo and associated graphics will include attractive, easy-to-understand visual elements that reinforce agreed-upon guiding principles and project priorities.

Roles

PMT

- Provide feedback on the project logo

FA Team

- Design project logo
- Distribute a web- and print-ready version of the logo for use by the PMT; upload and incorporate into project website
- Incorporate the project logo in PowerPoint presentations, outreach materials, reports and the project website materials

3. Interested Persons Contact List

Description & Purpose

The FA Team will collaborate with the City of Tualatin and City of Wilsonville to effectively utilize the existing contact list of interested persons. Stakeholders on the contact list will receive periodic email updates corresponding to major project milestones, including notices of public events. The stakeholder contact list will be managed by the City of Tualatin and used to send project update messages via email.

Materials

The master contact list will include names, email addresses, phone numbers, and addresses of stakeholders. This contact list should also track stakeholder types (i.e. property owner, business owner, resident) and organizational affiliations. The contact list can be used to track additional stakeholder information, such as identifying interview candidates, focus group members, or workshop attendees.

The contact list should include but not be limited to the following:

- Property Owners and Neighbors
- Other residents and tenants
- Tualatin Community Representatives (CIOs)
- Wilsonville Community Representatives
- Tualatin Business Representatives
- Wilsonville Business Representatives
- Westside Economic Alliance Representatives
- Horizon School Representatives
- Agency Review Team
- Stakeholder Interviewees

Roles

PMT

- Collect new contact information from stakeholders by providing and collecting sign-in sheets at the public workshop and open house
- Manage and update master email distribution list
- Reach out to community groups to request permission to add their members to the outreach contact list
- Protect the addresses and privacy of individuals on the contact list
- Provide the FA Team with existing project email distribution lists. May necessitate merging of lists between organizations

FA Team

- Protect the addresses and privacy of individuals on the contact list
- Provide PMT with access to contact information collected through online surveys

4. Email Updates

Description & Purpose

The purpose of on-going communications via email (using the Interested Persons contact list described above) is to highlight positive momentum toward achieving community goals. Email updates will be sent to the email distribution list described above to communicate project milestones and to notify stakeholders of the public workshop, open house, online surveys, online public draft documents, etc, as needed.

Materials

General project updates may include, but not be limited to the following information:

- Status of the project in relation to the General Milestone Calendar
- Upcoming opportunities for public engagement
- Links to results and images from recent outreach activities
- Links to the online surveys
- Links to the project webpage
- Public availability of draft or final documents
- Outcomes of Joint Council meetings or major decision points
- Contact information for project management

Roles

PMT

- Establish a PMT strategy for review of email content
- Review and approve a template for email updates
- Review and approve content for email updates
- Establish a project email address and contact for email blasts

FA Team

- Prepare an email template in Mailchimp (or similar service) to manage messaging to email distribution list
- Prepare content for email updates in consultation with the PMT
- Send email blasts prior to public meetings and at key milestones, once content is approved by PMT

5. Press Releases

Description & Purpose

Project press releases will be issued jointly by the City of Tualatin and the City of Wilsonville on project-branded letterhead to reach local and regional media contacts at key milestones. The City of Tualatin, City of Wilsonville and the FA Team will jointly prepare and review press releases prior to issuing them.

Each City will send the releases to their local media contacts and they will also be shared with regional media contacts via the FlashAlert Newswire (www.flashalert.net). Press releases will also be shared via the project's Twitter account, each City's Facebook page, and each City's website. Each press release will have two contacts—one from the City of Tualatin and the other from the City of Wilsonville. The FA Team will post the press releases on the project website.

Materials

Press releases will be posted on each City's websites, Facebook pages, project-specific Twitter feed, and on the Basalt Creek project website.

Roles

PMT

- Draft press releases at key project milestones
- Review, edit and approve content
- Issue press releases to local and regional media contacts
- Post press releases to project Twitter feed, City Facebook pages, City websites, and the project website.
- The project contacts for each City will respond to media inquiries in a timely manner and report back to the PMT
- Media coverage will be shared on the project-specific Twitter feed

FA Team

- In coordination with the PMT, draft and edit press releases and post press releases and media coverage to project website

6. Newsletter Articles

Description & Purpose

Both the City of Tualatin and the City of Wilsonville have monthly newsletters that are mailed to their residents. Each City will be independently responsible for drafting and running articles in their newsletter at key milestones throughout the project. These articles may be based on the project press releases, but also may include information about upcoming meetings and other related content.

Materials

Newsletter articles will be run in each City's newsletter at key milestones throughout the project.

Roles

PMT

- Draft articles at key milestones based on press releases or other content
- Review, edit and approve articles
- Run and distribute articles in each City's monthly newsletter and on the project website

FA Team

- In coordination with the PMT draft and edit articles and post to project website

7. Materials for Project Website

Description & Purpose

The existing project website will be utilized to provide project information such as background, objectives, milestones, and key engagement opportunities, as well as a venue to post draft and final documents for public review.

The overarching goals of the project website are distributing information to the public and key stakeholders and gathering their feedback at decision making points. The website should include the following:

- Project background and timeline
- Updates on milestones and key decision points
- Announcements of public involvement opportunities
- Results of outreach efforts
- Downloadable PDFs of website content and other engagement materials including project background and timeline, event announcements, etc.
- Links to the project's Facebook page and Twitter feed, as well as other relevant projects such as the SW Tualatin Concept Plan, Coffee Creek, 124th, Boones Ferry Road, etc.

Materials

The FA Team will update, manage and provide text and images for website updates to the PMT corresponding to key milestones and decision points, public involvement opportunities, and draft and final documents as identified in this Public Involvement Plan. These updates will be tracked on a detailed (internal) Project Team Timeline and coordinated on an as needed basis.

Roles

PMT

- Review, edit and approve website content
- Provide and host website URL
- Prepare and update a FAQ about the project

FA Team

- Provide initial review of the website structure and content and implement any changes or additions with PMT oversight
- Establish an RSS feed on the project website
- Provide draft and finalized content updates including PDFs, text and graphics to the PMT for approval

- Coordinate email blasts and website updates
- Manage and upload new materials for the website that are included as part of the Public Involvement Plan

8. Social Media

Description & Purpose

Facebook page and Twitter feeds will provide another means for stakeholders to stay connected with the project progress. The Cities of Tualatin and Wilsonville will utilize their existing Facebook pages and Twitter feeds to provide Basalt Creek Plan updates and links to the Basalt Creek webpage including notices of public events and when new material is posted to the Basalt Creek project website. Posts will be added throughout the project at major milestones and as there are noteworthy updates to report. The City of Wilsonville will also develop a twitter feed specific to the Basalt Creek project which will help further advance public information and guide interested parties to the Basalt Creek Website.

Materials

Facebook and Twitter content posted to City sites and a Basalt Creek specific Twitter feed.

Roles

PMT

- Create brief, periodic Facebook and Twitter posts
- Review, edit and approve content
- Post content to Facebook and Twitter
- Content for updates will be generated by the PMT in collaboration with the FA Team.

FA Team

- In coordination with the PMT generate content and provide advice for Facebook and Twitter posts

II. TARGETED STAKEHOLDER OUTREACH

Task Deliverables

1. Interviews
2. Stakeholder Groups
3. Agency Review Team (ART)
4. Planning Commission Briefings
5. Individual Council Information Sessions
6. Joint Council Decision Information Sessions

1. Interviews

Description & Purpose

The purpose of stakeholder interviews is to gain a better understanding of stakeholder goals and interests. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision for the concept plan. These interviews will likely take place within the first six months of the project.

The FA Team will interview a selection of four community members, property, and business owners and other stakeholders identified by the PMT, selected from the following community groups:

- Property and business owners in Basalt Creek
- Community representatives from both Cities
- Residents of Basalt Creek
- Business owners/ representatives from both cities
- Westside Economic Alliance
- Horizon Church

Materials

Materials will include an interview guide with general interview questions and topic areas for discussion.

Roles

PMT

- Identify interview candidates
- Make initial contact with interview candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss with interviewees
- Help identify and secure locations for interviews

FA Team

- Identify interview candidates in partnership with the PMT
- Review list of interview candidates with PMT
- Lead and facilitate the stakeholder interview discussions
- Create and print maps to guide interview conversations
- Keep a written record of interview conversations
- Provide notes of interview findings to the PMT

2. Focus Group Meetings

Description & Purpose

Focus group meetings will be conducted with 6-7 participants and will be based on an open discussion format facilitated by the FA Team. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision

for the concept plan. These meetings should take place within the first six months of the project. The FA Team proposes to conduct two focus groups meetings, one with developers and one with key property owners. Focus group member candidates will be identified through collaborative efforts between the FA Team and the PMT.

Focus Group #1: Developer Roundtable

The Developer Roundtable is a forum which will be used to gather valuable information related to general and specific development opportunities and barriers in Basalt Creek. Involving developers at the local and regional level will help characterize and contextualize development potential and constraints in the area.

Focus Group #2: Property Owner Meeting

The Property Owner Meeting is a stakeholder meeting for a small group with 6-7 property owners from the area (preferably a mix of both commercial and residential property owners). This meeting will provide a forum to learn about property owner priorities, concerns and suggestions for the future of Basalt Creek.

Materials

A short presentation will be made to both groups on the overall project. Materials will include a facilitator's guide including questions and topic areas for discussion.

Roles

PMT

- Identify stakeholder group candidates
- Work with the FA Team to expand and revise list
- Make initial contact with candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss
- Identify and reserve meeting locations
- Track responses and confirm attendance of invitees

FA Team

- Identify stakeholder group candidates, advise on developers to include
- Work with the PMT to expand and revise list
- Develop a facilitators guide
- Lead and facilitate the stakeholder group discussions
- Create and print maps to guide conversations
- Keep a written record of group discussions
- Provide meeting notes to PMT

3. Agency Review Team (ART)

Description & Purpose

An Agency Review Team (ART) will be formed to guide the development of the Concept Plan. The primary role of the ART is to advise the project team about regulatory and planning compliance. The ART will consist of representatives from regulatory agencies identified in the "Roles and Responsibilities Framework" section at the beginning of this document. They will meet preceding major project milestones to provide technical input for Concept Plan development.

Materials

For all ART meetings:

- Meeting agenda
- Materials/documents for review
- PowerPoint presentations
- Presentation technology (projector, screen, etc.)

Roles

ART members

- Provide guidance to project team on specific technical questions and issues
- Act as liaisons to their own agencies
- Review and provide feedback on draft concept plan

PMT

- Identify and invite individuals to join the ART
- Distribute meeting agenda and meeting materials to ART members prior to meetings
- Keep the official written record of meetings including attendees, notes, comments, outcomes and next steps
- Write and distribute meeting summaries to ART members
- Provide space and printed materials for meetings
- Provide periodic updates on feedback from the ART to the Planning Commission and City Councils

FA Team

- Create meeting agendas
- Facilitate meeting discussions, which may include short presentations
- Create meeting materials to support agenda
- Provide PMT with FA team notes to support the development of the official written record

4. Planning Commission Briefings

Description & Purpose

Planning Commission Briefings are intended to provide project updates to the Cities individual Planning Commissions prior to major decision points to identify any issues and gather feedback from the Commissions. These briefings will include, at a minimum:

- Project Updates
- Concept Plan Discussion
- Jurisdictional Boundary Discussion
- Concept Plan Acceptance

Briefings to the Planning Commissions will take place prior to Individual Council briefings. The Planning Commission engagement is important to set the stage for future comprehensive plan amendments and other planning actions that will happen within each jurisdiction as a result of the concept plan acceptance.

Materials

Meeting agendas will be developed to focus on gathering feedback and information from the Planning Commissions including:

1. Jurisdictional Boundaries Recommendation
2. Draft Preferred Scenario
3. Draft Concept Plan

Roles

PMT

- Schedule briefings
- Create meeting agendas
- Keep written record of meetings and provide FA Team with meeting notes

FA Team

- Provide feedback on meeting agenda

5. Individual Council Information Briefings

Description & Purpose

Individual Council briefings are intended to provide project updates at key points throughout the planning process. Briefings will include:

- Project updates
- Discussions about major milestones (Existing Conditions, draft and preferred scenarios)
- Identification of Council concerns and gathering feedback to inform the concept planning process

- Preparation of Council members for upcoming Joint Council decisions points

The FA Team assumes that PMT staff will brief their Councils as the project progresses. Individual Council update sessions with the FA Team will focus on building the capacity of each Council to make informed decisions when Joint Council action is required. The staff of each City will present materials to the Individual Councils.

Materials

Meeting agendas will mirror major project elements that require a more detailed level of understanding among the Councils. Detailed briefings will allow Councils to validate project direction and provide guidance to the PMT and FA Team. Following are the suggested meeting topics for the FA Team to present to each Council for their input:

1. Draft Existing Conditions
2. Draft Alternative Scenarios
3. Draft Preferred Scenarios

Roles

PMT

- Schedule informational briefings (3 presentations to each Council with FA present; 6 meetings total)
- Keep written record of meetings and provide FA Team with meeting notes

FA Team

- Attend meetings and present to Councils (or provide materials for PMT staff to present)
- Provide PowerPoint presentation or other written materials in advance, consistent with the individual cities' requirements

6. Joint Council Decision Information Sessions

Description & Purpose

The Joint Council meetings will include informational presentations, facilitated discussions, and action regarding key decision points. There are four key decision points:

- Adoption of Guiding Principles and Review of Existing Conditions
- Decision on a Preferred Scenario
- Decision on Jurisdictional Boundaries
- Approval of Concept Plan

These meetings will be critical for Joint Council decision-making. The FA Team will collaborate with the PMT to determine which content to present. The FA Team will develop presentations to illustrate the evolution of the project process and provide key data and information critical to relevant decision

points. The Individual Council briefings will be coordinated with Joint Council meetings to deliver information in an efficient manner conducive to informed and effective decision-making.

In addition to meetings focused on the four key decision points, the FA Team will participate and lead a discussion with the Joint Council to elicit feedback for the development of the final concept plan and jurisdictional boundaries. These meetings will serve as informative discussion sessions to guide concept plan development, as well as a decision on a jurisdictional boundary. These sessions will cover:

- Alternative scenarios. The FA Team will present findings from the alternative scenarios, organized by relationship to Guiding Principles. The FA Team will facilitate a discussion of alternatives and solicit feedback. This feedback will be used to craft a preferred scenario oriented toward adoption by the Joint Council.
- Draft Preferred Scenario. The FA Team will present the draft preferred scenario. The Joint Council will have the opportunity to provide feedback on the direction of the preferred scenario. This will build on previous efforts to ensure key issues and concerns related to the concept plan are addressed.

The FA Team will collaborate with the PMT to determine the most effective methods for gathering Joint Council feedback. Methods may include instant polling questions and/or facilitated discussions.

Materials

For each Joint Council meeting:

- Meeting agenda
- PowerPoint presentation
- Background documents
- Key discussion questions and instant polling (if used)

Roles

PMT

- Schedule Joint Council meetings (up to 6)
- Keep a written record of the meetings and provide FA Team with meeting notes

FA Team

- Draft and revise presentations for meetings
- Present key materials and facilitate discussions, as needed
- Integrate Joint Council feedback into preferred scenario and subsequent revisions

V. PUBLIC EVENTS & ONLINE SURVEYS

Deliverables

1. Public Workshop
2. Public Open House
3. Online Surveys

1. Public Workshop

Description & Purpose

The FA Team will work with the PMT to design and run a public workshop that will inform the creation of a range of scenarios. We will understand stakeholder priorities through instant polling and a mapping exercise. The workshop will also inform stakeholders about the project objectives and background (through the brief presentation at the outset). Subsequent activities will be aimed at eliciting feedback about the community's vision for the Basalt Creek area. This feedback will help clarify priorities for the concept plan and inform the development of alternative scenarios.

Workshop Format

Group Presentation

The meeting will start with a brief PowerPoint Presentation from the PMT and the FA Team. The presentation will cover the planning process from start to finish, and include a description of project goals, activities and guiding principles. A project timeline with key public involvement dates will be shared with participants.

Instant Polling

The group presentation will transition into a set of 10 – 20 instant polling questions, which will ask stakeholders to respond to multiple choice questions about their priorities for the project. The polling results will be collected using clickers – remote devices that send instant polling results to the computer of the presenter. The tallied results can be shown immediately on the screen for all the audience to see. The FA Team will work with the PMT to develop the instant polling questions.

Example questions may include:

- Of these listed ideas, which is the most important for the future of Basalt Creek?
- Which is the least important?

To what extent do you agree or disagree with the following statements? (Scale of 1-5)

- Conservation is the top priority
- Economic development is the top priority
- Balance between conservation and development is the top priority

Mapping Exercise

The FA Team will utilize a custom map-based exercise to gather information on community aspirations for future land uses, multimodal transportation network, employment, parks and open spaces. Following the group presentation and instant polling exercise participants will divide into small groups to perform a collaborative mapping exercise. Each group will be facilitated by a FA Team/PMT member, with assistance from other project team staff. Participants will work together in small groups using maps and icons representing future development and transportation investments. The FA Team will use the Envision Tomorrow (ET) suite of planning tools to digitize and analyze maps and comments from the public workshop to uncover themes and unique solutions to guide the scenario development and the development of a final concept plan and vision for the planning area.

Materials

- PowerPoint presentation, including project background, objectives and timeline
- Instant Polling questions – responding to suggested guiding principles, prioritizing future policies and actions for Basalt Creek area
- Basemap – Basalt Creek project area chipsets for mapping activity
- Additional materials on boards in the meeting room as defined by FA Team and PMT
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant polling clickers and TurningPoint software
- Facilitator instructions
- Scissors, markers, and pens

Roles

PMT

- Identify and reserve a venue for the workshop
- Advertise workshop; print and distribute flyers announcing workshop
- Review workshop materials (workshop flyer and email announcement, agenda, presentation, instant polling questions, maps, chips)
- Assist and organize volunteers to serve as facilitators for the event
- Provide light refreshments

FA Team

- Produce agenda for workshop
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Prepare workshop agenda

- Develop and revise presentation, including instant polling questions
- Present at workshop
- Facilitate workshop activities, including instant polling and mapping exercise

2. Public Open House

Description & Purpose

The public open house will provide participants with a comprehensive look at how each of the alternative scenarios performs, as measured against the project's evaluative criteria and guiding principles. General performance categories include transportation, housing choice, employment and infrastructure. In the brief Summary Presentation the FA Team will describe the project's public outreach and stakeholder engagement process and how public feedback was used to inform the development of the alternative scenarios.

The presentation will also briefly cover project background and objectives followed by a presentation of the alternative scenarios, accompanied by descriptions of how they each performed in different evaluative areas and indicators. The presentation will be followed by instant polling questions to understand people's preferences for different elements of each scenario, and the degree to which they support or do not support alternatives in the context of performance measures.

The FA Team will process and analyze results of the open house. Results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates. Results will also be integrated into the Summary Presentation to be delivered at ART and Joint Council meetings.

Materials

- PowerPoint Presentation, including a brief description of the project background, description of each scenario and its outcomes relative to project guiding principles and projected impacts on transportation, housing choice, employment and infrastructure indicators.
- Instant Polling questions – responding questions about support or lack of support for different elements of different scenarios (the results of which will feed into the development of the preferred scenario)
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant Polling clickers & TurningPoint software

Roles

PMT

- Discuss open house approach
- Identify and secure location for open house

- Review open house content
- Provide staff to assist at open house
- Provide light refreshments
- Provide open house related updates to the Planning Commission and City Council
- Integrate workshop results into Summary Presentation on public outreach

FA Team

- Produce agenda for public open house
- Produce maps and other print materials for one public open house
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Provide summaries of feedback (instant polling) from the open house event in PowerPoint

3. Online Surveys

Description & Purpose

The purpose of the online surveys will be to electronically replicate the engagement opportunity of the public workshops and in-person outreach events in order to engage a broader group of stakeholders. To the extent possible, the online survey will follow the presentation and include instant polling questions from the public workshop and open house. The online format will allow participants to click through the presentation at their own pace, and then to answer the same instant polling questions asked at the workshop and open house.

The analysis of the survey results will be integrated with the feedback from the public workshop and other outreach opportunities, and used as a guide both to develop scenarios and then to select or create a preferred scenario.

The online surveys will be designed to be user-friendly and straightforward. Each survey will be open for approximately two weeks following the public events. The FA Team will process and analyze results of the survey. Survey results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates.

Materials

The FA Team will develop, conduct, and analyze the results from two online surveys. Links to the online surveys will be distributed to the stakeholder contact list via email as well as posted on the project website. Materials will include an online version of the workshop presentation, a survey posted to the project website, and a summary of survey results in PowerPoint presentation slide format.

Roles

PMT

- Provide a list of initial ideas for survey content
- Review, edit and approve website content

FA Team

- Draft survey
- Incorporate edits from PMT
- Convert the survey into an online format and include on the project website
- Email survey link to stakeholder contact list
- Collect survey results
- Organize survey results into a summary
- Provide survey results summary to City Staff and present results to the ART; staff will present at individual Council sessions

Scenario Planning Overview

"Where are we headed currently?"

"What are the possibilities?"

"Where do we want to go?"

The Present

Where we are today

Understand Existing Conditions

The Present

The Future

Planning the future

The Traditional Approach

Imagine where you want to go

The Scenario Approach

Basalt Creek Concept Plan

A

B

C

D

The Scenario Approach

Scenarios are Crash Test Dummies

- We can test a variety of different ideas to see how each performs

Scenario Process

- Develop Guiding Principles
- Analysis: Metro Forecast, Constraints, Land Suitability
- Seek Public Input: Design Workshop
- Create Base Case Scenario
- Create Scenario Alternatives (iteratively)
- Evaluate and Communicate
- Select Preferred Alternative

Testing Scenarios and Choosing a Preferred Scenario

- Create and evaluate several scenarios
- Present scenarios and evaluation results to public and decision makers
- Determine jurisdictional boundary between two cities
- Select preferred scenario to inform final land use concept for the Basalt Creek Concept Plan

Why create Guiding Principles?

- Represent **collective interests** and goals for planning area
- Provide **framework** for gathering input
- Help to develop **evaluation criteria** (indicators)

Basalt Creek Guiding Principles

- Maintain and complement the Cities' unique identities
- Capitalize on the area's unique assets and natural location
- Explore creative approaches to integrate jobs and housing
- Create a uniquely attractive business community unmatched in the metropolitan region
- Ensure appropriate transitions between land uses
- Meet regional responsibility for jobs and housing
- Design cohesive and efficient transportation and utility systems
- Maximize assessed property value
- Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

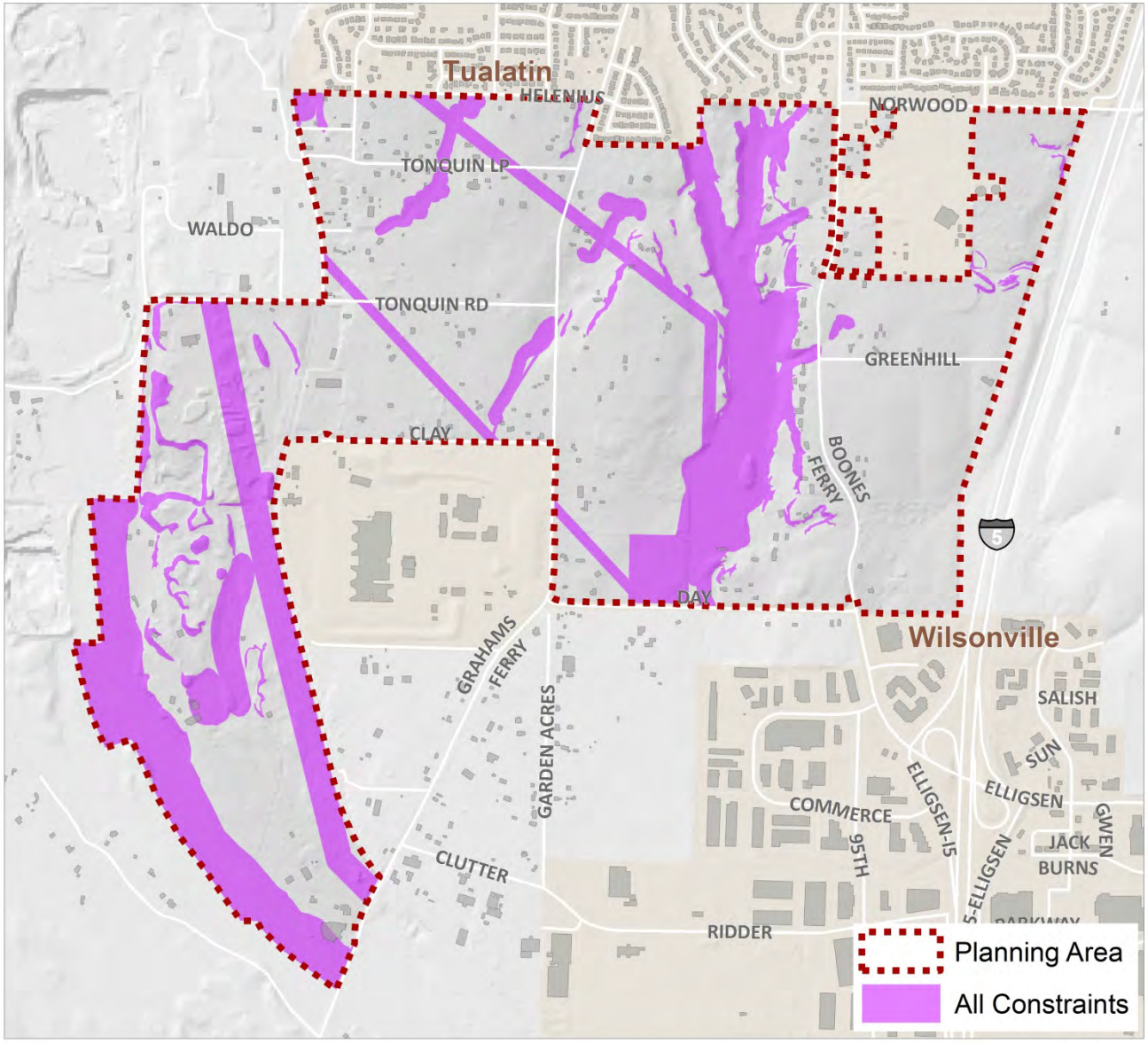
Scenarios help us explore big questions...

- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

Constraints

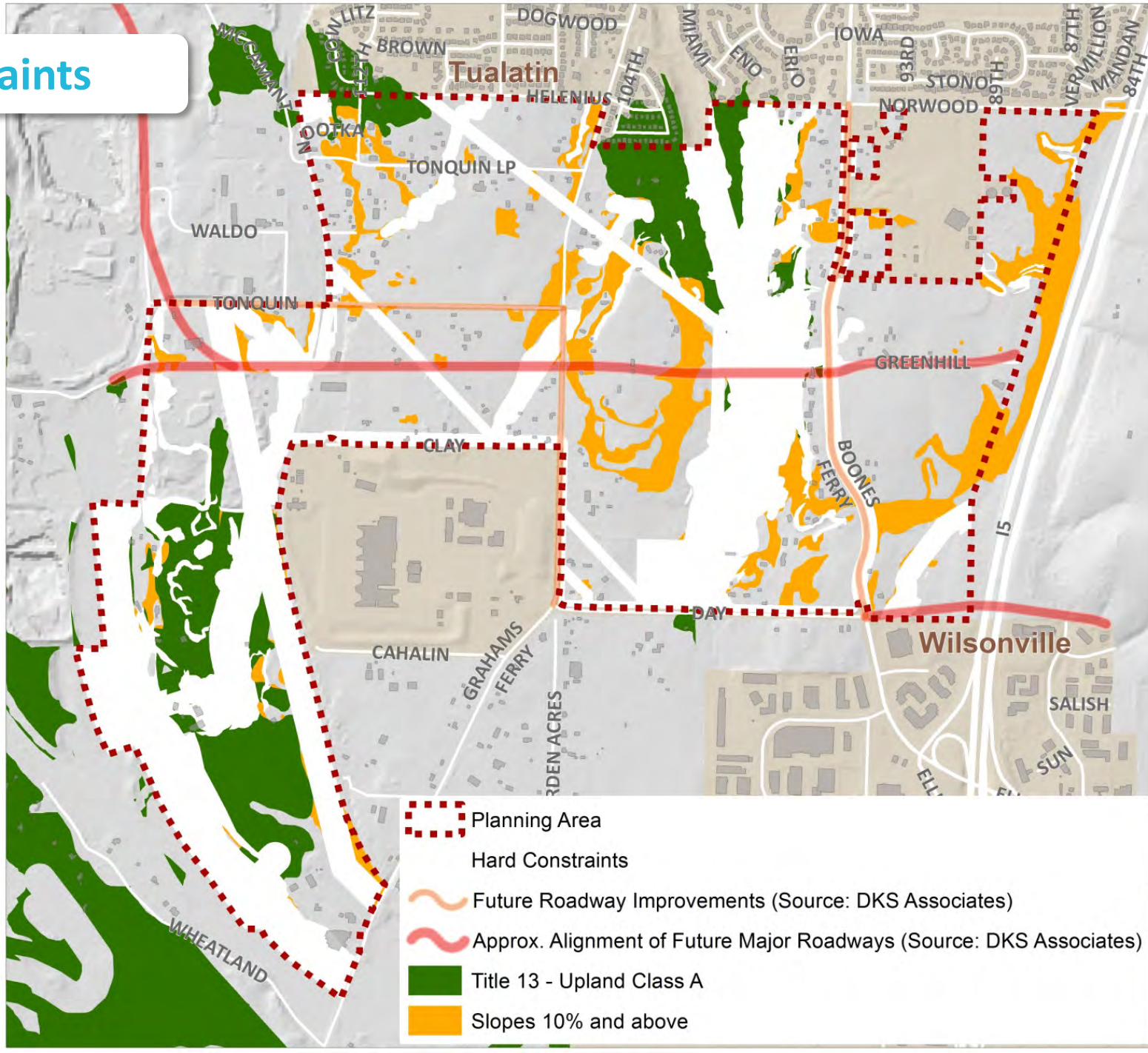
- Hard constraints are areas where development is not feasible because of policy or physical condition.
- Soft constraints are areas where development intensity may be reduced because of policy or physical conditions.

All Hard Constraints



- **234** acres constrained
- Study area total is **847** acres
- **28%** constrained

Soft Constraints



Land Supply

Vacant Land

Ready to build, no major structure on site

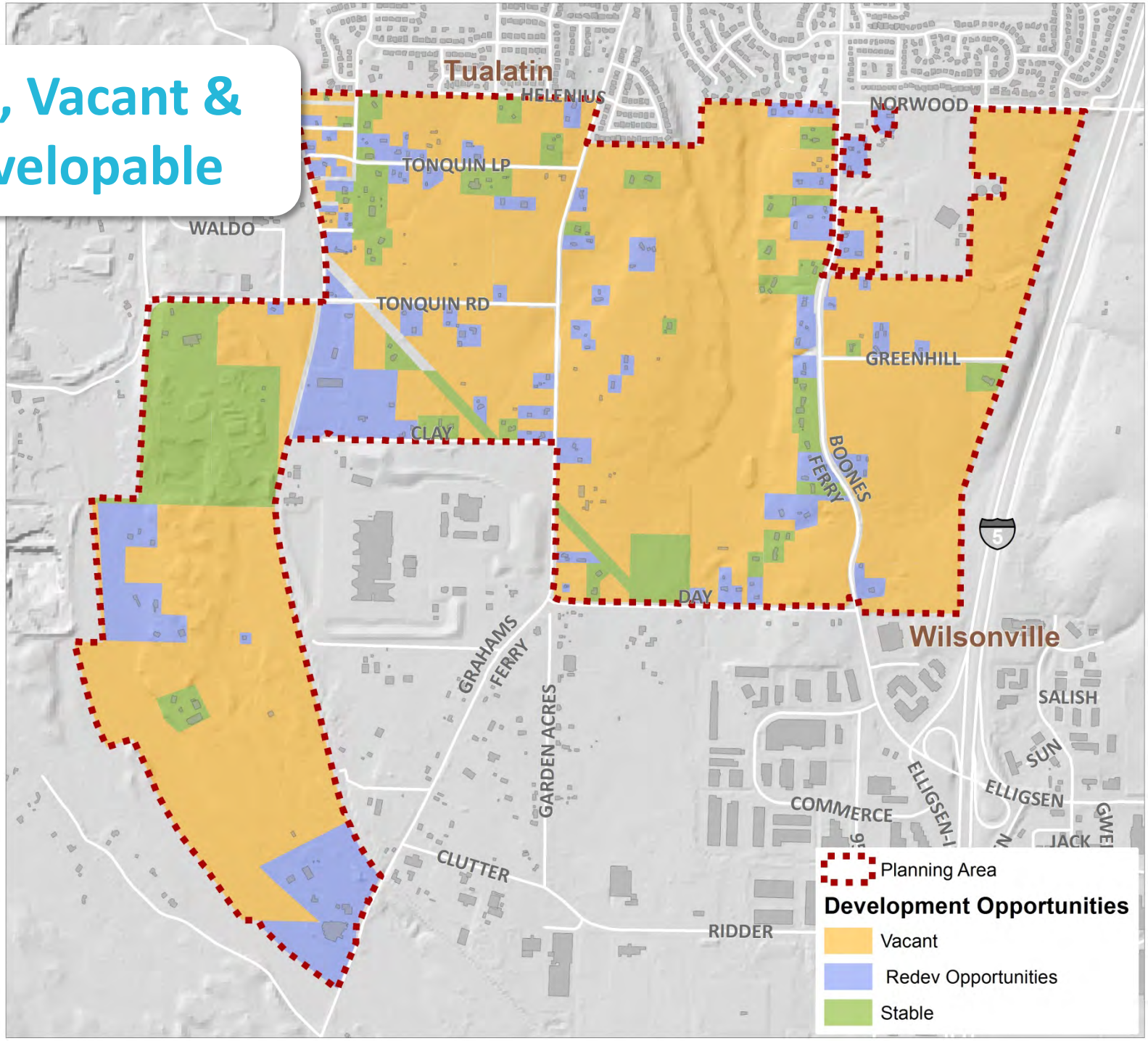
Redevelopable Land

Some redevelopment potential (expansion of current use or change in use)

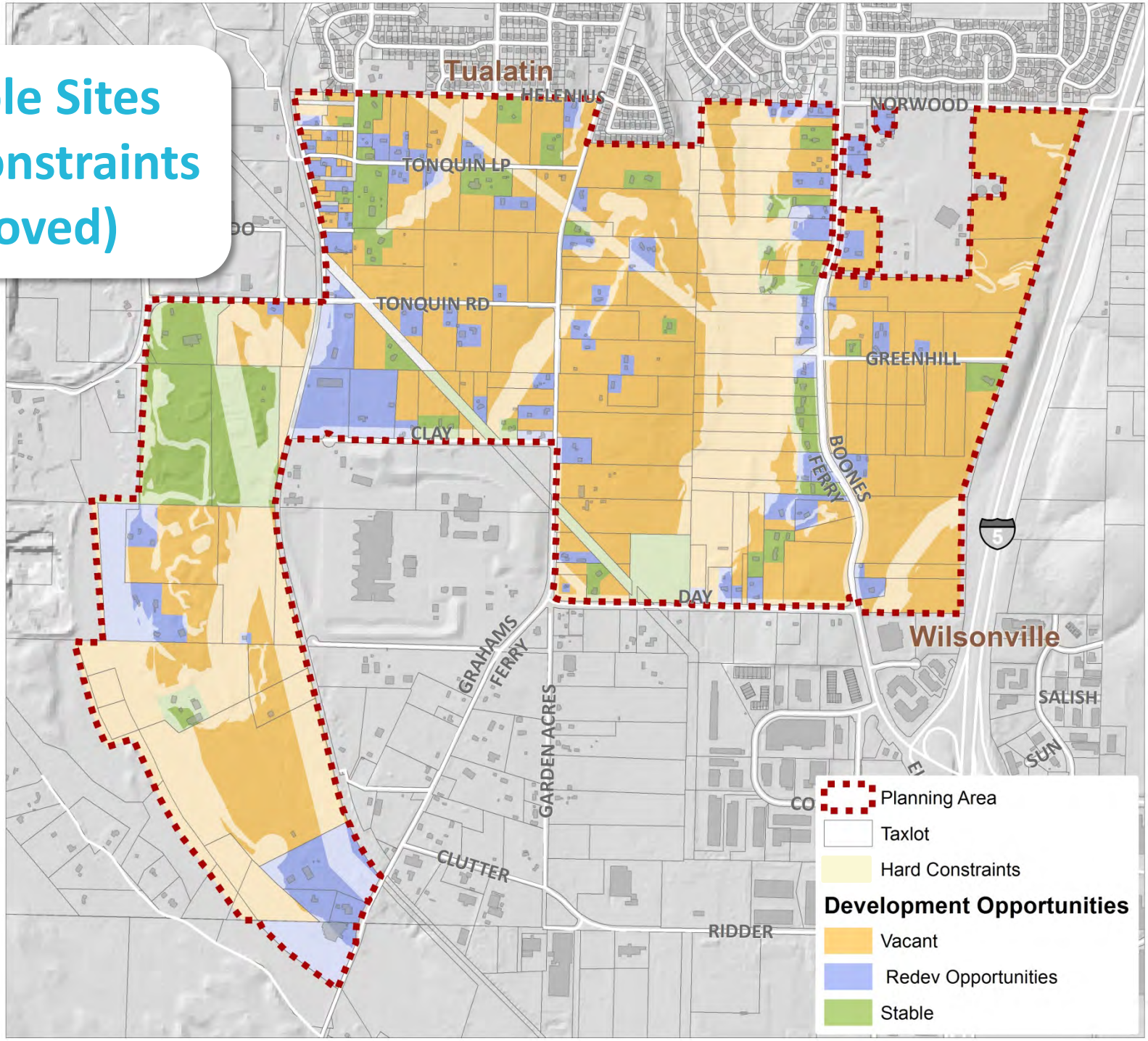
Stable Land

Structures on land, will not change uses in the near future

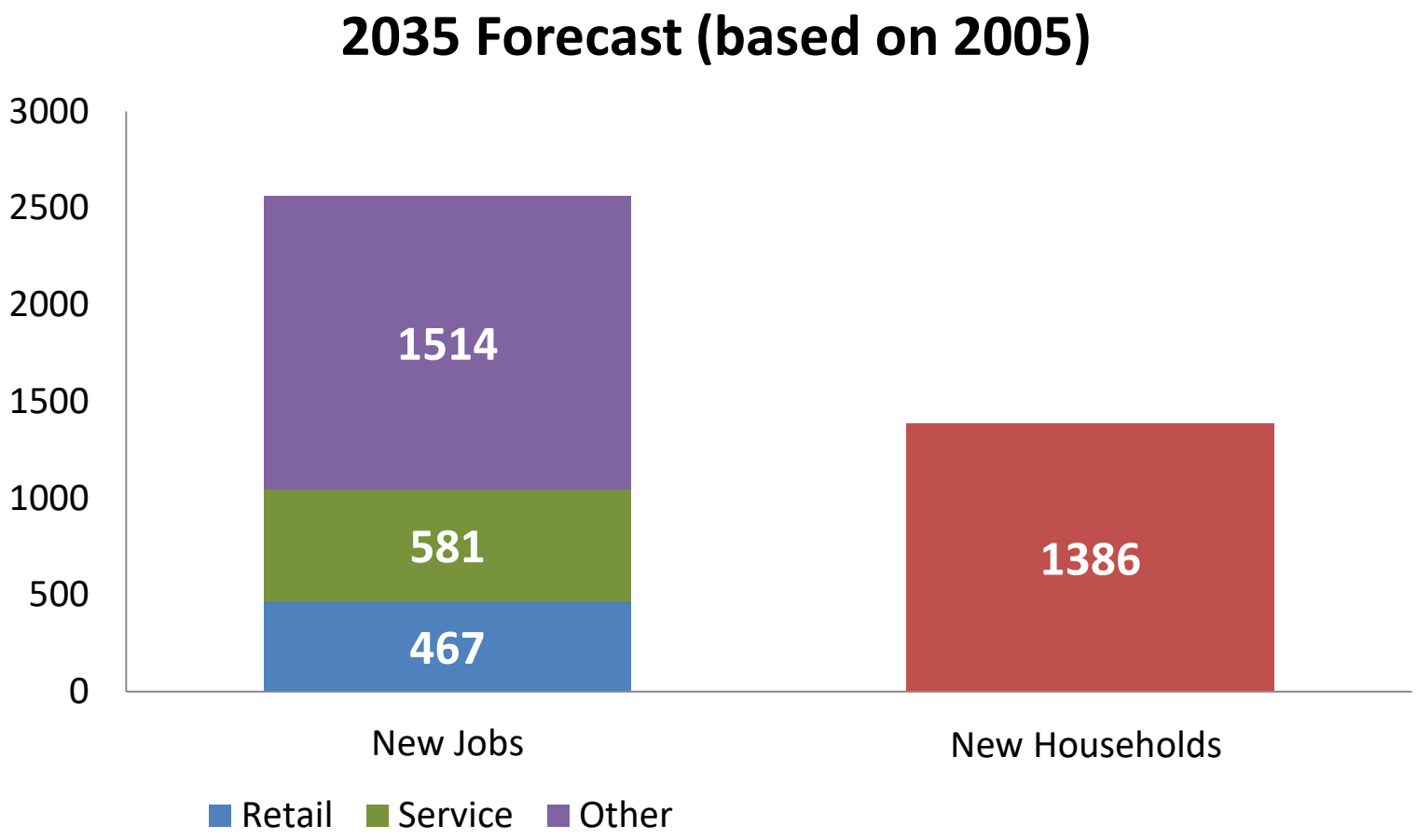
Stable, Vacant & Redevelopable



Suitable Sites (hard constraints removed)



Metro Forecast for Basalt Creek



Public Input at Design Workshop

- Community input helps guide scenario development and design process
- April 2014

Basalt Creek Concept Plan

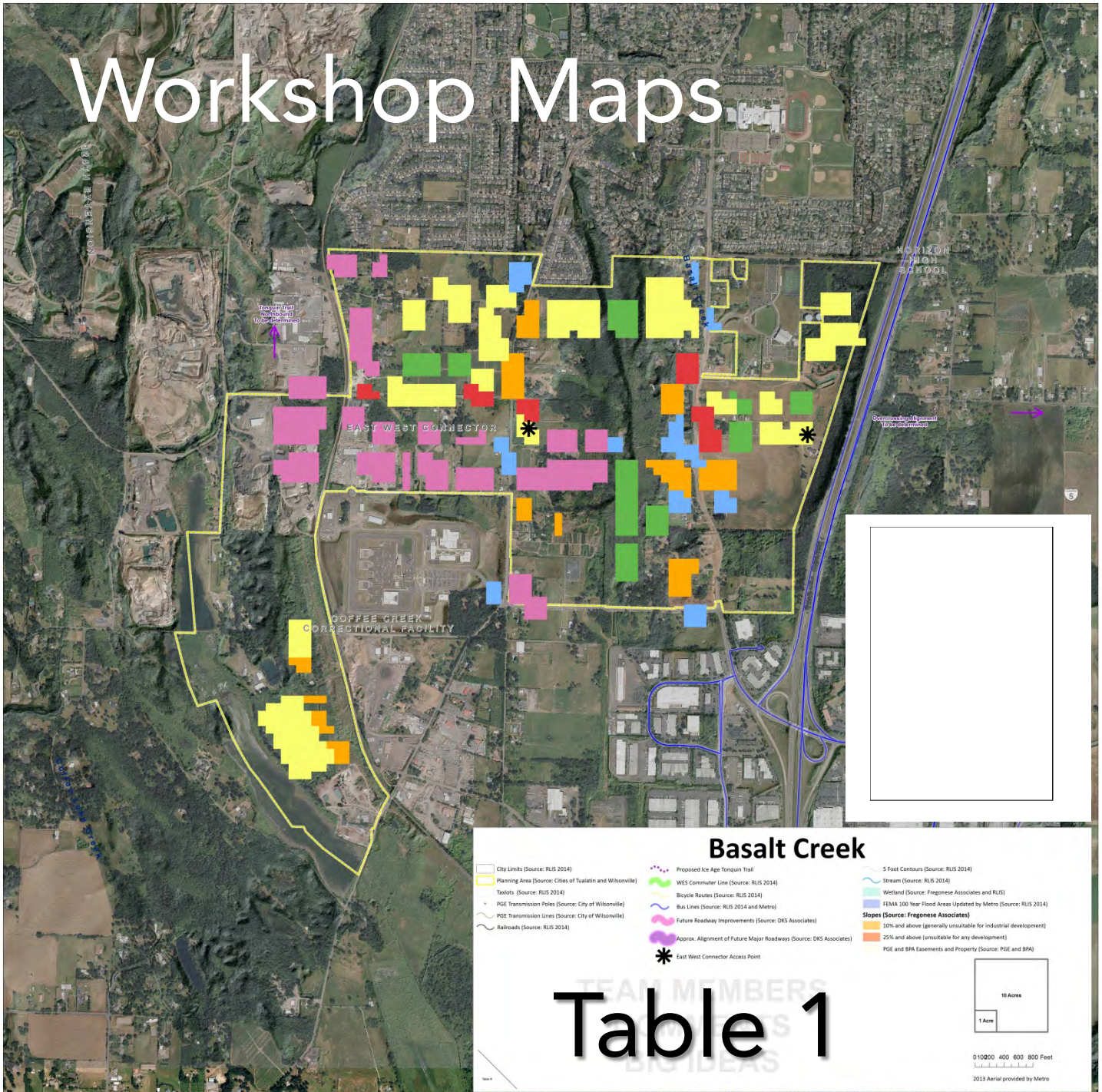
Workshop Maps

Goals

- Housing/schools close together
- Public amenities around wetlands
- Housing where there is transportation and other existing infrastructure
- Transit options that allow people to make trips without their cars
- Make the wetlands a source of pride and natural beauty (visual focal point/vistas)

Comments

- Civic entertainment use – public theater?
- Seems like E-W Connector will determine how land uses are arranged
- Couth the nursery along Graham's Ferry be encouraged to develop as a unique attraction?
- This is an opportunity do something different – provide public amenities that make the community proud.



Workshop Maps

Goals

- Increase recreation, more sports fields (plenty of them in Tualatin)
- Parks/natural area around Basalt Creek - preservation – West Railroad
- Concern around runoff into Basalt Creek
- Joint rec center
- Housing in Tualatin
- Incorporation into regional trail system along Basalt Creek
- Concern about widening of Boones Ferry for peds and bikes
- Location of EW/Boone's Ferry
- Water/sewer lines
- EW Connector at Boone's Ferry
- Smother transition from industrial to housing
- Stop at WES –Trans
- Recreation (shared facilities)
- Natural area protection
- Housing –not everything need to be industrial south of the EW Connector

Big Ideas

- Connect to WES
- Smooth transition between uses
- Brew Pubs
- Crosswalks across Boone's Ferry

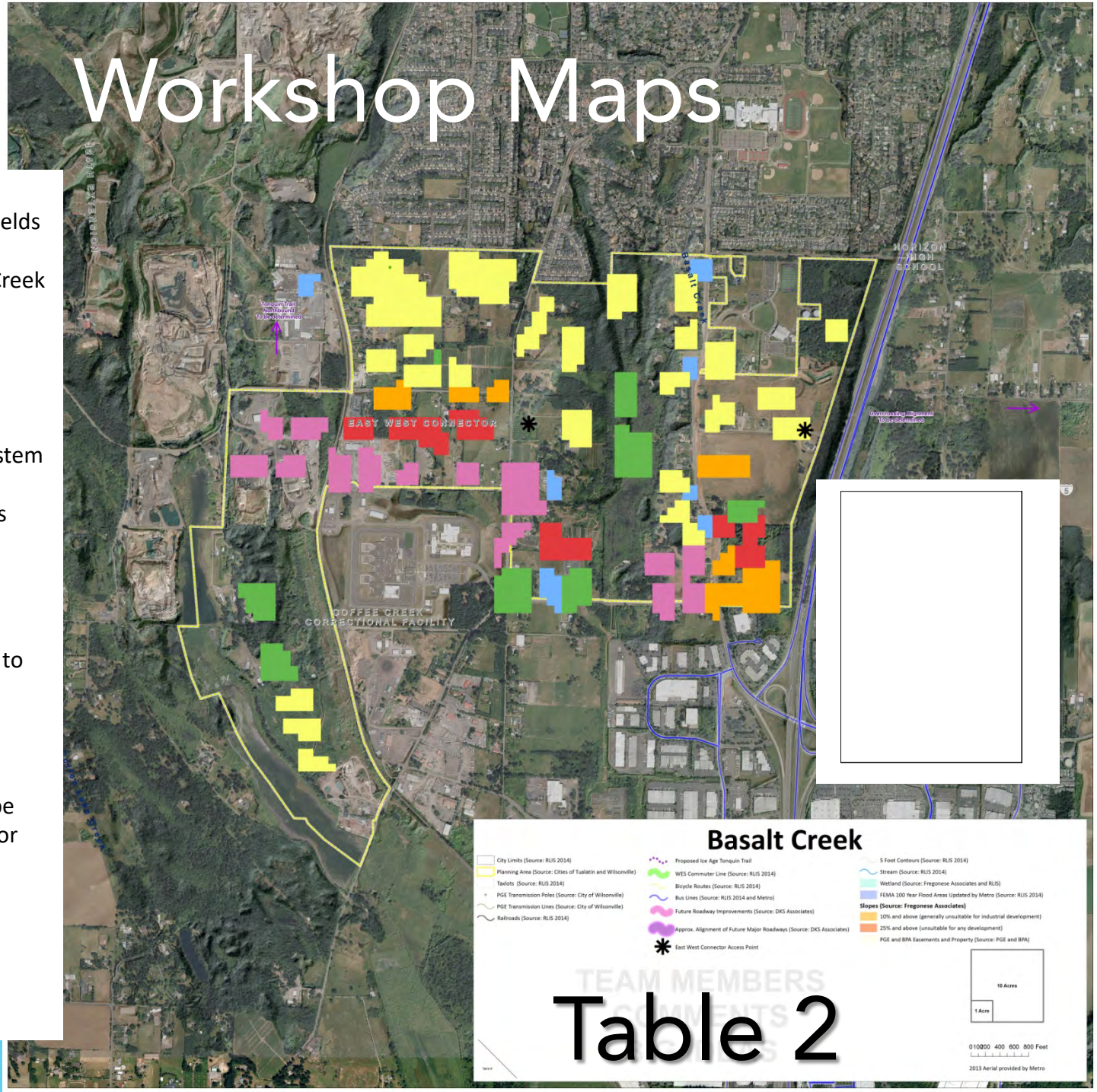


Table 2

Workshop Maps

Goals

- Residential development
- Diverse housing mix (more than just single family)
- Celebrate natural features
- Interconnected trans network
- Integrate other regional plans
- Well laid out mix of land uses
- Integrated trail and greenways (multimodal connections)

Comments

- Bike/ped access from Tualatin to Wilsonville- in nature
- Employment center near I-5 (east of I-5)
- Buffering between residential and industrial (transitional)
- Trails on power line easements
- Small lot SF and apartments – what is the market?
- Mixed use housing
- Where to put hi-density housing
- Prevent noise pollution from industry
- Center?
- Sherwood school district
- Housing where kids can walk to school
- Hi-density, assisted living near overpass
- Retail and industrial toward the south (jobs and light industrial)

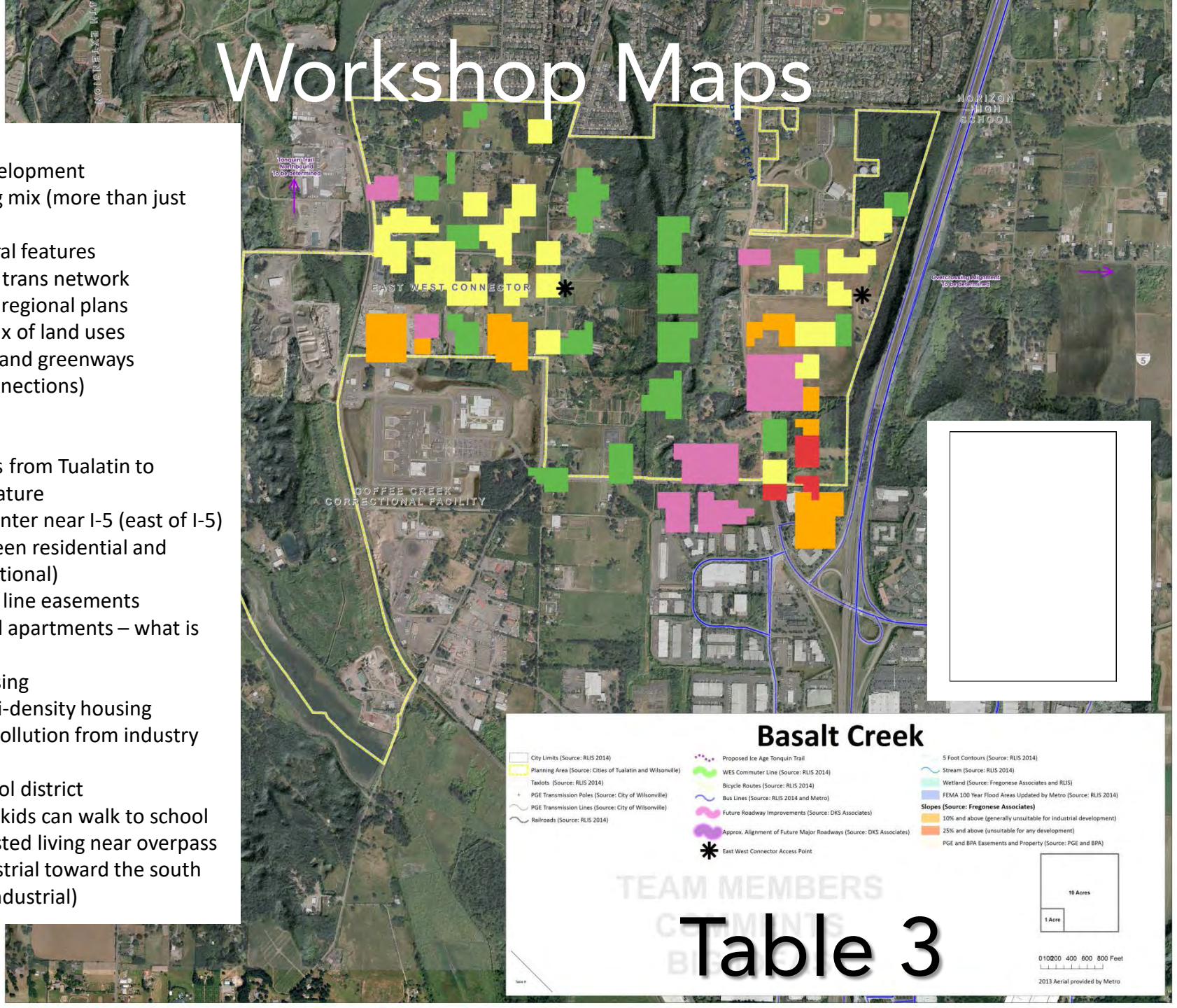
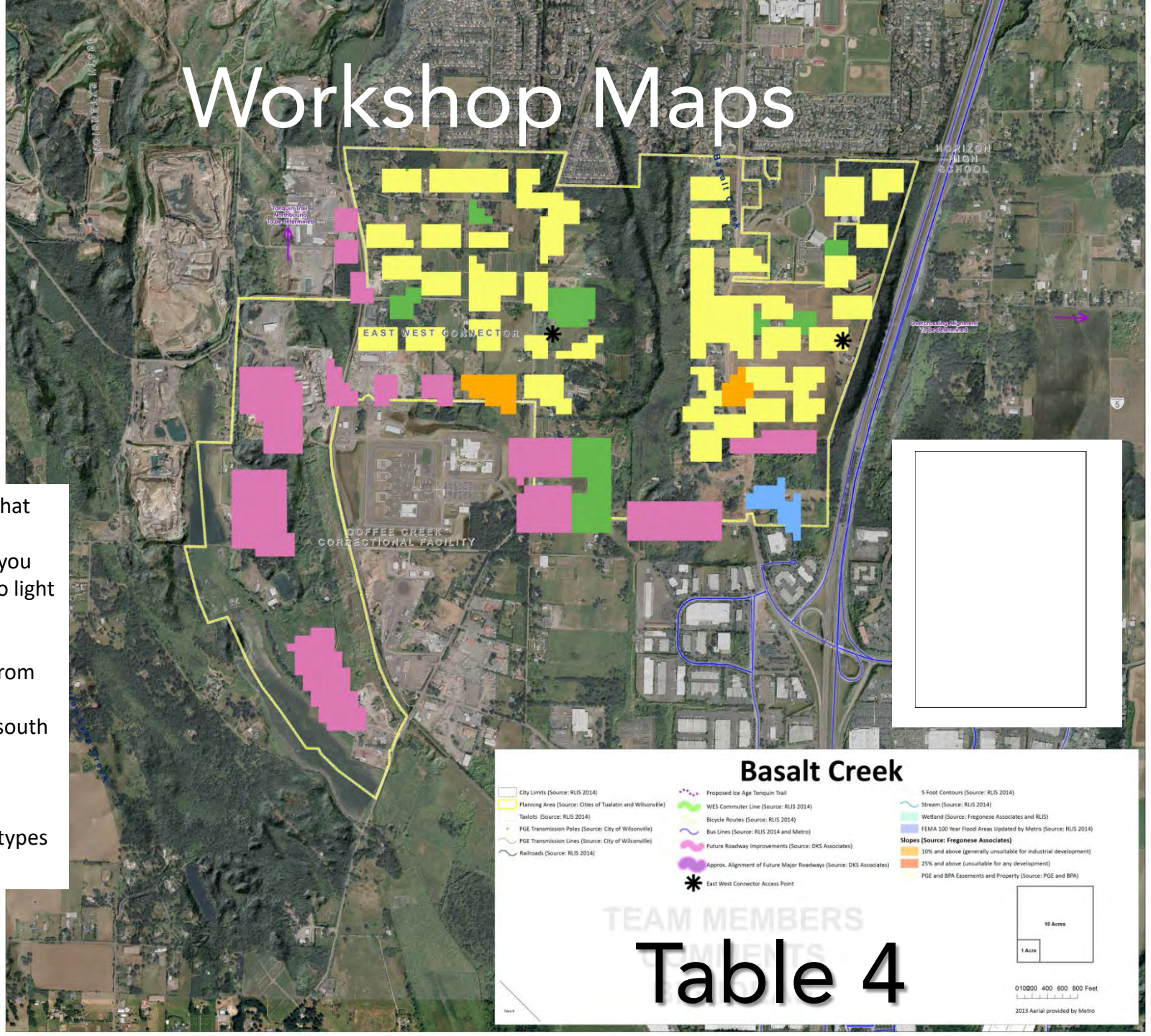


Table 3

Workshop Maps



- Residential at north that transitions to higher density/mixed use as you go south, eventually to light manufacturing.
- Access to small commercial services from residential areas.
- Places of worship at south end
- Sports complex and parks/open spaces
- Transitions between types of uses.

TEAM MEMBERS COMMENTS

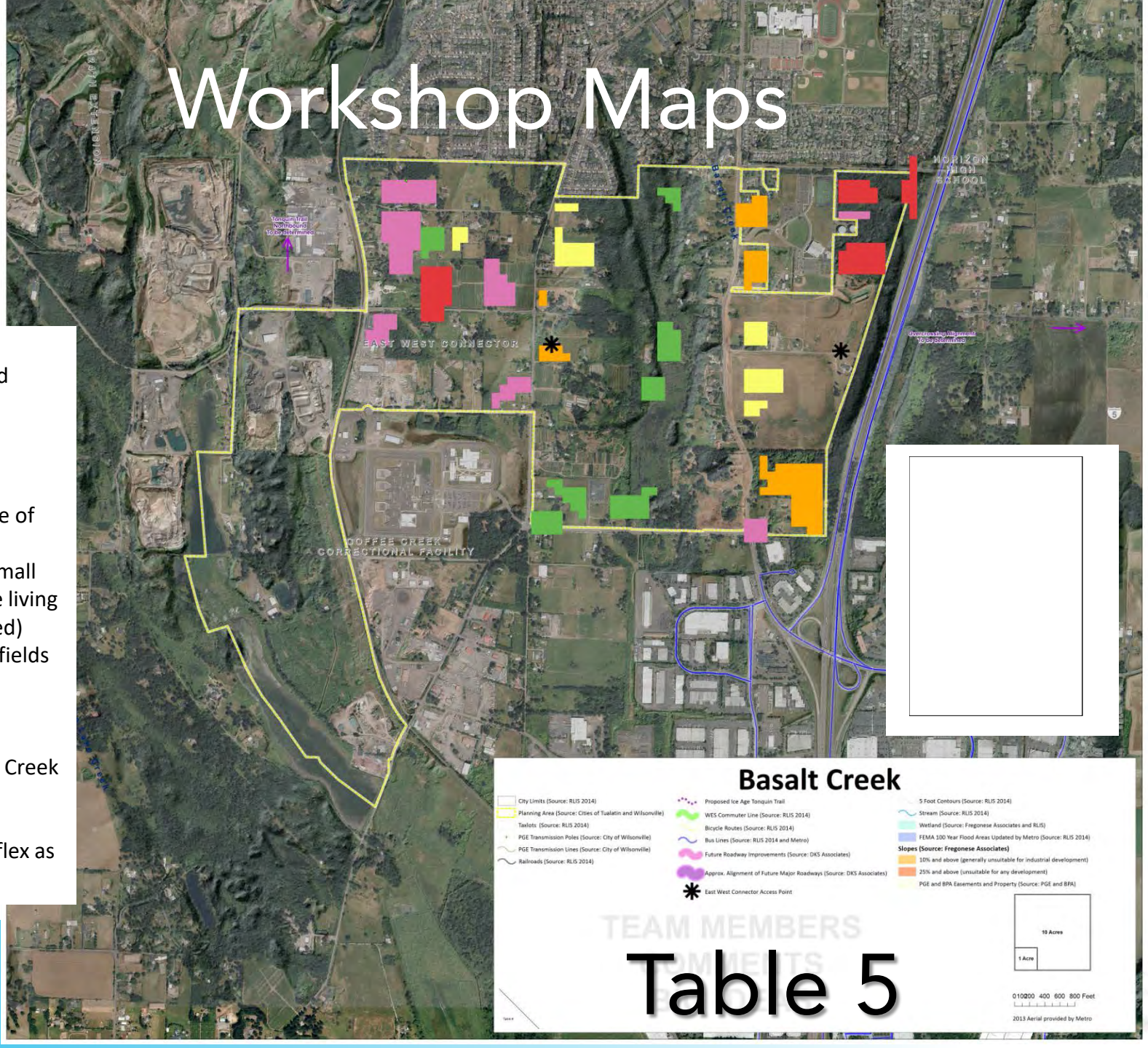
Table 4

Workshop Maps

Goals
•Maintain neighborhood continuity

Comments
•Not great for industrial warehouse land because of transportation access
•No big box, but need small scale grocery for people living in the area (Haggen-sized)
•Big demand for sports fields

Big Ideas
•WES Station
•Natural area on Basalt Creek (like Tryon Creek)
•Sports Complex
•Clean green industrial flex as buffer to residential



Workshop Maps

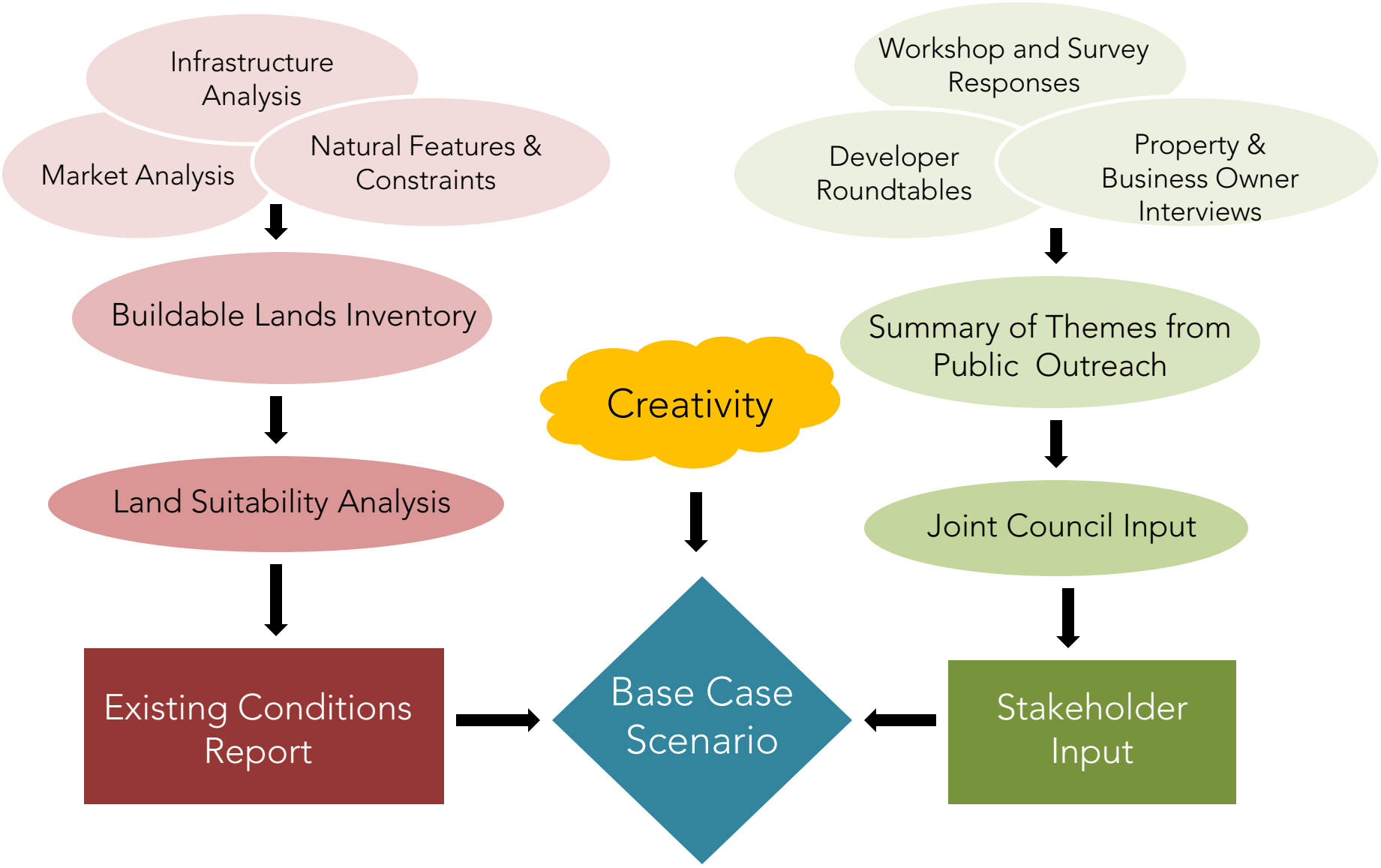
Goals
- Get people to live near their work!
- Offer more opportunities/options for sports field
- Connect neighborhood amenities/green spaces (i.e. walking/bike trails)
- Small parks in residential areas
- Maintain rural setting/provide safety/comfort

Our Ideas:
- Clustering of apartments/retail/parks
- Definitive boundaries – buffer zone (greenbelt)
- Trails, bike paths
- Neighborhood parks with multiple uses
- WES Station
- Easy access to freeway
- Community parks and gardens
- Assisted living centers
- Retail near intersection
- Industrial area down south
- G.F/E-R to ferry all residential
- Retail opportunity in front of school

TEAM MEMBERS COMMENTS

Table 6

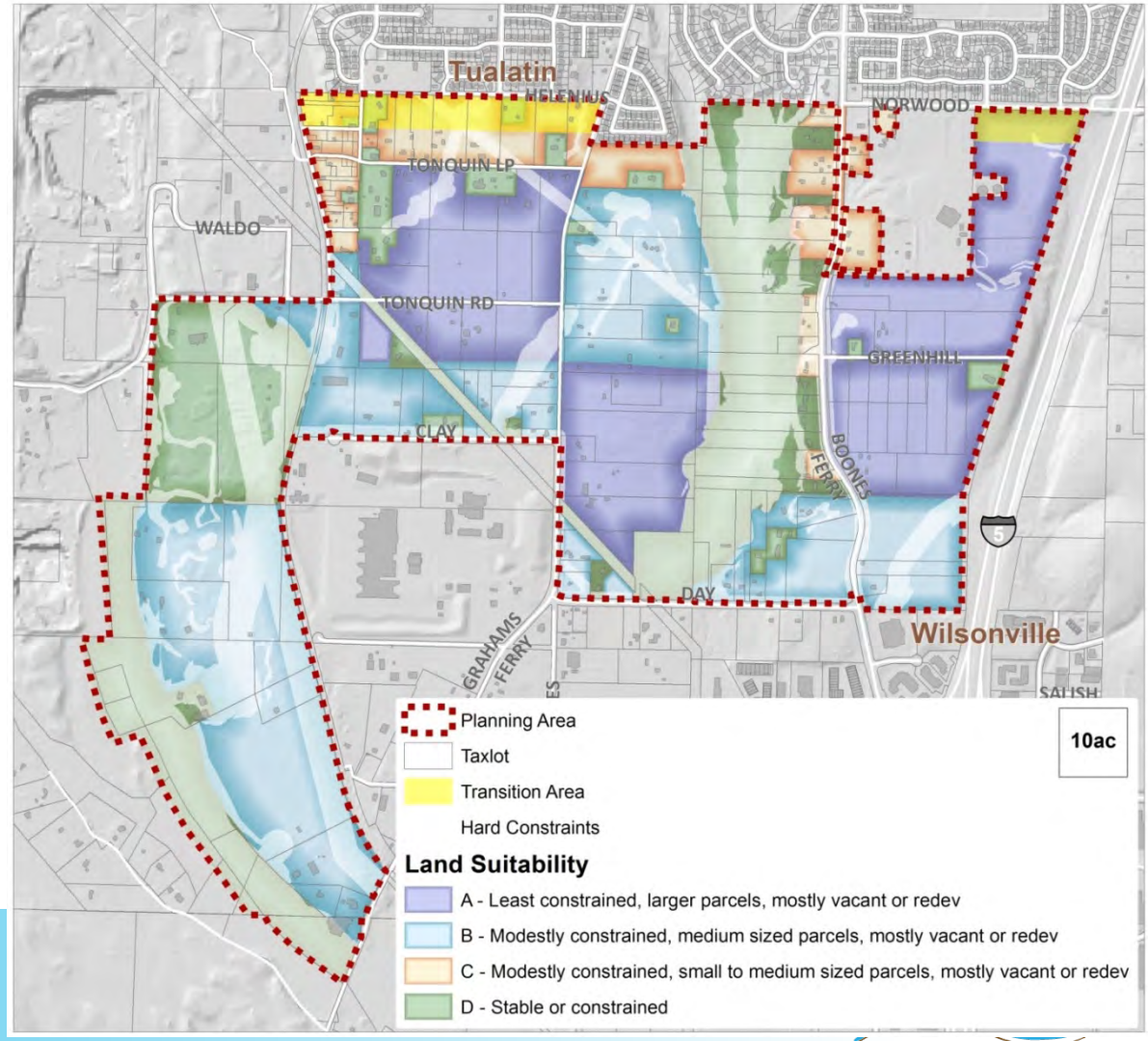
Building the Base Case Scenario



Building the Base Case

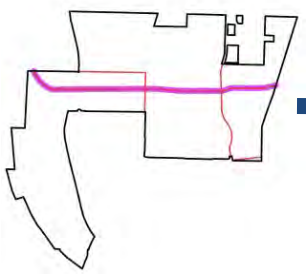
Land Suitability Analysis

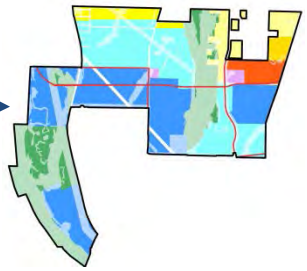
Suitability Category	Vacant Acres
A	197
B	144
C	38
D	12

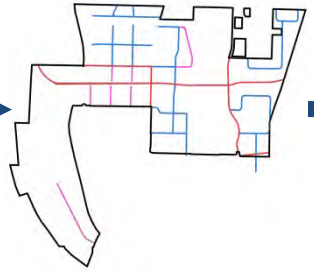


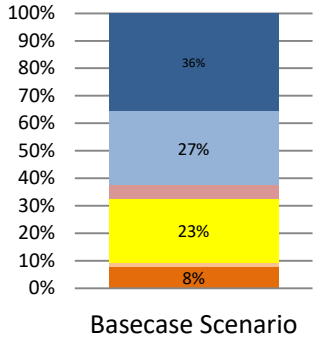
Building the Base Case

Scenario Development





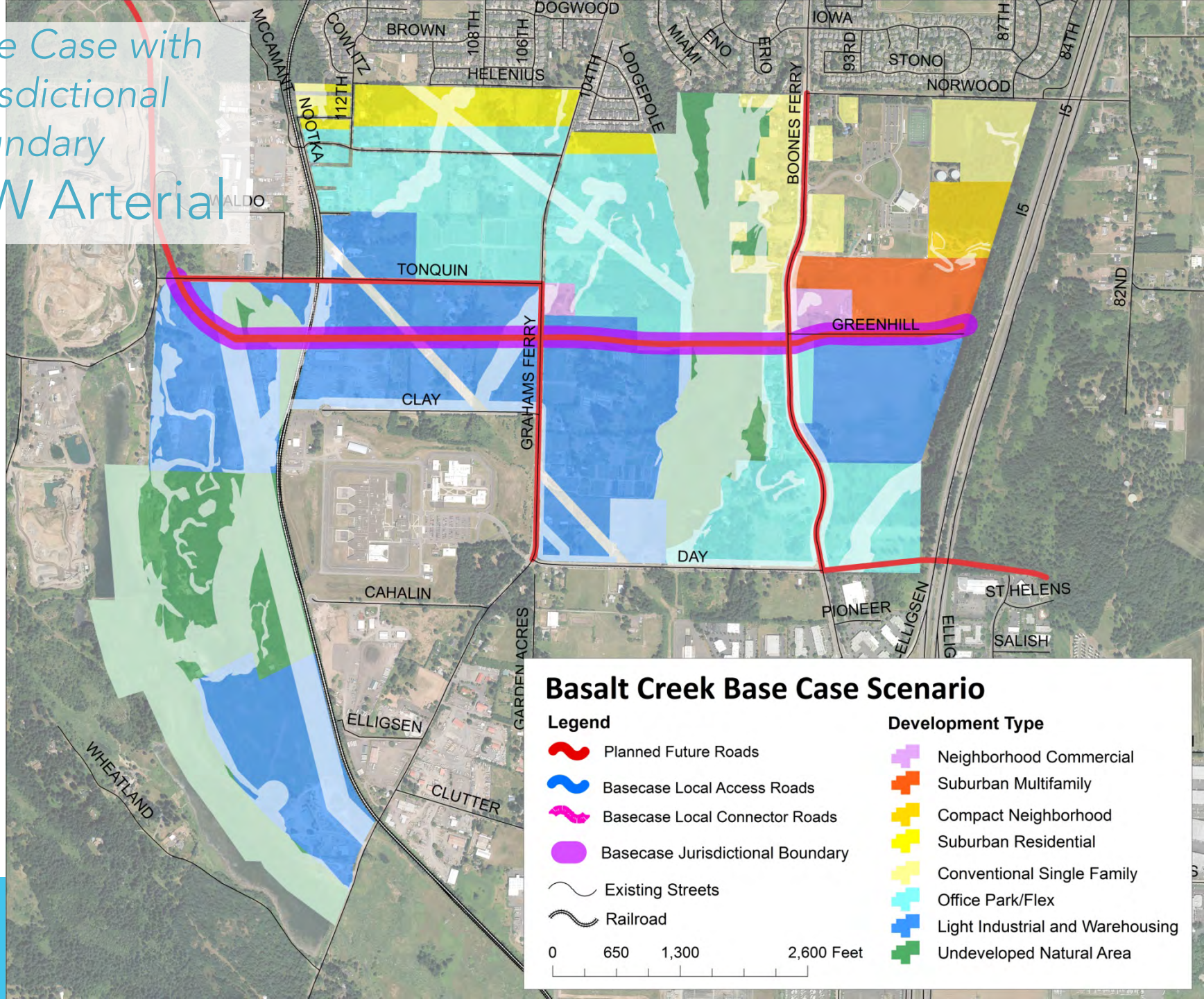




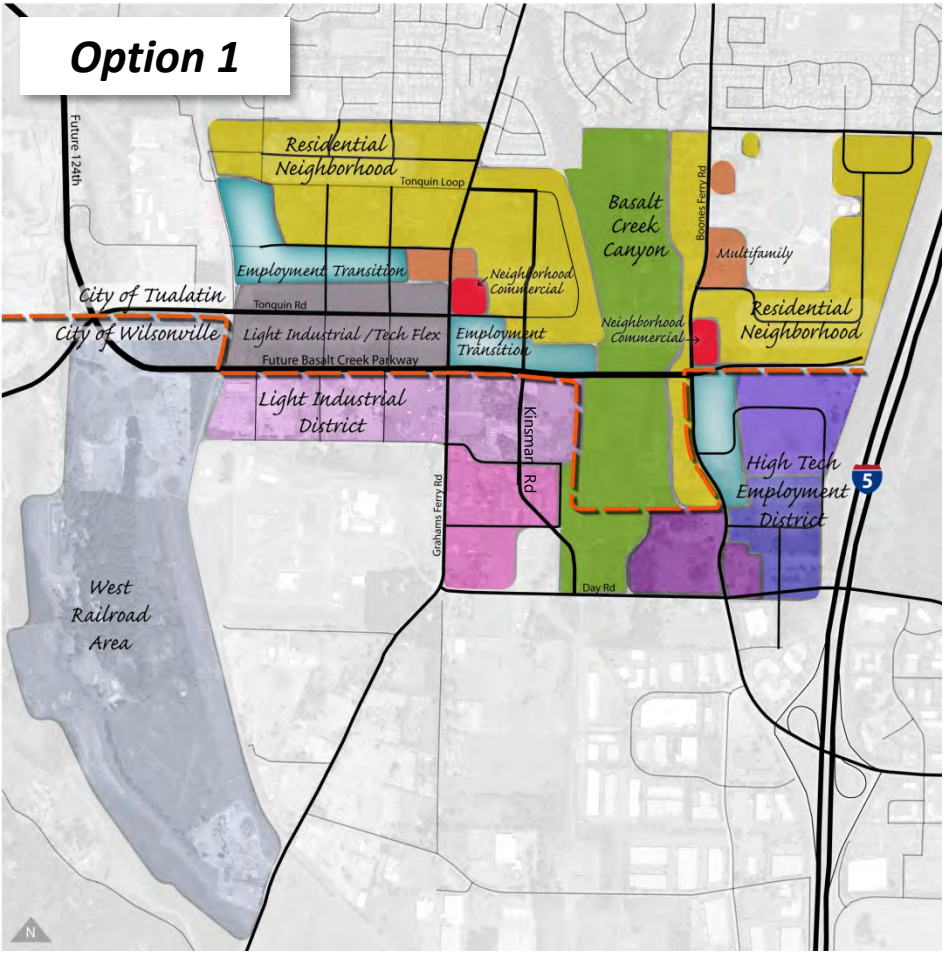
1. Base Case Jurisdictional Boundary
2. Base Case Land Use (Development Types)
3. Base Case Roads
4. Base Case Wet Infrastructure
5. Base Case Evaluation

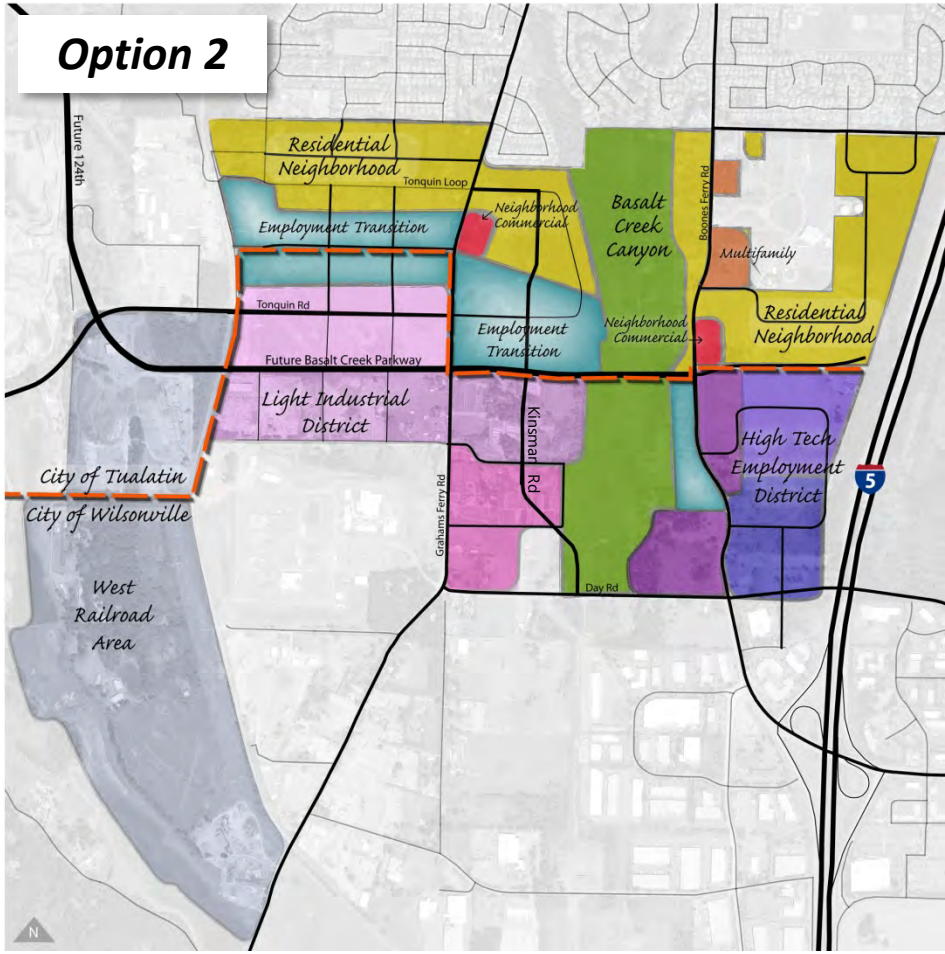
Base Case with Jurisdictional Boundary

E-W Arterial



Initial Scenarios 1 & 2

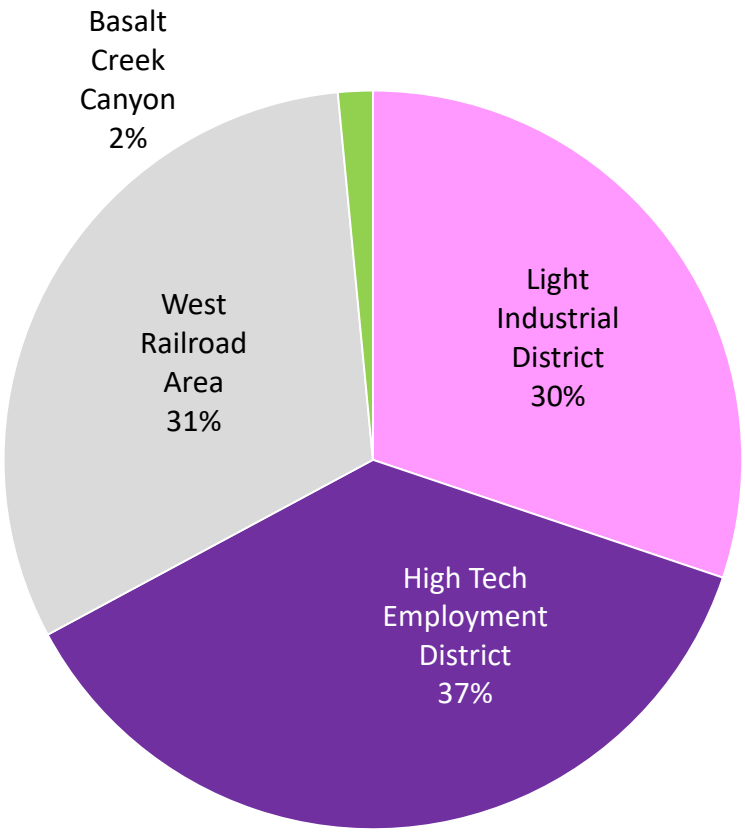




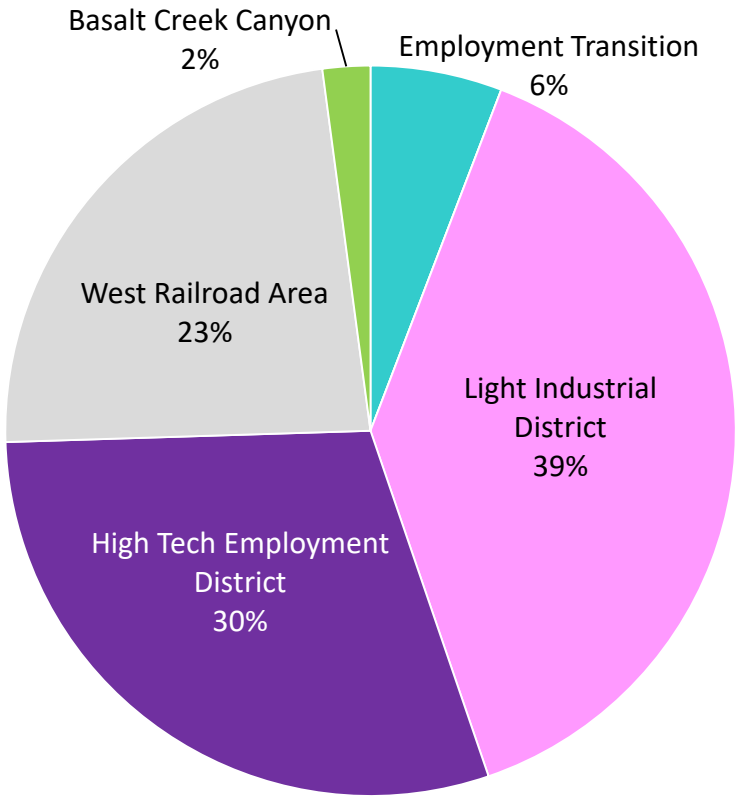
Indicators | Wilsonville Land Use Mix

* % of developable acres

Boundary Option 1



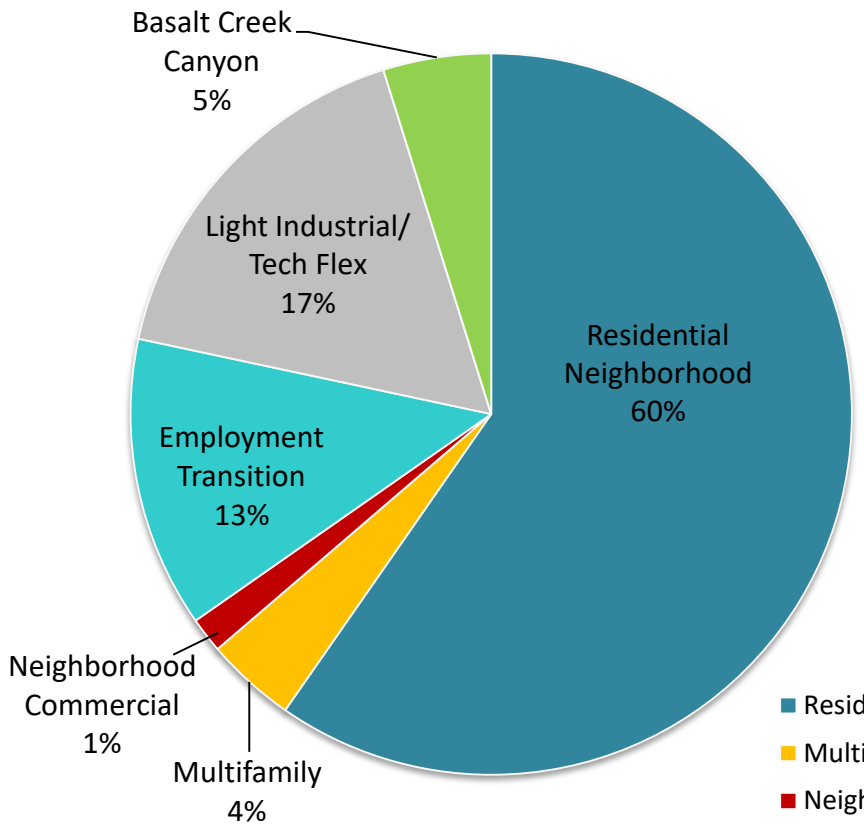
Boundary Option 2



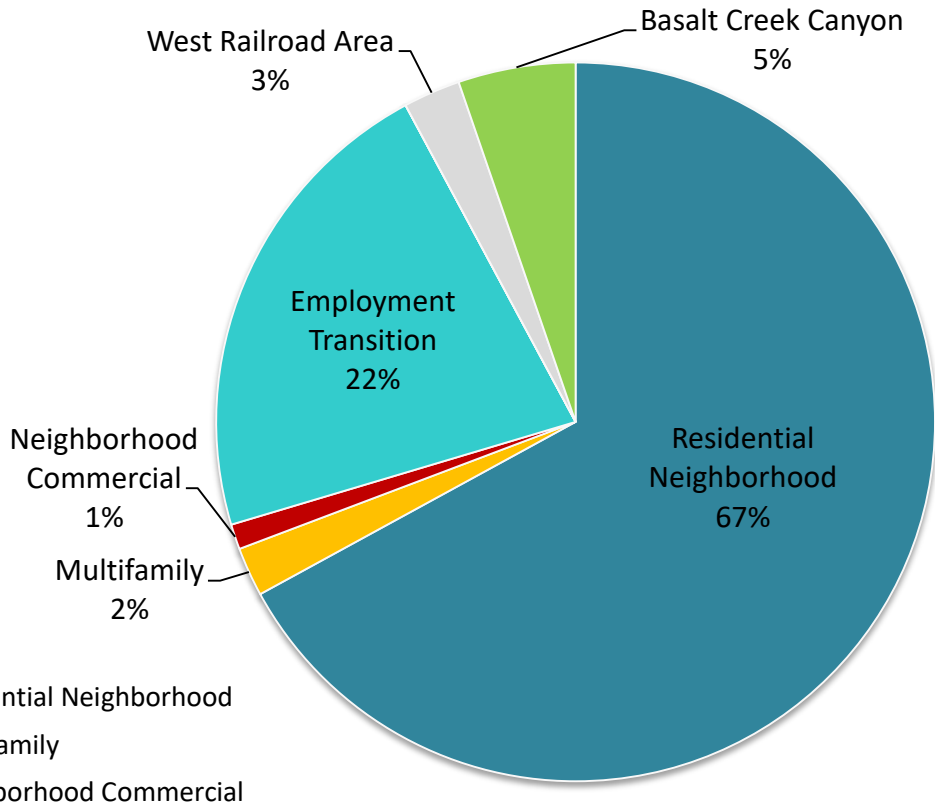
Indicators | Tualatin Land Use Mix

* % of developable acres

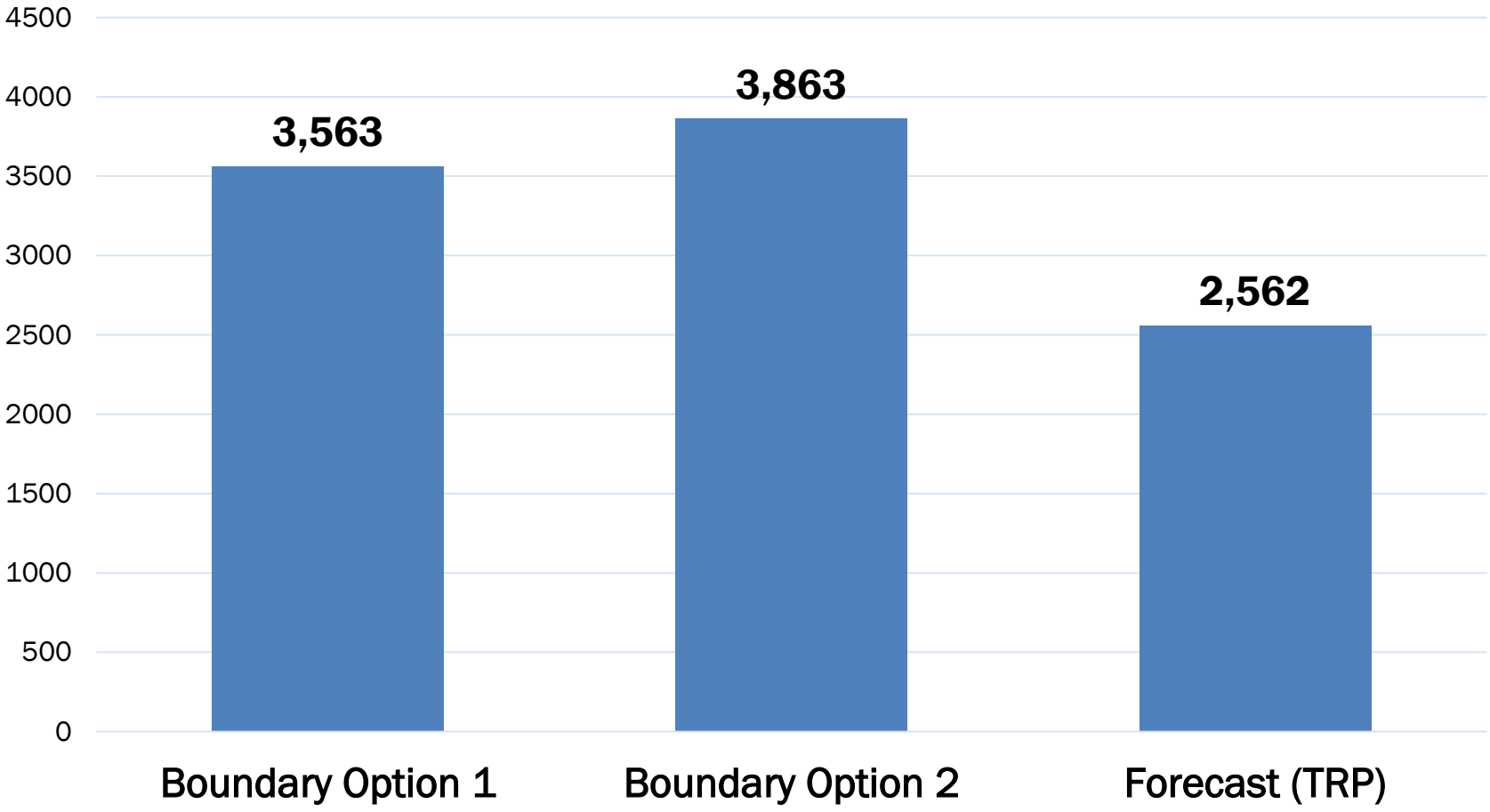
Boundary Option 1



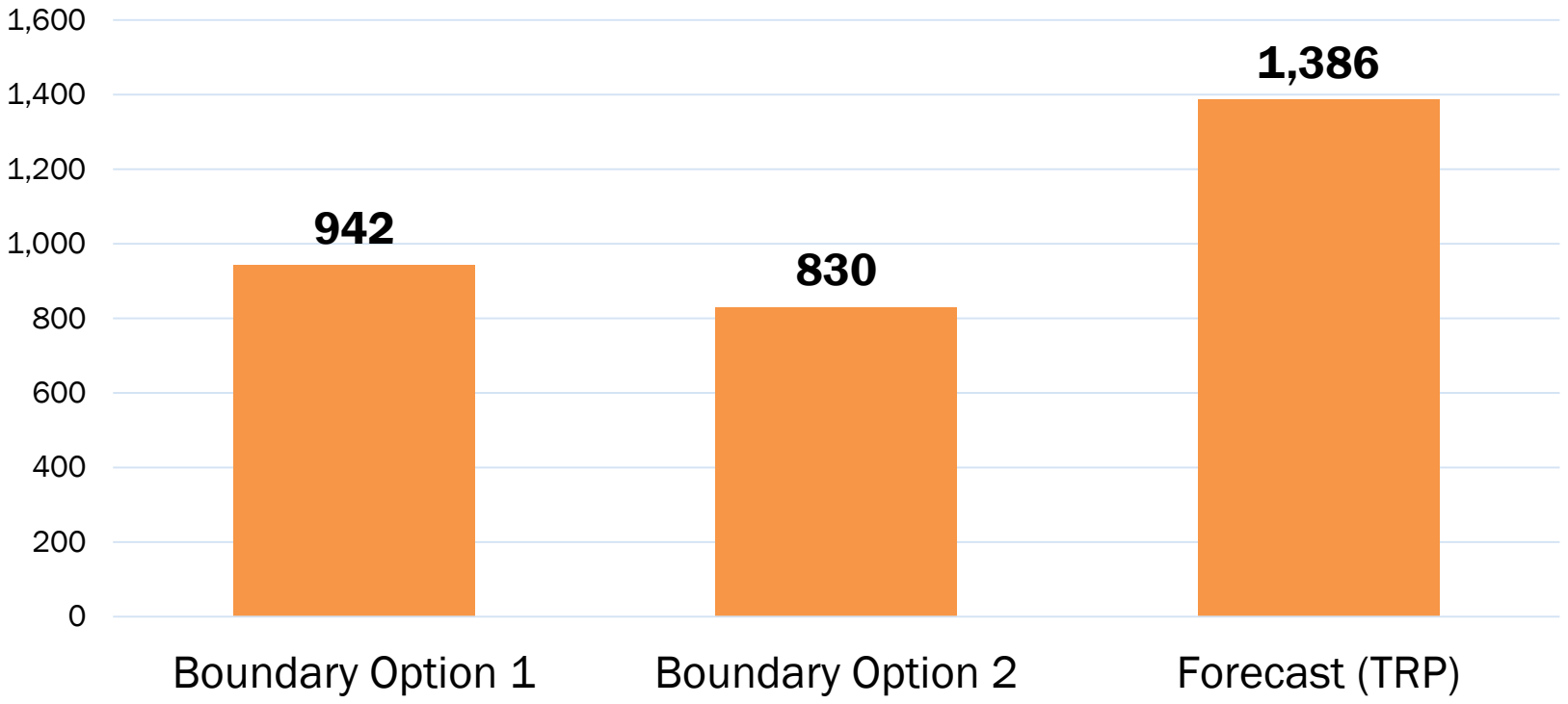
Boundary Option 2



Indicators | Number of Jobs



Indicators | Households



Land Use Scenario Objectives

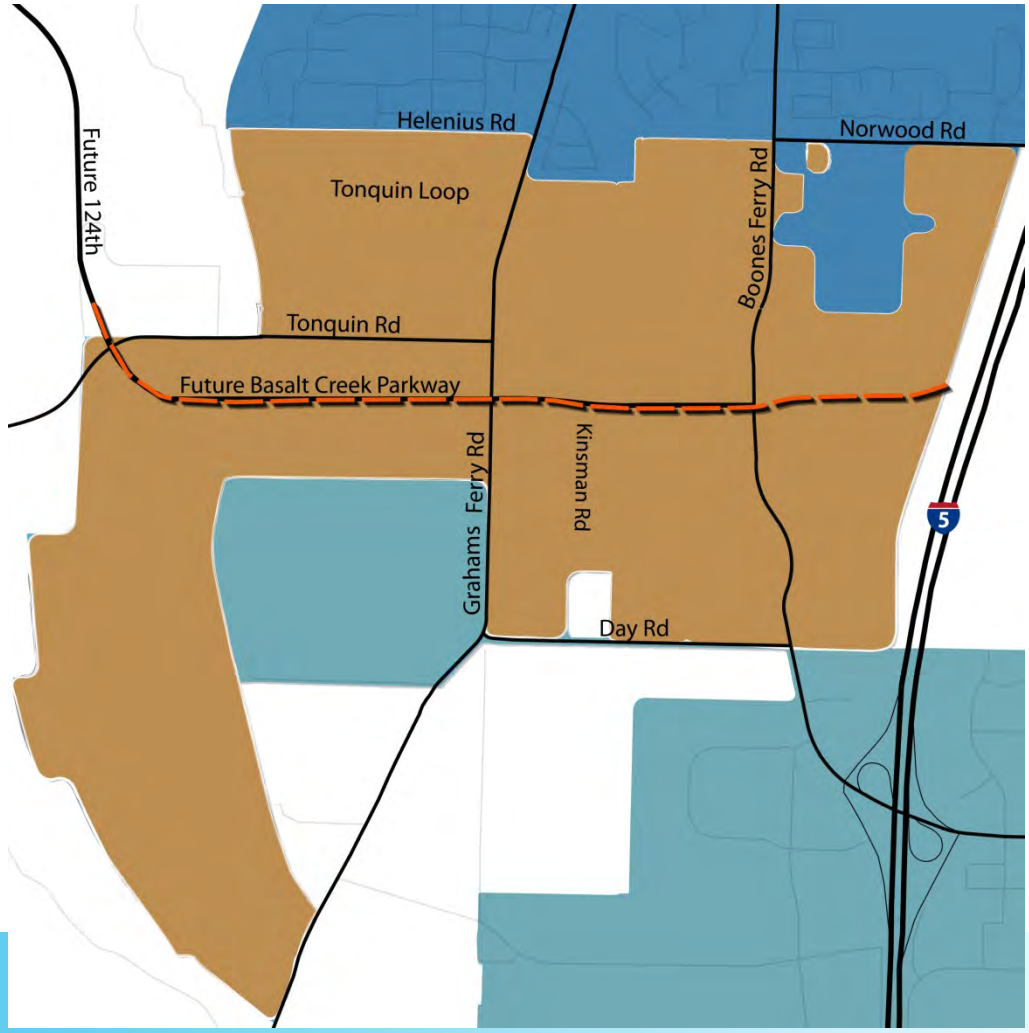
- A scenario designed around an implementable infrastructure plan
- Design principles focused on creating development forms reflective of the two cities
- Examine other boundary options that do not rely on the east west connector. Explore service agreements.
- Jurisdictional equity
- More residential for Tualatin in the north
- Consider creative solutions for transitions from employment to housing

Initial Scenario Summary

- Scenario 1 and 2 meet all regional goals and constraints
- Both provide:
  - high-quality employment and housing opportunities,
  - innovative and appropriate transition areas between residential and employment uses,
  - responsiveness to the real estate market,
  - robust and efficient infrastructure systems, and
  - development that generally "pays its way."

Base Case Boundary Option

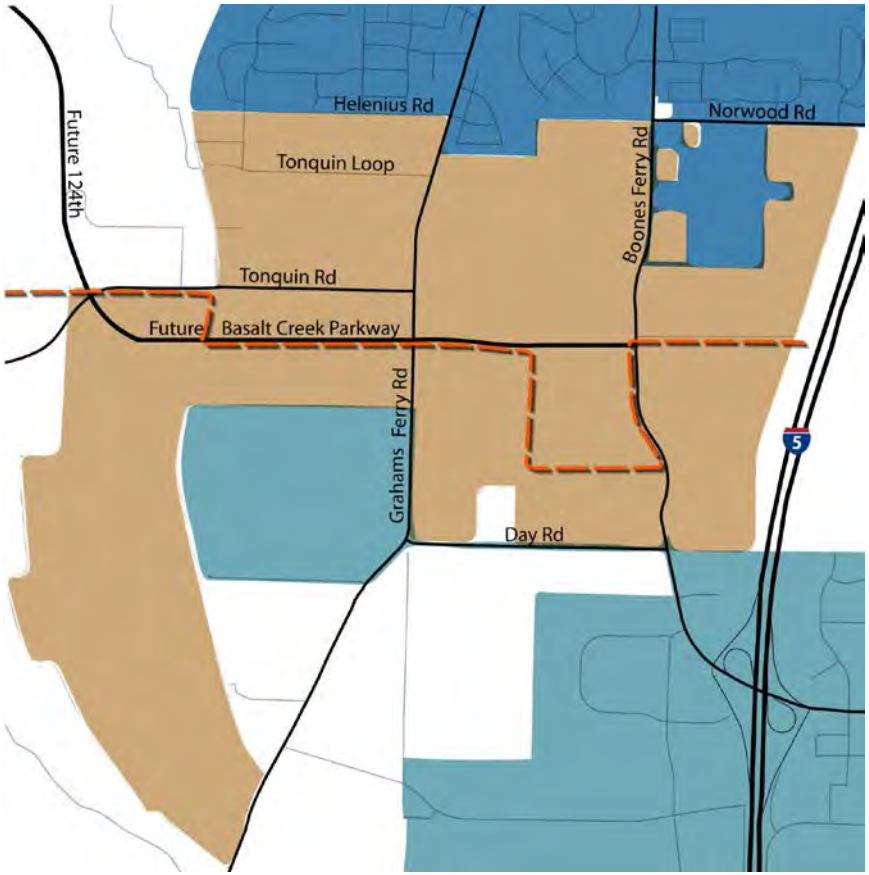
December 2, 2014 Joint Council Meeting



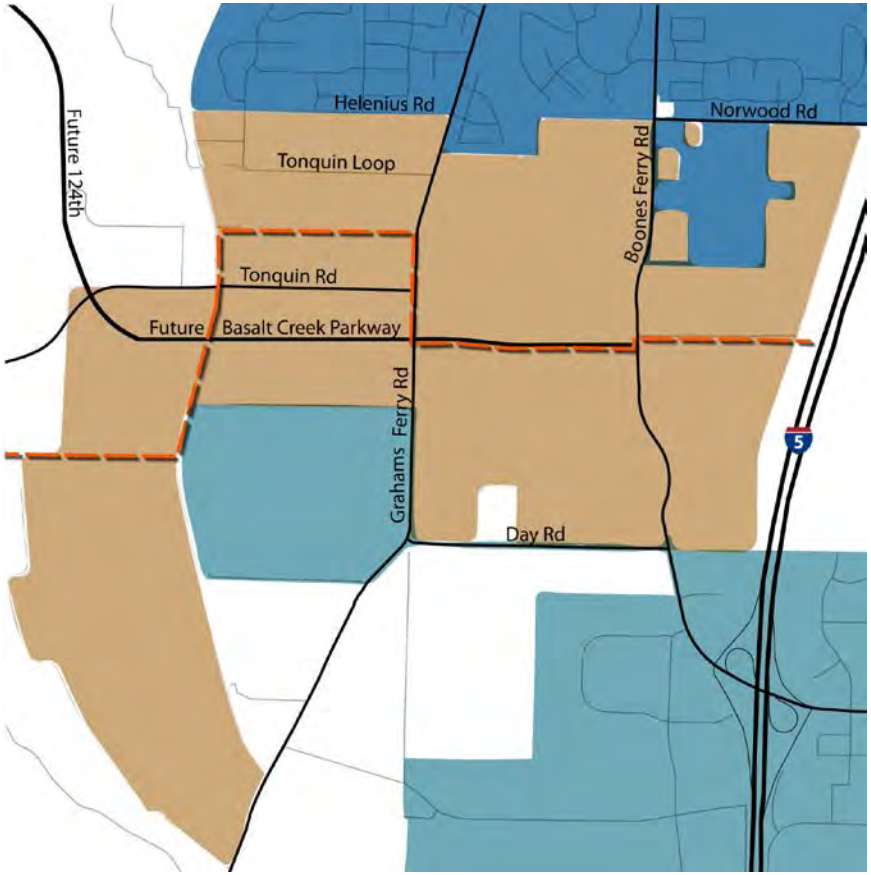
Basalt Creek Concept Plan

Boundary Options 1 and 2

June 17, 2015 Joint Council Meeting



Boundary Option 1

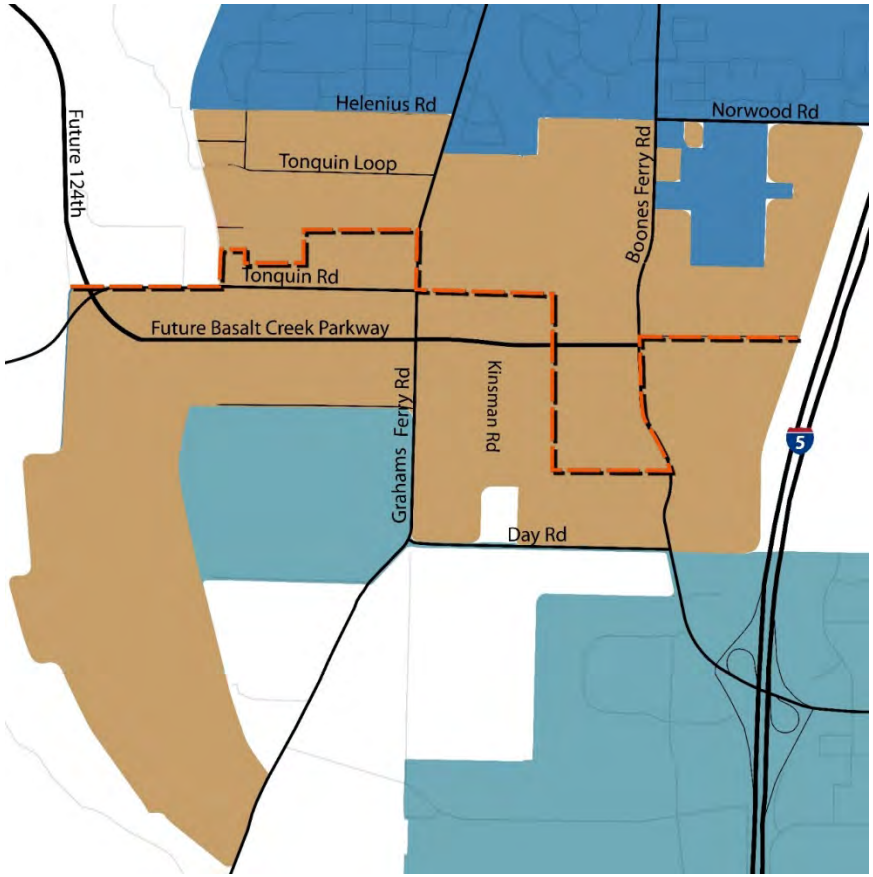


Boundary Option 2

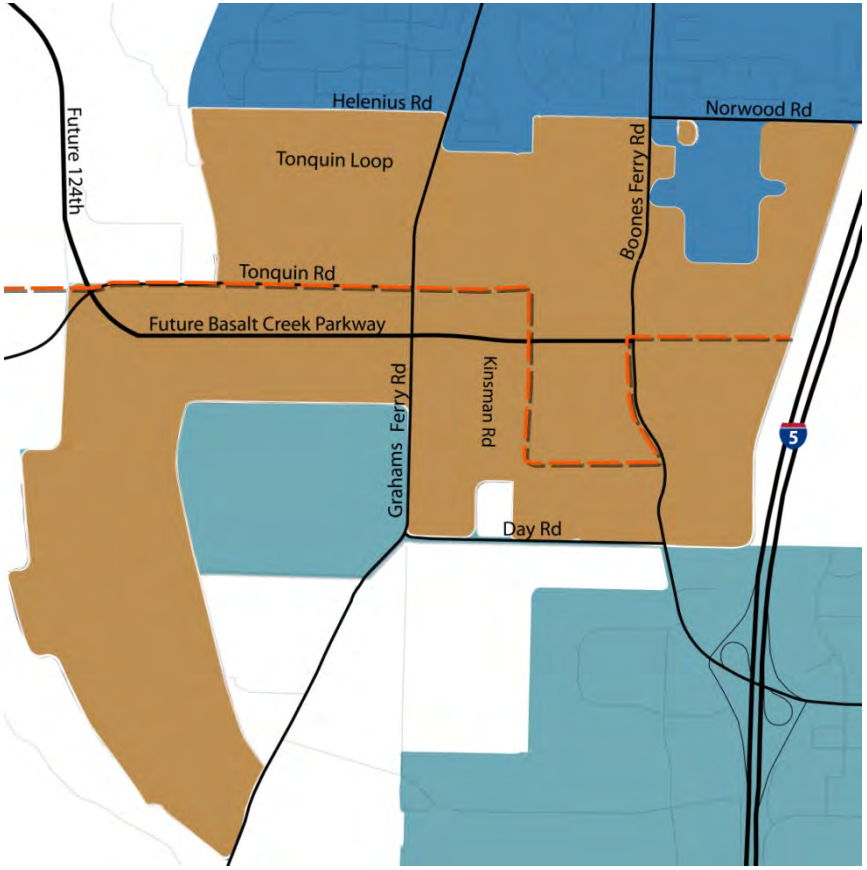
Basalt Creek Concept Plan

Boundary Options 3 and 4

August 2015 Individual Work Sessions



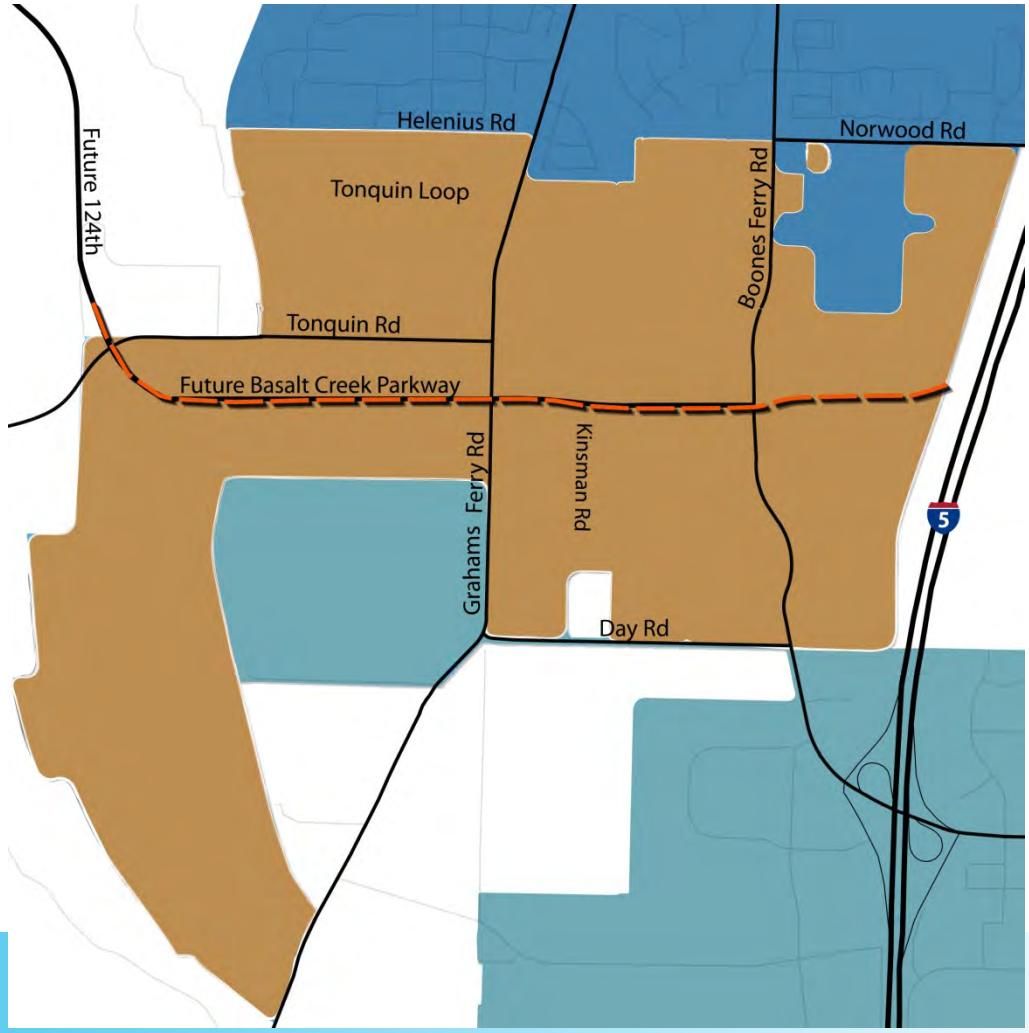
Boundary Option 3



Boundary Option 4

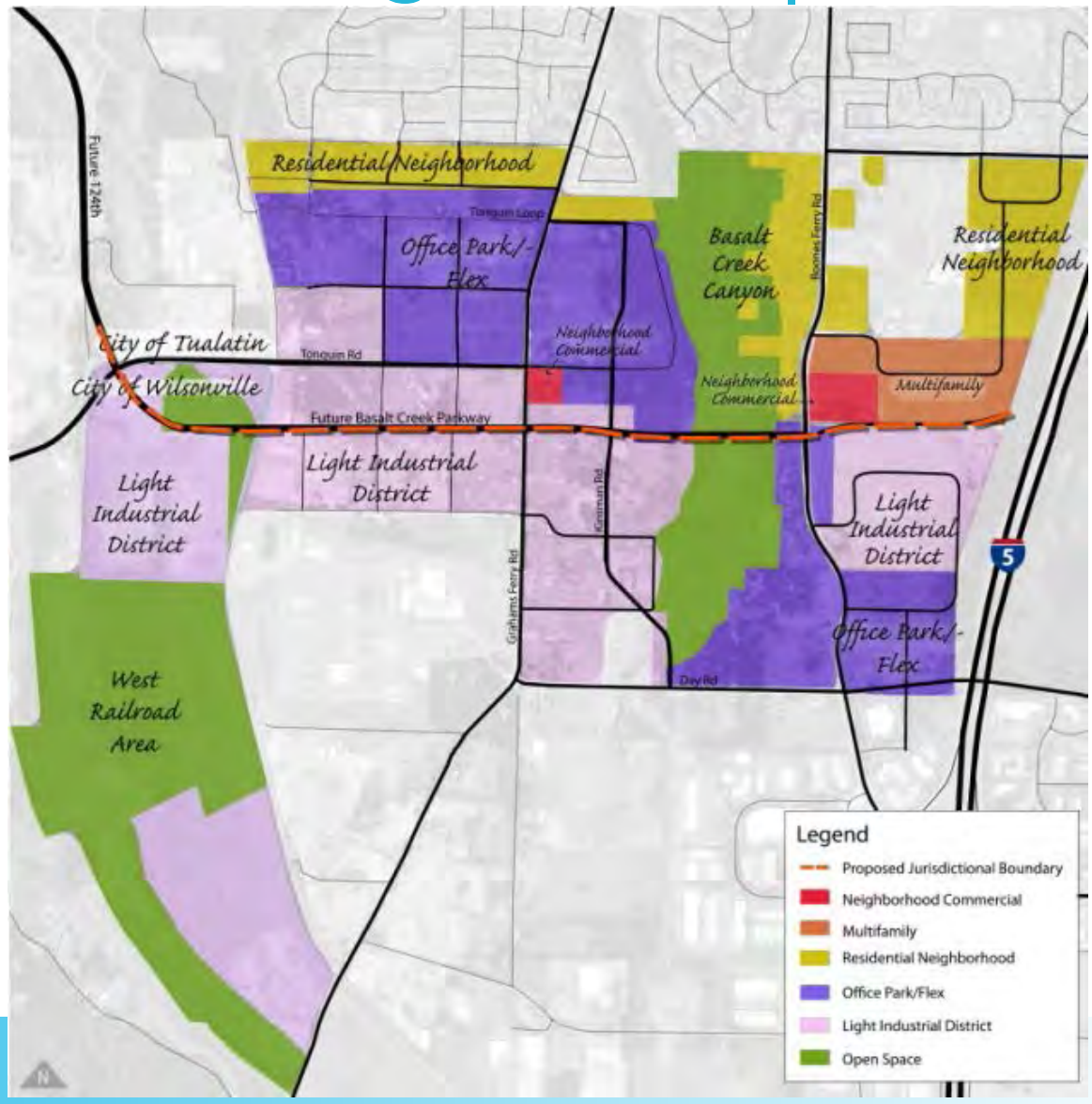
Basalt Creek Concept Plan

Final Jurisdictional Boundary follows the Basalt Creek Parkway



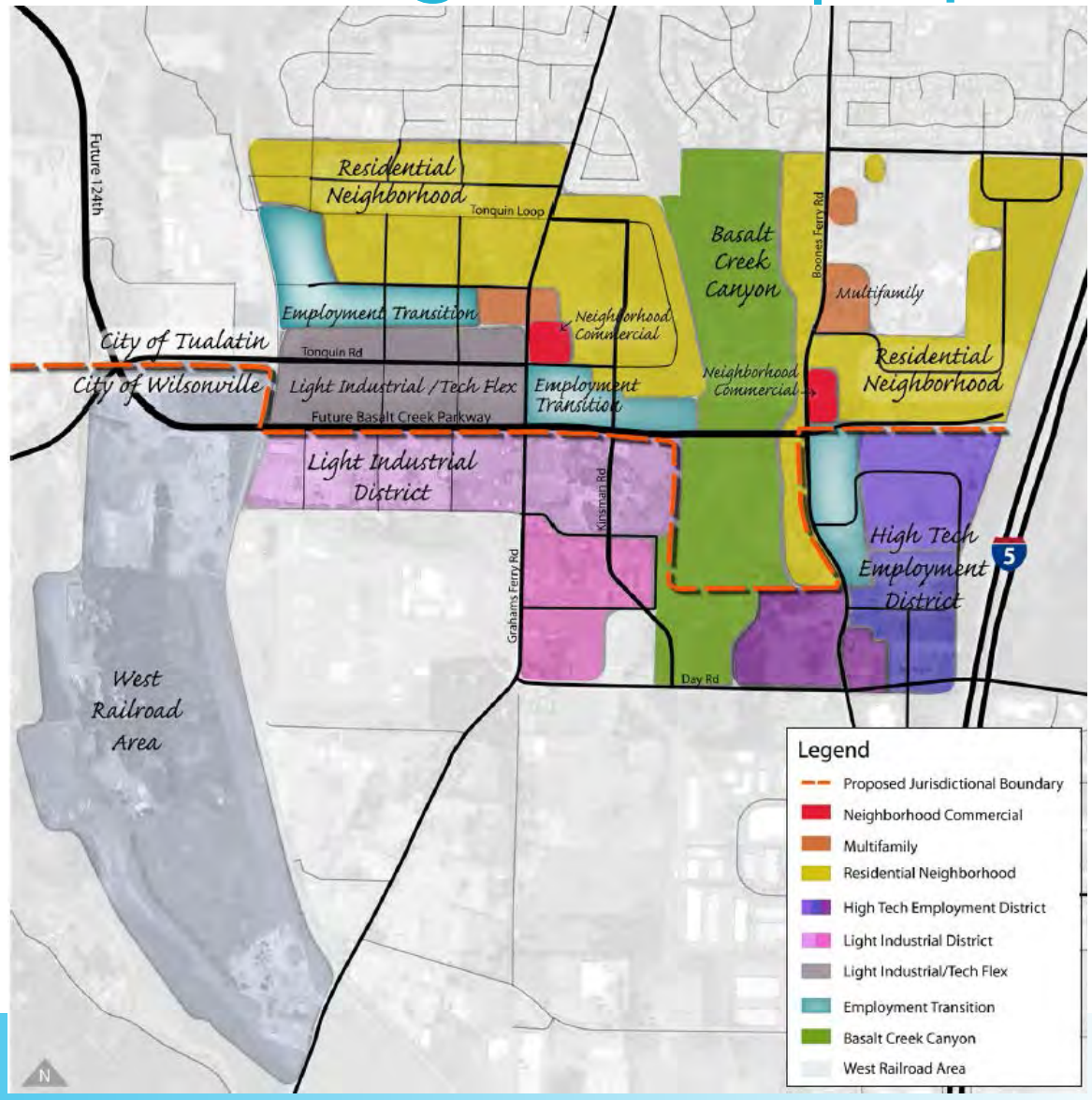
Basalt Creek Concept Plan

Scenario Progression | Base Case



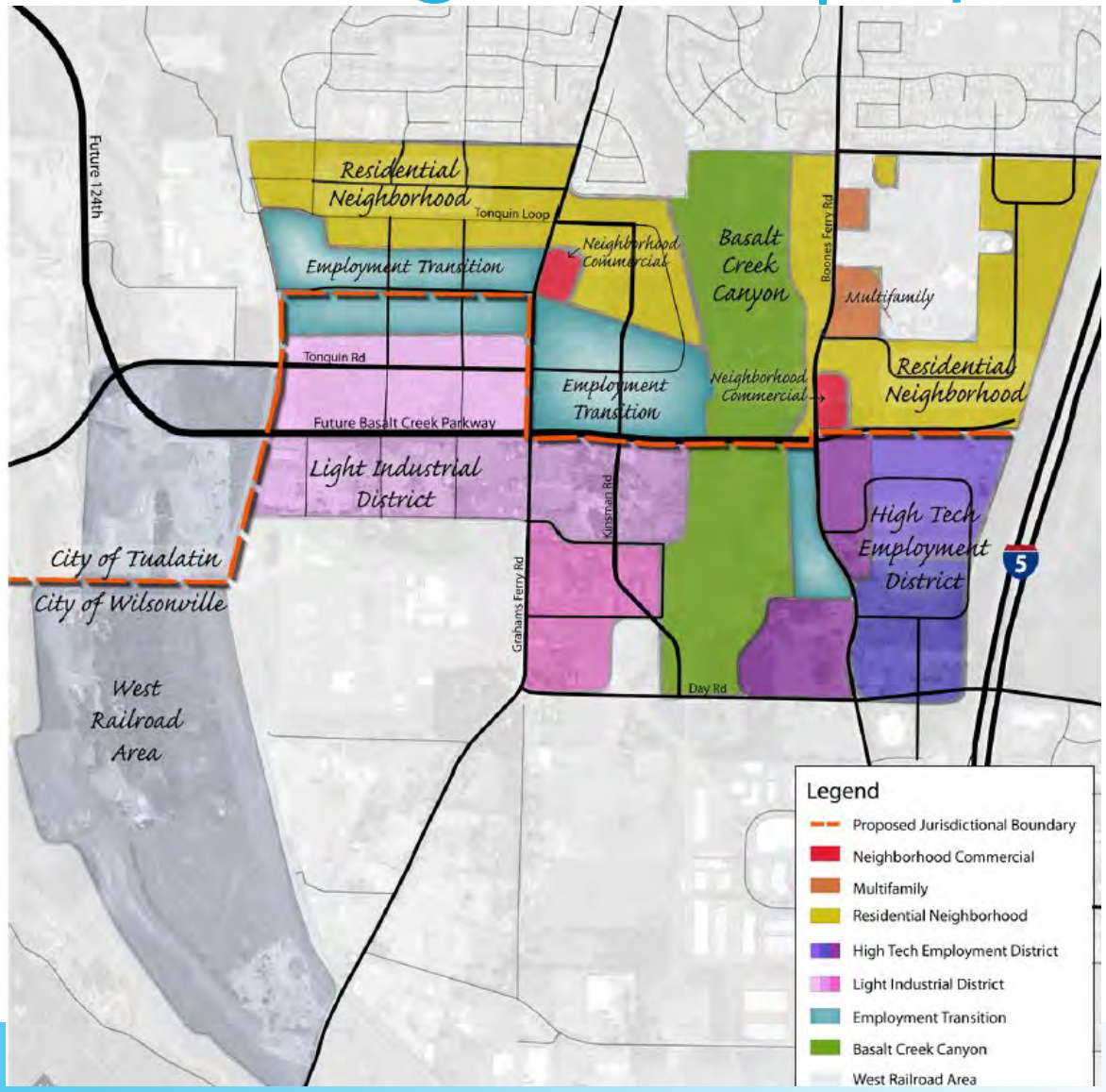
Basalt Creek Concept Plan

Scenario Progression | Option 1

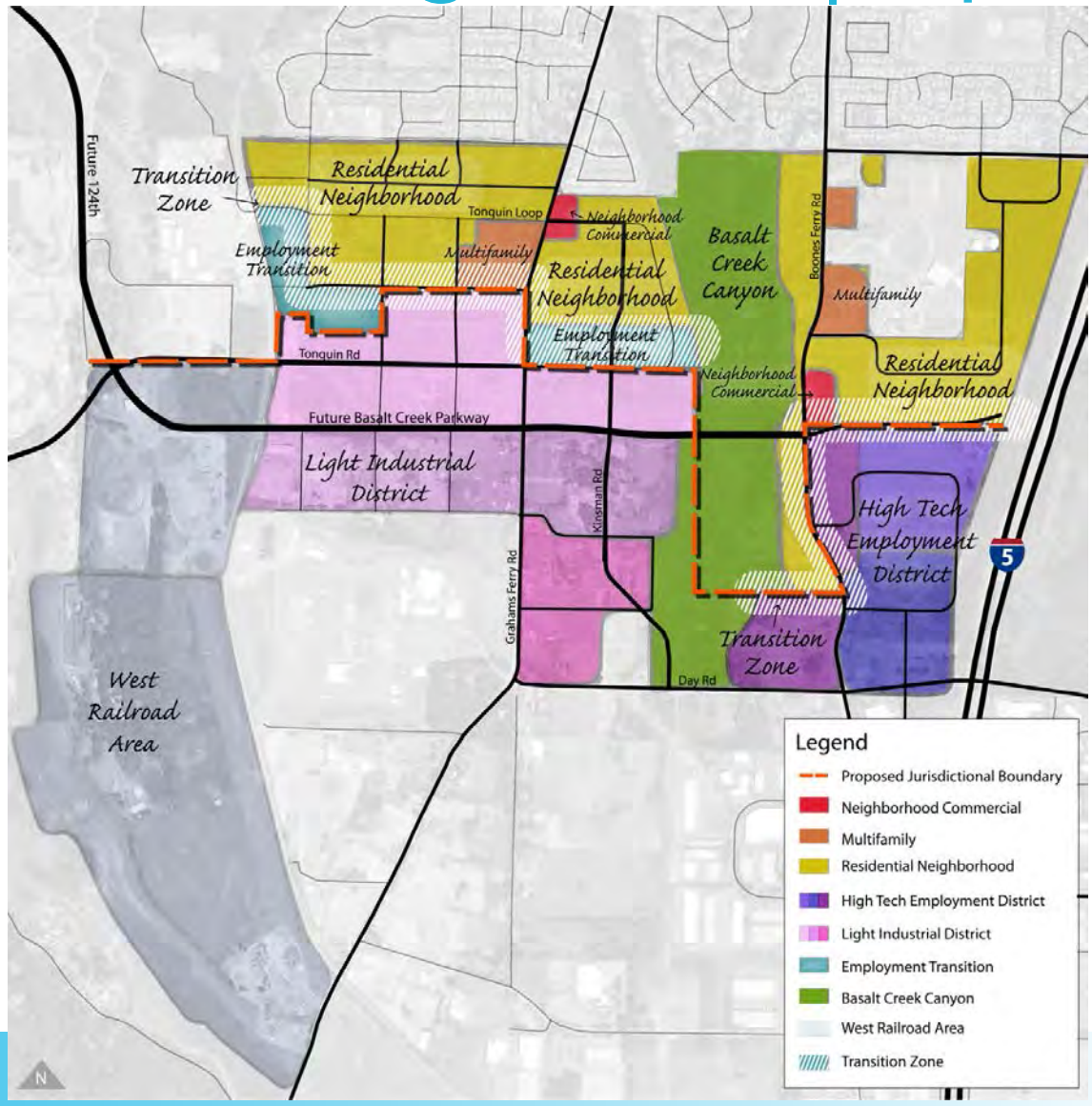


Basalt Creek Concept Plan

Scenario Progression | Option 2

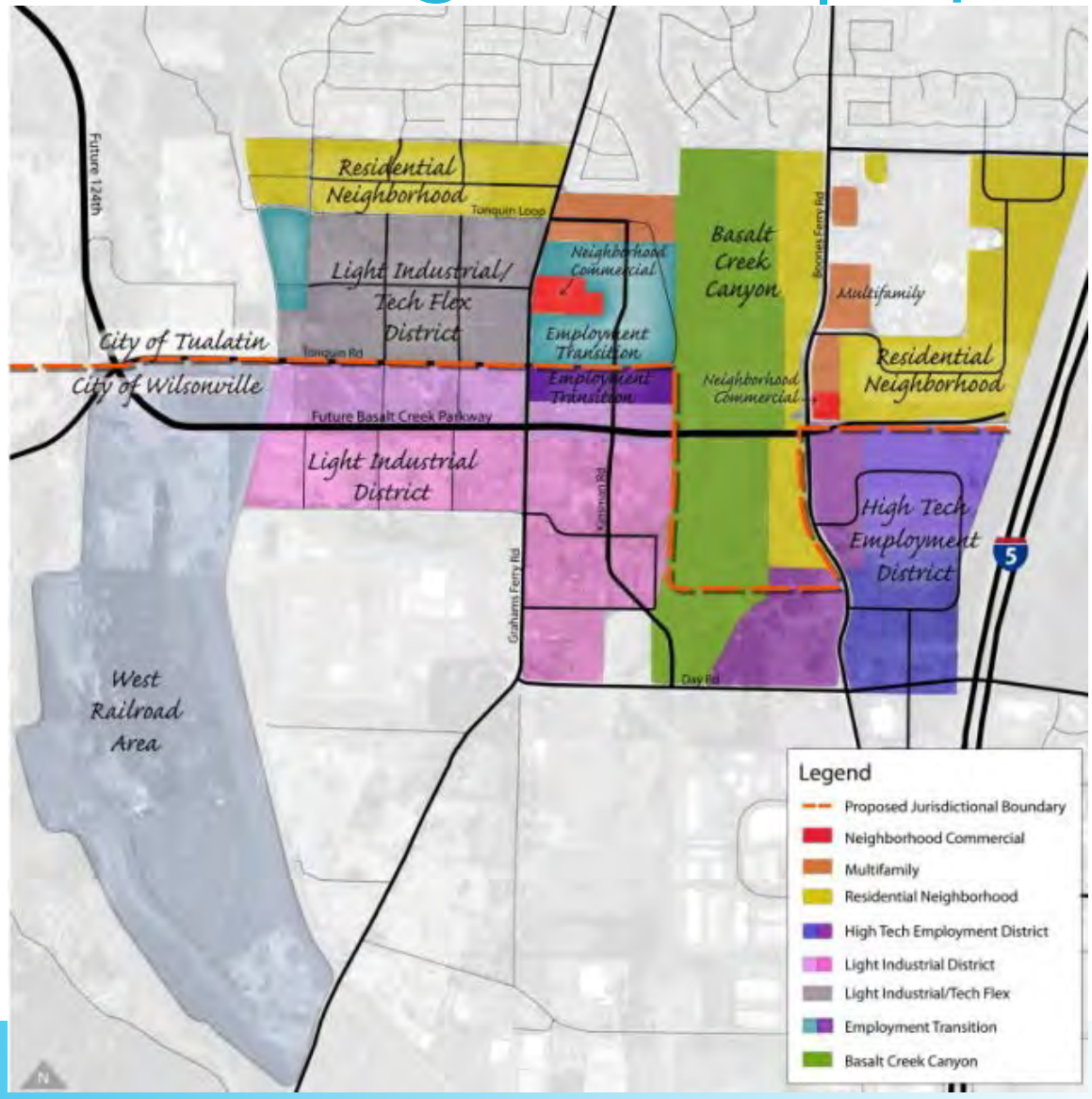


Scenario Progression | Option 3



Basalt Creek Concept Plan

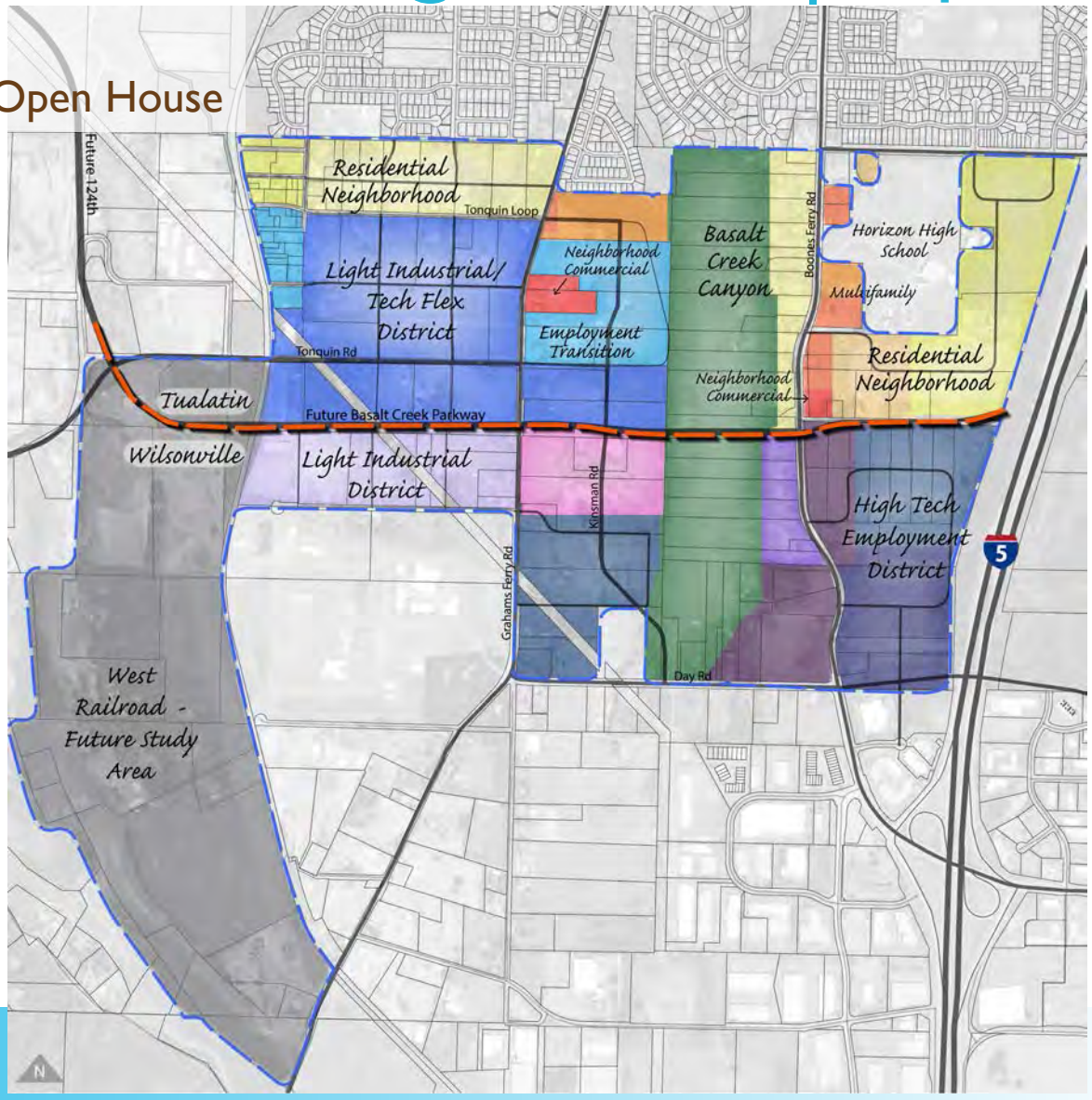
Scenario Progression | Option 4



Basalt Creek Concept Plan

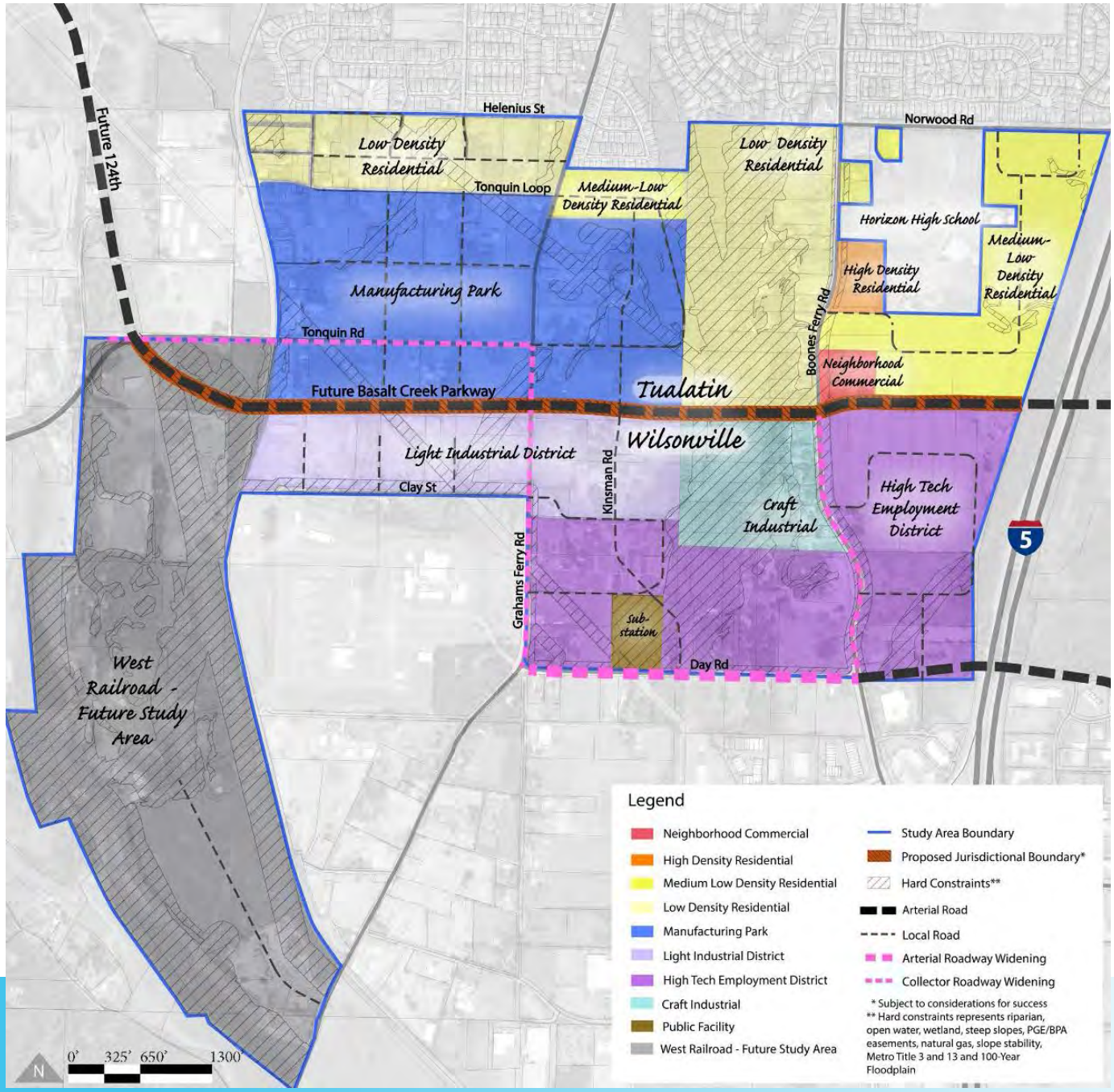
Scenario Progression | Option 5

Option 5
April 2016 Open House



Basalt Creek Concept Plan

Preferred Land Use Concept | April 2018



Basalt Creek Concept Plan

Boundary Option 1	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	6	58	55	-	-	-	-	-	34	34	-	-	-	-
Small Lot Single Family (T)	10	87	80	-	-	-	-	-	50	50	-	-	-	-
Small and Medium Lot Single Family (T)	59	401	369	-	-	-	-	-	232	232	-	-	-	-
Large Lot Single Family (T)	50	292	268	-	-	-	-	-	169	169	-	-	-	-
Small Pad Retail (T)	3	-	-	36	36	-	-	-	26	-	26	-	-	-
Light Industrial / Tech Flex (T)	34	-	-	689	24	132	533	-	263	-	17	49	197	-
Employment Transition (T)	26	-	-	773	-	773	-	-	286	-	-	286	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	201	906	836	1,498	60	905	533	-	1,102	526	43	335	197	-
Wilsonville														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7	36	34	154	37	48	67	2	92	21	27	18	25	1
Single User Manufacturing (W)	21	-	-	253	3	160	63	27	95	-	2	59	23	10
Single User Warehousing (W)	27	-	-	317	8	110	-	199	120	-	5	41	-	74
High Tech Single User (W)	15	-	-	532	5	234	293	-	199	-	4	87	108	-
Multi User Manufacturing Small Tenants (W)	19	-	-	316	4	59	218	36	119	-	3	22	80	13
Multi User Manufacturing Large Tenants (W)	38	-	-	282	9	13	-	260	107	-	7	5	-	96
Employment Low - Area of Special Concern (W)	59	-	-	119	4	6	-	110	46	-	3	2	-	41
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	188	36	34	1,973	69	630	641	633	776	21	50	233	237	234
Total All	389	942	870	3,471	129	1,535	1,174	633	1,878	548	94	568	434	234

Boundary Option 2	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	2	17	16	-	-	-	-	-	10	10	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	43	292	269	-	-	-	-	-	169	169	-	-	-	-
Large Lot Single Family (T)	49	289	266	-	-	-	-	-	167	167	-	-	-	-
Small Pad Retail (T)	2	-	-	20	20	-	-	-	14	-	14	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	34	-	-	993	-	993	-	-	368	-	-	368	-	-
Light Industrial / Tech Flex - Low Density (T)	4	1	1	29	1	6	23	-	12	1	1	2	8	-
Open Space	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	155	756	697	1,043	21	999	23	-	833	439	15	370	8	-
Wilsonville														
Live-Work (W)	-	-		-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	13.4	68.66	64.54	291.70	70.80	90.33	127.04	3.53	174.07	40.66	51.68	33.42	47.01	1.30
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.1	-	-	585.09	13.89	203.71	-	367.50	221.48	-	10.14	75.37	-	135.97
High Tech Single User (W)	21.3	-	-	766.61	6.98	337.62	422.02	-	286.16	-	5.09	124.92	156.15	-
Multi User Manufacturing Small Tenants (W)	30.6	-	-	503.04	6.39	93.78	345.83	57.03	188.43	-	4.67	34.70	127.96	21.10
Multi User Manufacturing Large Tenants (W)	37.7	-	-	282.12	8.93	13.09	-	260.10	107.60	-	6.52	4.84	-	96.24
Employment Low - Area of Special Concern (W)	55.1	-	-	111	4	5	-	103	42	-	3	2	-	38
Open Space	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	235	69	65	2,814	114	917	964	820	1,123	41	83	339	357	303
Total All	390	825	762	3,857	134	1,916	986	820	1,955	480	98	709	365	303

Boundary Option 3	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	6	124	117	-	-	-	-	-	74	74	-	-	-	-
Townhomes (T)	5	46	43	-	-	-	-	-	27	27	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	56	382	352	-	-	-	-	-	222	222	-	-	-	-
Large Lot Single Family (T)	38	223	205	-	-	-	-	-	129	129	-	-	-	-
Small Pad Retail (T)	3	-	-	35	35	-	-	-	25	-	25	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	12	-	-	365	-	365	-	-	135	-	-	135	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	144	865	799	400	35	365	-	-	664	503	25	135	-	-
Wilsonville														
Live-Work (W)	-	-		-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	16	84	79	357	87	111	156	4	213	50	63	41	58	2
Single User Manufacturing (W)	22	-	-	274	3	173	69	29	103	-	2	64	25	11
Single User Warehousing (W)	50	-	-	585	14	204	-	367	221	-	10	75	-	136
High Tech Single User (W)	22	-	-	792	7	349	436	-	296	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	40	-	-	663	8	124	456	75	249	-	6	46	169	28
Multi User Manufacturing Large Tenants (W)	33	-	-	250	8	12	-	230	95	-	6	4	-	85
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	187	84	79	2,922	127	972	1,117	706	1,177	50	93	360	413	261
Total All	331	949	878	3,322	162	1,337	1,117	706	1,841	553	118	495	413	261

Boundary Option 4	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin														
Garden Apartments 2-story (T)	4	84	79	-	-	-	-	-	50	50	-	-	-	-
Townhomes (T)	9	79	74	-	-	-	-	-	47	47	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	312	287	-	-	-	-	-	181	181	-	-	-	-
Large Lot Single Family (T)	23	135	124	-	-	-	-	-	78	78	-	-	-	-
Small Pad Retail (T)	1	-	-	17	17	-	-	-	12	-	12	-	-	-
Light Industrial / Tech Flex (T)	41	-	-	846	29	162	655	-	323	-	21	60	242	-
Employment Transition (T)	20	-	-	600	-	600	-	-	222	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
Tualatin Total	168	699	647	1,463	45	763	655	-	965	407	33	282	242	-
Wilsonville														
Live-Work (W)	-	-		-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7.6	39.05	36.70	165.89	40.26	51.37	72.25	2.00	99.00	23.12	29.39	19.01	26.73	0.74
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.0	-	-	584.80	13.88	203.61	-	367.32	221.37	-	10.13	75.33	-	135.91
High Tech Single User (W)	22.1	-	-	792.27	7.21	348.92	436.15	-	295.74	-	5.26	129.10	161.37	-
Multi User Manufacturing Small Tenants (W)	24.8	-	-	407.55	5.18	75.98	280.18	46.21	152.66	-	3.78	28.11	103.67	17.10
Multi User Manufacturing Large Tenants (W)	33.4	-	-	249.98	7.91	11.60	-	230.47	95.34	-	5.77	4.29	-	85.27
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Wilsonville Total	163	39	37	2,475	77	865	857	675	967	23	57	320	317	250
Total All	331	738	683	3,937	123	1,627	1,512	675	1,932	431	90	602	559	250

Boundary Option 5	Acreage	Housing Units/Gross Acre	Housing Units	Households/ Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	ing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin																						
Garden Apartments 2-story (T)	4	21.13	84	19.87	79	-	-	0%	-	0%	-	0%	-	0%	-	50	12.52	50	-	-	-	-
Townhomes (T)	9	9.16	79	8.61	74	-	-	0%	-	0%	-	0%	-	0%	-	47	5.43	47	-	-	-	-
Small Lot Single Family (T)	10	8.92	89	8.21	82	-	-	0%	-	0%	-	0%	-	0%	-	52	5.17	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	6.80	312	6.25	287	-	-	0%	-	0%	-	0%	-	0%	-	181	3.94	181	-	-	-	-
Large Lot Single Family (T)	22	5.88	128	5.41	118	-	-	0%	-	0%	-	0%	-	0%	-	74	3.41	74	-	-	-	-
Small Pad Retail (T)	1	-	-	-	-	11.31	17	100%	17	0%	-	0%	-	0%	-	12	8.26	-	12	-	-	-
Light Industrial / Tech Flex (T)	72	-	-	-	-	20.41	1,468	3%	50	19%	282	77%	1,136	0%	-	561	7.80	-	37	104	420	-
Employment Transition (T)	20	-	-	-	-	29.47	600	0%	-	100%	600	0%	-	0%	-	222	10.90	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	7	-	3%	-	20%	-	77%	-	0%	-	-		-	-	-	-	-
Open Space	10	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Tualatin Total	194		692		640		2,085		67		882		1,136		-	1,199	6.17	403	49	326	420	-
Wilsonville																						
Live-Work (W)	-	15	-	14	-	15	-	100%	-	0%	-	0%	-	0%	-	-		-	-	-	-	-
Employment Transition (W)	1	5	6	5	6	22	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Single User Manufacturing (W)	22	-	-	-	-	12	274	1%	3.03	63%	173	25%	69	11%	29	103	4.59	-	2	64	25	11
Single User Warehousing (W)	50	-	-	-	-	12	585	2%	13.88	35%	204	0%	-	63%	367	221	4.42	-	10	75	-	136
High Tech Single User (W)	22	-	-	-	-	36	792	1%	7.21	44%	349	55%	436	0%	-	296	13.40	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	14	-	-	-	-	16	222	1%	2.83	19%	41	69%	153	11%	25	83	6.17	-	2	15	57	9
Multi User Manufacturing Large Tenants (W)	22	-	-	-	-	7	163	3%	5.17	5%	8	0%	-	92%	151	62	2.86	-	4	3	-	56
Employment Low - Area of Special Concern (W)	-	-	-	-	-	2	-	3%	-	5%	-	0%	-	92%	-	-		-	-	-	-	-
Open Space	6	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Wilsonville Total	137		6		6		2,064		39		783		669		572	781	5.72	4	28	290	248	212
Total All	331		698		646		4,149		106		1,665		1,805		572	1,980	5.98	407	77	616	668	212

Land Use Concept	Acreage	Housing Units/Gross Acre	Housing Units	Households/ Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	Warehousing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
Tualatin																						
High Density Residential	3.36	21.13	71	19.87	67	-	-	0%	-	0%	-	0%	-	0%	-	42	12.52	42	-	-	-	-
Medium-Low Density Residential	59.83	6.80	407	6.25	374	-	-	0%	-	0%	-	0%	-	0%	-	236	3.94	236	-	-	-	-
Low Density Residential	24.83	5.88	146	5.41	134	-	-	0%	-	0%	-	0%	-	0%	-	85	3.41	85	-	-	-	-
Neighborhood Commercial	2.89	-	-	-	-	11.31	33	100%	32.66	0%	-	0%	-	0%	-	24	8.26	-	24	-	-	-
Manufacturing Park	92.95	-	-	-	-	20.41	1,897	3%	65	19%	364	77%	1,468	0%	-	725	7.80	-	47	135	543	-
Open Space	10.37	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Tualatin Total	194.23		624		575		1,929		98		364		1,468		-	1,111	5.72	362.4	71.2	134.8	543.0	-
Wilsonville																						
Craft Industrial	1.25	5	6	5	6	21.70	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Light Industrial District	35.30	-	-	-	-	16.46	581	1%	7.39	19%	108	69%	400	11%	66	218	6.17	-	5	40	148	24
High Tech Employment District	94.47	-	-	-	-	20.28	1,916	1%	24.01	45%	870	38%	733	15%	289	717	7.59	-	18	322	271	107
Open Space	5.62	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Wilsonville Total	136.64		6		6		2,524		38		987		1,144		356	951	6.96	3.8	27.7	365.1	423.3	131.5
Total All	331		630		581		4,453		136		1,351		2,611		356	2,062	6.23	366.2	99.0	499.9	966.2	131.5

TITLE 11 COMPLIANCE MEMORANDUM

In response to a shortfall in industrial land, a 2004 study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, and parcel size, distribution to regional transportation, necessary services, accessibility, proximity to existing like uses, and predominately industrial use.

Add in language from the ordinance that describes the "Tualatin study area"

Two areas of land identified in Metro Ordinance No. 04-1040B Exhibit X as good candidates for industrial development now comprise the Basalt Creek planning area. The main section of the Basalt Creek area (identified in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to its proximity to the I-5 corridor and to an existing industrial area in Wilsonville and with areas that are relatively flat. The ordinance states "…the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses."

3.07.1110 Planning for Areas Designated Urban Reserve

A. The county responsible for land use planning for an urban reserve and any city likely to provide governance or an urban service for the area, shall, in conjunction with Metro and appropriate service districts, develop a concept plan for the urban reserve prior to its addition to the UGB pursuant to sections 3. 07 .1420, 3.07.1430 or 3.07. 1435 of this chapter. The date for completion of a concept plan and the area of urban reserves to be planned will be jointly determined by Metro and the county and city or cities.

MB: Include findings: IGA with all parties; coordination with CPDG creating Concept Plan

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B. A local government, in creating a concept plan to comply with this section, shall consider actions necessary to achieve the following outcomes:

1. If the plan proposes a mix of residential and employment uses:
    a. A mix and intensity of uses that will make efficient use of the public systems and facilities described in subsection C;

        Findings: Title 11 Section 3.07.1110 (C) refers to proposed sewer, park and trail, water and stormwater systems and transportation facilities. Basalt Creek Concept Plan balanced land use types and densities to meet obligations for providing regional

employment capacity (Metro forecast) while limiting negative impacts on congestion and traffic levels (trip caps). In addition, the scenarios vetted by the Project Management Team (PMT) and each City Council sought efficient provision of services, fully analyzing the transportation, infrastructure, park, school, natural resource, and land use implications of various development patterns and formed the basis for the concept plan.

Conclusion: The Basalt Creek Concept Plan fulfills this requirement.

b. A development pattern that supports pedestrian and bicycle travel to retail, professional and civic services;

Findings: The Basalt Creek Concept Plan identifies opportunities for bike and pedestrian connections in conjunction with the planned development pattern. Additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards, respectively, and opportunities for additional active transportation connects are identified in the Concept Plan (e.g. across the future Basalt Creek Parkway, to the Ice Age Tonquin Trail, and potentially, along the western edge of the Basalt Creek Canyon).

Map is included under Bicycle and Pedestrian Framework (pg. X).

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

c. A range of housing of different types, tenure and prices addressing the housing needs in the prospective UGB expansion area in the context of the housing needs of the governing city, the county, and the region if data on regional housing needs are available, in order to help create economically and socially vital and complete neighborhoods and cities and avoiding the concentration of poverty and the isolation of families and people of modest means;

Findings: While the major purpose of the area is to provide land for employment opportunities, the Basalt Creek Concept Plan includes some residential areas to the north adjacent to the City of Tualatin. The mix of housing types proposed was designed to coordinate with existing adjacent residential neighborhoods. The mix includes low, medium-low and high density housing, which provides the opportunity for a range of different housing types, tenure and prices. The average housing density capacity for Basalt Creek is anticipated to meet the State minimum standard of an average of eight dwelling units per net buildable acre.

KPF: Also refer to recent regional housing needs for context – housing type, tenure and pricing.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

d. Sufficient employment opportunities to support a healthy economy, including, for proposed employment areas, lands with characteristics, such as proximity to transportation facilities, needed by employers;

Findings:
In 2004, Metro identified the Basalt Creek area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed an ordinance to annex the area into the existing Urban Growth Boundary (UGB), in order to ensure sufficient regional supply of land for employment growth over the next twenty years.

Basalt Creek planning area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

In the most recent Metro forecast for the area, Basalt Creek planning area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). The land suitability analysis (see Appendix X, page X) influenced the most appropriate locations for employment-based land uses within the planning area.

Include year of the Metro forecast used.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

e. Well-connected systems of streets, bikeways, parks, recreational trails and public transit that link to needed housing so as to reduce the combined cost of housing and transportation;

Findings:

The Basalt Creek Concept Plan includes maps of planned Roadway Framework (pg. X), Bikes, Trails, and Pedestrian Network (pg Z), and a Transit Network (pg. X). These networks are designed to work together and to integrate planned future uses with existing adjacent uses. However, it is important to note that this land was brought into the UGB as industrial land with housing allowed specifically to address concerns for necessary buffering of adjacent uses. The new housing is located in close proximity to future employment, which provides opportunity to reduce combined cost of housing and transportation. These road networks provide a well-connected system that contributes to reduced cost of housing and transportation, in locating housing and employment in close proximity.
Conclusion: Basalt Creek Concept Plan fulfills this requirement.

f. A well-connected system of parks, natural areas and other public open spaces;

Findings: The Basalt Creek Concept Plan includes as one of the guiding principles to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating the new open spaces, natural areas and trails in the planning area into existing regional networks. The planning area provides an interesting opportunity for different types of parks, given the variety of uses and the extensive Basalt Creek natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. While the area is largely employment, the Basalt Creek open space makes for opportunities for parks in employment areas, for jogging, hiking, or other outdoor recreation by area employees.

The Basalt Creek Concept plan states that locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. The Basalt Creek area will be incorporated into each City's master planning for parks and recreation, and land acquisition and development will occur as the need arises. Assumptions were made in the scenarios for the development of parks within Tualatin. While no parks have been delineated, the scenario provides for the development of XX acres of land for park uses, including neighborhood parks, pocket parks, and industrial waysides, which were supported at the public open house and are included in the Concept Plan for implementation at the local level.
MB: Consider mentioning West Railroad Area for its significant natural resources; key aspect of study for the "future study area"Conclusion: Basalt Creek Concept Plan fulfills this requirement.

g. Protection of natural ecological systems and important natural landscape features; and

Findings: The Basalt Creek Concept Plan includes land suitability studies for this area, which identified constrained lands including 11,478 feet of natural streams, 8,157 feet of underground streams, and 1,402 feet of intermittent streams in the planning area. Coffee Lake Creek forms the western boundary of the planning area. There are also 69 acres of wetlands (8% of the planning area), including 49 acres of open water. There are 116 acres of area land designated by Metro as Water Quality and Flood Management Areas. Both the City of Wilsonville and Clean Water Services, who regulate environmental lands in the City of Tualatin, have local ordinances in place that go beyond the level of conservation otherwise required and the plan allows for existing local standards from each City to apply upon annexation of property into either Wilsonville or Tualatin.

A buildable lands assessment (see Appendix X, page X) screens out places where there is limited or no development potential to identify the places where development is most suitable given the environmental and regulatory context. There is a range of factors that influence development potential within the planning area, but they can be divided into two categories: hard and soft constraints. Hard constraints are either physical or legal requirements that prohibit new development. These areas are excluded from the analysis. Soft constraints are where physical or legal requirements allow some development with guidance on appropriate land uses and intensities.

A conservative approach was taken in this analysis toward development in and around environmental constraints to emphasize preservation of natural resources.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

h. Avoidance or minimization of adverse effects on farm and forest practices and important natural landscape features on nearby rural lands.

Findings: The planning area is bounded to the north by Tualatin residential neighborhoods, to the south by Wilsonville commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands. The buildable lands assessment (see Appendix X, page X) identify the places where development is most suitable given the environmental and regulatory context.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

2. If the plan involves fewer than 100 acres or proposes to accommodate only residential or employment needs, depending on the need to be accommodated:

Conclusion: The Basalt Creek Concept Plan does not involve fewer than 100 acres and accommodates residential and employment and this section does not apply.

C. A concept plan shall:

1. Show the general locations of any residential, institutional, commercial, industrial, institutional and public uses proposed for the area with sufficient detail to allow estimates of the cost of the public systems and facilities described in paragraph 2;

   Findings: The Basalt Creek Concept Plan Land Use Concept Map is located on page X.
   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

2. For proposed sewer, park and trail, water and stormwater systems and transportation facilities, provide the following:
   a. The general locations of proposed sewer, park and trail, water and stormwater systems;

      Findings: The Basalt Creek Concept Plan includes Sanitary Sewer System Concept Map (pg. X), Bikes, Trails, and Pedestrian Network (pg. X), Water Systems Concept Map (pg. X), and Stormwater Infrastructure System Concept Map (pg. X).

      Conclusion: Basalt Creek Concept Plan fulfills this requirement.

   b. The mode, function and general location of any proposed state transportation facilities, arterial facilities, regional transit and trail facilities and freight intermodal facilities;

      Findings: The Basalt Creek Concept Plan includes a map of planned Roadway Framework (pg. X), and a Transit Network (pg. X).
      Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan for the area, which is also coordinated with the Metro Regional Transportation Plan, and integrated into the Concept Plan's Roadway Framework map. Basalt Creek Parkway, currently under construction, will be a major east-west arterial, with limited access, creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops.
      Conclusion: Therefore, Basalt Creek Concept Plan fulfills this requirement.

c. The proposed connections of these systems and facilities, if any, to existing systems;
Findings: Each concept system is designed to connect to existing systems
Conclusion: Basalt Creek Concept Plan fulfills this requirement.

d. Preliminary estimates of the costs of the systems and facilities in sufficient detail to determine feasibility and allow cost comparisons with other areas.

MB: Need to address feasibility

Findings: The Basalt Creek Concept Plan includes cost tables for each system.
Conclusion: Basalt Creek Concept Plan fulfills this requirement.

e. Proposed methods to finance the systems and facilities; and

Findings: Additional services will be provided by each jurisdiction independently through SDCs and permit fees. Particularly given the impacts of regional traffic from the Basalt Creek Parkway, the Basalt Creek Concept Plan includes a specific acknowledgment that significant improvements will be needed to the existing and future transportation network in the Basalt Creek Concept Plan area. In order to achieve the vision established by the Cities and Washington County in the 2013 Basalt Creek Transportation Refinement Plan (TRP), Tualatin and Wilsonville agree to begin working together to prioritize those network improvements. The Cities will work together to identify a cooperative funding strategy that considers local, county, regional, state, and federal funding tools.

MB: Add financing tools that will pay for services

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

f. Consideration for protection of the capacity, function, and safe operation of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.
Findings: The Basalt Creek Concept Plan includes considerations to maintain the integrity of the transportation network in this employment area that states that the Cities will also work cooperatively to evaluate future regional transportation

projects and decisions, beyond those identified in the TRP, which could direct additional traffic to the Basalt Creek Concept Plan Area. These projects will be evaluated to ensure that system capacity and adequate regional funding is available for needed improvements to mitigate additional regional traffic.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

3. If the area subject to the concept plan calls for designation of land for industrial use, include an assessment of opportunities to create and protect parcels 50 acres or larger and to cluster uses that benefit from proximity to one another;

   Conclusion: The Basalt Creek Concept Plan does not include parcels over 50 acres and this provision does not apply.

4. If the area subject to the concept plan calls for designation of land for residential use, the concept plan will describe the goals for meeting the housing needs for the concept planning area in the context of the housing needs of the governing city, the county, and the region if data on regional housing needs are available. As part of this statement of objectives, the concept plan shall identify the general number, price and type of market and nonmarket—provided housing. The concept plan shall also identify preliminary strategies, including waivers, subsidies, zoning incentives and private and nonprofit partnerships, that will support the likelihood of achieving the outcomes described in subsection B of this section;

   Findings: The Basalt Creek Concept Plan includes a mix of low, medium-low and high density housing projected to produce 624 units in Tualatin, which provides the opportunity for a range of different housing types, tenure and prices to meet the needs of the city, county and region. Preliminary strategies that will support the likelihood of achieving outcomes described in subsection B include, but are not limited to: private and non-profit partnerships, waivers, subsidies, update and streamline zoning code (i.e. additional flexibility with accessory dwelling units, allow smaller lots in certain Planning Districts, density bonuses, reduce parking requirements) programs to lower the cost of development, additional funding sources to pay for infrastructure.

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

5. Show water quality resource areas, flood management areas and habitat conservation areas that will be subject to performance standards under Titles 3 and 13 of this chapter;

Findings: The Basalt Creek Concept Plan is based on a constraints analysis located in the Existing Conditions report and the plan under Regulatory Framework for Conserving Natural Resources (pg x).

Elaborate on performance standards connection

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

6. Be coordinated with the comprehensive plans and land use regulations that apply to nearby lands already within the UGB;

   Findings: The Basalt Creek Concept Plan is designed to work with existing planning efforts in City of Tualatin and City of Wilsonville, and to form the basis for necessary comprehensive plan amendments.

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

7. Include an agreement between or among the county and the city or cities and service districts that preliminarily identifies which city, cities or districts will likely be the providers of urban services, as defined at ORS 195. 065 (4), when the area is urbanized;

   Findings: The Basalt Creek Concept Plan states that this area will be added to urban service agreements already in effect. Service providers will be the same, depending on the City a property is annexed into, and various infrastructure systems were designed as such. For any services not provided by the annexing City, service agreements are already in place (such as Clean Water Services and Tualatin Valley Fire and Rescue).

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

8. Include an agreement between or among the county and the city or cities that preliminarily identifies the local government responsible for comprehensive planning of the area, and the city or cities that will have authority to annex the area, or portion of it, following addition to the UGB.

   Findings: The Basalt Creek Concept Plan includes a jurisdictional boundary, with the city of Tualatin having authority to the north of the future Basalt Creek Parkway, and Wilsonville having authority to the south of the future parkway. UPAA agreements with each City will be updated as part of the planning process, based on the Concept Plan.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

9. Provide that an area added to the UGB must be annexed to a city prior to, or simultaneously with, application of city land use regulations to the area intended to comply with, subsection C of section 3.07.1120; and

   Findings: The Basalt Creek Concept Plan includes provision that this area is added to existing urban services agreements. Ensuring service provision is also a requirement of City of Wilsonville code and a component of the UPAA.

   Conclusion: Basalt Creek Concept Plan fulfills this requirement.

10. Be coordinated with school districts, including coordination of demographic assumptions.

    Findings: The Basalt Creek Concept Plan was coordinated with local school districts.

    Conclusion: Therefore, Basalt Creek Concept Plan fulfills this requirement.

FA: May need to include letters from school districts.

MB: Address demographics

3.07.1120 Planning for Areas Added to the UGB

FA: Should these sections address content of the Concept Plan and technical memos, or content of each city's comprehensive plan amendments? Need to clarify w Metro.

A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to section 3.07.1110(c)(7) or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection (c) by the date specified by the ordinance or by section 3.07.1455(b)(4) of this chapter.

B. If the concept plan developed for the area pursuant to section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration 3.07 - 60 (Updated on 01/06/16) and adoption of

proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.

C. Comprehensive plan provisions for the area shall include:

1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;

   Findings: Done – utilize Basalt Creek Concept Plan designations.

   Conclusion:

2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;

   Findings: Done

   Conclusion:

3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to section 3.07.1455(b)(2) of this chapter;

   Findings: Metro Council did not specify housing requirements for the Basalt Creek area when the land was brought into the UGB.

   3.07.1455 (b) (2): Establish the 2040 Growth Concept design types designations applicable to the land added to the UGB, including the specific land needs, if any, that is the basis for the amendment. If the design type designation authorizes housing, the Council shall designate an appropriate average density per net developable acre consistent with the needs for which the UGB is expanded.

   Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, which allows housing specifically to address concerns for necessary buffering of adjacent uses. Tualatin intends to meet the State requirement of average density of eight dwelling units per net buildable.

   Conclusion:

4. Provision for affordable housing consistent with Title 7 of this chapter if the comprehensive plan authorizes housing in any part of the area.

Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, which allows housing specifically to address concerns for necessary buffering of adjacent uses.
Preliminary strategies to achieve a diverse range of housing types including affordable housing include, but are not limited to: private and non-profit partnerships, waivers, subsidies, grant funding , update and streamline zoning code (i.e. additional flexibility with accessory dwelling units, allow smaller lots, ,density bonuses, reduce parking requirements) programs to lower the cost of development, additional funding sources to pay for infrastructure, programs that decrease operational costs, programs that provide financial assistance to homeowners and renters.

Does Title 7, designed to ensure the production of affordable housing in the Metro UGB, applies to the Basalt Creek Planning Area?

Conclusion:

5. Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

Findings: Existing schools are expected to accommodate future student population.

AHR: Mention conversations with Tualatin and Sherwood school districts. Discussed future student population at Agency Review Team meeting in February 2016.

Conclusion:

6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers.

Findings: Based on discussion at Agency Review Team meeting in February 2016, parks agencies expect that existing park facilities will accommodate future residents of Basalt Creek area. In addition, small pocket parks and industrial waysides were supported by the public at open house events, and will be planned for independently by each jurisdiction.

Conclusion:

7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan;

   Findings: Done

   AHR: Address how each city will amend TSPs to accommodate the future transportation system described in the Concept Plan.

   Conclusion:

8. Provision for the financing of local and state public facilities and services; and 3.07 - 61 (Updated on 01/06/16)

   Findings: Done.

   Pull in relevant information from transportation tech memos.

   Conclusion:

9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.

   Findings: DKS modeling

   Pull in relevant information from transportation tech memos.

   Conclusion:

D. The county or city responsible for comprehensive planning of an area shall submit to Metro a determination of the residential capacity of any area zoned to allow dwelling units, using a method consistent with a Goal 14 analysis, within 30 days after adoption of new land use regulations for the area.

   Findings: Residential capacity determined by FA land use scenarios; this will occur as part of each city's adoption of comprehensive plan amendments.

Conclusion:

(Ordinance 98-772B, Sec. 2. Ordinance 99-818A, Sec. 3. Ordinance 01-929A, Sec. 8. Ordinance 02-964, Sec. 5. Ordinance 05-1077C, Sec. 6. Ordinance 05-1089A, Sec. 2. Ordinance 07-1137A, Sec. 3. Ordinance 10-1238A, Sec. 5. Ordinance 11-1252A, Sec. 1. Ordinance 15-1357.)

3.07.1130 Interim Protection of Areas Added to the UGB

Until land use regulations that comply with section 3. 07 .1120 become applicable to the area, the city or county responsible for planning the area added to the UGB shall not adopt or approve:

A. A land use regulation or zoning map amendment that allows higher residential density in the area than allowed by regulations in effect at the time of addition of the area to the UGB
B. A land use regulation or zoning map amendment that allows commercial or industrial uses not allowed under regulations in effect at the time of addition of the area to UGB;
C. A land division or partition that would result in creation of a lot or parcel less than 20 acres in size, except for public facilities and services as defined in section 3.07.1010 of this chapter, or for a new public school;
D. In an area designated by the Metro Council in the ordinance adding the area to the UGB as Regionally Significant Industrial Area:
    1. A commercial use that is not accessory to industrial uses in the area; and
    2. A school, a church, a park or any other institutional or community service use intended to serve people who do not work or reside in the area.

AHR: When the land was added to the UGB, Washington County designated the land as FD-20 (Future Development 20 Acres) which is their "holding" zone. Use that action and effective zoning to address this criteria.

(Ordinance No. 98—772B, Sec. 2. Amended by Ordinance No. 99—818A, Sec. 3, Ordinance No. 10—1238A, Sec. 5; and Ordinance NO. 11—1252A, Sec. 1).

MEMORANDUM

Basalt Creek: Guiding Principles and Evaluation Criteria

TO: Basalt Creek Project Management Team (Cities of Tualatin and Wilsonville)
FROM: Leila Aman, Project Lead, Fregonese Associates
DATE: December 29, 2014
RE: Guiding Principles and Evaluation Criteria for the Basalt Creek Concept Plan

Purpose of Guiding Principles

Guiding Principles are intended to represent the collective interests and goals for the Basalt Creek planning area. The guiding principles provide a framework for gathering input and developing transparent and meaningful measures that can help inform the decision making process.

Purpose of Scenario Indicators

Indicators are the outputs of evaluation criteria which are created near the beginning of the scenario planning process. They generally reflect the guiding principles as well as previously adopted community goals. Indicators may also be related to new or emerging community goals or issues: such as transit access, housing costs, or air quality.

The indicators will be used during the development and evaluation of the scenarios within Envision Tomorrow to communicate the benefits, impacts and tradeoffs of different policy choices and investments. Using Envision Tomorrow, alternative scenarios are tested and refined, and then compared and evaluated based on their indicator performance. Indicators enable Envision Tomorrow users to tie the scenario results to the community values and guiding principles.

In practice, this approach not only allows the public to visualize their region's future, final plans created using our scenario planning process will come with a dashboard of indicators so policymakers can monitor their progress and make adjustments along the way, in concert with established guiding principles and long-term vision.

Guiding Principles

Qualitative Guiding Principles

1. Maintain and complement the Cities' unique identities

The cities of Wilsonville and Tualatin each have unique qualities that draw people to live and work there. Those qualities should be maintained and enhanced by development in the Basalt Creek planning area.

2. **Capitalize on the area's unique assets and natural location**

   Development in the planning area should preserve and leverage the natural beauty of Basalt Creek by protecting key natural resources and sensitive areas while minimizing the negative impacts of new development. Recreation opportunities should be made accessible in the area through the creation of new open spaces and trails and integrating them with existing regional networks.

3. **Explore creative approaches to integrate jobs and housing**

   Long distances between centers of employment and residential neighborhoods can cause long travel times, congestion and pollution. Planning for the Basalt Creek area should consider a range of methods (and the feasibility of those methods) for integrating residential and employment land uses to create more high quality living and working environments.

4. **Create a uniquely attractive business community unmatched in the metropolitan region**

   Planning for the Basalt Creek area should capitalize on its unique assets - the location of the planning area near the center of one of the region's largest clusters of employment land, projections for rapid employment growth in the local market, and superior access to major transportation routes (I-5, I-205 and Highway 217) – to facilitate development of high quality employment facilities and opportunities that will benefit both the local and regional economies.

5. **Ensure appropriate transitions between land uses**

   While integration of housing and employment can enrich a community, there remains a need for physical separation between uses that might negatively impact one another. Land uses should be arranged within the study area to minimize these impacts, such as excessive noise, traffic, nighttime light, or air pollution. Use of buffers to mitigate auditory, aesthetic, and safety impacts may include swaths of vegetated land, sound walls, or commercial development (among others).

Quantitative Guiding Principles

Associated measures from Envision Tomorrow and other quantitative analysis that will be conducted as part of the concept planning process are described.

6. **Meet regional responsibility for jobs and housing**

   Population and employment forecast performance

Using output from the Envision Tomorrow scenario modeling tool added jobs and housing units will be compared back to the regional forecast estimate (from Metro's Gamma model) for jobs and households within the planning area.

7. Design cohesive and efficient transportation and utility systems

Evaluation of Wet Infrastructure

Aggregate water and sewer requirements will be developed for each of the three (3) alternatives. A comparison will be provided indicating required capacity and potential infrastructure elements based on each alternative land use plan and the existing systems inventory.

Performance of transportation systems

Motor vehicle transportation system for each of three alternatives will be evaluated including the development of future year 2035 PM peak hour volumes using a focus-area travel demand model. Intersection operation analysis (level of service and v/c ratios) based on the forecasted 2035 PM volumes will be conducted using Synchro.

Internal water consumption and Landscaping water consumption

Water consumption has a major impact both financially and environmentally. Water bills can make up a large proportion of household or business utility costs, and excessive water consumption can put a strain on water supplies and infrastructure, especially in regions with water scarcity. Anticipated domestic and irrigation water consumption by residential households and commercial or industrial businesses will be estimated based on existing usage patterns within Tualatin and Wilsonville.

8. Maximize assessed property value

Building value and local revenue

Adding new housing and employment space to a community brings additional tax revenue that can be used for new infrastructure and services to support new and existing residents and businesses. Different scenarios can produce different amounts of tax revenue (property tax, sales tax and transportation impact fee (TIF)) due to the differing values of particular building types and locations. .

9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

Percent of Natural Area Protected within the planning area

Types of natural areas to be considered for protection from development include:

- *Wetlands and Floodplains*
- *Metro Title 3 Lands*
- *Metro Title 13 Lands*

Some development may occur in these areas. However, the proportion of total development planned for non-environmentally sensitive areas should be maximized in order to preserve habitat, ecosystem services, open space, and recreation opportunities in the planning area.

Environmentally sensitive lands are identified and described in the Basalt Creek Existing Conditions Report.

Total jobs allocated to prime flat industrial lands within the planning area

The largest proportion possible of new jobs forecasted for the planning area should be allocated to lands identified as suitable for industrial and/or office development, one factor of which is the absence of sensitive environmental features and constraints.

Land suitable for industrial and/or office development is identified and described in the Basalt Creek Existing Conditions Report.

Acres of impervious surface

Impervious surface can have a negative impact on the health of a region's waterways. Instead of soaking in and filtering through the soil, rainwater runs off impervious surfaces, washing many polluting substances such as pesticides and oils into streams and other aqueous habitats. Increasing impervious surface runoff also increases the volume of runoff, and the speed which the water is delivered to streams, resulting in higher peak flows.

10 Considerations for Success

In addition to the Guiding Principles, the Joint Council also identified ten key elements for successful implementation of the Basalt Creek Concept Plan:

1. **Sewer**. Each City will serve its own jurisdiction area independently, to the extent reasonably possible, with the understanding that future agreements may be needed to address potential cooperative areas.

2. **Stormwater.** Each City will serve its own jurisdiction area independently, to the extent reasonably possible, consistent with the respective National Pollutant Discharge Elimination System (NPDES) stormwater permits, with the understanding that future agreements may be needed to address potential cooperative areas**.**

3. **Metro Title 4 Land.** The Basalt Creek Concept Planning Area is currently mapped and identified as an "Industrial Area" in Metro's Title 4 Code, which allows both housing and employment designations. The Cities agree to implement the land uses identified in the Basalt Creek Concept Plan.

4. **Transportation Funding**. The Cities acknowledge significant improvements will be needed to the existing and future transportation network as identified in the 2013 Basalt Creek Transportation Refinement Plan (TRP). In order to implement the TRP, Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and funding strategies.

5. **Future Regional Transportation Projects in the Basalt Creek Area.** The Cities will coordinate with Washington County and Metro to evaluate future regional transportation projects and decisions, beyond those identified in the TRP that affect its planned system capacity.

6. **Trips**. Proposed development will be reviewed by each City for impacts to the transportation system and consistency with the Concept Plan trip targets to achieve transportation system goals for the area.

7. **Basalt Creek Parkway and I-5 Crossings.** The Cities acknowledge the Basalt Creek Parkway and I-5 crossings identified in the TRP are critical to successful implementation of the Basalt Creek Planning Area. The Cities will seek to coordinate timely regional investments in these crossings to implement the Basalt Creek Concept Plan.

8. **North-South Local Street (Kinsman Road)**. Kinsman Road is planned as a local route both north and south of the jurisdictional boundary that will not connect to the Basalt Creek Parkway.

9. **Basalt Creek Canyon**. The Cities recognize the natural resource value of the Basalt Creek Canyon. Each city will comply with Metro Titles 3 and 13. The Cities also recognize the benefits of locating north/south trails near the Basalt Creek Canyon and bicycle connections that would connect the cities and other trail systems and be an asset for both residents and employees in the area.

10. **Public Transportation**. Robust transit services are critical to supporting the land uses envisioned in the Basalt Creek Planning Area. The Cities agree to coordinate efforts on how SMART and TriMet can best provide service throughout the area.

Analysis/Methodology

- Separate hard and soft constraints
  - Hard constrains will be excluded from the buildable land analysis
  - Soft constraints will offer guidance

- Parcels categorized into:
  - Vacant
  - Stable (residential use with higher building value)
  - Redev (site has redevelopment potential and/or is non-residential)

Basalt Creek

Environmental Hard Constraints:

- Mix of Clean Water Services , Title 3 and basic constraints

- Basic environmental constraints are:
  - Open Water
  - Streams
  - Wetlands
  - Steep Slopes (25% and greater)
  - Slope Stability
  - Title 3
  - Floodplains (50% land reduction)
  - Title 13 (20% land reduction)

Basalt Creek

Manmade Hard Constraints:

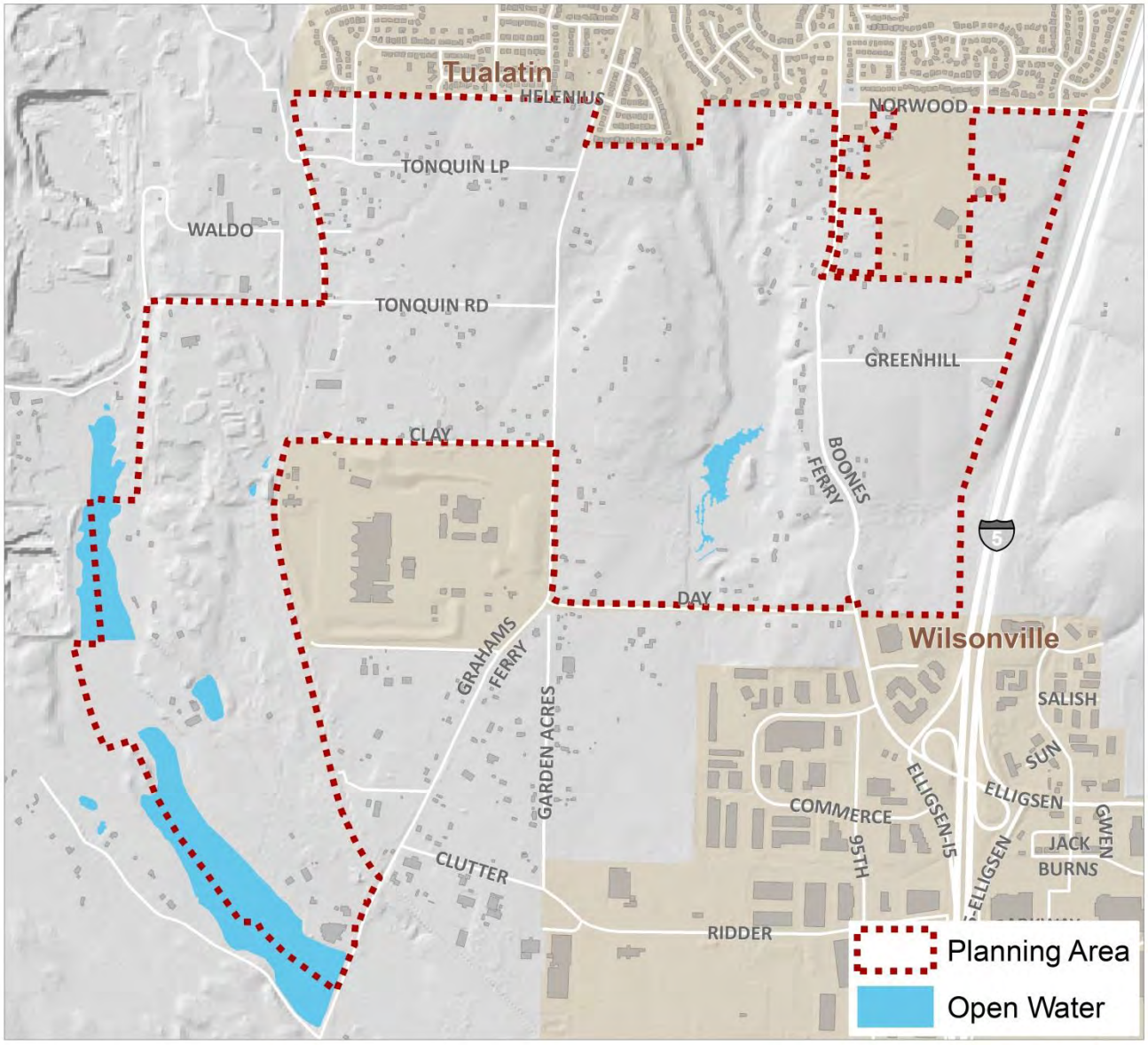
- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline

Basalt Creek

Additional soft constraints:

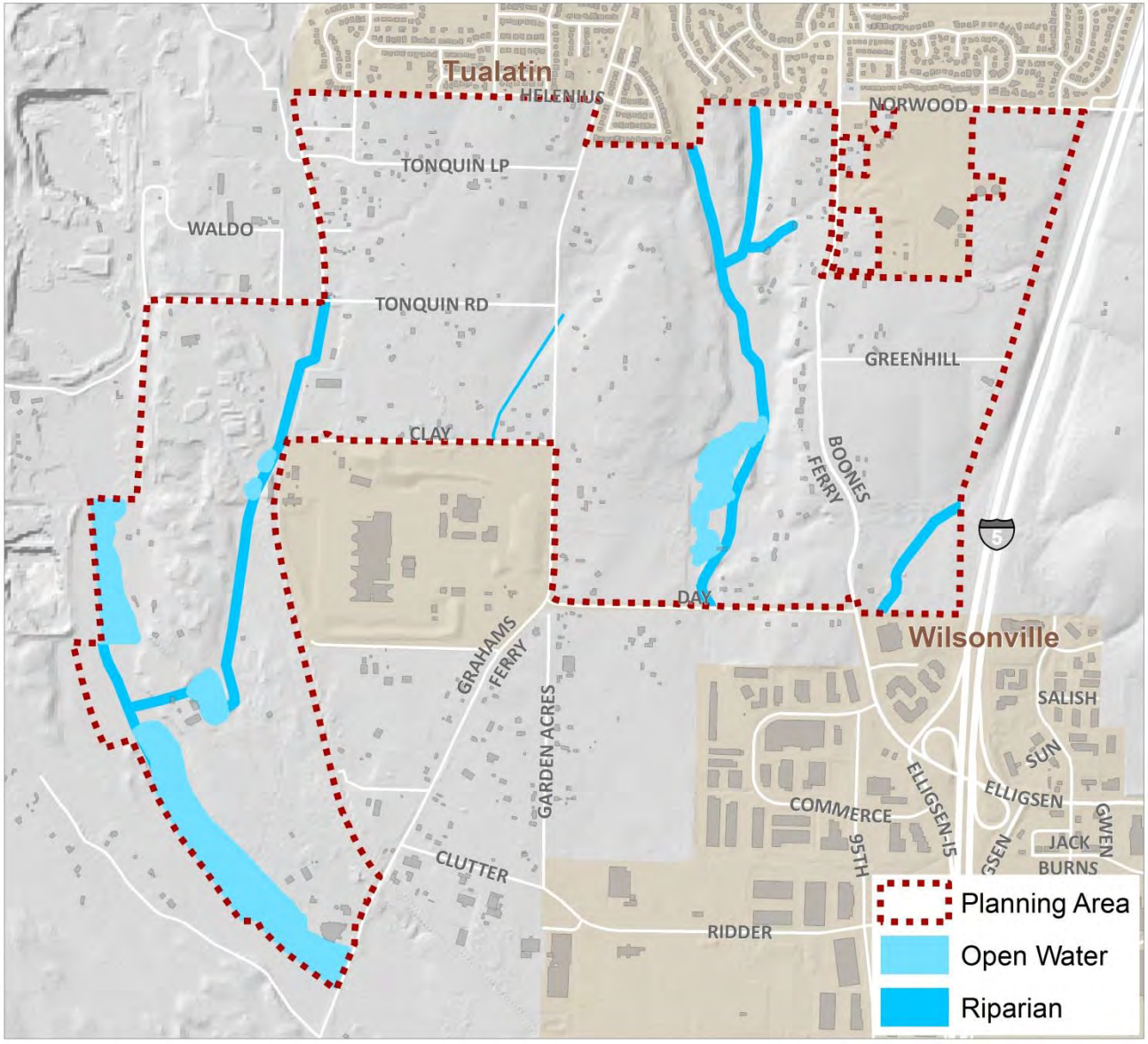
- Title 13
  - Riparian Class I and II, Upland Class A
- Road projects
  - East West Connection
  - Boones Ferry Road Widening (how much from centerline?)
  - 2035 Overcrossing
- Others
  - 10%+ slopes regarding industrial development

Open Water



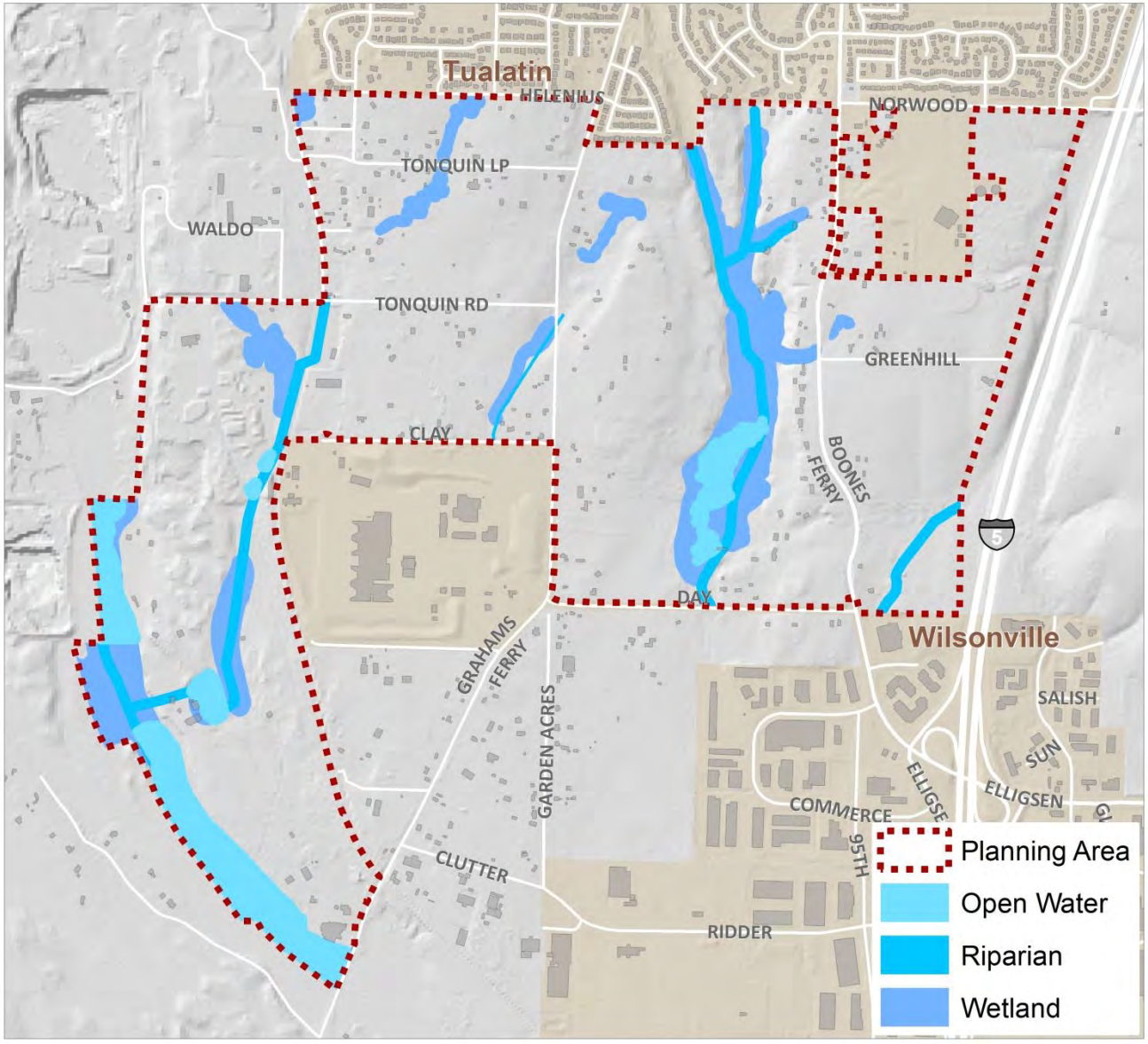
- **49** acres constrained
- Two sources:
  - Digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
  - David Evans and Associates – 75% engineering files 124th Extension
- For constraints analysis:
  - Open water - **50ft** buffer

Streams - Riparian



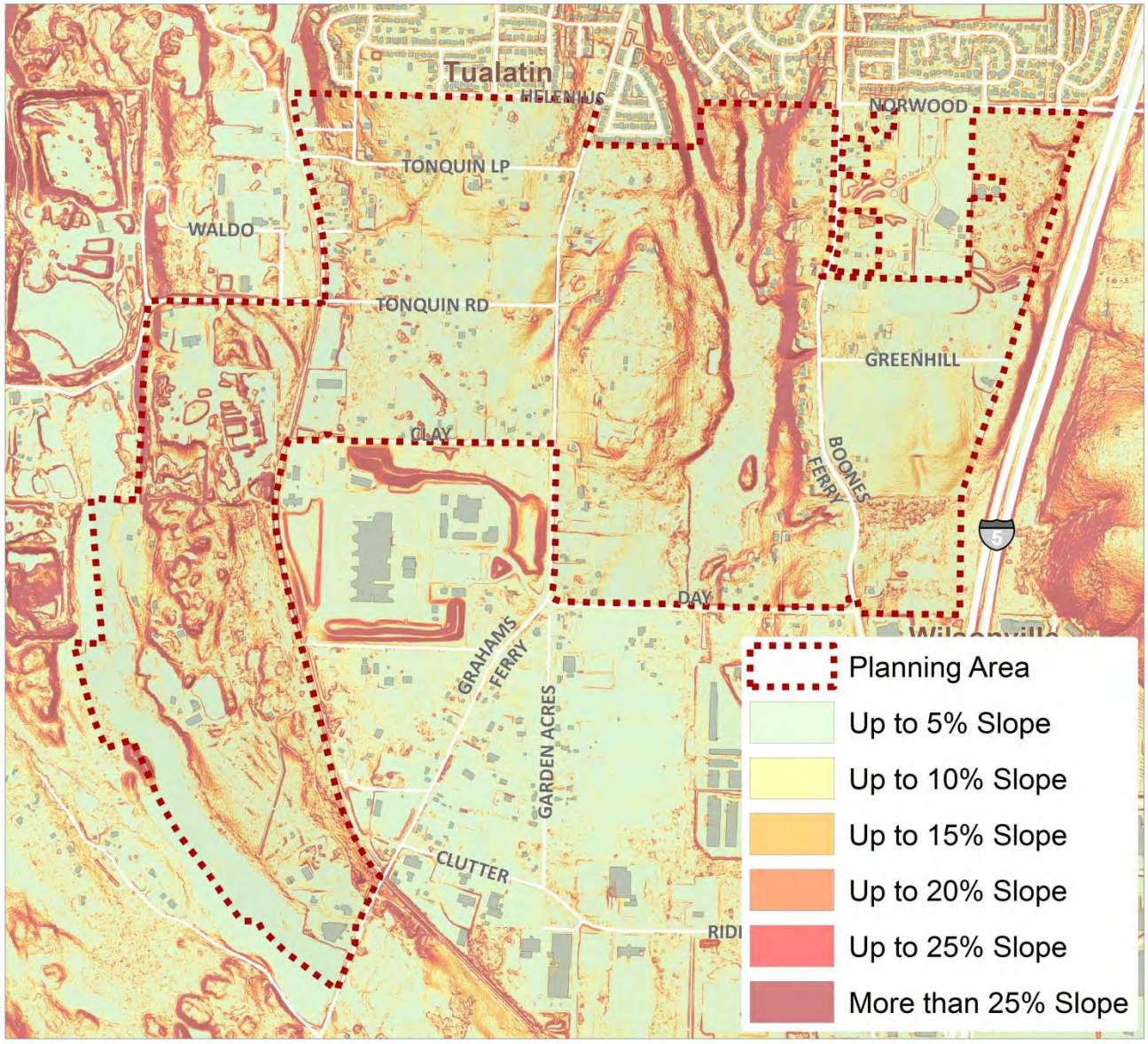
- **31** acres constrained
- Three categories of streams:
  - Natural stream – 18,845 feet
  - Underground stream – 789 feet
  - Intermittent stream – 1,402 feet
- Stream categories determined:
  - by visual survey of 2013 and 2012 (leaf free) aerials and intermittent stream through comment by Kerry Rappold, City of Wilsonville
  - Fieldstudy performed by City of Wilsonville
- For constraints analysis:
  - Natural stream - 50ft buffer
  - Intermittent stream - 15ft buffer

Wetlands



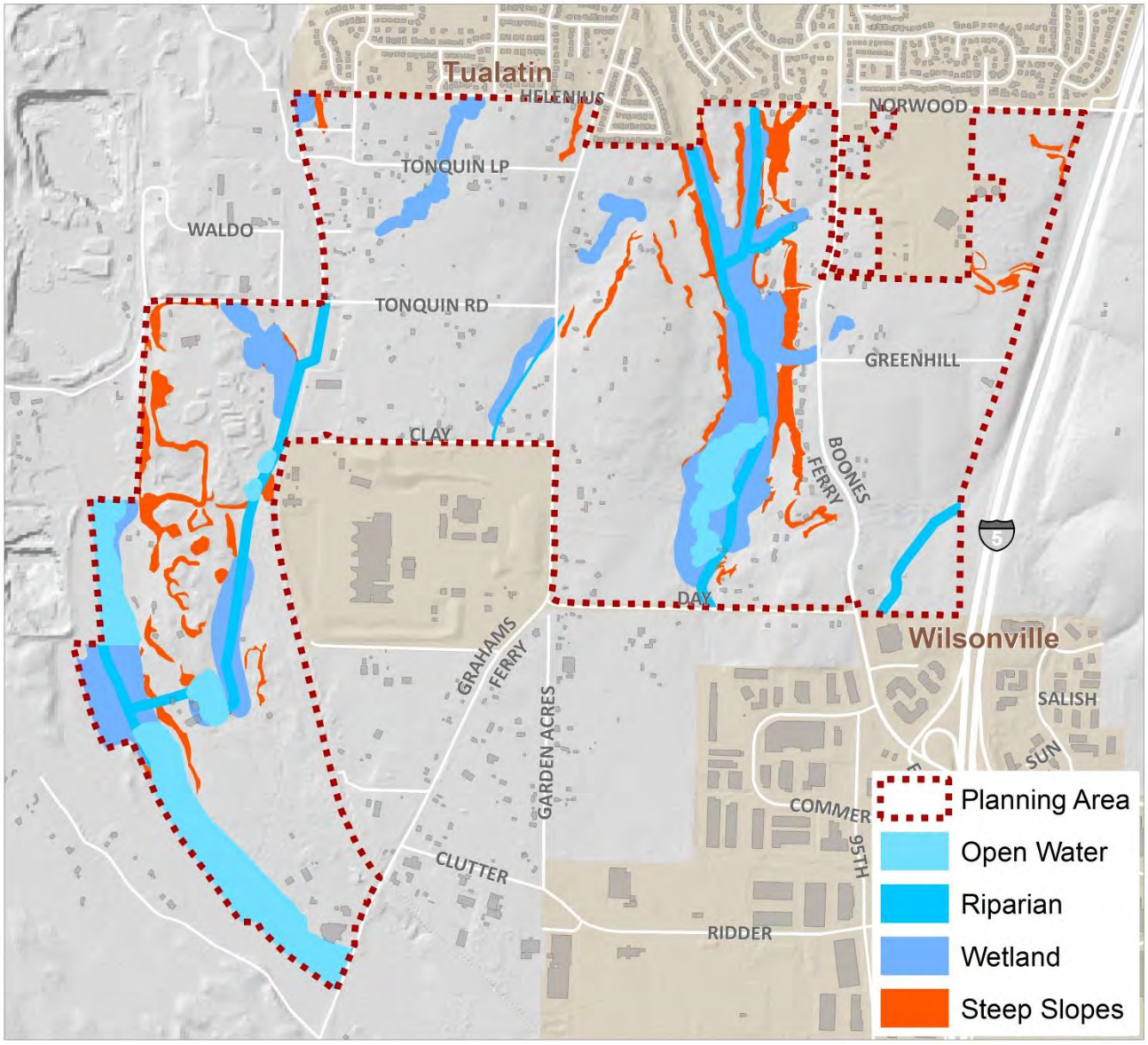
- **70** acres
- Sources are:
  - RLIS
  - Wetland Delineation Report for Proposed Boones Ferry Widening
  - David Evans and Associates – 75% engineering files 124th Extension
  - additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
- For constraints analysis:
  - Wetlands - **50ft** buffer
  - Isolated wetland and smaller than a half acre – **25**ft buffer

Steep Slopes



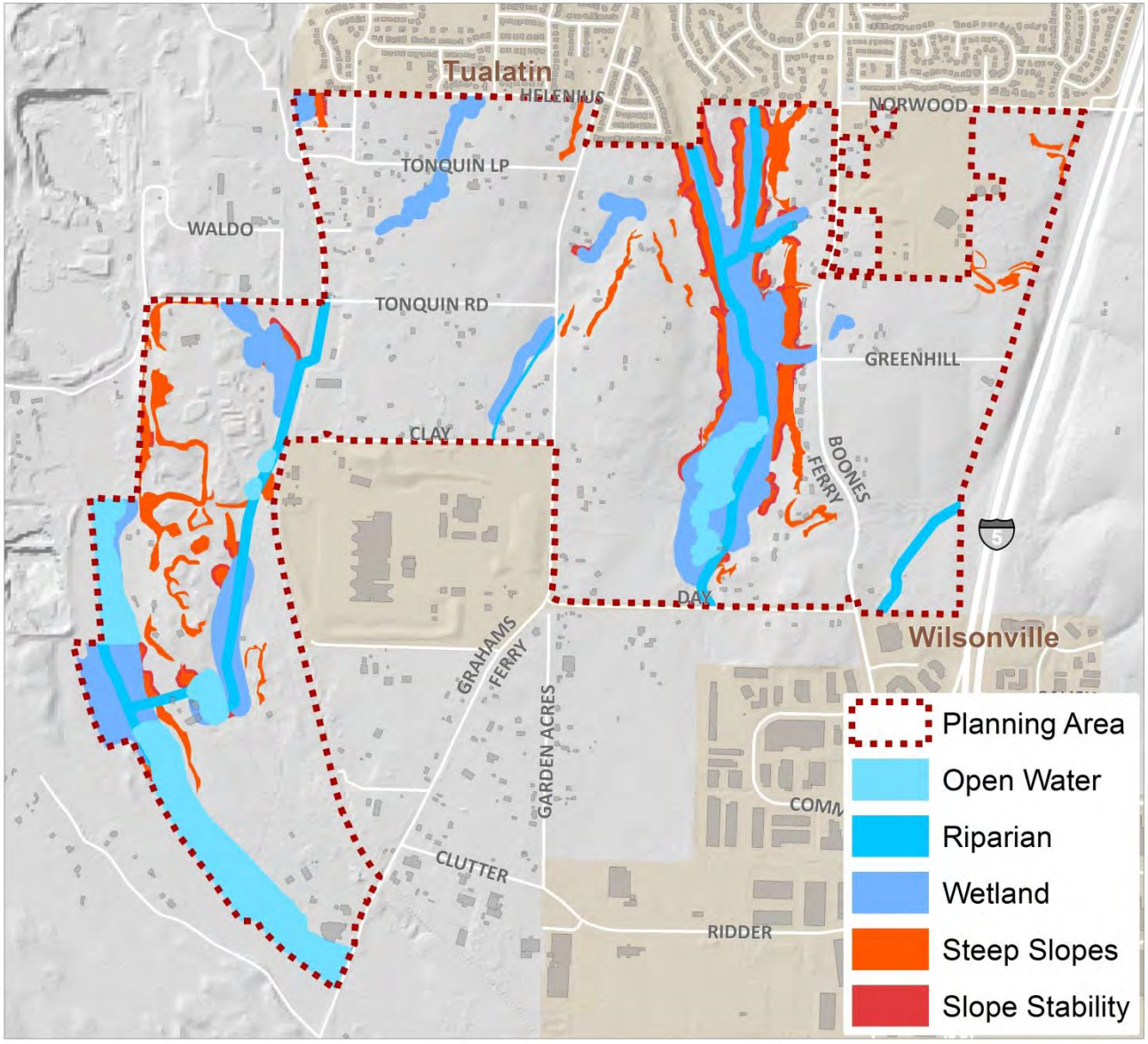
- For constraints analysis:
  - Using slopes from 3ft DEM
  - Non-isolated slopes, greater than half an acre, natural and or along a riparian area

Steep Slopes



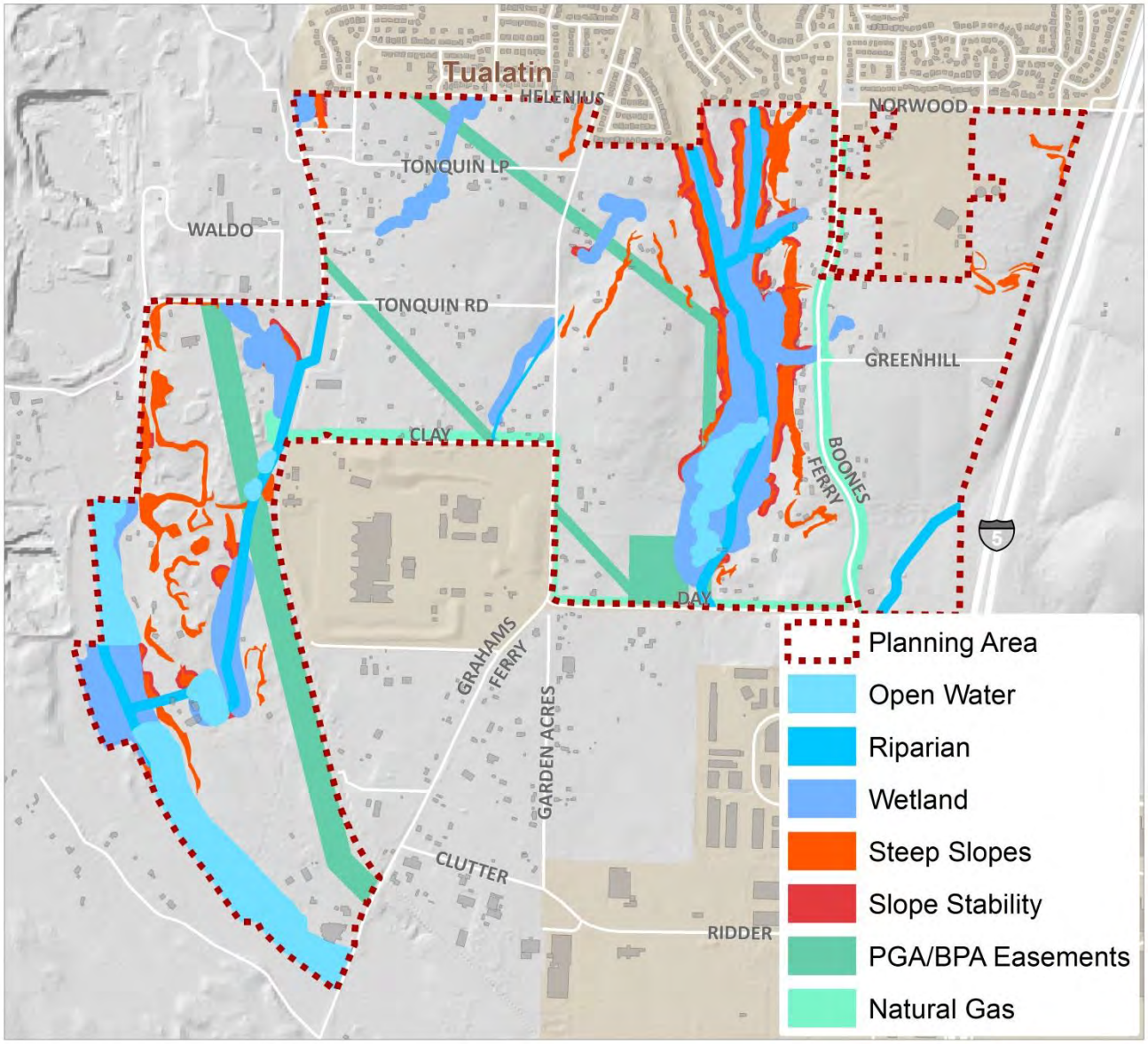
- **40** additional acres constrained

Slope Stability



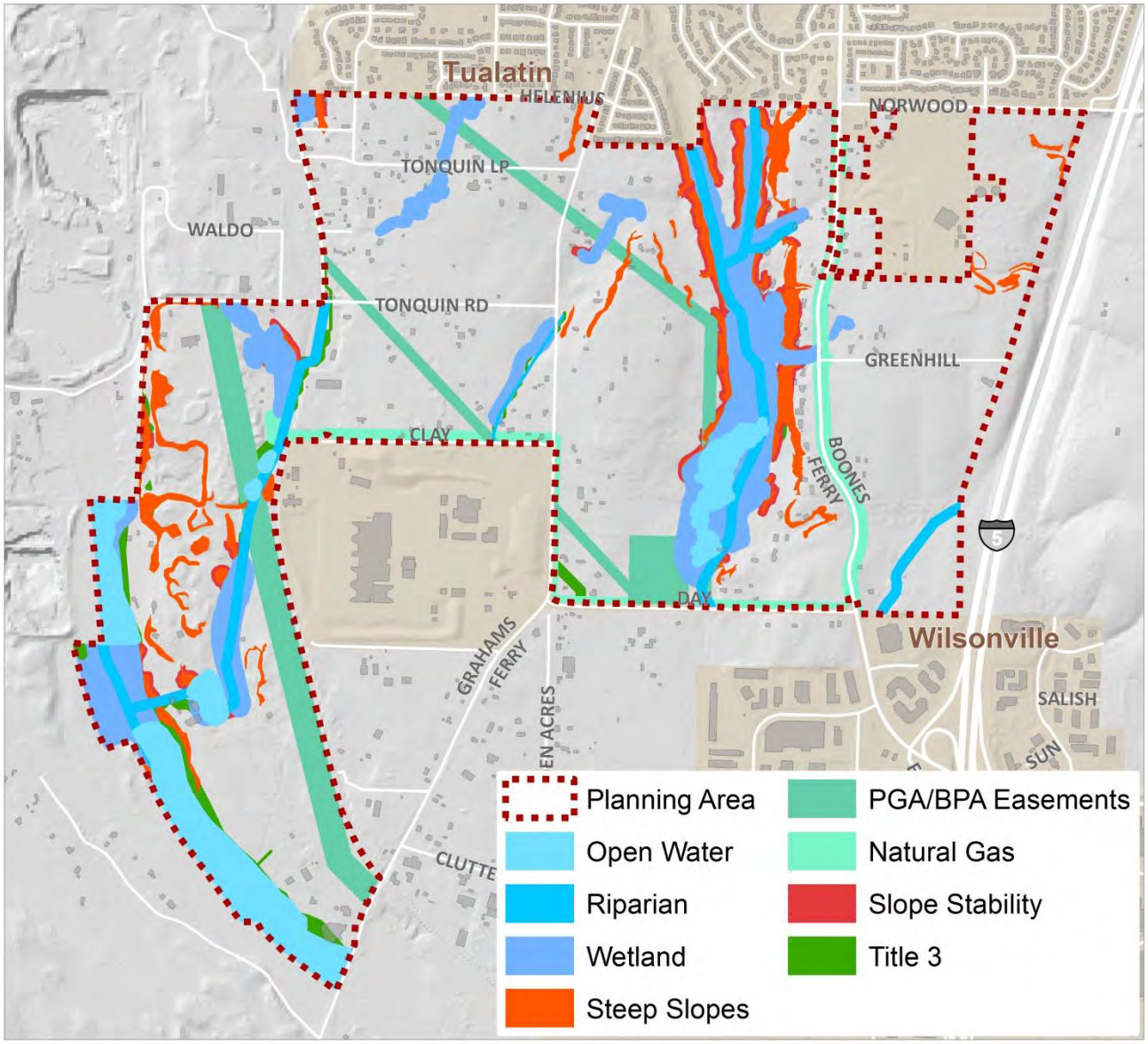
- **11** additional acres constrained
- CWS request an additional 35ft for steep slopes within vegetated corridor
- Measured from top of bank/break in 25% slope
- Buffer needed for up to 200 feet from vegetated corridor

Utilities



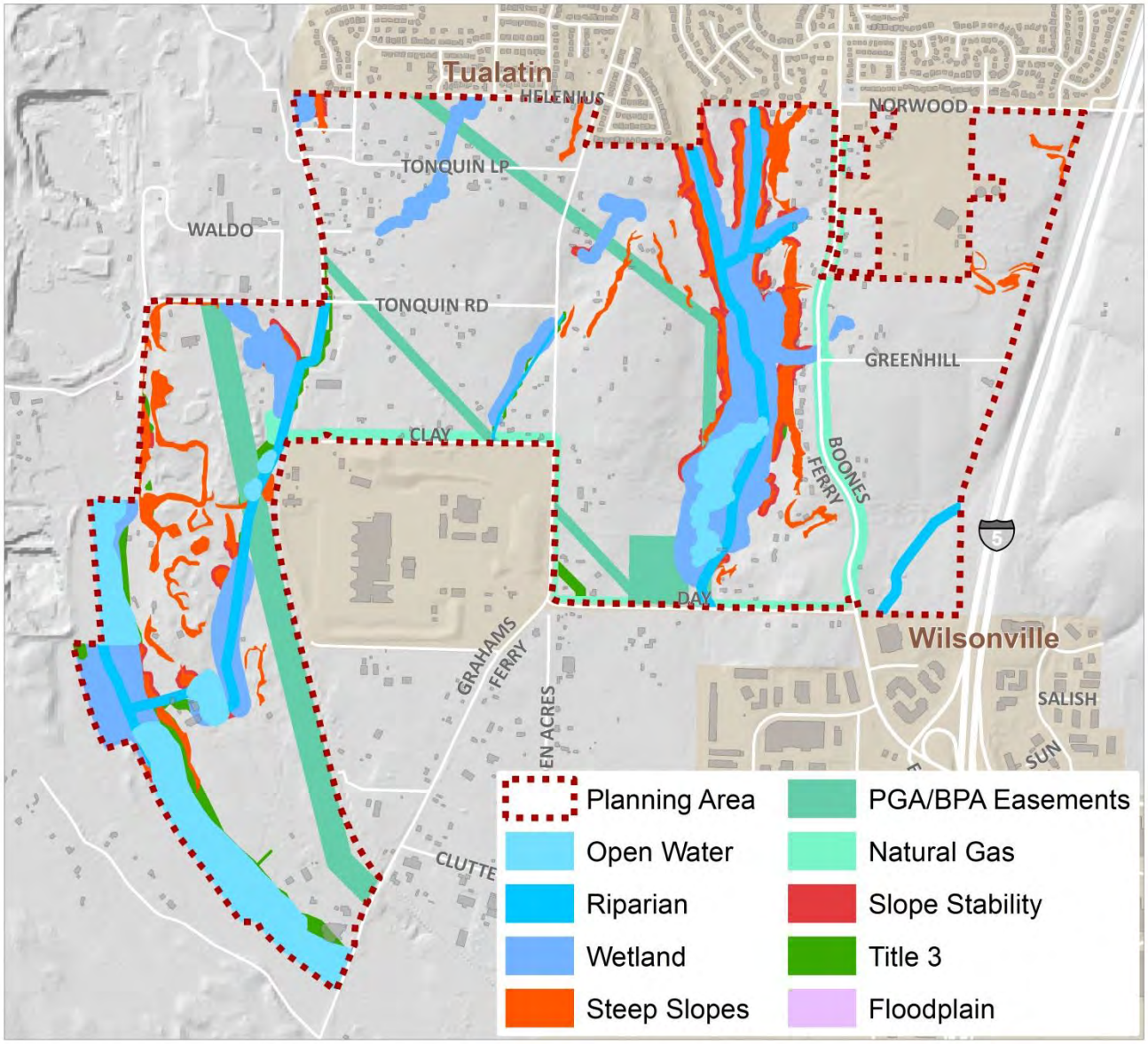
- **84** additional acres constrained
- Almost 16,000 feet of transmission lines crossing the area
- 2 easements:
  - BPA 42.3 acres
  - PGA 18.0 acres plus 4.1 acres substation
- 2 natural gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

Title 3 (Metro)



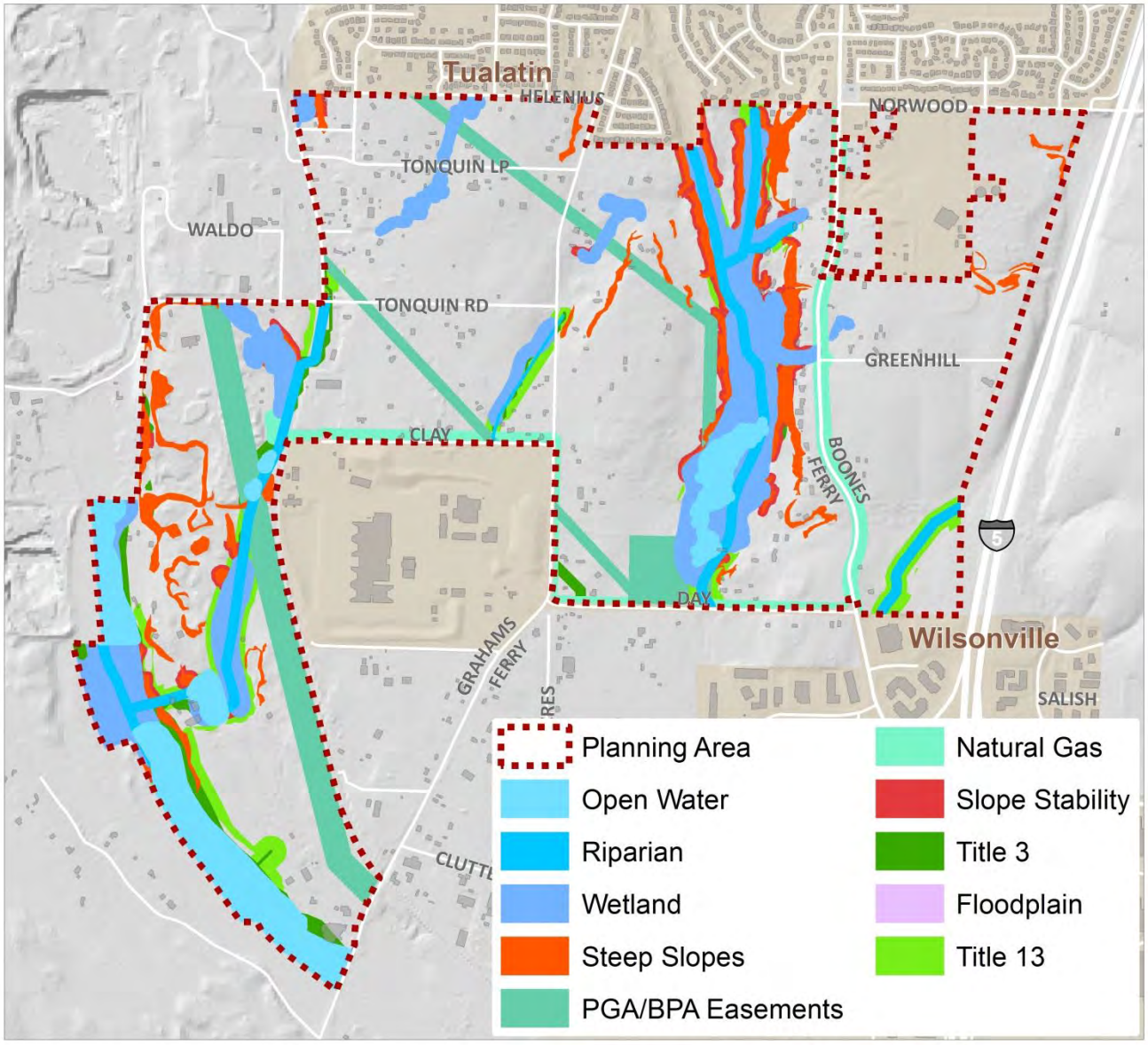
- **8** additional acres constrained

Floodplains



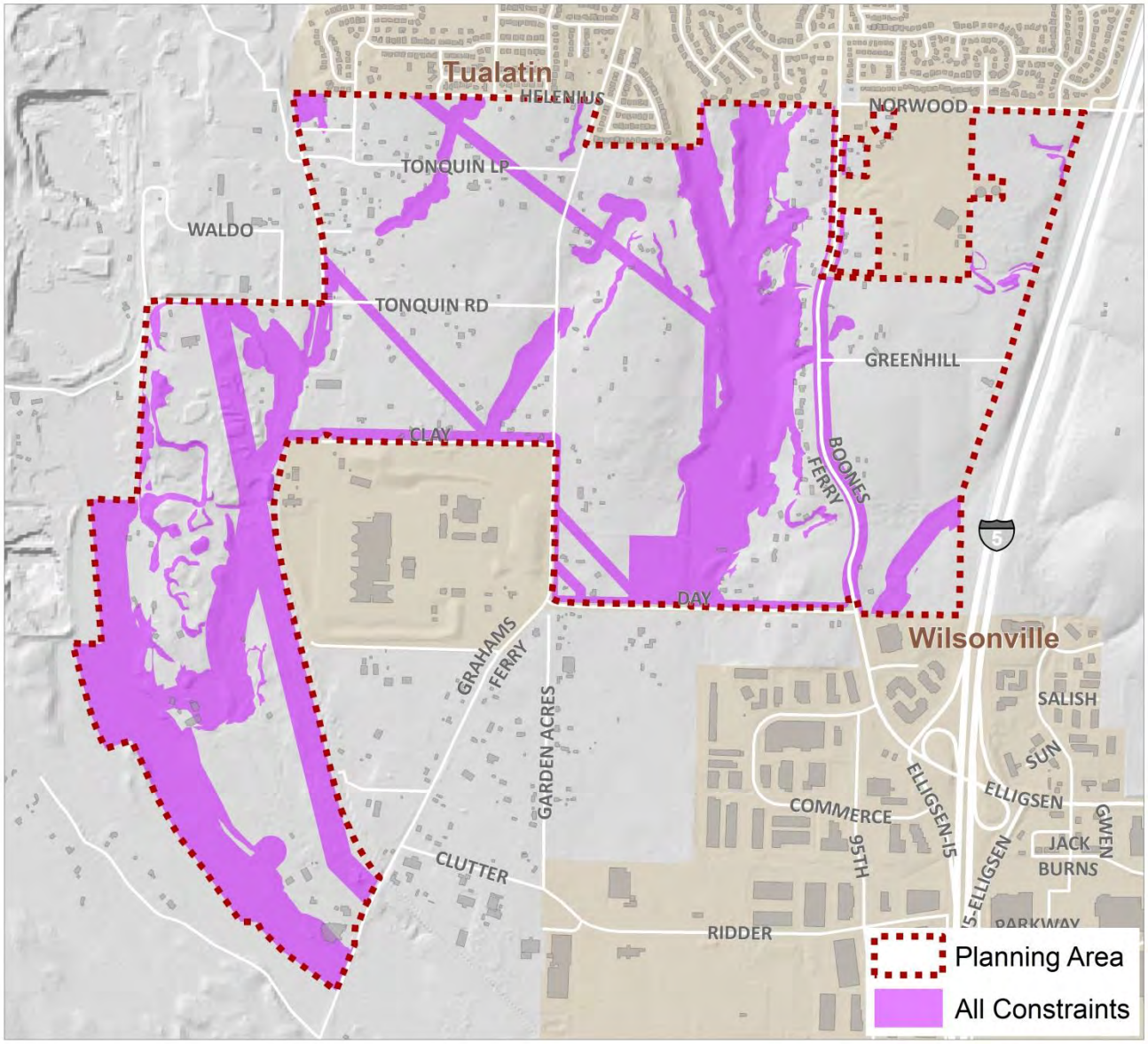
- **0.01** additional acres constrained
- For constraints analysis:
  - 50% of land

Title 13



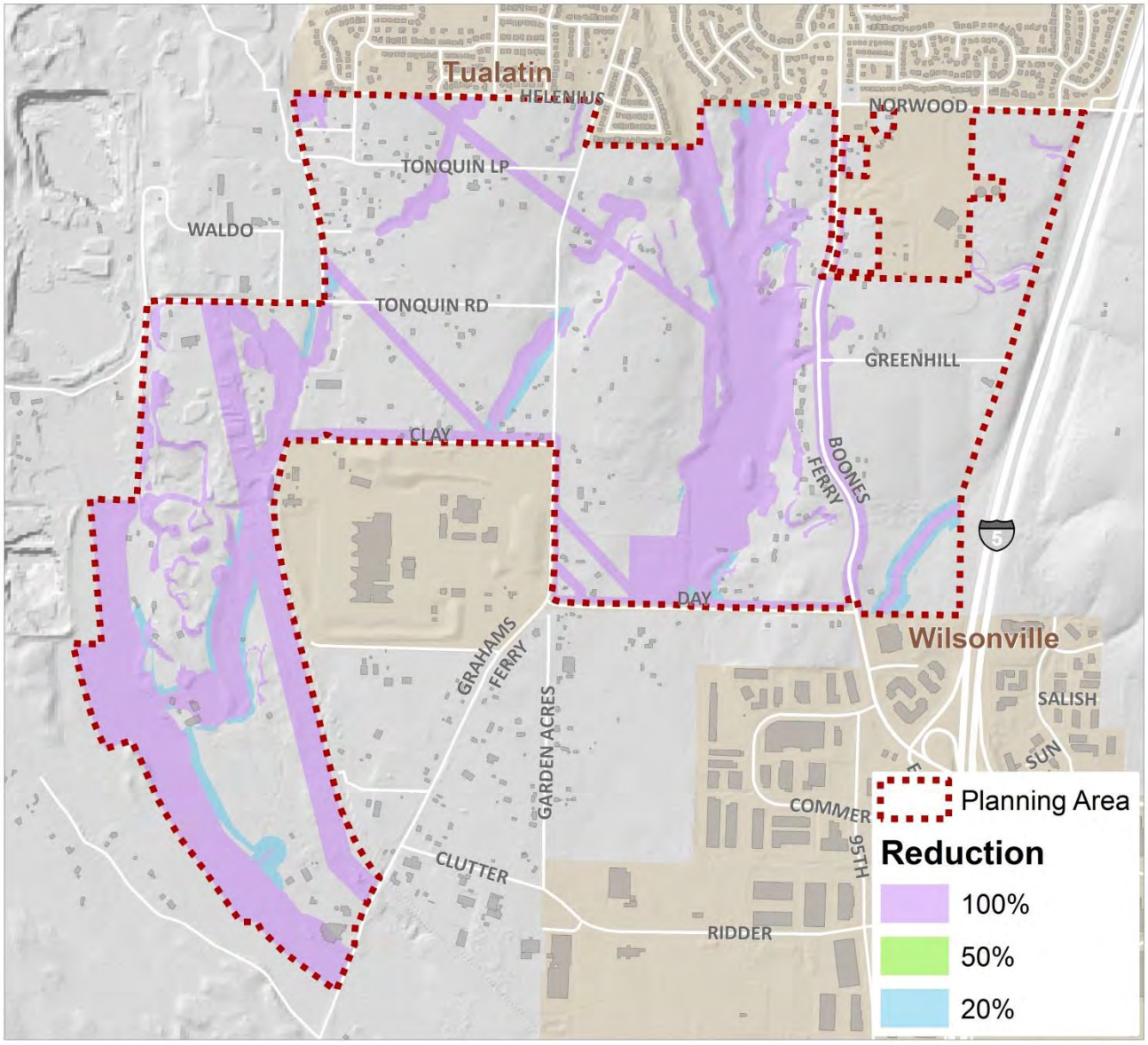
- **4** additional acres constrained
- GHG scenarios set aside 20% of land for protection (Riparian Class I and II)

All Constraints



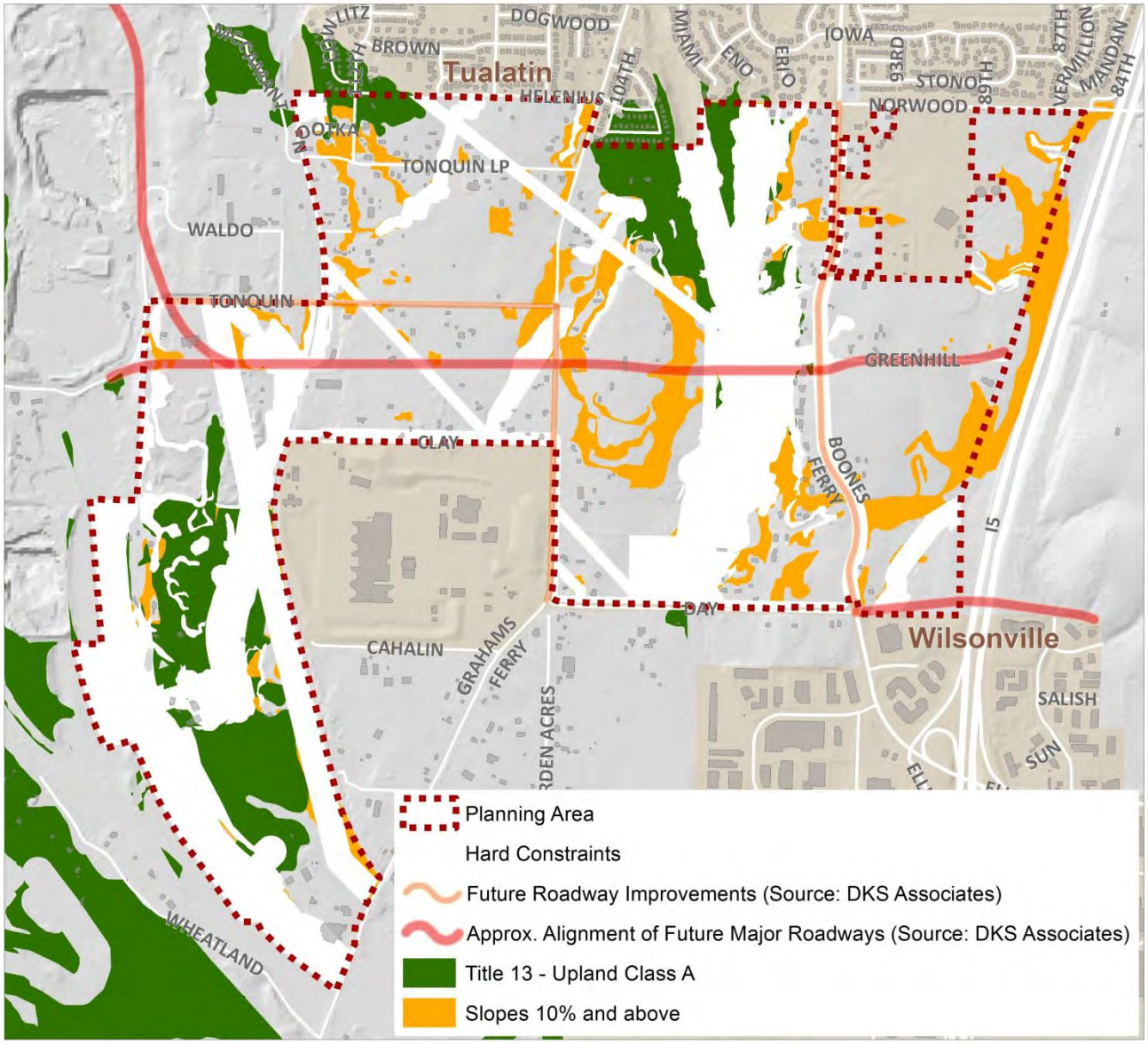
- A total of **296** acres are constrained
- Study area total is **847** acres
- **35%** of the Basalt Creek area is constrained

All Constraints



- **35%** of the Basalt Creek area is constrained

Soft Constraints



- 10% slopes and greater
- Title 13 Upland Class A
- Various road projects

Land Supply

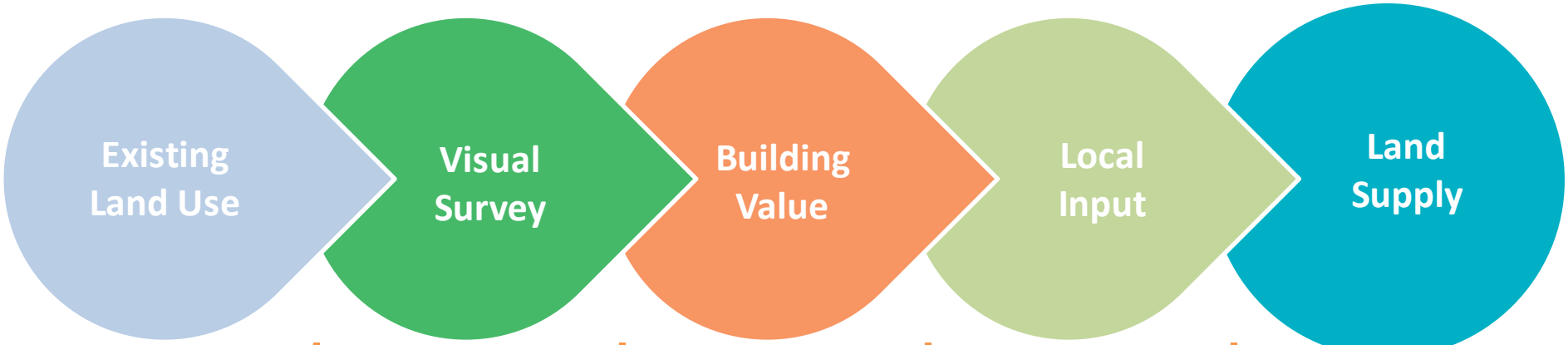
- Three elements:
  - Vacant Land – Land ready to build, no major structure on site
  - Redev Land – Land with some redevelopment potential
  - Stable Land – Land and structures on it will not change in the future

Vacant Land

Redev Land

Stable Land

Four-Step Methodology

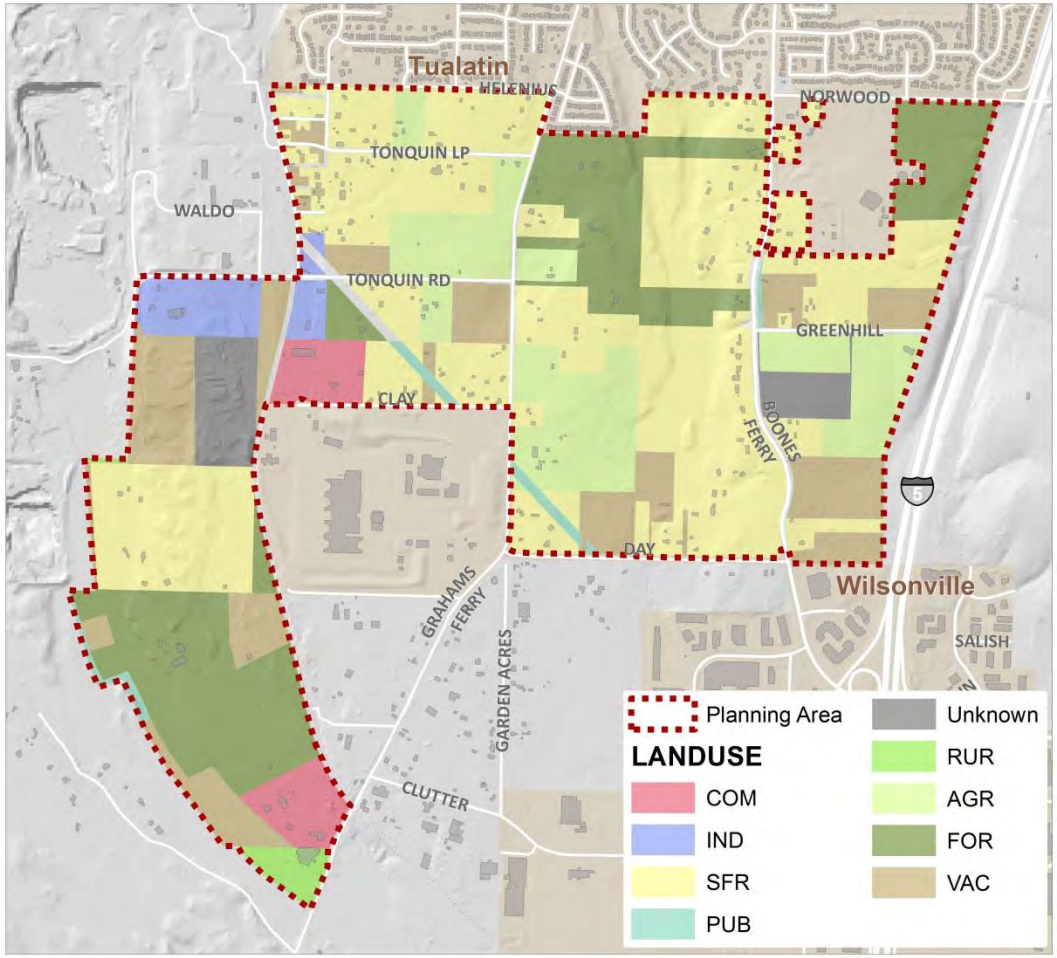


1. Land use provided by tax lot data via RLIS (Metro data)
2. Ground proofing using aerials and online tools
3. Define "stable" building value
4. Refine analysis with local input

Land Use

1. Step

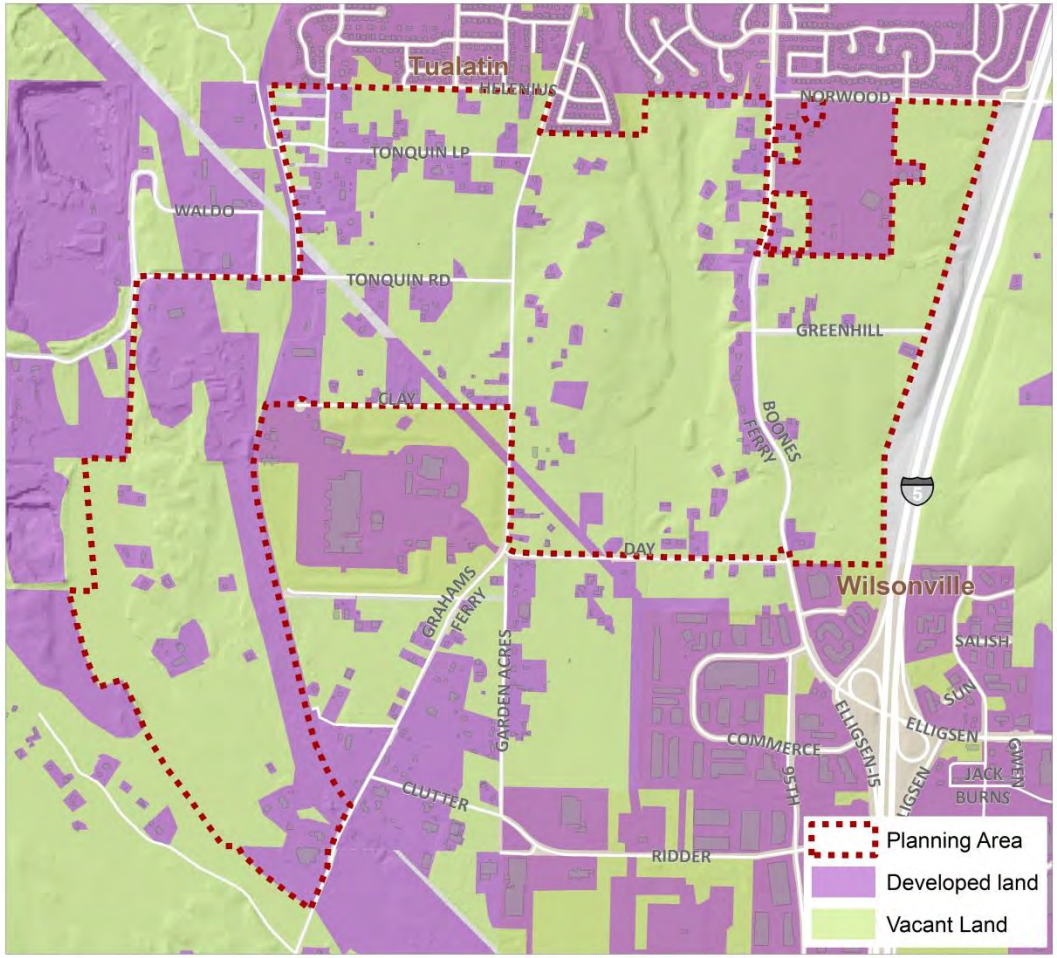
- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



Visual Survey

2. Step

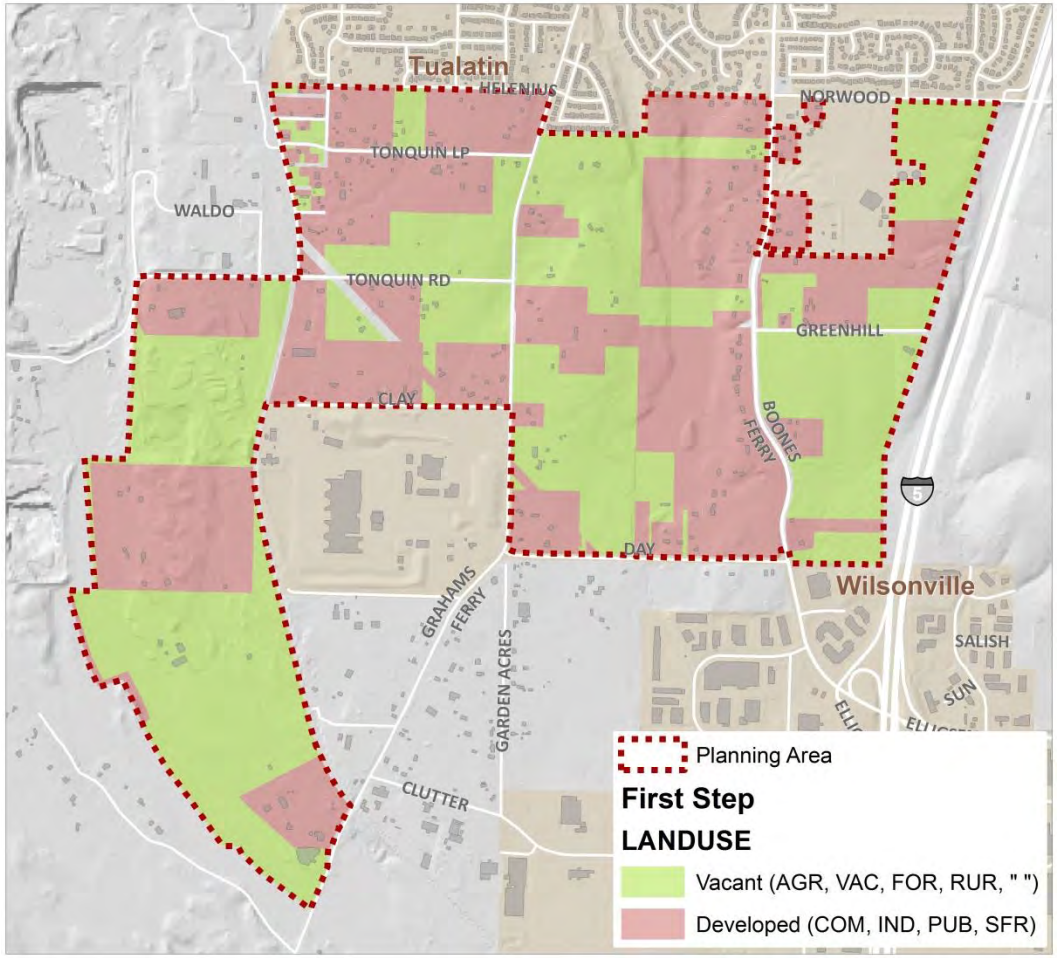
- Vacant and developed land (RLIS March 2014)
  - Does not limit itself to taxlots
  - Uses “Cookie Cutter” around buildings



Land Use

1. Step

- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



Visual Survey

2. Step

- Adjust for large amount of "unused"
  - Uses "Cookie Cutter" around buildings
    - Split to allow for backyard
    - Split, where lot becomes "natural"
  - Via visual survey of aerial, Google Map Street View, and Bing Map Bird's Eye
  - Use RLIS coverage as guide
- Additional developed land via visual survey that was first identified as vacant (based on land use)

Split lot

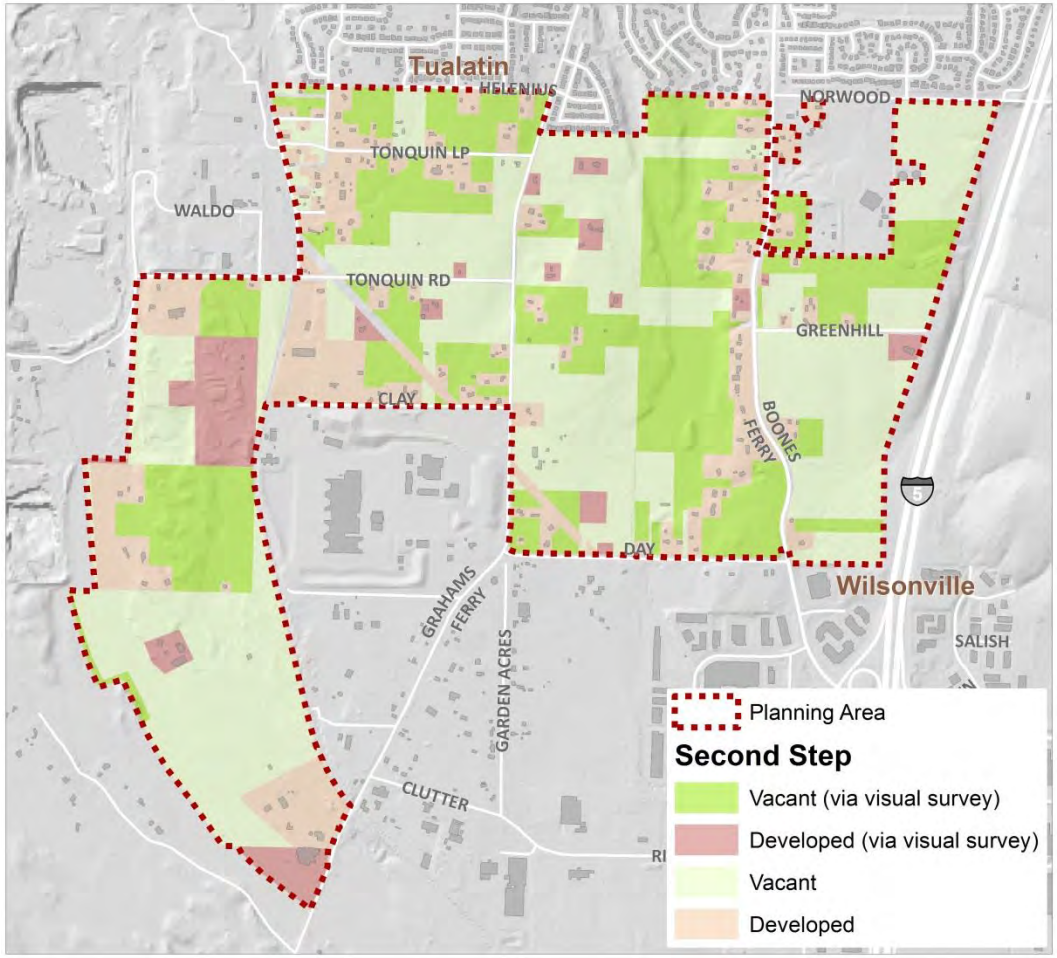
Split lot

From vacant to developed

Visual Survey

2. Step

- Adjust for large amount of "unused"
  - Uses "Cookie Cutter" around buildings
    - Split to allow for backyard
    - Split, where lot becomes "natural"
  - Via visual survey of aerial, Google Map Street View, and Bing Map Bird's Eye
- Additional developed land via visual survey that was first identified as vacant (based on land use)



Building Value

3. Step

- What is “Stable”:
  - No changes to the taxlot are expected
    - No growth
    - No additional employment
    - No additional housing unit
    - Minor improvements to property but not much more

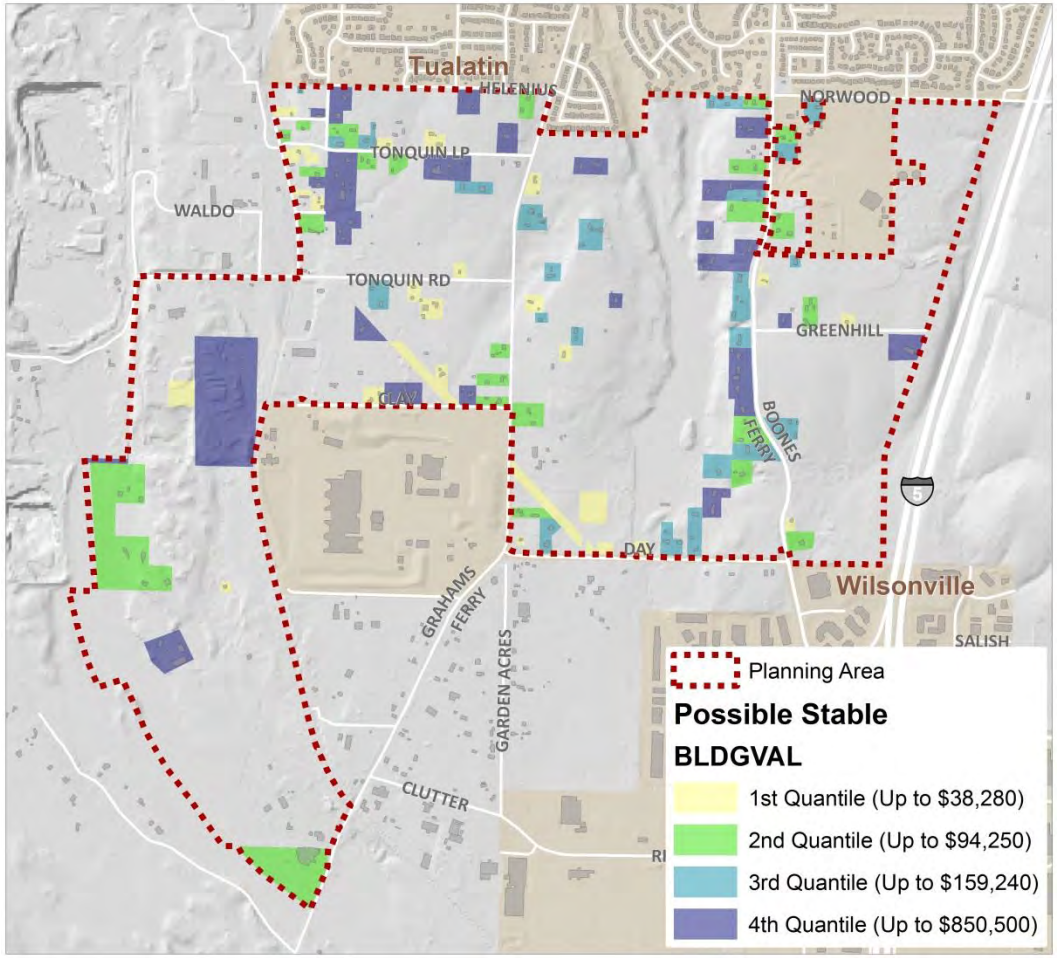
Newer Single Family Home

Older Single Family Home

Building Value

3. Step (non commercial)

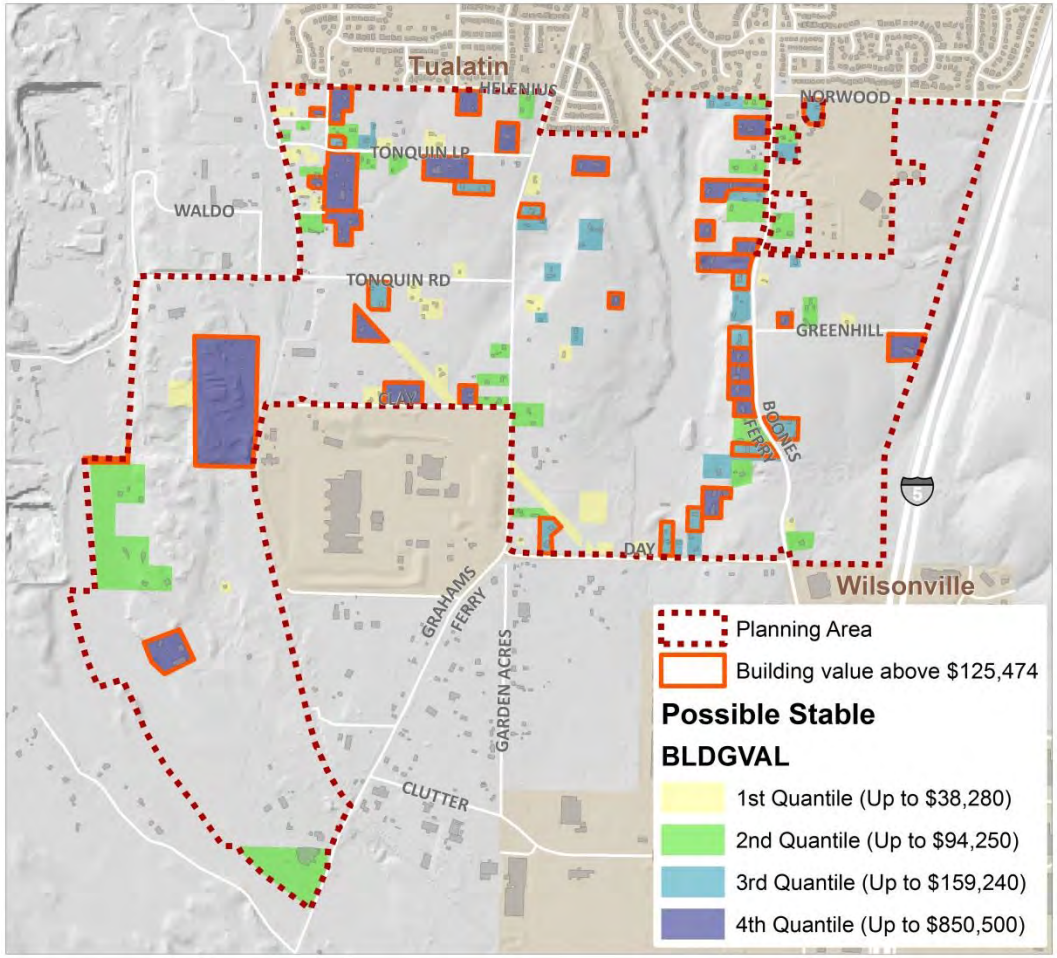
- Select Non commercial but developed taxlots
  - Exclude COM and IND land uses
- Quantiles:
  - In which range falls a specific building?
  - 50% of building values are below $95,000



Building Value

3. Step

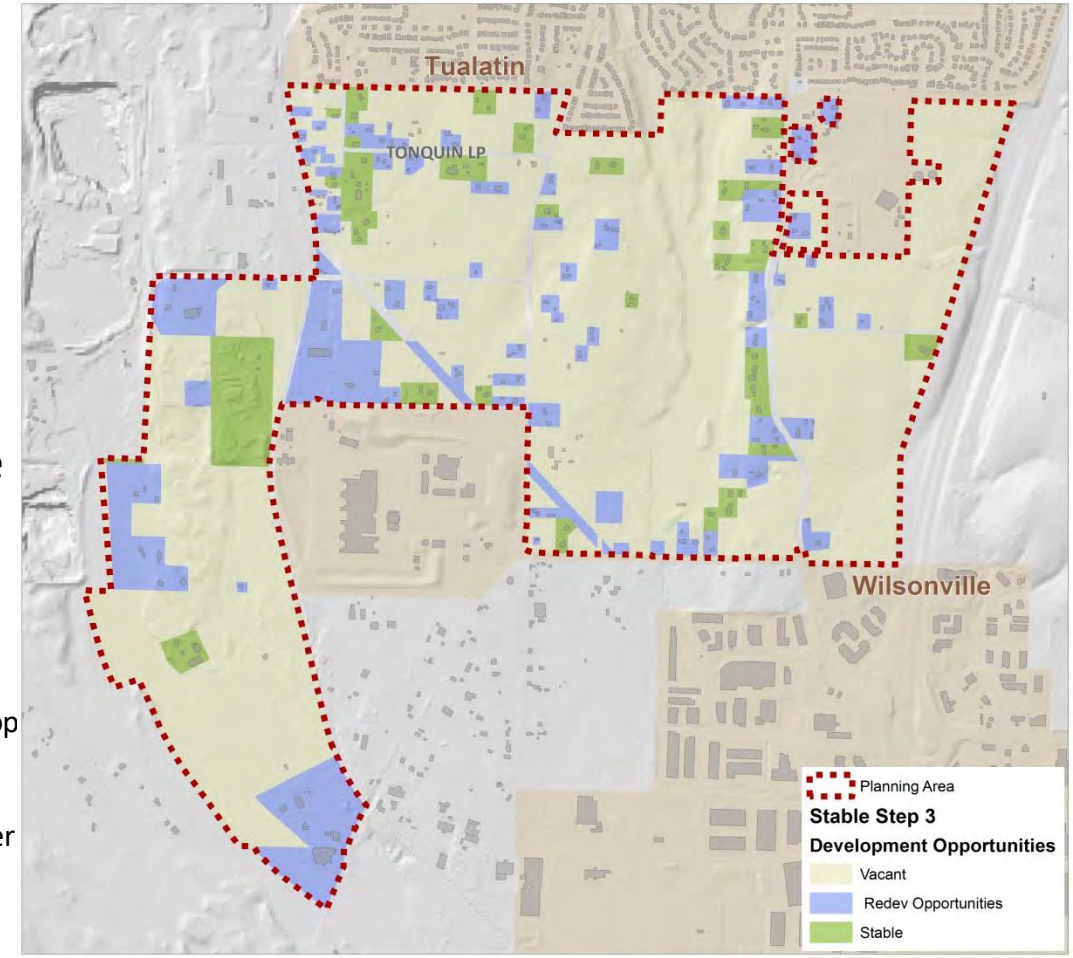
- Assuming higher building values will be stable
  - Average building value is **$125,474**



Building Value

3. Step

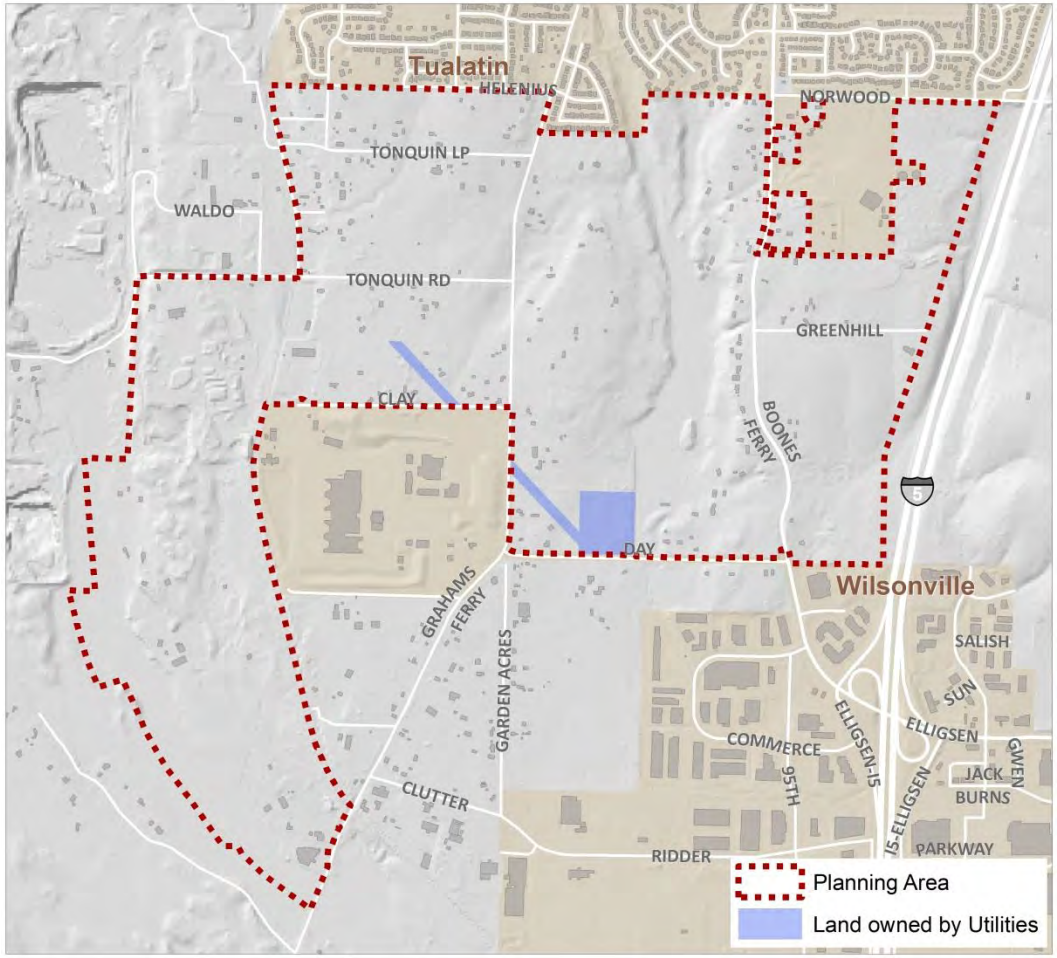
- Introduced "stable"
  - Non commercial buildings only
  - On developed land
- Assuming higher building values will be stable
  - Average building value is $125,474
  - Set limit to **$150,000,** based on owner input
    - Existing rural development are more likely to redevelop under/with an urban footprint
    - Know of site that the owner would like to redevelop (current building value is about $145,000)
- **34** sites identified as stable



Local Input

4. Step

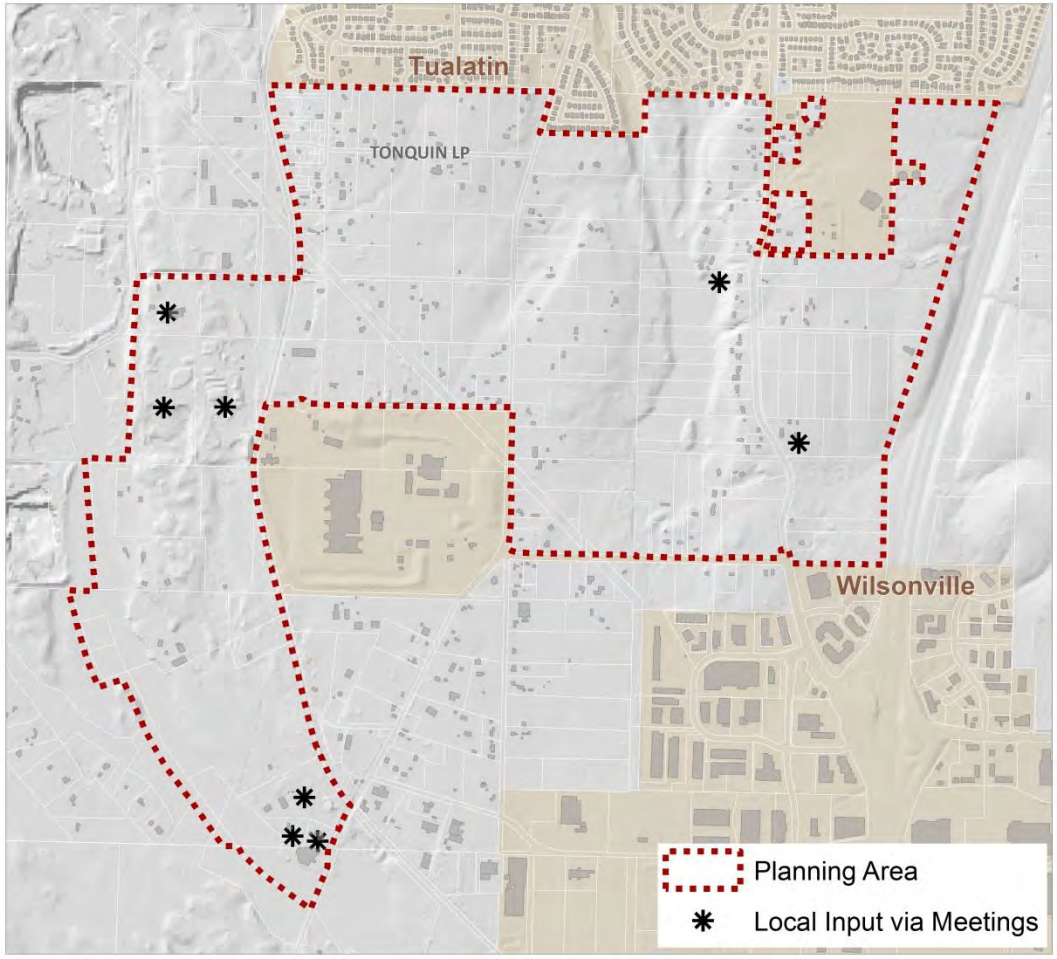
- Utilities
  - PGE sub station
  - BPA Properties



Local Input

4. Step

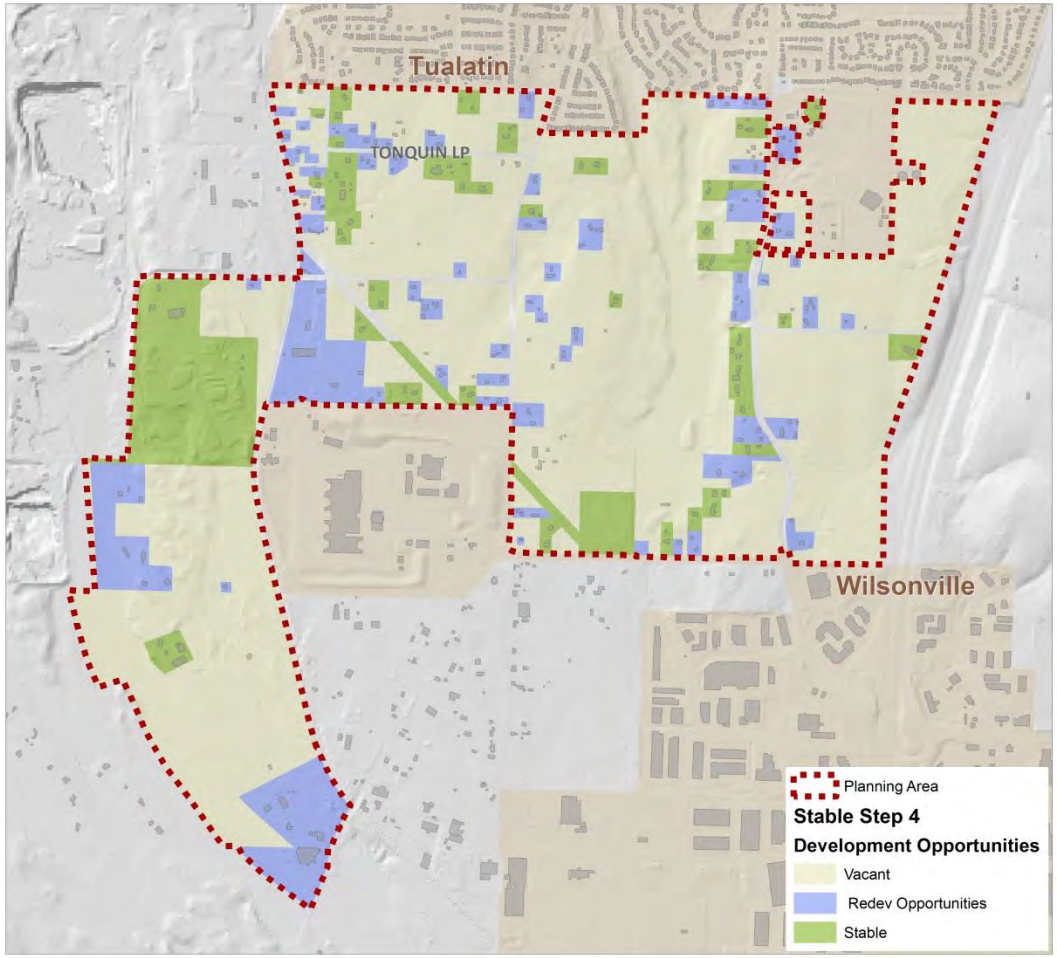
- Local Input
  - Stakeholder meetings
  - Focus group meetings



Local Input

4. Step

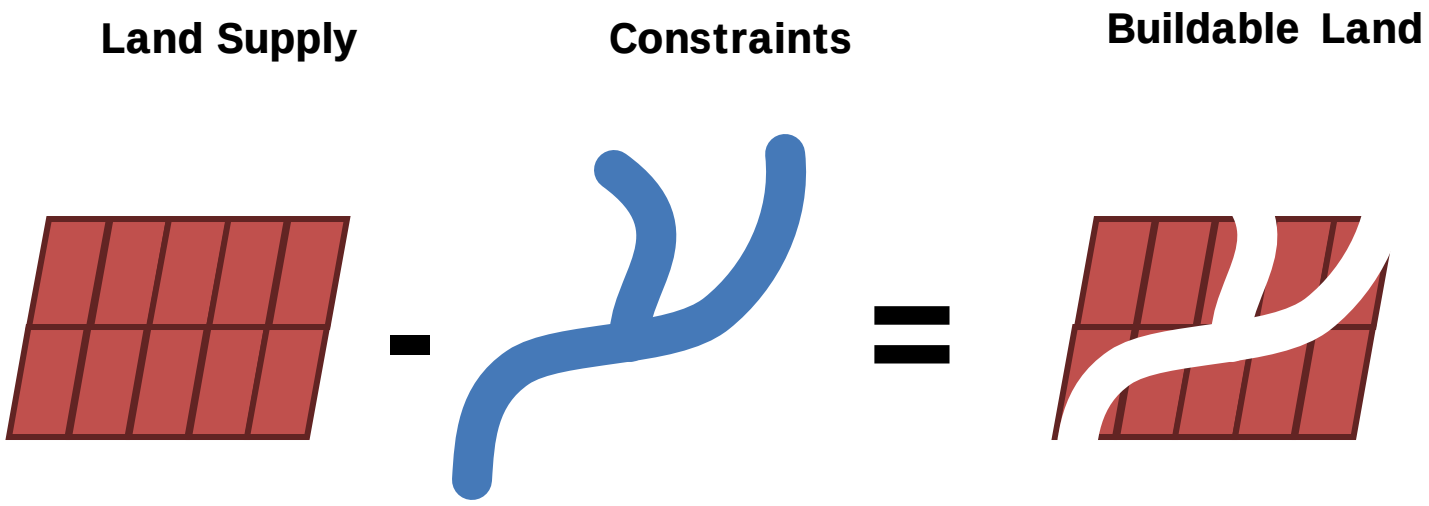
- **43** sites identified as stable, based on:
  - Building value
  - Local Input
- **596** acres are vacant
- **117** acres are available for redevelopment



Buildable Land

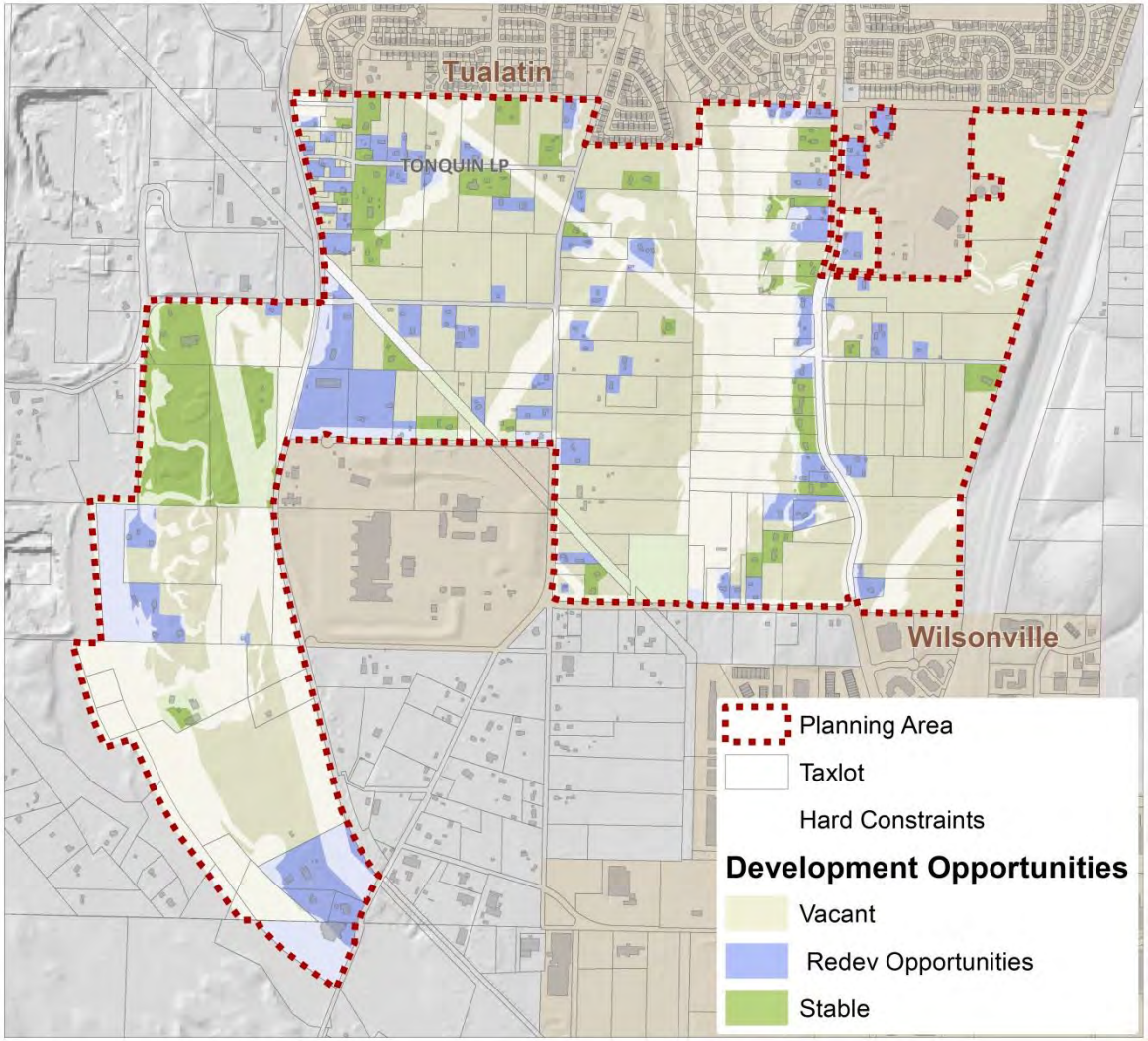
Buildable Lands =

Land Supply – Constraints (Environmental & Policy)



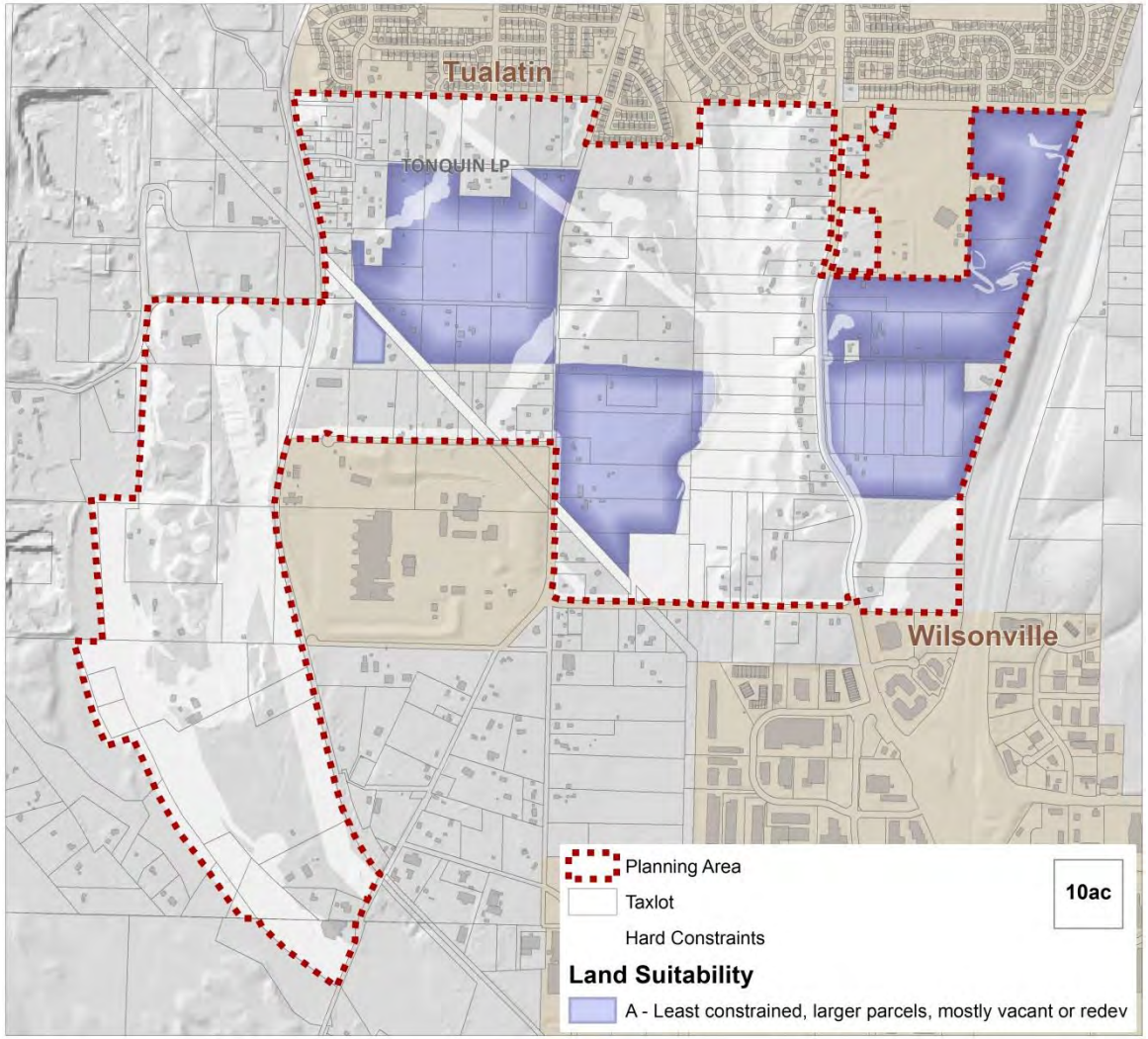
Suitable Sites

- Multiple Sites vary by:
  - Taxlot size
  - Amount of constraints
  - Vacancy and redevelopment opportunities



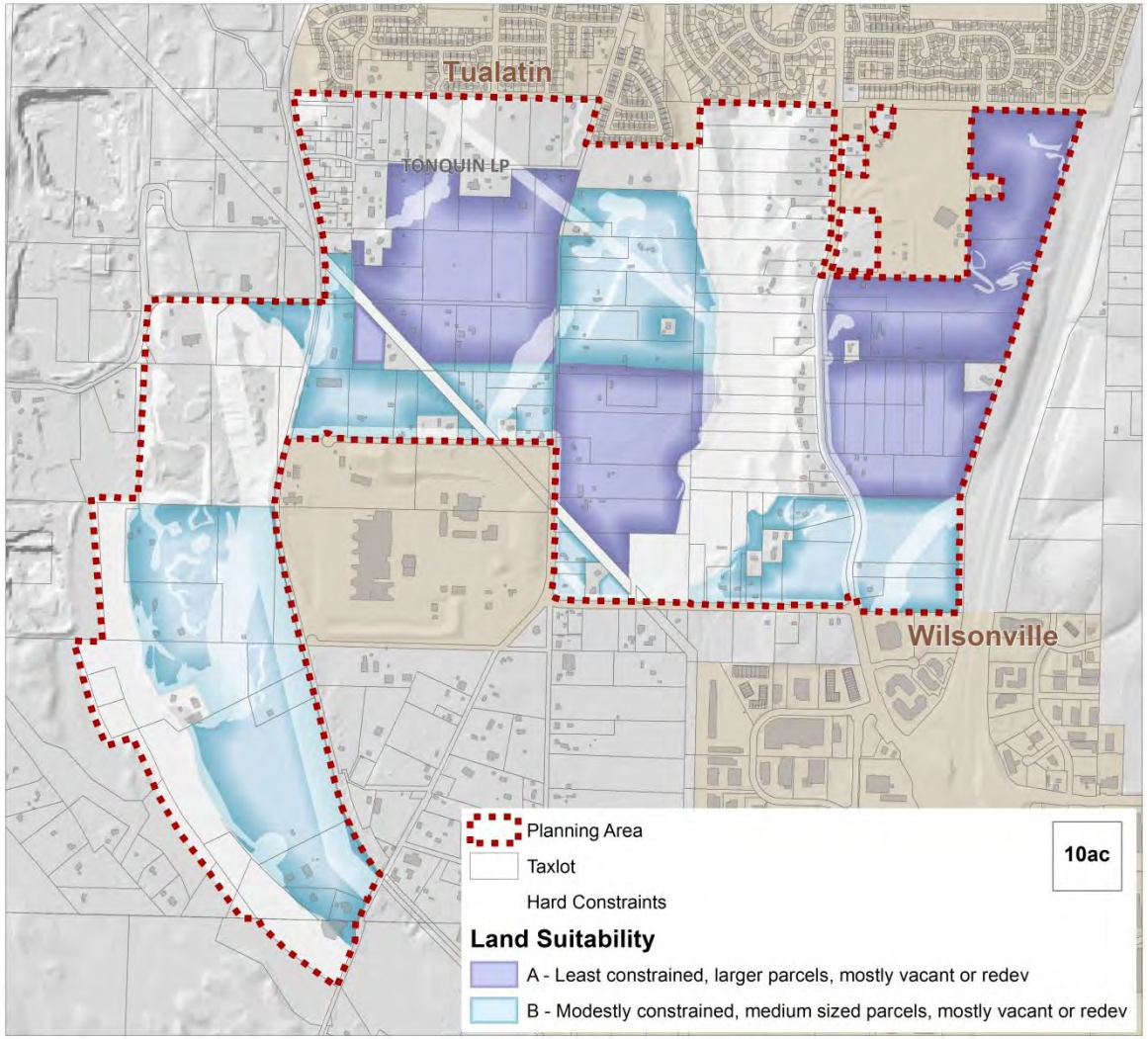
Suitable Sites

- Suitability A:
  - Larger parcels
  - Least constrained
  - Mostly vacant, might have redevelopment opportunities
  - 214 buildable acres (does not exclude built road network, etc.)



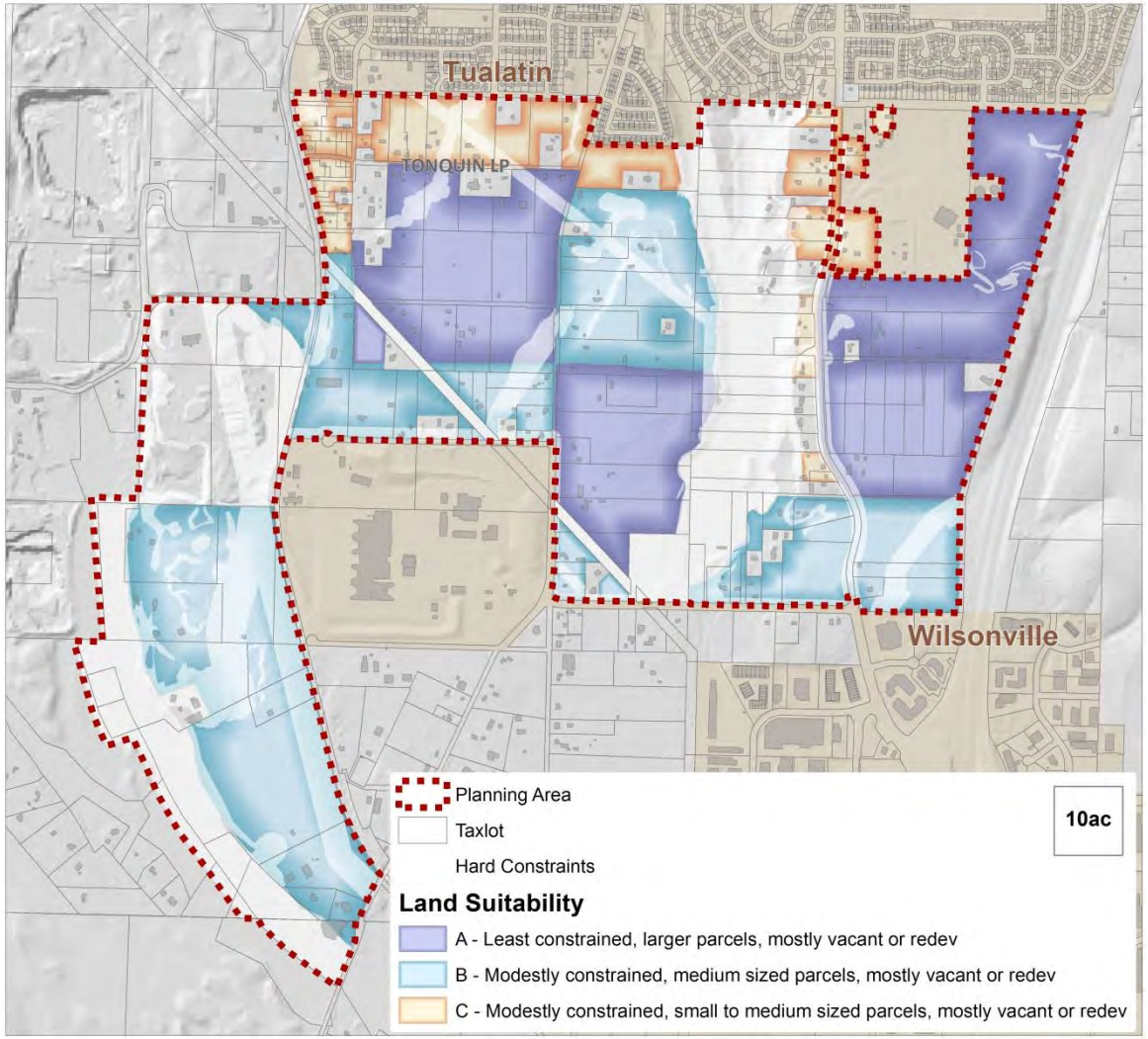
Suitable Sites

- Suitability B:
  - Medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 193 buildable acres (does not exclude built road network, etc.)



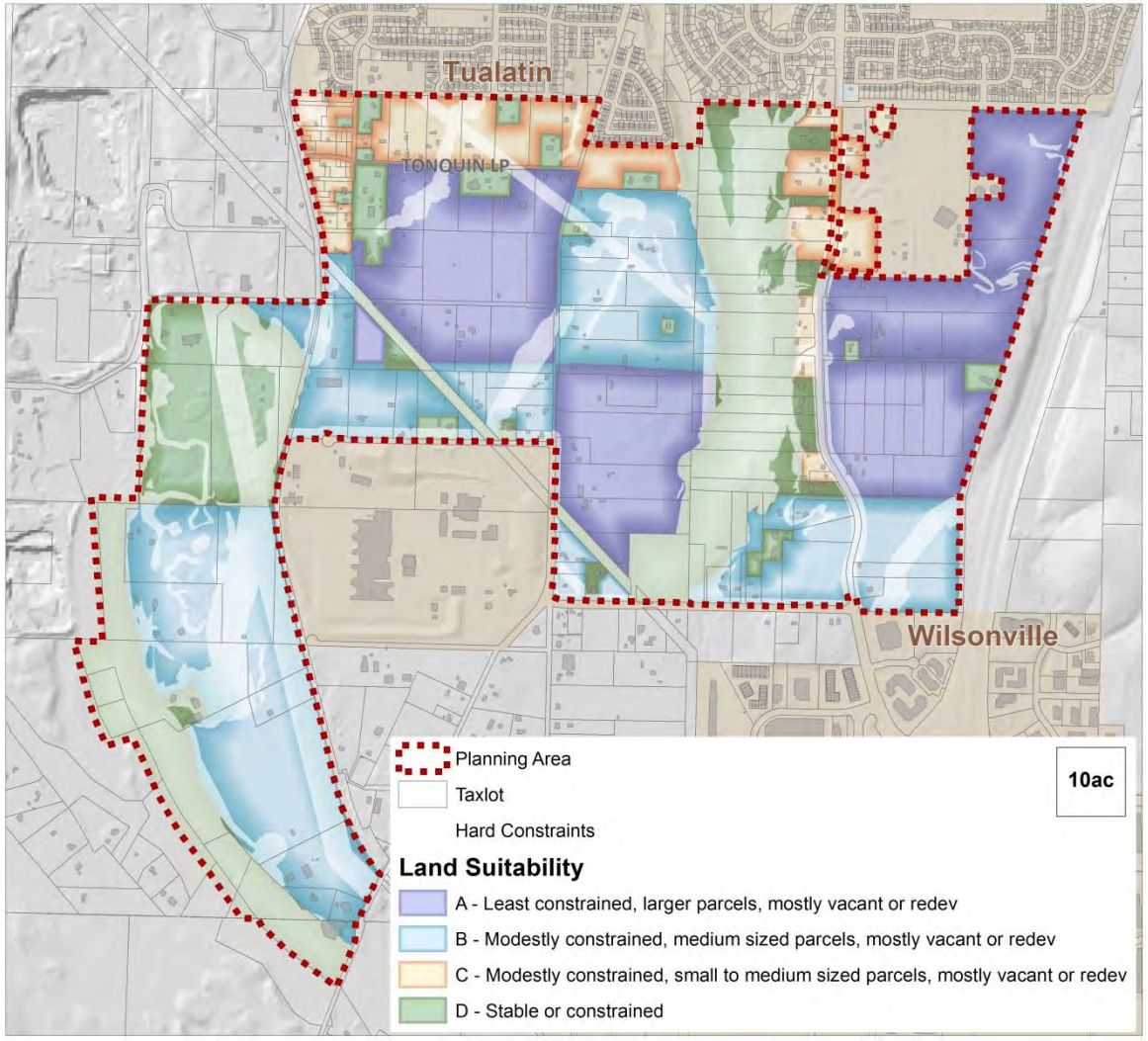
Suitable Sites

- Suitability C:
  - Small to medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 64 buildable acres (does not exclude built road network, etc.)



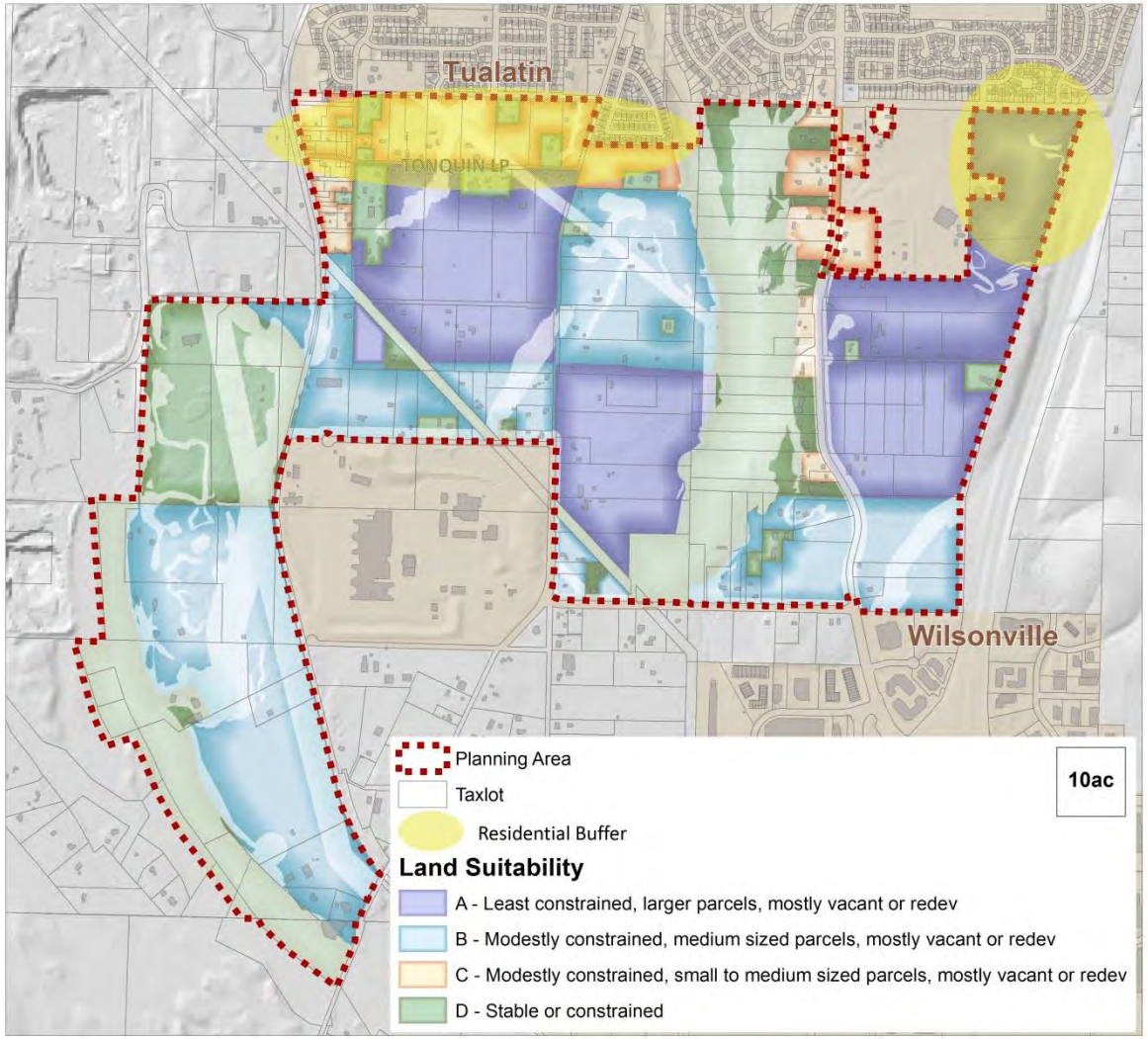
Suitable Sites

- Suitability D:
  - Stable or mostly constrained
  - 82 “buildable” acres (does not exclude built road network, etc.)



Suitable Sites – Residential Buffer

- Residential Buffer:
  - 63 buildable acres (does not exclude built road network, etc.)



Buildable Land à la Envision*

Site	Constrained Acres	Vacant Acres	Redev Acres
Suitability A	15	197	12
Suitability B	79	144	47
Suitability C	12	38	20
Suitability D	136	12	1
Transition Area			

*based on parcel file (excludes roadways and stable parcels)

BASALT CREEK
CONCEPT PLAN

MARKET ANALYSIS

DRAFT

PREPARED FOR

City of Tualatin Oregon

City of WILSONVILLE OREGON

PREPARED BY

LELAND CONSULTING GROUP

Contents

Executive Summary

Located between Tualatin's residential neighborhoods to the north and Wilsonville's employment center to the south, Basalt Creek is currently a relatively rural area that is positioned for significant change and urbanization due to its prime location within the growing Portland metropolitan region. Leland Consulting Group (LCG) has prepared this market analysis as one component of the Basalt Creek Concept Plan. Its purpose is to provide Basalt Creek stakeholders with information regarding the outlook for industrial, office, residential, and retail development in Basalt Creek and adjacent areas, and to inform the Concept Plan as this process moves forward. This executive summary condenses the key points of the analysis; details are explained in the body of the report. The key findings and recommendations of this market analysis are:

Industrial and Office Market. Basalt Creek is located near the center of one of the region's largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek. A market area—including the cities of Tualatin, Wilsonville, and Sherwood and some surrounding areas—was defined for this market analysis in order to provide a baseline to estimate future subregional employment and population growth.

The Metro regional government projects rapid employment growth of 2.3 percent annually for the market area through 2035, about 40 percent faster than the employment growth in the region (1.7 percent), indicating that ongoing business expansion and job creation is expected for these three cities in the southwestern metropolitan area.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories are well suited to locate at Basalt Creek.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990s and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to "onshore," shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development in both cities is significantly larger (more than seven times) than the amount of office development, and this general dynamic is expected to persist for the foreseeable future.

Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in Basalt Creek will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit; a growing and educated workforce; and established and expanding industry clusters.

Based on past industrial and office development, and future growth projections, LCG absorption projects employment land at Basalt Creek to develop at a rate of eight to 10 net acres per year. However, the pace of build out will depend on economic conditions, the availability of employment land in other nearby areas, infrastructure such as roads and sewer, and other factors. Building and site sizes should vary widely, and FARs will remain consistent with those seen in the past.

Housing Market. Significant population growth is anticipated for Tualatin, Wilsonville, and the Portland metropolitan region over the next two decades. Metro's gamma population model shows that Tualatin and Wilsonville will add 1,170 and 3,649 households respectively between 2010 and 2035. Metro projects that the market area will add about 10,900 households during this time period, an increase of 39 percent. These population increases will result in demand for housing at Basalt Creek through 2035, assuming that the area can compete effectively with other potential residential locations.

Basalt Creek's location is also a positive: the study area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. It should be noted, however, that Basalt Creek is located in the Sherwood School District rather than the Tigard-Tualatin School District, and therefore school-age children will head west rather than north for school. The market area's current demographics are encouraging for new housing development. When compared to the Portland metropolitan area, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

However, housing demand is expected to shift somewhat in the future because of decreasing housing sizes, an aging population, the popularity of walkable communities, and other factors. By combining current and future housing demand indicators, this market analysis provides three different housing development scenarios, all of which assume a mix of single-family detached, single-family attached, and multifamily housing. Housing diversity and flexibility (the opportunity to adjust the housing mix) is important to developers in any large area, since they need to be able to build for many different household types, and respond to changing market conditions. This report does not propose a specific number of households in the study area, since residents and decision makers have yet to define precisely which areas will be set aside for residential development.

Retail/Commercial Market. The likely amount and location of retail in Basalt Creek will need to be revisited later in the concept planning process, after more specific programs for employment and residential development are established. It is often said that "retail follows rooftops" and jobs, and without more confidence about the number of homes and jobs that will be in the area, it is difficult to project retail demand.

With that said, some generalizations can be made. Because there are several major regional and subregional retail nodes located to the north and south of the study area—at Bridgeport Village, central Tualatin, and in Wilsonville—any commercial space built in Basalt Creek is most likely to primarily serve local residents and employees. These larger centers are located at I-5 interchanges, whereas retail at Basalt Creek would be further from interchanges. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies, and restaurants, supplemented by other local goods and services.

Retail is likely to be located at key intersections on either Boones Ferry or Grahams Ferry Roads, the major north-south arterials in Basalt Creek, and potentially along the planned East-West connector, which will also carry considerable traffic and afford high visibility to retailers.

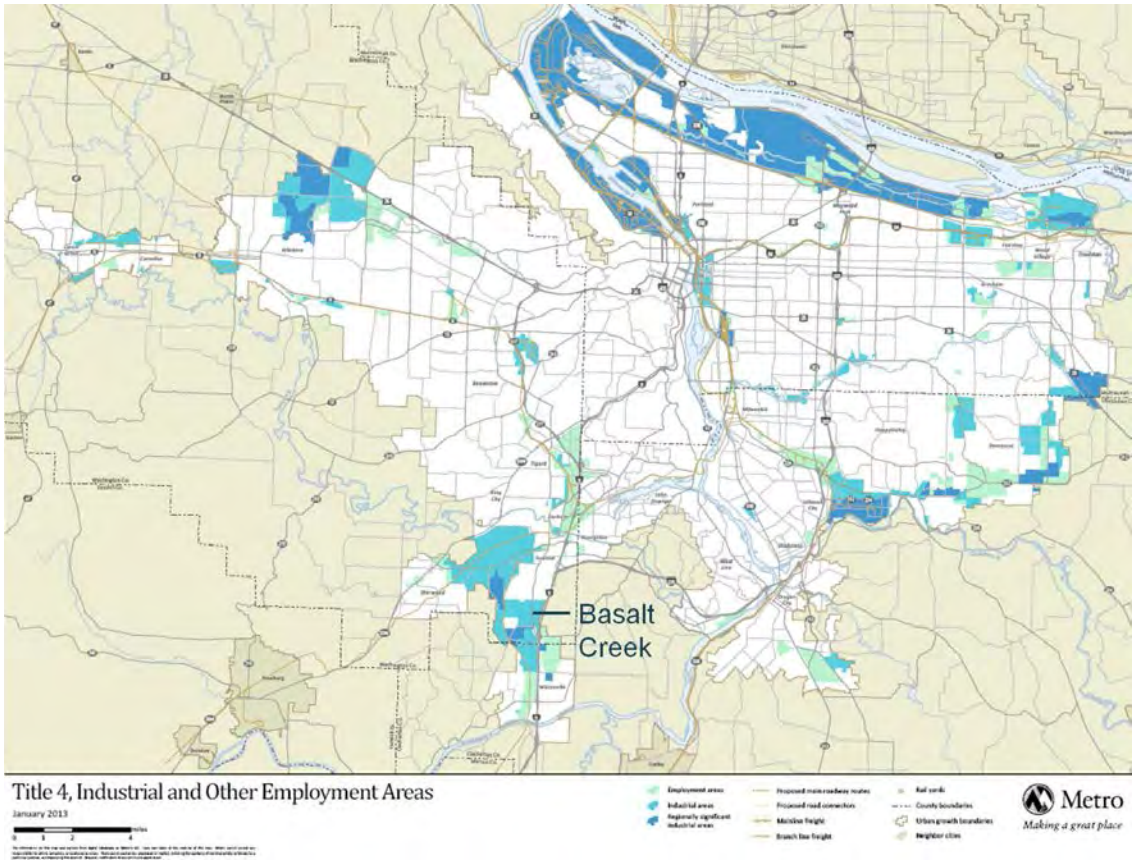
Industrial and Office Market Analysis

Regional Employment Context

As shown in Figure 1, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland metropolitan region, including areas in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro, though smaller than the employment lands near PDX Airport.

A major feature and competitive advantage of this "Southwestern Metro" employment cluster in general, and Basalt Creek in particular, is its immediate access to I-5, the West Coast's most important transportation route. Via I-5, Basalt Creek is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. I-205 and Highway 217 are also close by and easily accessible. These freeway connections are a major benefit for industrial—for whom distribution is an important site selection factor—and office-based businesses—which require access for their clients, suppliers, workforce, and collaborators.

Figure 1. Geographic Context: Title 4 Industrial and Other Employment Areas (Metro)



Source: Metro.

Industrial and Office Development, 1980 to 2014

The figures below show the pace of industrial and office development in the cities of Tualatin and Wilsonville, beginning in 1980. The bars represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical development trends are one data set that shapes expectations for future employment development in both cities and Basalt Creek.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

Figure 2. Industrial Development, Tualatin and Wilsonville, 1980 to 2014

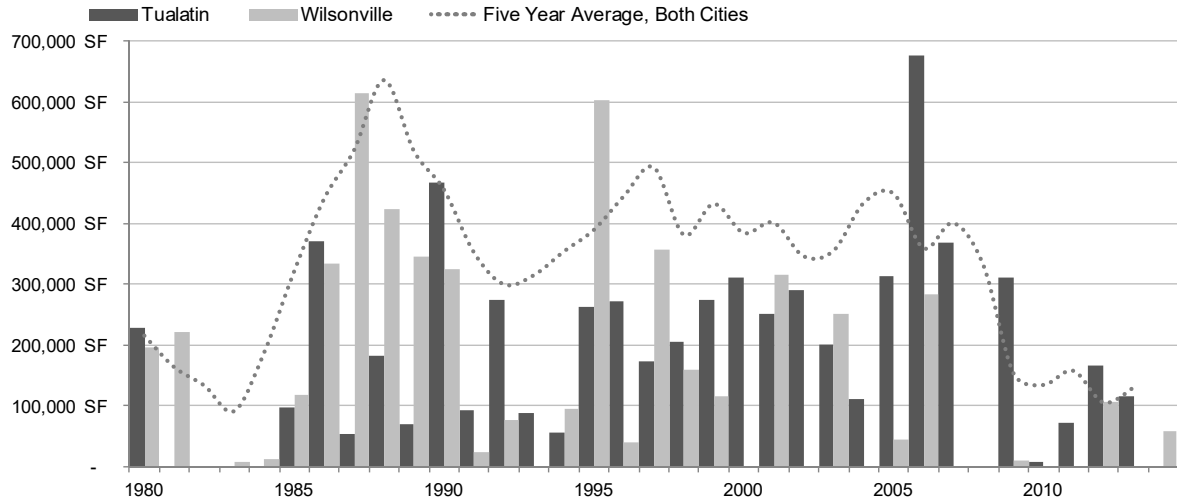
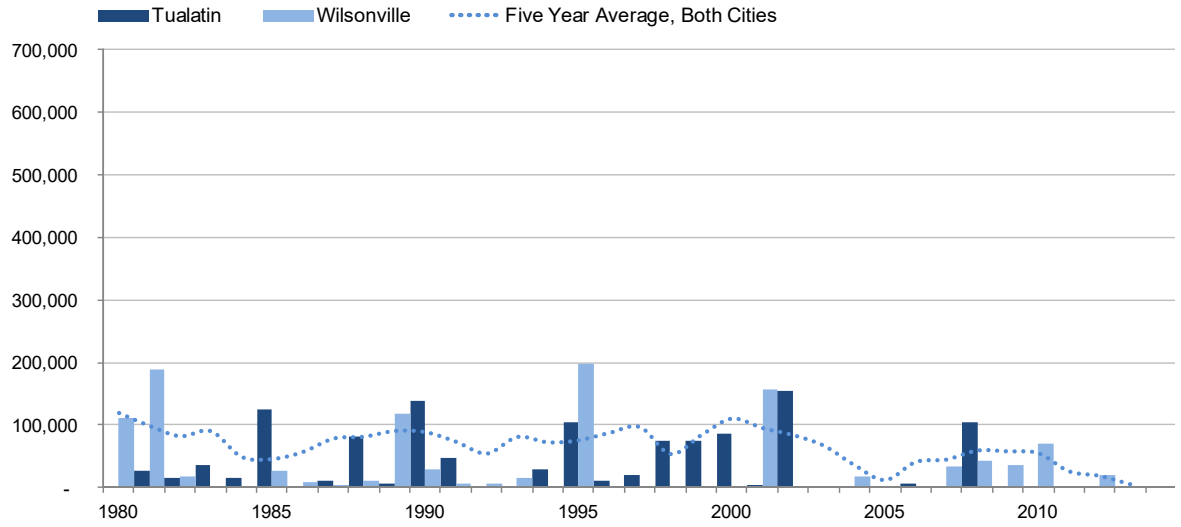


Figure 3. Office Development, Tualatin and Wilsonville, 1980 to 2014



Source, both figures: CoStar, Leland Consulting Group.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers. Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s.

Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

Employment Building and Site Attributes

Table 1 below shows some key attributes of industrial and office development in Tualatin and Wilsonville.

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land, which provides a good benchmark for total demand in Wilsonville, including Basalt Creek, going forward.
- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings.
- Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro's analysis and future projections.

Table 1. Attributes of Industrial and Office Development in Tualatin and Wilsonville

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
Total Area (SF)	10,470,000	8,390,000	18,860,000	1,260,000	1,250,000	2,510,000
Av. Annual Development, 1980 - 2014						
Annual Building Development (SF)	186,960	150,980	337,940	34,632	32,985	67,617
Annual Land Development (Acres)	26.8	16.3	43.1	5.3	8.3	13.6
Building Averages, 2000 - 2014						
Average Building Size (SF)	60,224	80,000	-	31,807	35,000	-
Average Site Size (Acres)	9.1	6.5	-	4.2	2.0	-
Typical Floor Area Ratios (FAR)	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

Source: CoStar, Leland Consulting Group. SF: Square feet; FAR: Floor area ratio, the ratio of a building's size in square feet (or gross building area) to the size of the piece of land upon which it is built.

Note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes

distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figure 4 and Figure 5.

Figure 4. Typical Industrial Buildings: Office/Distribution and Flex

The first building pictured below is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.

Figure 5. Headquarters Office Building (Mentor Graphics)

The Mentor Graphics building is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.

Employment Outlook

Table 2 below shows Metro's gamma employment forecast for the 2010 to 2035 time period. Key aspects of this forecast that are relevant to Basalt Creek are:

- Employment in the Basalt Creek market area is expected to grow at 2.3 percent annually between 2010 and 2035, about 40 percent faster than the three-county metro area rate (1.7 percent). Employment in all three cities within the market area is expected to grow relatively rapidly—at a higher annual rate that than their populations, and a higher rate than regional population growth (see Table 6 for population growth projections).
- Tualatin and Wilsonville are expected add 12,267 and 10,346 jobs respectively over the 25-year Metro forecast period. In total, the market area is expected to add 36,786 jobs, an increase of 78 percent over the 47,005 jobs currently in the market area.
- This significant growth can be expected to drive consistent demand for employment land and buildings, including industrial, office, and commercial space, both in Basalt Creek and in other employment areas in the market area over the 2010 to 2035 time period.

Table 2. Metro Employment Forecast, 2010 to 2035

Jurisdiction	Employment			
	2010	2035	Change	CAGR
City of Tualatin	22,972	35,239	12,267	1.7%
City of Wilsonville	17,073	27,419	10,346	1.9%
City of Sherwood	4,216	9,252	5,036	3.2%
Basalt Creek Market Area	47,005	83,791	36,786	2.3%
Clackamas County	137,946	210,444	72,498	1.7%
Multnomah County	419,164	597,331	178,167	1.4%
Washington County	232,019	382,812	150,793	2.0%
Three County Total	789,129	1,190,587	401,458	1.7%

Source: Metroscope Gamma Forecasts, Published Feb 07, 2013, http://www.oregonmetro.gov/regional-2035-forecast-distribution.

Figure 6. Projected Employment Growth (2010-2035)

Source: Metro Gamma Forecast; Leland Consulting Group.

Table 3 shows Metro's analysis of past and future employment growth in the Metropolitan Statistical Area (MSA), completed for the Draft 2014 Urban Growth Report. This data shows employment changes for a larger area—the seven-county MSA---than the three-county data above.

Table 3. Employment: Past Growth and Future Projections, Seven-County MSA

Time Period	Annual Growth Rate
1960 - 1980	3.74%
1980 - 2000	2.60%
2000 - 2020	1.17%
2020 - 2040	1.24%

Source: Metro, Mid Range projection, Draft 2014 Urban Growth Report, Appendix 1a.

A key take away from this data is that while employment in the region will continue to grow, it will grow more slowly during the build out period for Basalt Creek (likely largely during the 2020 to 2040 time period) than during the most rapid periods of employment growth (1960 to 2000). Based on this projection and conversations with area brokers, LCG projects that employment land absorption during Basalt Creek's build out period should be faster than 2000 to 2014 (which includes the recession and its aftermath), but slower than during the rapid growth period of 1980 to 2000, and the 1990s in particular.

Industrial Development Outlook

Private sector analysis of the demand for industrial space is consistent with Metro's projections in that most observers expect a resurgence of demand as the economy recovers from the recession. Nationwide, industrial development is anticipated to accelerate due to increased long-term demand for industrial properties from firms whose businesses involve research and development, advanced manufacturing, general manufacturing, and warehousing. While private sector development forecasts are often focused on a short to medium-term (e.g., one to five years) time frame, rather than the long-term (20-year) time frame for this plan, the dynamics described below are significant and are supportive of industrial development at Basalt Creek. According to the Urban Land Institute's 2014 *Emerging Trends in Real Estate*:

> **Industrial.** Industrial real estate will get a boost in 2014 as the U.S. economy continues to improve and as retailers and manufacturers have made the shortening of the supply chain their top priority for the foreseeable future. Warehousing stands out as the strongest prospect in both investment and development in 2014—not only among industrial subsectors and niche markets, but across all types of subsectors and niche markets… Warehousing is a clear favorite when survey respondents recommended action…The strength of warehousing reflects the expanding influence of e-commerce distribution networks…
>
> **The Return of Manufacturing.** "Manufacturing is coming back to the U.S., and it's coming back faster than we thought. Back in 2011, no one thought we would see anything until 2015. Now, we are seeing dozens of companies moving back to the U.S. because the economics are shifting," says a labor economist. "A key driver of this trend is that labor costs in China are rising, with wages increasing by about 15 to 20 percent a year and the steady appreciation of the Chinese yuan against the dollar. Manufacturers are seeing very long supply chains, and there are increasing concerns about intellectual property."

Portland's industrial market is heating up in response to these trends. In late 2013 and early 2014, a number of new industrial projects have been announced totaling about 1.5 million square feet; one is the 800,000-square-foot PDX Logistics Center (18.3-acre building) to be built near PDX Airport. A speculative investment of this magnitude shows significant confidence in the Portland market. Eight additional major projects are reportedly in the planning pipeline. Industrial brokers at Kidder Matthews report an "industrial land shortage" and that the "greatest demand is seen in the I-5 corridor," a submarket that includes Wilsonville and Tualatin.

Office Development Outlook

Office development nationally and regionally is not expected to bounce back with the same resiliency as industrial space. Office development in the short and long term faces several challenges. In the short term, the Portland region's employment levels have only just recovered this year to their 2008 pre-recession levels. While office vacancies are far lower than they were several years ago, there is not yet pressure for new development. As Table 4 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6 percent of the total regional inventory of nearly 47 million square feet. Tualatin's current vacancy rate of 20.5 percent suggests a soft market, though that space will be occupied in the long term.

Table 4. Current Office Market Summary, Portland Metro Region

Market	Existing Inventory		Vacancy	YTD Net	Under Const. &	Class A
	# Blds	Total RBA	%	Absorption	Complete YTD	Rates
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	$21.53
Tigard	226	3,313,116	10.4%	35,859	0	$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	$20.50
Totals	**1,379**	**46,903,725**		**181,309**	**288,000**	

Source: CoStar, Leland Consulting Group.

Of more concern for new office development at Basalt Creek are several long-term trends. Companies are becoming much more efficient than ever before with their office space, and thus, requiring less of it. Greater efficiencies are being achieved through smaller dedicated desk spaces; employees who work out of the office on the road, from home, or other locations; and less storage for fewer paper files. In addition, companies have gotten more reluctant to take on long-term obligations such as expanded leases. These trends are expected to continue, and in some cases accelerate in the future, and therefore, demand for office space as a function of total employment is likely to be less in the future.

In conclusion, in the near and potentially long term, office development is likely to be slower than industrial development throughout the Portland region. As shown in Figure 2 and 4, much more industrial development than office development has taken place in Tualatin and Wilsonville in recent decades, and LCG expects this trend to continue at Basalt Creek.

Tualatin and Wilsonville's Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities' main economic development plans relevant to Basalt Creek are shown below.

Table 5. Relevant Economic Development Plans

Tualatin	Wilsonville
• Economic Development Strategic Plan (2014) • Industry Cluster Analysis (2014) • Southwest Tualatin Concept Plan (2010)	• Economic Opportunities Analysis (EOA) Update (Final Draft, 2012) • Coffee Creek Master Plan (2007)

Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin's Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57 percent of Tualatin's jobs fall within its five key industry clusters, which also provide wages that are on average 70 percent ($35,000) higher than those in all other industries.

Clusters reflect the community's strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future. (Wilsonville's EOA uses the term industry "sectors." The terms cluster and sector are used interchangeably here.)

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters. The economic figures included below are drawn from the Cities' economic development plans.

- **Advanced Manufacturing and Related.** This cluster is a significant driver of both cities' economies. It is Tualatin's largest cluster, accounting for 22 percent of jobs in the city. It accounts for a significant portion of Wilsonville's economy; computer and electronic product manufacturing was Wilsonville's largest industry sector as of 2012, and includes several of the city's largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

  The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the southwest metro economy. The Cities are looking for ways to capitalize on OIT's presence and to strengthen partnerships between the school and private business.

  Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster's ongoing success.

- **Corporate and Professional Services.** This cluster accounts for 12 percent of Tualatin's jobs, and was the second largest industry sector in Wilsonville as of 2012. Major employers include Portland General Electric and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.
- **Health Care and Medical Related.** This cluster is important in both cities: it is the third largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center, among Tualatin's largest employers, and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care employers as of completion of the EOA were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

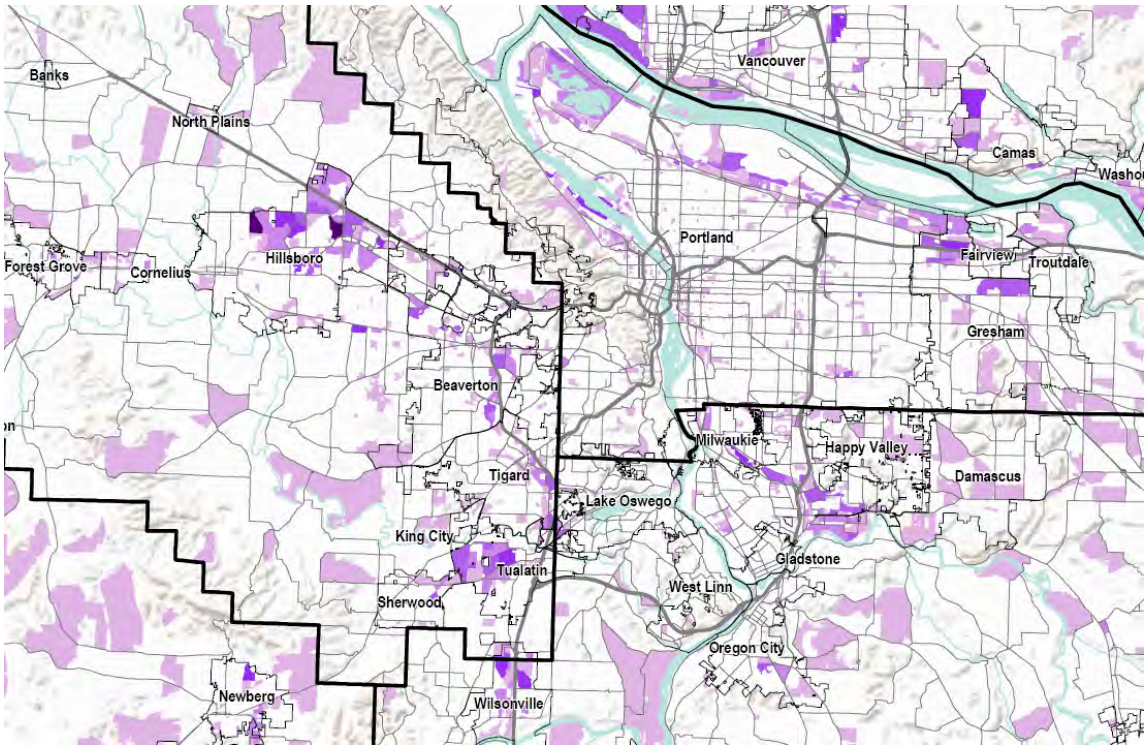
  Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Commercial zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

- **Other Industrial Clusters.** Both Cities have identified additional industrial target clusters that could locate in Basalt Creek. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: Food Processing and Distribution, and Wood, Paper, Printing, and Related. Wilsonville identified a number of other industrial business types: Light Manufacturing and Warehouse/Showroom Operations; Specialty Contractors and Construction Firms; Sustainable Product Manufacturing and Distribution; Miscellaneous Manufacturing, and Wholesale Trade.

  Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.
- **Other Professional and Commercial Services.** Wilsonville's EOA also identifies Creative Services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to Corporate and Professional Services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.
- **Other Clusters.** Some clusters may or may not be a good fit for inclusion at Basalt Creek, depending on the Concept Plan. An example is Tourism and Recreation, which was identified by Wilsonville.

Figure 7. Number of Manufacturing Employees



Source: Institute for Metropolitan Studies, Portland State University.

Figure 8. Lam Research Facility, Tualatin

The semiconductor equipment manufacturer is the city's largest private employer, and a leader in the city's advanced manufacturing cluster.

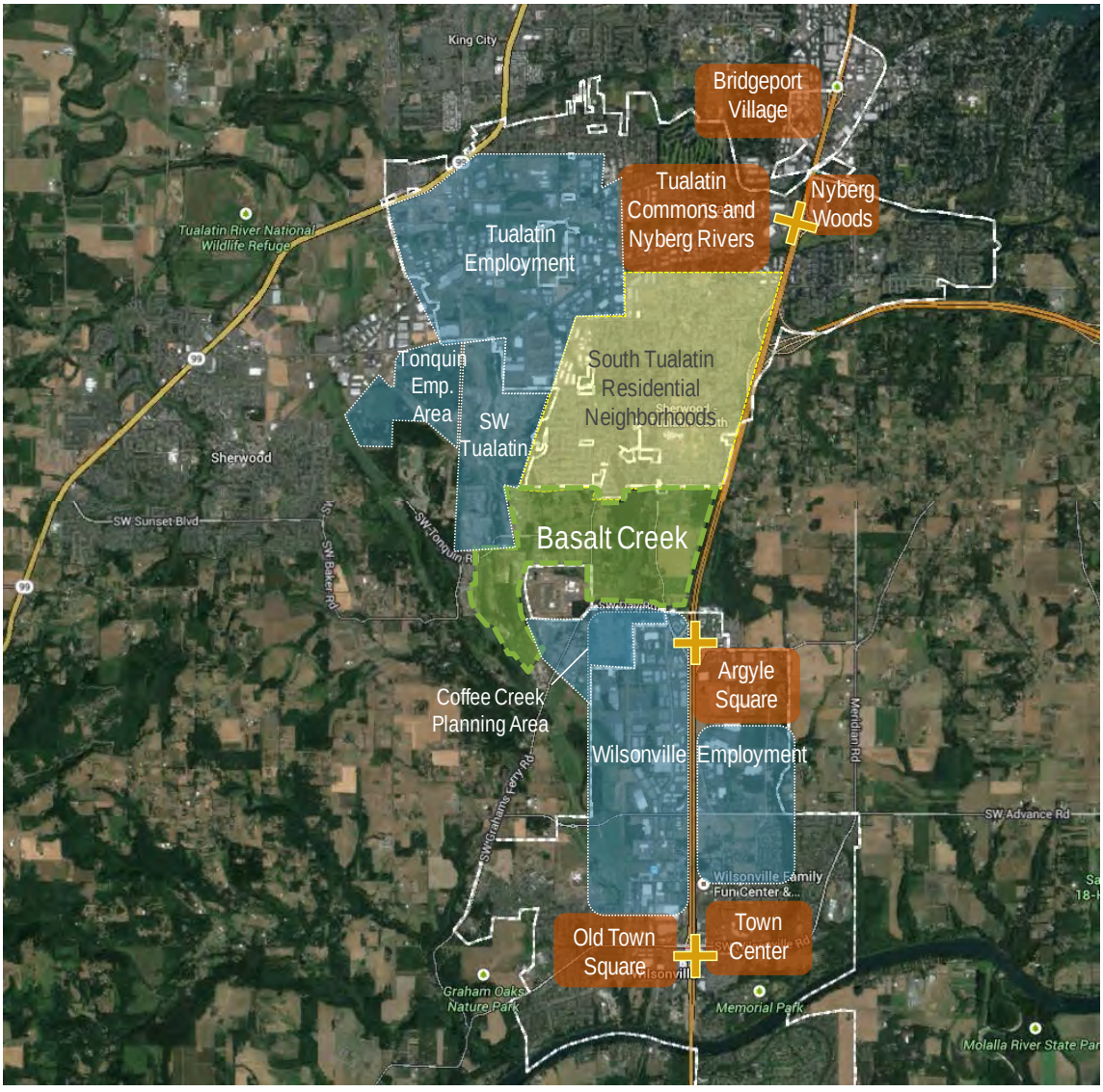
Photo credit: Tualatin Chamber.

Subregional Context

Figure 9 below shows the Basalt Creek study area and the key employment, commercial, and residential areas nearby, along with three I-5 freeway interchanges. This map shows that Basalt Creek is located at the heart of a large, contiguous series of employment areas, which will provide Tualatin and Wilsonville with the land area to build on and expand their advanced manufacturing, corporate services, and other key industry clusters.

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124th Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. This large agglomeration of employment areas creates momentum, and will also be a source of competition for Basalt Creek.

Figure 9. Basalt Creek Geographic Context



Source: Leland Consulting Group. ***Note: Employment, commercial, and residential area boundaries are approximate.***

Established Employment Areas. The Tualatin and Wilsonville employment areas are developed areas that have capacity to continue to add businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

The City of Wilsonville is currently at work developing a Light Industrial Form Based Code (FBC) intended to streamline approval of light industrial and office employment, while at the same time ensuring high-quality urban design. The FBC will apply to the Coffee Creek industrial area, but could also apply to Basalt Creek Creek and other areas.

Planned Employment Areas. Southwest Tualatin, Tonquin, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property owner initiated.

- The Southwest Tualatin Concept Plan Area is approximately 614 gross acres and is planned for a mix of light industrial, high tech, and campus employment users. Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area is a 225-gross-acre area that was master planned by the City of Wilsonville in 2007. It is adjacent to Basalt Creek on the south side of Day Road. In addition to industrial development throughout the area, the City's vision includes the development of an office corridor on Day Road (the dividing line between the Coffee Creek and Basalt Creek areas). No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis the industrial and office development are as follows:

Strengths and Competitive Advantages

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Long-term growth projections for employment and population in the southwest Portland metro area.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce.

- Market success of recent industrial, office, and retail developments.

Challenges

- Vision and regulation: This Concept Plan, and subsequent Comprehensive Plan and zoning amendments, need to be in place prior to development.
- Planning, financing, and construction of new infrastructure.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout Basalt Creek. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the study area and divide the area into east and west sections.
- The market for new office development continues to be slow. However, the study area will not be ready for private development for several years, which may allow enough time for this market to recover.

Absorption and Build Out

Employment development—including industrial and office land development—is expected to take place in Basalt Creek at a pace of about eight to 10 buildable acres annually, assuming zoning is in place and urban infrastructure (roads, sanitary sewer, and water) are available. The pace of development will depend on economic conditions at the time of development, the location of transportation and other improvements, and the number of other nearby employment areas also available for development, among other factors. This represents a 30 to 40 percent capture rate of Wilsonville's annual average of 25 acres of employment land development (see Table 1) and is reasonable given that employment development can also be expected to take place at Coffee Creek and "infill" within existing urbanized parts of the city. The projection is also consistent with the estimates provided by developers interviewed for this project. If development at Coffee Creek and on infill sites is highly constrained, then development at Basalt Creek could accelerate.

Buildings in Basalt Creek are expected to range widely in terms of site and building sizes. However, the FARs for most buildings should fall between 02. And 0.4 FARs and be surface parked. Higher density buildings with some structured parking may be feasible at special locations, or in later years after the market has matured.

Housing Market Analysis

Demographic Context

Table 6 summarizes Metro's 2010 to 2035 gamma projections of household growth for the cities of Tualatin and Wilsonville, and other geographies relevant to Basalt Creek. Some key take aways are:

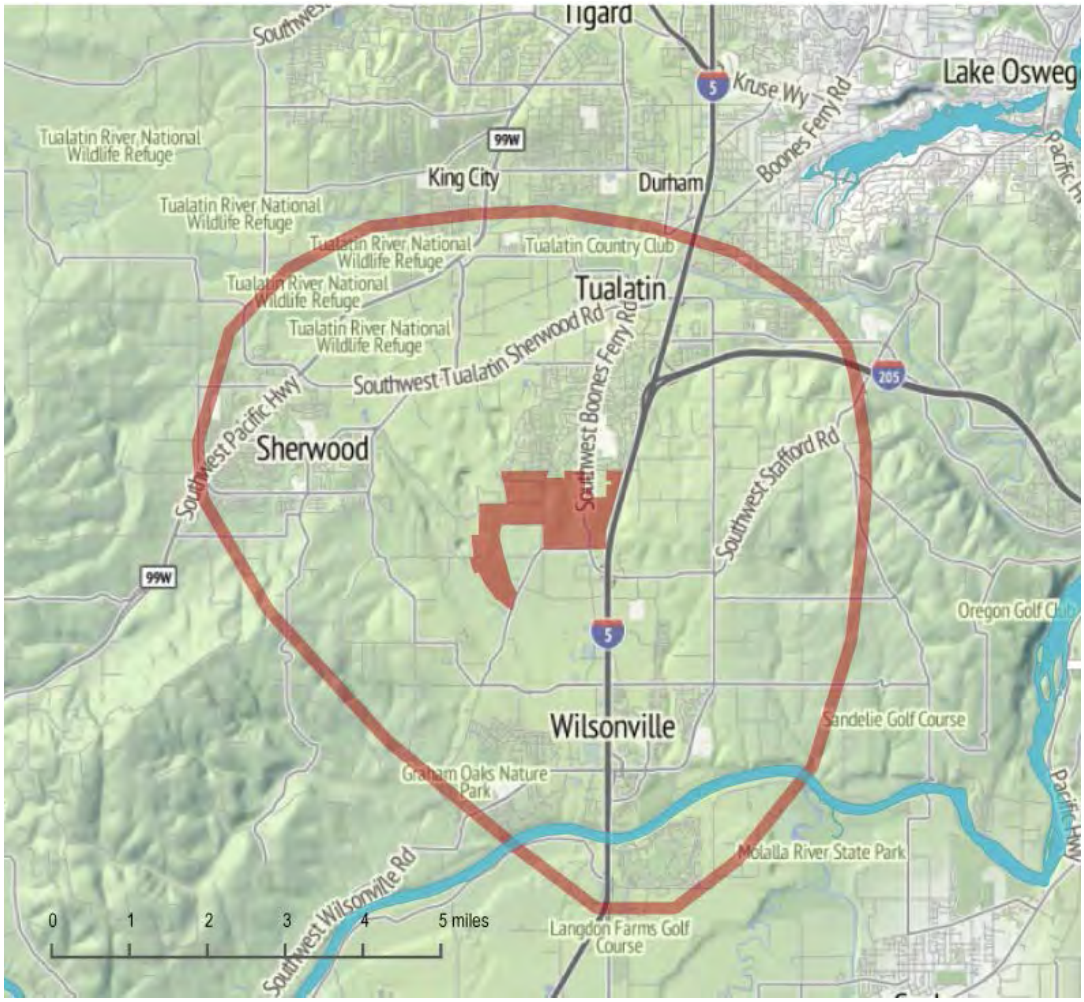
- The number of households in the three-county Metro area is expected to grow relatively quickly, at a 1.5 percent Compound Annual Growth Rate (CAGR), between 2010 and 2035, and thus add more than 11,000 households per year.
- Metro forecasts that Tualatin and Wilsonville will grow throughout the forecast period, with the number of households in Wilsonville projected to grow at a faster rate (1.5 percent) than Tualatin (0.4 percent). According to Metro, in 2010, Tualatin's average household size (2.61 persons) was slightly larger than Wilsonville's average (2.48 persons). Metro projects this difference will essentially remain through 2035, though Tualatin's household size will decrease somewhat (to 2.55 persons).
- The Basalt Creek market area (see Figure 10) was also defined in order to evaluate demographic trends that cross city and county boundaries. The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. This market area is the area from which new residents of Basalt Creek are most likely to come, based on Leland Consulting Group's market research.
- The consistent projected household growth in the region, market area, and subject cities suggest that there will be demand for new homes within the market area generally and Basalt Creek specifically through 2035, assuming that Basalt Creek is effectively planned and made available for development.

Table 6. Demographic Forecasts for Market Area and and Metro Region

Jurisdiction	Households			
	2010	2035	Change	CAGR
City of Tualatin	10,000	11,170	1,170	0.4%
City of Wilsonville	7,859	11,508	3,649	1.5%
City of Sherwood	6,316	7,269	953	0.6%
Basalt Creek Market Area	27,825	38,704	10,879	1.3%
Clackamas County	146,324	208,437	62,113	1.4%
Multnomah County	304,649	442,546	137,897	1.5%
Washington County	202,647	289,592	86,945	1.4%
Three County Total	653,620	940,575	286,955	1.5%

Source: Metroscope Gamma Forecasts, Published Feb 07, 2013, http://www.oregonmetro.gov/regional-2035-forecast-distribution.

Figure 10. Basalt Creek Market Area



Source: Fregonese Associates, Leland Consulting Group.

Table 7 below and Table 8 on the following page provide additional perspective on the demographics of the subject cities when compared to the Portland MSA.

The City of Tualatin, when compared to the Portland MSA, has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher capita incomes. A larger share of residents have college degrees (43 percent) and are employed in white collar jobs (67.4 percent) compared to the region.

Wilsonville, when compared to the Portland MSA, has a higher percentage of family households and smaller households. This is likely because the city has a higher share of young households (in the 25 to 34 age category) and seniors, Baby Boomers, and retirees (65+ category). Each of these age groups has different housing preferences. Like Tualatin, Wilsonville has a larger share of residents with college degrees (43 percent) and white collar jobs (67.4 percent) than the region. (The data below shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas.)

Table 7. Demographic Summary

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
Comparison to Portland MSA:	More families Larger HHs Higher HH Incomes Higher PC Incomes More college degrees More white collar emp.	Fewer families Smaller HHs More Gen Y More Boomers More low-income HHs More college degrees More white collar emp.	More families Larger HHs Higher HH incomes Higher PC incomes More college degrees More white collar emp.	
Population	26,520	21,235	73,786	2,296,285
Number of Households	10,170	8,638	28,121	896,982
Family Households (2010 Census)	68%	59%	68%	64%
Household Size (Average)	2.60	2.32	2.57	2.52
Household by Size (2010 Census)				
1 and 2 person households	57%	68%	58%	61%
3 and 4 person households	33%	25%	32%	29%
5 + person households	10%	7%	10%	10%
Median Household Income	$64,324	$59,812	$70,256	$57,441
Per Capita Income	$32,672	$31,995	$33,336	$30,135
Population By Age				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
Median Age	35.7	37.0	36.6	37.5

Source: ESRI Business Analyst, Leland Consulting Group.

The Basalt Creek market area is similar to Tualatin in many ways. When compared to the Portland MSA, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

Table 8. Demographic Summary (Continued)

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	SW Metro Market Area	Portland MSA
Education and Employment				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivilent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
Occupation				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
Housing				
Median Home Value	$331,190	$349,927	$337,289	$275,516
Housing Tenure				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Source: ESRI, Leland Consulting Group. 2013 data except where noted.

In general, these demographics are favorable to housing development in Basalt Creek; they also reflect the types of residents most likely to locate in Basalt Creek.

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin's population. The neighborhoods—including roads, street trees, parks, and schools—create a positive environment for residential development within Basalt Creek, particularly along the northern edge. It should be noted, however, that Basalt Creek is located in the Sherwood School District, not the Tigard-Tualatin School District, and therefore, school age children in Basalt Creek would need to travel west to Sherwood, rather than north, for classes.

Regional and National Demographic Trends Affecting Housing

It is important to note that over the coming decades the metropolitan region's demographics are expected to become more like Wilsonville's demographics today, and somewhat less like Tualatin. Table 9 compares the age group split in the cities of Tualatin and Wilsonville today with Washington County's demographics in 2010 and projected demographics in 2035. The biggest change is that older households are expected to comprise a larger share of the total population, with a smaller share in the 35 to 64 age category. Household sizes are also expected to decrease. Washington County is used here as a proxy for the age groups and household types most likely to live in the Basalt Creek market area in coming years, and because Metro and the State of Oregon both produce long-range estimates for the County.

Table 9. Demographic Comparison of Subject Cities in 2013 and Washington County 2035 Projection

Age Group	City of Tualatin 2013	Washington County 2010	City of Wilsonville 2013	Washington County 2035
0 - 19	35%	34%	31%	30%
20 - 34	15%	15%	17%	14%
35 - 64	42%	40%	38%	38%
65+	8%	10%	15%	19%
Total	100%	100%	100%	100%

Source: Office of Economic Analysis, State of Oregon; ESRI Business Analyst, Leland Consulting Group.

The figures below further emphasize the demographic trend that is referred to as the aging of the Baby Boomers or the "silver tsunami," which is expected to have a significant impact on housing demand. As Baby Boomers, those born between 1946 and 1964, retire and begin to consider selling their homes and relocating, they are expected to have a major impact on housing markets. Many will be selling medium and large size single-family homes and looking for smaller homes with lower maintenance and upkeep, and the freedom to "lock and leave" home to visit family and friends, and vacation elsewhere. Many will also keep their homes.

Figure 11 highlights several points. The population of all age categories is growing between 2015 and 2035—the period during which Basalt Creek is expected to build out—and there should be demand for housing that meets the needs of all of these groups. The 65+ population will grow the most. The effect of this growth will be even more pronounced since these are relatively small households and thus more housing units are needed to serve the same population. The population of the 35 to 64 age category, and their children, under 19, will also grow significantly. This group is likely to re-occupy many of the single-family homes now in the market area, and new homes in Basalt Creek. The size of the 20 to 34 age group is not expected to increase much. This is because Generation Y / Millenials, now in their 20s and early 30s, is a large age cohort, and the age cohort behind them is expected to be smaller. Generation Y is driving the apartment boom now taking place in urban and mixed-use areas throughout the metro region.

Figure 11. Net Population Change by Age Group, 2015 to 2035, Washington County

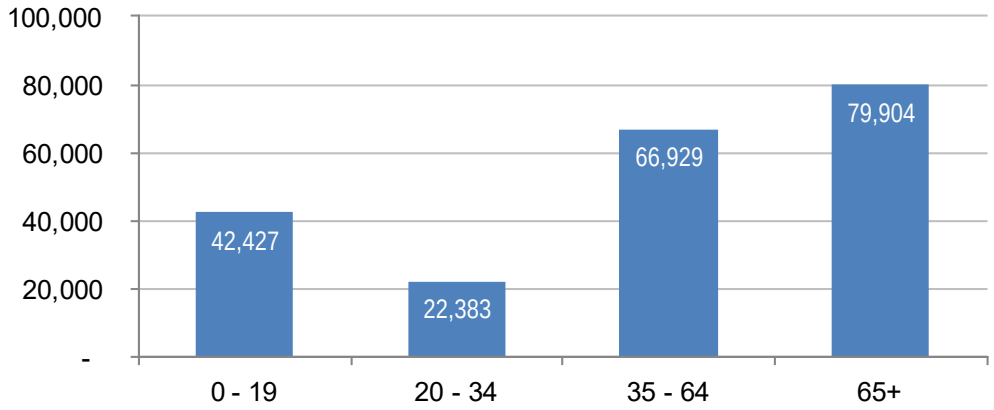
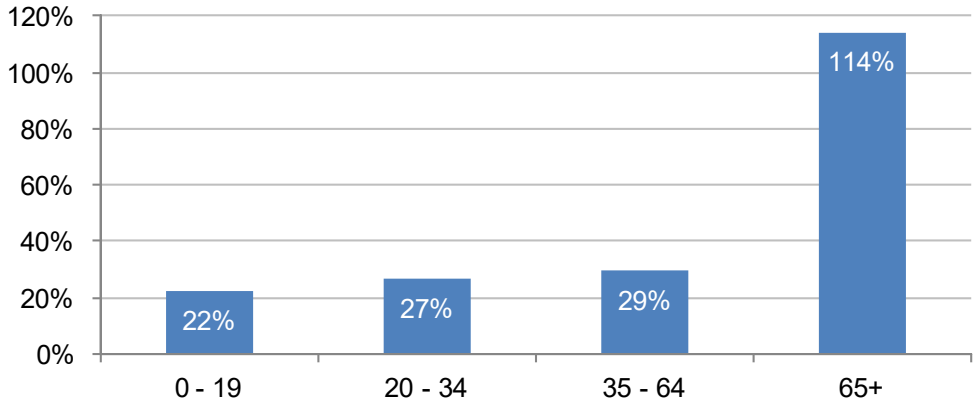


Figure 12. Percent Population Increase by Age Group, 2015 to 2035, Washington County, Oregon



Source: Office of Economic Analysis, State of Oregon; Leland Consulting Group.

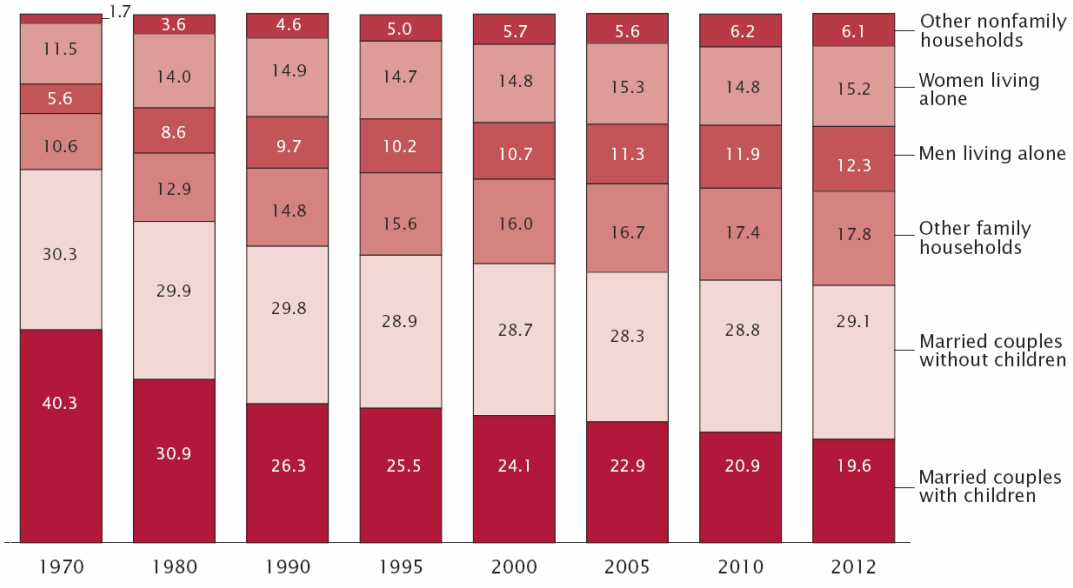
Figure 12 shows that, as a percentage of the current population, the growth in the 65+ age group will be far greater than growth in the other age groups. While the numerical increase (shown in Figure 11) is only slightly greater than the increase in other population groups, the percent increase is far greater. Therefore, our perception of this change, and its impact—on housing, health care, and other parts of society—is likely to be greater.

Some urban planners have identified four demographic groups that have seen the highest rate of growth in recent decades and are expected to continue growing in the coming decades. These are the “four S groups:”

- Seniors
- Singles
- Single-parent households
- Starter households

The growth in these groups nationwide is shown in Figure 13 below, along with the significant decrease in married couples with children as a share of all households. This strongly suggests that future housing demand, and the housing mix in residential neighborhoods, will continue to shift from single-family homes to a broader mix of housing types.

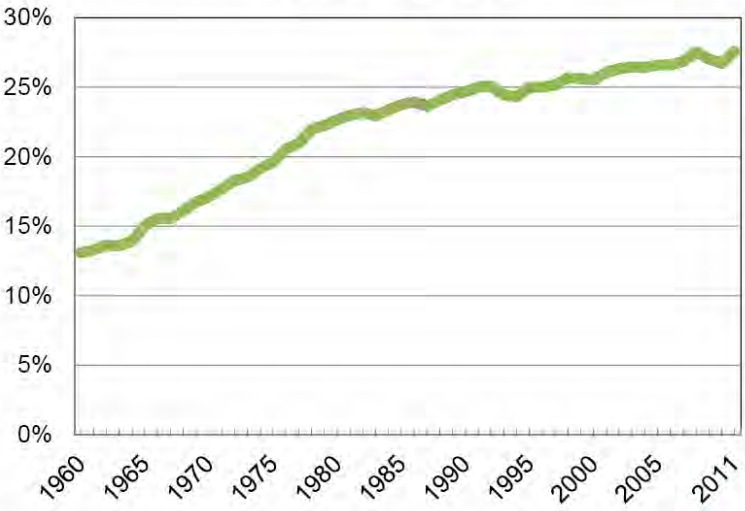
Figure 13. Households by Type, United States



Source: US Census Bureau.

Figure 14 shows the growth in the percent of households nationwide with one person. The share of one-person households doubled between 1960 and 2011. Two-person households are also making up a larger share of the national and regional population. Sixty percent of households in the market area, and 68 percent of Wilsonville's households, are one or two-person households. These households are the core drivers of demand for housing types such as small lot single-family homes, attached single-family homes (townhouses and duplexes), and multifamily housing (apartments, condominiums, and senior housing).

Figure 14. Percent of Households with One Person, United States



Source: US Census Bureau.

Community Preferences

Of course, real estate and home buying is all about "location, location, location"—in other words, the community, city, or neighborhood in which a given home is located. Since 2004, the National Association of Realtors (NAR) has conducted a nationwide poll to better understand what Americans are looking for in their future homes and communities. This is the most robust, widely-applicable survey instrument available to suggest how housing demand is evolving. One important focus of this poll is testing Americans' interest in the features of what are variously called "walkable communities," "complete communities," or "traditional neighborhood development." Such communities tend to be pedestrian friendly—parks, schools, shops and businesses are located within walking distance of homes—and contain a range of different housing types where households of different ages and sizes can live (single-family homes, townhouses, and multifamily housing).

Figure 15 shows how people responded when asked, "Do you think there is too much, too little, or the right amount of each of the following in the area close to where you live?" Respondents most often felt that there are too few features such as safe routes for walking and biking, public transit, a diversity of housing, and shops and restaurants within an easy walk.

Figure 15. Which Neighborhood Amenities are in Demand?

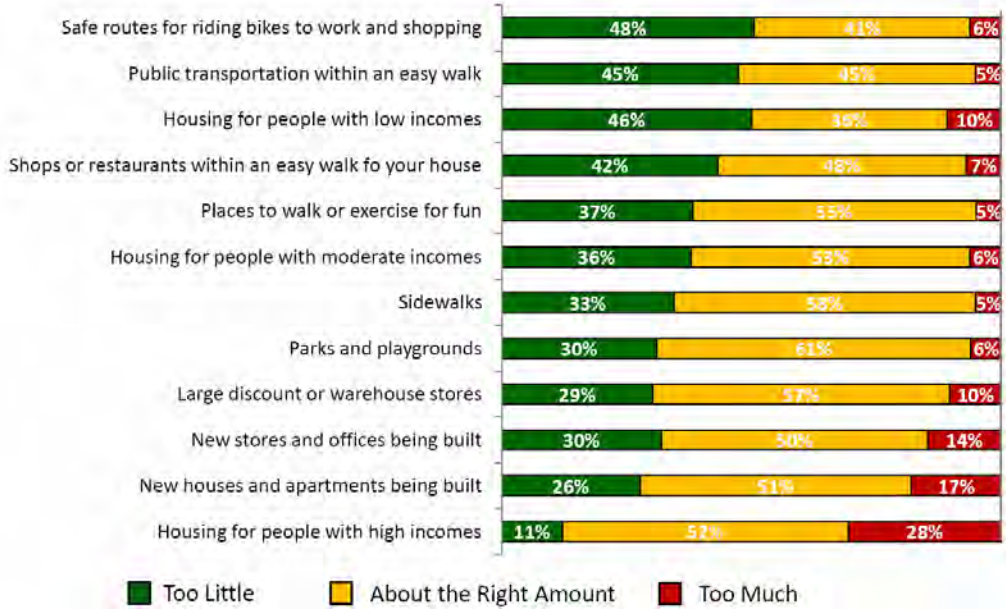


Figure 16 shows how people responded when asked to select the house where they would prefer to live when provided with two community options. By nearly a two-to-one margin, Americans prefer a neighborhood where they can walk to stores and businesses. The preference is significantly more pronounced among those who recently purchased a home or are currently in the market.

Figure 16. Community Preferences

Source, both figures: National Community Preference Survey, National Association of Realtors, October 2013.

Housing Types

Table 10 and the images that follow show categories of housing that are used to estimate demand in the Basalt Creek area. While there are many different categories and subcategories of housing, these five housing types are representative of the vast majority of housing being built now and in the recent past in the Portland metropolitan region, and in the market area in particular. The net density (number of housing units that can be accommodated on buildable land) of various housing types will vary depending on conditions such as slope, wetlands and environmental constraints, property ownership, streetscape features such as sidewalks and parking strips, and other factors; the net densities shown below are based on the average density of numerous built and planned projects.

Table 10. Housing Types

Housing Type	Lot Size			Net
	Low	Average	High	Density
Large Lot Single Family	6,000	**7,500**	8,500	6.0
Medium Lot Single Family	4,000	**5,000**	6,000	7.5
Small Lot Single Family	2,500	**3,500**	4,000	11.0
Attached Single Family: Townhomes and Duplexes	1,000	**2,250**	2,500	16.0
Multifamily: Apts, Condos, and Senior Housing	NA	**NA**	NA	25.0

Large Lot Single-Family

Medium Lot Single-Family

Small Lot Single-Family

Single-Family Attached

Multifamily

Recent Housing Development

Table 11 shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; and due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large and medium lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20 percent of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums, and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin's multifamily housing is clustered further north near the Tualatin Town Center, Tualatin-Sherwood Road, and Bridgeport Village. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport, completed in 2013, is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20 percent of total housing in many communities during the past five decades.

Wilsonville's housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large and medium lot single-family housing. Again, this is likely to due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four S groups in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66 percent) is partially due to the large number of new 20 and 30-something households recently formed, which will slow in coming years. Villebois' housing mix is similar to that in Wilsonville overall; however, during the time period surveyed (2000 to 2012) a larger percentage of small lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois' developers and NAR surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and homes sizes, especially when the surrounding neighborhood is attractive and walkable.

Table 11. Residential Development in Tualatin and Wilsonville by Housing Type

Housing Type	Tualatin Recent Permits	Wilsonville Recent Permits	Villebois Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
Total	100%	100%	100%

Sources: HUD; City of Wilsonville, New Home Trends, Leland Consulting Group. Due to data availability, Table 11 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

Basalt Creek Housing Scenarios

Table 12 shows the residential development scenarios developed by Leland Consulting Group for Basalt Creek. Rather than a single recommendation, these scenarios represent a continuum of options for the area. Typically, there is no single residential land use program that is "correct" in the marketplace, especially because of the significant growth in all households projected to occur in the market area. Rather, public policy, community aspirations, the vision of developers and land owners, and the type of multidisciplinary planning now taking place in this Concept Plan can help to shape the type of community expected, and the proper housing markets to pursue. An average net density (across all housing products) for each scenario is shown below. The density of each product type is shown in Table 10 on page 29.

Scenario 1 can be thought of as reflecting the "status quo"—a housing mix similar to what has been built in Tualatin between 2004 and 2014. This is used as a status quo benchmark since Tualatin's residential neighborhoods are in closest proximity to Basalt Creek. Eighty percent of the homes in this scenario are either large lot or medium lot single-family homes. While these homes are likely to appeal to families with children and many smaller households, this scenario may have an undersupply of small lot and attached single-family homes which will appeal to the growth in 65+ households and one and two-person households. There is less housing diversity in this scenario than other scenarios, and the predominance of large lot homes is likely to make it more challenging to create the type of walkable neighborhoods that 60 percent of those polled by the National Association of Realtors prefer.

Scenario 2 largely relies on the housing preferences expressed in the 2013 Realtors Survey. The one exception is that the 20 percent multifamily share was maintained from Scenario 1 to reflect historical multifamily construction patterns in Tualatin and Wilsonville. This scenario reflects the demand for small lot single-family, attached single-family, and multifamily expressed in the survey, and also greater share of these products in Wilsonville. Nonetheless, 75 percent of the housing remains single-family detached housing. The average density is just under 10 dwelling units per net buildable acre. This scenario contains a broader diversity of housing products and will be more suitable for a walkable community than Scenario 1.

Table 12. Residential Development Scenarios

	Scenario 1	Scenario 2	Scenario 3
Percent of Units by Type			
Large Lot Single Family	44%	10%	5%
Medium Lot Single Family	36%	41%	23%
Small Lot Single Family	0%	24%	43%
Attached Single Family	0%	5%	9%
Multifamily	20%	20%	20%
Total	100%	100%	100%
Net Density	7.7	9.6	10.9

Source: Leland Consulting Group.

Scenario 3 is similar to Scenario 2 but attempts to make several adjustments for changing housing demand. First, more demand is shifted to towards small lot single-family homes in response to stated preferences for such homes when they are located in a neighborhood where businesses and other amenities are located in close walking distance. Second, slightly higher demand for attached housing (duplexes, clustered cottage homes, and townhouses) is assumed because of the significant increase in 65+ aged households, and because of preferences for smaller homes in walkable communities. The multifamily share remains the same. Seventy percent of all housing remains single-family detached housing.

Retail Market Analysis

Retail, commercial services, and commercial office space (e.g., medical and dental offices) may be feasible in Basalt Creek. However, the market for these goods and services cannot be determined without first establishing one or more land use alternatives for employment, housing, and other uses in Basalt Creek. Nearby residents and employees generate the main demand for retail and since the amount and location of these are unknown at this time, the amount and location of retail cannot be determined.

Despite these significant unknowns, the following observations can be made about retail in Basalt Creek.

Market

In addition to new residents and employees that may locate in Basalt Creek, the residents of the Tualatin neighborhoods located immediately to the north are an important source of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000 households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through Basalt Creek to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on passby traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 today according to ESRI Business Analyst, which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest metro area and beyond. The 124th Avenue Extension, now being built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

These demand factors should be taken into account along with housing and employment projections for the study area in order to estimate the total amount of supportable retail.

Types of Retail Centers

Retail in Basalt Creek is likely to be built in the formats shown in Table 13: corner store, convenience centers, and/or neighborhood centers. These types of retail generally serve residents and employees within a one-half mile to three-mile radius, and are usually located on arterial roads such as Boones Ferry and Grahams Ferry Roads.

Neighborhood centers are typically anchored by a grocery store and usually include five to 15 smaller in-line tenants which may include pharmacy, food/restaurant, bakery, beauty, technology, financial services, and other tenants. Convenience centers and corner stores are smaller retail nodes that serve their immediate surroundings; they may be anchored by a convenience store (e.g., 7 Eleven) or simply include four to 10 tenants similar to those listed above.

Larger retail formats, such as community centers, regional shopping malls, and lifestyle centers, typically require immediate access to and visibility from a major freeway interchange or other major transportation infrastructure (e.g., high-capacity transit in downtown Portland); a large existing population base; and minimal immediate competition. There is already a series of established major retail clusters located around the freeway interchanges to the north and south. These clusters serve subregional and/or regional shoppers who sometimes travel a half hour or more to shop there. Each has very good access to and visibility from I-5. It is highly unlikely that retail at Basalt Creek could effectively compete against these centers for a share of the regional retail market, because the competition is well established and its freeway access is generally superior.

Table 13. Types of Retail Centers

Retail Center Type	Gross Retail Area	Dwellings Necessary To Support	Average Trade Area	Anchor Tenants
Corner Store	1,500 - 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 - 30,000	2,000	1 mile radius	Specialty food or pharmacy
Neighborhood Center	60,000 - 90,000	6 - 8,000	2 mile radius	Supermarket and pharmacy
Community Center	100,000 - 400,000	20,000+	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group.

Timing

“Retail follows rooftops.” In other words, in most cases, residential (and employment) development come first, and then retail follows, simply because retail needs local shoppers in order to survive. Any retail space in Basalt Creek is likely to be built following significant residential and employment development. Details will depend on the concept plan prepared for the study area.

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MEMORANDUM

DATE: June 17, 2016

TO: Basalt Creek Concept Plan Project Team

FROM: Ray Delahanty, AICP

SUBJECT: Basalt Creek Concept Plan Transportation Analysis and Solutions P#14044-000-005

This memorandum presents the forecast approach, future transportation analysis, and recommended solutions for the Basalt Creek Concept Plan.

FORECASTING

This section documents the assumptions and methodology used for developing traffic forecasts for the Basalt Creek Concept Plan. The process outlined below was used to forecast traffic volumes for the operational analysis of the land use and transportation network alternatives. Key assumptions of the methodology, including regional land use, hour of analysis, and baseline infrastructure, are outlined in the sections that follow. The key assumptions are:

- Use current Gamma model regional land use (household and employment) assumptions
- Use PM peak hour without the "peak-spreading" for the analysis hour
- Assume all Basalt Creek area projects from the Basalt Creek Transportation Refinement Plan (BCTRP) except for the East-West I-5 Overcrossing

Regional Land Use

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations.

Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. While the Basalt Creek Transportation Refinement Plan (BCTRP) used Metro's 2008 RTP (Regional Transportation Plan) model for forecasting, the Concept Plan analysis uses the Gamma model land use, which was also used for the recently adopted 2014 Regional Transportation Plan (RTP).

Analysis Hour

Metro's PM peak hour model relies on an underlying demand matrix (trip table) that determines the origins and destinations for all trips within the model. The Gamma model allows for two different potential PM peak hour demand matrices:

- A standard (non-peak-spread) matrix, which reflects the full PM peak hour demand.

- A "Peak-Spread" matrix, which assumes that some potential peak hour trips will move to other hours (e.g., traveling in the 4-5 PM hour rather than the 5-6 PM hour), meaning there is less demand on the system overall.

For this project, the standard (non-peak-spread) matrix was used for forecasting. This approach is also consistent with the Washington County 2035 TSP.

Transportation Projects

Forecasting results depend partly on the projects that are assumed for the Basalt Creek area, as well those assumed for adjacent areas. Since this is a 2035 forecast, Washington County's latest 2035 Gamma model was used. This model's transportation network includes projects considered likely to be in place by 2035.

For the Basalt Creek area, we reviewed both the BCTRP and the newly released project list for the Metro 2014 RTP, which lists projects reasonably likely to be funded by 2040. Table 1, below, shows potential capacity-related projects from the RTP list and indicates which projects we are assuming to be in place by 2035.

Table 1: 2014 RTP Projects Assumed for 2035 Forecasting

Project Number	Project and Description	RTP Time Period	In Place by 2035?
10736	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10853	Kinsman Rd. Extension (Ridder Rd. to Day St.) – new three-lane roadway extension	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124th Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95th Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	**No**

Source: http://www.oregonmetro.gov/regional-transportation-plan

Two projects, the Day Road Overcrossing and the East-West Overcrossing, are anticipated to be in place in the 2033-2040 time frame. For our 2035 forecasting effort, all projects in Table 1 are assumed to be in place by 2035 **except for the East-West Arterial Overcrossing**. This project was assumed to be the last one needed for the BCTRP (after the Day Road Overcrossing), and a portion of the project is outside the Urban Growth Boundary.

Therefore we assume the project is not considered likely to be part of the network by 2035, and is not included in the 2035 network assumptions.

Additional Note on Kinsman Road Extension

Subsequent to much of the Concept Plan's baseline forecasting, the City of Wilsonville removed project 10853, the Kinsman Road Extension between Ridder Road and Day Road, from its Transportation System Plan (TSP)'s list of likely funded projects. The City will instead develop Garden Acres Road between Ridder Road and Day Road as a north-south collector roadway in the area. These changes are reflected in the forecasting for the recommended network.

FINDINGS

This section presents results of motor vehicle operations analysis for the Concept Plan's preferred land use alternative and associated trip generation characteristics. Two roadway network options were analyzed and compared to a previous network alternative.

Roadway Network

The planned roadway network includes the facilities shown in Table 1, except for the East-West Arterial Overcrossing and the Kinsman Road Extension. Previous Concept Plan network alternatives included a new collector roadway aligned to the north of the Kinsman Road Extension. This collector roadway connected from SW Day Road to SW Tonquin Loop Road, parallel to SW Grahams Ferry Road. This roadway was referred to as North Kinsman Extension, and was intended to create a full collector connection from SW Ridder Road to SW Tonquin Loop Road. Subsequently, SW Kinsman Road between SW Ridder Road and SW Day Road was dropped from the Wilsonville TSP's list of likely funded projects, making the North Kinsman Extension a less useful collector-level connection.

The roadway network also includes local streets needed to provide access and circulation to existing development and developable parcels. The planned network is shown in the figures on the following page. Two options were analyzed to address the North Kinsman extension and compare to the previous analysis, which assumed SW Kinsman Road as a collector from SW Ridder Road to SW Tonquin Loop Road (see Figure 1):

- **North Kinsman as Local Connection.** This option retains North Kinsman as a facility connecting SW Tonquin Loop Road to SW Day Road, but classifies it as a local street. This means the SW Kinsman Road/SW Day Road intersection is stop-controlled, and not signalized as it was under the BCTRP. This option is shown in Figure 2.
- **North Kinsman without Grade-Separated Crossing of Basalt Creek Parkway.** This option retains parts of the North Kinsman facility in order to provide access and circulation, but does not provide a complete north-south connection with grade separation across the Basalt Creek Parkway. This option is shown in Figure 3.

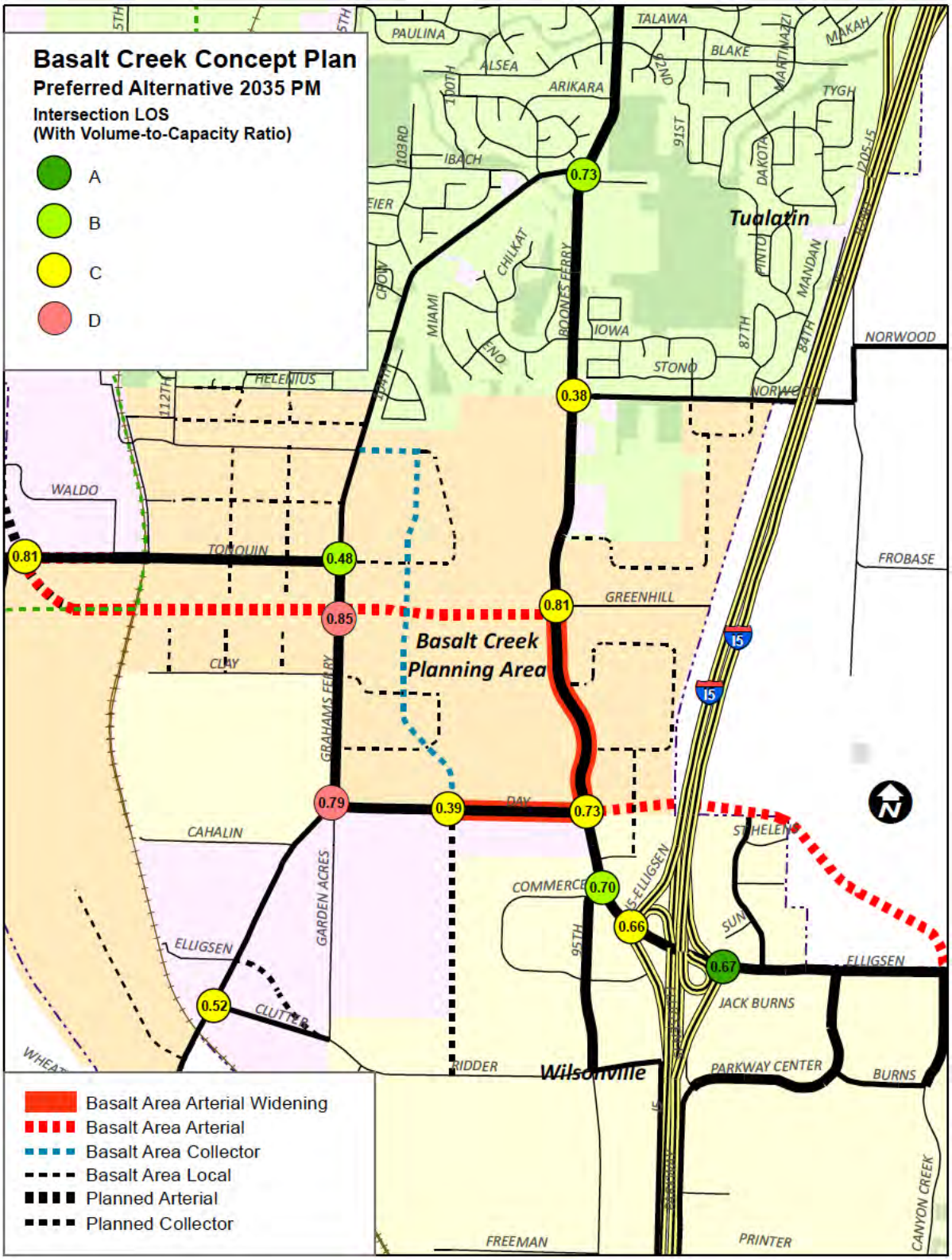


Figure 1: Concept Plan Network with Full Kinsman Road Extension

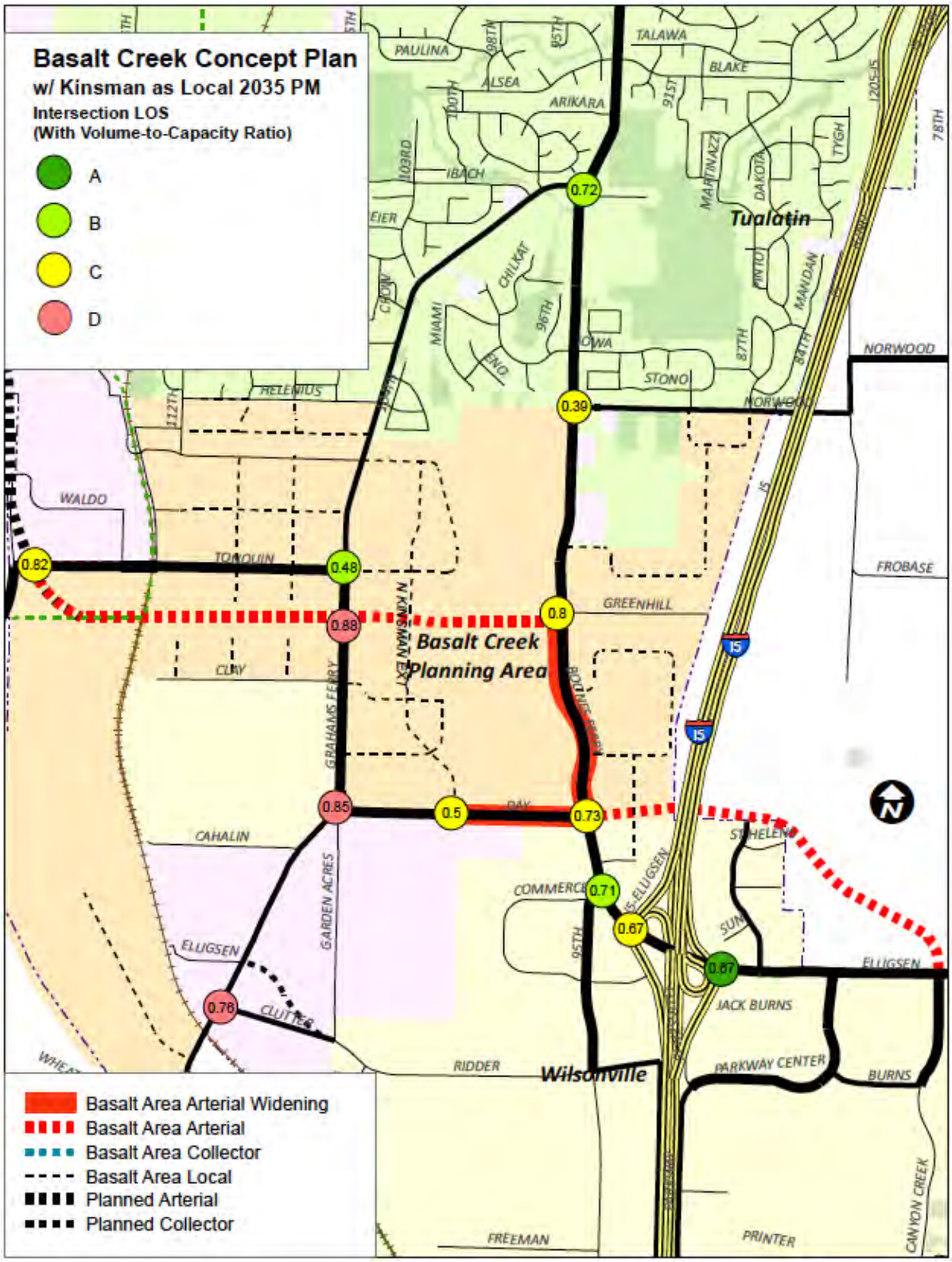


Figure 2: Concept Plan Network with Kinsman Road as Local Connection

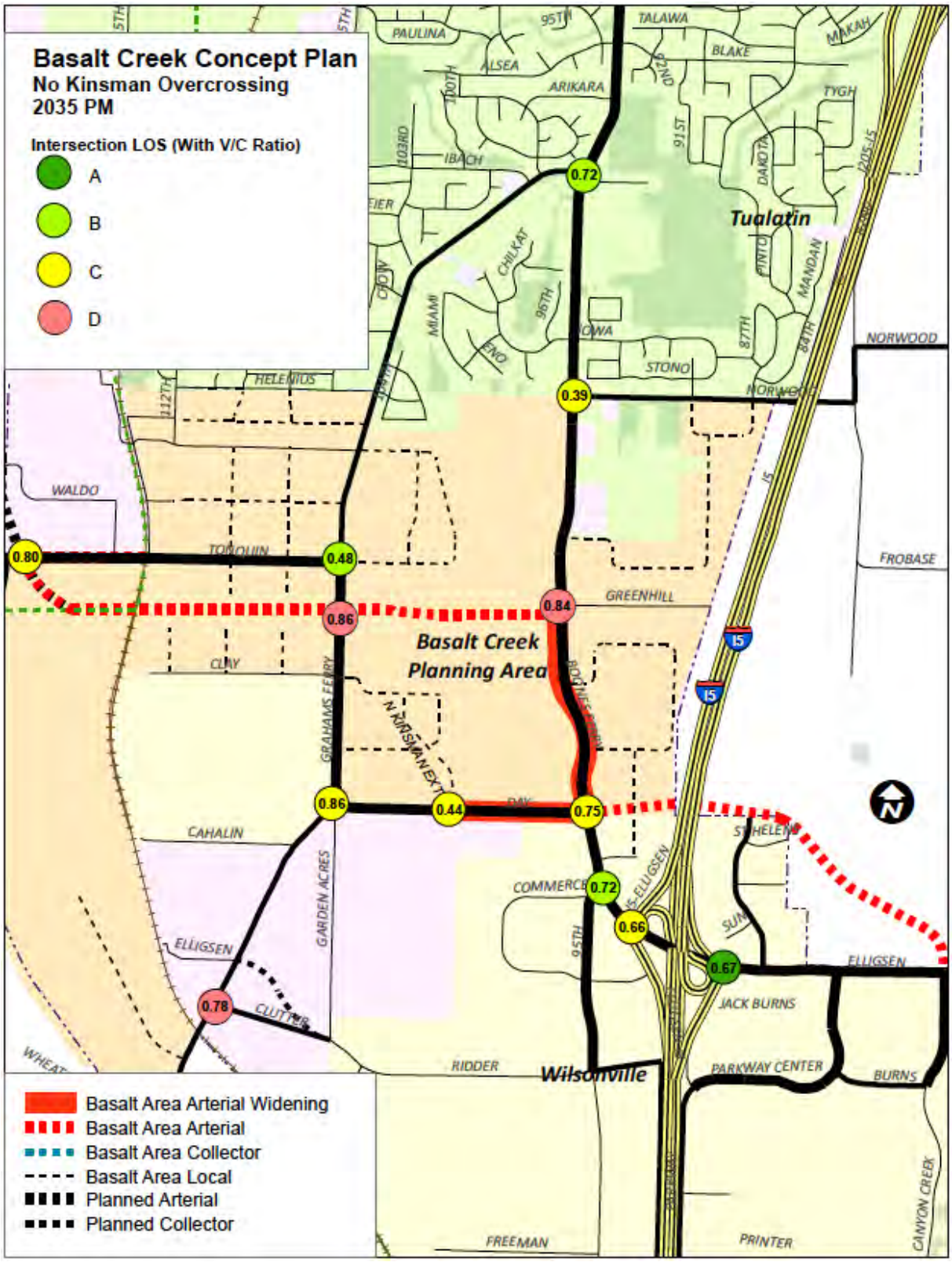


Figure 3: Concept Plan Network Without Kinsman Road Overcrossing

Motor Vehicle Operations

Intersection turning movement volumes for the two network options were developed for the 2035 PM peak hour based on the approach described in the Forecasting section above. Results, with a comparison to the previous alternative with a full Kinsman collector are shown in Table 2 below.

Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour)

Intersection	Jurisdiction	Mobility Target	Full Kinsman Collector (Tonquin Loop to Ridder)		Kinsman as Local		No Kinsman Crossing	
			PM LOS	PM V/C	PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd	ODOT	0.85	A	0.67	A	0.67	A	0.67
I-5 SB/Elligsen Rd	ODOT	0.85	C	0.66	C	0.67	C	0.66
Boones Ferry Rd/95th Ave	Washington County	0.99	B	0.70	B	0.71	B	0.72
Boones Ferry Rd/Day Rd	Washington County	0.99	C	0.73	C	0.73	C	0.75
Boones Ferry Rd/Basalt Creek Parkway	Washington County	0.99	C	0.81	C	0.80	D	0.84
Boones Ferry Rd/Ibach St	Washington County	0.99	B	0.73	B	0.72	B	0.72
Boones Ferry Rd/Norwood Rd	Washington County	0.99	A/C	0.38	A/C	0.39	A/C	0.39
Grahams Ferry Rd/Clutter Rd	Washington County	0.99	A/C	0.52	A/D	0.76	A/D	0.78
Grahams Ferry Rd/Day Rd	Wilsonville	D	D	0.79	D	0.85	C	0.86
Grahams Ferry Rd/Basalt Creek Parkway	Washington County	0.99	D	0.85	D	0.88	D	0.86
Grahams Ferry Rd/Tonquin Rd	Washington County	0.99	B	0.48	B	0.48	B	0.48
124th Ave/Tonquin Rd	Washington County	0.99	C	0.81	C	0.82	C	0.80
Kinsman Rd/Day Rd	Wilsonville	D	C	0.39	A/C	0.50	A/C	0.44

Worst mainline LOS/worst side street LOS reported for unsignalized intersections

As shown in the above table, all intersections meet future mobility standards under both Kinsman options as well as the full Kinsman Collector alternative. The removal of Kinsman Road between SW Ridder Road and SW Day Road has the most impact at SW Grahams Ferry Road/SW Clutter Road and SW Grahams Ferry Road/SW Day Road. These two intersections experience increased traffic volumes as drivers that might have used the Kinsman Extension use SW Grahams Ferry Road south of SW Day Road instead.

Differences between the two North Kinsman Road options are minor, as the North Kinsman extension primarily serves as access to properties between Grahams Ferry Road and the Basalt Creek, and serves very little through traffic when the overcrossing is in place. The largest difference in operations is at SW Boones Ferry Road/Basalt Creek Parkway, where the option with no North Kinsman overcrossing experiences slightly higher volumes. Without the overcrossing in place, more vehicles are expected to travel north on SW Boones Ferry Road and then west on the Basalt Creek Parkway rather than accessing the Basalt Creek Parkway via SW Day Road and SW Grahams Ferry Road.

Active Transportation

While all network options analyzed above perform acceptably in terms of intersection capacity, connections for modes other than the motor vehicle are an important consideration. If a North Kinsman overcrossing of the Basalt Creek Parkway is not built, a connection for people biking and walking in the area east of SW Grahams Ferry Road should still be provided. A multi-use path along the west edge of the Basalt Creek, passing underneath the Basalt Creek Parkway, would provide this needed connection.

TECHNICAL MEMORANDUM

Basalt Creek Utility Infrastructure Concept Plan

PREPARED FOR:	Fregonese Associates
PREPARED BY:	Kelli Walters/CH2M
DATE:	May 27, 2016
PROJECT NUMBER:	491811
REVISION NO.:	Revision 2: January 11, 2017
APPROVED BY:	Mark Anderson/CH2M

Introduction

The conceptual sanitary sewer, water, and stormwater systems were updated based on the selected jurisdictional boundary that follows the proposed East-West connector (future Basalt Creek Parkway). This memorandum describes the conceptual system designs, provides conceptual cost estimates and funding strategies for the sanitary sewer and water systems, and discusses development phasing. Conceptual level sizing and design were completed for cost estimating purposes. Modeling and detailed design were not completed as part of this work and detailed pipe sizes, slopes, flows, and updated cost estimates will be completed during the design phase. Conceptual level cost estimates are preliminary for comparison of alternatives and have a +100%/-50% accuracy.

Overview of Conceptual Utility Designs

Sanitary Sewer System

The sanitary sewer conceptual design for the Basalt Creek planning area is shown in Figure 1. The Tualatin and Wilsonville service basins are based on the proposed jurisdictional boundary. This design requires five pump stations to serve the Tualatin service area (operated by Clean Water Services (CWS)) and one pump station to serve the Wilsonville service area, and the sewers generally flow to the south and west, following the slope of the existing ground. The sanitary system uses gravity as much as possible, follows existing and proposed roadways and trails, and was designed to avoid streams and natural areas.

The conceptual sewer system connects to the existing CWS/Tualatin system at SW 112th Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the planned extension of the Wilsonville system at SW Day Road and the proposed SW Kinsman Road, and at the planned extension at SW Day Road and the planned extension of SW Garden Acres Road.

The area immediately west of creek open space (east of Grahams Ferry Road), north of the jurisdictional boundary is shown as being served with a pump station to the CWS/Tualatin system, but could also be served by gravity to Wilsonville. If the gravity option is selected, it would require an intergovernmental agreement between the cities. In the area just west of Boones Ferry Road and east of Basalt Creek in both Tualatin and Wilsonville service boundaries, residents will be required to install grinder pumps to connect to the proposed gravity systems. The West Railroad Area (west of the railroad and south of SW

Tonquin Road) has a lower potential to develop due to several constraints including slope, geology, wetlands, habitat, and existing uses. The sanitary system and pump station to serve this area have been included as a separate column in the cost estimate, but would only be required if and when development occurs.

There are three areas that will require boring or very deep excavations greater than 25 feet deep, which are highlighted in yellow on Figure 1. There are a few other areas that require excavations around 20-25 feet, highlighted in orange on Figure 1.

Design Assumptions and Principles

The following design assumptions were made for the conceptual sanitary system design. Local laterals and service connections have not been included in the concept layout.

- Minimum sewer depth = 10 feet
- Maximum sewer depth = 25 feet
- Minimum pipe slope = 0.004 (for an 8 inch diameter pipe)
- Minimum sanitary pipe slopes from Clean Water Services Design and Construction Standards and City of Wilsonville Public Works Standards:

Table 1
Minimum Sanitary Pipe Slopes

Pipe Diameter (inches)	Minimum Slope
6	0.006
8	0.004
10	0.0028
12	0.0022
15	0.0015
18	0.0012

The sanitary system design followed these guiding principles for the layout:

- Use gravity as much as possible
- Follow existing or proposed roadways
- Follow property lines or tax lot boundaries when not possible to follow roads
- Follow land use boundaries (not serving Undeveloped Natural Area land use areas)
- Avoid streams and significant natural areas

Flow Calculations

Loading estimates were calculated using the land use scenario presented at the April 2016 open house. Peak flows were calculated for each connection point into the existing Tualatin and Wilsonville systems. Dry weather flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below. The industrial flow calculations assume general light industry without allocation for any heavy water use industries. Flow estimate values are consistent with recommendations in the 2009 Clean Water Services Sanitary Sewer Master Plan Update and are consistent with the flow contribution per capita and the observed peaking factors described in the 2014 Wilsonville Wastewater Collection System Master Plan.

$$Peak\ Dry\ Weather\ Flow\ (DWF) = Residential\ EDU * 2.4 \frac{people}{EDU} * 80 \frac{gal}{person * day} * 1.6\ peak\ factor$$

$$Peak\ Dry\ Weather\ Flow\ (DWF) = \frac{Comm./Ind.\ Area\ (sq.ft.)}{1000\frac{sq.ft.}{person}} * 40\frac{gal}{person * day} * 1.2\ peak\ factor$$

Wet weather flows were calculated based on the developed areas, not including the areas designated as "Open Space" land use. The wet weather flows were calculated using the following equation.

$$Wet\ Weather\ Flow\ (WWF) = Developed\ Area\ (ac.) * 2{,}500\frac{gal}{ac.* day}$$

The total peak flow was calculated by adding the wet and dry weather flows together, as follows.

$$Peak\ Sewer\ Flow = Dry\ Weather\ Flow\ (DWF) + Wet\ Weather\ Flow\ (WWF)$$

The estimated sewer flows at the connection points to the existing system are summarized in Table 2. During preliminary sizing and design of the sewer system, the application of peaking factors to the dry weather flows will be necessary to calculate peak flows for design.

Table 2.
Estimated Sewer Flows at Connections to the Existing Systems

Connection Point	Estimated Sewer Flow (gal/d)
112th and Helenius (Tualatin)	563,200
Grahams Ferry and Helenius (Tualatin)	227,300
Boones Ferry near Norwood (Tualatin)	259,600
Norwood and Vermillion (Tualatin)	109,600
Kinsman Road Extension Sewer (Wilsonville)	499,000
Garden Acres and Clutter (West RR Area, Wilsonville)	589,600

Cost Estimate and Preliminary Sizing

The cost estimate for the sewer system is provided in Table 5. Project costs include pipe costs, rock excavation, pump station capital costs, pump station operations and maintenance costs for 30 years, engineering/legal/admin fees (25%), and contingency (30%). Upgrades to the existing downstream systems are not included in the cost estimates. The cost of downstream impacts to Tualatin and CWS's existing sanitary sewer system are being included in the City's current SSMP, which will model and evaluate flow impacts from the Basalt Creek Planning Area.

Pipe installation costs were gathered from the Tualatin Sewer Master Plan (2002) and escalated. The costs are also consistent with the 2014 unit costs for new and upsized pipelines in the Wilsonville Wastewater Collection System Master Plan. The construction costs are based on pipe diameter and average depth of bury, and include the costs of manholes and service laterals. An average diameter of 8 inches was used for pipes in the Wilsonville service system and diameters of 8 inches (approximately 34,000 linear feet) and 10 inches (approximately 2,200 linear feet, located along the northwestern edge of the proposed system) were used for pipes in the Tualatin service system, based on the preliminary sizing completed at the downstream connection points. All force mains were assumed to be 6 inches in diameter. The cost estimate includes the piping shown in Figure 1, which serves each property. If properties are subdivided in the future, additional piping will be required, generally at the cost of the developer.

The rock excavation cost was calculated based on information from geotechnical investigations and the estimated depth of trench. Based on the boring summary map and geotechnical data available, the Basalt Creek planning area was divided into regions where we expect to require rock excavation for 50%,

Commented [AB1]: There should be a citization for the source of the pump station cost estimates. These should be based upon the CWS 2009 Sanitary Sewer Master Plan Pump Station Cost Curve and escalated to reflect current costs.

Commented [WK2R1]: The SSMP only provides cost estimates for new pump station projects that also include the associated forcemains. I can't determine a cost curve for just pump stations from this data. I added a description for the cost in the cost section below.

20% or 10% of the pipe installations. In order to quantify the amount of pipe that will require rock excavation, a percentage of the pipe length was assumed to require rock excavation based on the region the pipe is located in. Figure 3 (attached) outlines the regions that fall into the three categories. The regions were determined based on the depth to rock (from boring information), approximate depth of bury for pipes, and amount of data in the area. Areas with shallow depths to rock, greatly varying depths to rock, and/or that have a lack of data are assumed to have 50% of the pipe length requiring rock excavation. The area circled in the northeast is where the depths varied for different sewer layout alternatives. For this region, if the average depth of the pipe is deep (>20 feet), it was assumed that 40% of the pipe length required rock excavation and if average depth of the pipe is shallow (<20 feet), it was assumed that 20% of pipe length required rock excavation.

To estimate the linear footage of rock excavation required, the length of each pipe was multiplied by the percentage denoted by the region it is in. Unit costs for rock excavation were developed for two trench depths (15 feet and 25 feet) and the price for the depth closest to the average depth of bury for each pipe were applied to the rock excavation length for that pipe. The unit costs for rock excavation were $30/LF for a 15-foot deep trench and $90/LF for a 25-foot deep trench. The cost of rock excavation was added to the pipe unit costs.

A few segments of pipe require very deep sewers (shown in yellow on Figure 1) and will be installed by boring. The cost of boring was estimated at $500 per linear foot and includes the cost of pipe.

Table 3 provides an estimate of the length of pipe requiring a shallow (<20 feet) or deep (>20 feet) trench, as used in the rock excavation cost estimate, as well as the total length of pipe. The estimated length of excavation was calculated using a percentage of the total length of each stick of pipe (10%, 20%, or 50%) based on location, as description above.

Table 3.
Summary of Estimated Excavation Lengths

		Tualatin Service Area	Wilsonville Service Area
Shallow (<20 feet) Excavation	Estimated Length of Excavation (feet)	11,672	7,152
	Total Length of Pipe (feet)	38,190	23,430
Deep (>20 feet) Excavation	Estimated Length of Excavation (feet)	1,531	1,093
	Total Length of Pipe (feet)	4,776	2,274

The cost of the proposed pump stations is based on the projected pump station capacity. A pump station cost curve was obtained from 2004 and escalated to February 2015. For flows less than 1 MGD (million gallons per day), the average construction cost is calculated using the following equation, where x is the pump station capacity.

$$Construction\ Cost\ (\$) = 745985.1x^3 - 2724835.9\,x^2 + 2724835.9x + 109711.4$$

Existing System Improvements

Upgrades to the existing downstream systems may be required to accommodate the anticipated flows from the Basalt Creek planning area. These upgrades have not been included in the conceptual design and cost estimate. The City of Wilsonville has identified two capacity upgrade projects that will need to be completed to serve the Basalt Creek Planning Area: (1) CIP-01 Railroad Undercrossing ($480,000), and (2) CIP-04 from Railroad crossing to Boeckman Rd ($1,700,000).

NOTE TO EDITOR: CH2M is working on updating the Tualatin Master Plan to reflect the Basalt Creek concept plan and these results could be incorporated later.

Water System

The conceptual water systems are shown in Figure 2 and are divided by the jurisdictional boundary. Each system is a looped system, which requires water lines for each city located along the proposed east-west arterial road (future Basalt Creek Parkway).

The Basalt Creek planning area has the potential to be served for water supply from either Tualatin or Wilsonville. The existing service zones (levels B and C) from both communities would provide the necessary hydraulic pressure to provide service within the planning area. The Tualatin pressure zones that will be used to serve the Basalt Creek are Zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet). A majority of the service area can be served by Pressure Zone B, but a small portion will require Pressure Zone C. The reservoirs intended to service this area are the newly constructed C-2 (1-MG) Reservoir, the Norwood Reservoirs B-1 (2.2-MG) and B-2 (2.8-MG). In addition to the B level storage reservoirs, the Portland Supply Main using a control valve would also serve pressure zone B.

The Wilsonville pressure zones that will be used to serve the Basalt Creek area are Zones B (ground elevations 100 feet to 285 feet) and C (ground elevations 275 feet to 410 feet). Wilsonville has identified a need to install a booster pump station for a new pressure zone level D (ground elevations of 340 feet to 465 feet). The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the cost estimate for water for Wilsonville.

The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential for development. Service lines in this area would only need to be constructed if and when development occurs. The Coffee Creek system is shown outside of the Basalt Creek planning area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road). This portion of the system would be installed and funded by the Coffee Creek development.

Wilsonville has included the Basalt Creek Planning Area in their 2012 Water System Master Plan and has determined that the existing system has capacity to serve the area without exceeding velocity standards.

Flow Calculations

Water demand estimates were calculated using the base case land use (October/November 2014) and are shown in Table 4. Peak flows were calculated for the proposed Tualatin and Wilsonville service areas. Peak flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below. Flow estimate values are consistent with recommendations in the 2009 Clean Water Services Sanitary Sewer Master Plan Update and in the 2012 Wilsonville Water System Master Plan.

Commented [WK3]: Need map and date from Frego to add.

$$Peak\ Residential\ Flow = Residential\ EDU * 2.4 \frac{people}{EDU} * 80 \frac{gal}{person * day} * 2.2\ peak\ factor$$

$$Peak\ Commercial/Industrial\ Flow\ = \frac{Comm./Ind.\ Area\ (sq.ft.)}{1000 \frac{sq.ft.}{person}} * 40 \frac{gal}{person * day} * 2.2\ peak\ factor$$

Flow estimates for the final layout are provided below.

Table 4.
Estimated Water Demand

	Tualatin	Wilsonville	Both
Peak Daily Demand (gal/d)	364,111	57,261	421,372
Average Annual Demand (gal/d)	165,505	26,028	191,533

Table 4.
Estimated Water Demand

	Tualatin	Wilsonville	Both

Cost Estimate and Preliminary Sizing

The cost estimate for water is based on construction costs for installing pipes. Construction costs for water pipe construction were gathered from the Tualatin Water Master Plan (January 2013) and escalated. The pipe installation costs are based on pipe diameter, and do not include rock excavation or excessive dewatering. For water, a pipe diameter of 12 inches was used for water lines along SW Grahams Ferry Road, SW Boones Ferry Road, and the proposed East-West connector. An average diameter of 8 inches was used for the remaining pipes. Preliminary pipe sizing was completed for cost estimating purposes, but further analysis is needed to confirm fire flow requirements in industrial areas. Water pipes are shallower than sanitary sewer pipes, so rock excavation costs were estimated at 3% of the pipe installation cost. The conceptual cost estimate for the water system is provided in Table 6.

Stormwater System

The conceptual stormwater system design includes the layout for stormwater pipes in the public right-of-way and does not include private stormwater system designs. Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or discharge permits. At locations where the City of Tualatin's pipe system connects to the City of Wilsonville's pipe system, the upstream stormwater discharged into Wilsonville's system shall meet or exceed Wilsonville's stormwater management requirements.

Cost Estimate

Public stormwater costs are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are paid for by the developer, and developer costs for the stormwater systems have not been estimated.

Funding Strategies

The utility improvements will be funded by a combination of public and private entities. The cities of Tualatin and Wilsonville, with support from district entities, such as Clean Water Services and Metro, will fund public utility improvements. Private developers/land owners will generally pay for utilities on private properties, as well as certain projects in the public right-of-way that are required for development to occur. The City of Tualatin and the City of Wilsonville will be responsible for the publicly-funded water and storm system improvements in their respective jurisdictions. For the sanitary sewer system, the City of Wilsonville will fund all public improvements in their jurisdiction, and the City of Tualatin will fund public gravity pipelines, while pump stations and forcemains are paid for by the service provider, Clean Water Services. There are opportunities for shared funding and partnering agreements for specific projects.

Cost estimates were developed for the conceptual sanitary sewer and water systems. The cost estimates summarize the anticipated costs for the cities, Clean Water Services, and private developers. For both systems, the cost for pipes that are 8 inches in diameter and smaller are paid for by the developer, except for sanitary forcemains. Pipes that are greater than 8 inches in diameter have a cost share between the city and the developer, where the developer pays for the equivalent of installing 8-inch pipes and the city pays for the difference between the cost for the design pipe size and the cost for an 8-inch pipe. For the sanitary sewer system in the CWS/Tualatin jurisdiction, pump station and force main

costs are paid for by the service provider, Clean Water Services (CWS), and pump station capital costs are SDC creditable (pump station operations and maintenance costs are not SDC creditable). For the sanitary sewer system in Wilsonville, pump station and forcemain costs are typically paid for by the city. If a project is required for development to occur, or depending on the service area, the developer may be required to pay for the utility costs. For this cost estimate, it was assumed that half of the pump station capital costs would be paid for by the developer and half would be paid for by the City. City, service provider, and developer costs for the sanitary system are summarized in Table 5 and city and developer costs for the drinking water systems are summarized in Table 6. The West Railroad Area has a lower potential to develop and the costs for this area have been included as a separate column since they would only be required if and when development occurs.

Commented [AB4]: Pump station #5 appears to be a "neighborhood pump station and may be solely the developer's responsibility as opposed to the four other CWS pump stations that serve larger areas, multiple properties, and likely qualify as regional pump stations.

Commented [WK5R4]: Should I move this to developer cost? I'm not clear on the direction. How small does the service basin need to be to be considered a "neighborhood pump station"?

Table 5.
Cost Estimate Summary for Conceptual Sewer System

	Tualatin/CWS Service Area			Wilsonville Service Area		Wilsonville SW RR Area	
Item	***Tualatin***	***CWS***	***Developer***	***Wilsonville***	***Developer***	***Wilsonville***	***Developer***
Pipe Costs (8")			$8,033,000		$3,443,000		$1,818,000
(pipe length, feet)			(36,415 ft)		(18,440 ft)		(6,830 ft)
Pipe Costs (Upsize 8" to 10")	$34,000						
(pipe length, feet)	(2,165 ft)						
Force Mains (6")		$1,523,000				$55,000	
(pipe length, feet)		(6,555 ft)				(435 ft)	
Rock Excavation		$66,000	$422,000		$161,000	$6,000	$145,000
(pipe length, feet)		(1,540 ft)	(11,665 ft)		(4,615 ft)	(215 ft)	(3,415 ft)
Pump Station Capital Cost		$2,638,000				$339,000	$339,000
Total Construction Costs	**$34,000**	**$4,227,000**	**$8,455,000**	**$0**	**$3,605,000**	**$401,000**	**$2,303,000**
Pump Station O&M Cost (30 years)*		$5,599,000				$1,120,000	
Subtotal	**$34,000**	**$9,826,000**	**$8,455,000**	**$0**	**$3,605,000**	**$1,521,000**	**$2,303,000**
Engineering/ Admin/Legal (25%)	$9,000	$2,457,000	$2,114,000	$0	$901,000	$380,000	$576,000
Contingency (30%)	$10,000	$2,948,000	$2,536,000	$0	$1,081,000	$456,000	$691,000
TOTAL	**$53,000**	**$15,231,000**	**$13,105,000**	**$0**	**$5,588,000**	**$2,357,000**	**$3,569,000**

*Pump Station O&M costs are not SDC creditable

Table 6.
Cost Estimate Summary for Conceptual Water System

	Tualatin Service Area		Wilsonville Service Area		Wilsonville SW RR Area	
Item	***Tualatin***	***Developer***	***Wilsonville***	***Developer***	***Wilsonville***	***Developer***
Pipe Cost (8")		$5,028,000		$2,666,000		$521,000
(pipe length, feet)		(45,215 ft)		(23,975 ft)		(4,685 ft)
Pipe Cost (Upside 8" to 12")	$871,000		$421,000			

Table 6.
Cost Estimate Summary for Conceptual Water System

Item	Tualatin Service Area		Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	***Developer***	***Wilsonville***	***Developer***	***Wilsonville***	***Developer***
(pipe length, feet)	(16,230 ft)		(7,835 ft)			
Rock Excavation (3%)		$151,000		$80,000		$16,000
Total Construction Cost	**$871,000**	**$5,179,000**	**$421,000**	**$2,746,000**	**$0**	**$537,000**
Engineering/Admin/Legal (25%)	$218,000	$1,295,000	$105,000	$687,000	$0	$134,000
Contingency (30%)	$261,000	$1,554,000	$126,000	$824,000	$0	$161,000
Total Project Cost	**$1,351,000**	**$8,028,000**	**$652,000**	**$4,257,000**	**$0**	**$832,000**
Wilsonville Booster PS			$609,000			
TOTAL	**$1,351,000**	**$8,028,000**	**$1,261,000**	**$4,257,000**	**$0**	**$832,000**

Development Phasing

Utility improvements will be made as properties are annexed into each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the planning area that are adjacent to the existing cities and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements. Some enabling projects may be required to be constructed prior to development to connect properties to existing systems. For example, the sanitary sewer pump station in the northeast corner of the planning area may be required in order for development to occur in that sewer basin.

Basalt Creek Transportation Refinement Plan Recommendations

Introduction

The Basalt Creek transportation planning effort analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs.[1] This document reflects the Policy Advisory Group's unanimous approval of the transportation investments, next steps for policy and plan updates, and potential funding strategies described in this document.

The Basalt Creek Transportation Refinement Plan was a joint effort involving:

- Washington County
- City of Tualatin
- City of Wilsonville
- Metro
- The Oregon Department of Transportation
- Area Citizens

Purpose

The purpose of this refinement plan was to determine the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, which is currently an unincorporated urban area of Washington County between the cities of Tualatin to the north, and Wilsonville to the south (see Figure 1). This plan refines recommendations from the I-5/99W Connector Study and the Regional Transportation Plan, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area.

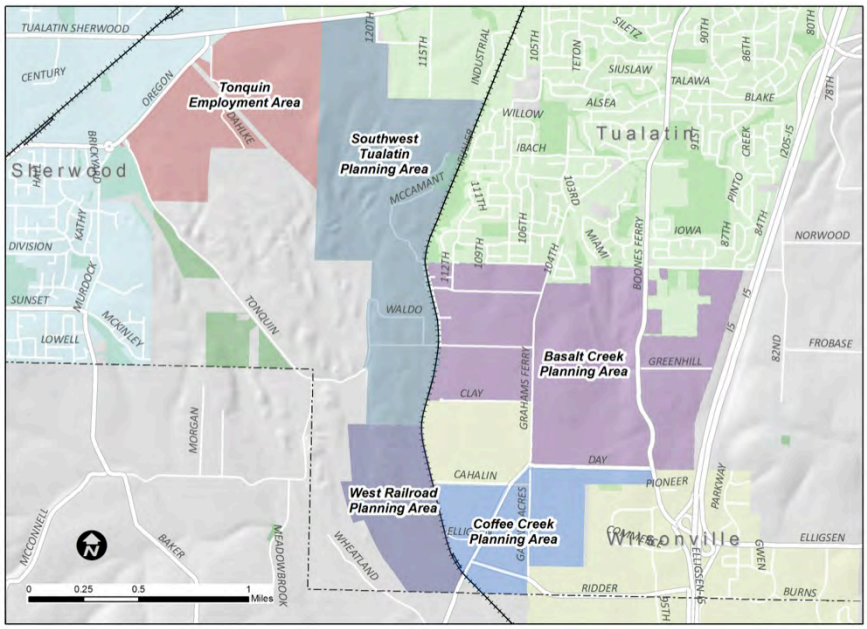


Figure 1: Basalt Creek Planning Area Location

Planning Context

The need to plan for the future transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. Basalt Creek currently lacks the multi-modal transportation facilities needed to support economic and urban-level development. Several planning

[1] See *Basalt Creek Transportation Refinement Plan Technical Report* for more information.

efforts, summarized below, provide background and context for the Basalt Creek Transportation Refinement Plan.

- The **I-5/99W Connector Study** recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek Planning Area, south of Tonquin Road. The present planning effort aims to further define the location of the connection between the SW 124th Avenue Extension and the I-5/Elligsen interchange in a manner that does not preclude the future Southern Arterial west of SW 124th.
- The **2035 Regional Transportation Plan** (RTP) calls for detailed project planning and near-term construction of an extension of SW 124th Avenue from Tualatin-Sherwood Road to the I-5/Elligsen Road interchange, supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas. The RTP also calls for the near-term construction of the Tonquin Trail (see below).
- The **Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area** together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.
- The **SW 124th Avenue Extension** Project, currently underway, is planning and designing the corridor described in the RTP from Tualatin-Sherwood Road to Tonquin Road. The present planning effort aims to extend the corridor to I-5 as envisioned in the RTP and ensure consistency with current SW 124th Avenue project.
- Washington County's **Boones Ferry Road** improvement project, also currently underway, provides pedestrian and bicycle improvements and an intermittent center turn lane between Norwood Road and Day Road. It is an assumed improvement for the Basalt Creek area.
- Near-term construction of the **Tonquin Trail** is called for in the RTP. The master plan identifies an alignment for new bicycle and pedestrian connections between Sherwood, Tualatin, and Wilsonville, with connections to the larger regional trail system. The Tonquin Trail will travel through the Southwest Tualatin Concept Plan Area and the Tonquin Employment Concept Plan Area, and is an assumed improvement within the Basalt Creek Transportation Refinement Plan.
- **Transportation System Plan** updates for Washington County, Tualatin, and Wilsonville are currently underway. Washington County will incorporate recommendations from this refinement plan into the County TSP update. The cities of Tualatin and Wilsonville will not incorporate these recommendations into their current TSP updates, but will carry the recommendations into land use concept planning and future TSP updates.

Facility Considerations and Characteristics

At the outset of this effort, agencies articulated a set of considerations to guide selection of the preferred transportation system as well as preferred characteristics of the primary east-west facility through the area.

- **Guiding considerations** included: ability to fund and phase improvements, level of impacts (environmental, right-of-way, etc.), support for development, consistency with regional policy, and traffic operations performance.
- **Facility characteristics** included: for the primary arterial connection, a 45 mph prevailing speed and access spacing of one-half mile to one mile to improve capacity.

Recommendation

The Policy Advisory Group (PAG), which consists of elected officials and key staff from the project's five partner agencies, recommends the following elements as part of an overall Action Plan (illustrated in Figure 2) for the area.

Roadways

The final recommendation is for a combination of new and improved roadways through the Basalt Creek area. The key new roadway through the area is a five-lane east-west extension of SW 124th Avenue, aligned south of Tonquin Road and extending east to Boones Ferry Road. The recommendation also includes improvements to existing roadways in the area, such as Tonquin Road, Grahams Ferry Road, Boones Ferry Road, and Day Road.

Protection of right-of-way for the new east-west roadway from the 124th Avenue extension to Boones Ferry Road is a key element of this recommendation. Right-of-way protection and purchase will be addressed separately, concurrent with the Basalt Creek land use concept planning.

During the planning process, the City of Wilsonville expressed concern about the structural condition of Day Road (i.e., failing roadway base and resulting pavement deterioration) and its ability to carry freight traffic for further development of industrial lands. While the Basalt Creek Transportation Refinement Plan focused on roadway needs related to capacity, the PAG agreed that the function of the arterial network in the Basalt Creek area includes providing roadways with adequate structural design for regional freight needs. Therefore, the PAG agreed that the project recommendations include a commitment to address the construction, operations, and maintenance of the arterial network through the concept planning process.

Overcrossings

The ability to construct two new I-5 overcrossings, including an off-street multi-use path, should be preserved in order to provide for future circulation and connectivity across the Basalt Creek area and into areas east of I-5. These overcrossings are recommended as long-term improvements and are likely not needed until 2035 or later. Forecasts show that the second overcrossing is not needed unless surrounding urban reserve areas east of I-5 and south of I-205 are developed. This refinement plan is neutral on the timing of urban reserves development, and therefore does not specify the timing and order of overcrossing improvements.

Active Transportation

All improved roadways in the Action Plan include bike lanes and sidewalks consistent with Washington County urban standards. This recommendation also includes integration of the regional Tonquin Trail into the transportation network. Metro, in close coordination the cities of Tualatin, Wilsonville, Sherwood, and Washington and Clackamas counties, led the master planning effort that identified a preferred alignment that travels through the Basalt Creek Planning Area. Roadway cross-sections and right-of-way purchases for the future east-west facility will consider needs for the Tonquin Trail in the design for the railroad overcrossing and improvements to Tonquin Road between Morgan Road and Tonquin Loop Road. Design for the east-west facility should also consider providing an of-street multi-use path that connects to the Tonquin Trail and extends east of I-5. Details of how this multi-use path will be integrated with the east-west facility design will be refined during later land use concept planning.

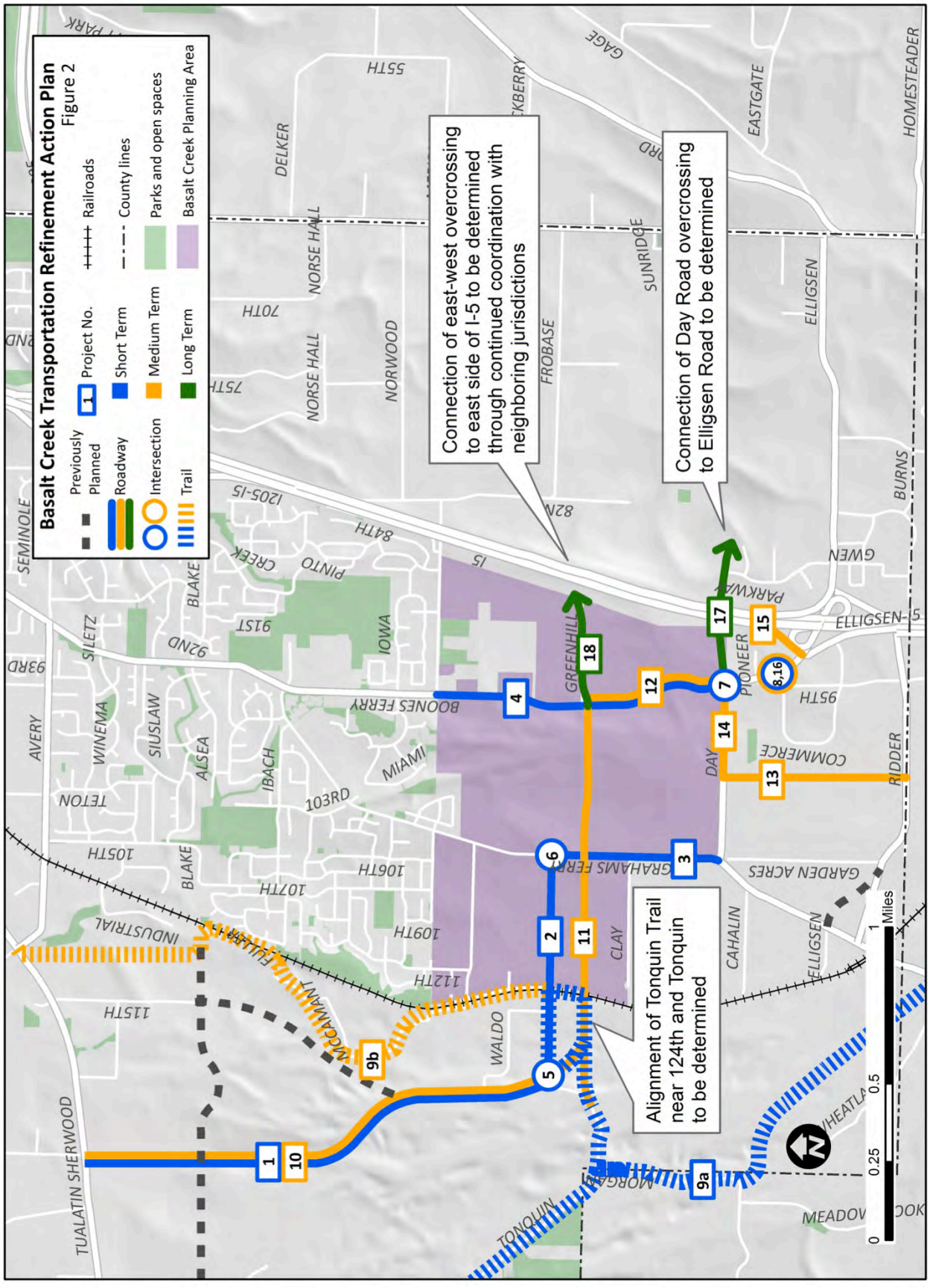
Action Plan

The recommended Action Plan consists of 18 transportation investments, shown in Figure 2. Timing of projects was prioritized through an analysis of likely transportation needs in 2020, 2030, and 2035 based on growth assumptions from the adopted Regional Transportation Plan. Because of uncertainty regarding the years during which development in the Basalt Creek Planning Area and surrounding areas will occur, phasing for investments is classified as short-term, medium-term, and long-term. Descriptions of these investments, as well as timing and the funding needed, are shown in Table 1. Cost estimates include right-of-way.

Table 1: Basalt Creek Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost ($2012)
1	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			$20,000,000
2	Tonquin Road (124th Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road[1]	x			$10,500,000
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			$5,400,000
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			$10,800,000
5	124th Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			-[2]
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			$500,000
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			-[3]
8	Boones Ferry Road/95th Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			$2,500,000
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			$8,900,000[4]
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		$7,100,000[4]
10	124th Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		$14,000,000
11	East-West Arterial (124th Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail[5]		x		$57,900,000
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		$1,100,000
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		$10,400,000
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		$5,800,000
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		$500,000
16	Boones Ferry Road/95th Avenue Intersection: Access management		x		-[6]
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	$33,700,000-$44,100,000[7]
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	$38,000,000
	TOTAL	$59M	$97M	$72-82M	$228-238M

[1] Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around $2,000,000
[2] Cost included in Project 1
[3] Coordinate with Project 4. Cost of approach lane included in estimate for Project 12
[4] Tonquin Trail cost estimated by Metro as part of trail planning effort
[5] Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed
[6] Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal
[7] Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at $33,700,000, and alignment to Canyon Creek Road is estimated at $44,100,000


Basalt Creek Transportation Refinement Action Plan
Figure 2
Previously Planned
Roadway
Intersection
Trail
Project No.
Short Term
Medium Term
Long Term
Railroads
County lines
Parks and open spaces
Basalt Creek Planning Area
Connection of east-west overcrossing to east side of I-5 to be determined through continued coordination with neighboring jurisdictions
Connection of Day Road overcrossing to Elligsen Road to be determined
Alignment of Tonquin Trail near 124th and Tonquin to be determined
Miles
0
0.25
0.5
1
N

Each investment adds important improvements to the major transportation system in the Basalt Creek area to support future development, adding new multimodal facilities and upgrading existing facilities to urban standards. Although not shown on the map, it is expected that future concept planning will identify locations for additional, lower-classification roads and other transportation facilities to serve future development as well.

Are these new projects?

While cost estimates for the entire recommendation may total as high as $238,000,000, all of the 18 projects have some relation to investments already planned in the adopted RTP. Table 2 shows projects from the RTP that have overlap or similarity to projects contained in the Action Plan. **Note that many of these projects are different in scope from those contained in the Action Plan, and will have different cost estimates. Future RTP updates may include updated cost estimates from this study.**

Table 2: Related projects from the Regional Transportation Plan

RTP ID	RTP Project	Related Action Plan Projects	Time Period	Cost ($2007)
10736	124th Avenue: Construct new street from Tualatin-Sherwood Road to Tonquin Road: 5 lanes	1,5,10,11	2008-2017	$82,500,000
10590	Tonquin Road: Realign and widen to three lanes with bike lanes and sidewalks (Oregon Street to Grahams Ferry Road)	2,6	2018-2025	$28,406,000
10588	Grahams Ferry Road: Widen to three lanes, add bike/pedestrian connections to regional trail system and fix undersized railroad crossing (Helenius Street to Clackamas County line)	3	2008-2017	$28,000,000
10732	Boones Ferry Road: Widen to five lanes (Norwood Road to Day Road)	4,7,12	2018-2025	$40,050,000
10852	95th/Boones Ferry/Commerce Circle Intersection Improvements	8,16	2008-2017	$2,500,000
10854	Tonquin Trail: Construct multi-use trail with some on-street segments (Tualatin-Sherwood Road to Clackamas County line)	9a,9b	2008-2017	$3,000,000
10853	Kinsman Road extension with bike lanes and sidewalks (Ridder Road to Day Road)	13	2008-2017	$6,500,000
11243	Day Road reconstruction to accommodate trucks (Grahams Ferry Road to Boones Ferry Road)	14	2008-2017	$3,200,000
11342	I-5/99W Connector Southern Arterial/I-5 Interface[1]	15,17,18	2026-2035	$50,000,000

[1] Construction of projects specifically related to the I-5/99W Connector Southern Arterial, such as the I-5 interface, are contingent on certain project conditions being met. See Regional Transportation Plan for details.

Policy and Plan Updates

Recommendations in this plan allow new concept planning efforts to move forward and provide guidance for updates of existing transportation plans.

Basalt Creek and West Railroad Area Concept Planning

The transportation system recommended in this plan becomes the framework for more detailed land use concept planning of the Basalt Creek Planning Area and West Railroad Planning Area by the cities of Tualatin and Wilsonville. Key recommendations to be carried forward during concept planning include:

- Protection of the major transportation facility corridors from development encroachment.
- Coordination of the local transportation system with the transportation investments included in this plan (unless amended by the parties of this study). Each roadway in the Basalt Creek area has access spacing standards that protect the safety and operations of the system, and these standards help determine appropriate local street connections. The new east-west facility is limited to accesses at 124th Avenue, Grahams Ferry Road, and Boones Ferry Road.
- Detailed concept planning in the Basalt Creek area should consider multi-use path connections to the Tonquin Trail that emphasize directness and minimize conflicts, enhancing bicycle and pedestrian access to new residential and employment areas. In the West Railroad area, concept planning will also include sections of the Tonquin Trail.

Regional Transportation Plan

In many cases, this transportation refinement plan provides new detail and cost estimates for projects that are already in the adopted RTP. These refined project descriptions, cost estimates, and timing considerations should be considered when projects are forwarded to Metro for the next RTP update. Examples of RTP projects that overlap with projects in this refinement plan include:

- 10590 (Tonquin Road). Action Plan project #2 includes a grade-separated railroad crossing, which is not included in the RTP project description.
- 10852 (95th/Boones Ferry/Commerce). Action Plan projects 8 and 16 will require further coordination with ODOT to determine geometry and timing of intersection improvements.
- 11243 (Day Road). Action Plan project #14, which widens part of Day Road, should also upgrade the roadway structure and pavement conditions to accommodate increasing heavy truck volumes. Although project #14 applies only to the section of Day Road between Kinsman Road and Boones Ferry Road, funding of roadway reconstruction between Kinsman Road and Grahams Ferry Road should also be discussed as part of land use concept planning.
- 10854 (Tonquin Trail). Action Plan projects #2, #5, #11 all need to consider Tonquin Trail in their design, including most recent alignment information and cost estimates from the trail master plan.

Washington County TSP Update

Most of the projects included in the Action Plan are new facilities in unincorporated Washington County or improved facilities already under County jurisdiction. An amendment to update the Washington County TSP will be done in 2013 to incorporate the descriptions, cost estimates, and timing of these projects.

Tualatin and Wilsonville TSP Updates

The Cities of Tualatin and Wilsonville are also currently updating their transportation system plans. However, because concept planning for Basalt Creek will include agreement on the future city limit boundary between the two cities, as well as more detailed transportation network considerations, the projects included in this plan will not be incorporated as part of the current TSP updates. Future TSP updates may reflect elements from this refinement plan by amending project lists, maps, and funding strategies.

Funding

Funding for some short-term Action Plan projects has already been programmed by Washington County through their Major Streets Transportation Improvement Program (MSTIP). This includes $16.9 million ($10.9 million in MSTIP funding and $6 million from other sources) for an interim two-lane extension of SW 124th Avenue from Tualatin-Sherwood Road to Tonquin Road. It also includes an additional $10 million for right-of-way purchase or other improvements from the list identified by this Plan. Washington County has also provided $11 million in funding for the current Boones Ferry Road improvement project.

While this recommendation does not identify a specific overall funding strategy for the Action Plan, there are many existing revenue sources that may be used to fund the recommended investments. **Many are subject to a state or regionally competitive process where success can hinge on having a broadly supported plan in place.**

The revenue sources listed below form the basis of the financially constrained Regional Transportation Plan and related project list, which already contains many of the recommended Basalt Creek investments. The RTP assumes federal, state, and local sources, all of which will be key to funding the Action Plan.

Federal

Based on MAP-21[2] legislation, sources may include:

- **National Highway Performance Program (NHPP).** These funds are intended for rehabilitation and expansion of principal arterials, especially those with important freight functions.
- **Regional Surface Transportation Program (STP) funds.** These funds may be used for virtually any transportation purpose short of building local residential streets.
- **Congestion Mitigation/Air Quality (CMAQ) funds.** These funds typically support biking, walking, and transit projects, and other projects that help to achieve air quality standards.
- **Transportation Alternatives (TA) funds.** TA takes the place of previous programs such as Transportation Enhancements and Recreational Trails, and may be used to fund a variety of non-motorized projects.

[2] For more information see http://www.fhwa.dot.gov/map21/

These funds are allocated to projects through a state or regionally managed competitive process for inclusion in the Metropolitan Transportation Improvement Program (MTIP) and the State Transportation Improvement Program (STIP).

State

State sources include the statewide gas tax, vehicle registration fees, and weight-mile taxes on trucks. These funds typically go to road and bridge maintenance projects, but funding for projects of regional significance, such as those provided by Oregon House Bill 2001 Jobs and Transportation Act (JTA), may be made available for modernization. Again, having a plan in place allows projects to access funds when new funding opportunities become available.

Local

A variety of local funding sources are available, although some, such as urban renewal and local improvement districts, are subject to approval. Sources may include:

- Washington County Major Streets Transportation Improvement Program (MSTIP)
- Local portion of State Highway Trust Fund
- Local gas tax
- Transportation System Development Charges (SDCs) or Transportation Development Taxes (TDTs) levied on new development
- Urban renewal funding
- Developer contributions
- Local improvement districts (LIDs)

Basalt Creek Concept Plan: Acknowledgements

Project Management Team

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TriMet
Tom Mills, Senior Planner

Tualatin Parks and Rec

Tualatin Valley Fire and Rescue

Tualatin Valley Service District
Todd Perimow

Washington County

Wilsonville/West Linn School District

Wilsonville Parks and Rec

Joint Council

Wilsonville City Council
Mayor Tim Knapp
Council President Scott Star
Councilor Julie Fitzgerald
Councilor Susie Stevens
Councilor Charlotte Lehan

Tualatin City Council
Mayor Lou Ogden
Council President Monique Beikman
Councilor Wade Brooskby
Councilor Frank Bubenik
Councilor Joelle Davis
Councilor Nancy Grimes
Councilor Ed Truax

BASALT CREEK CONCEPT PLAN

Attachment 2: Concept Plan Findings Report

File path:
https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning/page/84121/c._bc_record_attachment.02._draft_conclusionary_findings.pdf

BASALT CREEK CONCEPT PLAN

Attachment 2: Concept Plan Findings Report

Draft CONCLUSIONARY FINDINGS
July 3, 2018

In support of Approval of Application #LP18-0005
BASALT CREEK CONCEPT PLAN

Definition of a Conceptual Land Use Plan:
The Wilsonville Comprehensive Plan does not define or provide specific direction for conceptual land use plan elements. For the purpose of this staff report, the following description is used:

A conceptual land use plan addresses the general character of proposed land uses, transportation, natural resources, public facilities, and infrastructure strategies for a study area. It uses a pictorial presentation to show the ultimate development layout of a site, which may be developed, in successive stages or subdivisions. A conceptual plan need not be completely engineered, but it should have sufficient detail to illustrate the site's inherent features and probable development pattern.

Comprehensive Plan Supporting Documents:
All of the documents listed on pages 5-6 of the Comprehensive Plan, including amendments that may subsequently be made, should be considered to be supportive of the contents of the Comprehensive Plan. However, only those documents that have been specifically adopted by the City Council as part of the Comprehensive Plan shall have the force and effect of the Plan. Adoption of the Basalt Creek Concept Plan is not a land use decision. It is supportive of the Comprehensive Plan, but is not being adopted as a sub-element. Following adoption of the Concept Plan and subsequent amendment of the Urban Planning Area Agreement with Washington County, Comprehensive Plan Amendments will be adopted.

WILSONVILLE DEVELOPMENT CODE

Section 4.032. <u>Authority of the Planning Commission</u>.

(.01) As specified in Chapter 2 of the Wilsonville Code, the Planning Commission sits as an advisory body, making recommendations to the City Council on a variety of land use issues. The Commission also serves as the City's official Committee for Citizen Involvement and shall have the authority to review and make recommendations on the following types of applications or procedures:

B. Legislative changes to, or adoption of new elements or sub-elements of, the Comprehensive Plan;

<u>Response:</u> The Basalt Creek Concept Plan is a support document of the Wilsonville Comprehensive Plan, and as such is not a land use action. However, it will guide future Comprehensive Plan and Development Code amendments. The Planning Commission will conduct a public hearing on July 11, 2018, providing the City Council with a recommendation on the Basalt Creek Concept Plan. The City Council is the final local authority on this Plan. **These criteria are satisfied.**

Section 4.033. <u>Authority of City Council</u>.

(.01) Upon appeal, the City Council shall have final authority to act on all applications filed pursuant to Chapter 4 of the Wilsonville Code, with the exception of applications for expedited land divisions, as specified in Section 4.232. Additionally, the Council shall have final authority to interpret and enforce the procedures and standards set forth in this Chapter and shall have final decision-making authority on the following:

B. Applications for amendments to, or adoption of new elements or sub-elements to, the maps or text of the Comprehensive Plan, as authorized in Section 4.198.

E. Consideration of the recommendations of the Planning Commission.

<u>Response:</u> The City Council has received a recommendation from the Planning Commission to [adopt/other] the Basalt Creek Concept Plan. The City Council is the final local authority regarding adoption of the Basalt Creek Concept Plan, which will be adopted via Resolution as a supporting document of the City's Comprehensive Plan. **These criteria are satisfied.**

(.02) When a decision or approval of the Council is required, the Planning Director shall schedule a public hearing pursuant to Section 4.013. At the public hearing the staff shall review the report of the Planning Commission or Development Review Board and provide other pertinent information, and interested persons shall be given the opportunity to present testimony and information relevant to the proposal and make final arguments why the matter shall not be approved and, if approved, the nature of the provisions to be contained in approving action.

(.03) To the extent that a finding of fact is required, the Council shall make a finding for each of the criteria applicable and in doing so may sustain or reverse a finding of the Planning Commission or Development Review Board. The Council may delete, add or modify any of the provisions pertaining to the proposal or attach certain development or use conditions beyond those warranted for compliance with standards in granting an approval if the Council determines the conditions are appropriate to fulfill the criteria for approval.

<u>Response:</u> Following the public hearing before the Planning Commission on July 11, 2018, the Planning Director scheduled an August 6, 2018, public hearing before the City Council, at which time the Council will review the findings and recommendations provided by the Planning Commission. **At conclusion of the public hearing process before the Council, these criteria will be satisfied.**

Section 4.198. Comprehensive Plan Changes - Adoption by the City Council.

(.01) Proposals to amend the Comprehensive Plan, or to adopt new elements or sub-elements of the Plan, shall be subject to the procedures and criteria contained in the Comprehensive Plan. Each such amendment shall include findings in support of the following:

A. That the proposed amendment meets a public need that has been identified;

B. That the proposed amendment meets the identified public need at least as well as any other amendment or change that could reasonably be made;

C. That the proposed amendment supports applicable Statewide Planning Goals, or a Goal exception has been found to be appropriate; and

D. That the proposed change will not result in conflicts with any portion of the Comprehensive Plan that is not being amended.

Response: Preparation of the Basalt Creek Concept Plan is a City Council Goal. The Concept Plan addresses regional requirements to responsibly plan for and ultimately serve and govern areas added to the city's Urban Growth Boundary (UGB). This package (Case File # LP18 0005) does not include any proposed amendments to the Comprehensive Plan. The Basalt Creek Planning Area was added to the city's UGB in 2004 to help meet a regional industrial lands need. Accordingly, the Concept Plan has been prepared in compliance with the requirements of Metro's Urban Growth Management Functional Plan Title 11. In addition, the vision and guiding principles in the Concept Plan follow the tenets of the Comprehensive Plan and will be the basis of future text and map proposals. **The above criteria are satisfied.**

WILSONVILLE COMPREHENSIVE PLAN

Citizen Involvement
Goal 1.1: *To encourage and provide means for interested parties to be involved in land use planning processes, on individual cases and City-wide programs and policies.*

Policy 1.1.1*: The City of Wilsonville shall provide opportunities for a wide range of public involvement in City planning programs and processes.*

Response: A Public Involvement Plan directed the citizen involvement during the Basalt Creek Concept Planning process (see Appendix B to the Basalt Creek Concept Plan). Attachments 3-10 contain a list of public outreach efforts and public meetings that were conducted as part of the planning process as well as a complete summary of public involvement activities and comments. The Cities of Wilsonville and Tualatin jointly hosted two widely-advertised public forums to present and discuss the project's findings and recommendations. At every stage of the project, documents and maps were posted to the City-hosted project web page and project updates were sent to property owners and interested parties nearly monthly during the duration of the project. The project was highlighted in the City newsletter, which is mailed to every property in the 97070 zip code and the Wilsonville Spokesman.

The City Council and Planning Commission conducted numerous work sessions (including Joint Council work sessions between the Tualatin and Wilsonville City Councils) on the guiding principles, different land uses and jurisdictional boundary scenarios, conceptual infrastructure systems, natural resources and open spaces, and recommendations contained in the Basalt Creek Concept Plan. These work sessions were televised, streamed online, and open to the public. The Council and the Commission have received public testimony in regular meetings under citizen input regarding various aspects of the draft Concept Plan. City Staff also met with numerous property owners, including site visits, to discuss the project. Public notice of the public hearing was mailed to property owners in the Basalt Creek area, affected agencies and a list of interested individuals, as well as posted in three locations throughout the community, included in the local newspaper, and emailed to the interested parties list. **The above criteria have been met.**

Implementation Measure 1.1.1.a: *Provide for early public involvement to address neighborhood or community concerns regarding Comprehensive Plan and Development Code changes. Whenever practical to do so, City staff will provide information for public review while it is still in "draft" form, thereby allowing for community involvement before decisions have been made.*

Response: The Planning Commission practice is to conduct a minimum of one work session per legislative agenda item allowing for early involvement into the concepts being proposed. The Commission held numerous work sessions on this project (see Attachment 3 Public Meeting Index Record). Staff reports, technical analysis and memoranda were posted on the project website throughout the project, and draft versions of the Concept Plan and all supporting documents have been available in paper and digital form, as well as on the City web site, since project inception. **This criterion is met.**

Implementation Measure 1.1.1.e: *Encourage the participation of individuals who meet any of the following criteria:*

1. *They reside within the City of Wilsonville.*
2. *They are employers or employees within the City of Wilsonville.*
3. *They own real property within the City of Wilsonville.*
4. *They reside or own property within the City's planning area or Urban Growth Boundary adjacent to Wilsonville.*

Response: Through the public open house process, work sessions, public notification, website and public hearing schedule, the City has encouraged the participation of a wide variety of individuals representing the groups listed above. Project updates were sent to property owners within the Planning Area and interested parties nearly monthly during the duration of the project. **This criterion is met.**

Implementation Measure 1.1.1.f: *Establish and maintain procedures that will allow any interested parties to supply information.*

Response: The established procedures, public notification processes and City website notifications allow interested parties to supply information. The Commission and Council citizen input portions of regular meetings have also provided an important venue for citizen communication on the Plan. Citizen Input and information supplied can be found in Attachment 7. **This criterion is met**.

Goal 1.2: *For Wilsonville to have an interested, informed, and involved citizenry.*

Policy 1.2.1: *The City of Wilsonville shall provide user-friendly information to assist the public in participating in City planning programs and processes.*

Response: Through the two public open houses, regularly mailed project updates, Planning Commission and City Council work session schedules, public hearing notices, e-news updates, Planning Commission meeting minutes, project-related materials and announcements on the City website, and Spokesman/Boones Ferry Messenger articles, the City has informed and encouraged the participation of a wide variety of individuals. **This criterion is met**.

Policy 1.3: *The City of Wilsonville shall coordinate with other agencies and organizations involved with Wilsonville's planning programs and policies.*

Implementation Measure 1.3.1.b *Where appropriate, the City shall continue to coordinate its planning activities with affected public agencies and public utilities. Draft documents will be distributed to such agencies and utilities and their comments shall be considered and kept on file by the City.*

Response: Regional partners, affected public agencies and public utility providers participated on the project's Agency Review Team (ART) that met three times during the planning process to review key deliverables and provide input on the Concept Plan. The Plan was also recently distributed to the ART to keep them informed and to solicit any comments. In addition, these representatives and others from interested agencies received updates and draft documents through the mailings to Interested Parties of the Basalt Creek Concept Plan. **This criterion is met**.

Urban Growth Management
Goal 2.1: *To allow for urban growth while maintaining community livability, consistent with the economics of development, City administration, and the provision of public facilities and services.*

Policy 2.2.1: *The City of Wilsonville shall plan for the eventual urbanization of land within the local planning area, beginning with land within the Urban Growth Boundary.*

Response: The Basalt Creek Concept Plan supports the Comprehensive Plan in its approach to planning for future employment growth and industrial development in the Basalt Creek Planning Area. The Concept Plan is the vehicle that will lead to Comprehensive Plan map and text amendments, providing the framework for future urbanization of the area. **This criterion is met**.

School and Educational Services
Policy 3.1.10: *The City of Wilsonville shall continue to coordinate planning for educational facilities with all three local school districts and Clackamas Community College.*

Response: The Basalt Creek Planning Area is located in the Sherwood School District. A representative from the District participated on the project's Agency Review Team and received updates sent to the project's interested parties. Wilsonville is not planning for residential growth in the area and as a result will not need to plan for siting schools in the Planning Area. **This criterion is met.**

Parks/Recreation/Open Space
Policy 3.1.11: *The City of Wilsonville shall conserve and create open space throughout the City for specified objectives including park lands.*

Response: The Basalt Creek Concept Plan identifies the need for parks and open space amenities in the Planning Area to serve future employees and residents (see Attachment 1 Basalt Creek Concept Plan, page 42). As a primarily industrial area, the Wilsonville portion of the Basalt Creek Planning Area could provide smaller pocket parks, industrial waysides, and active recreational amenities for daytime employees and visitors, and the City of Tualatin will provide a neighborhood park to serve existing and future residents. The Plan also identified the Basalt Creek Canyon natural area, which spans both cities, as a significant opportunity to provide a regionally-connected off-street trail and open space in the Planning Area. Both Cities will coordinate on trail planning particularly as it relates to the Basalt Creek Canyon. The boundary

of the Basalt Creek corridor will be refined and mapped as SROZ consistent with the policies of the Comprehensive Plan and the Wilsonville Development Code at the time of annexation and development review. Areas of the site also include a BPA powerline easement, upland habitat and other natural and open areas that are supportive of the above Policy. The Concept Plan is consistent with the adopted 2007 citywide Parks and Recreation Master Plan. **This criterion is met.**

Transportation
GOAL 3.2: *To encourage and support the availability of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling and transit in order to avoid principal reliance upon any one mode of transportation.*
Policy 3.2.1 *To provide for safe and efficient vehicular, transit, pedestrian and bicycle access and circulation.*
Implementation Measure 3.2.1.a *Provide a safe, well-connected, and efficient network of streets and supporting infrastructure for all travel modes.*
Policy 3.2.2 *To provide for a mix of planned transportation facilities and services that are sufficient to ensure economical, sustainable and environmentally sound mobility and accessibility for all residents and employees in the city.*

Response: The Basalt Creek Concept Plan contains a transportation framework that focuses on connectivity, circulation and safety. The Plan has been developed with multiple modes of transportation in mind, with the major new roads and improvements to be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) adopted by City Council (see Appendix J). The Concept Plan also outlines bicycle and pedestrian enhancements including an opportunity for a separated-grade crossing of the Basalt Creek Parkway, off-street trail planning, and potential transit routes (see Attachment 1 Basalt Creek Concept Plan, Figure 11). The transportation framework in the Plan is directly supportive of the above transportation goals, policies and implementation measures. **These criteria are satisfied.**

GOAL 3.4: *To facilitate the safe, efficient and economic flow of freight and other goods and services within the city and the region.*
Policy 3.4.1: *Upgrade and or complete the street network on the west side of I-5, including in the Coffee Creek and Basalt Creek areas, to serve the warehousing, distribution, and other industrial uses located there.*

Response: The Basalt Creek Concept Plan contains a transportation framework that focuses on connectivity, circulation and safety. The 2013 Basalt Creek TRP determined the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area. The transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. The Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.

Major new roads and improvements will be constructed as laid out in the 2013 TRP, which is also coordinated with the 2014 Metro Regional Transportation Plan (RTP). Basalt Creek Parkway, portions of which are currently under construction, will be a major east-west arterial, with limited access (connecting only at Grahams Ferry and Boones Ferry Roads), creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road to five lanes, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops. **These criteria are satisfied.**

Land Use and Development
Policy 4.1.2*: The City of Wilsonville shall encourage commercial growth primarily to serve local needs as well as adjacent rural and agricultural lands.*

Policy 4.1.2*: The City of Wilsonville shall encourage light industry compatible with the residential and urban nature of the City.*

Response: The Basalt Creek Concept Plan identifies a range of industrial and employment uses appropriate for the Basalt Creek Planning Area (see Attachment 1 Basalt Creek Concept Plan, Figure 8). In the Wilsonville portion of the Planning Area, small retail establishments may be allowed consistent with City Code that support the businesses and employees in the area. In the Tualatin portion, a small neighborhood retail node has also been drawn to provide the opportunity for localized commercial services for surrounding residential, employment and rural land uses. **This criterion is met.**

Policy 4.1.3*: The City of Wilsonville shall encourage light industry compatible with the residential and urban nature of the City.*
Implementation Measure 4.1.3.a: *Develop an attractive and economically sound community.*
Implementation Measure 4.1.3.b: *Maintain high-quality industrial development that enhances the livability of the area and promotes diversified economic growth and a broad tax base.*
Implementation Measure 4.1.3.c: *Favor capital intensive, rather than labor intensive, industries within the City.*
Implementation Measure 4.1.3.d: *Encourage industries interested in and willing to participate in development and preservation of a high-quality environment. Continue to require adherence to performance standards for all industrial operations within the City.*
Implementation Measure 4.1.3.e: *Site industries where they can take advantage of existing transportation corridors such as the freeway, river, and railroad.*
Implementation Measure 4.1.3.f: *Encourage a diversity of industries compatible with the Plan to provide a variety of jobs for the citizens of the City and the local area.*
Implementation Measure 4.1.3.j: *All industrial areas will be developed in a manner consistent with industrial planned development in Wilsonville. Non-industrial uses may be allowed within a Planned Development Industrial Zone, provided that those non-industrial uses do not limit the industrial development potential of the area.*

Response: The Basalt Creek Planning Area is located adjacent to other industrial and employment areas in the City of Wilsonville, including the Coffee Creek Industrial Area, and has

long been part of the City's vision for an attractive business district at the north end of the community adjacent to, and with great access to, I-5. Wilsonville land uses identified in the Basalt Creek Concept Plan include a mix of employment development types and a modest opportunity for live/work housing (see Attachment 1 Basalt Creek Concept Plan, Figure 8). These land uses include light industrial, high-tech employment, and craft industrial. This mix encourages a diversity of industries and employment opportunities for citizens, provides flexibility to meet a range of market demands, and focuses on high-quality industrial development, supporting the adjacent and nearby industrial areas. The possibility for live/work housing is within the Craft Industrial designated areas, which are located on parcels adjacent to the Basalt Creek corridor, a significant natural resource, and residentially-designated areas in the Tualatin planning area of the Concept Plan. These planned uses are compatible with existing and planned uses in the City as well as nearby Tualatin. As outlined in the Concept Plan, the Wilsonville employment development types are also consistent with industrial planned development in the City, with the residential (live-work) and retail uses being integrated with and not limiting the industrial uses in the Planning Area. The Concept Plan also identifies significant natural resources, which businesses will be required to preserve. The Concept Plan supports and encourages light industry compatible with the Comprehensive Plan, existing and long-term development of the City. **This criterion is met**.

STATEWIDE PLANNING GOALS

Statewide Planning Goal #1 - Citizen Involvement (OAR 660-015-0000(1)): *To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

Response: Please refer to the Public Involvement Plan located in Appendix B and to Attachments 3-10 for the complete public involvement and comment summary. Two public open houses and numerous work sessions were held with both the Planning Commission and City Council throughout the project. The project web site has been updated regularly containing all of the information and maps created for the project. City Staff have met with numerous property owners over several years always being readily available to answer specific questions. The City of Wilsonville has provided notice of public hearings before the Planning Commission and City Council consistent with the Planning and Land Development Ordinance requirements. Such notices were published in the Wilsonville Spokesman, and were provided to a list of interested agencies, emailed to interested parties, mailed to interested parties and property owners in the Planning Area, mailed to each property owner in and within 250 feet of the Wilsonville portion of the planning area, and posted in three locations throughout the City and on the City's website. At the upcoming public hearing, the public will be afforded an opportunity to provide public testimony. **This Statewide Planning Goal is met.**

Statewide Planning Goal #2 - Land Use Planning (**OAR 660-015-0000(2)):** *To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

Response: This goal is implemented through the applicable Goals and Policies in the Land Use and Development section of the Wilsonville Comprehensive Plan. Because the Basalt Creek Concept Plan is a supporting element of the City's Comprehensive Plan, the application to adopt the Plan was processed pursuant to the legislative decision process outlined in the City Code. The Plan is consistent with Statewide Planning Goal 2. **This goal is met.**

Statewide Planning Goal #5 – Natural Resources, Scenic and Historic Areas, and Open Spaces (OAR 660-015-0000(5)): *To protect natural resources and conserve scenic and historic areas and open spaces.*

Response: This goal is implemented through the applicable Park/Recreation/Open Space Goals and Policies in the Public Facilities and Services sections of the Comprehensive Plan. The City Code contains specific review criteria for establishing a Significant Resource Overlay Zone (Development Code Section 4.139.00, SROZ Ordinance) to ensure that designated Goal 5 resources are appropriately considered when development is proposed. Goal 5 resources were considered as part of the Plan. Appendix A of the Concept Plan outlines all the existing Natural and Historic Resources in the planning area, including the Basalt Creek corridor. These resources will be refined and mapped as SROZ consistent with the policies of the Comprehensive Plan and the Wilsonville Development Code at the time of annexation and development review. **This goal is met.**

Statewide Planning Goal # 7 – **Areas Subject to Natural Disasters and Hazards (OAR 660-015-0000(7)):** *To protect people and property from natural hazards.*

Response: Areas subject to natural disasters and hazards, such as floodplain or steep slopes have been considered in the development of the Buildable Lands Inventory for the Basalt Creek Concept Plan which can be found in Appendix A. **This goal is met.**

Statewide Planning Goal #8 – Recreational Needs (OAR 660-015-0000(8)): *To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.*

Response: The Basalt Creek Concept Plan identifies important recreational opportunities for the employees and residents nearby and in the Planning Area through the use of trails and open spaces, particularly near the Basalt Creek natural area (see Attachment 1 Basalt Creek Concept Plan, Figure 11). The Concept Plan calls for coordination between the Cities to provide a trail near the Basalt Creek natural area. It also outlines the potential to connect this trail, via bike and pedestrian facilities, to the regional Ice Age Tonquin Trail, a 22-mile trail alignment through Wilsonville, Tualatin, and Sherwood, which includes a section bordering the Basalt Creek Planning Area, and is intended to complement the Ice Age Floods National Geological Trail Planning (the national trail will be a network of driving routes with spurs for biking and walking, from Montana to the Pacific Ocean). **This goal is met.**

Statewide Planning Goal #9 – Economic Development (OAR 660-015-0000(9)): *To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.*

Response: Metro added the Basalt Creek Planning Area to the UGB in 2004 as it was identified as suitable for industrial development due to relatively flat parcels and its proximity to the I-5 corridor and to an existing industrial area in Wilsonville. The ordinance states the Planning Area "…is most suitable for warehousing and distribution, among other industrial uses." The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan (see Attachment 1 Basalt Creek Concept Plan, Figure 8). Basalt Creek planning area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region. The portion of the Basalt Creek Concept Planning Area designated as future City of Wilsonville is planned for a variety of employment-based uses: warehouse, manufacturing, high-tech, and craft industrial. This diverse economic activity will provide a range of job opportunities for the state, region and local cities with easy access adjacent to I-5. **This goal is met.**

Statewide Planning Goal #11 – Public Facilities and Services (OAR 660-015-0000(11)):

Response: The Basalt Creek Concept Plan outlines conceptual systems for the type, locations and delivery of public facilities and services in a manner that best supports the proposed land uses. The Concept Plan covers transportation, schools, parks, drinking water, sanitary sewer and stormwater systems (see Attachment 1 Basalt Creek Concept Plan, pages 33 – 52). The Concept

Plan also outlines the service boundaries for other public services such as libraries and law enforcement will be extended by each City to incorporate the Basalt Creek Planning Area into their respective service districts. The Concept Plan provides direction for and will be integrated into future facility and capital improvement plans. **This goal is met.**

Statewide Planning Goal #12 – Transportation (OAR 660-015-0000(12)): *To provide and encourage a safe, convenient and economic transportation system.*

The Basalt Creek Concept Plan contains a transportation framework that focuses on connectivity, circulation and safety. The Plan has been developed with multiple modes of transportation in mind, with the major new roads and improvements to be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) adopted by City Council (see Appendix J). The Concept Plan also outlines bicycle and pedestrian enhancements, including an opportunity for a separated-grade crossing of the Basalt Creek Parkway, off-street trail planning, and potential transit routes. **This goal is met.**

Statewide Planning Goal #14 – Urbanization (OAR 660-015-0000(14)): *To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

Response: Metro added the Basalt Creek Planning Area to the UGB in 2004 to meet a regional industrial lands need. The Concept Plan accommodates urban employment inside the Planning Area, consistent with the identified need, to ensure efficient use of land, and to provide for livable communities. The employment types identified in the Concept Plan utilize land more efficiently. The Concept Plan also calls for appropriately designed transitions between different land use patterns as well as the protection of, and provision of access to, significant natural resources in the area to provide a more livable community. The Concept Plan identifies amending the City's Urban Planning Area Agreement (UPAA) with Washington County as the first step in implementing the Plan and enabling urbanization in the Planning Area. The UPAA addresses the planning authority, coordination, and future service provisions in new urban areas. **This goal is met.**

METRO URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN (UGMFP)

Title 3: Water Quality and Flood Management – *Protect the beneficial water uses and functions and values of resources within the Water Quality and Flood Management Areas by limiting or mitigating the impact on these areas from development activities and protecting life and property from dangers associated with flooding.*

Response: The City of Wilsonville is in compliance with Title 3 of the UGMFP. Figure 12 in the Basalt Creek Concept Plan depicts the land constraints in the Planning Area including Title 3 areas (see Appendix A for more information). This information will direct the mapping of riparian corridors and wetlands into the City's Significant Resource Overlay Zone (SROZ) that will be required at the time of annexation and development. **This title is met.**

Title 4: Industrial and Other Employment Areas – *Provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial and Employment Areas.*

Response: The Basalt Creek Planning Area is mapped as a Metro Title 4 Industrial Area. The majority of the acreage in the Basalt Creek Planning Area (see Figure 8 in the Basalt Creek Concept Plan) is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses. This information will direct Comprehensive Plan Amendments, following adoption of the Concept Plan and subsequent amendment of the Urban Planning Area Agreement with Washington County. The City of Wilsonville is in compliance with Title 4 of the UGMFP; Comprehensive Plan land use designations, and future zoning classifications, will be consistent with the requirements in Title 4 of the UGMFP. **This title is met.**

Title 11: Concept Planning – Please refer to Appendix D of the Basalt Creek Concept Plan for a full analysis of the Urban Growth Management Functional Plan requirements for concept planning urban reserves. **Appendix D in Attachment 1 demonstrates compliance with the requirements of Title 11.**

Title 13: Nature in Neighborhoods – *Conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape; and to control and prevent water pollution for the protection of the public health and safety, and to maintain and improve water quality throughout the region.*

Response:
The City of Wilsonville is in compliance with Title 13 of the UGMFP. Figure 12 in the Basalt Creek Concept Plan depicts the land constraints in the Planning Area including Title 13 riparian and upland habitat areas (see Appendix A for more information). This information will direct the mapping of riparian corridors, wetlands, and upland habitat areas into the City's SROZ that will be required at the time of annexation and development review. **This title is met.**

GENERAL CONCLUSIONARY SUMMARY OF FINDINGS

The Basalt Creek Concept Plan complies with, and demonstrates that the City's adopted policies comply with, applicable Statewide Planning Goals, Metro regulations including Title 11, the Wilsonville Comprehensive Plan, and applicable provisions of the City's Development Code.

BASALT CREEK CONCEPT PLAN

Attachment 3: Public Meeting Index Record

File path:
https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning/page/84121/c._bc_record_attachment.03._public_meeting_record_index.pdf

BASALT CREEK CONCEPT PLAN

Attachment 3: Public Meeting Index Record

Basalt Creek Area Concept Plan
Public Meetings Record Index
LP18-0005

See also LP13-0001 Basalt Creek Transportation Planning

August 13, 2018 City Council – City of Tualatin

August 6, 2018 City Council Hearing – City of Wilsonville

July 23, 2018 City Council – City of Tualatin

July 19, 2018 Planning Commission – City of Tualatin

July 11, 2018 Planning Commission Hearing – City of Wilsonville

Documents Distributed to the City Councils, Planning Commissions, and Metro Council prior to Public Hearing:

June 25, 2018 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and Members of the City Council (June 25, 2018) Re: Basalt Creek Concept Plan
  - Attachment A: Presentation
  - Attachment B: Draft Basalt Creek Concept Plan 053018

June 18, 2018 City Council Work Session – City of Wilsonville

- City Council Staff Report (June 18, 2018) Re: Basalt Creek Concept Plan
  - A. Draft Basalt Creek Concept Plan (dated: May 2018)

June 13, 2018 Planning Commission Work Session – City of Wilsonville

- Basalt Creek Concept Plan Work Session Staff Report
  - Attachment A: Draft Basalt Creek Concept Plan (dated: June 5, 2018)
  - Attachment B: Draft Comprehensive Plan Amendments (dated: June 5, 2018)
- 2018 6-11 Citizen Comments Wilsonville Plan Com- Basalt Creek 6-13-2018
- Basalt Creek PowerPoint Presentation 06.13.2018

May 3, 2018 Metro Council Meeting

- Resolution No. 18-4885
- Exhibit A to Resolution No. 18-4995
- Exhibit B to Resolution No. 18-4885

April 19, 2018 Metro Council Meeting

- Staff Report to Metro Council, April 12
- Metro COO Recommendation
- Washington County Letter
- City of Tualatin Brief and Exhibits
- City of Wilsonville Brief and Exhibits
- City of Tualatin Reply Brief and Exhibits
- City of Wilsonville Reply Brief
- Peter Watts Testimony
- Herb Koss Testimony
- Staff Report to COO, February 21
- PowerPoint: Basalt Creek

April 11, 2018 Planning Commission – City of Wilsonville

- Chief Operating Officer Recommendations to Metro Council
- Exhibit A Intergovernmental Agreement Between Metro, Washington County and the Cities of Tualatin and Wilsonville
- Exhibit B Central Subarea and Basalt Creek Parkway Map
- Exhibit C Basalt Creek Land Use Concept Map
- Exhibit D Letter from Washington County Board of Commissioners
- Exhibit E Basalt Creek Transportation Refinement Plan Recommendations
- Exhibit F Where Portland region's residents work chart

December 18, 2017 City Council Meeting – City of Wilsonville

- City Council Meeting Staff Report (December 18, 2017) Re: Resolution No. 2657 - Intergovernmental Agreement (IGA) between Metro, Washington County, and the Cities of Tualatin and Wilsonville Seeking a Binding Non-Appealable Decision from Metro Concerning One Area, the Central Subarea, of the Basalt Creek Planning Area
  - Resolution No. 2657

December 11, 2017 City Council Meeting – City of Tualatin

- Staff Report to Tualatin Mayor and Members of the City Council (December 11, 2017) Re: Consideration of **Resolution No. 5350-17** Authorizing the City Manager to Execute a 4-party Intergovernmental Agreement Seeking a Non-Appealable Decision from Metro Regarding the Central Subarea of the Basalt Creek Planning Area
  - Attachment A - Resolution 5350-17
  - Attachment B - Intergovernmental Agreement Map

July 24, 2017 City Council Work Session – City of Tualatin

- Basalt Creek Feasibility Study (KPFF Presentation)
- Analysis from CES NW

- Letter (July 20, 2017) from CES NW Re; Basalt Creek Central Area – Employment Versus Residential Development
- Letter (May 18, 2017) from CES NW Re: Basalt Creek Central Area – KPFF Concept Plan
- PowerPoint from OTAK/CES NW

May 1, 2017 City Council Work Session – City of Wilsonville

(no Basalt Creek items in CC Packet)

- Basalt Creek Concept Plan Draft Feasibility Study
- PowerPoint Presentation

April 12, 2017 Planning Commission – City of Wilsonville

- Staff Report with the following attachments:
  Attachment A: Metro Ordinance No. 04-1040B
  Attachment B: Memorandum of Understanding for Concept Planning the Urban Growth
  Boundary Expansion Area known as the Basalt Creek Planning Area
  Attachment C: IGA for concept planning the Basalt Creek and West Railroad Planning Areas
  Attachment D: Basalt Creek Concept Plan Guiding Principles
  Attachment E: Base Case Scenario (December 2014)
  Attachment F: Boundary Option 1 (June 2015)
  Attachment G: Boundary Option 2 (June 2015)
  Attachment H: Option 3 (September 2015)
  Attachment I: Tualatin – Option 4 (September 2015)
  Attachment J: Considerations for Success (December 2015)
  Attachment K: Basalt Creek Land Use Concept Map Option 5 (April 2016)
  Attachment L: Preferred Basalt Creek Land Use Concept Map (September 2016)
  Attachment M: Washington County Basalt Creek Employment Site Evaluation (January 2017)
  Attachment N: Tualatin City Council Proposal (February 2017)
  Attachment O: Slopes Map from Existing Conditions Report (July 2014)
- PowerPoint Presentation

March 20, 2017 City Council Work Session – City of Wilsonville

- City Council Meeting Staff Report (March 20, 2017) Re: Basalt Creek Concept Plan
  - Attachment A: Metro Ordinance No. 04-1040B

- Attachment B: Memorandum of Understanding for Concept Planning the Urban Growth Boundary Expansion Area known as the Basalt Creek Planning Area
- Attachment C: IGA for concept planning the Basalt Creek and West Railroad Planning Areas
- Attachment D: Basalt Creek Concept Plan Guiding Principles
- Attachment E: Base Case Scenario (December 2014)
- Attachment F: Boundary Option 1 (June 2015)
- Attachment G: Boundary Option 2 (June 2015)
- Attachment H: Option 3 (September 2015)
- Attachment I: Tualatin – Option 4 (September 2015)
- Attachment J: Considerations for Success (December 2015)
- Attachment K: Basalt Creek Land Use Concept Map Option 5 (April 2016)
- Attachment L: Preferred Basalt Creek Land Use Concept Map (September 2016)
- Attachment M: Washington County Basalt Creek Employment Site Evaluation (January 2017)
- Attachment N: Tualatin City Council Proposal (February 2017)
- Attachment O: Slopes Map from Existing Conditions Report (July 2014)

February 16, 2017 Planning Commission Meeting – City of Tualatin(Agenda Item 5.B. Communication from City Staff)

- Attachment A: Map and Memo from Herb Koss (Jan. 17, 2017) to Tualatin Planning Commission Chair and members of the Commission Re: Zoning of land not suited for an employment zone
- Attachment B: Citizen Comments to Tualatin Planning Commission 1-19-2017, Agenda Item 5 B – Basalt Creek Concept Planning – Update

February 13, 2017 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and City Council (February 13, 2017) Re: Basalt Creek Land Use Concept Map – Affirmation of Land Uses
  - Attachment A: Basalt Creek Land Use Concept Map with Land Use Progression
  - Attachment B: Washington Co. Letter on Basalt Creek dated Jan. 12, 2017 on Employment Site Evaluation
  - Attachment C: Washington Co. Basalt Creek Employment Site Evaluation by MacKenzie
  - Attachment D: Minutes with Lucini Attachment 10.20.16
  - Attachment E: DRAFT Planning Commission Minutes 01.19.17

January 19, 2017 Planning Commission Meeting – City of Tualatin

- Memorandum to Tualatin Planning Commissioners (January 19, 2017) Re: Update on Basalt Creek Land Use Concept Map
  - Attachment A Presentation Basalt Land Use Concept Map with Land Use Progression

- Attachment B Letter from Washington Co.Duyck.signed.10.28.16

November 28, 2016 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and City Council (November 28, 2016)
  - Basalt Creek Land Use Map with Land Use Progression
  - Letter from Washington Co. on Basalt Land Use. Duyck.10.28.16

October 20, 2016 Planning Commission – City of Tualatin

(Agenda Item 5.A. Communication from City Staff)

- Memorandum to Tualatin Planning Commissioners (October 20, 2016) Re: BasaltCreek Land Use Concept Map and Project Update
  - Attachment A: Presentation Basalt Land Use Concept Map and Project Update
  - Attachment B: Basalt Land Use Comment Log June 1-Sept 26, 2016
  - Attachment C: Basalt Land Use Comment Log Sept. 27-Oct. 6, 2016
  - Attachment D: Basalt Land Use comment Log Oct. 7-Oct. 17, 2016

October 17, 2016 City Council Work Session – City of Wilsonville

- City Council Meeting Staff Report (October 17, 2016) Re: Basalt Creek Land Use Concept Map and Concept Plan Update
  - A. Basalt Creek Land Use Concept Map
  - B. Ten Considerations for Success Update Memo

October 12, 2016 PC Informational – City of Wilsonville

- Staff Report
  - A. Basalt Creek Land Use Concept Map
  - Ten Considerations for Success Update Memo

October 10, 2016 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and City Council (October 10, 2016) Re: Basalt Creek Land Use Concept Map and Project Update
  - Attachment A: Basalt Creek Land Use Presentation
  - Attachment B: Basalt Creek Land Use Comment Log: June 1, 2016 to Sept. 26, 2016
  - Attachment C Tualatin Basalt Land Use Concept Comment Log September 27, 2016-Oct. 6, 2016

September 19, 2016 City Council Meeting – City of Wilsonville

- Resolution No. 2602: A Resolution Of The City Of Wilsonville Authorizing The Mayor To Enter Into A Memorandum Of Understanding On Behalf Of The City Of Wilsonville With Washington County And The City Of Tualatin For Concept Planning The Urban Growth Boundary Expansion Area (Basalt Creek/West Railroad Planning Area). (staff – Bateschell)

- City Council Meeting Staff Report (September 19, 2016) Re; Addendum to the Basalt Creek Concept Plan IGA between Washington County, Metro, the Cities of Tualatin and Wilsonville
  - Resolution No 2602
    - Intergovernmental Agreement Addendum 2.0

June 8, 2016 PC Informational Session – City of Wilsonville

- Land Use Regulation Map Handout
- Basalt Creek PowerPoint presentation from the April 28, 2016 Open House

June 6, 2016 City Council Work Session – City of Wilsonville

- City Council Meeting Work Session Staff Report (June 6, 2016) Re: Basalt Creek Concept Plan Update
  - 1. DRAFT Ten Considerations for Success to be Incorporated into the Basalt Creek Concept Plan
  - 2. Basalt Creek Concept Plan – Proposed Boundary (from December 16, 2015 Joint Council Work Session)

May 19, 2016 PC Update – City of Tualatin

- Staff Report (May 19, 2016) Re: Basalt Creek Open House Update
  - Basalt Creek Posters April 28, 2016

April 28, 2016 Tualatin-Wilsonville Joint Open House

- Open House sign-in sheet
- Open House polling results
- Basalt Posters Final Frego 04.28.2016
- Open House PPT V4 Frego 04.28.2016
- Wilsonville Spokesman Open House

March 9, 2016 PC Informational Session – City of Wilsonville

See Meeting Minutes

Meeting Attendance – topic interest log

February 2016 ART Meeting

January 21, 2016 Planning Commission Meeting – City of Tualatin

- Memorandum to Tualatin Planning Commissioners (January 21,2016) Re: Basalt Creek Update from the Joint Tualatin and Wilsonville Council Meeting
  - Attachment A Considerations for Success
  - Attachment B Preferred Jurisdictional Boundary
  - Attachment C Presentation

Basalt Creek Area Concept Plan
Public Meetings Record Index
LP18-0005

See also LP13-0001 Basalt Creek Transportation Planning

January 13, 2016 PC Work Session – City of Wilsonville

- Presentation shown at meeting
- A Staff Report with attach:
  - A. Basalt Creek Dev Considerations
  - B. Preferred Jurisdictional Boundary
  - Basalt Creek Concept PCSR

December 16, 2015 Joint City Council Meeting – Tualatin & Wilsonville

- Joint City Council Meeting Staff Report (December 16, 2015) Re: Basalt Creek Concept Plan
  - A. December 16, 2015 Joint Council Presentation
  - B. Basalt Creek Plan Area Boundary Options
  - C. Performance Indicators Summary for all Boundary Options

September 17, 2015 Planning Commission Meeting – City of Tualatin

- Memorandum to Tualatin Planning Commissioners (September 17, 2015) Re: Basalt Creek Concept Plan Project Briefing
  - Attachment A: Boundary Option 3
  - Attachment B: Presentation

August 24, 2015 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and Members of the City Council (August 24, 2015) Re: Basalt Creek Concept Plan Project Briefing
  - Attachment A: Boundary Option 3
  - Attachment B: Presentation

August 17, 2015 City Council Work Session – City of Wilsonville

- City Council Meeting Staff Report (August 17, 2015) Re: Basalt Creek Concept Plan
  - Attachment A: Basalt Creek Land Use Scenario: Boundary Option 3
  - Attachment B: Key Scenario Indicators Summary

August 12, 2015 PC Work Session – City of Wilsonville

- Presentation shown at meeting
- A Staff Report with attached:
  - Basalt Creek: Guiding Principles and Evaluation Criteria
  - Basalt Creek Land Use Scenario: Boundary Option 1 & 2
  - Key Scenario Indicators Summary
  - Project Timeline

Basalt Creek Area Concept Plan
Public Meetings Record Index
LP18-0005

See also LP13-0001 Basalt Creek Transportation Planning

June 17, 2015 Joint City Council Meeting – City of Wilsonville and City of Tualatin

- Memorandum to Honorable Mayors and Members of the City Councils (June 17, 2015) Re: Basalt Creek Concept Plan Project – Joint Work Session Discussion
  - PowerPoint (Basalt Creek Concept Plan Joint City Council Meeting #3)

June 10, 2015 PC Work Session – City of Wilsonville

See Minutes

April 20, 2015 City Council Work Session – City of Wilsonville

- City Council Meeting Staff Report (April 20, 2015) Re: Basalt Creek Update
  - A. Basalt Creek Conceptual Sanitary System Alternatives Summary
  - B. Sanitary System Alternatives Maps

February 23, 2015 City Council Work Session – City of Tualatin

- Memorandum to Tualatjn Mayor and Members of the City Council (February 23, 2015) Re: Basalt Creek Concept Plan Update
  - 101. February 23, 2015 Presentation
  - 102. Nov 24 Work Session Presentation (for Background)

December 10, 2014 PC Work Session – City of Wilsonville

- A letter dated December 7, 2014 from Grace Lucini, regarding Basalt Creek Area Concept Planning.
- An agenda for the December 2, 2014, Joint City of Tualatin and City of Wilsonville Council Work Session.
- A City Council Worksession Staff Report for the December 1, 2014 Wilsonville City Council Meeting, with attached PowerPoint Presentation

December 2, 2014 Joint City Council Meeting – City of Wilsonville and City of Tualatin

- Memorandum to Mayors and Members of the City Councils (December 2, 2014) Re: Basalt Creek Concept Plan Project – Joint Work Session Discussion with the City of Tualatin and Wilsonville Mayors and Councils
  - PowerPoint

December 1, 2014 City Council Work Session – City of Wilsonville

- City Council Work Session Staff Report (December 1, 2014) Re: Preparation for the December 2, 2014 Joint Wilsonville/Tualatin City Council Work Session on the Basalt Creek Concept Plan
  - Attachment A: Draft Agenda - December 2, 2014 Joint Wilsonville City Council and Tualatin City Council Meeting
  - Attachment B: Summary Power Point Presentation

Basalt Creek Area Concept Plan
Public Meetings Record Index
LP18-0005

See also LP13-0001 Basalt Creek Transportation Planning

September 2014 ART Meeting

September 15, 2014 City Council Work Session – City of Wilsonville

- City Council Work Session Staff Report (September 15, 2014) Re: Basalt Creek Concept Plan
  - A. PowerPoint Presentation
  - B. USA Today Article – 10 States Where Manufacturing Still Matters

September 8, 2014 Work Session City Council – City of Tualatin

- Memorandum to Tualatjn Mayor and Members of the City Council (September 8, 2014) Re: Basalt Creek Concept Plan - Project Update
  - A. USA Today "10 States" Article
  - B. Presentation

August 25, 2014 City Council Work Session– City of Tualatin

- Memorandum to Tualatjn Mayor and Members of the City Council (August 25, 2014) Re: Basalt Creek Concept Plan - Project Update
  - A. Presentation

August 13, 2014 PC Work Session – City of Wilsonville

- PowerPoint presented at meeting
- Paper copy of the Joint (Wilsonville & Tualatin) Council Meeting, Wednesday, July 16, 2014, PowerPoint presentation.
- Staff Report for the August 13, 2014 Planning Commission meeting regarding Basalt Creek Concept Plan Update with:
  - Attachment A: Existing Conditions maps
  - Attachment B: Schedule

July 16, 2014 Joint City Council – City of Wilsonville and City of Tualatin

- Memorandum to Tualatjn Mayor and Members of the City Council (July 16, 2014) Re: Joint City Council Basalt Creek Update on Existing Conditions, Workshop Outcomes and Guiding Principles
  - A. Joint Council Meeting Agenda
  - B. Presentation
  - C. Existing Conditions Map
  - D. Draft Guiding Principles
  - E. Schedule

June-July 2014 Focus Groups

Basalt Creek Area Concept Plan
Public Meetings Record Index
LP18-0005

See also LP13-0001 Basalt Creek Transportation Planning

June 17, 2014 Public Workshop – City of Wilsonville and City of Tualatin

June 2014 ART Meeting

April 28, 2014 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and Members of the City Council (April 28, 2014) Re: Basalt Creek Concept Plan Project Update and Presentation of Partnering Agreement and Public Involvement Plan
  - A. Partnering Agreement
  - B. Public Involvement Plan
  - C. Presentation

March 12, 2014 PC Work Session – City of Wilsonville

- *Basalt Creek Planning Area* map presented at the meeting
- Staff Report for the March 12, 2014 Planning Commission meeting regarding Concept Planning Update: Frog Pond/Advance Road Planning and Basalt Creek Concept Plan with:
  - Attachment A: Title 11, Planning for New Urban Areas
  - Attachment B: Basalt Creek Concept Plan Partnering Agreement and Process Diagram
  - Attachment C: Frog Pond/Advance Rd. project conceptual schedule diagram
  - Attachment D: Frog Pond/Advance Rd. project public involvement diagram

January 23, 2014 City Council Work Session – City of Wilsonville

- City Council Work Session Staff Report (January 23, 2014) Re: Basalt Creek Concept Plan Update
  - A. Partnering Agreement and Process Diagram
  - B. Draft Consultant Scope of Work

January 13, 2014 City Council Work Session – City of Tualatin

- Memorandum to Tualatin Mayor and Members of the City Council (January 13, 2014) Re: Update on Basalt Creek / West Railroad Concept Plan Project
  - A. Partnering Agreement and Process Diagram
  - B. Presentation

November 13, 2013 PC Work Session – City of Wilsonville

- City Council Meeting Staff Report for October 29, 2013 Basalt Creek/West Railroad Concept Planning Joint Work Session with Tualatin City Council with:
  - Attachment A: Meeting Agenda
  - Attachment B: Aerial Photo Map

- Attachment C: Planning Area Map
- Attachment D: Summary of March 2011 Joint Meeting.

October 29, 2013 Joint City Council Work Session – City of Wilsonville and City of Tualatin

- Memorandum to Tualatin Mayor and Members of the City Council Work Session (October 29, 2013) Re: Basalt Creek and West Railroad Concept Planning joint work session discussion with the City of Wilsonville Mayor and Council
  - A. Meeting Agenda
  - B. Aerial Photo Map
  - C. Planning Area Map
  - D. Summary of March 2011 Joint Meeting

BASALT CREEK CONCEPT PLAN

Attachment 4: Joint City Council Meeting Packets and Minutes

File path:
https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning/page/84121/c._bc_record_attachment.04._joint_cc_meeting_packets_._minutes.pdf

BASALT CREEK CONCEPT PLAN

Attachment 4: Joint City Council Meeting Packets and Minutes

12/10/2015 8:16 AM Last Updated

JOINT WILSONVILLE CITY COUNCIL AND TUALATIN CITY COUNCIL MEETING

BASALT CREEK CONCEPT PLAN MEETING NOTICE AND AGENDA

DECEMBER 16, 2015
6 P.M.

CITY HALL
29799 SW TOWN CENTER LOOP
WILSONVILLE, OREGON

The Wilsonville City Council will meet with the City of Tualatin City Council on Wednesday, December 16, 2015 starting at 6 p.m. The meeting is open to the public.

The purpose of the joint meeting is to:

1. Hear about the continued Basalt Creek Planning efforts.
2. Provide direction on the latest boundary option and functional elements of the Basalt Creek Concept Plan.

6:00 P.M.	**CALL TO ORDER** (Mayor Knapp, Mayor Ogden)	[10 min.]
6:10 P.M.	**WELCOME & INTRODUCTIONS** (Councils)	[5 min.]
6:15 P.M.	**PRESENTATION** (Fregonese)	[15 min.]
6:30 P.M.	**DISCUSSION** (Fregonese, Councils) A. Preferred Boundary Option B. Concept Plan Functional Elements & Essential Agreements	[75 min.]
7:45 P.M.	**SUMMARY & NEXT STEPS** (Fregonese)	[15 min.]

JOINT CITY COUNCIL MEETING
STAFF REPORT

Meeting Date: December 16, 2015	**Subject**: Basalt Creek Concept Plan **Staff Members**: Miranda Bateschell, Wilsonville Cindy Hahn & Aquilla Hurd-Ravich, Tualatin
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☐ Information or Direction ☐ Information Only ☒ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments**:
Staff Recommendation: Staff recommends the City Councils provide direction to staff on a jurisdictional boundary and essential agreements for functional elements of the Basalt Creek Concept Plan.	
Recommended Language for Motion: N/A	
Project / Issue Relates To: *[Identify which goal(s), master plans(s) your issue relates to.]*	
☒Council Goals/Priorities Basalt Creek Concept Plan	☐Adopted Master Plan(s) ☐Not Applicable

ISSUE BEFORE COUNCIL:

Staff will provide Council with an update on the Basalt Creek Concept Plan and seek direction on next steps for the project.

EXECUTIVE SUMMARY:

At the Joint Council meeting, the project team will briefly summarize all land use and boundary options considered to date (presentation included as Attachment A). The Joint Councils will then be asked to discuss priorities for the planning area, agreed upon elements of the plan, and remaining issues needing resolution in the Concept Plan. Staff seeks direction on a boundary option to present as a preferred alternative for public input and what essential agreements need to

be part of the functional elements of the Concept Plan (such as land uses, transportation, stormwater, etc.). If a preferred alternative is not reached at the December Joint Council meeting, staff seeks direction on next steps and a list of expectations toward achieving that goal.

BACKGROUND:

The Basalt Creek Concept Plan will establish a vision and jurisdictional boundary for the 847 acres between the cities of Wilsonville and Tualatin. At the Wilsonville-Tualatin Joint Council meeting in June, the project team presented two boundary and land use alternatives (Boundary Options 1 and 2) to the base-case scenario (originally presented December 2014). The Joint Council directed staff to develop a third alternative addressing interests and concerns discussed at the meeting. Staff developed Boundary Option 3 as a response to the Joint Council input and presented this option at individual work sessions in August. The Tualatin City Council expressed concerns about the limited employment land opportunities for the City of Tualatin and directed city staff to prepare information for a Boundary Option 4, which would follow Tonquin Road west of the Basalt Creek Canyon area. In total, five boundary options have been developed during the planning process (Attachment B).

The land use scenario in all options is conceived to complement existing development patterns in both cities, have robust and efficient infrastructure systems that are not cost prohibitive and generally, development "pays its way." Performance indicators were generated using Envision Tomorrow modeling software to evaluate the Boundary Options and a summary is included as Attachment C.

POTENTIAL IMPACT or BENEFIT TO THE COMMUNITY:

The Basalt Creek area is important for the long-term growth of Tualatin, Wilsonville, and the Metro region. Conducting a thorough and thoughtful planning process will identify and resolve each city's vision for the area and potential impacts on the community. The Basalt Creek area presents an opportunity to maximize assessed property value, integrate jobs and housing, develop efficient transportation and utility systems, create an attractive residential and business community, incorporate natural resource areas, and provide recreational opportunities as community amenities and assets.

EXPECTED RESULTS:

At the Joint Council meeting, the project team is seeking direction on a preferred jurisdictional boundary and essential agreements that will be part of the Basalt Creek Concept Plan.

TIMELINE:

The Joint Council meeting on December 16, 2015, will be the fourth Wilsonville and Tualatin Joint Council Meeting for the Basalt Creek Concept Plan. Based on the discussion and guidance received at the upcoming Joint Council meeting, the project team will refine a preferred land use alternative for the Basalt Creek Concept Plan. That preferred alternative will be presented at a Public Open House and drafting of the Concept Plan will begin with expected completion in 2016.

COMMUNITY INVOLVEMENT PROCESS:

The project includes participation from affected residents, businesses, and property owners. Citizens will be asked to share ideas about the preferred land use alternative at a Public Open House. Additionally, the website is updated to reflect the most recent work and staff sends out monthly updates to an interested parties list and property owners via email and U.S. postal mail.

ATTACHMENTS:

A. December 16, 2015 Joint Council Presentation
B. Basalt Creek Plan Area Boundary Options
C. Performance Indicators Summary for all Boundary Options

Basalt Creek
Concept Plan

Boundary Options

Tualatin and Wilsonville Joint City Council Meeting

December 16, 2015

Attachment A

What is the Purpose of Tonight's Meeting?

- Discuss priorities for each City
- Discuss alternatives for achieving those goals
- Agree on a preferred boundary option

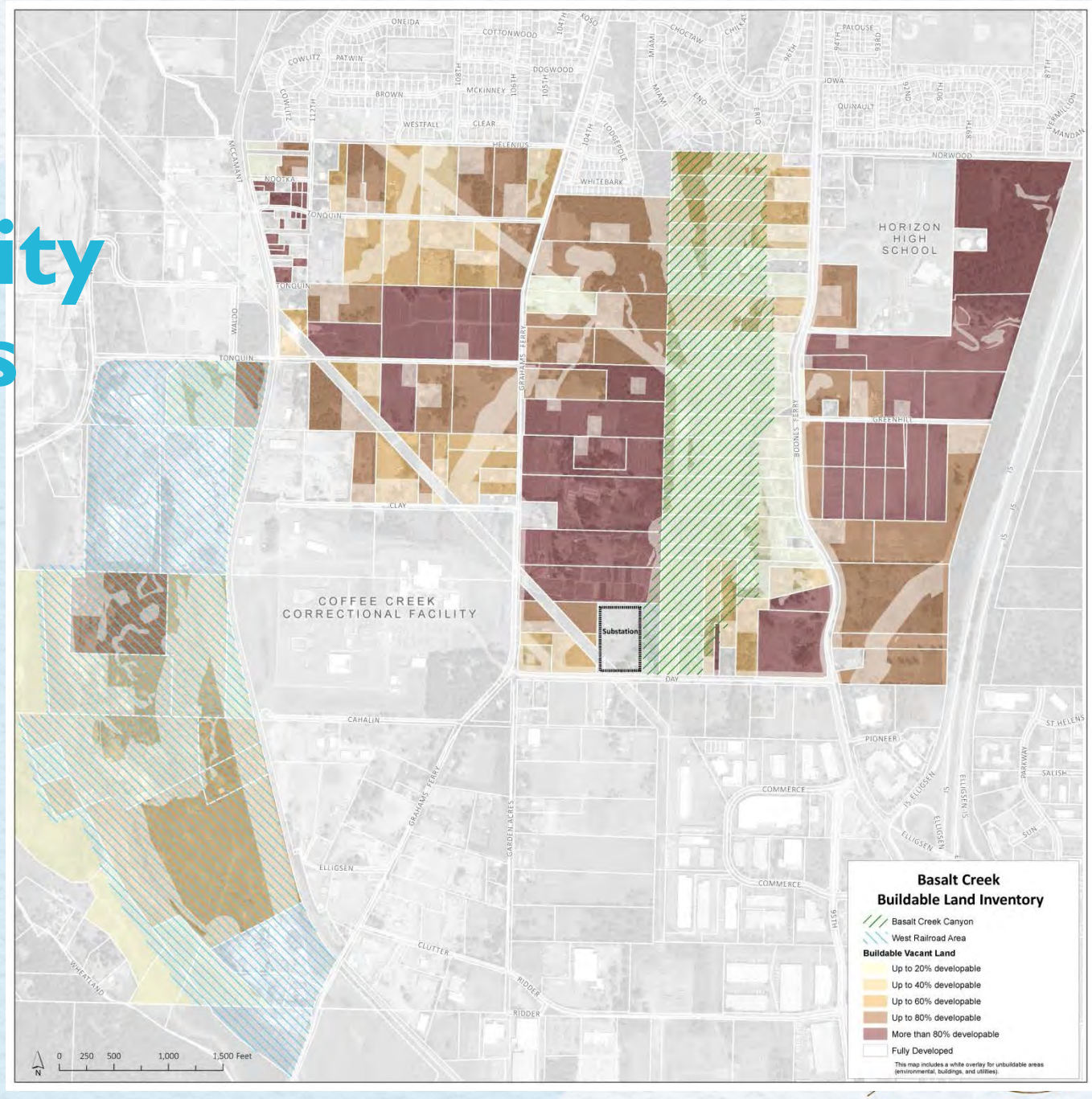
Agenda for Tonight:

- Review boundary options evaluated to date
- Facilitated discussion
- Identify next steps

Where Have We Been?

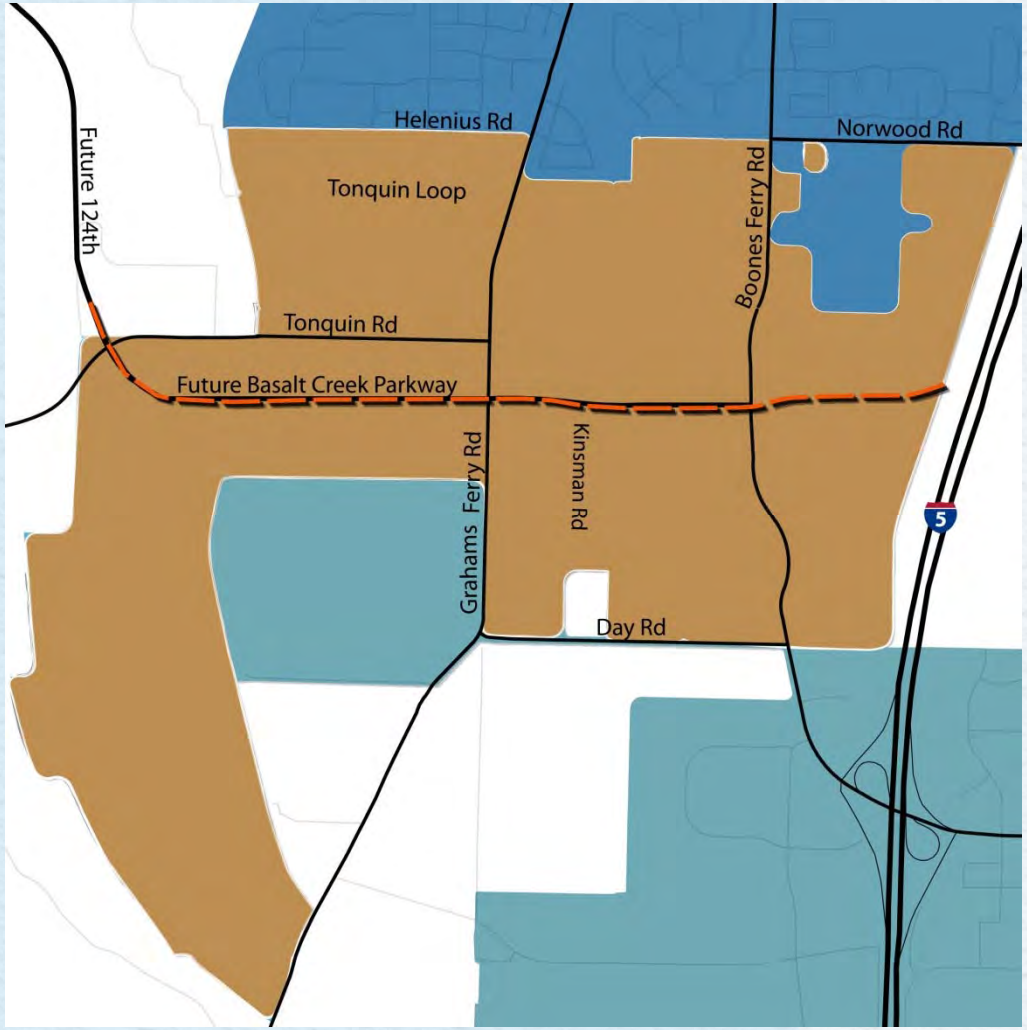
- Land Suitability
- Guiding Principles
- Base Case
- Utility Design
- Evaluations
- 4 Options Plus Base Case Studied

Land Suitability Analysis



Base Case Boundary Option

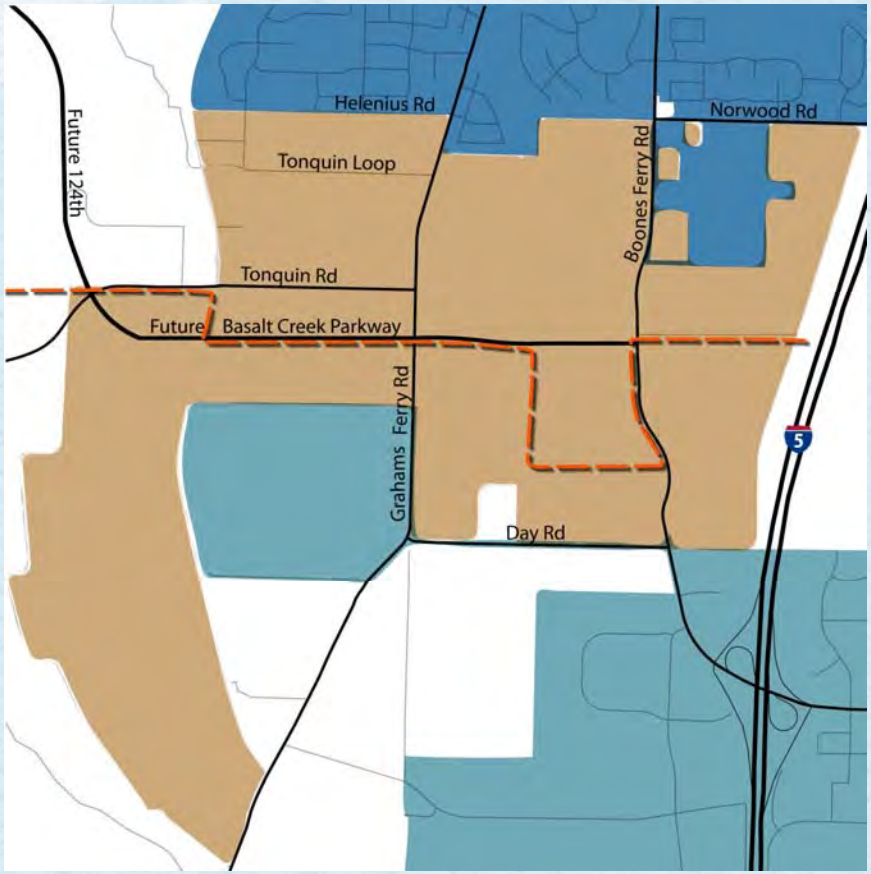
December 2, 2014 Joint Council Meeting



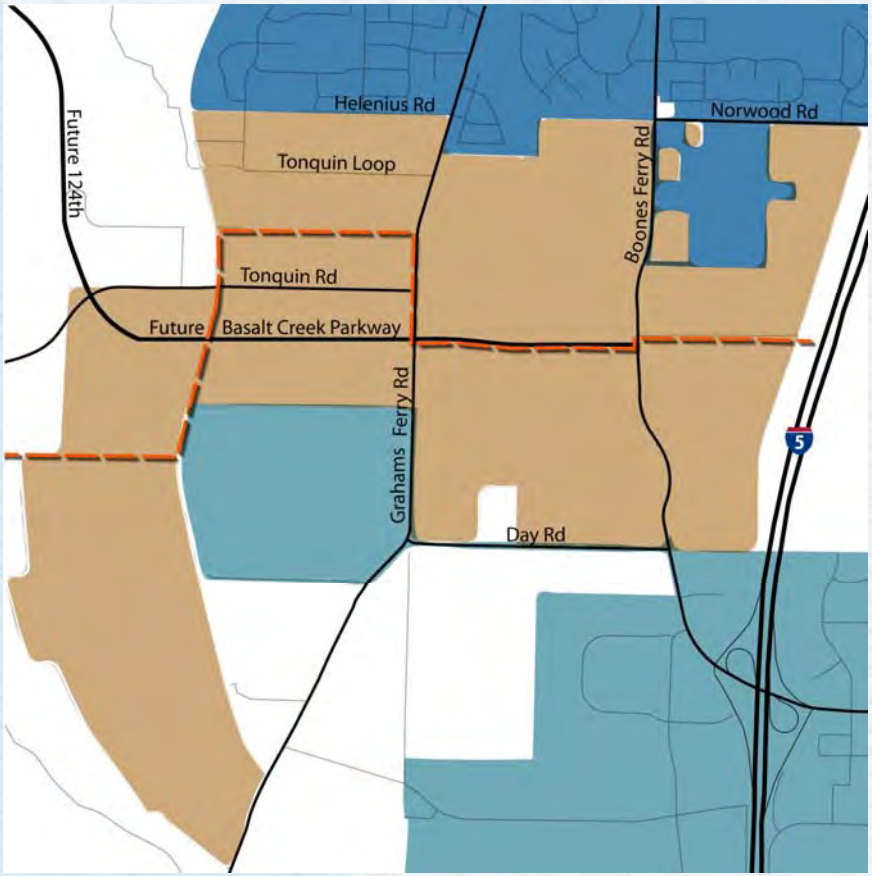
Basalt Creek Concept Plan

Boundary Options 1 and 2

June 17, 2015 Joint Council Meeting



Boundary Option 1

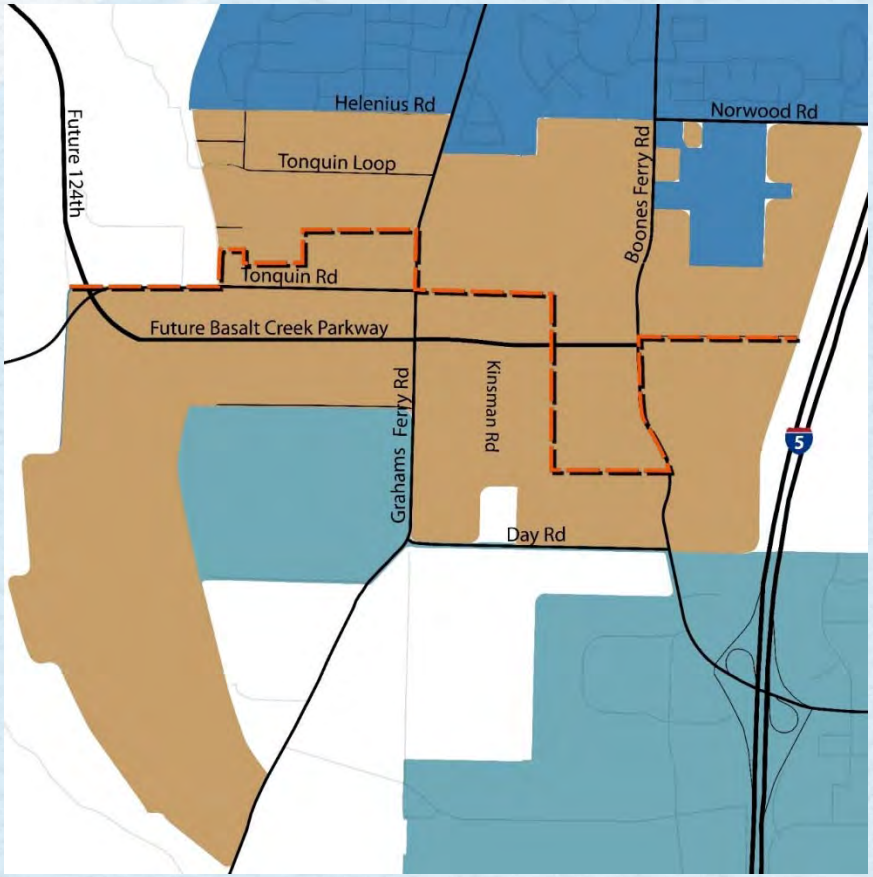


Boundary Option 2

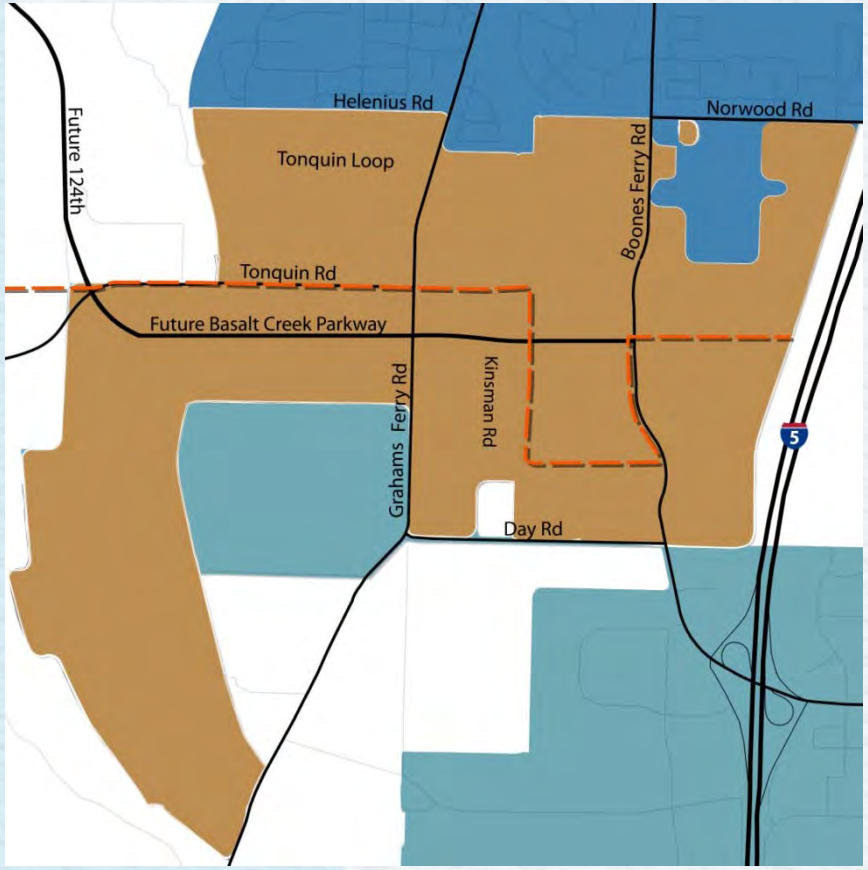
Basalt Creek Concept Plan

Boundary Options 3 and 4

August 2015 Individual Work Sessions



Boundary Option 3



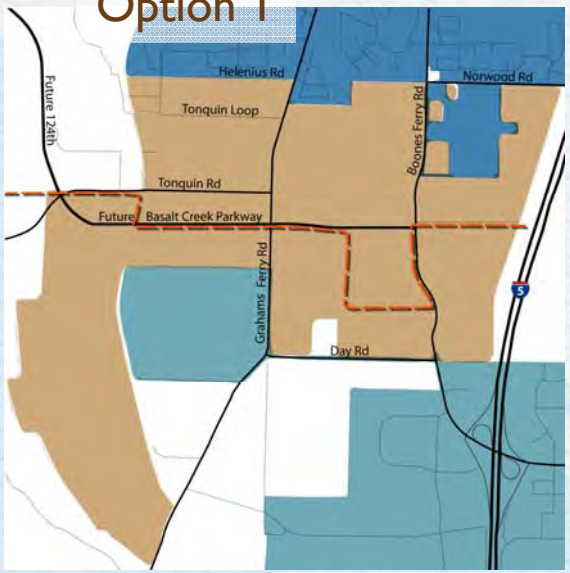
Boundary Option 4

Basalt Creek Concept Plan

Boundary Options

Base Case

Option 1



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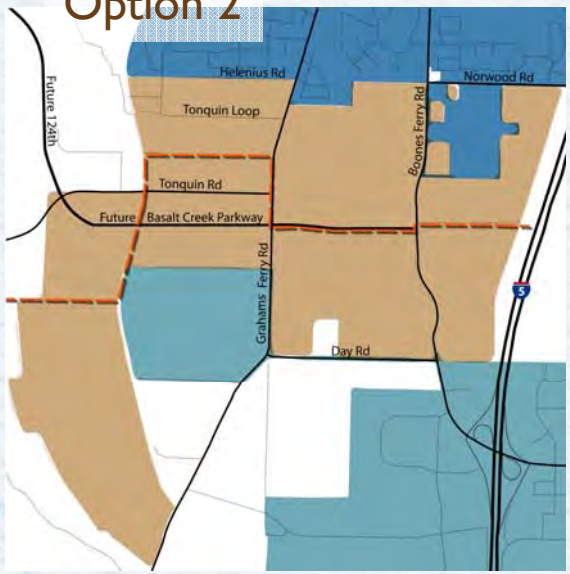
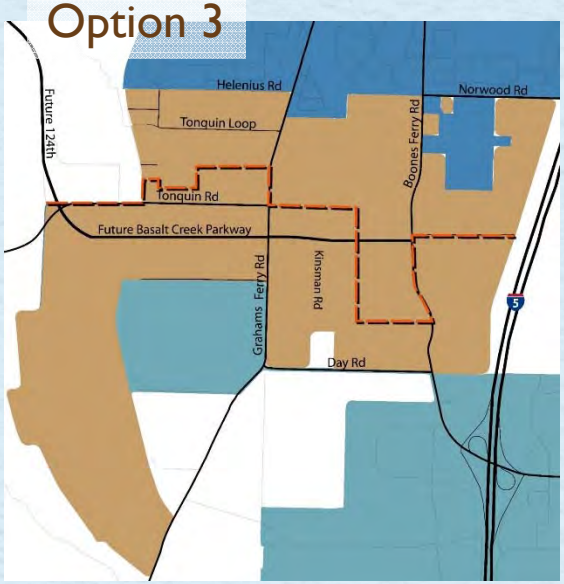
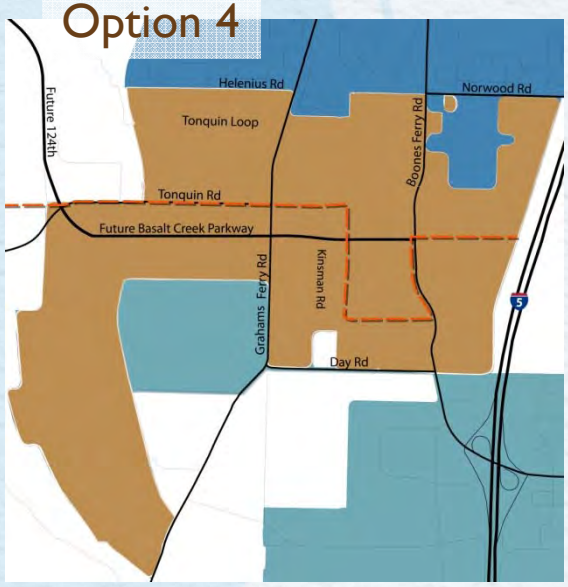


Option 3



Option 4



Basalt Creek Concept Plan

How Do We Move Forward?

- Focus on project deliverables
- Look at what has been decided (no longer controversial)
- Look at what remains to be decided (remaining items of controversy)
- Lay out a process to reach consensus and finalize project

Project Deliverables/Next Steps

- Concept Plan (summary of planning process)
- Title 11 memo (findings to comply with Metro's Regional Framework Plan)
- Draft Comprehensive Plan Amendment for Wilsonville
- Draft Comprehensive Plan Amendment for Tualatin
- Amendments are processed by individual Cities independently, with coordination

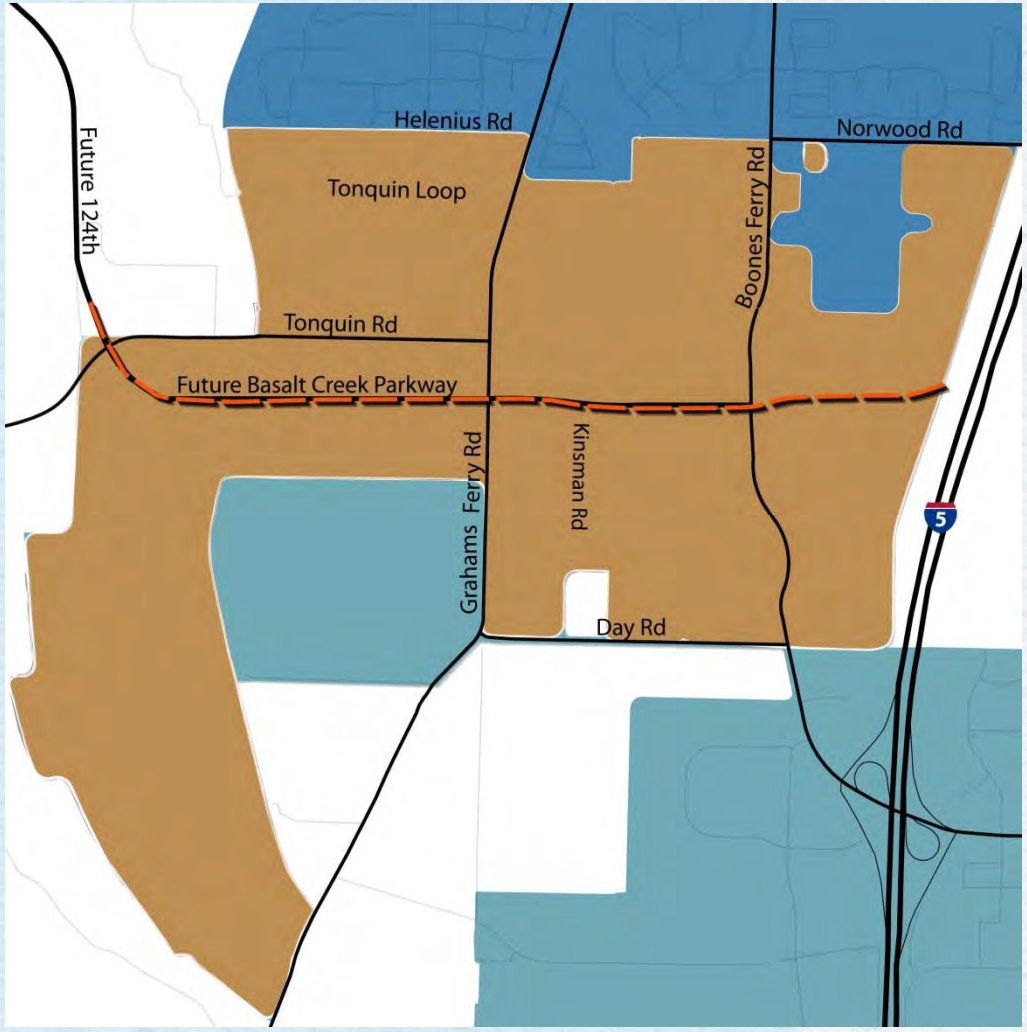
Contents of the Concept Plan

- Process documentation
- Land Use Plan
- Services Plan
- Transportation plan
- Implementation Strategies
  - Agreements between Cities
  - Metro Title 11
  - Urban Planning Area Agreements with Washington County
  - Other Agreements

Joint Proposal

1. Proposed Boundary
2. Essential Agreements

Proposed Boundary



Essential Agreements

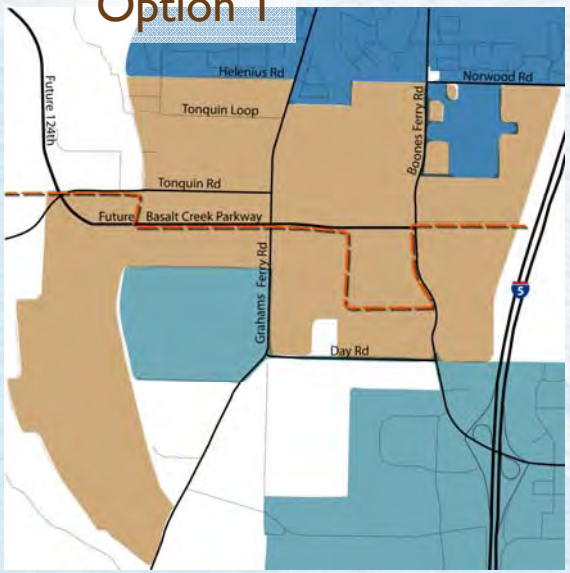
- Land Use Plan
- Transportation Financing
- Sanitary Sewer
- Stormwater Management
- Transit
- Basalt Creek Canyon

Discussion

Boundary Options

Base Case

Option 1



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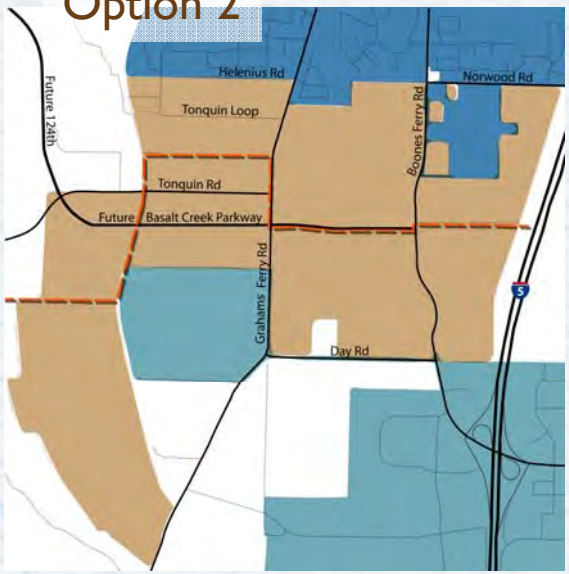

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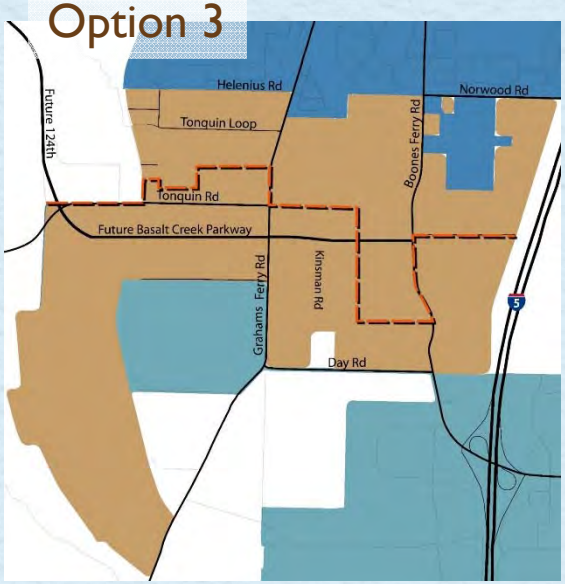
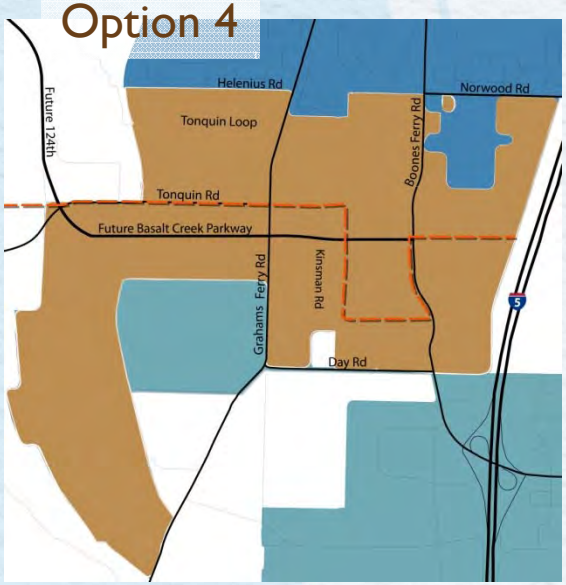


Option 4



Attachment B

Basalt Creek Concept Plan

Tualatin and Wilsonville Joint City Council Meeting

December 16, 2015

Performance Indicators Summary for all Boundary Options

COMPARISON BY BOUNDARY OPTION

	BASE CASE			OPTION 1			OPTION 2			OPTION 3			OPTION 4		
INDICATORS	Tualatin Base Case	Wilsonville Base Case	Total Base Case	Tualatin Option 1	Wilsonville Option 1	Total Option 1	Tualatin Option 2	Wilsonville Option 2	Total Option 2	Tualatin Option 3	Wilsonville Option 3	Total Option 3	Tualatin Option 4	Wilsonville Option 4	Total Option 4
Developable Acres	194 ac	137 ac	331 ac	201 ac	190 ac	391 ac	155 ac	236 ac	391 ac	144 ac	188 ac	332 ac	168 ac	163 ac	331 ac
WRR & BCC Acres*	10 ac	6 ac	16 ac	10 ac	63 ac	73 ac	12 ac	61 ac	73 ac	13 ac	3 ac	16 ac	13 ac	3 ac	16 ac
Unconstrained Dev. Acres	184 ac	131 ac	315 ac	191 ac	127 ac	318 ac	143 ac	175 ac	318 ac	131 ac	185 ac	316 ac	155 ac	160 ac	315 ac
Households	640	6	646	906	36	942	755	75	830	800	80	880	647	37	683
Jobs	2,281	2,064	4,345	1,600	2,000	3,600	1,000	2,800	3,800	400	2,900	3,300	1,576	2,475	4,051
Trips (TRP trip cap = 1,989)	1,274	781	2,055	1,137	777	1,914	832	1,132	1,964	664	1,178	1,842	1,008	967	1,975
Assessed Value	not available	not available	not available	$483 M	$305 M	$788 M	$371 M	$423 M	$794 M	$338 M	$420 M	$758 M	not available	not available	not available

COMPARISON BY JURISDICTION (same data)

	TUALATIN					WILSONVILLE					COMBINED BASALT CREEK AREA				
INDICATORS	Tualatin Base Case	Tualatin Option 1	Tualatin Option 2	Tualatin Option 3	Tualatin Option 4	Wilsonville Base Case	Wilsonville Option 1	Wilsonville Option 2	Wilsonville Option 3	Wilsonville Option 4	Total Base Case	Total Option 1	Total Option 2	Total Option 3	Total Option 4
Developable Acres	194 ac	201 ac	155 ac	144 ac	168 ac	137 ac	190 ac	236 ac	188 ac	163 ac	331 ac	391 ac	391 ac	332 ac	331 ac
WRR & BCC Acres*	10 ac	10 ac	12 ac	13 ac	13 ac	6 ac	63 ac	61 ac	3 ac	3 ac	16 ac	73 ac	73 ac	16 ac	16 ac
Unconstrained Dev. Acres	184 ac	191 ac	143 ac	131 ac	155 ac	131 ac	127 ac	175 ac	185 ac	160 ac	315 ac	318 ac	318 ac	316 ac	315 ac
Households	640	906	755	800	647	6	36	75	80	37	646	942	830	880	683
Jobs	2,281	1,600	1,000	400	1,576	2,064	2,000	2,800	2,900	2,475	4,345	3,600	3,800	3,300	4,051
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Assessed Value	not available	$483 M	$371 M	$338 M	not available	not available	$305 M	$423 M	$420 M	not available	not available	$788 M	$794 M	$758 M	not available

Attachment C

The Wilsonville City Council met with the City of Tualatin City Council on Wednesday, December 16, 2015 starting at 6 p.m. at the Wilsonville City Hall.

Wilsonville City Council members present:
Mayor Knapp
Council President Starr
Councilor Fitzgerald
Councilor Stevens
Councilor Lehan

Wilsonville Staff present:
Bryan Cosgrove, City Manager
Jeanna Troha, Assistant City Manager
Barbara Jacobson, City Attorney
Mike Kohlhoff, Special Projects Attorney
Sandra King, City Recorder
Nancy Kraushaar, Community Development Director
Miranda Bateschell, Long Range Planner
Steve Adams, Engineering Manager
Susan Cole, Finance Director

City Councilors from the City of Tualatin included:
Lou Ogden, Mayor
Monique Beikman, Council President
Wade Brooksby, Councilor
Frank Bubenik, Councilor
Joelle Davis, Councilor
Nancy Grimes, Councilor
Ed Truax, Councilor

Staff representing Tualatin:
Sherilyn Lombos, City Manager
Alice Cannon, Assistant City Manager
Colin Cortes, Assistant Planner
Cindy Hahn, Associate Planner
Jeff Fuchs, City Engineer

Consultants involved in the work effort:
Jon Fregonese, President, Fregonese Associates
Andy Cotugno, Metro Planning Director

The purpose of the joint meeting is to:
1. Hear about the continued Basalt Creek Planning efforts.
2. Provide direction on the latest boundary option and functional elements of the Basalt Creek Concept Plan.

CALL TO ORDER

Mayor Knapp called the joint Council meeting to order at 6:05 p.m. Roll call was completed via self-introductions.

PRESENTATION (Fregonese)

John Fregonese commented the purpose of the meeting was to review the boundary option evaluations since the cities were at the point where agreement on the boundary was critical, and to review the next steps. Over the past two years work has been done to evaluate land suitability, guiding principles, a number of scenarios were considered and many issues worked out to where he was confident about the ability to move forward.

Mr. Fregonese identified the base case and four boundary options that had been considered, analyzed, and evaluated. Through that evaluation process service provisions and transportation issues have been worked out. The project was at the point where a decision had to be made on the boundary to move ahead in the process.

Andy Cotugno discussed the history of Basalt Creek and the regional significance of the area. Thirty years ago discussion began about the possibility of an I-5/99W connector, which led to talk about building a "western bypass" freeway to Hillsboro. Although the western bypass was not built, the I-5/99W connector idea remains on the table. When Metro added land to the UGB, one of the conditions was to figure out where that road was to be located and not to allow urbanization in this area until the location of this road was identified to insure the possibility of the connector was not precluded because of urbanization.

That led to the examination of the I-5/99W connector with the proposal on the table at the time for a freeway connection; however, it was concluded this was not the best idea for organization of the land in Tualatin and Wilsonville and Sherwood. Rather, an arterial based approach would be a better option. This arterial based approach was included in the regional plan although the location of the road was not identified. The process with Basalt Creek presented a good solution for the transportation system plan for the area while recognizing future extensions to the west and east may be possible.

When the area was added to the UGB Metro was looking for additional job lands, but heard concerns about neighborhoods from Tualatin and the incompatible development being alongside Tualatin's boarder. The challenge is to determine land uses while recognizing what is already built and taking into consideration the natural features and neighborhood conflict areas.

Mr. Fregonese stated it was important to understand how significant the barrier Basalt Creek Parkway will be.

Mayor Knapp added staff felt the elected officials needed to understand the Parkway concept better, what is it going to look like and how it will interface with the surrounding properties and how it will affect the flow of traffic and industry in that vicinity.

Miranda Bateschell, Long Range Planning Manager, explained staff had met with Washington County about what the Parkway would look like, and in particular the elevation changes and the profile of the Parkway. Ms. Bateschell described the elevation changes from the western edge to Grahams Ferry for the phase one design plan.

Mayor Knapp commented it was clear that the Parkway is a significant physical feature that will frame interaction. Three intersections were planned for the parkway: Tonquin Road, Grahams Ferry and eventually at Boones Ferry. He noted no driveways will be coming onto the Parkway; all driveways will be oriented to the north on Tonquin, and on the south Clay Street. Grahams Ferry Road will become a significant route with industry facing onto Grahams Ferry. When the Transportation Refinement Plan was being addressed one of the things discussed was the need to be sure the existing transportation facilities on the ground are capable of accepting the impact of the traffic that will be on the Parkway and he felt it was critical that it is developed in a way that enables the area to successful.

The Mayor referred to the handout titled "Basalt Creek Development – Considerations for Success" which listed nine elements. He noted the Mayors and Council Presidents of both cities along with staff from both cities, met and talked about the nine items listed on the handout as matters that needed to be kept in mind if the area is to be successful economically and meet the needs of the region. The Considerations for Success talks about some of the things that need to happen for the area to be a success.

Mayor Knapp addressed the nine items:

1. Sewer – each city serve its own area, as much as possible. This will help each city operate independently, without needing to coordinate on each development in their jurisdictional part of Basalt.
2. Stormwater – all flows received by Wilsonville to be guided by Wilsonville protocols and design standards. Wilsonville must meet the standards for discharge under the Wilsonville permits.
3. Recognize Regional need for industrial lands drove the Basalt designation in 2004. Consider Regional all Title 4 designations on the Basalt lands best suited and concept planned for industrial in both cities. Assurance of consistent follow through on industrial/employment development in both cities will be of joint benefit, and help such development to be successful.
4. Recognize the critical need for receiving roadways to be improved BEFORE the Parkway sends transportation load onto them. Invest SDC's, TDT (transportation development tax), and potential supplemental SDCs generated by Basalt development in both cities, INTO Basalt improvements. (Past Washington County precedent has been to spend 75% of such supplemental SDC's and TDT in the originating area.)

Mayor Knapp would like to see 100% of the SDC's and TDT funds go to the transportation improvement in Basalt Creek, and for both cities to agree to that.

5. Recognize that the transportation improvements agreed to and planned (in the Basalt Creek Transportation Refinement Plan) are based on projected loads from the identified system. Any substantial additional traffic loads from external locations will likely overload the system and cause it to fail. Therefore major re-evaluation and additional system capacity improvements will be necessary in the event the Region decides to direct other traffic through Basalt.

6. It is important that both cities respect the trip cap for the area and find a way to preserve each city's share. Additional review of trip caps with land uses should occur moving forward.
7. Recognize the need for both cities to be jointly committed to seeking Regional investment in future I-5 crossings. Those crossings will become critical to allowing industrial/employment growth in Basalt, thereby meeting Regional objectives. Without Regional involvement, the crossings will never get built.
8. Strongly consider not building Kinsman Road north of Day. Constraints on its intersection location with Day, high cost of new construction, and fact it would serve only development on its west side all indicate a poor return for the investment. Invest in Grahams Ferry Road improvements instead, which will serve the same lands.
9. Plan on having a joint city agreement on managing the Natural Area along Basalt Canyon. Development is eventually expected along the west side of the canyon which would then be an appropriate location for a bike/pedestrian trail connecting the cities. Such connection would be an asset to both residents and employees in the area, if thoughtfully planned and connected to "through" trails on both north and south.

Mayor Knapp indicated these nine items were the focus of the discussion that took place a week and a half ago. He felt the participants had a good understanding and agreement on why these considerations were important to the overall project. Mayor Knapp asked Council Presidents Starr and Beikman if they had any comments.

Council President Beikman said that transit was talked about. And that it was in both of the jurisdictions interests to lobby Tri-Met and any other regional provider to provide transit services to the area since it was a significant regional industrial area.

Council President Starr added if the funds the businesses pay to Tri-Met could go to SMART that would make the most sense. He noted number three and number six, and that there was substantial discussion about protecting the integrity of the plan so it would stand from election to election and not be changed to protect the amount of money invested in developing the plan, and that each city would find success in the plan as it is built out. Regarding number six both cities agreed it was vital that both cities find a way the trip cap remains in place so the transportation plan will not fail.

Mayor Ogden echoed Council President Beikman's comments that the ideals presented here are important. For the area to function as planned with respect to the land use and transportation capacity that is likely to be in place, and the ability to serve that area and recognizing the transportation system that Washington County is putting into place that facility is really there to serve the region of Tualatin east, Sherwood, and north Wilsonville. We recognize an arterial with limited access will be moving traffic from Tualatin, and Wilsonville in both directions; however it is not a major arterial that will emulate the I-5/99W connector. To the extent that anything like that is considered in the future it will have to honor the land use and planning that is in place here and we're not going to be providing a corridor for that. By default we are precluding a future for a 99W connector, so all the more important to recognize that the transportation piece has to work there and it cannot be overloaded nor can Basalt Creek Parkway be overloaded. Mayor Ogden supported the ideals.

Regarding transit Mayor Ogden recognized a system will be needed to serve the area, and serve it "blind" to the user. It should be a transit system that works regardless of the provider, and is efficient from a tax and return standpoint. A detailed discussion would be necessary in the future on transit services.

Mayor Knapp stated Wilsonville reoriented its entire SMART system toward the WES Station and committed to meet every train and promised Wilsonville employers that their employees would be at their place of employment in ten minutes from when the train arrived. Wilsonville is committed to continuing to provide that type of service to the Basalt Creek area employers. Details regarding transit providers will need to be worked out since Tri-Met controls some of that decision. If the two cities speak jointly to Tri-Met there may be a higher possibility of success.

Mayor Ogden responded whatever is the best solution as long as the two cities are in concert with each other there is a better chance of success in dealing with TriMet. That needs to be the motto on whatever we are doing in that area with extraterritorial money. There should be a coordinated effort between the two jurisdictions, to represent the best interests of our citizens. As we lay the foundation for the mutual agreements we lay the underpinnings of how we proceed in the future on the needs in that area.

Mayor Knapp wanted to know if the councilors had questions or comments.

Councilor Truax expressed his pleasure in the nine Considerations of Success, and the willingness for the two adjoining jurisdictions to enter into an agreement dealing with sewer and stormwater was unique. He applauded the participants of the small group meeting, and with the positive tone that runs through this and felt they were close to having the framework.

Councilor Lehan seconded Councilor Truax's remarks. She thought the small group players distilled out the essential pieces, and while they are not agreed to in detail it clearly states what the cities are intending to do in a general sense, and what the goals are. She was glad to see the commitment, in particular numbers three and six, about the trip caps and the need for the land use piece to follow along. Councilor Lehan pointed out the other partner necessary was the regional government, Metro, to rise to this level of commitment in terms of the trip caps and in terms of the land uses. This whole development grew out of the industrial lands study of 2004, and at that time she recalled Tualatin and Wilsonville were always vying for the most land zoned industrial. Both cities were at 31-32% of land zoned industrial while no other city in the region was close to 30%. Tualatin and Wilsonville lead in terms of industrial percentage and capacity for the size of the cities. What we are looking for besides recognizing that Tualatin and Wilsonville are carrying the region in terms of industrial land, is that regional recognition in terms of trip caps and further industrial and to back up the cities in terms of making this project work.

Councilor Beikman felt funding is limited and it was important for the two cities to work out plans for the SDCs and TDTs and emphasize this area is a regionally significant industrial area and that the regional government needs to recognize that with dollars for the infrastructure so the

project can function properly. Regarding item number six and the traffic trip cap, the city of Tualatin had no interest in adding additional traffic to areas that are not planned for; it was important to buffer the neighborhoods in Tualatin.

Councilor Davis expressed her disagreement with the location of Basalt Creek Parkway in that it should not cut across the canyon, it is too far north, the boundary will split the neighborhood and the responsibility for caring for and maintaining the canyon. The neighborhood on the Wilsonville side will become an island when Wilsonville has been clear its intent for Basalt Creek is industrial and not residential. Councilor Davis' intent is to maintain the area around the east side of the canyon, and to protect the canyon and insure the neighborhood is saved as a cohesive piece on the Tualatin side.

Councilor Lehan said she would not have chosen the current boundary until she realized the elevation of the Parkway and how access to the Parkway was limited. When a road is between 5-30 feet in the air it becomes a significant barrier.

Mayor Knapp stated because of the physical constraints of the Parkway and because of the need to have development clustered around roads that at will serve the nodes of industrialization, overlaid by the physical characteristics of the Parkway have led to the decision that the Parkway location is the most logical jurisdictional boundary line between the two cities. The slide showing the jurisdictional boundary line between the two cities was displayed again.

Mayor Knapp said the direction to staff would incorporate the Considerations for Success, including the addition of number ten which mentions transit service, as drafted the language reads, "Cities will work jointly to secure transit service for business and residents of Basalt Creek through SMART or Tri-Met."

Mr. Cosgrove recommended councilors to state their general support or raise their concerns, and direct staff to bring back a resolution on what they have seen this evening.

Regarding the transit issue Mayor Ogden felt the language should be less specific; rather the language could suggest something that is jurisdictionally blind to the user, cost effective, and has some mutual relationship to both districts.

Mayor Knapp did not what the transit service to be locked into only one possible provider. He understood if Wilsonville expanded its boundary to the Parkway and annexed that area the City would still not have a right to not collect Tri-Met taxes in the new expansion area.

Mayor Ogden did not want to walk away with any conceptions that may come back and be a surprise. For example, the notion of 75% of the SDCs or TDT money going to the district but that will not be enough for transportation and additional financing tools will need to be found. He thought the shortage of transportation funding and the need for transportation should be expressed and that all of the money raised in this area should benefit the area; but placing a number on it tonight may be restrictive.

Mayor Knapp did not think what was written contradicted that, it recognizes the need and investing those funds generated in the district back into the district is what it says in concept. The other is a footnote regarding the Washington County's past precedent. The Mayor asked each council member to provide their thoughts.

Councilor Bubenik shared some of the concerns raised by Councilor Davis about Basalt Creek being two jurisdictions and the neighborhoods split into two different cities. Other than that he thought the plan was good. Consideration number nine protects the canyon to insure it is maintained. He was in support of moving forward in the process and the Considerations for Success and the boundary proposal.

Councilor Lehan saw the logic in the boundary being Parkway. She was comfortable with the Considerations for Success. Regarding the canyon she was committed to protecting the natural area. The Councilor noted Wilsonville's zoning did not put pressure on property owners to develop any faster than they wanted to. The Elligsen property south of Costco is an example, it is still being farmed and there is no pressure to change its use. She thought the canyon was a beautiful asset and having trails connecting the area to both cities was a good idea. Councilor Lehan supported the boundary.

Councilor Brooksby felt the same as Councilors Davis and Bubenik, he supported the current boundary as chosen reluctantly and thought it should be lower, he is concerned the Parkway could be further south to be more effective. The Councilor agreed that property owners should not be pressured to develop.

Councilor Fitzgerald supported the boundary and thought it was a good plan. She identified number eight as a good element to focus on Grahams Ferry Road rather than Kinsman. She supported the idea of the cities working together for regional transportation money for road improvements. Regarding transit, tem number ten, the Councilor hoped an efficient and appealing system is developed that gets people to use it, alleviating congestion.

Councilor Beikman agreed.

Councilor Starr agreed and asked who decided to locate the Parkway where it is.

Mr. Cotugno said Washington County led the process but it was carried out through this joint city planning process.

Councilor Starr confirmed it was a neutral third party (Washington County) that determined where the road went. This is a deviation from where some may have remembered, the west side of the area and north of the Parkway is more land that was added into Tualatin with good industrial potential which is a 'win' recognizing Tualatin was giving up some of the canyon area. Referring to item four, the Councilor wanted 100% because there is never enough money for transportation. He supported the idea of jointly approaching the state and region for funding. Councilor Starr suggested wording item number ten to recognize and support SMART and/or another transportation service; however, in the Wilsonville boundary it would be SMART, and in

Tualatin we would support what Tualatin wanted to do. He supported the placement of the boundary.

Councilor Truax indicated his support of the boundary. He was in general support of the whole proposal with the understanding that each item of consideration for success will merit a lot of work. Regarding transit, we should take SMART from the Parkway north; Tualatin will work to support servicing the area in the most efficient way, both from a service and economic standpoint.

Councilor Davis agreed with Councilor Truax's transit comments. There were elements of the Considerations for Success she agreed with, the sewer and stormwater pieces, the discussions around the SDCs and TDT is going in the right direction. The Councilor has fundamental disagreements with the project in terms of the canyon, the neighborhood to the east of the canyon and the alignment of the Basalt Creek Parkway.

Councilor Grimes was in general agreement for the proposed boundary. She was concerned about the canyon and the green space and the elevated bridge/roadway cutting across the canyon; however those concerns were mitigated to some degree by the commitments from both councils to protect the green space, which provides protection to the Tualatin neighborhood. The desire for jobs needs to be balanced with the need to protect Tualatin livability. Councilor Grimes appreciated the Considerations for Success and the framework as long as they are not viewed as narrow constraints.

Councilor Stevens would like the decisions to be memorialized quickly so funds will not be wasted should it be decided to do something differently in the future. Items that there is agreement on should be the first to be memorialized, an IGA to protect the canyon as a natural resource between the two cities; likewise the bike/ped pathway. Another element that can be memorialized is the decision not to build Kinsman Road. The Councilor liked the fact that the Parkway will be identified as the boundary between the two communities. She felt the Considerations for Success are close to being goals for success, and the document should be memorialized so that decisions are known in the future.

Mayor Knapp thought the two city managers had received clear direction from their councilors on what direction staff needs to take. He asked Mr. Fregonese how to take the general consensus and what to expect in way of documentation and how to build something that will memorialize the ideas expressed.

Mr. Fregonese explained a concept plan will memorialize these ideas in concept. He will prepare the concept plan for the two cities to adopt. A Title 11 memo to Metro governs the regional aspects of the concept plan. Each city will adopt a comprehensive plan amendment which will have implementation components to it. Agreements between the two cities outlining what each city will be responsible for need to be written. Both cities will have urban planning area agreements with Washington County. He thought both cities would want the area to remain rural and not develop until it has been annexed into each city. Additional agreements with Tri-Met, Clean Water Services may be necessary, and the concept plan will list those. The concept plan will have the foundation for each city to take on and sign the more formal agreement

starting with the concept plan and IGA between the two cities in terms of where you go from here.

Councilors will see a draft of the concept plan that has all the ideas in one document with a list of how each item will be implemented and be put into force.

Mayor Knap thought there were a lot of things to be accomplished which falls to each city's staff. He asked if Washington County rules enabled things to happen that we don't want to happen, and how to keep that from happening; do we have control over that.

Mr. Fregonese said each city has an existing Urban Services Agreement with Washington County, and he thought the agreement could be review and a discussion held with the County.

Councilor Truax stated he was willing to have a discussion on the future of Kinsman Road.

Councilor Lehan wanted councilors from both cities to keep in mind I-5 is the life blood arterial for both cities, and nothing we do should cause the interchanges or I-5 to fail.

Mayor Ogden thanked Mayor Knapp for his leadership throughout the process. This was the first time there has been a jurisdictional planning effort addressing the concerns of both cities.

Mayor Knapp felt a good basis was in place for moving forward. He expressed appreciation to the staffs of both cities for their work. While there are concerns, they will try to mitigate those concerns and find the best way to handle them.

Mayor Knapp adjourned the meeting at 7:37 p.m.

_____
Sandra C. King, MMC, City Recorder

ATTEST:

_____
Tim Knapp, Mayor

MEETING NOTICE AND AGENDA

JOINT CITY OF TUALATIN AND CITY OF WILSONVILLE COUNCIL WORK SESSION

Basalt Creek Concept Plan
Joint Meeting #3

City of Tualatin
Police Training Room
8650 SW Tualatin Road
Tualatin, Oregon 97062

June 17, 2015
6:00 p.m.

Purpose

- Update Tualatin and Wilsonville Councilors on the current status of the project
- Present and review jurisdictional boundary options, land use scenarios, and cost/revenue analysis prepared to-date
- Councilors provide input to inform creation of a preferred alternative

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Basalt Creek Concept Plan Project – Joint Work Session Discussion

A. **CALL TO ORDER** (Mayors, 5 minutes)

B. **WELCOME AND INTRODUCTIONS** (Councils, 5 minutes)

C. **PRESENTATIONS** (Consultant Team, 45 minutes)

1. Purpose of Meeting

2. Land Use Scenarios

   a. Planning Process Overview

   b. Boundary Options

   c. Evaluation

D. **SUMMARY AND DISCUSSION** (Councils, 60 minutes)

1. What boundary option should be included in the preferred alternative?

2. What land uses should be included in the preferred alternative?

3. What indicators or criteria are a top priority in creating the preferred alternative?

E. **NEXT STEPS** (Consultant Team, 5 minutes)

F. **ADJOURNMENT**

MEMORANDUM
CITY OF TUALATIN

TO: Honorable Mayors and Members of the City Councils

THROUGH: Sherilyn Lombos, City Manager, Tualatin
Brian Crosgrove, City Manager, Wilsonville

FROM: Aquilla Hurd-Ravich, Planning Manager, Tualatin
Alice Cannon, Assistant City Manager, Tualatin
Miranda Bateschell, Long Range Planning Manager, Wilsonville

DATE: 06/17/2015

SUBJECT: Basalt Creek Concept Plan Project – Joint Work Session Discussion

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ISSUE BEFORE THE COUNCIL:

The purpose of tonight's meeting is to:

- Update Tualatin and Wilsonville Councils on the current status of the project
- Review and discuss the jurisdictional boundary options
- Review and discuss the land use scenarios
- Review the cost/revenue analysis prepared to date
- Provide input to staff to create a preferred alternative
-

An Agenda is included as Attachment A and tonight's presentation is included as Attachment B.

EXECUTIVE SUMMARY:

Project Update

The Basalt Creek Concept Plan will establish a vision and jurisdictional boundary for the 847 acres between the cities of Wilsonville and Tualatin.

At the Tualatin - Wilsonville Joint City Council meeting in December 2014, the project team presented a base-case infrastructure and land use scenario with an initial jurisdictional boundary along the future east-west connector, Basalt Creek Parkway. Members of the Councils expressed significant concerns regarding the initial design and potential costs for sanitary sewer construction in the planning area and directed staff to re-evaluate the sanitary sewer system.

Staff spent the following months conducting a more detailed sewer alternatives analysis and geotechnical exploration and, at separate City Council work sessions (April 20 in Wilsonville and May 11 in Tualatin), presented three additional sanitary sewer alternatives for consideration. At the work sessions, both City Councils indicated that sanitary sewer service boundaries need not coincide with the jurisdictional boundary and that shared service agreements among Wilsonville, Clean Water Services (CWS) and Tualatin are an acceptable method of providing sewer service to the planning area.

Planning Objectives

At the December Joint Council meeting, members of the Councils also expressed key objectives for the project team to focus on in preparing alternative scenarios:

- Design efficient infrastructure systems (considering both construction and long-term operating and maintenance costs) independent of jurisdictional boundary.

- Examine additional boundary options that do not necessarily follow the future Basalt Creek Parkway alignment.
- Aim for jurisdictional equity when considering the various measures altogether.
- Provide more residential capacity in the northern portion of the planning area for the City of Tualatin.
- Propose creative solutions for transitions from employment to housing.
- Focus on land uses that will create development forms reflective of the two cities.
- Present a scenario designed around an implementable infrastructure plan.

Boundary Options, Land Use Scenarios and Cost/Revenue Analysis
The objectives, as well as the Basalt Creek Guiding Principles and Evaluation Criteria, guided the project team during the scenario analysis and in developing the two land use and boundary options for consideration by the Joint Council. Using Envision Tomorrow (modeling software), the analysis included land use modeling with specific building types from each of the cities and localized fees and SDCs. Once these land uses were modeled, particular indicators were reviewed to evaluate the different scenarios. Although there are clear differences between the two land use scenario boundary options, both provide:

- high-quality employment and housing opportunities,
- innovative and appropriate transition areas between residential and employment uses,
- responsiveness to the real estate market,
- robust and efficient infrastructure systems, and
- development that generally “pays its way”.

In both scenarios, options remain for how sanitary sewer service will be shared in specific portions of the study area. This will be determined in the future in preparation for development and through shared service agreements regardless of the selected boundary option.

Expected Results and Timeline
The project team is seeking direction on a preferred jurisdictional boundary and land uses. With this direction, the project team will work over the summer to refine the boundary and land uses to create a preferred alternative. Staff will return later in the summer to present the preferred alternative, and a public open house will occur in August/September to ask for input.

Attachments: PowerPoint

Basalt Creek
Concept Plan

Joint Council Meeting #3

June 17, 2015

Agenda

I. Introduction

II. The Land Use Scenarios
- Planning Process Overview
- Boundary options
- Evaluation

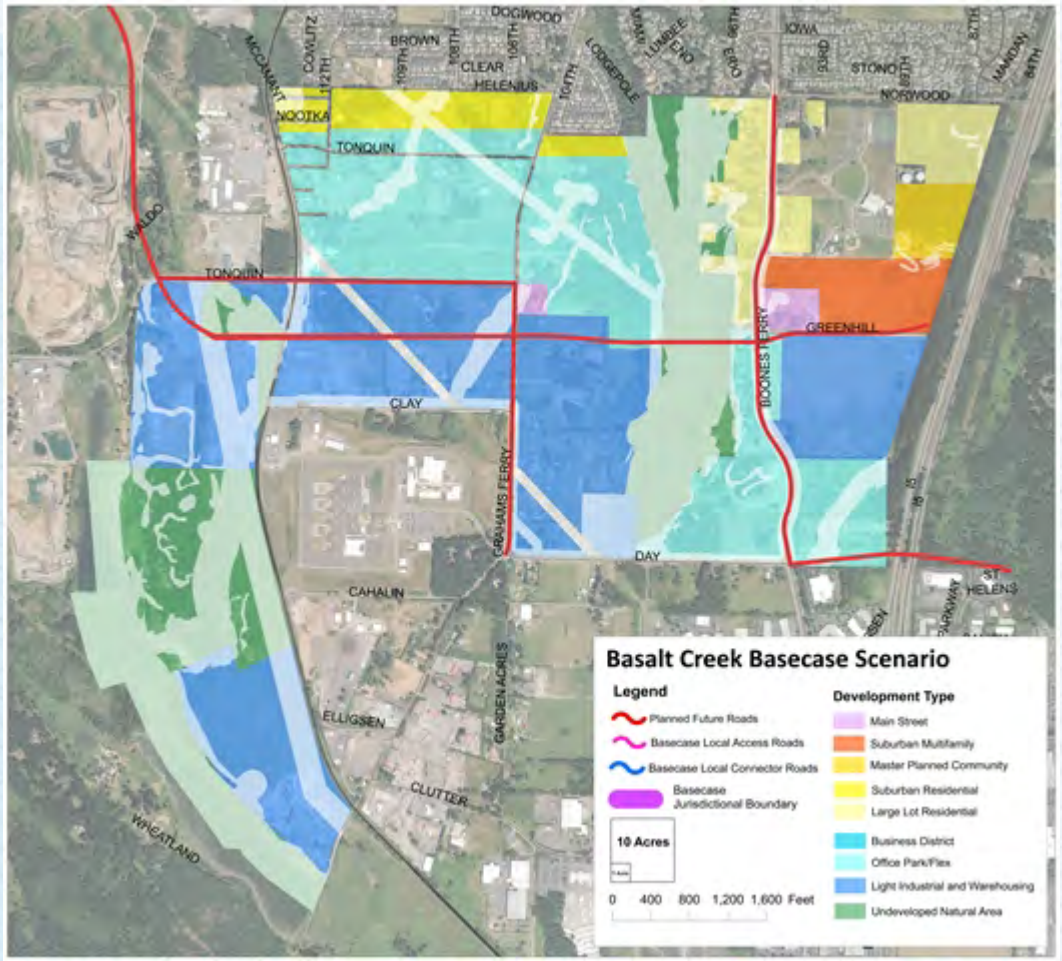
III. Summary and Discussion

Land Use Scenario

Planning Process Overview

Base Case

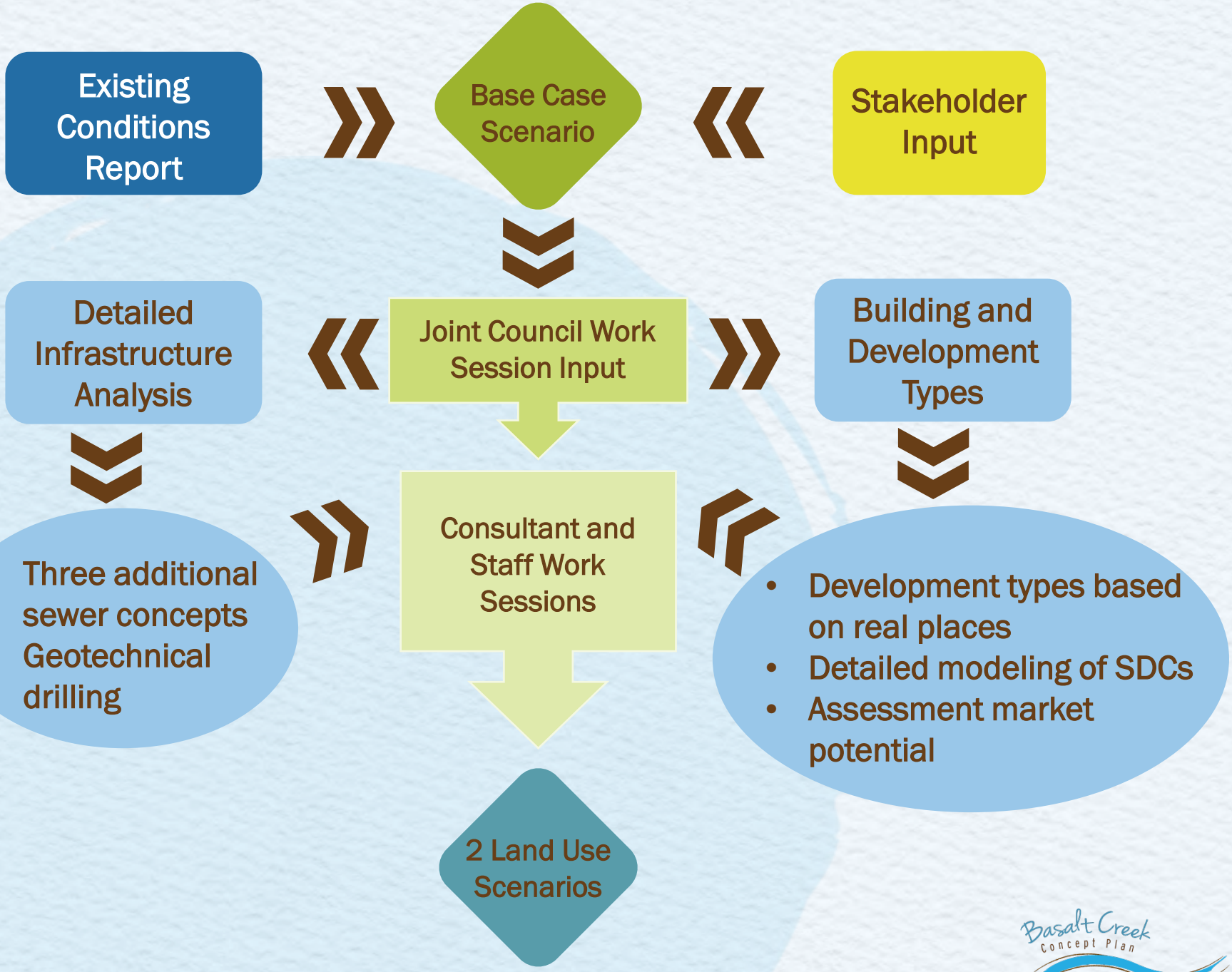
- Design principles focused on conventional land uses types
- Started with the regional forecast and adjusted to be more employment focused
  - Understand impacts on the transportation system and trip sideboards
- Develop an initial city boundary, based on Metro ordinance
  - Understand infrastructure cost and service implications



Dec 2 Joint Council Input

Land Use Scenario Objectives

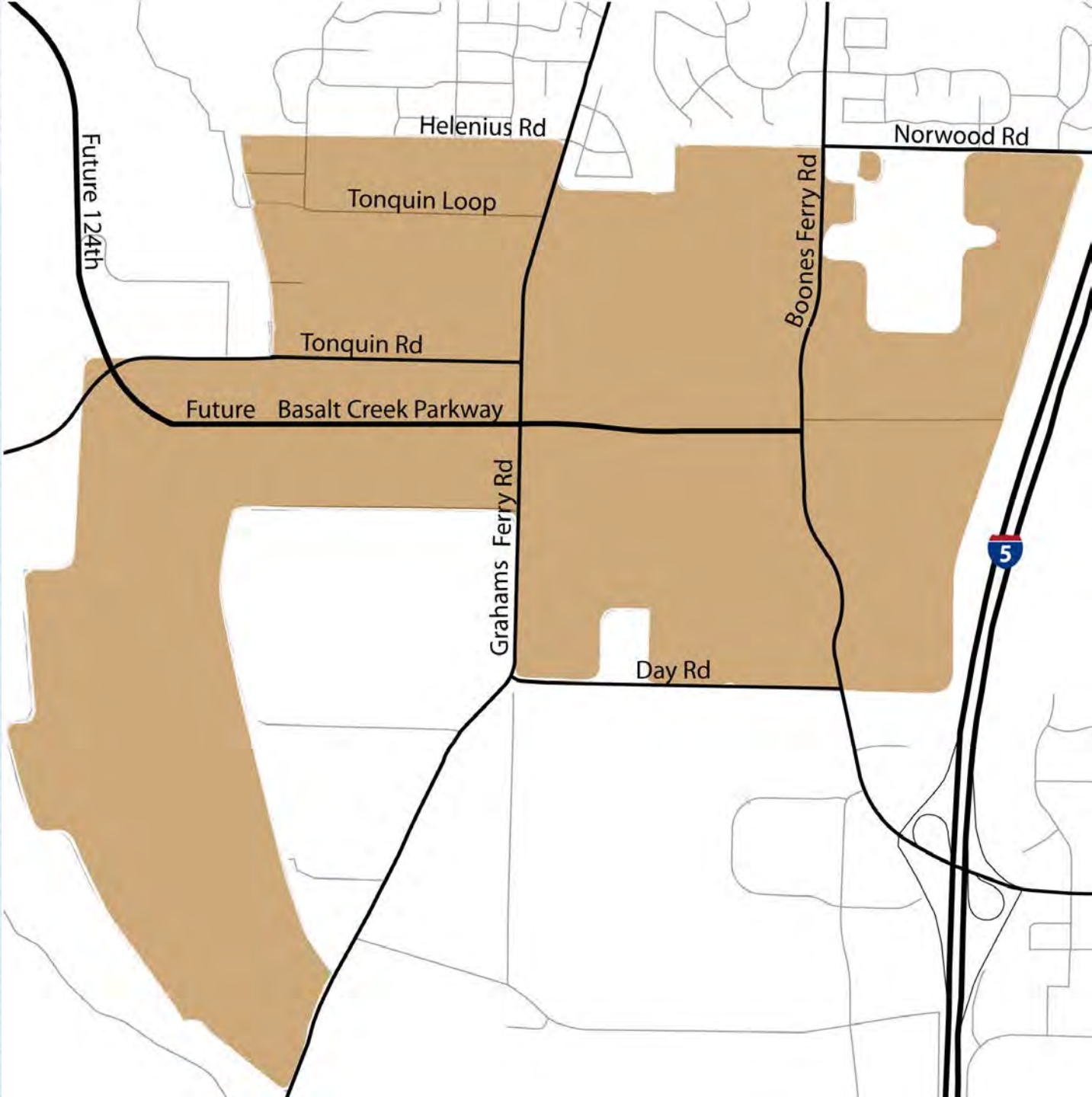
- A scenario designed around an implementable infrastructure plan
- Design principles focused on creating development forms reflective of the two cities
- Examine other boundary options that do not rely on the east west connector. Explore service agreements.
- Jurisdictional equity
- More residential for Tualatin in the north
- Consider creative solutions for transitions from employment to housing


Existing Conditions Report
Base Case Scenario
Stakeholder Input
Detailed Infrastructure Analysis
Joint Council Work Session Input
Building and Development Types
Three additional sewer concepts
Geotechnical drilling
Consultant and Staff Work Sessions
Development types based on real places
Detailed modeling of SDCs
Assessment market potential
2 Land Use Scenarios

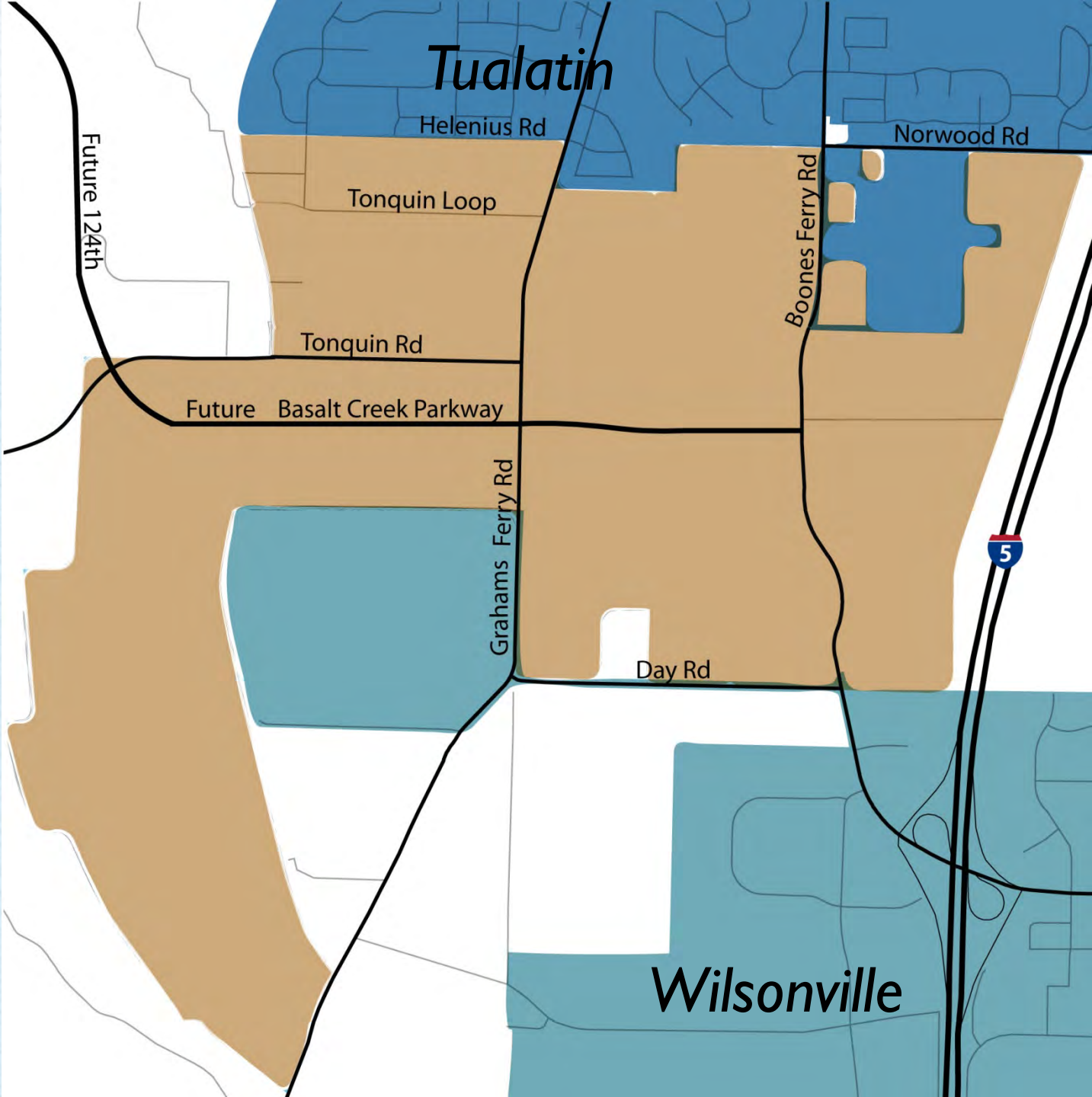
Land Use Scenario

Boundary Options

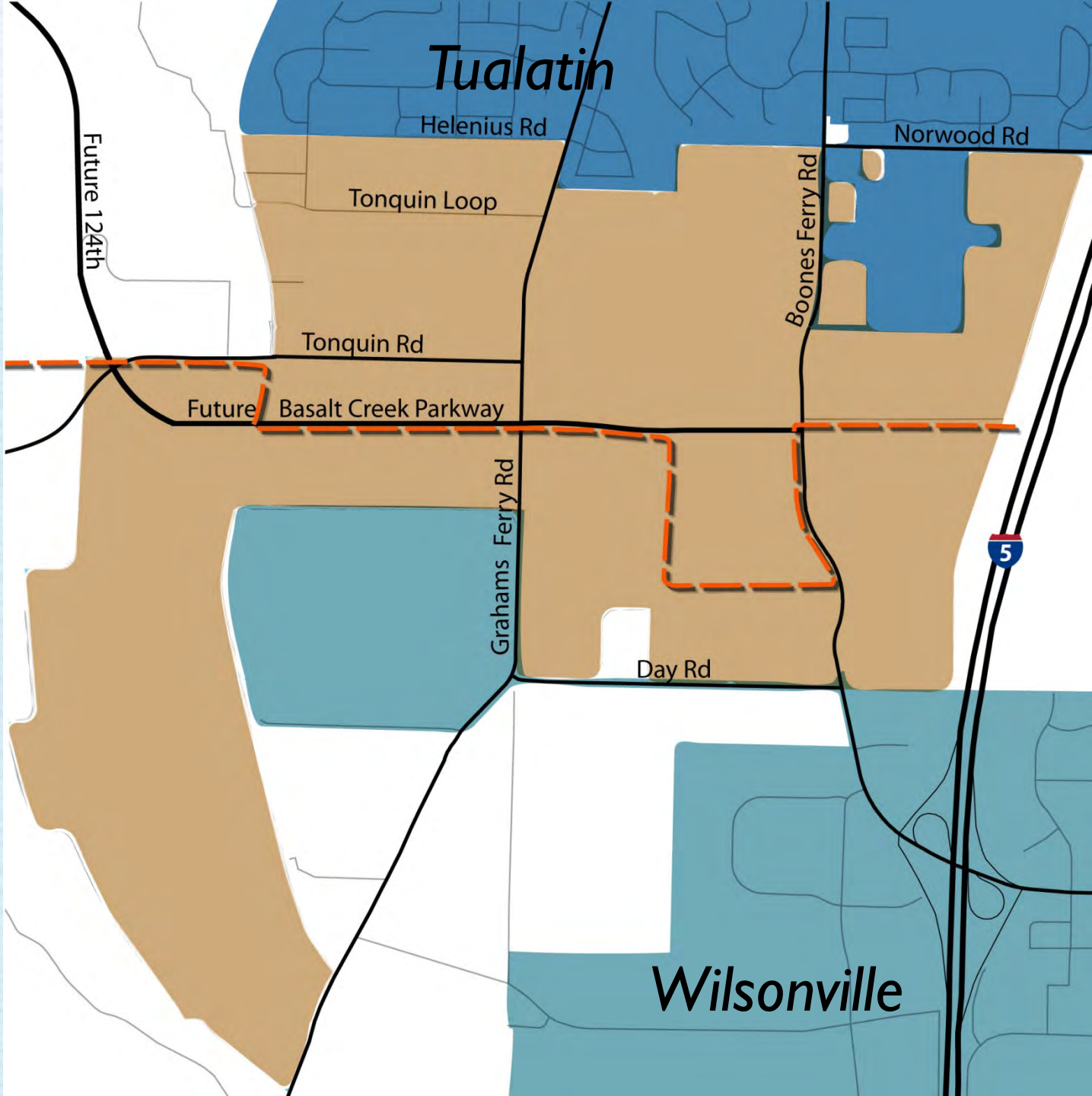
Study Area


Helenius Rd
Norwood Rd
Future 124th
Tonquin Loop
Boones Ferry Rd
Tonquin Rd
Future Basalt Creek Parkway
Grahams Ferry Rd
Day Rd
5

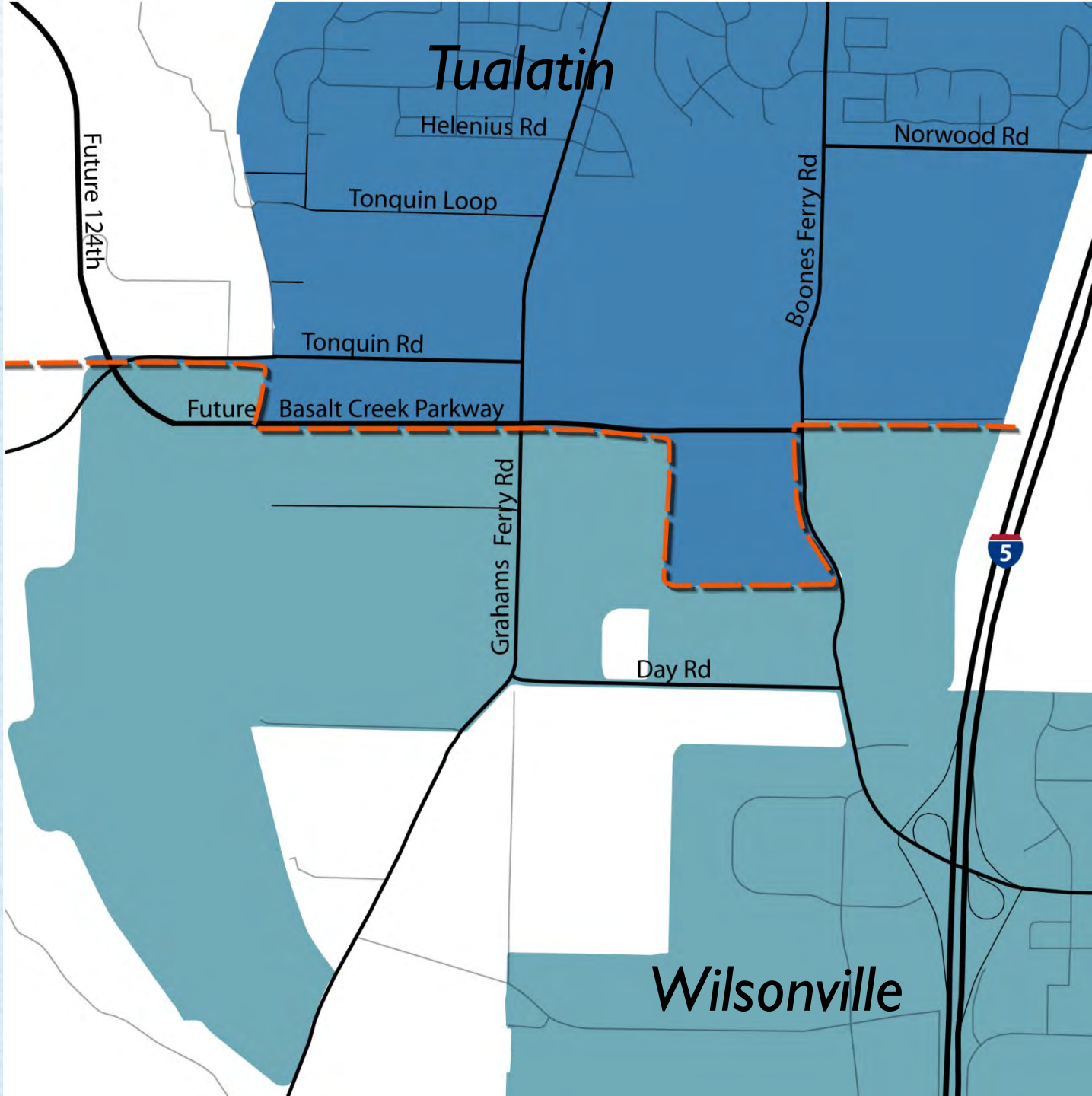
City Limits Today



Boundary Option 1



Boundary Option 1



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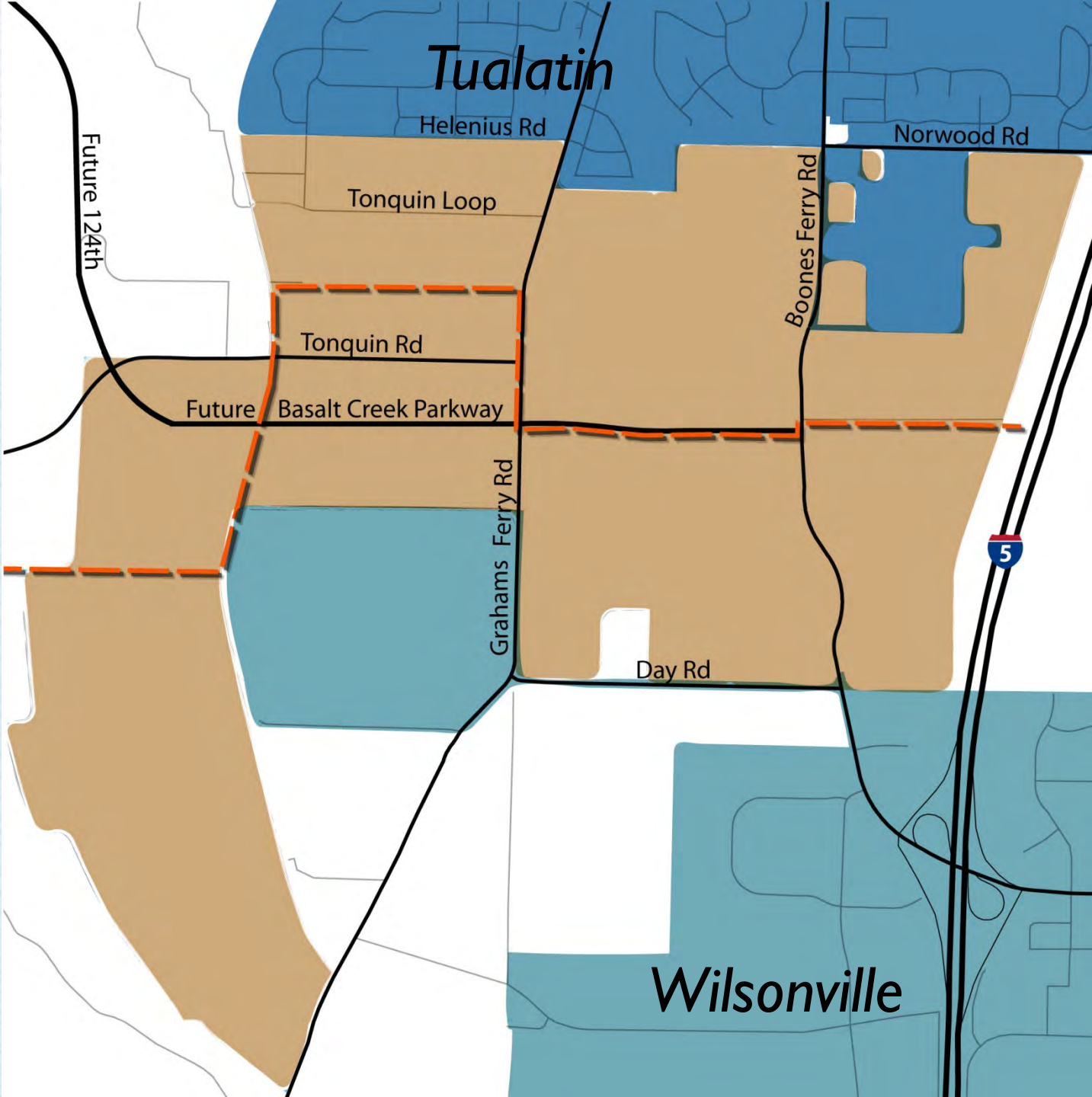
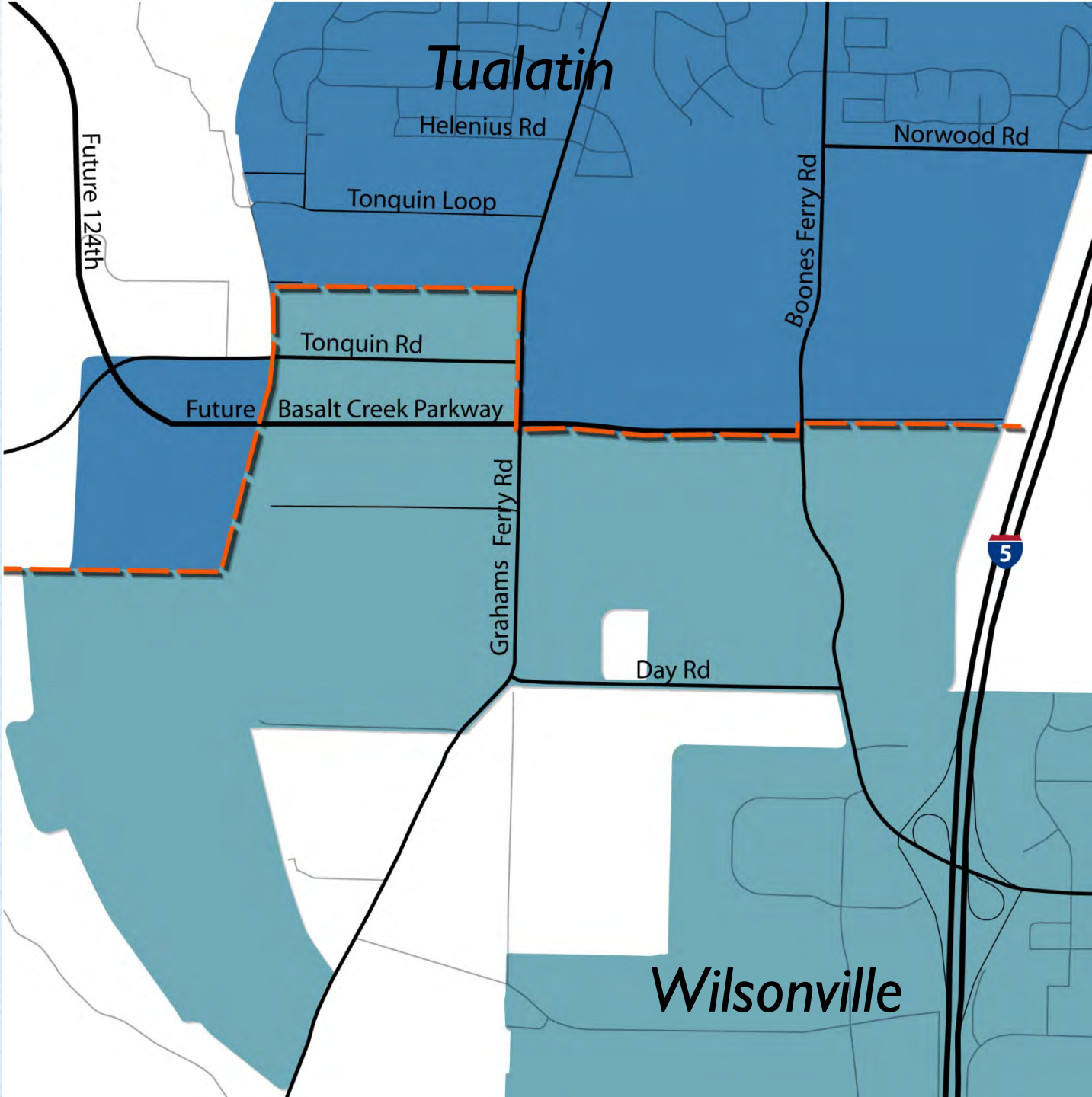


Boundary Option 2

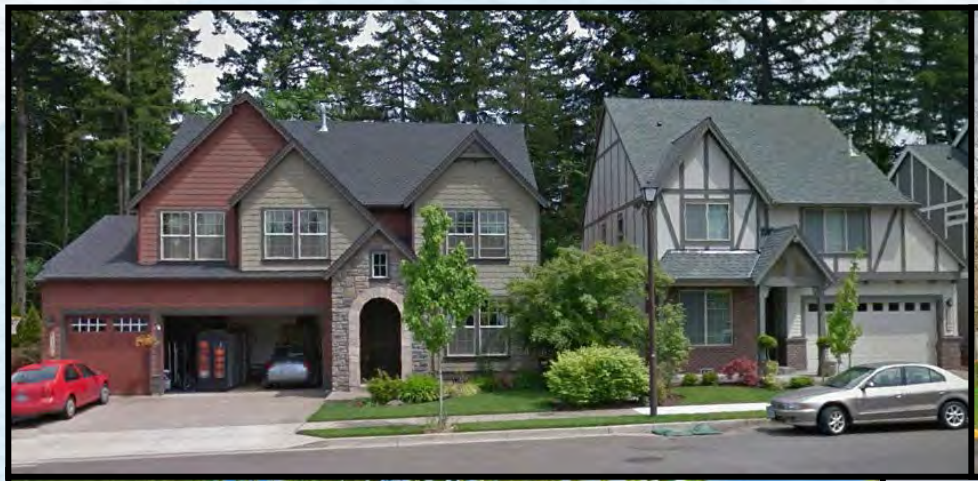


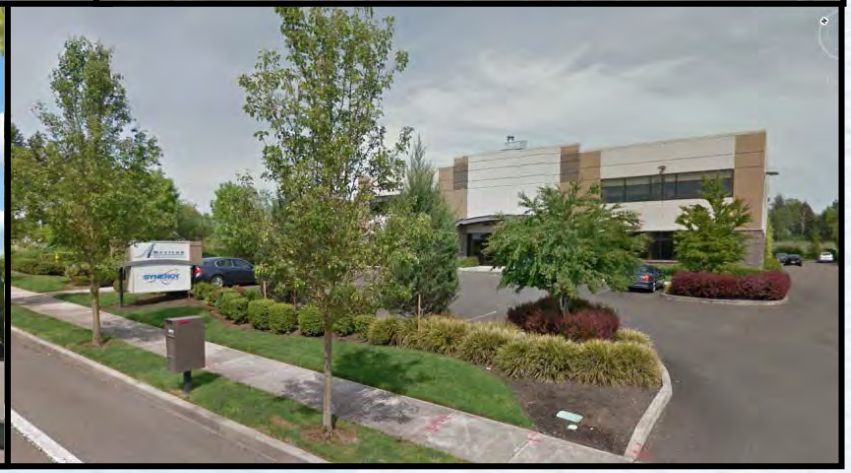
Land Use Scenarios

Evaluation

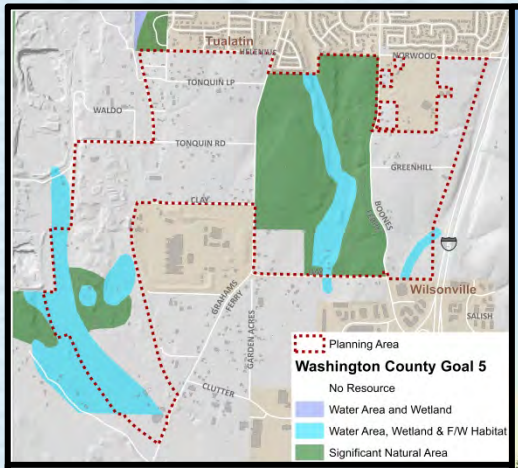
GP1: Maintain and complement the Cities' unique identities

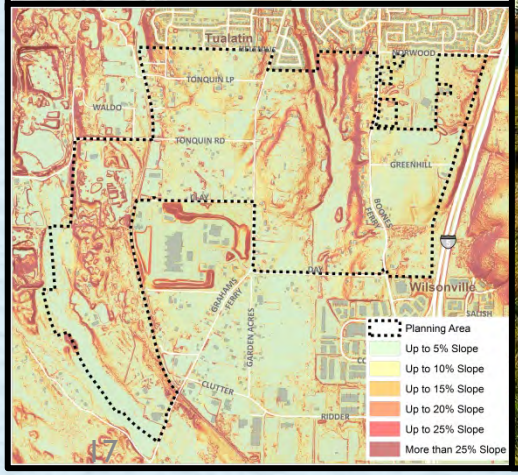
Modeled real places





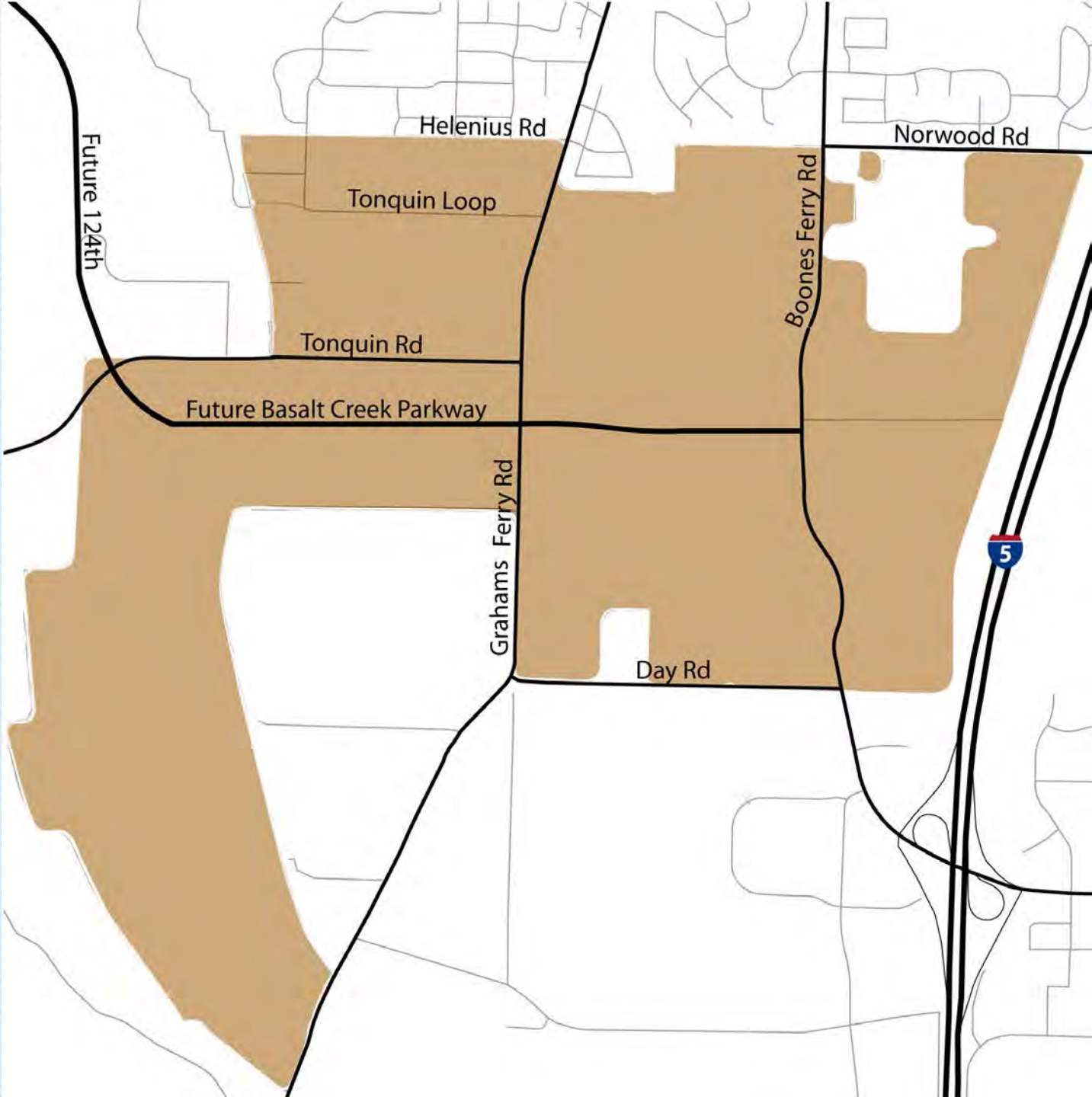
GP2: Capitalize on the areas' unique assets and natural location





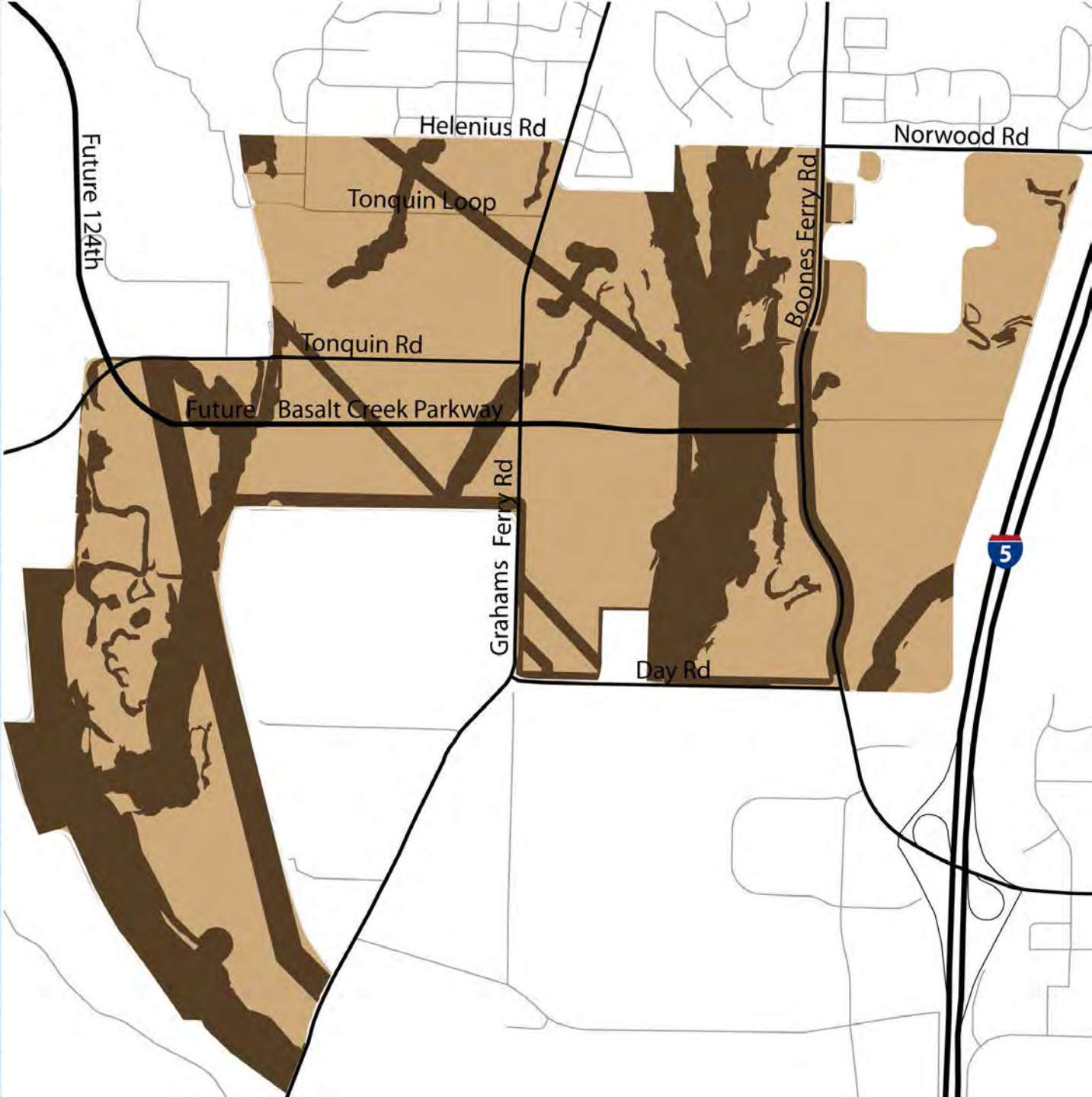
Conservation-oriented approach to the creek and sensitive natural areas

Study Area


Helenius Rd
Norwood Rd
Future 124th
Tonquin Loop
Boones Ferry Rd
Tonquin Rd
Future Basalt Creek Parkway
Grahams Ferry Rd
Day Rd
5

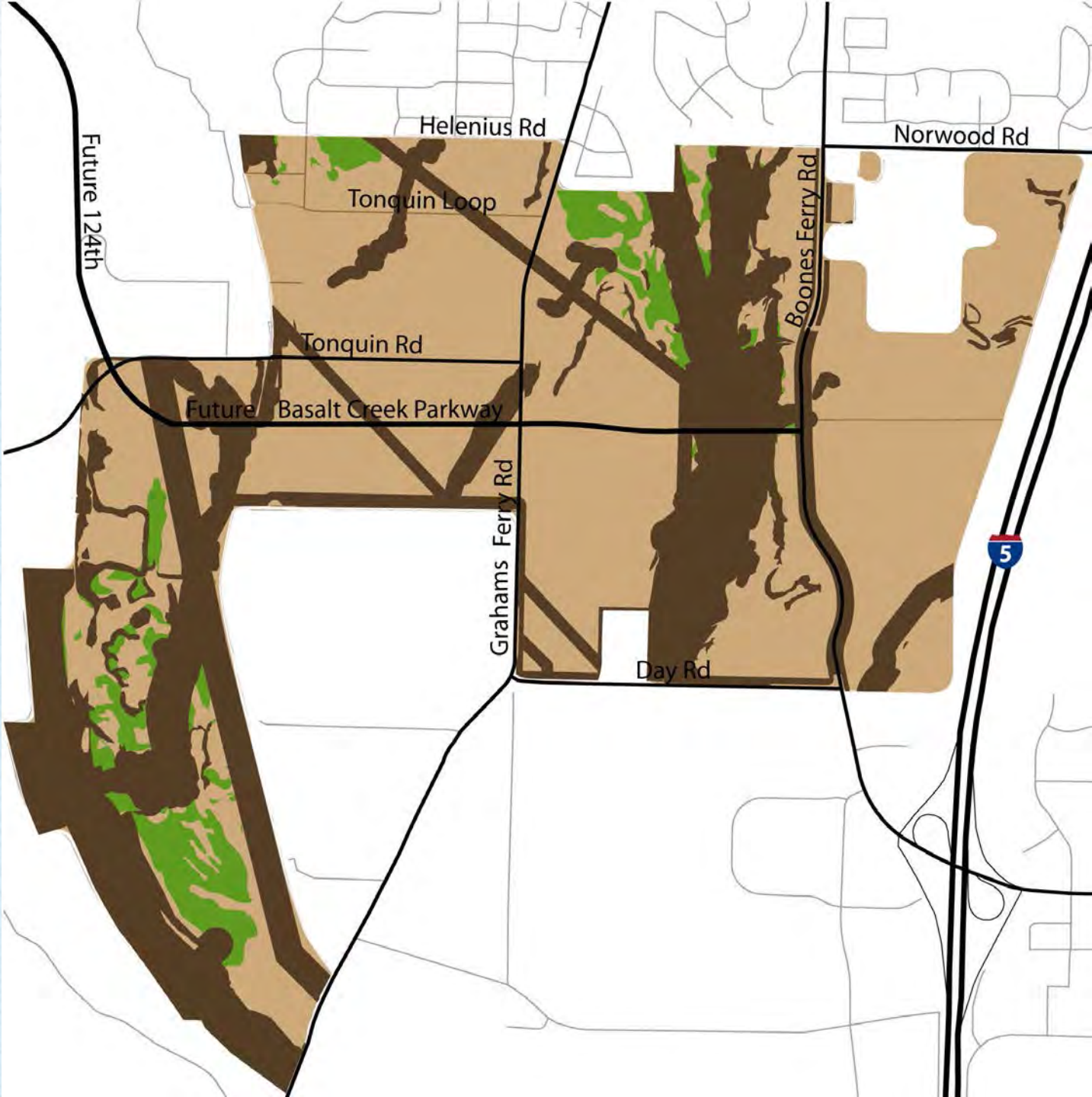
Hard Constraints

- Steep slopes (>25%)
- Open water and streams
- Wetlands
- Floodplains
- Utility easements
- Slope Stability
- Title 3 land
- Title 13 land
    - Riparian I/II



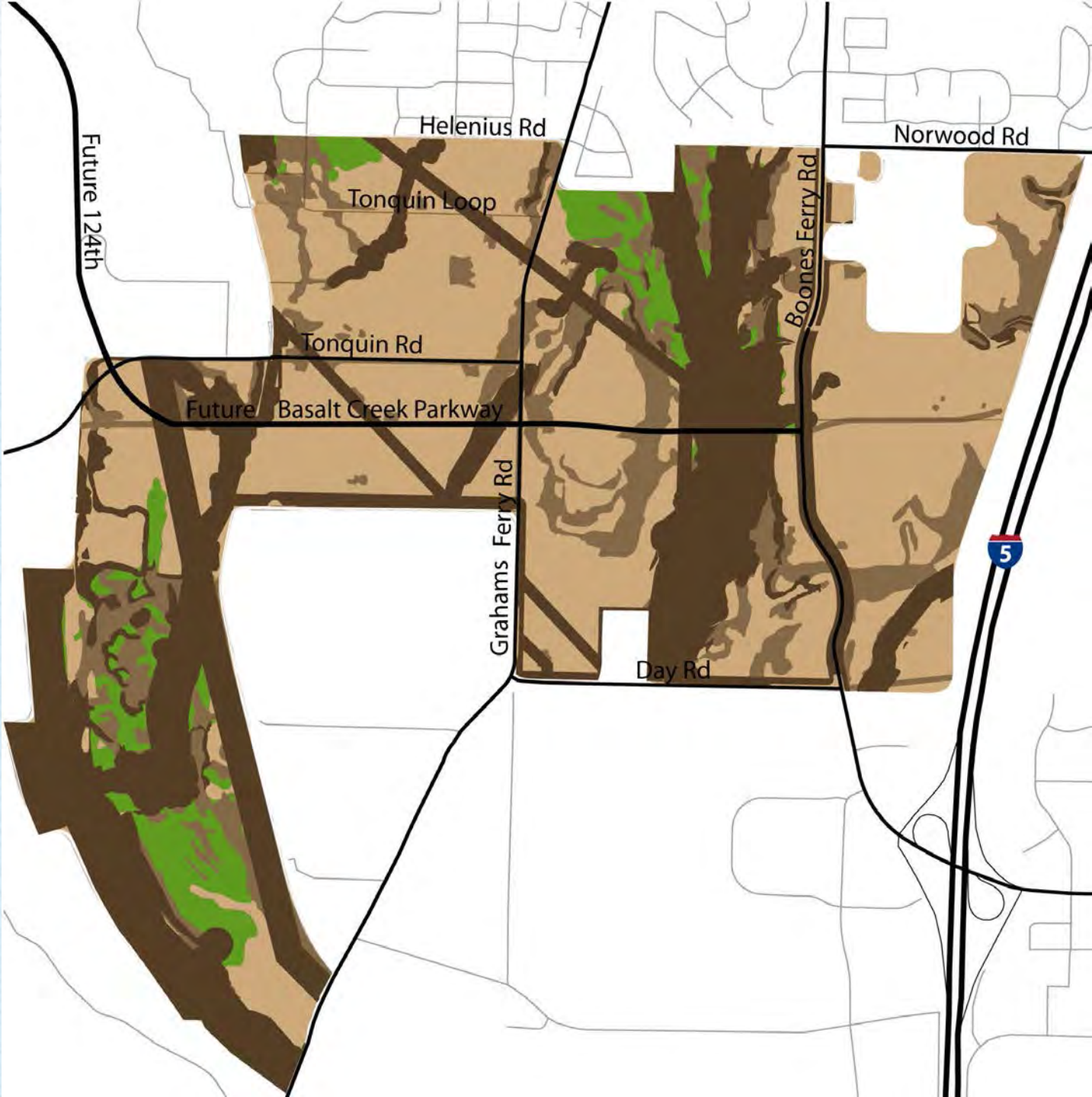
Including Title 13 Land

- Steep slopes (>25%)
- Open water and streams
- Wetlands
- Floodplains
- Utility easements
- Slope Stability
- Title 3 land
- Title 13 land
  - Riparian I/II
  - **Upland Class A**



All Constrained Lands

- Steep slopes (>25%)
- Open water and streams
- Wetlands
- Floodplains
- Utility easements
- Title 3 land
- Title 13 land
  - Riparian I/II
  - Upland Class A
- **Steep slopes (10-25%)**



GP3: Explore creative approaches to integrate jobs and housing

Basalt Creek Concept Plan

Create transitional zone

- More green space, live-work spaces, incubator and small business, employment flex space, personal services, creative industries, landscape buffers

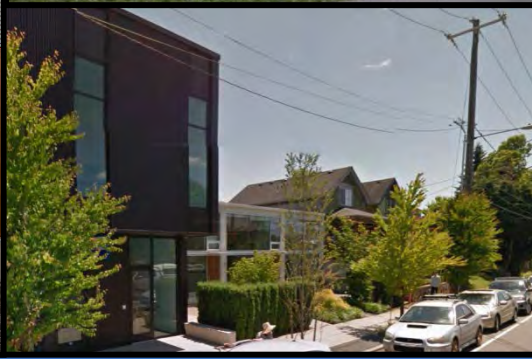
GP4: Create a uniquely attractive business community unmatched in the metropolitan region

Created realistic buildings that reflect local conditions and market potential

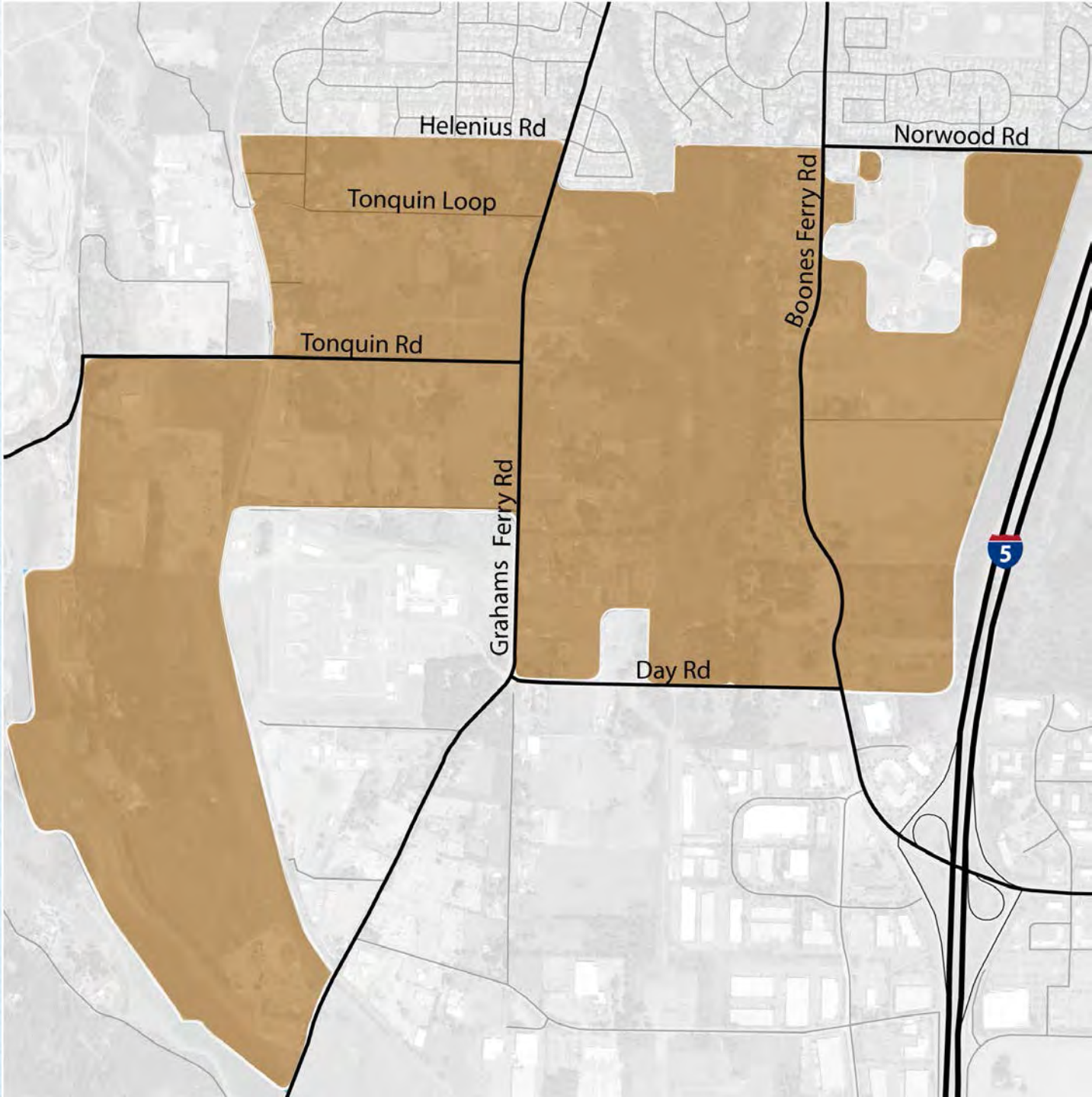
Flexibility in employment district to allow for a range of uses to take advantage of the market

Basalt Creek Concept Plan

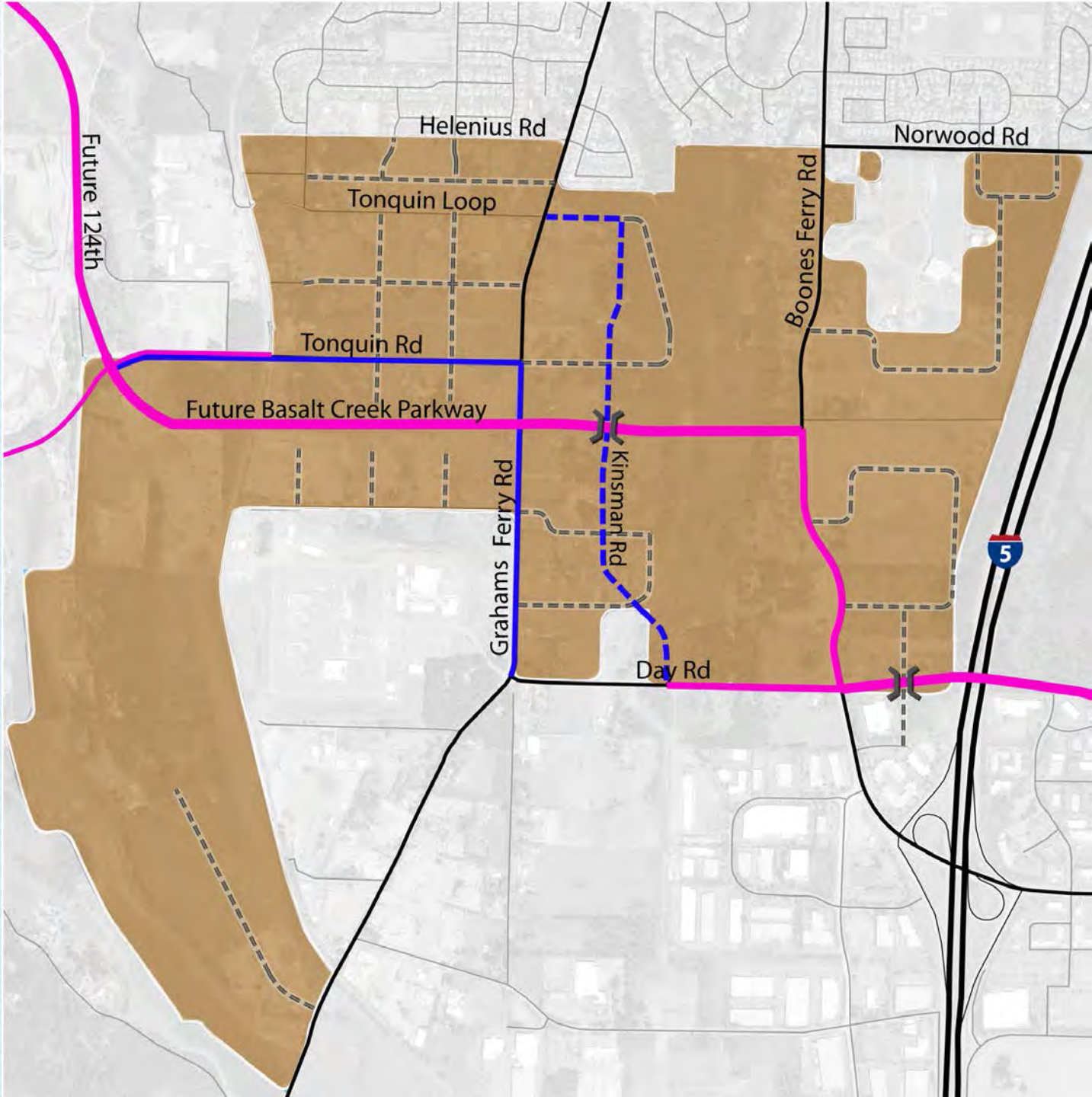
GP5: Ensure appropriate transitions between land uses



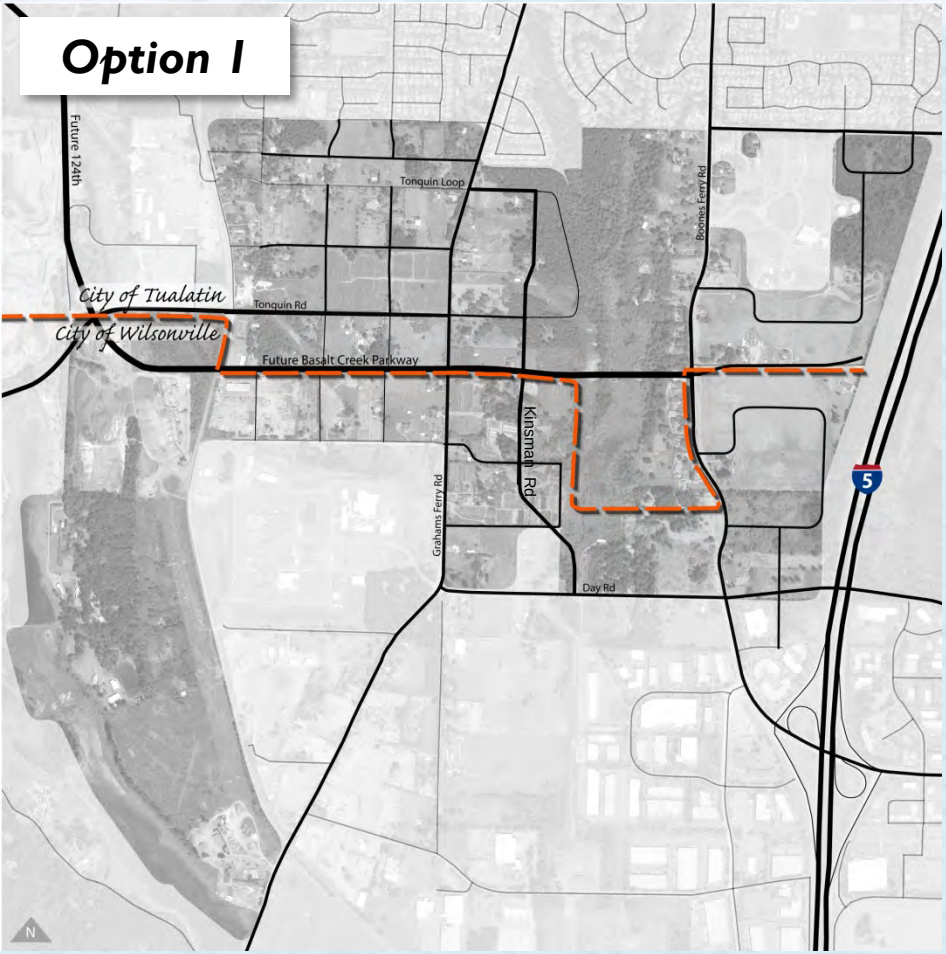
Existing Transportation Network

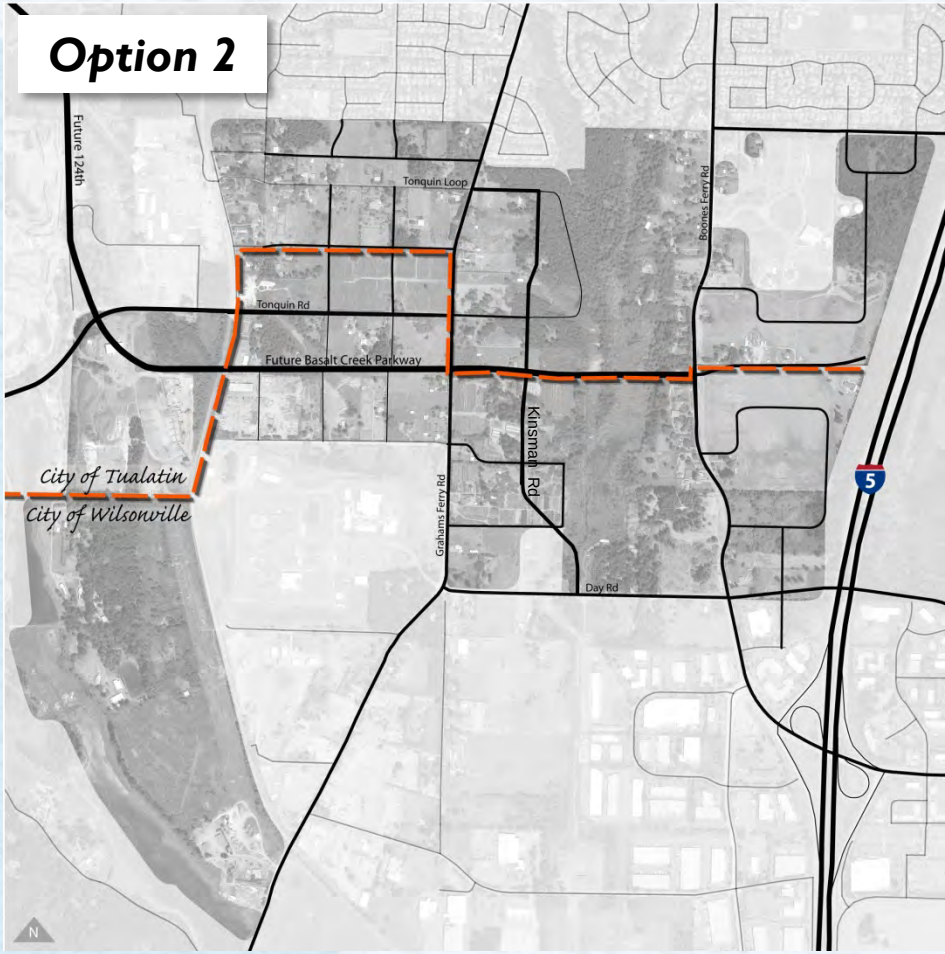


Proposed Local Street Network



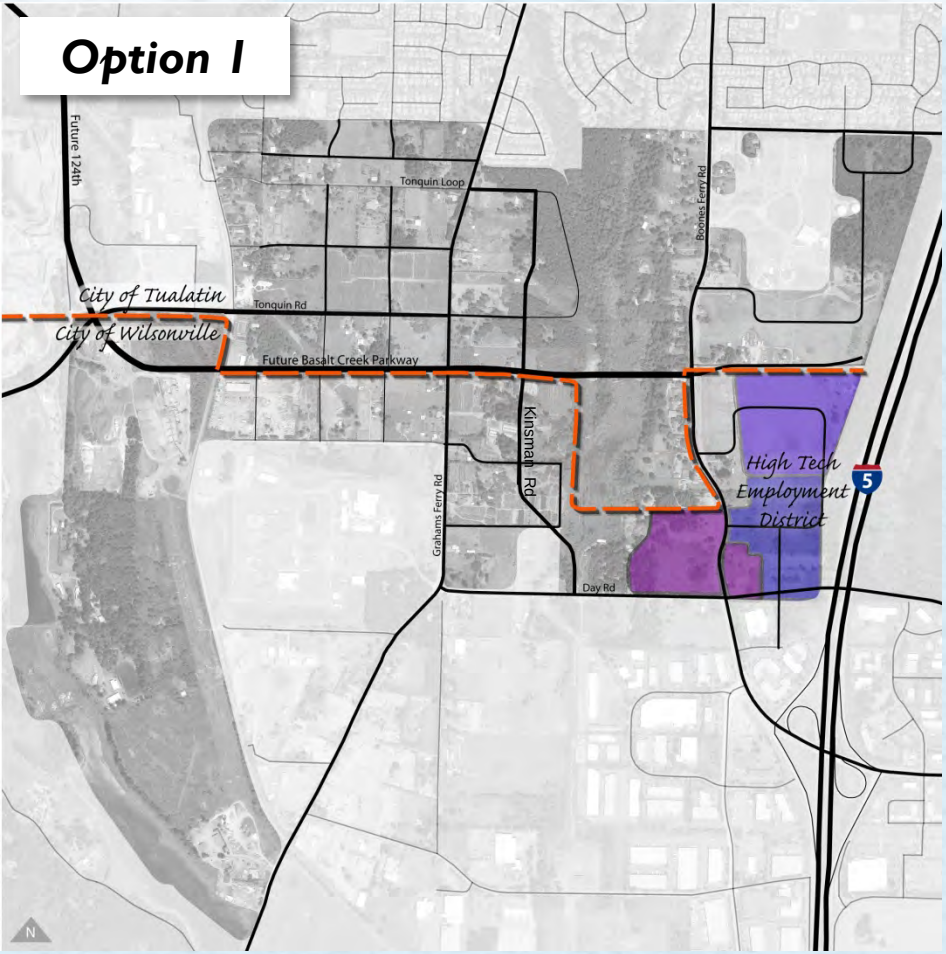
Boundary Options

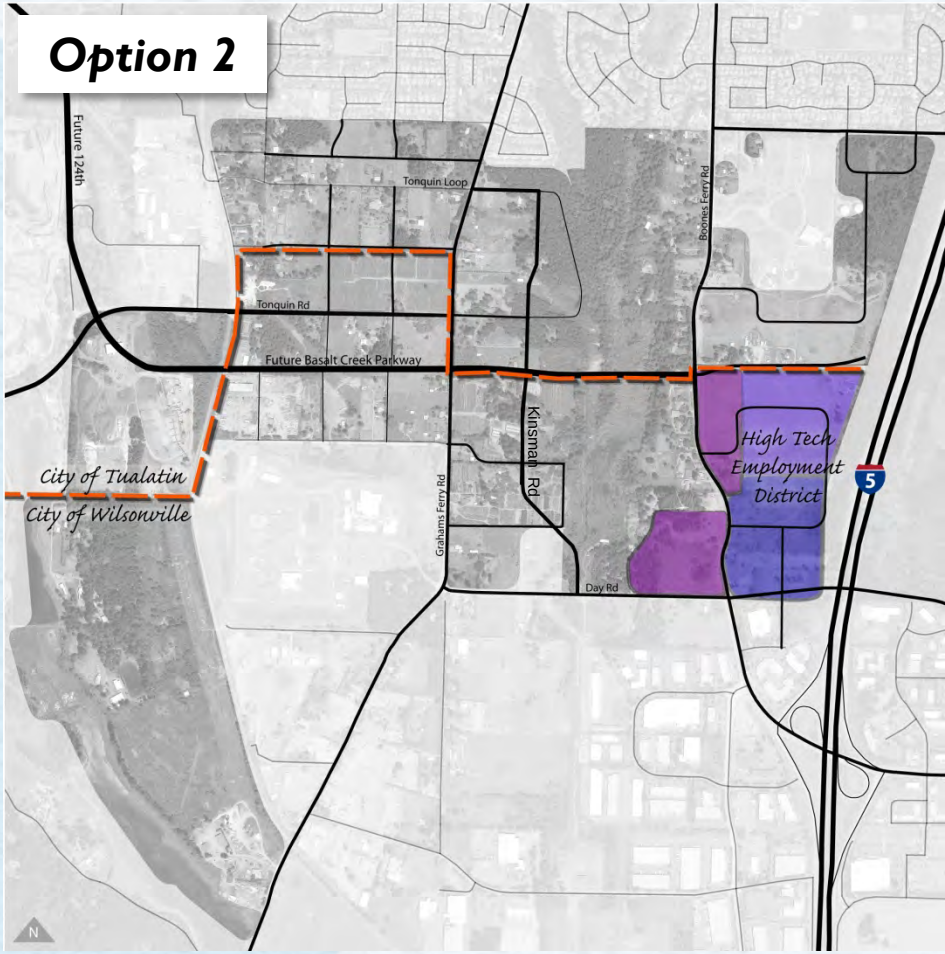




Basalt Creek Concept Plan

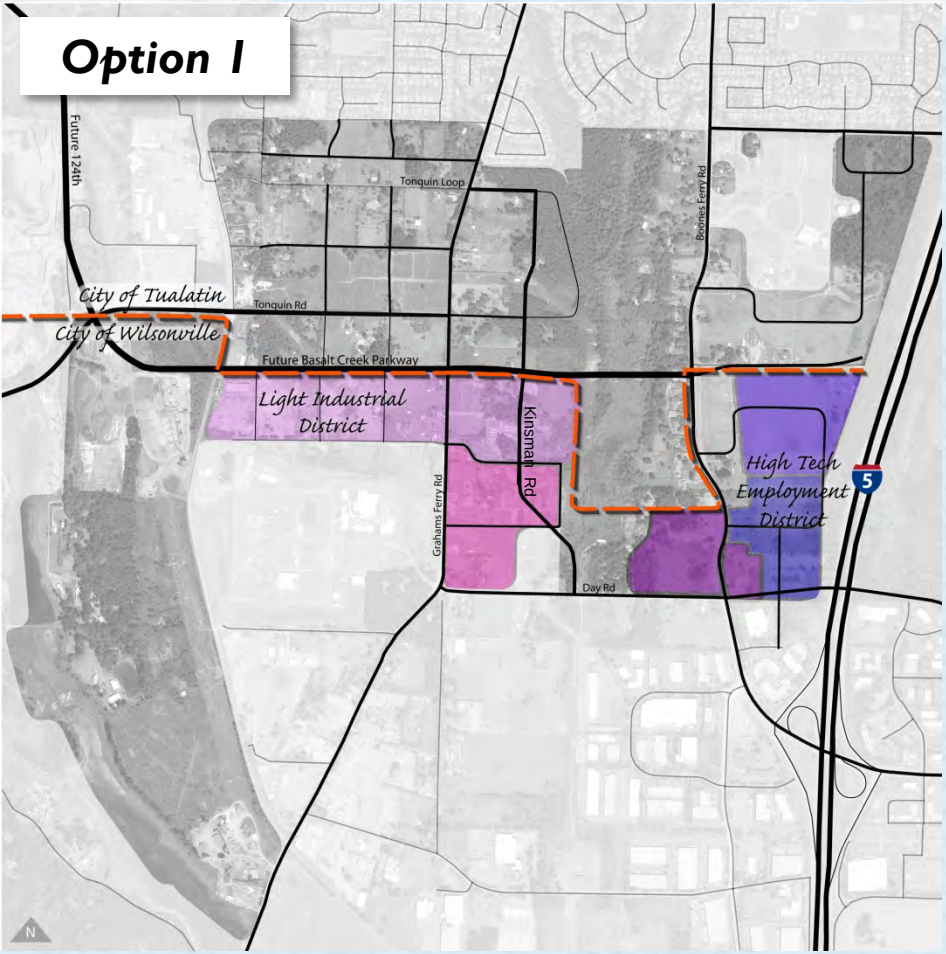
High Tech Employment District

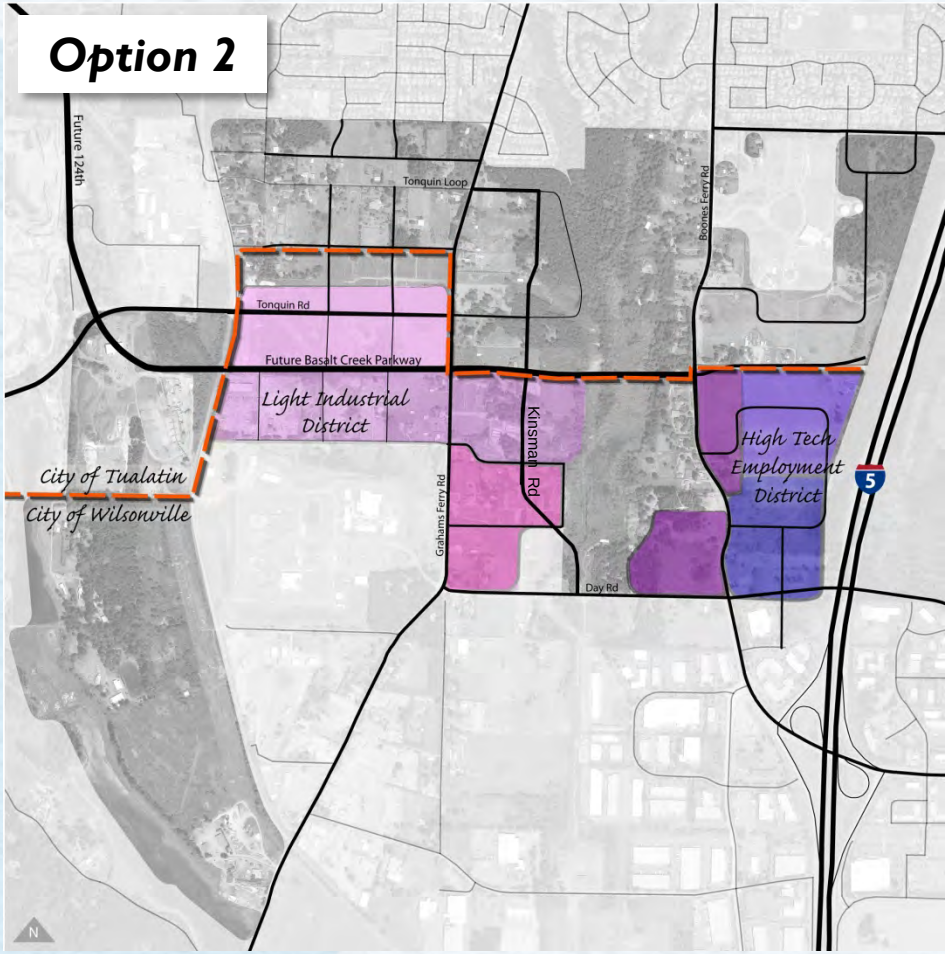




Basalt Creek Concept Plan

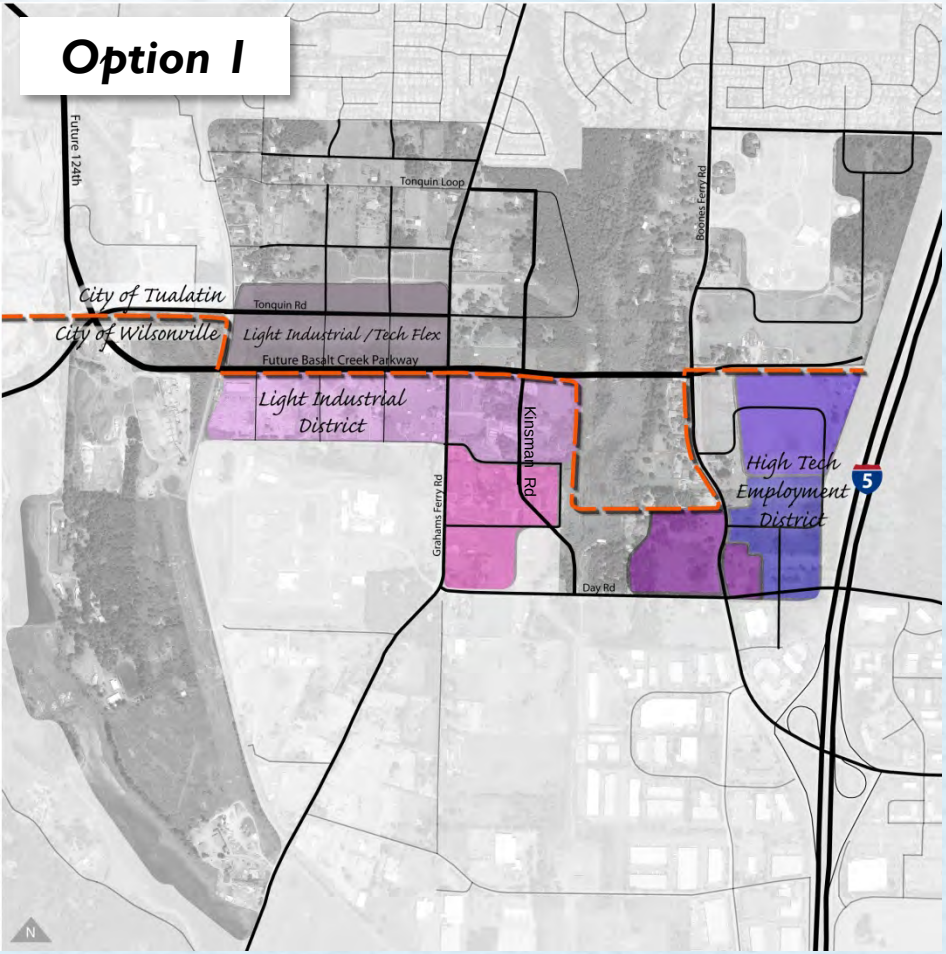
Light Industrial District

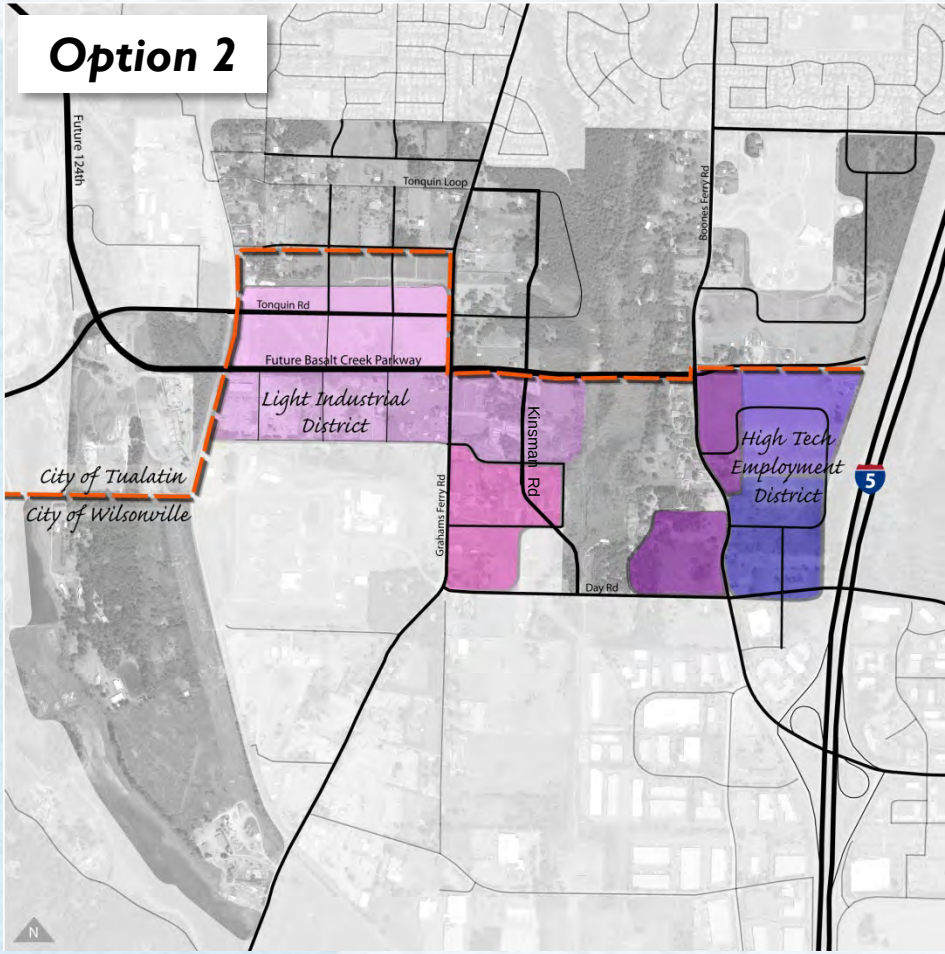




Basalt Creek Concept Plan

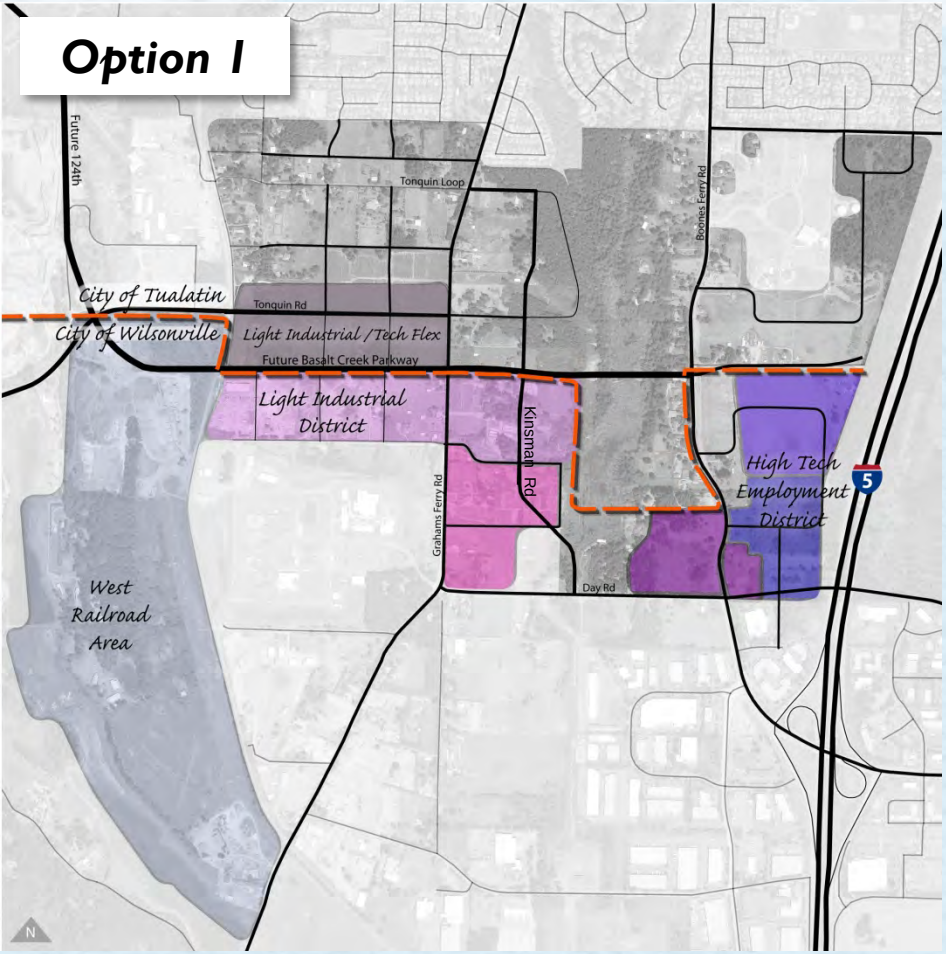
Light Industrial/Tech Flex

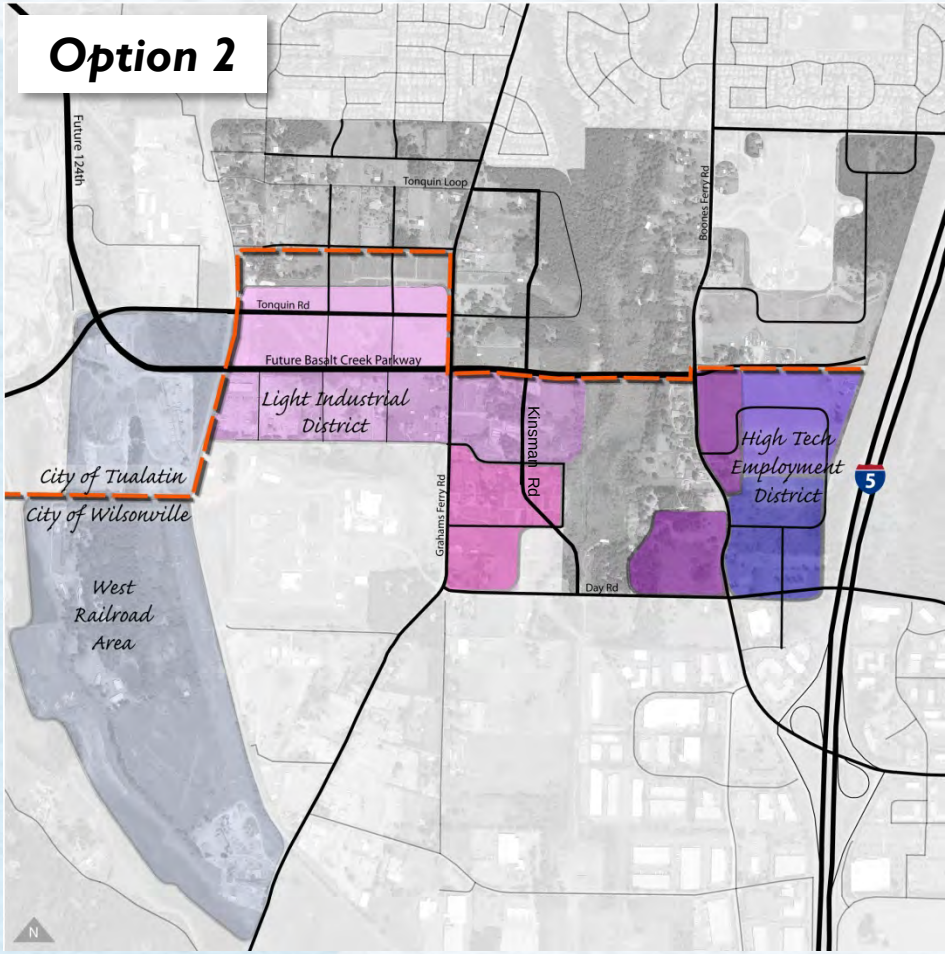




Basalt Creek Concept Plan

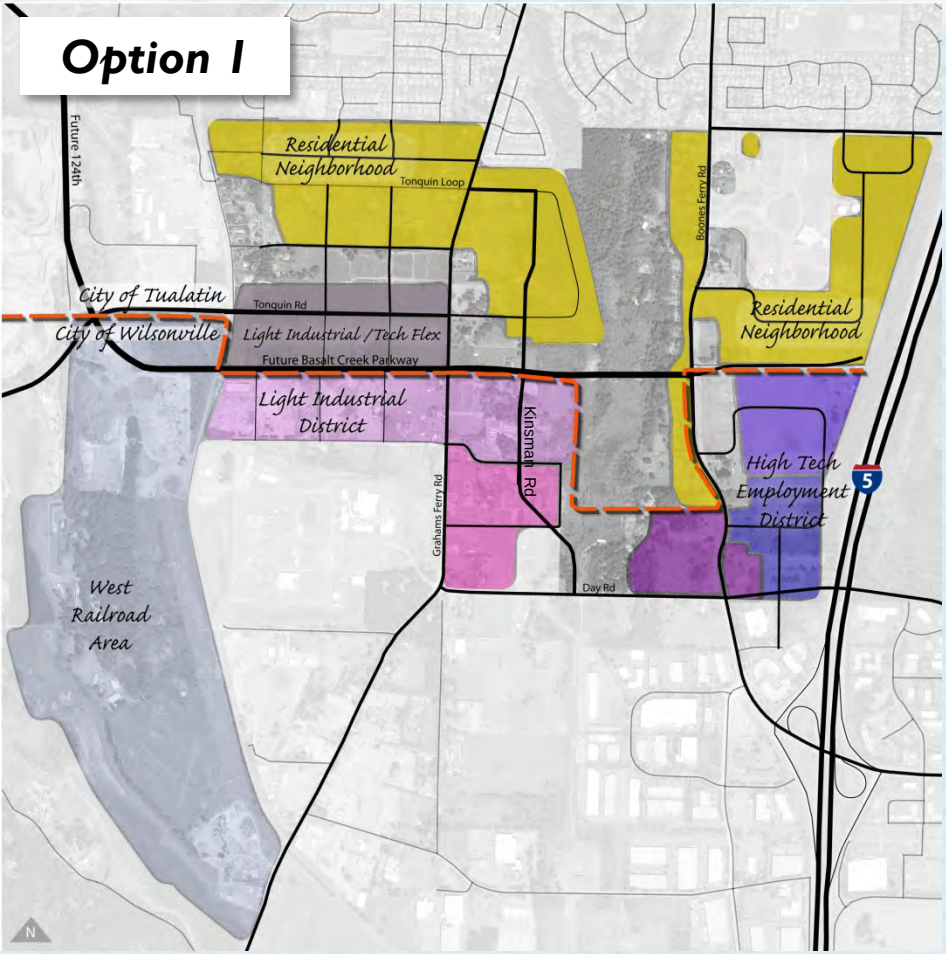
West Railroad Area

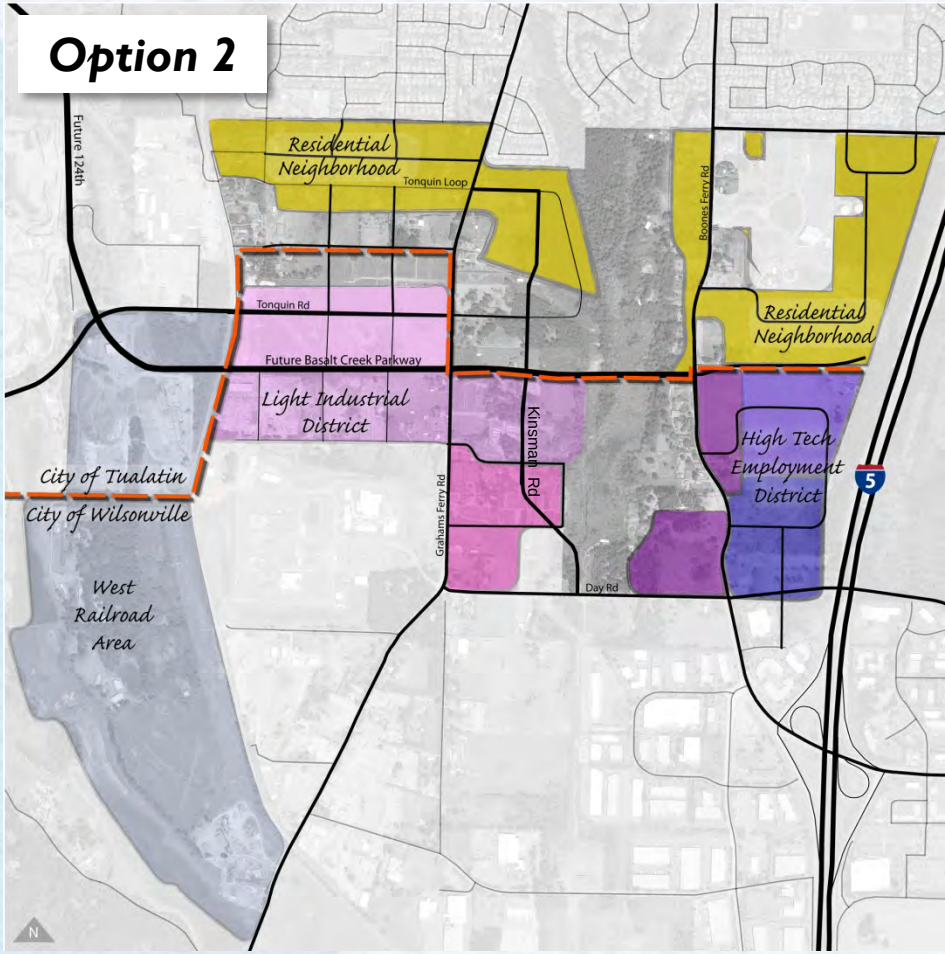




Basalt Creek Concept Plan

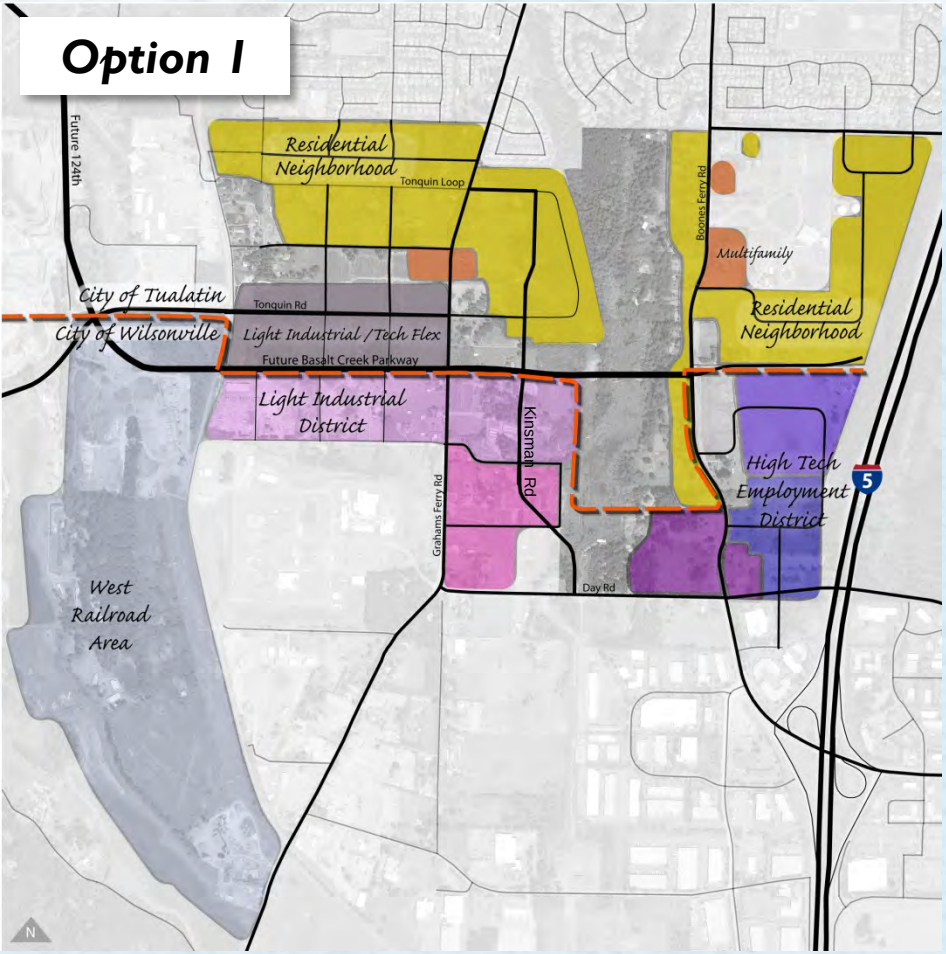
Residential Neighborhoods

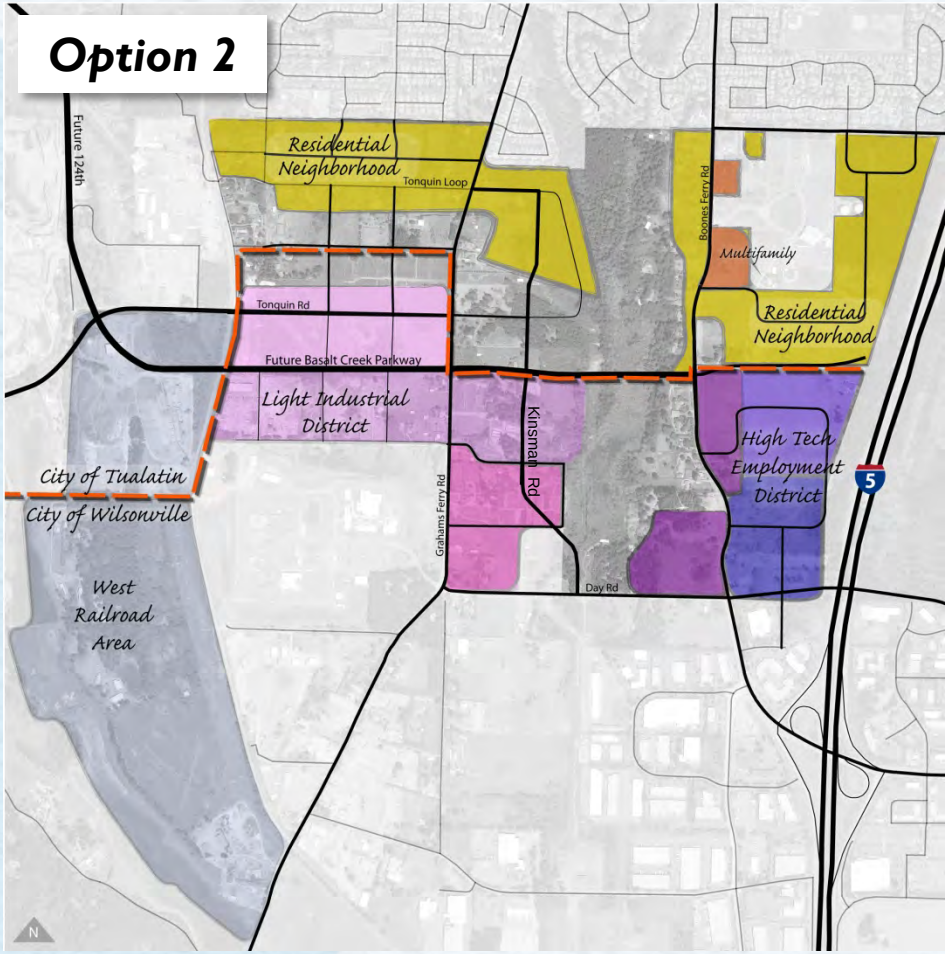




Basalt Creek Concept Plan

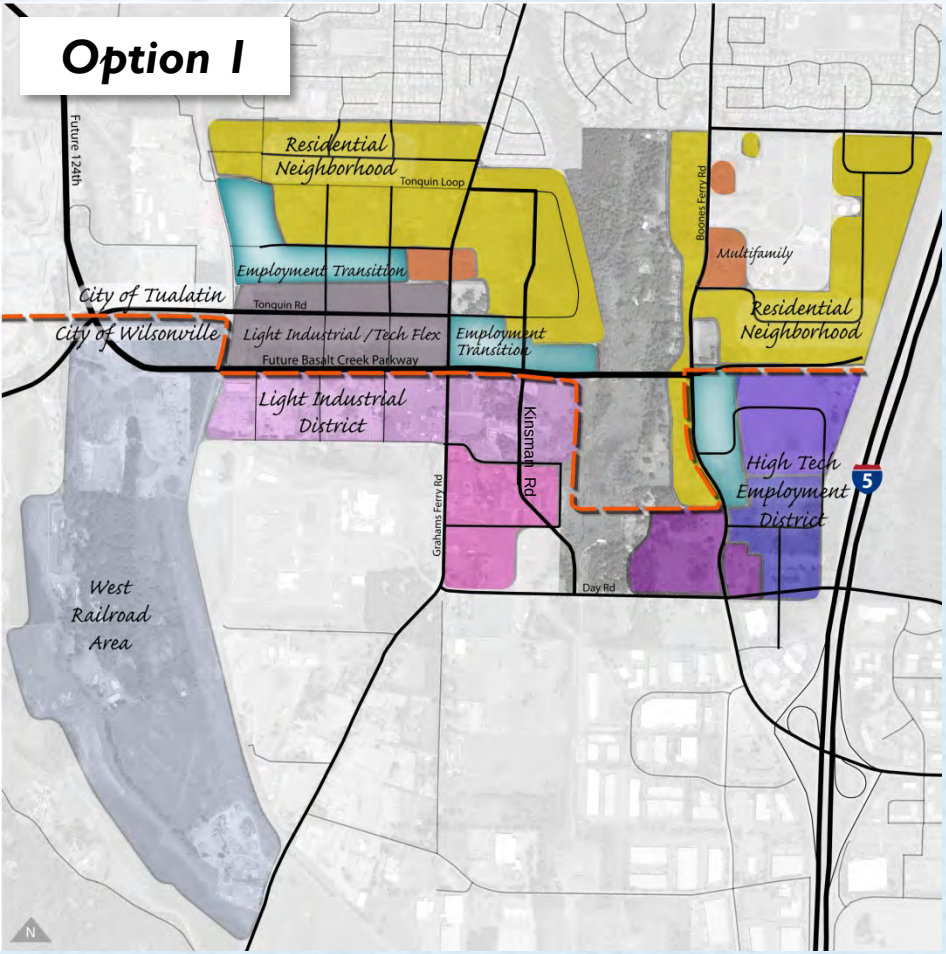
Multi-family

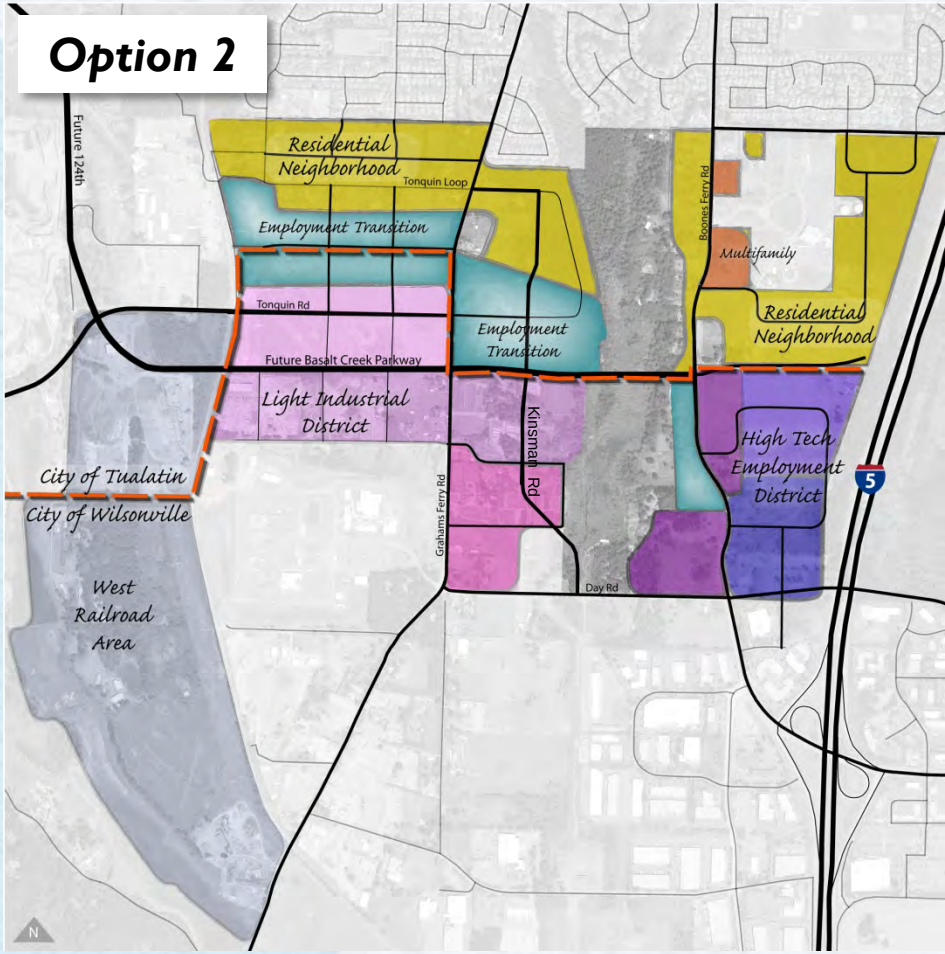




Basalt Creek Concept Plan

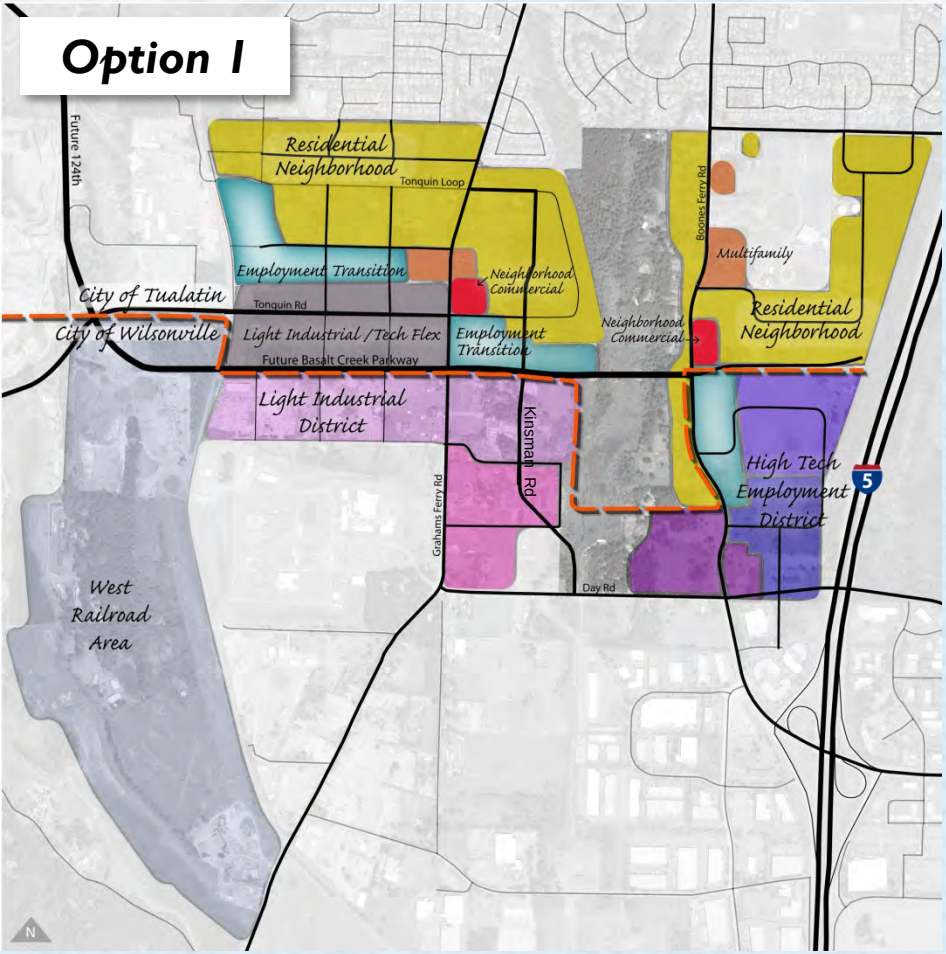
Employment Transition

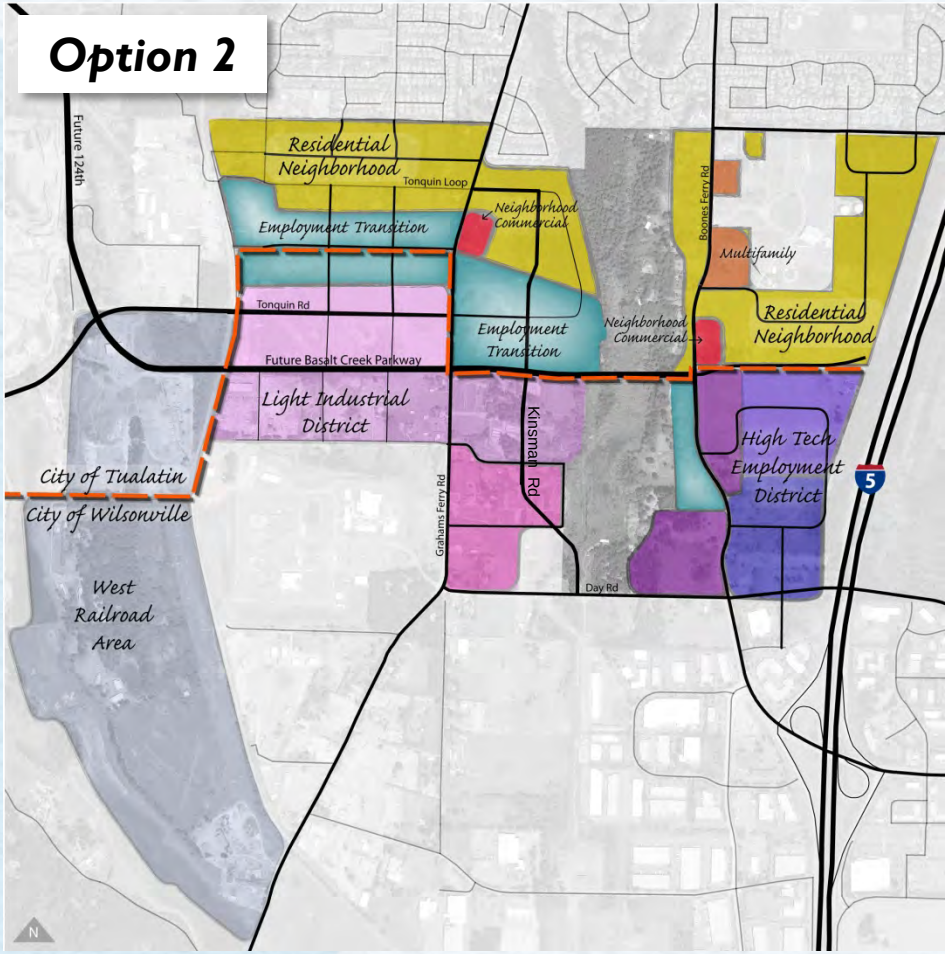




Basalt Creek Concept Plan

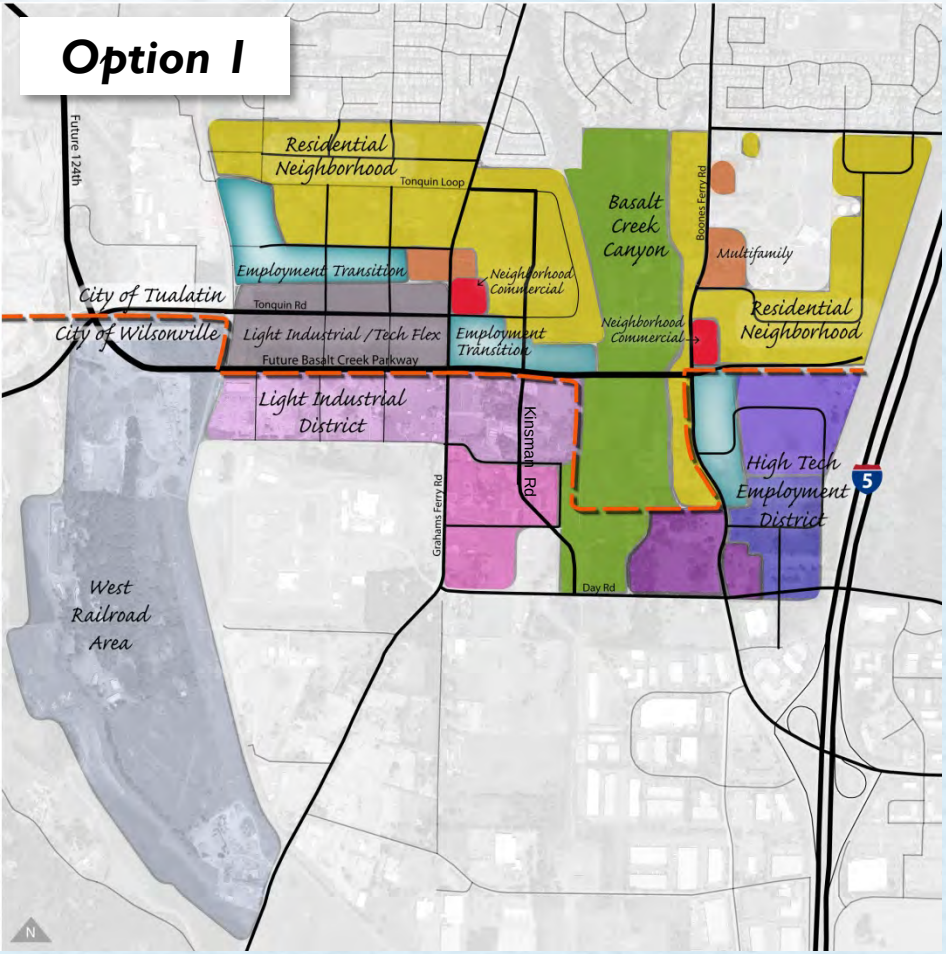
Neighborhood Commercial

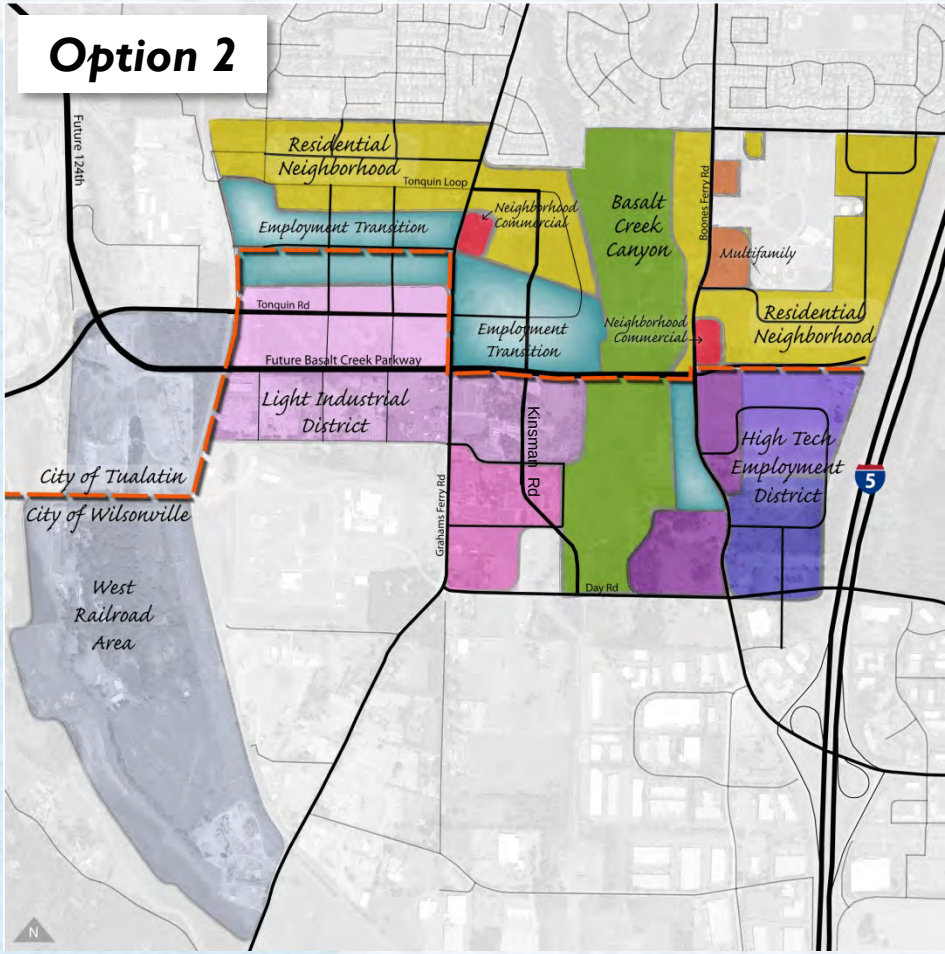




Basalt Creek Concept Plan

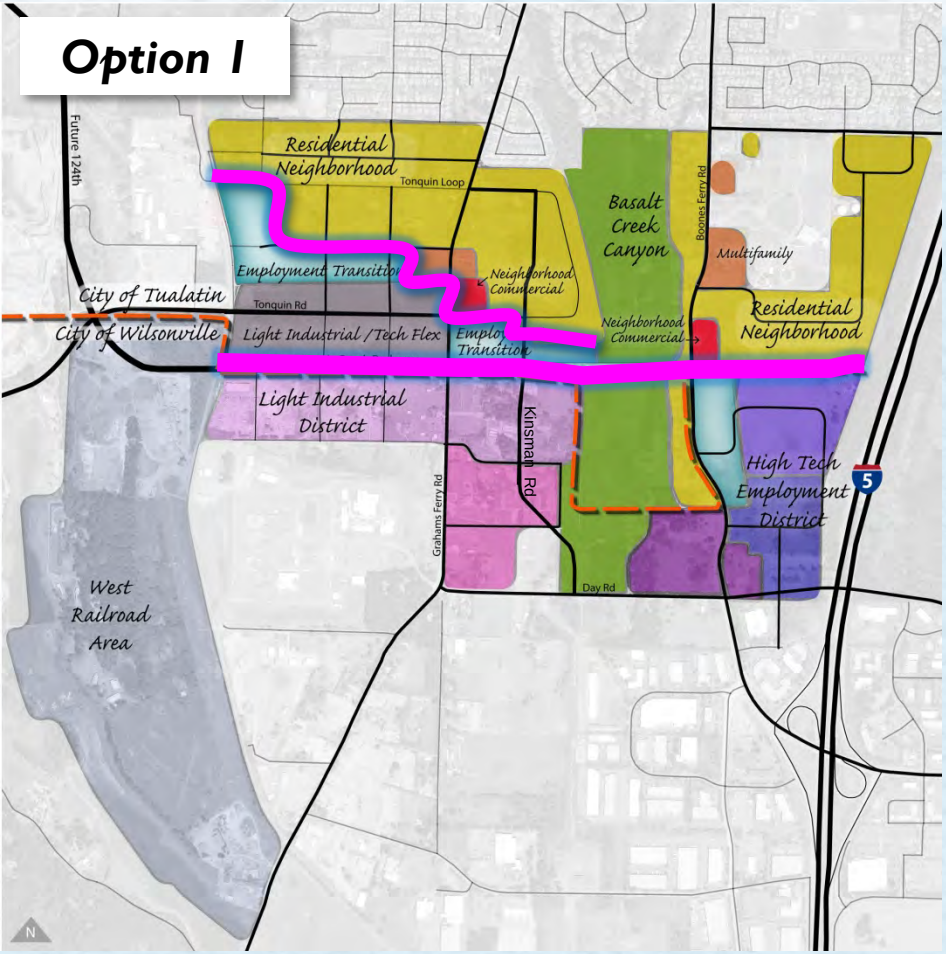
Basalt Creek Canyon

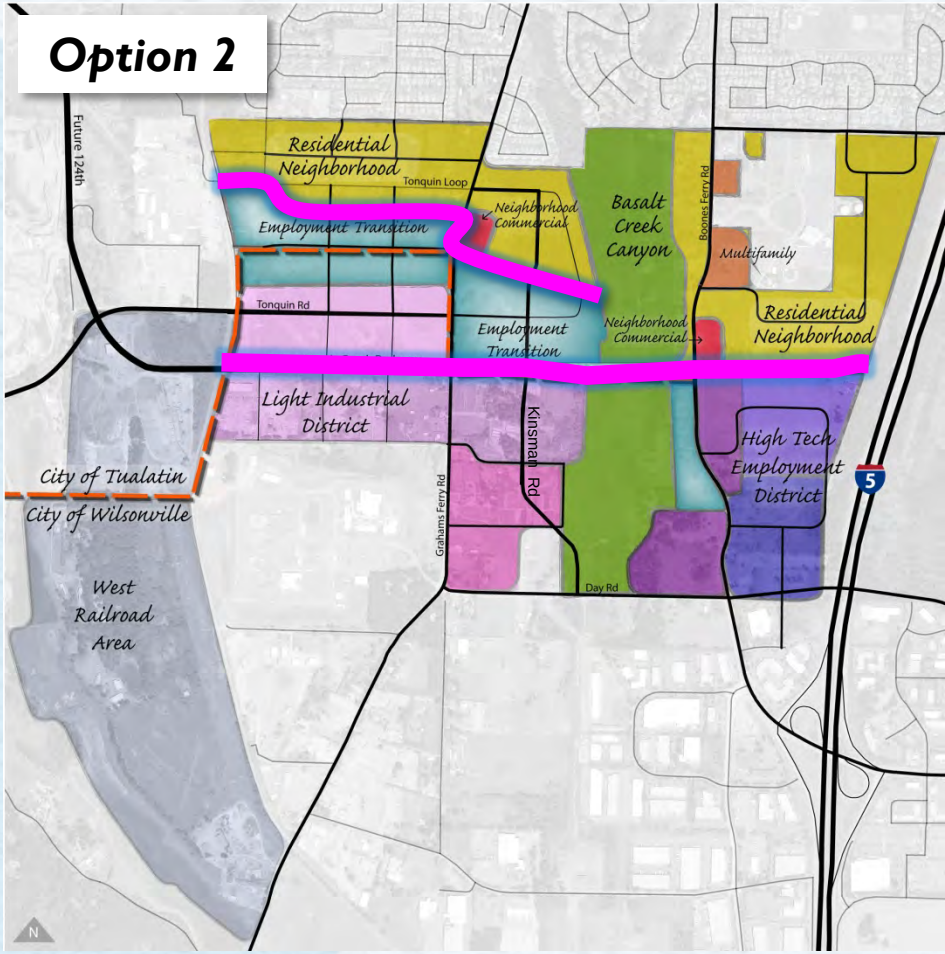




Basalt Creek Concept Plan

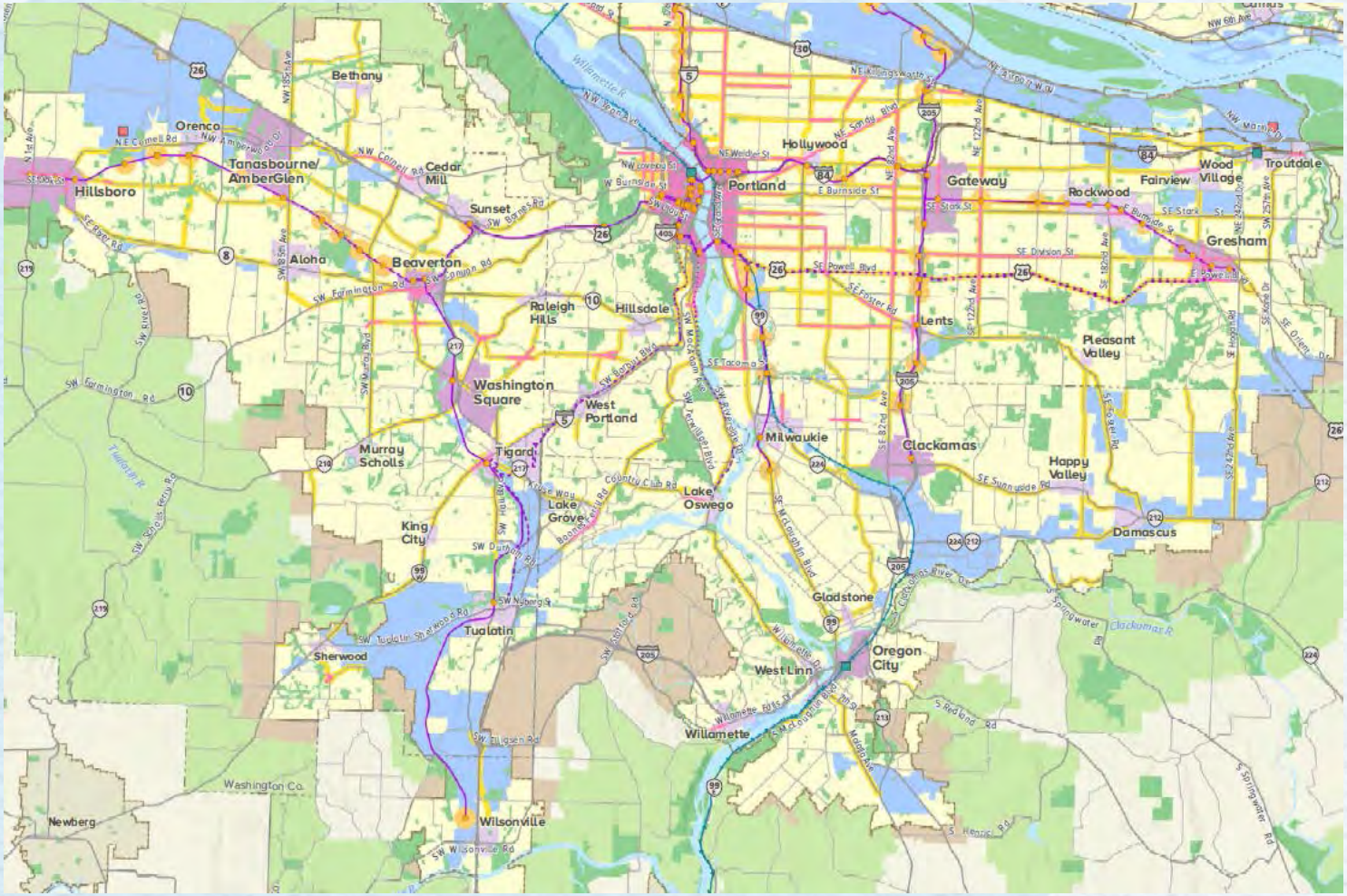
Transitions





Basalt Creek Concept Plan

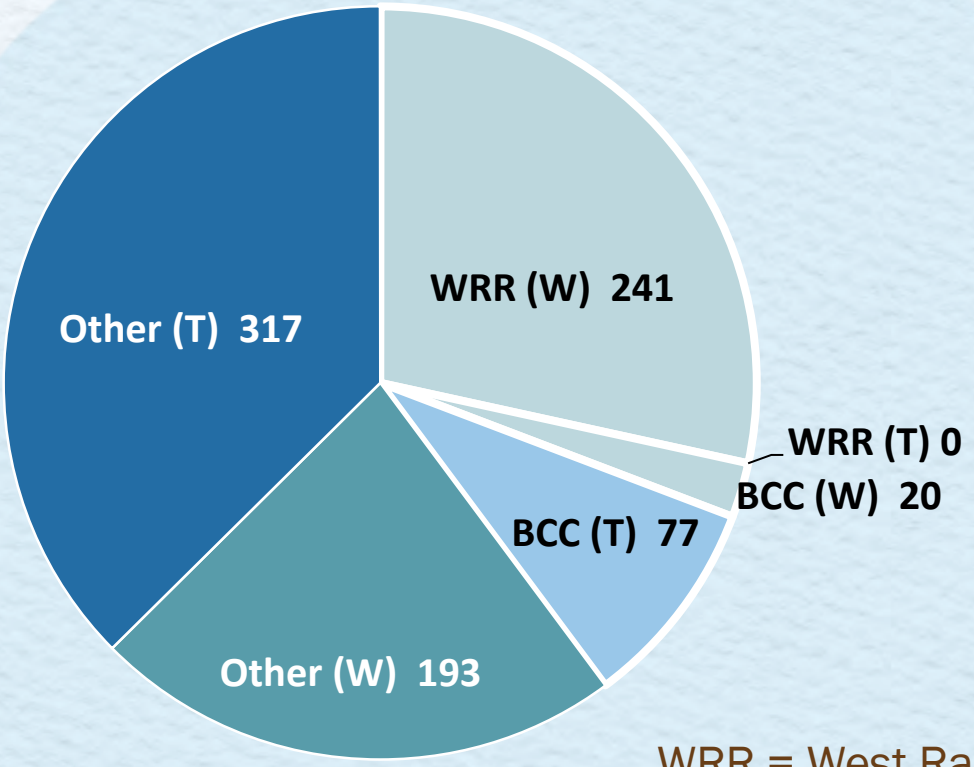
GP6: Meet Regional Responsibility for jobs and housing



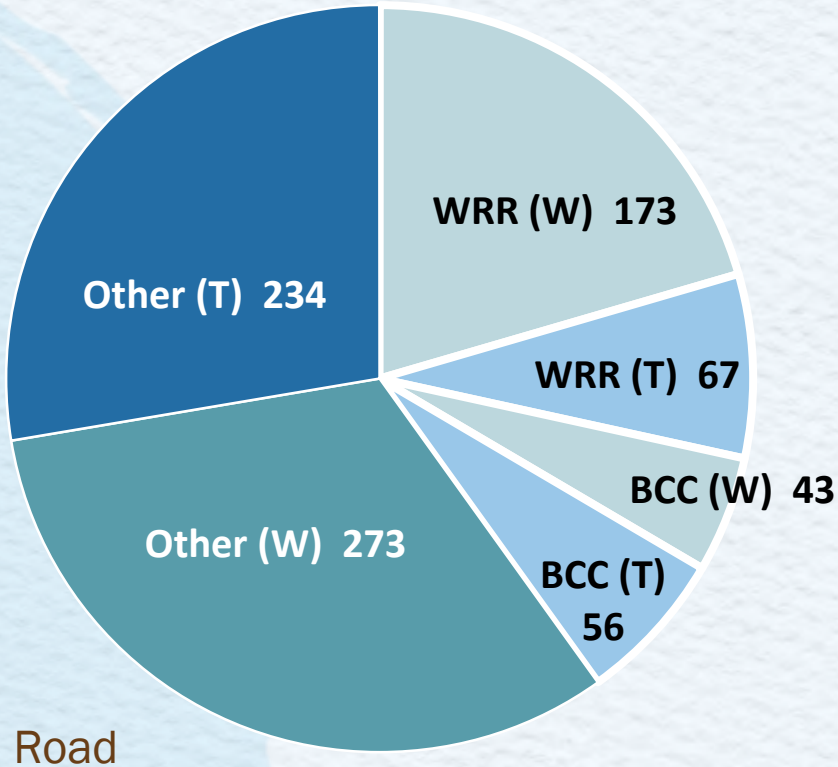
Basalt Creek Concept Plan

Total Acres Added

Boundary 1



Boundary 2

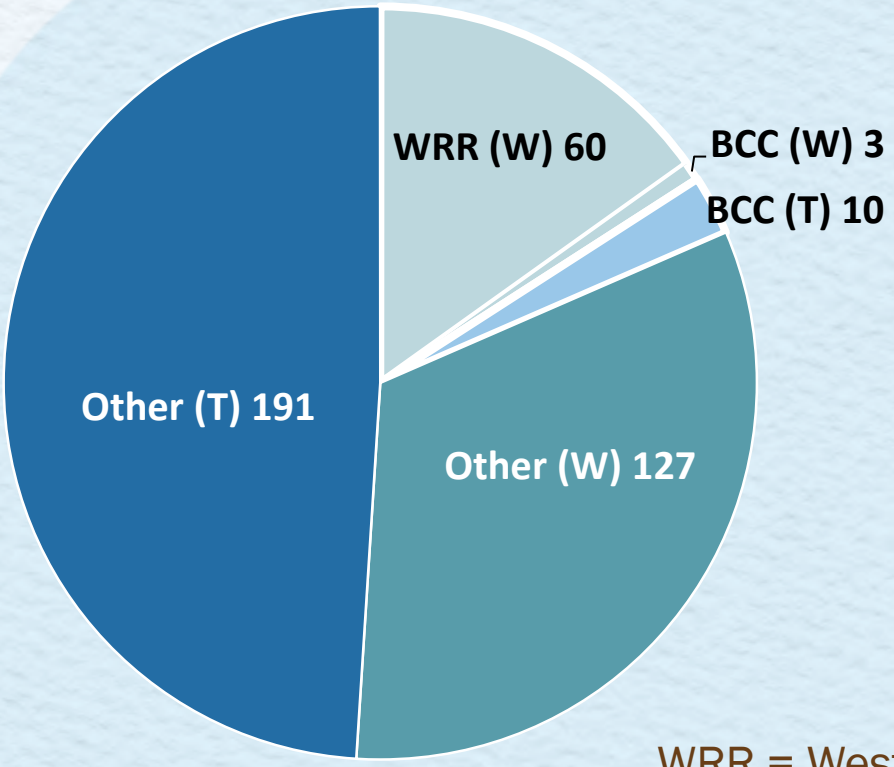


WRR = West Rail Road
BCC = Basalt Creek Canyon
Other = All other land within the study area

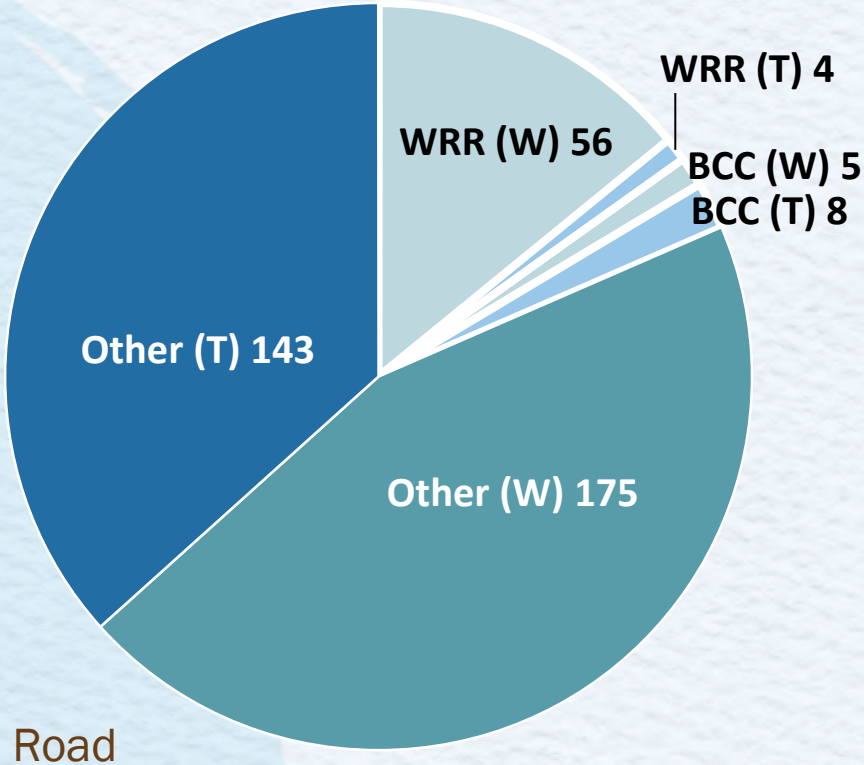
*** Total Land for full study area – 847 acres

Developable Acres

Boundary 1



Boundary 2



WRR = West Rail Road
BCC = Basalt Creek Canyon
Other = Unconstrained developable land within the study area

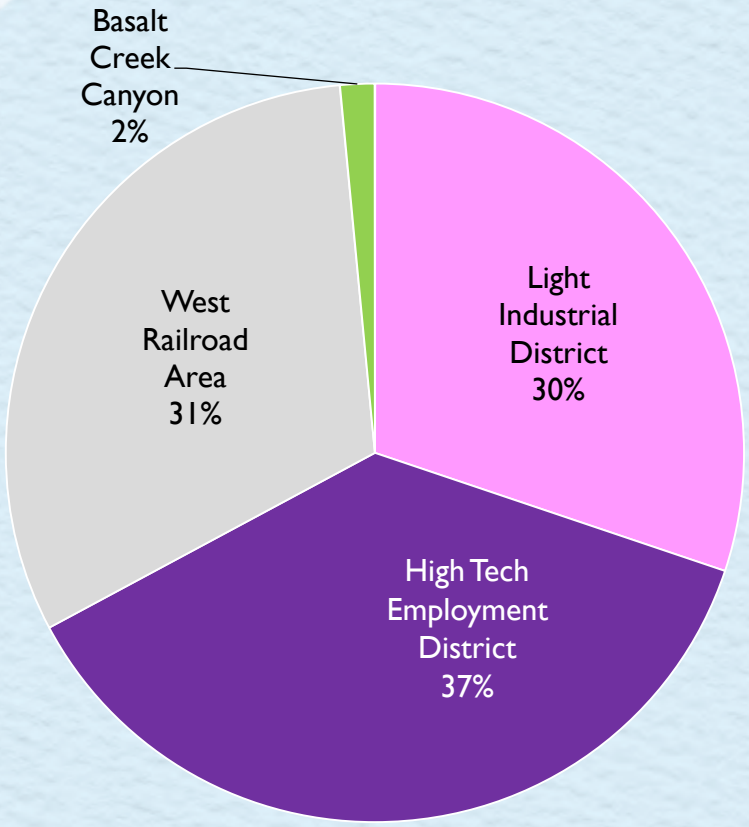
*** Total Vacant Developable land for full study area – 391 acres

Basalt Creek Concept Plan

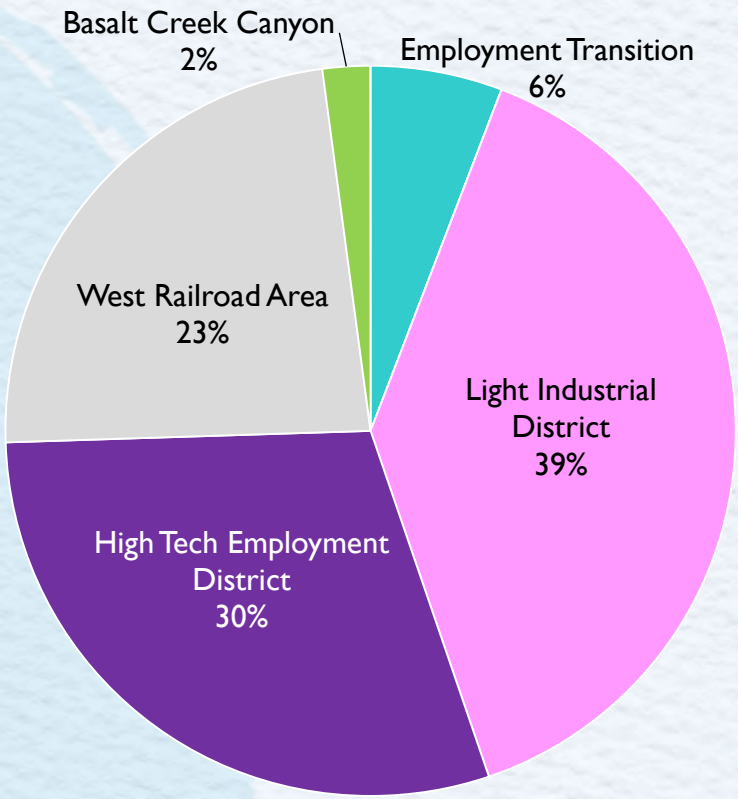
Wilsonville Land Use Mix

* % of developable acres

Boundary Option 1



Boundary Option 2

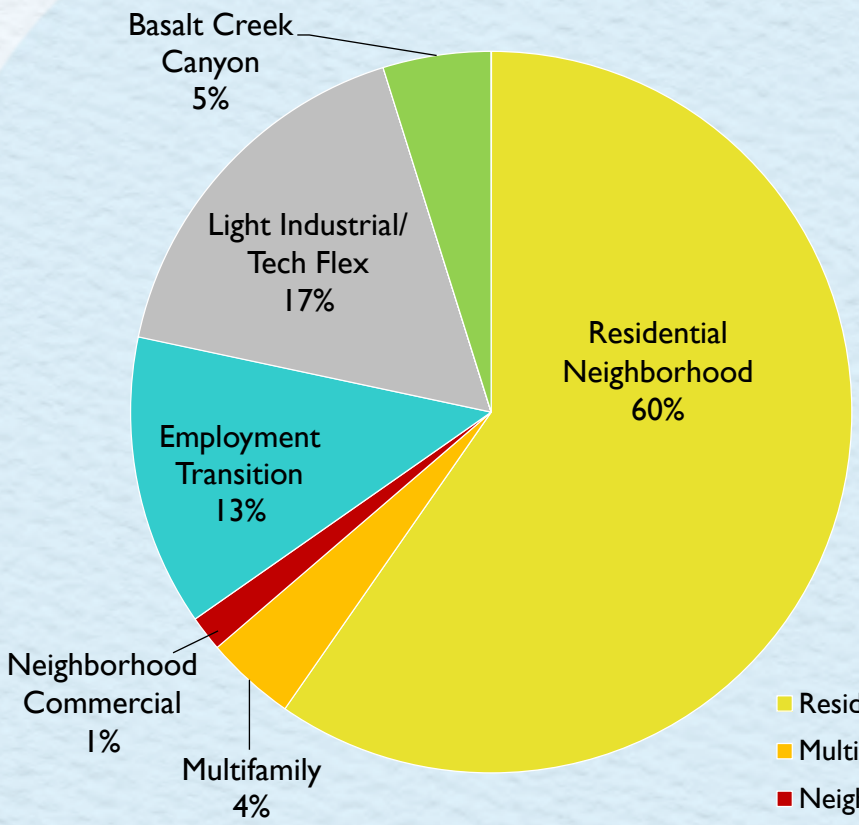


Employment Transition
Light Industrial District
High Tech Employment District
West Railroad Area
Basalt Creek Canyon

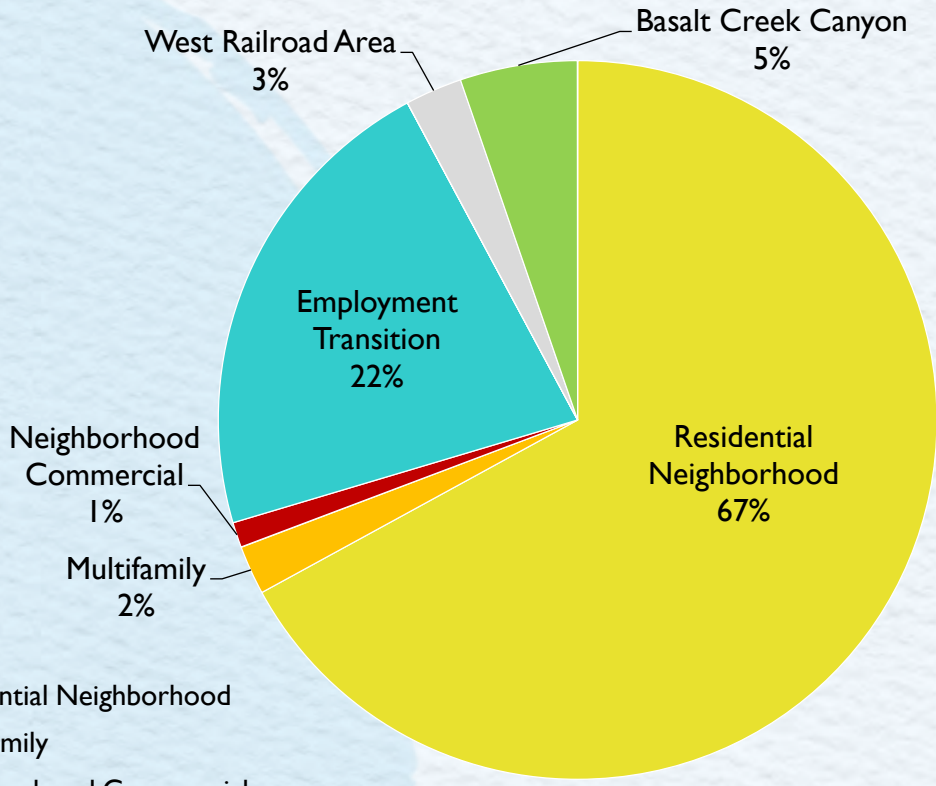
Tualatin Land Use Mix

* % of developable acres

Boundary Option 1

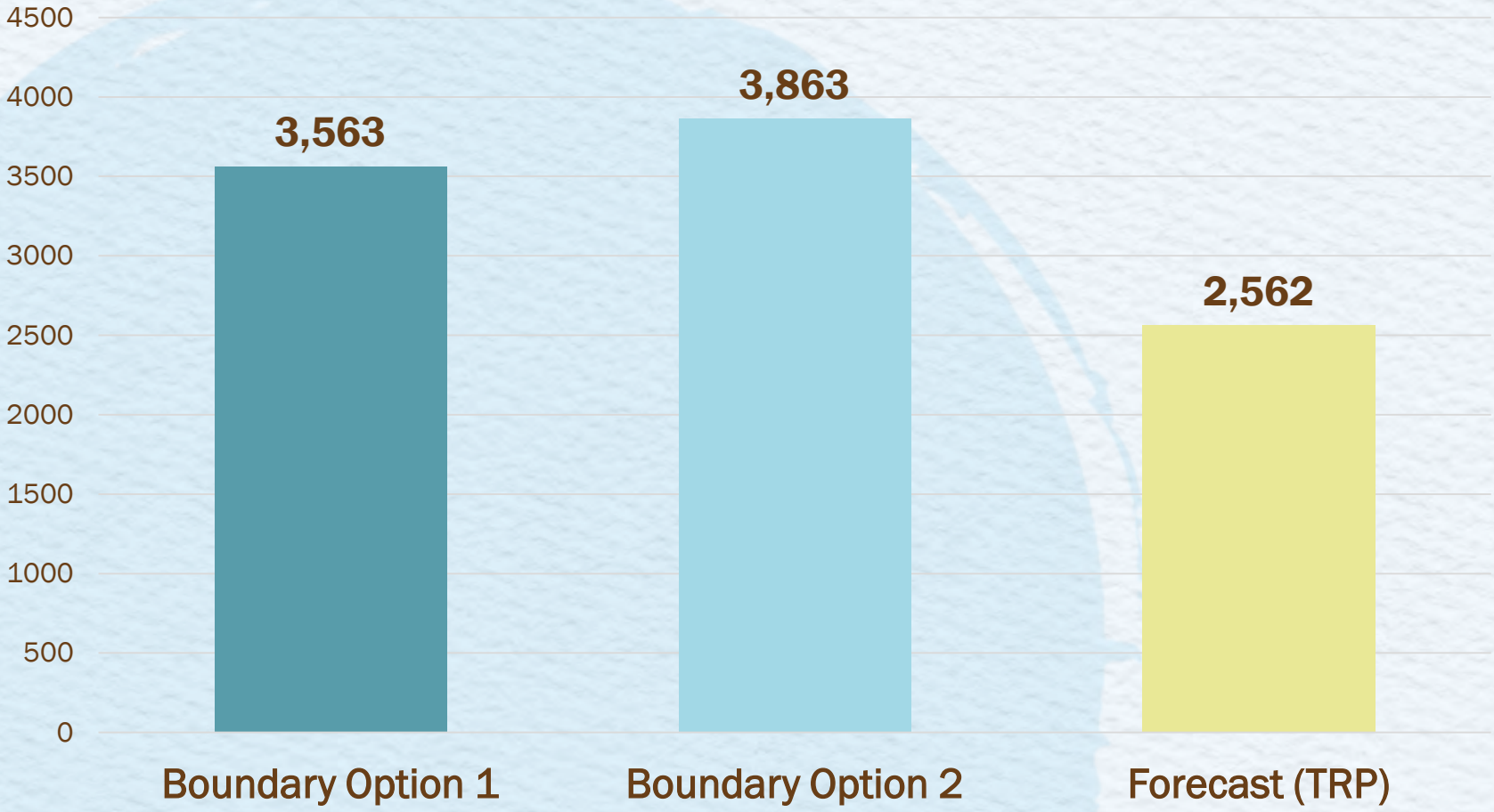


Boundary Option 2



- Residential Neighborhood
- Multifamily
- Neighborhood Commercial
- Employment Transition
- Light Industrial/Tech Flex
- West Railroad Area
- Basalt Creek Canyon

Number of Jobs



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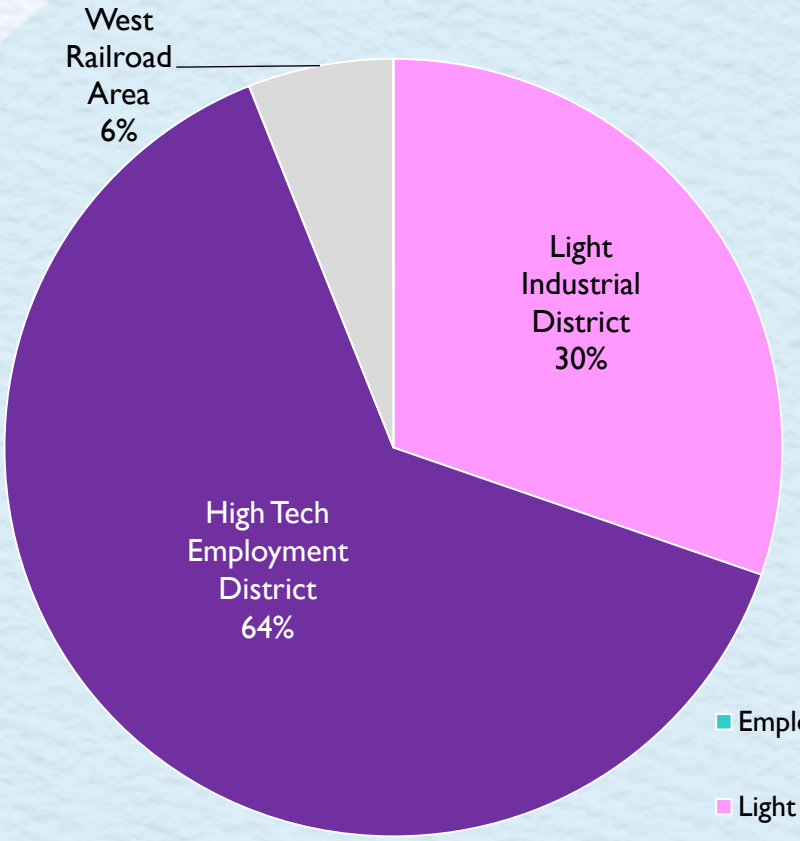
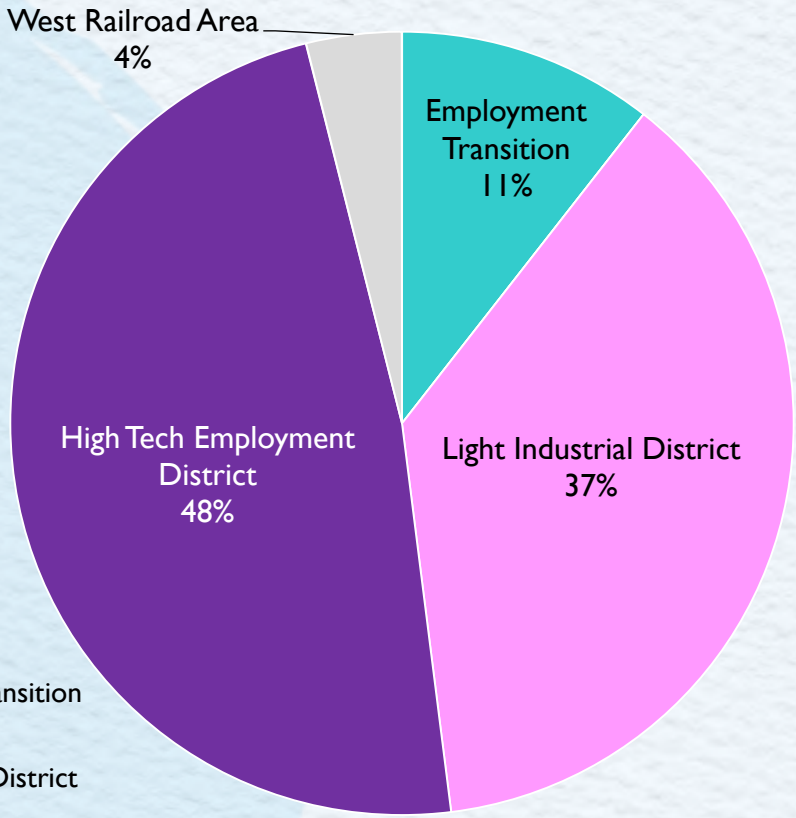
Wilsonville Employment

Boundary Option 1



Total Jobs: 1,974

Boundary Option 2



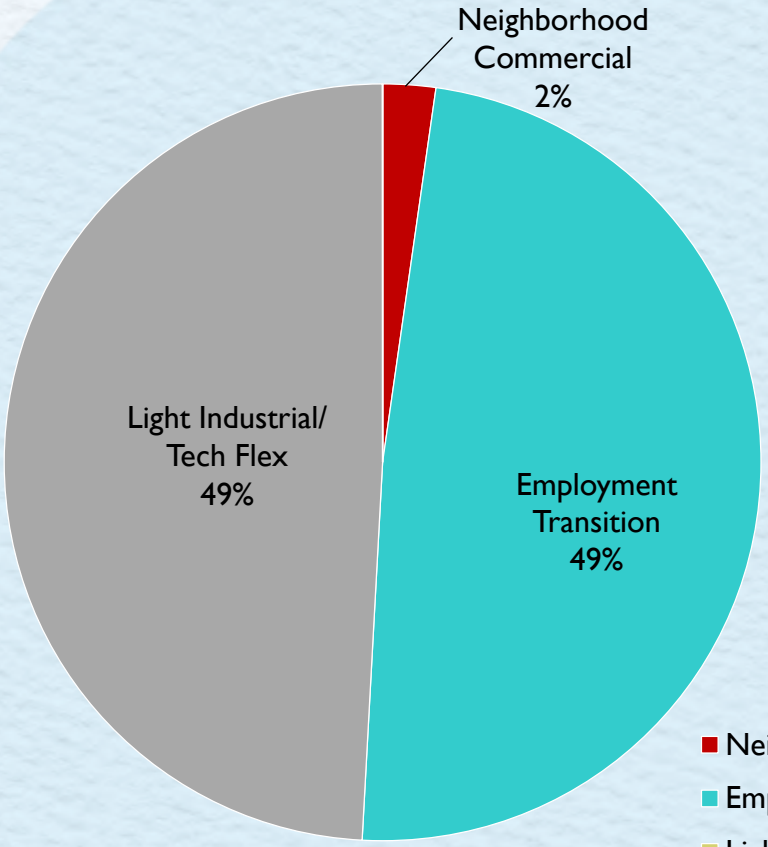
Total Jobs: 2,821

- Employment Transition
- Light Industrial District
- High Tech Employment District
- West Railroad Area

Basalt Creek Concept Plan

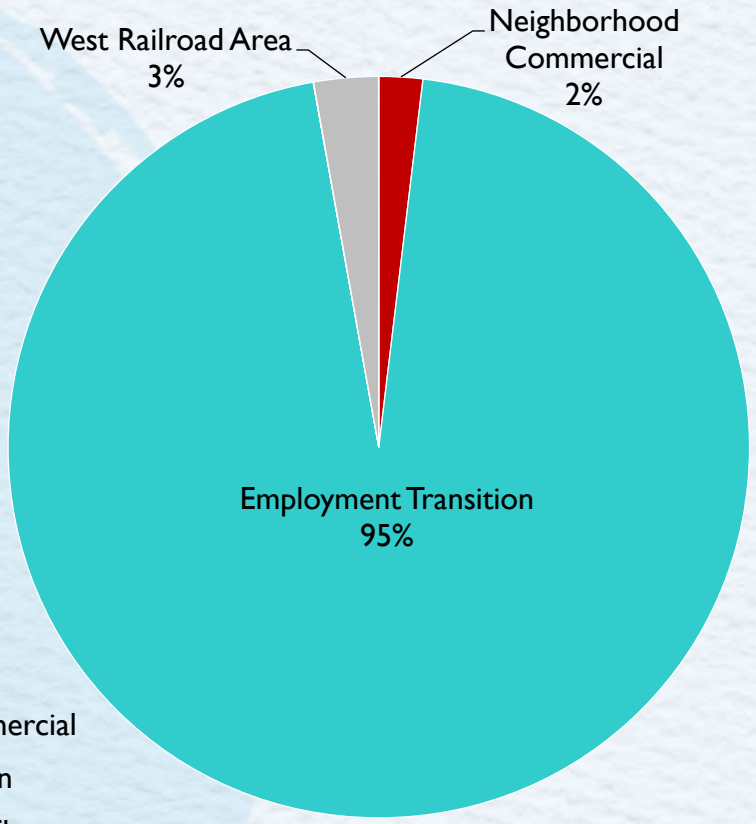
Tualatin Employment

Boundary Option 1



Total Jobs: 1,589

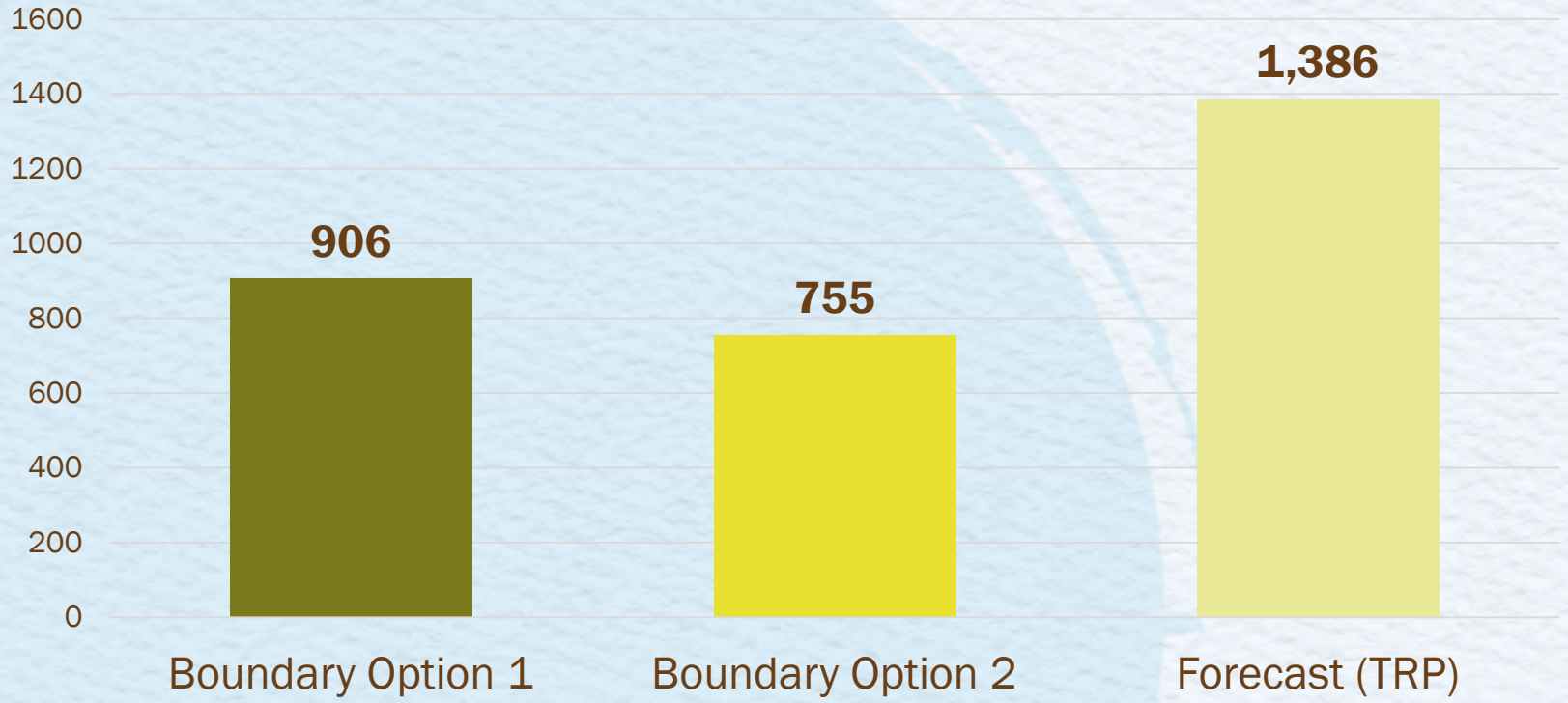
Boundary Option 2



Total Jobs: 1,042

- Neighborhood Commercial
- Employment Transition
- Light Industrial/Tech Flex
- West Railroad Area

Households



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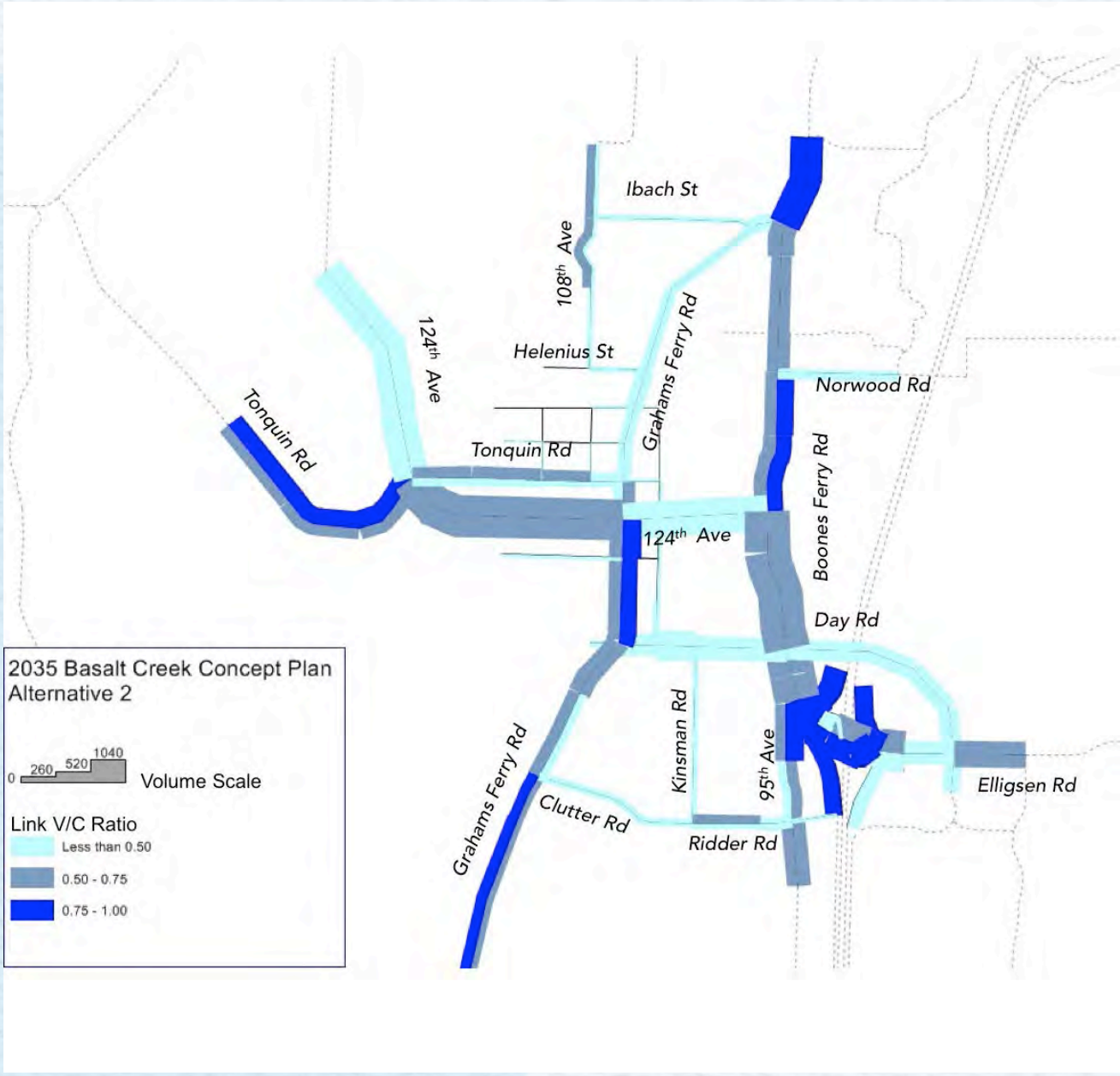
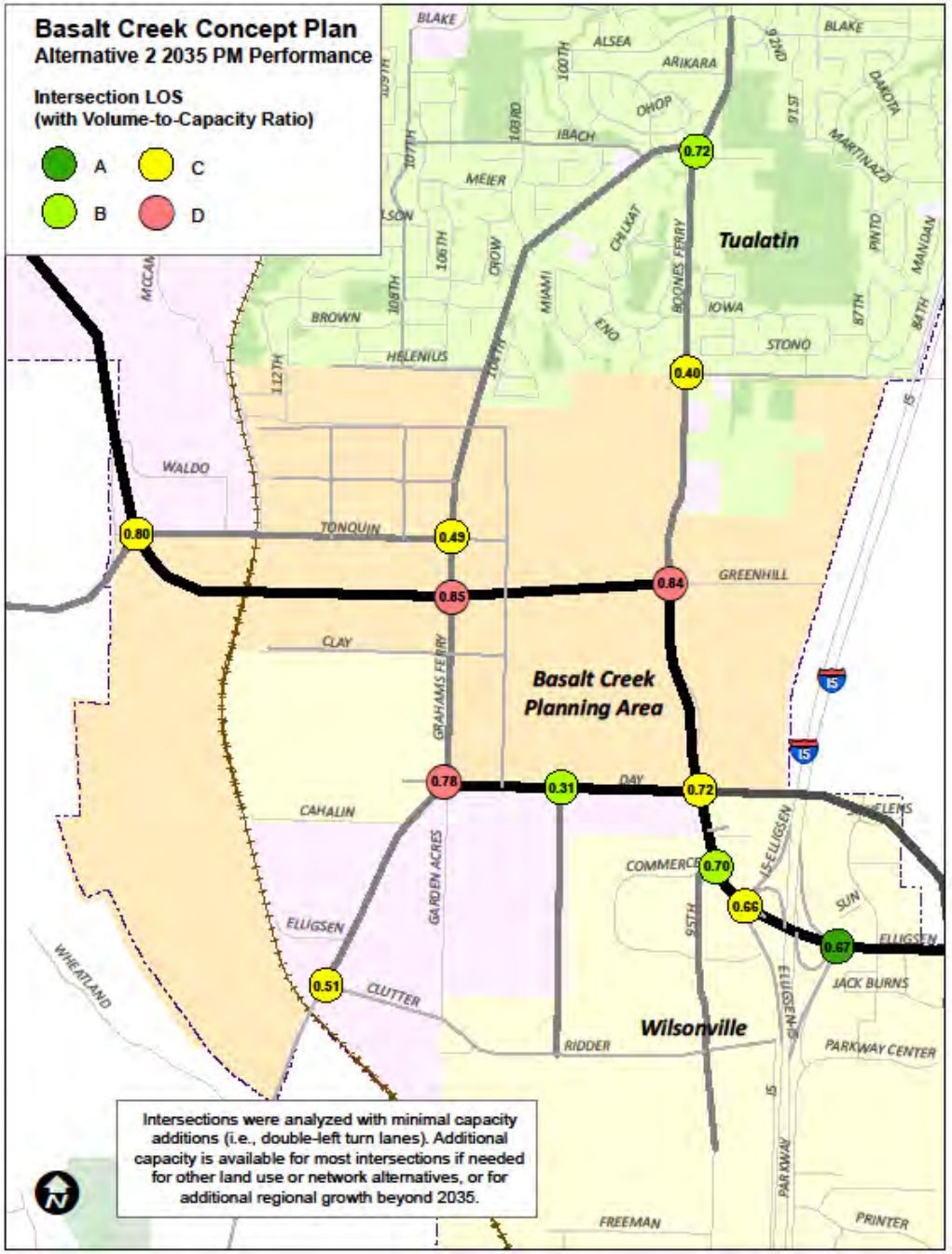
GP7: Design Cohesive and Efficient Transportation and Utility Systems

Basalt Creek Concept Plan

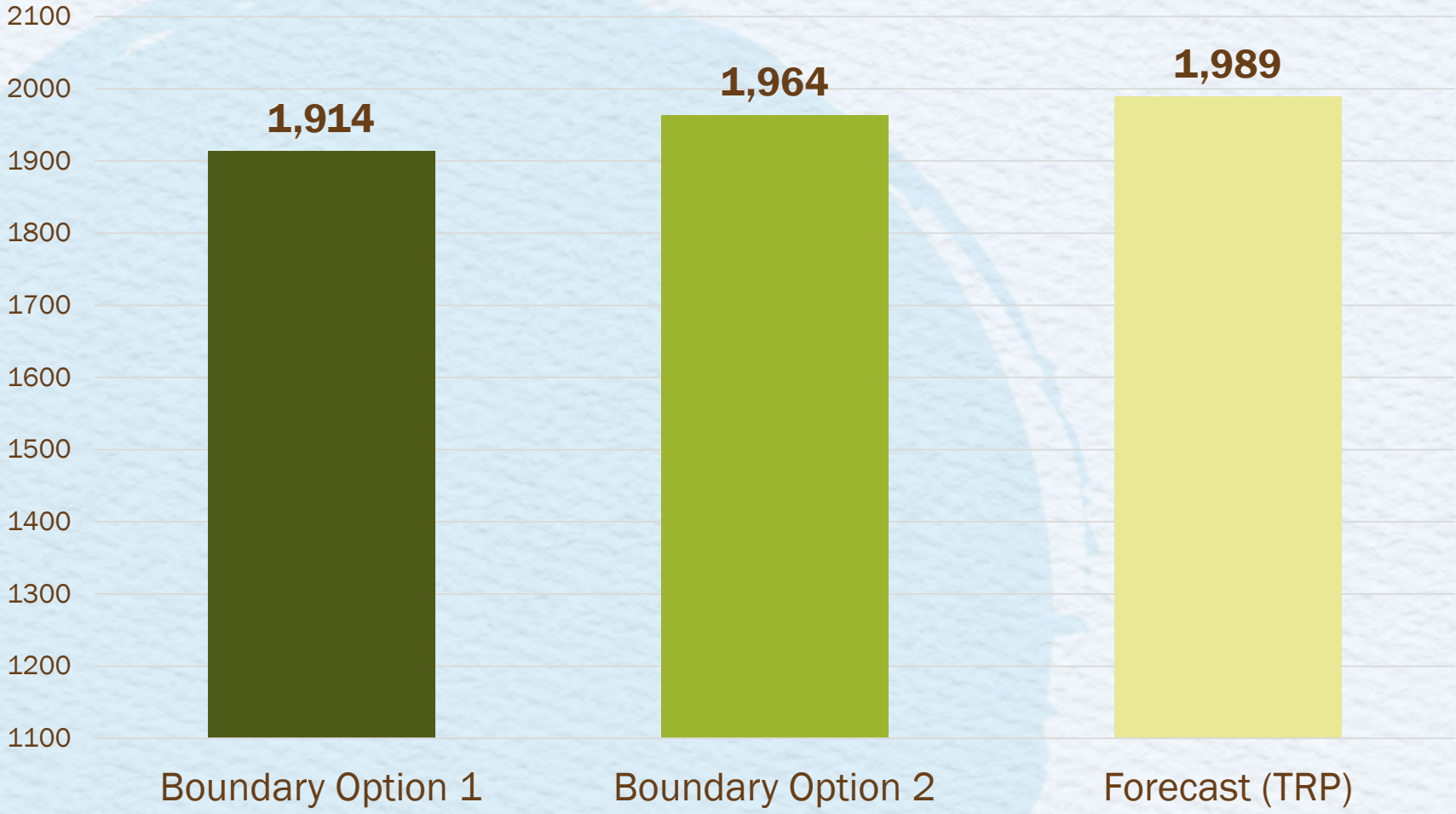
Transportation Performance



Transportation Performance



Total Trips



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Transportation Costs and Revenue

City of Wilsonville

	Transportation Total Cost *	Developer Costs	TDT eligible costs	TDT Revenue	Revenue - Cost Difference
Boundary 1	$ 9,953,000	$ 4,942,000	$ 5,011,000	$ 7,962,000	$ 2,952,000
Boundary 2	$ 10,227,500	$ 4,942,000	$ 5,286,000	$ 11,414,000	$ 6,128,000

City of Tualatin

	Transportation Total Cost *	Developer Costs	TDT eligible costs	TDT Revenue	Revenue - Cost Difference
Boundary 1	$ 6,453,000	$ 4,942,000	$ 1,511,000	$ 12,348,000	$ 10,837,000
Boundary 2	$ 6,178,000	$ 4,942,000	$ 1,236,000	$ 9,826,000	$ 8,591,000

* Regional roads are not included in the cost estimate.

Sanitary Sewer Costs and Revenue

City of Wilsonville

	Sewer Total Cost*	Developer Costs	SDC eligible costs	SDC Revenue	Revenue - Cost Difference
Boundary 1	$ 10,366,000	$ 6,881,000	$ 3,485,000	$ 1,710,000	$ (1,775,000)
Boundary 2	$ 10,130,000	$ 6,645,000	$ 3,485,000	$ 2,514,000	$ (971,000)

City of Tualatin

	Sewer Total Cost*	Developer Costs	SDC eligible costs	SDC Revenue	Revenue - Cost Difference
Boundary 1	$ 16,469,000	$ 10,597,000	$ 1,984,000	$ 188,000	$ (1,796,000)
Boundary 2	$ 16,705,000	$ 10,833,000	$ 1,984,000	$ 156,000	$ (1,828,000)

* Does not include pump station O&M

Drinking Water Costs and Revenue

City of Wilsonville

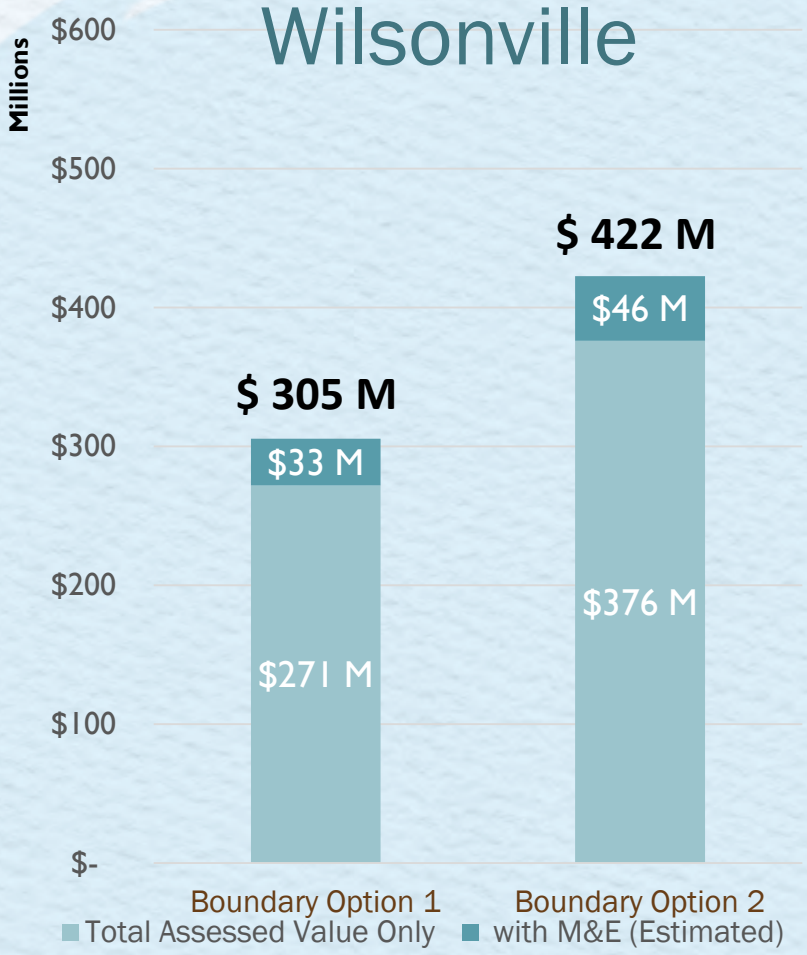
	Drinking Water Total Cost	Developer Costs	SDC eligible costs	SDC Revenue	Revenue - Cost Difference
Boundary 1	$ 5,470,000	$ 4,450,000	$ 1,020,000	$ 941,000	$ (80,000)
Boundary 2	$ 7,408,000	$ 6,180,000	$ 1,228,000	$ 1,395,000	$ 167,000

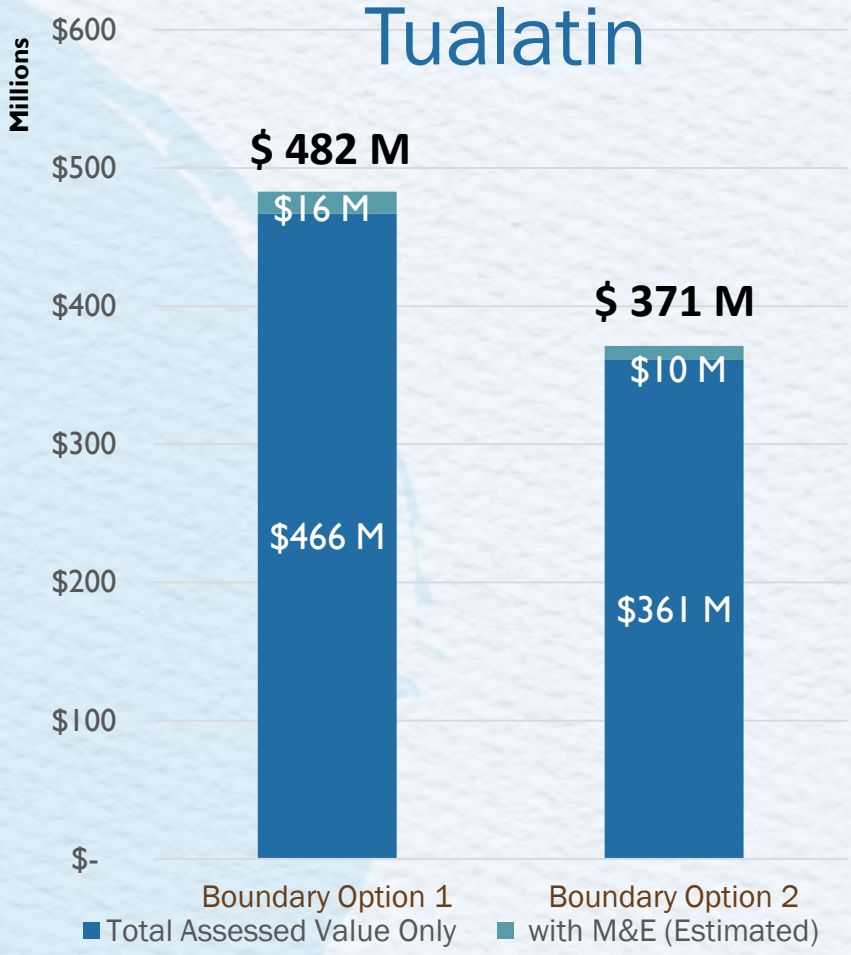
City of Tualatin

	Drinking Water Total Cost	Developer Costs	SDC eligible costs	SDC Revenue	Revenue - Cost Difference
Boundary 1	$ 8,815,000	$ 7,920,000	$ 895,000	$ 4,134,000	$ 3,239,000
Boundary 2	$ 6,995,000	$ 6,100,000	$ 895,000	$ 3,194,000	$ 2,299,000

GP8: Maximize Assessed Property Value

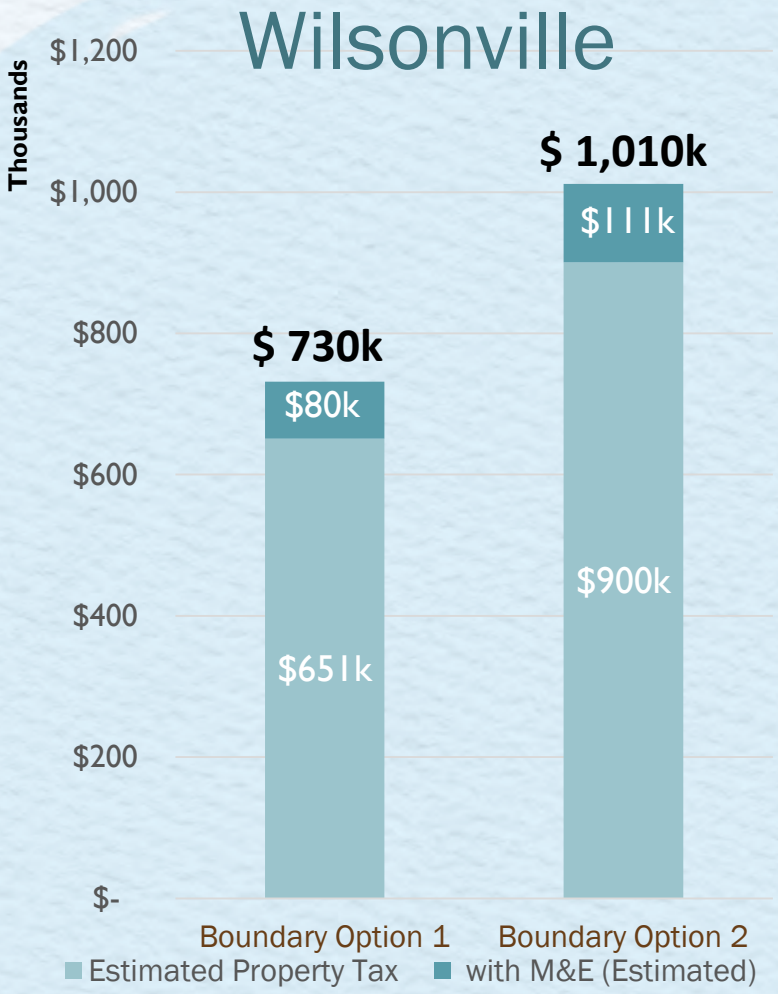
Assessed Value at Buildout

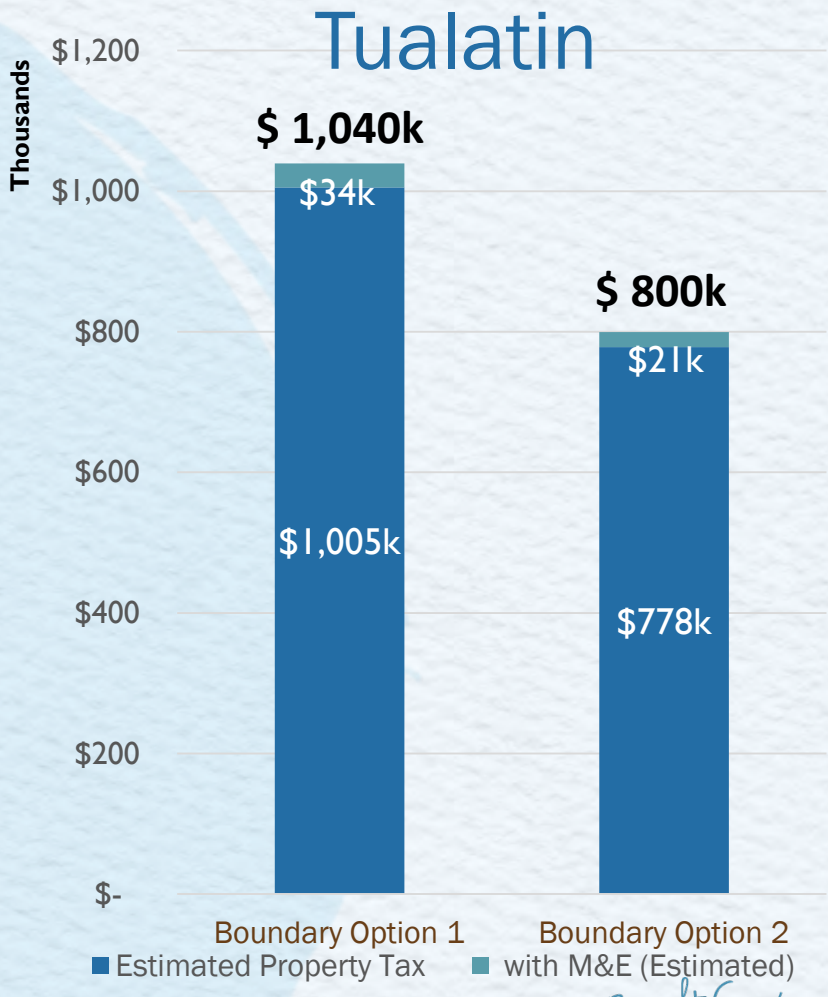




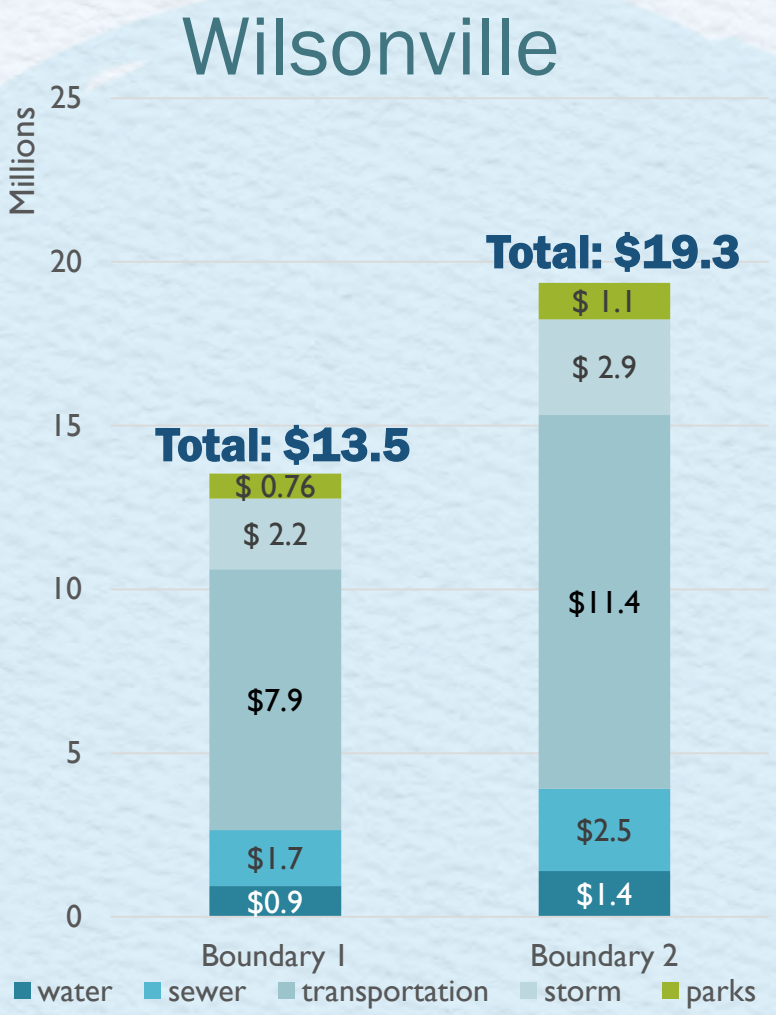
Basalt Creek Concept Plan

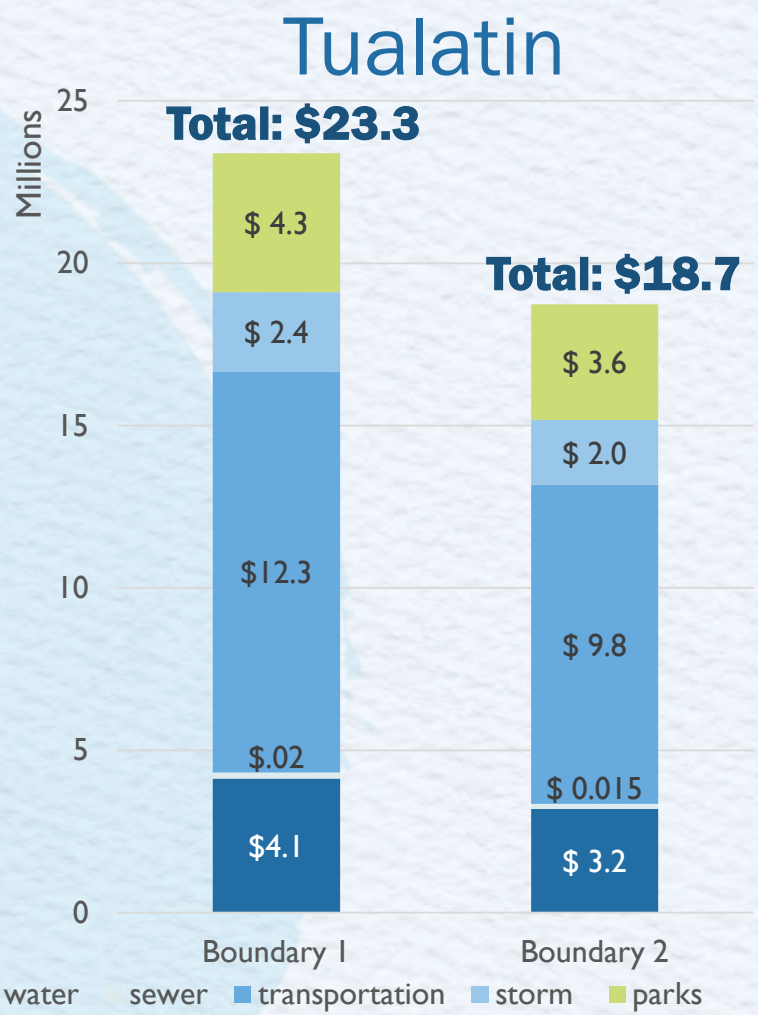
Annual Property Tax at Buildout





SDCs by Type at Buildout





Boundary Comparison

Indicators all dollar values shown in millions	Tualatin Option 1	Wilsonville Option 1	Tualatin Option 2	Wilsonville Option 2
Developable Acres	201 ac	190 ac	155 ac	236 ac
WRR & BCC Acres*	10 ac	63 ac	12 ac	61 ac
Unconstrained Dev. Acres	191 ac	127 ac	143 ac	175 ac
Households	906	36	755	75
Jobs	1,600	2,000	1,000	2,800
Assessed Value	$483 M	$305 M	$371 M	$423 M
City Property Tax	$1.0 M	$0.7 M	$0.8 M	$1.0 M
Sanitary (cost/revenue Δ)	$ (1.8) M	$(1.8) M	$(1.8) M	$(1.0) M
Water (cost/revenue Δ)	$3.2 M	$ (0.1) M	$2.3 M	$0.2 M
Transportation (cost/revenue Δ)	$11.0 M	$3.0 M	$8.6 M	$6.1 M
Stormwater (revenue)	$2.4 M	$2.2 M	$2.0 M	$3.0 M
Parks (revenue)	$4.3 M	$0.8 M	$3.6 M	$1.1 M

*highly constrained areas of the plan

Dec 2 Joint Council Input

Land Use Scenario Objectives

- A scenario designed around an implementable infrastructure plan
- Design principles focused on creating development forms reflective of the two cities
- Examine other boundary options that do not rely on the east west connector. Explore service agreements.
- Jurisdictional equity
- More residential for Tualatin in the north
- Consider creative solutions for transitions from employment to housing

Conclusions

- Each option meets all regional goals and constraints
- Both provide:
  - high-quality employment and housing opportunities,
  - innovative and appropriate transition areas between residential and employment uses,
  - responsiveness to the real estate market,
  - robust and efficient infrastructure systems, and
  - development that generally “pays its way.”
- Phasing considerations

Considerations

- Basalt Creek Canyon: assets and limitations
- West Railroad: constraints/low development potential
- Recognizes existing development
- Transitions: between residential and employment and between the cities
- Creates the most complete cohesive community
- Move forward. Optimize the better option.

Next Steps

- Refine option based on Joint City Council feedback
- Public outreach
- Prepare draft final concept plan
- Draft and adopt plan amendments and reports in each city

Discussion & Questions

- What **indicators or criteria** are a top priority in creating the preferred alternative?
- What **land uses** should be included in the preferred alternative?
- What **boundary option** should be included in the preferred alternative?

OFFICIAL MINUTES OF THE SPECIAL JOINT CITY OF TUALATIN AND CITY OF WILSONVILLE WORK SESSION FOR JUNE 17, 2015

Present: Mayor- Tualatin Lou Ogden; Mayor-Wilsonville Tim Knapp; Council President- Tualatin Monique Beikman; Council President- Wilsonville Scott Starr; Councilor- Tualatin Joelle Davis; Councilor- Tualatin Wade Brooksby; Councilor- Tualatin Frank Bubenik; Councilor- Tualatin Nancy Grimes; Councilor- Tualatin Ed Truax; Councilor- Wilsonville Susie Stevens; Councilor- WIlsonville Charlotte Lehan; Councilor- Wilsonville Julie Fitzgerald

Staff Present: City Manager- Tualatin Sherilyn Lombos; City Attorney- Tualatin Sean Brady; Planning Manager- Tualatin Aquilla Hurd-Ravich; Deputy City Recorder- Tualatin Nicole Morris; Associate Planner- Tualatin Cindy Hahn; Assistant City Manager- Tualatin Alice Cannon; City Engineer- Tualatin Jeff Fuchs; Accounting Supervisor- Tualatin Matthew Warner; Planning Director-Wilsonville Chris Neamtzu; Community Development Director-Wilsonville Nancy Kraushar; Long Range Planning Manager- Wilsonville Miranda Bateswchell; Development Engineering Manager- Wilsonville Steve Adams; City Attorney- Wilsonville Mike Kohlhoff; City Manager-Wilsonville Bryan Crosgrove

Attendees: John Fregonese, Leila Aman, Erica Smith, Mark Anderson, Kelli Walters, Ray Delahanty, Matthew Craigie, Brian Vanneman, Andy Braun

A. CALL TO ORDER

Mayor Ogden called the meeting to order at 6:00 p.m.

The Councils introduced themselves.

B. PRESENTATION AND DISCUSSION

Mayor Knapp encouraged Consultant Fregonese to not spend time going through the PowerPoint as both Council's had already received the information. He would like the focus tonight to be on the Councils discussing the options.

Consultant Fregonese briefly recapped the presentation. He noted two boundary options have been established with each having a mix of different land use scenarios. Constraints for the area were reviewed and he recommended the West Railroad area is set aside from tonight's considerations. Developable acres, land use mixes, jobs and employment types, transportation and trips, sewer and water costs, and assessed value were recapped. Consultant Fregonese noted each boundary option meets regional goals and constraints while providing high quality employment, housing opportunities,

appropriate transitions, responsiveness to real estate markets, efficient infrastructure systems, and development that pays for itself. The next steps for both Councils is to refine the options, conduct public outreach, prepare draft and final concept plans, and adopt plan amendments. Consultant Fregonese opened discussion for the Councils asking them to consider the criteria that was set forth while working toward their preferred alternatives.

Mayor Knapp stated Wilsonville had discussed these options and concluded they are highly interested in high paying jobs through a uniquely attractive industrial sector. He expressed their concerns regarding the ability to cluster industries together in options presented tonight. Mayor Knapp also noted the concept of equity needs to be defined in these cases. Wilsonville Council also discussed previously their concerns with cross jurisdictional uses of sewer.

Mayor Ogden asked the group to consider if the current objectives still accurately reflect where each City stands in the process.

Mayor Knapp requested high value jobs be added to the list of values.

Councilor Davis requested environmental protections of natural resources in the Basalt Creek area be added to the list.

Consultant Fregonese stated options presented tonight are not plans but models. Innovative uses will be further encouraged in the planning stage as the process currently is in the testing and measuring stage.

Council President Starr stated he is not interested in moving forward with Option One as presented. He concurred with Consultant Fregonese in setting the West Railroad area aside during this process. He would like to focus on making infrastructure and revenue more equitable for both cities. Council President Starr expressed his concern with the potential cost to upgrade the interchange at Elligsen with increased traffic into that area from the Basalt Creek planning area. Consultant Ray Delante, DKS stated the intersection was studied and the upgrades have been included in the modeling.

Councilor Fitzgerald stated she would like to preserve the natural resources in the area while optimizing its value to future residential and employment sectors.

Mayor Ogden wants to focus less on proposed uses as they will be further studied during the comprehensive planning process. He would like to focus on preserving the capacity of the infrastructure and natural resources while recognizing and respecting the desired uses of the other city.
Council President Beikman agreed with Mayor Knapp in further defining the term “equity” for each city. She would like to clearly lay out high priorities for each city and work on which option meets those needs.

Consultant Fregonese stated each city may need to set the numbers aside and do what feels best for each community. He asked Consultant Mark Anderson to address the cross jurisdictional concerns with the sewer extension. Consultant Anderson stated it is not uncommon to have cross jurisdictional boundaries for utilities. The gross costs for different alternatives were evaluated and a measurable savings in the cost of infrastructure was noted when sewer flows in a direction that crosses jurisdictional

boundaries. He stated a shared service is the most cost effective way to serve the area.

Councilor Lehan expressed she is less concerned with equity and more concerned in producing an overall good plan. She stated Wilsonville made a commitment to the region to make this area a significant job generating area and it is highly important to stick to that promise. Councilor Lehan added she believes Wilsonville does not have the capacity to support residential in the area.

Council President Beikman stated Tualatin made assurances to Metro that the residential neighborhoods in the area would be appropriately buffered.

Mayor Ogden asked if there were potential options for sewer services where Tualatin provided services to Wilsonville. Consultant Anderson reviewed the map pointing out sewer service locations and who the providers would be in each scenario. He noted the scenario where 15% of the total sewer flow heads into Tualatin and 35% of the flow into Wilsonville would save 2.5-3 million dollars.
Mayor Knapp expressed concerns with the phasing and timing of sewer services. He stated Wilsonville would not need to phase as quickly as Tualatin as the industrial area would grow slower than the residential area.

Consultant Matt Craigie spoke to the residential and industrial markets for both cities. He noted Tualatin has a high demand for residential. The industrial market with a build to suite style building is very strong.

Mayor Knapp expressed concern over upfront cost of sewer with a uncertain return since the industrial area in Wilsonville will take longer to build out than residential in Tualatin.

Clean Water Services representative Andy Braun stated the cross jurisdictional approach is the most cost effective for all parties. He stated Clean Water Services would assist Wilsonville in the laying of the gravity line as it would offset the long term cost associated with having to build pump stations.

Mayor Knapp stated his concern with option one is the new developable acres skews towards Tualatin. The imbalance in developable acres feels inequitable to him. The option also does not allow for clustering in the industrial area. He would like to see more similar uses along the connector roads as well. Option Two in his opinion finds more balance in his areas of concern.

Council President Starr would like to see a better balance between assessed value and taxes. He sees Option Two as a better base to work from.
Mayor Ogden stated assessed value is not a good measure of equity as it does not take into account the cost of services. He sees developable acres as a better measure.

Councilor Lehan agreed with Mayor Knapp in the fact that she would like to see a larger block of land to accommodate industrial clustering. She wants more light industrial area and less employment transition.

Councilor Stevens would like to see the boundary moved down in Option One. It gives Tualatin more developable acres for residential while creating a buffer of mixed use. The moving of the line down offers Wilsonville the industrial clustering they desire. She noted if the area is designed well the natural areas can then be used to create the needed

buffers.

Councilor Davis's main point of interest in the planning process is the Basalt Creek canyon and wetlands. She is concerned with the citizens who live along the canyon and would like to see them as Tualatin residents. She sees uniform jurisdiction in the area, by one city, as the best option for the canyon area.

Council President Beikman stated Tualatin selected Option One as the best option. It allows Tualatin the ability to properly buffer the current residential areas. She also is interested in setting the West Railroad area aside.

Mayor Knapp expressed concern with new residential construction in Tualatin putting additional pressure on Wilsonville's road system.

Councilor Bubenik noted Boones Ferry Road is a County road. He added improvements would be made to this section of road when the 124th Street extension is completed.

Mayor Ogden asked the Tualatin Council how important the canyon is to them. Consensus amongst the Tualatin Council was the canyon as a whole would be in Tualatin's jurisdiction.

Councilor Lehan agreed the canyon needs to be looked at as whole and whoever has jurisdiction needs to have overlay protections in place to protect the wetlands.

Councilor Davis wants the canyon residents to feel a sense of community, which would only be accomplished if they all resided in one jurisdiction.

Council President Starr asked how the West Railroad area became part of this process.

Council President Beikman stated she was under the impression Wilsonville asked to have the area included in the study. Wilsonville Planning Director Chris Neamtzu stated he believed Tualatin staff expressed interest in the area and asked it be discussed during the comprehensive planning process. City Manager Lombos clarified Metro asked the area be included as part of the overall planning process. She added Tualatin currently has no interest in including the West Railroad area in their jurisdiction.

Consultant Fregonese summed the conversation stating consensus was reached on the Basalt Creek Canyon being in Tualatin's jurisdiction and with staff to work out the boundary on the west end using the Council's conversation as a guideline.

Mayor Knapp noted the offset in acreage will still need to be addressed.

City Manager Crosgrove asked what it would take to put the land into productive capacity. He also noted it is important to Wilsonville to offer high quality development and high paying jobs.

Mayor Knapp requested the consultants look at relocating the jurisdictional boundary as he feels the road is not the best solution.

Mayor Ogden expressed concerns and took issue with the amount of unconstrained developable acres in Option Two. He also had concern with Wilsonville having a net

negative financial impact for services. He would like both of these items balanced.

Councilor Truax stated it is important for the plan to make sense for both communities while being fiscally responsible in the end. He wants the land for both communities to be profitable in the sense that it pays for itself.

C. ADJOURNMENT

Mayor Ogden adjourned the meeting at 8:10 p.m.

_____ / Nicole Morris, Recording Secretary

MEETING NOTICE AND AGENDA

JOINT CITY OF TUALATIN AND CITY OF WILSONVILLE COUNCIL WORK SESSION

Basalt Creek Concept Plan
Joint Meeting #3

Wilsonville City Hall-Council Chambers
29799 SW Town Center Loop E
Wilsonville, Oregon 97070

December 2, 2014
6:00 p.m.

Purpose

- Update Tualatin and Wilsonville Councilors on the current status of the project
- Present Base Case Scenario and evaluation results
- Provide input to two alternative scenarios

A. **CALL TO ORDER**

B. **WELCOME AND INTRODUCTIONS**

C. **PRESENTATIONS**

1. Project Update

2. Building the Base Case

3. Scenario Development

4. Base Case Scenario
   a. Transportation
   b. Land Use
   c. Wet Infrastructure

D. **ROUNDTABLE DISCUSSIONS**

1. Discussion: After hearing about the Base Case Scenario, what elements should the project team consider including in two additional alternative scenarios?

E. **NEXT STEPS**

F. **ADJOURNMENT**

MEMORANDUM
CITY OF TUALATIN
CITY OF WILSONVILLE

TO: Honorable Mayors and Members of the City Councils

THROUGH: Sherilyn Lombos, Tualatin City Manager, and Bryan Crosgrove, Wilsonville City Manager

FROM: Alice Cannon, Assistant City Manager, and Cindy Hahn, Associate Planner, Tualatin
Chris Neamtzu, Planning Director, and Miranda Bateschell, Planning Manager, Wilsonville

DATE: 12/02/2014

SUBJECT: Basalt Creek Concept Plan Project – Joint Work Session Discussion with the City of Tualatin and Wilsonville Mayors and Councils

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ISSUE BEFORE THE COUNCIL:
The purpose of tonight's meeting is:

- Update Tualatin and Wilsonville Councilors on the current status of the project
- Present the Base Case Scenario and evaluation results
- Provide input to staff to create two alternative scenarios

Tonight's presentation is included as an attachment.

EXECUTIVE SUMMARY:

Project Update
At the last individual Council briefings in September, staff and the consultant team shared the land suitability analysis identifying areas of the Basalt Creek planning area that are most suitable for development based on natural and man-made constraints, parcel size, slope, and various other factors. After completing the land suitability analysis, staff started to look at the type of land use that might be most suitable in different parts of the planning area, and how those land uses might be served by roads and wet infrastructure (sewer, storm, water). Other tasks that went into developing the Base Case Scenario include:

- identifying land uses that might be appropriate in the area
- sketching in a conceptual local road network
- overlaying conceptual wet infrastructure (sewer, storm, water)
- evaluating the scenario for impacts on transportation and public utility systems
- identifying a base case jurisdictional boundary between Tualatin and Wilsonville; for simplicity sake, this boundary is located along the East-West Arterial as discussed in the 2004 Metro ordinance.

Base Case Scenario and Evaluation Results
The Base Case Scenario includes a range of land uses such as light industrial and warehousing, office park, industrial tech/flex space, single-family residences, townhomes and apartments, neighborhood commercial, and undeveloped natural areas. A base case jurisdictional boundary, as well as local roads, were included so that a preliminary design for wet infrastructure, which usually follows road right-of-way, could be developed.

New households, jobs and trips generated in the Transportation Refinement Plan and the Urban Growth

Report were used at guides or “sideboards” in choosing different land uses for the planning area. The Base Case Scenario results in substantially fewer new households and substantially more jobs than either the Transportation Refinement Plan forecast or the Urban Growth Report forecast. The number of new trips, while on the high end of the range, is within the range of growth anticipated by Metro forecasts and a bit lower than the Transportation Refinement Plan forecast. Staff has confirmed with Metro that a lower number of households than in the forecast is acceptable.

In the Base Case, potable water and sewer infrastructure are laid out so that Tualatin and Wilsonville provide these services to their parts of the planning area, with a jurisdictional boundary following the East-West Arterial as discussed in the 2004 Metro ordinance. Stormwater is designed to flow with gravity and drains to Wilsonville. The Base Case Scenario offers a starting point for discussions about infrastructure services, costs, and jurisdictional boundary.

Preliminary cost estimates for the Base Case infrastructure, including sewer, stormwater and potable water, are $44.6 million for Tualatin and $32.4 million for Wilsonville. These cost estimates provided in the attached presentation do not include all existing system upgrades that might be needed for water and stormwater, or operation and maintenance costs for any of the wet infrastructure systems. The estimates are at a very conceptual level for comparative purposes. Staff and consultants will be available at the meeting to answer more detailed questions about costs.

Alternative Scenarios
In order to create two additional alternative scenarios, the project team needs input from the Councils on the following:

- Feedback or questions on the Base Case Scenario, and
- Input on changes in the Base Case to evaluate in the alternative scenarios.

Next Steps
Another Joint City Council meeting is planned for February 2015, followed by a public open house to discuss alternative scenarios in March.

Attachments: PowerPoint

Joint Council Meeting #2

December 2, 2014

Basalt Creek
Concept Plan

Agenda

I. Project Update

II. Building the Base Case

III. Base Case Scenario

a) Land Use

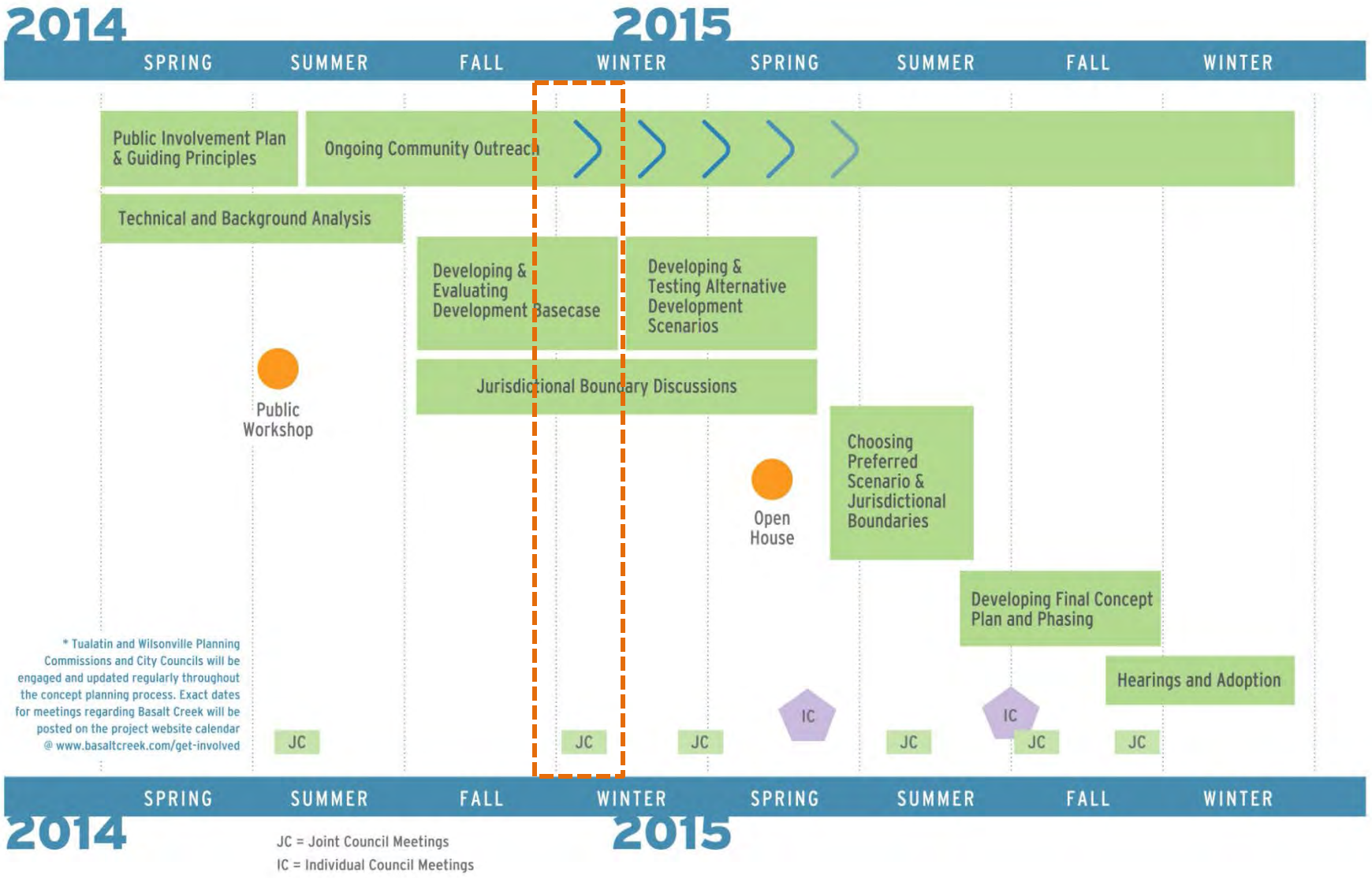
b) Transportation

c) Wet Infrastructure

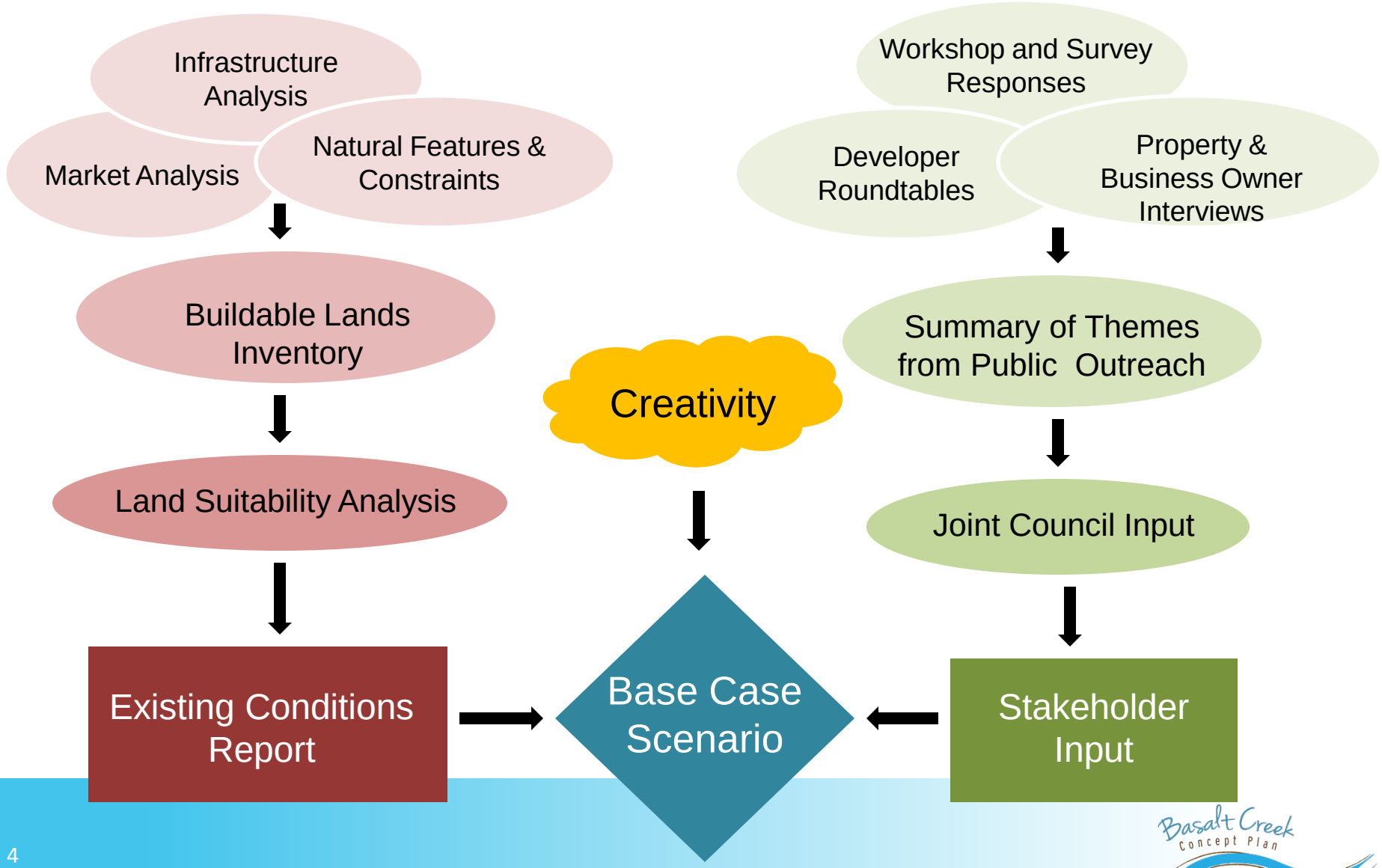
IV. Next Steps

V. Discussion

Project Update



Building the Base Case



Building the Base Case

Base Case Objectives

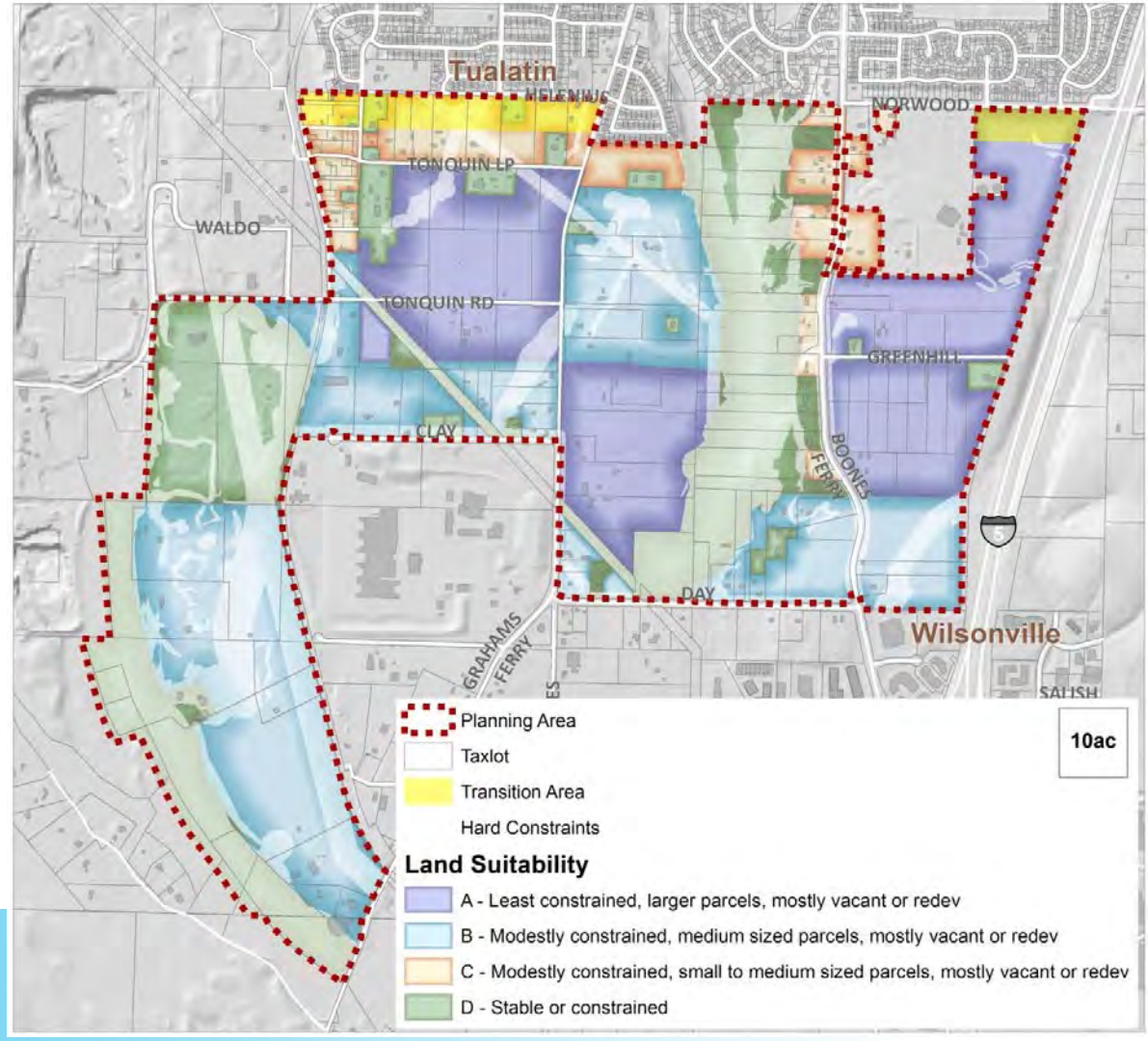
- Design principles focused on conventional land uses types
- Started with the regional forecast and adjusted to be more employment focused
  - Understand impacts on the transportation system and trip sideboards
- Develop an initial city boundary, based on Metro ordinance
  - Understand infrastructure cost and service implications

Building the Base Case
Stakeholder Input

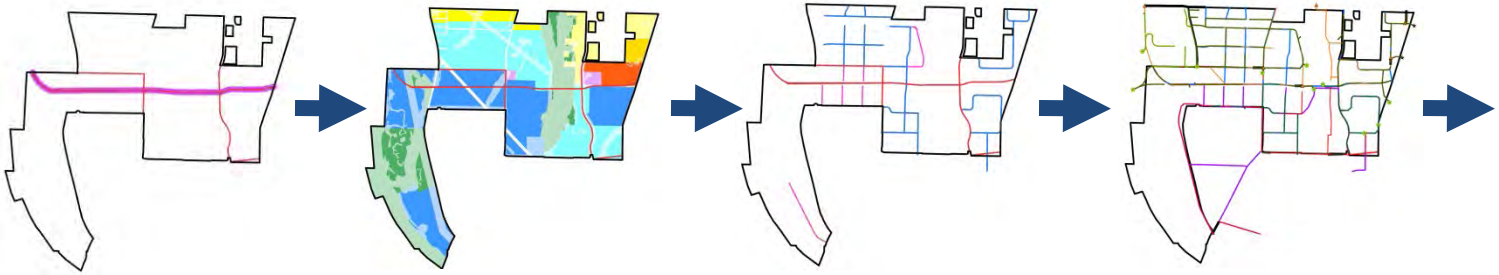
- Appropriate transitions between land uses
- Concerns about cut-through traffic
- Desire for green spaces and trails
- Small-scale retail to serve local neighborhoods and workers
- Market demand for updated industrial development type
- Explore creative, innovative land use solutions

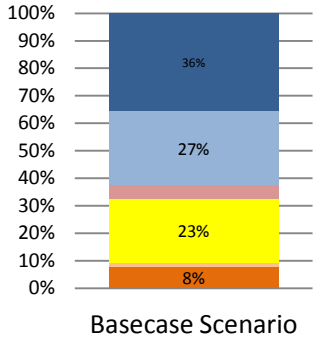
Building the Base Case
Land Suitability Analysis

Suitability Category	Vacant Acres
A	197
B	144
C	38
D	12



Building the Base Case
Scenario Development





1 **Base Case Jurisdictional Boundary**

2 **Base Case Land Use (Development Types)**

3 **Base Case Roads**

4 **Base Case Wet Infrastructure**

5 **Base Case Evaluation**

Basalt Creek Concept Plan

Building the Base Case

Scenarios are Crash Test Dummies

Basalt Creek Concept Plan

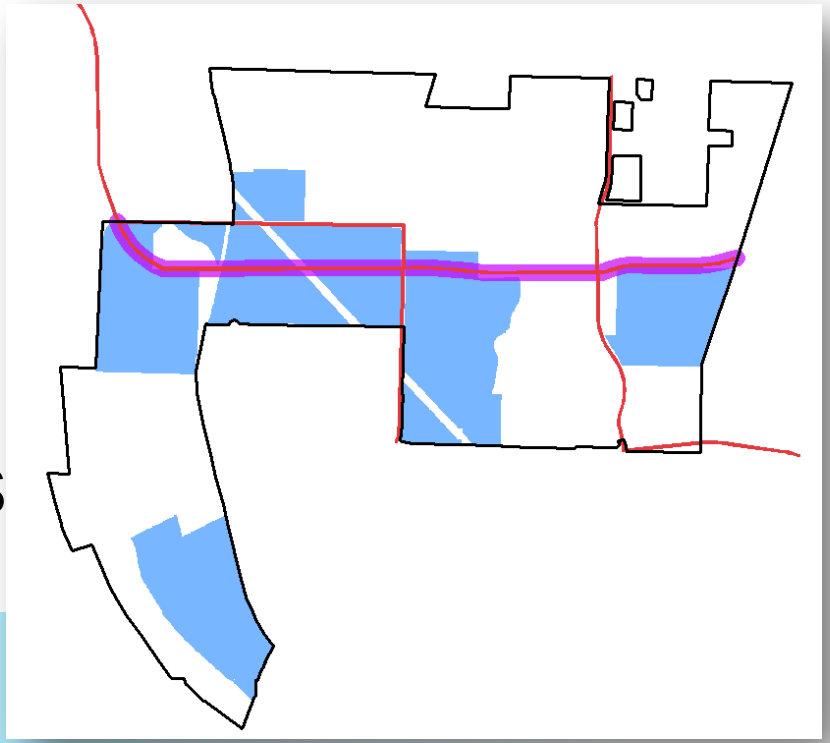
Basalt Creek
Concept Plan

BASE CASE SCENARIO:
LAND USE (DEVELOPMENT TYPES)

Light Industrial and Warehousing

Land Use Mix

- Retail 1%
- Office 5%
- Industrial 94%



Structure

- Ave. height: 1-2 stories

Office Park/Flex

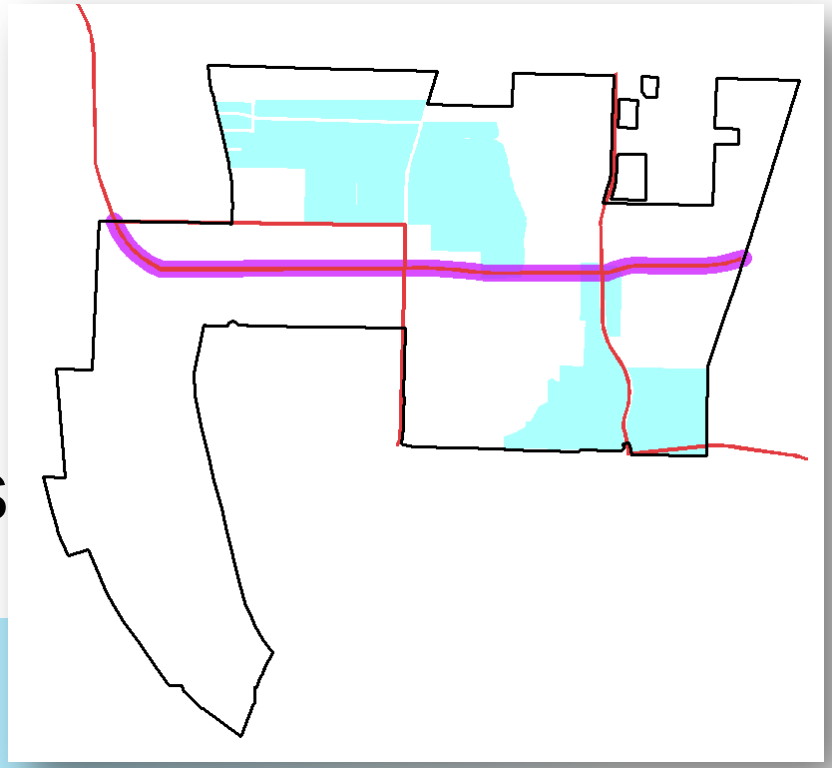


Land Use Mix

- Retail 13%
- Office 31%
- Industrial 56%

Structure

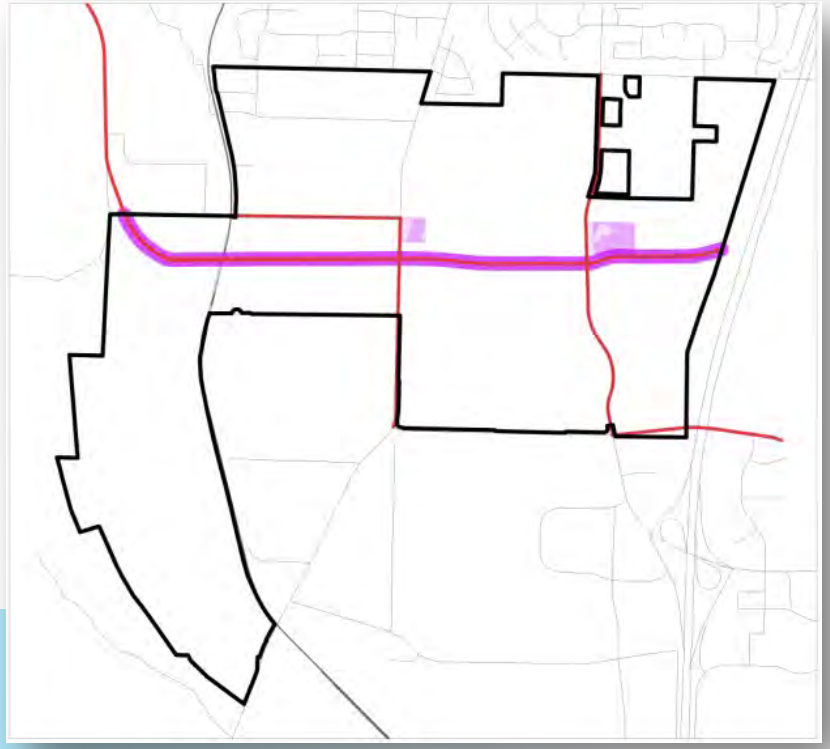
- Ave. height: 1-4 stories



Neighborhood Commercial

Land Use Mix

- Commercial
  - Retail 77%
  - Office 7%
- Residential 3%
- Industrial 13%



Structure

- Ave. height: 1 story

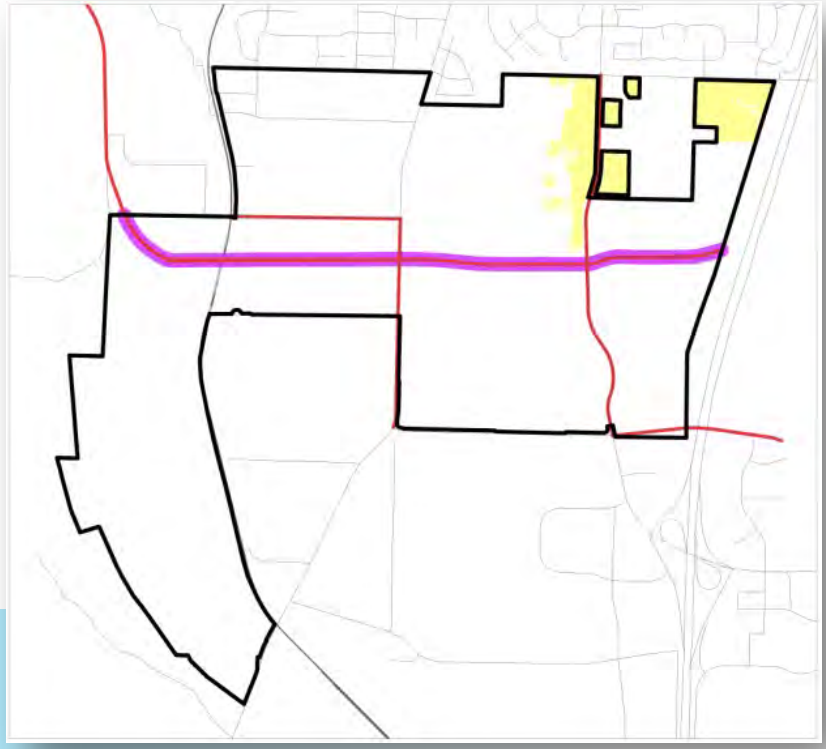
Conventional Single Family

Land Use Mix

- Single Family
  - 6,000 sf: 12%
  - 7,500 sf: 88%

Structure

- Ave. height: 2 stories



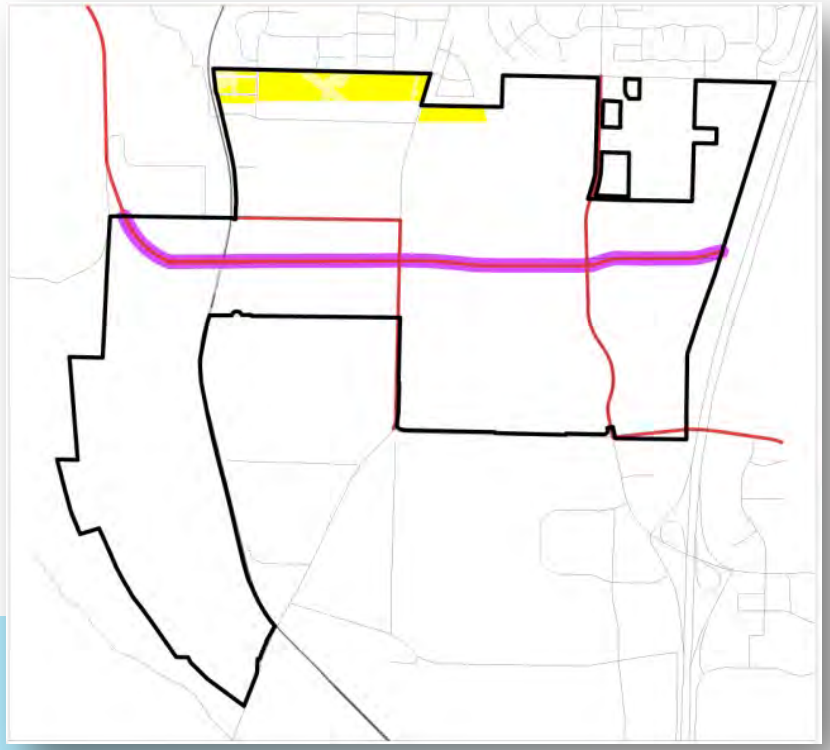
Suburban Residential

Land Use Mix

- Single Family
  - 5,000 sf: 50%
  - 6,000 sf: 40%
  - 7,500 sf: 10%

Structure

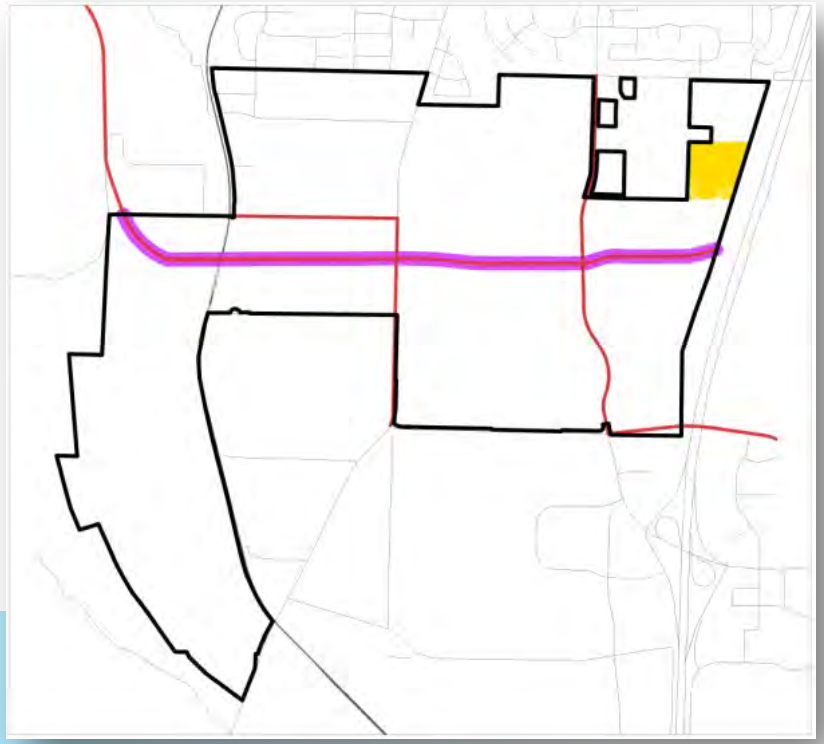
- Ave. height: 2 stories



Compact Neighborhood

Land Use Mix

- Townhomes 19%
- Single Family
  - 5,000 sf: 23%
  - 6,000 sf: 47%
  - 7,500 sf: 12%



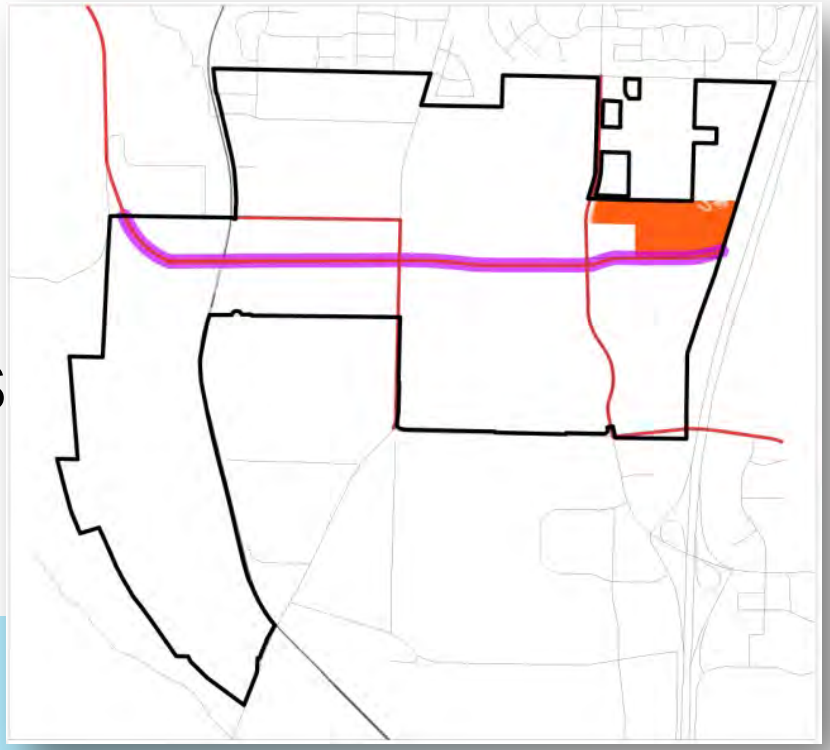
Structure

- Ave. height: 2 stories

Suburban Multifamily

Land Use Mix

- Multifamily 97%
- Townhomes 3%

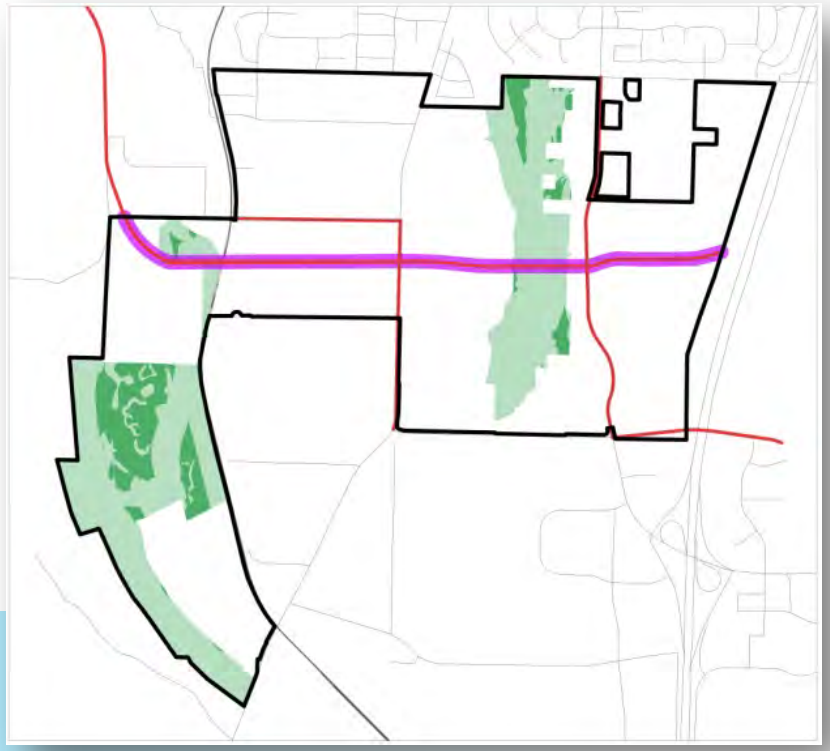


Structure

- Ave. height: 2-3 stories

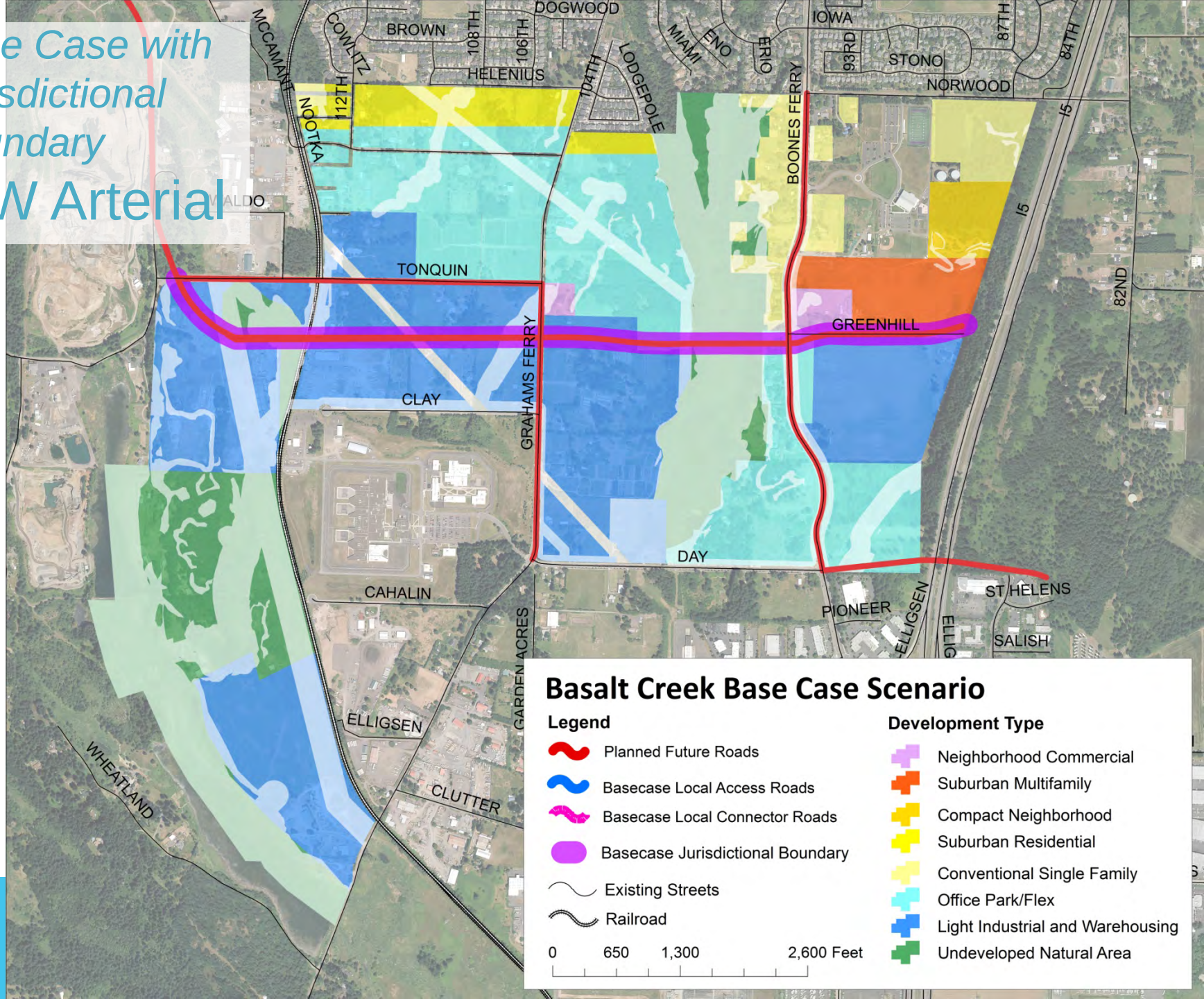
Undeveloped Natural Areas

- Maintains private ownership
- No trails or open space programming in Base Case
- Regulations would prevent intense development



Base Case with Jurisdictional Boundary

E-W Arterial



Basalt Creek
Concept Plan

BASE CASE SCENARIO:
INDICATORS (EVALUATION CRITERIA)

Comparison to Forecast

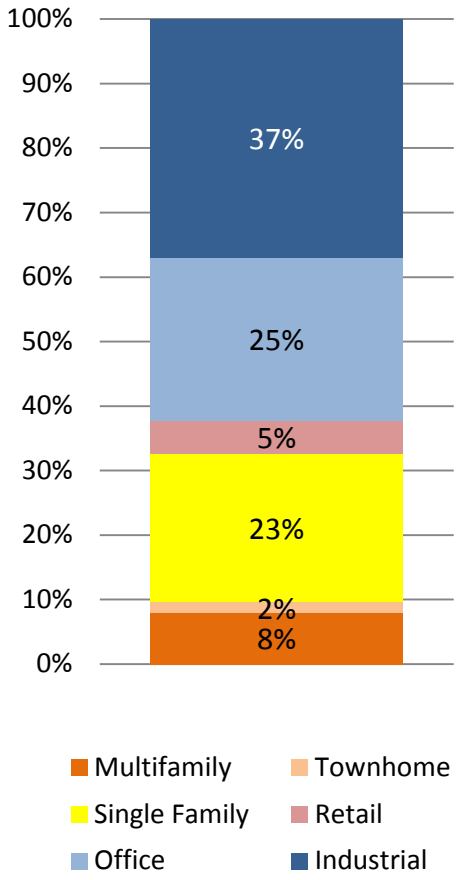
	New Households	New jobs	New trips generated*
Transportation Refinement Plan Forecast	1,386	2,562	1,989
Urban Growth Report Forecast	1,214	2,316	1,638
Base Case	653	4,058	1,968

*PM Peak Hour trips. Trip rates: Households = 0.63, Retail jobs = 0.73, non-retail jobs = 0.37

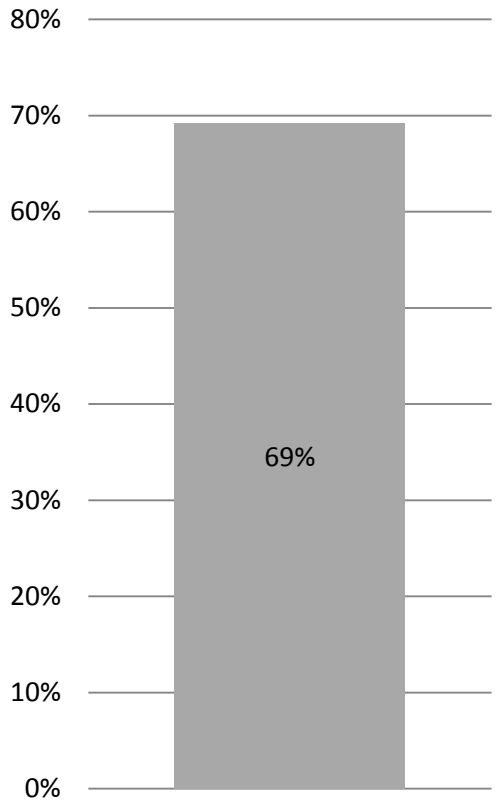
Base Case Indicators

Physical Form

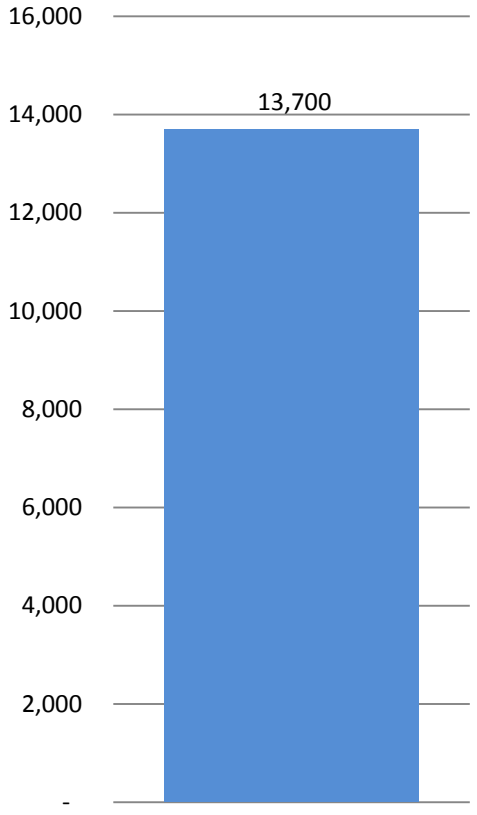
Building Mix



Impervious Cover of New Development (%)

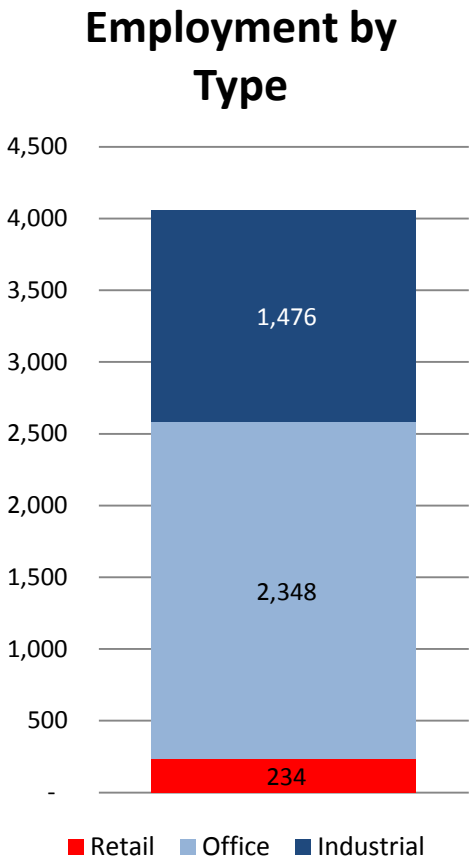


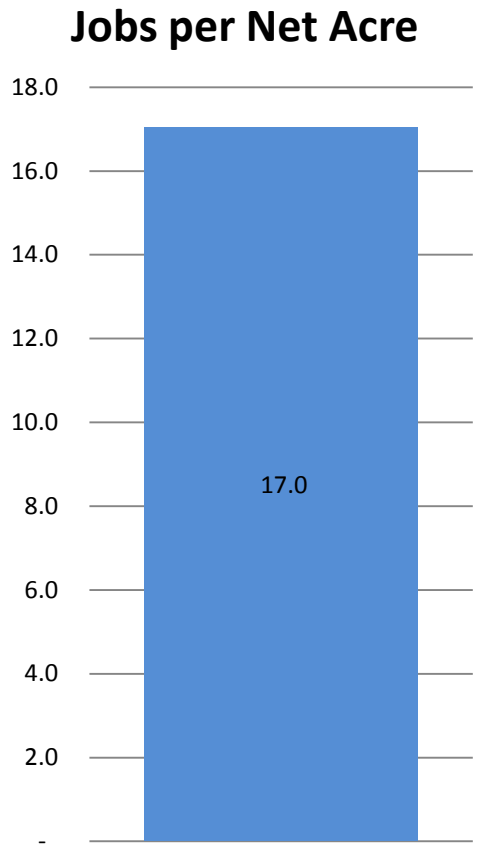
Parking Spaces



Base Case Indicators

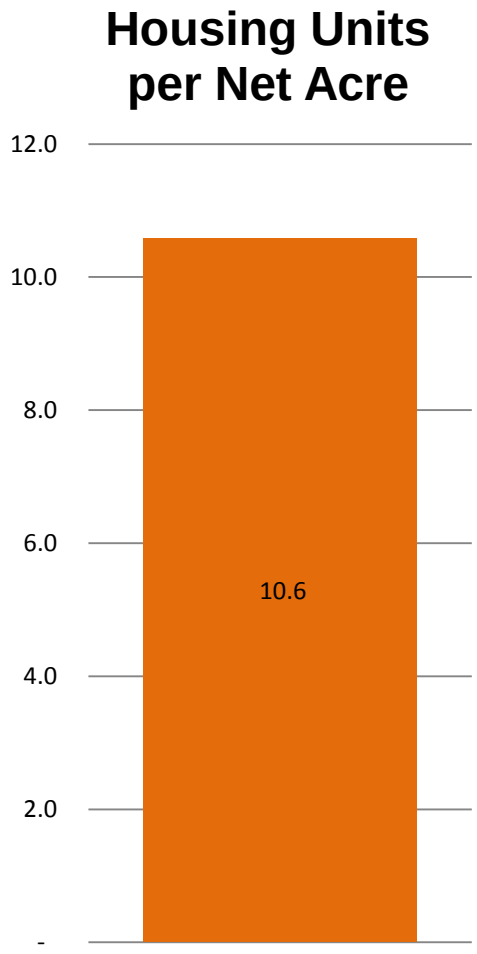
Employment

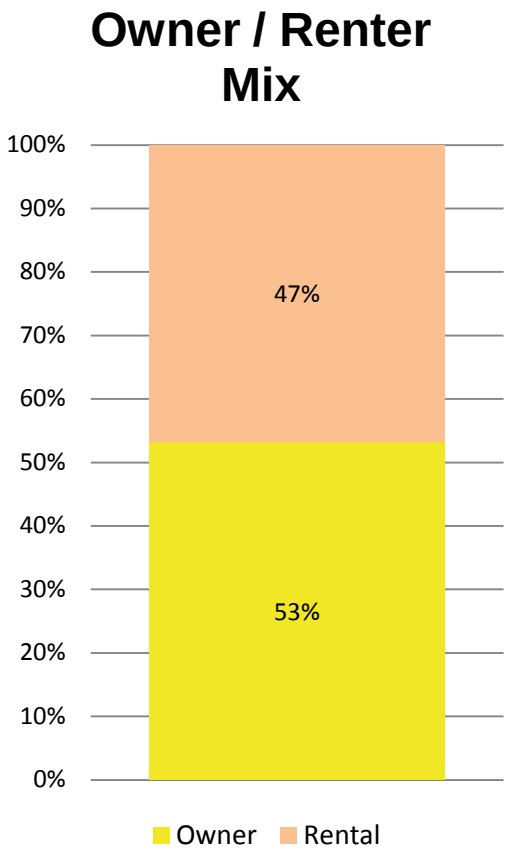


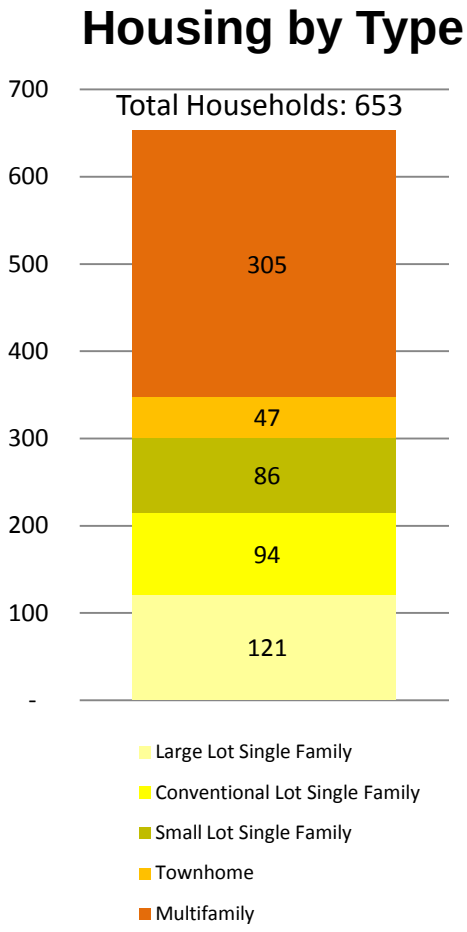


Base Case Indicators

Housing



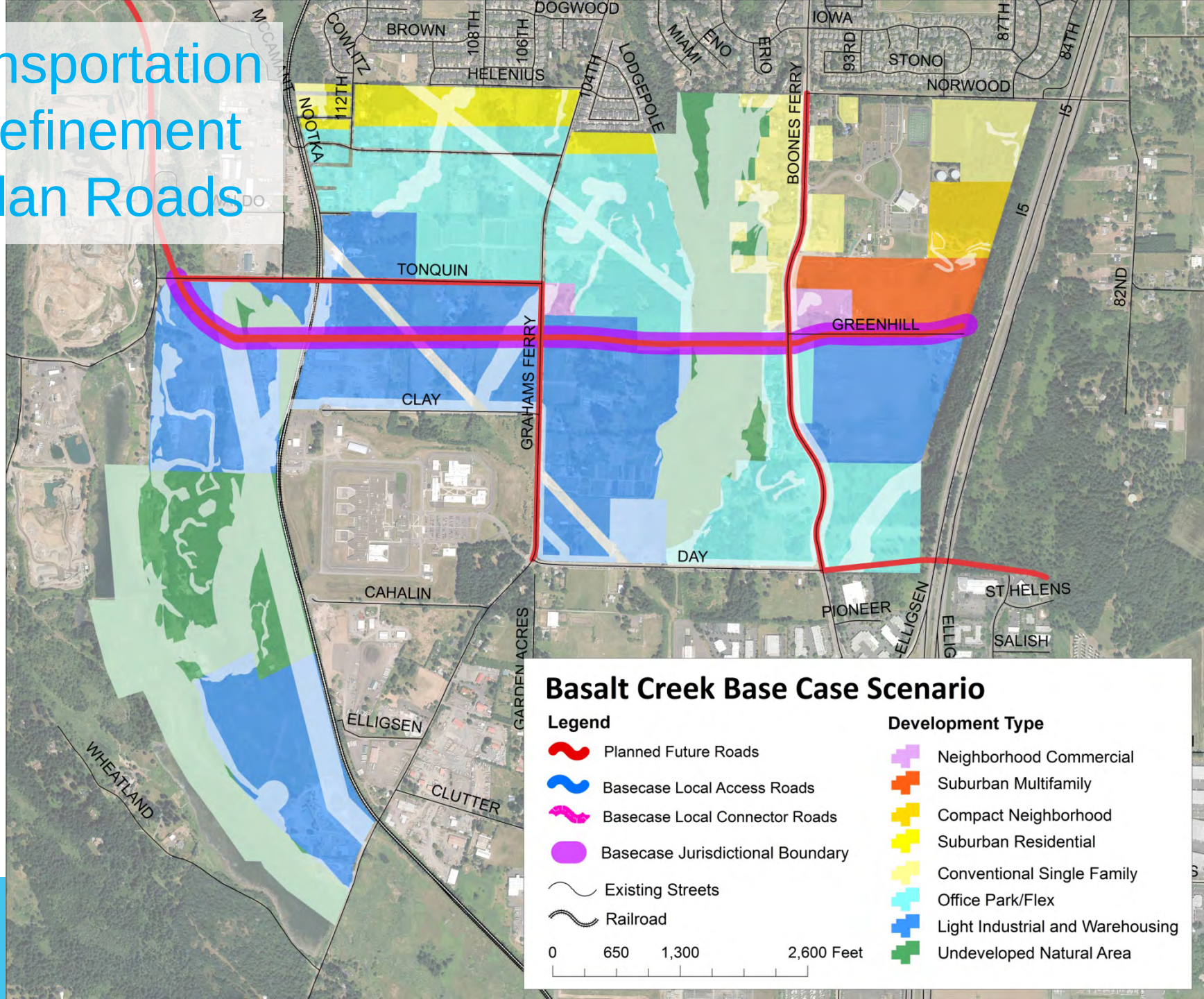




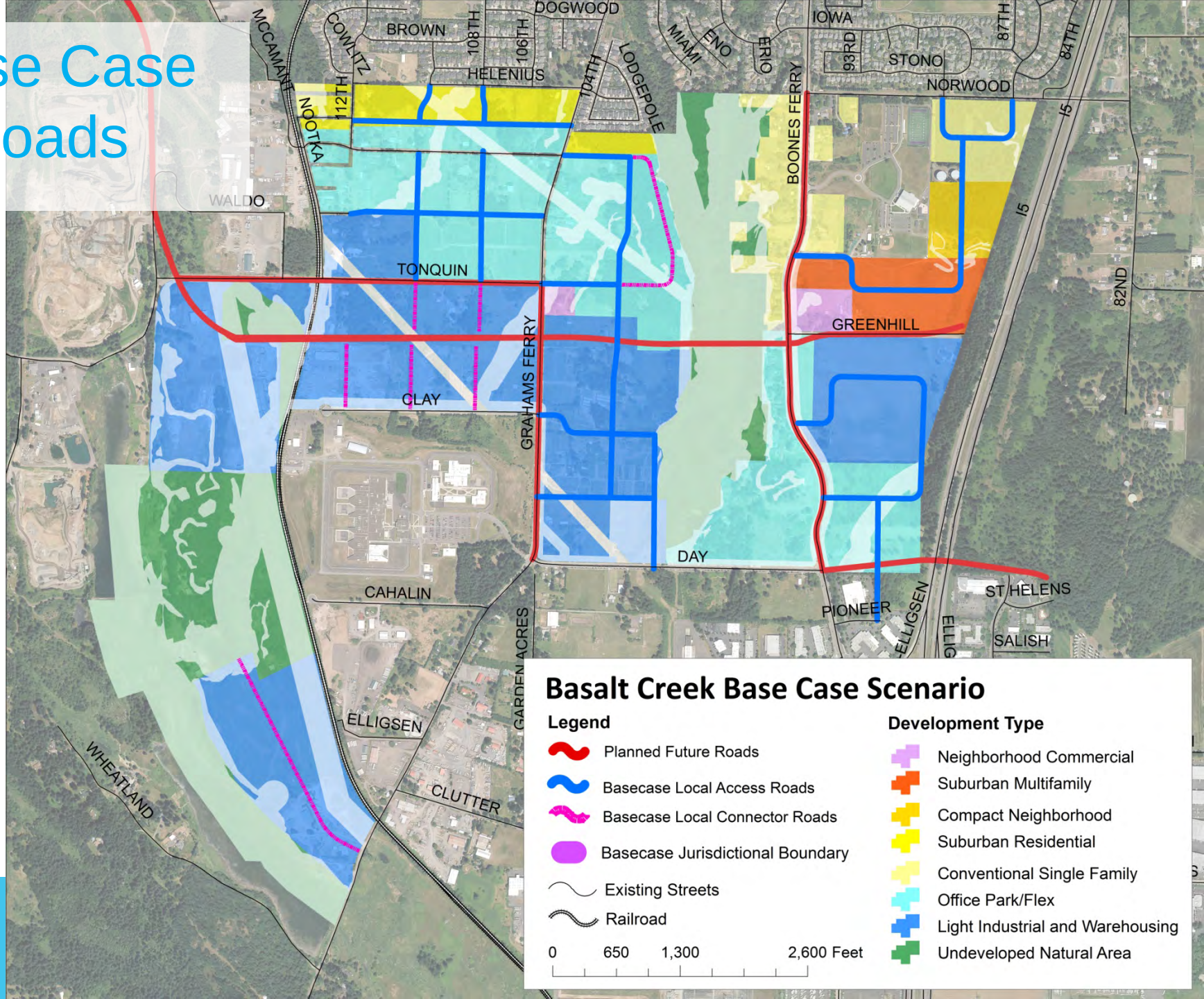
BASE CASE SCENARIO:

TRANSPORTATION

Transportation Refinement Plan Roads



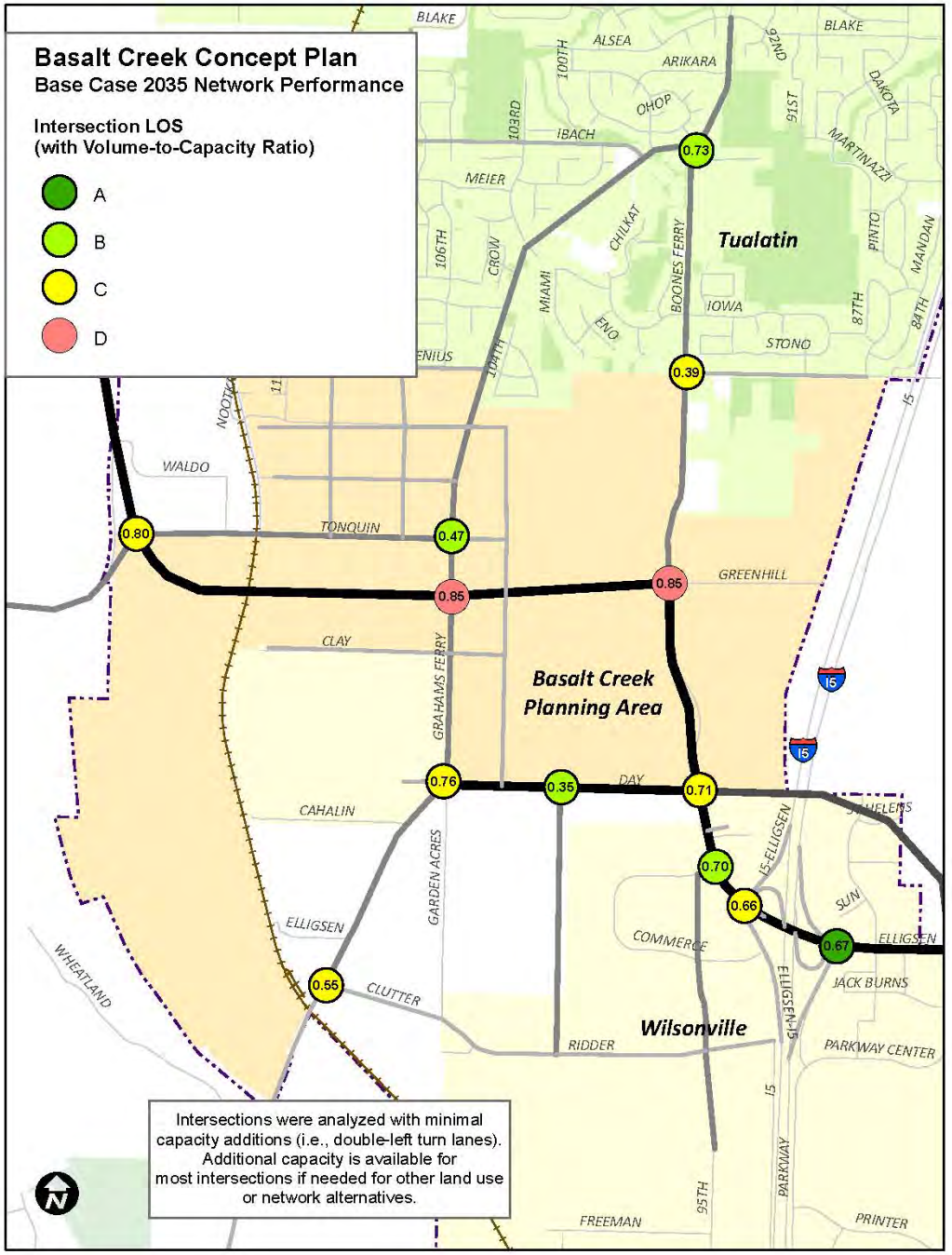
Base Case Roads



Base Case Transportation

Transportation Analysis:

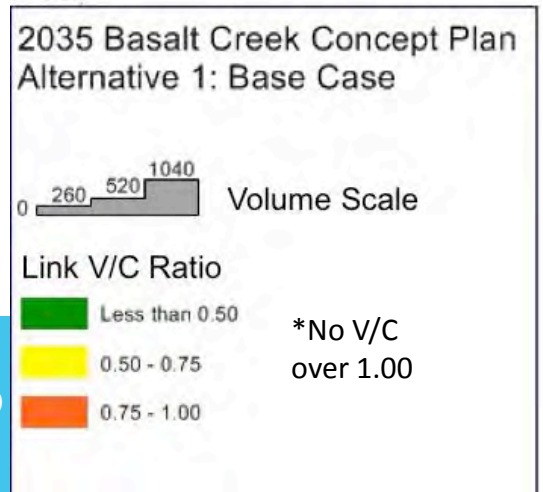
Intersection Volume-to-Capacity



Base Case Transportation

Transportation Analysis:

Link Volume-to-Capacity



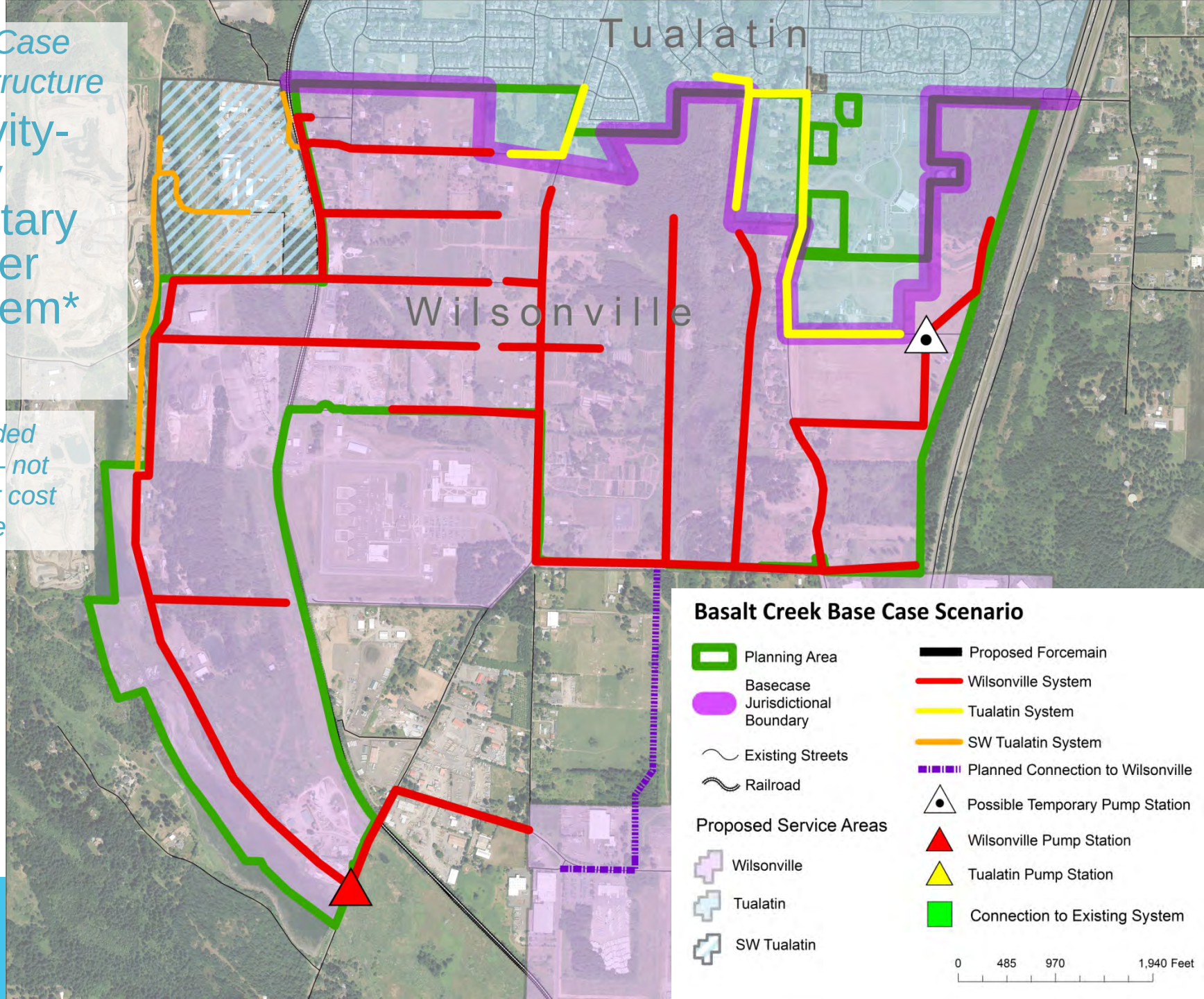
Basalt Creek
Concept Plan

BASE CASE SCENARIO:
WET INFRASTRUCTURE

Base Case Infrastructure

Gravity-Only Sanitary Sewer System*

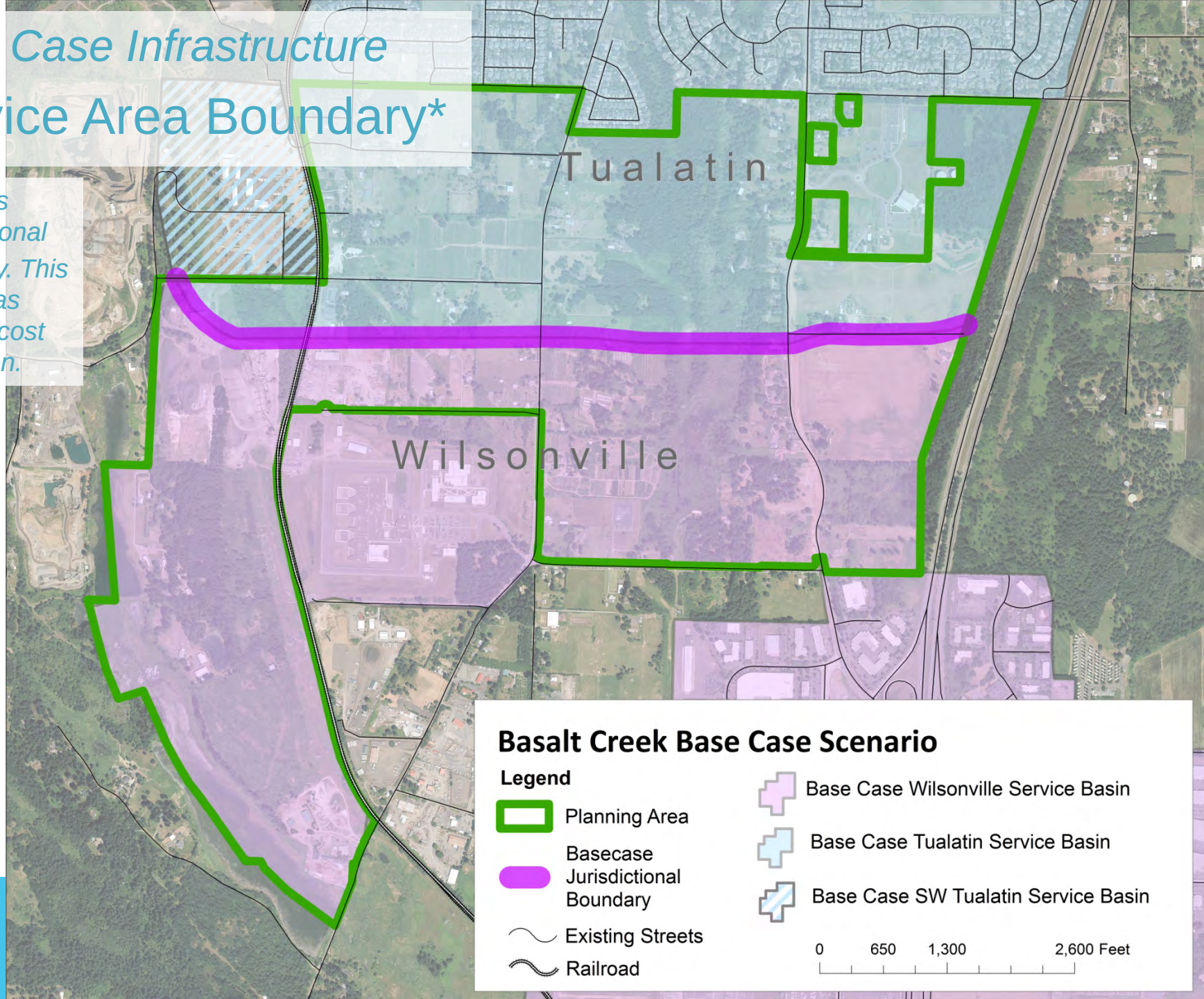
**Discarded Option – not used for cost estimate*



Base Case Infrastructure

Service Area Boundary*

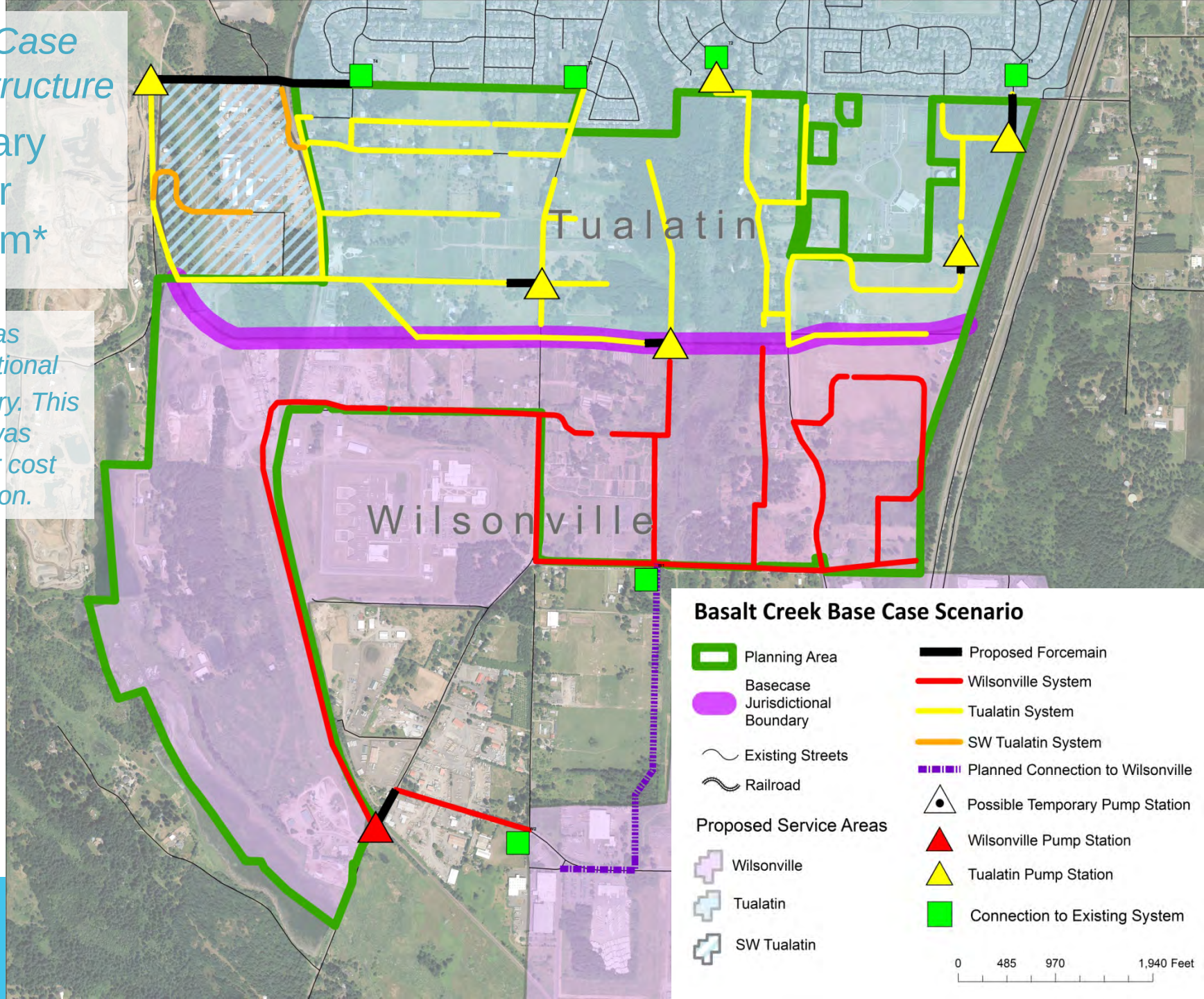
**Same as Jurisdictional Boundary. This option was used for cost estimation.*



Base Case Infrastructure

Sanitary Sewer System*

**Same as Jurisdictional Boundary. This option was used for cost estimation.*



Base Case Infrastructure

Sanitary Sewer System – Comparing Options

Gravity-Only

- Deep pipes (>25 ft.)
- Difficult to phase
- Complicated to finance through SDCs
- Fewer pump stations; fewer upgrades to existing pipes

Service Areas Coincide with City Boundaries

- Shallower pipes
- Simpler to phase and finance
- 7 pump stations
- Ongoing O&M costs for pump stations; pipe upgrades in Tualatin

Base Case Infrastructure

Sanitary Sewer Concept Plan

Proposed Pump Stations

- Tualatin: **5** (+ 1 existing PS upgrade)
- Wilsonville: **1**

Total Length of Pipe

Jurisdiction	Pipe Length (miles)
Tualatin	7.5
Wilsonville	4.8

Peak Flows

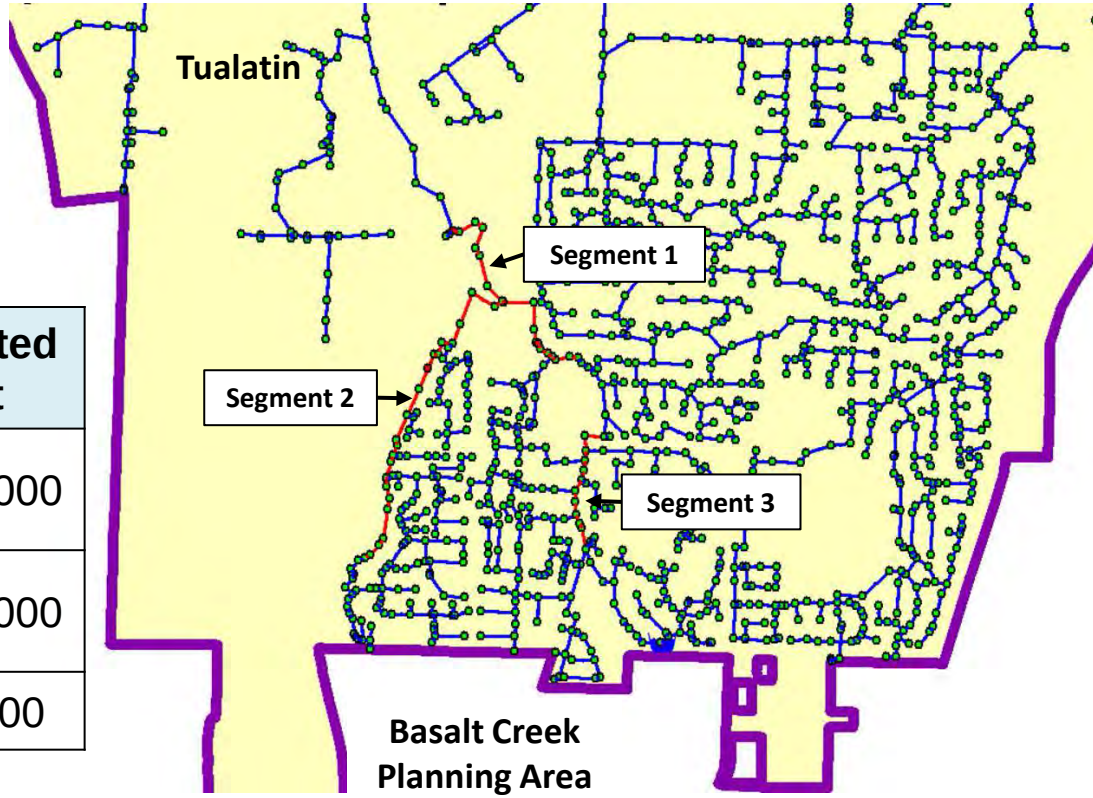
Jurisdiction	Peak Flow (gal/day)
Tualatin	1,134,000
Wilsonville	816,000
TOTAL	**1,950,000**

Base Case Infrastructure

Sanitary Sewer Tualatin System

Expected upgrades:

No.	Original Pipe Size	Upgrade To	Estimated Cost
1	10-15 inches	12-18 inches	$1,000,000
2	10-15 inches	18 inches	$1,600,000
3	8 inches	12 inches	$800,000



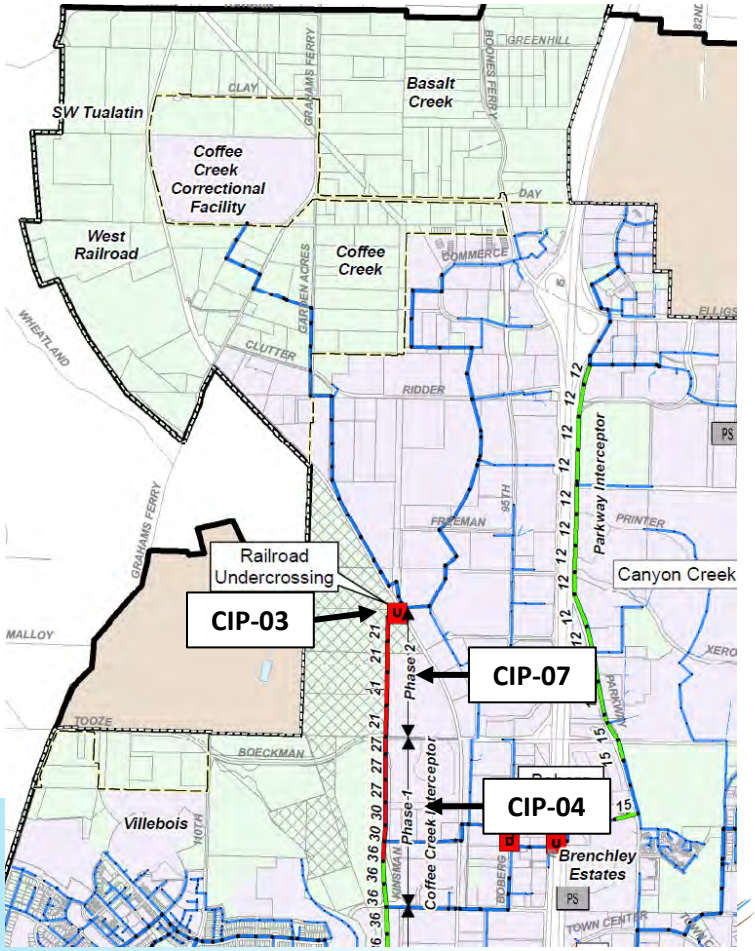
= surcharged pipes

Base Case Infrastructure

Sanitary Sewer - Wilsonville System

Expected upgrades:

Proj. ID No.	Project Name	Upgrade Description	Estimated Cost
CIP-03	Coffee Creek Interceptor RR Undercrossing	Under-crossing, 21 inches	$190,000
CIP-04	Coffee Creek Interceptor Phase 1	Upsize to 27, 30, and 36 inches	$2,600,000
CIP-07	Coffee Creek Interceptor Phase 2	Upsize to 21 inches	$1,700,000



City of Wilsonville Wastewater Collection System Master Plan, Draft 10-16-2014, under review

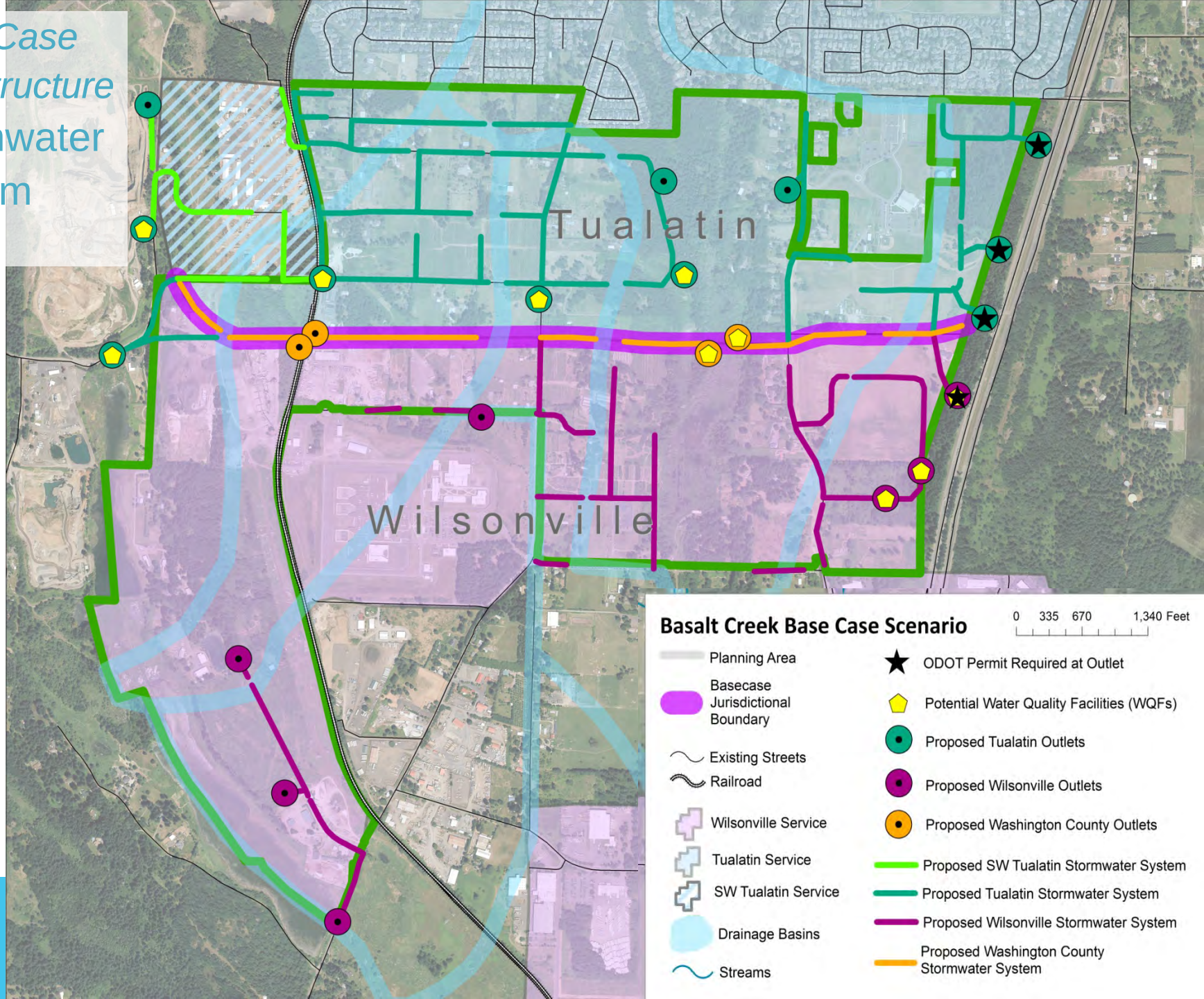
Base Case Infrastructure

Sanitary Sewer Costs

Jurisdiction	**Tualatin** ($ Millions)	**Wilsonville** ($ Millions)
Basalt Creek Cost	21.7	14.2
Existing System Upgrade Cost	3.4	4.5
Total Cost	**25.1**	**18.7**

NOTE: Cost estimate is at a concept level, +100%/-50% accuracy.

Base Case Infrastructure Stormwater System



Base Case Infrastructure

Stormwater Concept Plan

Potential Water Quality Facilities (WQF)

- Tualatin: **5 potential, 4 included in cost estimate**
- Wilsonville: **3**
- Washington County: **2**

Design Concerns

- Tualatin: Three outlets on eastern edge may require ODOT permits
- Wilsonville: One outlet on eastern edge may require ODOT permit

Total Pipe Length

Jurisdiction	Pipe Length (miles)
Tualatin	6.0
Wilsonville	3.1

NOTE: Stormwater collection for E-W arterial is not included

Base Case Infrastructure

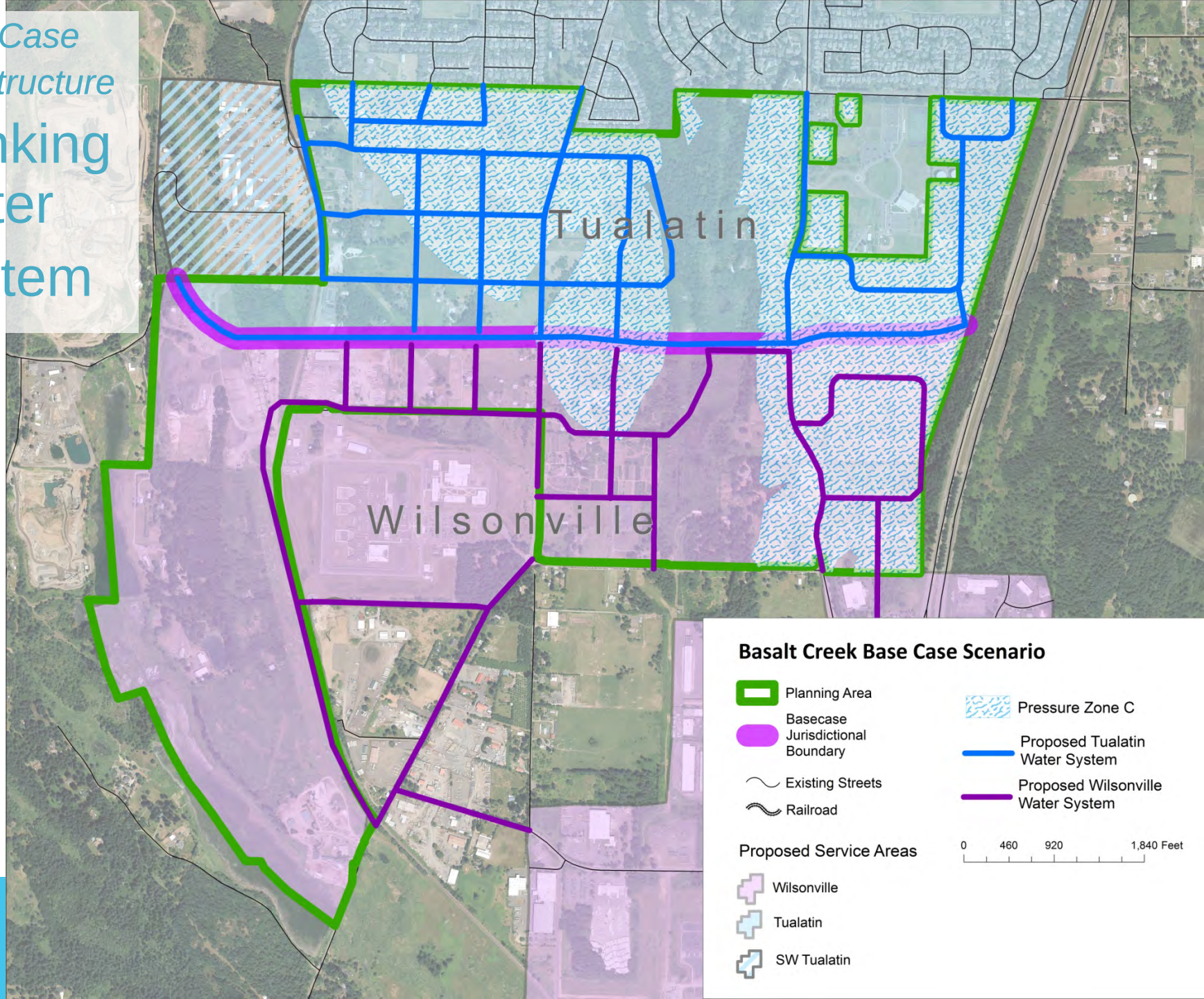
Stormwater Costs

Jurisdiction	**Tualatin** ($ Millions)	**Wilsonville** ($ Millions)
Basalt Creek Cost	9.1	4.6

NOTE: Cost estimate is at a concept level, +100%/-50% accuracy.

Base Case Infrastructure

Drinking Water System



Basecase Infrastructure

Drinking Water Concept Plan

Total Length of Pipe

Jurisdiction	Pipe Length (ft)	Pipe Length (miles)
Tualatin	39,520	7.5
Wilsonville	32,270	6.1

Peak Flows

Jurisdiction	Max Flow (gal/day)
Tualatin	389,000
Wilsonville	140,500
TOTAL	**529,600**

Existing System Impacts

- Wilsonville Improvements: Booster Station at C Level Tank

Base Case Infrastructure

Drinking Water Costs

Jurisdiction	**Tualatin** ($ Millions)	**Wilsonville** ($ Millions)
Basalt Creek Cost	10.4	8.5
Existing System Upgrade Cost		0.6
Total Cost	**10.4**	**9.1**

NOTE: Cost estimate is at a concept level, +100%/-50% accuracy.

Base Case Infrastructure

Utility Concept Plan Risks

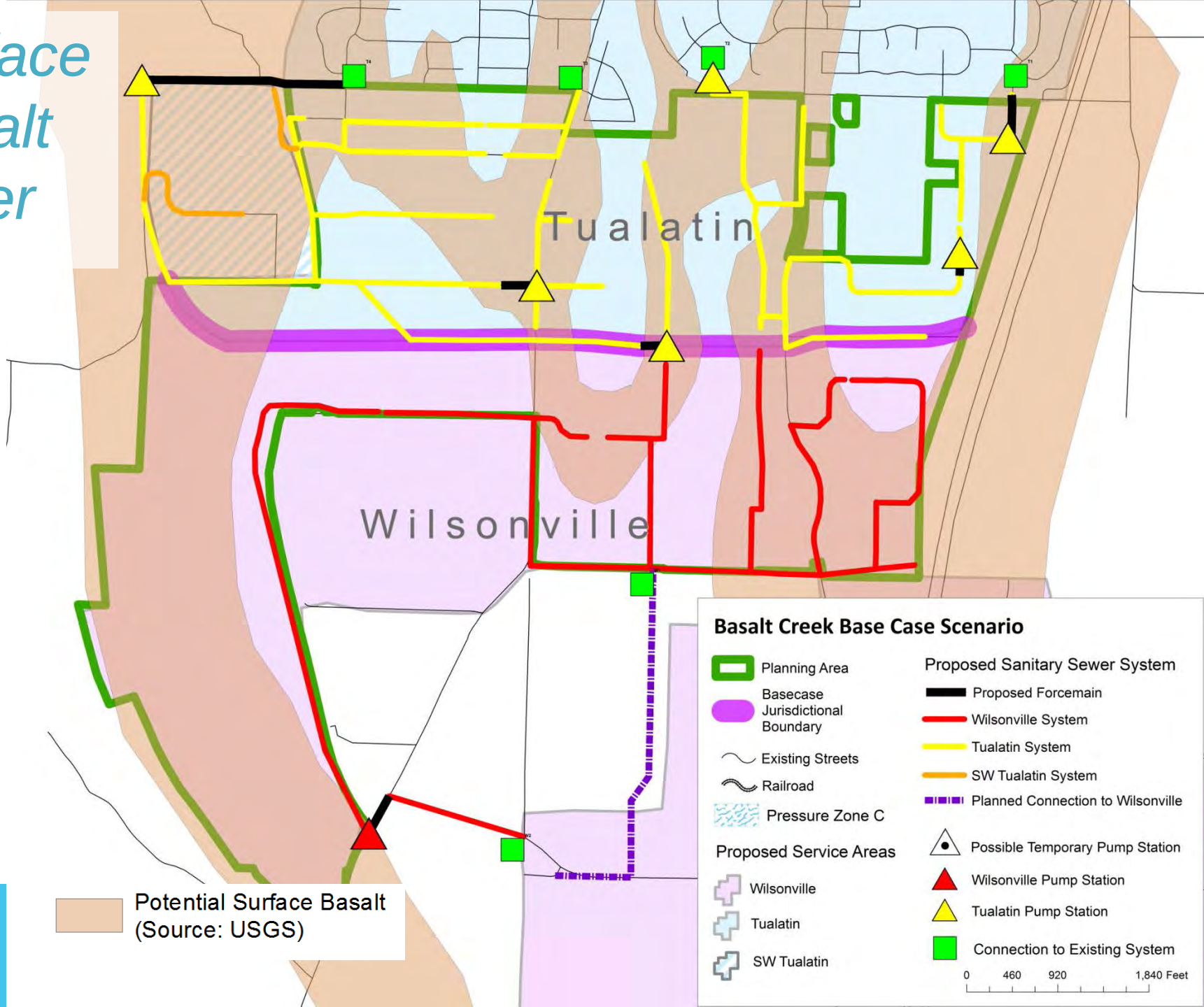
Shallow Basalt Rock:

- USGS maps show basalt at a depth of 0-100 feet in the Basalt Creek area and potential surface basalt in many areas
- Potential to encounter rock (10% of sanitary lines and 5% of drinking water lines) was included in cost estimate
- Maximum pipe depth of 25 feet was used in the design

Railroad Crossings:

- Sanitary sewer and drinking water lines cross the existing railroad tracks in a few locations, generally along proposed or existing roadways

Surface Basalt Layer



Base Case Infrastructure

Cost Estimate

Utility	**Tualatin** ($ Million)	**Wilsonville** ($ Million)
Sanitary Sewer	25.1	18.7
Drinking Water	10.4	9.1
Stormwater	9.1	4.6
TOTAL	**44.6**	**32.4**

NOTE:

- Further analysis of existing upgrades of drinking water and stormwater systems may be required
- Cost estimate is at a concept level, +100%/-50% accuracy.

Next Steps

Dec – Jan: Develop two Alternative Scenarios

February: Joint Council Meeting

Feb – March: Revisions to Alternative Scenarios

March: Public Open House

April: Individual Council work sessions

Spring/Summer: Develop Preferred Scenario

Basalt Creek
Concept Plan

DISCUSSION

Discussion Questions

- Feedback or questions on the Base Case Scenario?
- Input on changes in the Base Case to evaluate in the alternative scenarios?

A joint meeting between the Wilsonville City Council and the Tualatin City Council was held at the Wilsonville City Hall beginning at 6:00 p.m. on Tuesday, December 2, 2014. Mayor Knapp called the meeting to order at 6:15 p.m., followed by roll call and the Pledge of Allegiance.

The following Wilsonville City Council members were present:
Mayor Knapp
Council President Starr
Councilor Goddard
Councilor Fitzgerald
Councilor Stevens

The following Tualatin City Council members were present:
Mayor Ogden
Council President Biekman- excused
Councilor Grimes
Councilor Brooksby
Councilor Bubenik
Councilor Davis
Councilor Truax - excused

Wilsonville Staff present:
Bryan Cosgrove, City Manager
Mike Kohlhoff, City Attorney
Jeanna Troha, Assistant City Manager
Sandra King, City Recorder
Chris Neamtzu, Planning Director
Nancy Kraushaar, Community Development Director
Miranda Bateschell, Planning Manager
Mark Ottenad, Government and Public Affairs
Steve Adams, Engineer

Tualatin City Staff present:
Sherilyn Lombos, City Manager
Alice Cannon, Assistant City Manager
Cindy Hahn, Associate Planner
Sean Brady, City Attorney
Aquilla Hurd-Ravich, Planning Manager
Kaaren Hofmann, Engineering Manager

Consultants:
John Fregonese
Erica Smith
Leila Aman

Welcome and Introductions
Members of Councils and staff introduced themselves as did members of the audience.

Mayor Knapp invited the consultant to make their presentation.

Presentations:

A. Project Update

John Fregonese, shared where we are and the lessons learned. In process of evaluating base case alternatives and boundary. Integrated land use and infrastructure at the same time rather than sequentially.

Did not focus on complex land use types, focused on simple land use types; and focused on jurisdictional boundaries and basic land use.
Started with metro forecast and shifted to job based.
Started with boundary on 122nd splits area in half.
Looked for steakholder issues, traffic, greenspaces, development types innovative land use, but infrastructure was the dominate concern.
Learned from each scenario's flaws and continue from there to reach the base case.

Development types identified.
Light industrial and warehousing retail, office industrial average height 1-2 stories.
Office park flex space

Running thru slides identifying land use types and features.

Limited to just under 2000 pm trips. Base case met the trip cap.

Showed building mix, residential 35% mostly commercial, 4000 employees per acres, more industrial land uses. Lower density land use.

Trip caps limited density for residential housing. 50/50 renter mix, and 50/50 multi family mix

Laid out road system, but is not grid the north south roads dead end into the connector. Industrial was not connected to residential to eliminate cut through.

Interchange and transportation are not over capacity and would work well.

Gravity sewer system identified. Tualatin will need 6 pump stations. Wilsonville would be served with gravity.

Gravity sewer lines are very deep 35 feet deep, difficult, dangerous to construct, phasing difficulties and complicated financing.

Total length of pipe and peak flow identified by slide. And the costs to construct for each city.

Stormwater system will drain to Wilsonville, stormwater quality facilities identified for each city shown. As well as the lengths of pipe needed and costs associated.

Drinking water system for each city. Service to ne area in Wilsonville would require booster Pumps

Shallow basalt rock in the area as well as rr crossings to work with. Unknown how much basalt underlies the area.

Stabilizing in terms of where things are going

Next step is to develop 2 alt. scenarios

Leila working with staffs to develop precise development types range reflecting land uses each city would like to see, and differante employment types for each city and use those in developing the alternatives.

Mr. Fregonese next steps identified.

New slides shown shows acreage by types, Tualatin has mostly residential, Wilsonville has mostly light industrial and warehousing. Tualatin has higher valuation based on use.

Mayor Knapp invited clarifying questions.

Knapp looks like stormwater is different in that it all comes to Wilsonville , how is the cost of handling all the stormwater in Wilsonville done, how do you share, contribute,

John treated in each jurisdiction, Tualatin gathering and treating before releasing to the creeks.

Knapp city spent several million in treating runoff that did not …..moreys landing….

Nancy K. would need to look at stormwater design standards in bo cities and make sure they are consistent; indure flow not excessive so we can meet npedes permit, need to coordinate on design standards.

Starr would there be ;more land req. to accommomdte lowering temps. Cleaning water to get it from basalt to the Willamette river.

Nancy K will depend on design standards. Can achieve make sure not doing regional detention at day road, not have enough detail to give accurate answer, will depend on design standards

Starr when will we find out that we need more land before or after the boundary is drawn.

Stevens infrastructure costs if there are acres of shallow rock to go thru.

John F. difficult to predict without geo.tech. analysis – may find out when reach the 30% design level. When get down there will have range and will deal with htat by increasing sdc when finish design for sewer system.

J.Davis who issued the trip cap?

John F. the trans refinement plan designed around set of roads and land use estimate and the roads work with the land use ext. showed 2,000 peak trips, will be okay with the road system and the modeling showed that. If wanted to exceed would need to modify road or trans. Mgt. to go over would need to mitigate for that problem.

J.Davis do the account for regional trips or include pass thru

John F. microcosm of the whole dynamic system.

Bubenik – comparison to forecast example of increase households and decreased jobs.

John F. more residential is now light industrial 8:04:05
As deisn keeping eye on trips, can do a lot of different designs, could not do Kruse way here or apts. Herer

Bubenick wanting to try to have residencs where work.

Goddard slide 28 did the base case factor in the 124 extension to the north. Expect elligsen interchange to be constrained, but slide 28 does not show that.

John F. problem is the link not the intersection moving thru intersection but lanes are closer to capacity. It is opposite on boones ferry and 124, getting yellow on link but los D in the intersection. Intersections will fail before the links.

Goddard is there recognition these improvements are addressing regional transportation improvements.

John F. is recognized as regional improvements.

Goddard is there consideration of onsite retention of stormwater was it factored into movel.

John F yes. Was included did volume and capacity modeling on sewer and water.

Goddard did you model the stormwater before the land uses were determined.

John f. no, stormwater will not change much stormsewer follow roads . sewer and water systems wil change because ownership changes.

Goddard the maps show hard boundries around day rd how did include coffee creek in the uses

John F. used assumptions in trhe rtp

Nancy water system does account for coffree creek and improvements indentified in presentation do include flows from coffee creek too.

Goddard started with jurisdictional boundary why not start with the reverse.

John F trhe only facility sensitive to the boundary is sanitary sewer system as line moved off of the gravity system is system that …..move line back and forth between the two cities… place to start, building model that gives platform.

Starr transportation when was the base for this model chosen? At one point looking at how 99 and I5 would handle traffic going to I-5. Appears as traffic is being directed to wv. Is the layout to handle local traffic getting into elligsen, or to pull traffic from other places.

John F. designed for regional travel.

Starr are we ;;making it exceptionally friendly to Sherwood and Dundee to everyone trying to get to I5?

John F. can ask how much traffic is from wv and Tualatin and look to see wehre the traffic is coming from.

Starr don't want to invite traffic from Dundee …

Lou gravity and non gravity with pipe depth costs .

John F. some of the pipes would be quite deep, only cost out the system that split the jurisdictions as being the most feasible.

Lou are the Wilsonville pipes subject to deep cuts.

John F. not deeper than 25 feet.

Lou may be within design limitation and have cost factor associated with it, is this still expensive sewer system or is it standard costing sewer system.

John, want at least 10 feet to 25 feet to provide flow.

Lou the first impression of a lift system is expensive to built, op, and maintain; how exp. Is it to build a gravity system in the same geography, some of the Wilsonville lines may need lift, overall when does it become irrelevant from capital cost standpoint. Presumption want to avoid lifts in sewer system, where geog. Is it true and not true.

Lou also comes down to cost competitiveness standpoint, and costs per person using the sewer system and cost factor on the infrastructure to make it not marketable to the public . could be

upside down from municipal services standpoint in costs. Need that level of understanding, may be true in part of the area and not others.

John, F. don't have answers.

Lou explore diff land uses and get to trip count issue is presumption that the how do you influence the direction of traffic. If put in more residential do you reduce trips because have jobs and housing side by side, or increase trips with residents traveling outside to work.

John F. trip cap is rule of thumb that is easily calculated, but the model itself is determinate. If in trouble with trip count will find out in the model.

Lou guessing more residential higher trip count. If remove all residential will reduce trip count.

John F. depends on what it is replaced with if use flex space is a wash.

Lou struggling with notion of jobs, housing, balance. When put residential land uses in ther edoes the model presume those folks working locally .

John F. if 13:0:25 reduces by a few percent using all the tricks can reduce , but just jobs housing balance is 5-7%

Mayor Knapp transportation vlume to capacity chart, by 2035 anticipated second overcrossing in the greenhill area.

John F. the

Leila the day road overcrossing was included but not the greenhill overcrossing.

John F. going of the RTP,

Leila the RTP does not include the connector

Nancy K. green hill after 2035 is in the long range plan.

Bubenik shifting city boundary only impacted sanitary sewer. Shifting that line north or south does not impact or benefit one city more than the other or better cost benefit.

John F. would have effect if reach capacity – more flexible than sewer. Only way to know is do do model and see what happens

Nancy K. the more demand over 285 the more pumping have to do…have not gotten into that detail on doubling the booster.

Julie recent studies about propensity for people not move to their job , how is the current opinion on that reflected in the model.

John F metro model is calculated on that scenario. Trips to work are only 20%.

Julie the handout of different land use types would like to see that.

Tim how much differential in jobs per acre in the dif. land use categories office vs commercial

John office 20; retail on 20 side industrial about half; residential is 10.6 du/ac with variety

Lou to residential component why is residential there and the types that are there in the scenario, what is rational that placed them there. Have that question on all of the land uses.

John, residential in north is buffer for what is across the road,

Lou buffering residential with residential how does that help the new residents.

John F. they are buying with that knowledge, should work on the boundary.

Lou could the same treatment buffer be done on the current residential area.

John F new subdivision easier to do that as a start.

Lou could deal with buffering in the design of the new development.

John F. green hill highest density near town center and intersection to allow access. Along boones ferry is lower density because the area on the west side is constrained

Lou in general are resid. Areas sloped since they wont support other uses.

John F. is some flat land adjacent to road could do higher density along road.

Lou could do low density throughout

John F. metro housing rule to deal with; 10.6 du/acre rather than 8 with the scenario. Don't want to bring this into your city and disturb the comp plans the metro 50/50 rule rental and sf dwelling

Grimes slide 47 adding up base cost estimates for infrastructure is not included. Upgrades to accommodate future growth and traffic patterns…

John and roads built are borne by developer as they subdivide. Detailed costs

Grimes need to be aware there will be additional trans. Costs for signals, roundabouts, etc. also, if use base case boundry and wv phasing their building to the north. Is there anything for tual to come south is anything predicated on wv. Buildout and would there be a factor that would slow the tual. Building.

John F. would need to build system for tual. Whereas wv. Add incrementally pipes.

Brooksby calculation of amount of industry projected traffic and truck traffic ; the amount of truck traffic coming on there is the length calculated per car

John F. don't know how they model fright not sure if we did a freight model here.

Brooksby freight flow and traffic analysis based on the different scenarios, delay movement through intersections trucks vs. cars.

Knapp on the gravity sewer system, is falicy that pump station expensive and gravity dependent on topo. Don't sewer lines follow the road pathways, and can the grading be done to accommodate.

John f. slope independent of road slope.

Knapp pump stations will need to deal with basalt in the ground and pressure system is a one plus not an either or.

John F. have more flexibility but can only speculate, may be

Andy the traditional wayh of geo exploration is digging, not tech to run something over ground to see the geology under. Base case cme up with is dividing sewer system based on jurisdictional line. Also talked bout gravity system, needs to be played out further, rock will be an unknown. Pump stations, cledan water services looking at financial feasibility that benefits everyone, looks at costs of sewers and costs as well. Have to playout cost of all gravity system and make comparison with the base case.

Knapp if do gravity does not necessarily mean divide along jurisdictional line, andn are we constraining ourselves by drawing a political boundary .

Andy clean water services agreemewnts for rate sharing when customers in other jurisdictions.

Knapp to what extent does our new wwtp anticipate serving this area?

Nancy K. another phase to the wwtp to handle the basalt creek area, dojnt have good handle on the flows, need to look at wwtp, would depend on whether would have wet industry there,

Lou respect to land uses, costs are the costs typical in other parts of the region or are they higher?

John F. are normal used average installation costs and density of the systems are typical, are in the ball park, true of sewer as well except have more pump stations. Will have sewer lines on both sides of the creek; have parallel water lines on both sides of 122 because owned by both jurisdictions. Should be able to get average cost, in assessed value will come in at 800 million to 1 billion dollars.

Lou will be competitive with the rest of the region, and would not make sense if the market won't go there because it is too expensive.

John F. will have those numbers next time. How does this fall above/below average. Sdcs in the ball park, what are revenue opportunities, and cost benefit ; comparing secnarios will show better way to go and then hone in on the refinement of the chosen scenario. Is the residential questions.

Knapp reaction to base case seemed boundary was artificial did not comport with land and how users might like to ; best to have division off of the main road. Most of low density andn dev is in Wilsonville, and higher density job in tual, not comfortable with that. Resource resource area on wv side that will not be developed. Buffering residential in Tualatin, does this …..

John f. tk would like to see equity on the value of the improvements more possibility for residential in tual. Than on wv side.

TK the further away from elligsen the less high tech will want to locate there. If all of the land is zoned industrial uses have less employment.

Lou how would wv cc what scenario would you create if all wv. And same q. for Tualatin and look at what is the best use of land highest value from revenue standpoint, how best serve the market, consider how to address needs of the region, how best cost effective, and move from transportation standpoint.

Knapp part would go back around to cost effect to provide infrast.

Lou market doesn't care what jurisdiction they are in when shopping for land to develop,

Starr, good question takes us back to topo that may make more sense good questions for each council to consider. Tourism task force and idea of athletic fields, and testimony recd. That the demand for athletic facility is great, and this is a good location for a regional sports complex, use that as a buffer and would draw for both communities.

Goddard how would we like to see the area what opportunities would we see , would have preferred maps without jurisdictional boundary . from cow persepecive don't need any more hidensity housing multifamily housing and round abouts, is too much for a city of our size. Remove the surburban mujlti family block, and the yellow band if is a buffer, will need that buffer if in residential or not, take advantage and use that for another purpose. Over arching goal is employment development. Railroad area is opportunity for office park flex to make it a nice employment area.

J.Davis desire to see more resid in tual. Will be needed in oujr area. Don't object to multi family will not be apartment complexs in this area. 124th extension should be connecting further south 21:4:27; greenhill woujld be able to serve that local area

Grimes want to see if thre are other ways to incorp. Neighborhood commercial into the land use types, southern residedntial area open to that now, and additional jobs would benefit as well.

Also in the industrial mfg areas. Small Commercial zones in the area to serve the new development.

Stevens agree with goddard, main priority for wv is job creation. Intregues about scotts comments about a sports field idea. If that is something we follow, it needs to be kept in mind is not a job creator and the impact on traffic with tournaments on the weekends and weekdays, need to be aware of that, and where will those people eat and as much as im intrigued by that idea it is not really a job creator. Job creation not housing is what we need here.

Brooksby focusing on development in nw side of tua. Would like to see scenario more residential development. Considering both areas entire area as a whole want to see scenario with more residential.

Goddard would be modeling more residential in the north ?

Brooksby at this point will be closer to tual side.

Lou are there any requirements with respect to use of total area of residential uses vs jobs. We negotiated with metro to have residential ovelay for a buffer is thre requirement for portion to be residential/jobs,

John F. have to get 2500 jobs no requirement for housing.

Lou need 2316 and getting 4058, jobs.

John F. ratio of jobs to trips explained.

Goddard according to the numbers there is room to reduce number of jobs and put residential in, do you have discretion for density.

John F. needs to be lower density housing or will exceed trip counts.

Knapp city will agree with comments in desire for more employment , and tual needs to clarify where they stand on residential housing numbers. Wilsonville is extending on to the industrial we have, tual is juggling the jobs/housing buffer issue and is more complex. Calls to me for tual to make some choices and what tual goal is, wv. Will advocate fo reemployment lands and industrial, is how much. What does that suggest about scenarios, seems to me several of the major questions need answers from Tualatin.

Lou the scenjarios should informa that discussion – what is the cost of expanding residential vs jobs, and what is cost in terms of revenue and traffic and the rest of the system. How does the residential affect boones ferry rd. and Tualatin Sherwood rd. what is the end gain what is the purpose of the goal, haven't done that yet.

Grimes want to touch on clreity issue all tual talked about how important housing is on the southern edge, we need more areas for housing in the city hve few places that are buildable for

housing stock, is major priority it is not just as a buffer, tual needs housing stock. If adding jobs that exacerbates the problem. The need for housing is a consistent message from the tual council.

Lou don't feel residential is highest priority.

Knapp don't know if the discussion gives information for alternative scenarios.

John F. heard enough to develop scenarios and costs , if annex it you own it, if flexibility in terms of serving areas ; scenarios with more resid component, and try scenarios for flexibility sewerservice ;

Lou if didn't care who owned it what would be the best way to design it in terms of infrastruction. Without jurisdictional lines, which areas should be served by which city , what services would come from what land uses.

John F. capacity issues

Goddard support Lou's comments – thanked tual council for continuing the dialogue, wil require cont. cooperation. What we see developed in the area will be a lot stronger if work together.

Mayor Knapp thanked everyone for coming, pleased with pptj of everyone around the table. Look fw to the next meeting, all have work to do to clarify position.

Adjourned at 8:20 pm

B. Building the Base Case

C. Scenario Development

D. Base Case Scenario
    a. Transportation
    b. Land Use
    c. Wet Infrastructure

E. Roundtable Discussions

a. After hearing about the Base Case scenario, what elements should the project team consider including two additional alternative scenarios?

F. Next Steps

ADJOURN

The joint Council meeting adjourned at p.m.

Respectfully submitted,

_____
Sandra C. King, MMC, City Recorder

ATTEST:

_____
Tim Knapp, Mayor

City of
WILSONVILLE
in OREGON

CITY COUNCIL MEETING
STAFF REPORT

Meeting Date: July 16, 2014	**Subject: Basalt Creek Concept Plan Update – Joint Work Session with the City of Tualatin City Council** **Staff Member:** Katie Mangle **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☐ Information or Direction ☒ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:** See Attachment A for the meeting agenda.
Staff Recommendation:	
Recommended Language for Motion: N/A	
PROJECT / ISSUE RELATES TO:	
☒Council Goals/Priorities Economic Development	☐Adopted Master Plan(s) ☐Not Applicable

ISSUE BEFORE COUNCIL:
The purpose of this meeting is to:

- Update the Wilsonville and Tualatin City Councils on the current status of the Basalt Creek Concept Plan project and process;
- Present findings from the June 17 Community Workshop and participate in an instant polling exercise;
- Provide an overview of existing conditions, highlighting major findings;
- Discuss and prioritize the draft Guiding Principles.

Following the project briefing (see Attachment B for the presentation material), Council will be asked to discuss the characteristics that the project team should consider when developing land use scenarios.

EXECUTIVE SUMMARY:

Project Update
Since the last Joint City Council Meeting in October 2013, staff from Tualatin and Wilsonville have worked with the Basalt Creek consultant team to complete a detailed task schedule for the project, document existing conditions in the study area, and develop draft Guiding Principles. A Community Workshop was held on June 17, 2014, to gather input that will be used to create several alternative concepts for future development in the Basalt Creek area. In addition, the project team has conducted a series of interviews and focus groups with property owners and developers, and held one meeting with the Agency Review Team.

Existing Conditions
The consultant team has gathered information about population and employment, environmental constraints, transportation, and infrastructure in the Basalt Creek study area. See Attachment C for a series of maps that illustrate these conditions.

Guiding Principles
Staff drafted the Guiding Principles based on input from the Tualatin and Wilsonville City Councils at the joint meeting held on October 29, 2013. During the meeting, the Councils will be asked to review and provide feedback on these principles (Attachment D). Once the Councils have endorsed the Guiding Principles, the project team will create evaluation measures to be used in assessing alternative land use scenarios.

EXPECTED RESULTS:
The Basalt Creek Concept Plan project will develop a plan for future development of the Basalt Creek area between Wilsonville and Tualatin. In 2004, Metro included this land within the urban growth boundary to accommodate increased development in the region for the next 20 years. Specifically, the Concept Plan will address a variety of factors including:

- Future city limit lines between the Cities of Tualatin and Wilsonville;
- Land uses including industrial, commercial, residential, parks, trails, and green ways;
- Multimodal transportation network;
- Provision of urban services such as water, sanitary sewer, and stormwater.

TIMELINE:
Next steps in the planning process include creating alternative concepts for development in the study area, evaluation and testing of the alternative scenarios, and choosing a preferred alternative. Planning Commissions and City Councils of both Tualatin and Wilsonville will receive regular updates throughout the planning process. The next joint meeting of the City Councils is scheduled for early December, 2014.

A schedule to guide the concept planning process has been developed (Attachment E). This schedule takes the project through Winter 2015, including public hearings and adoption of the

concept plan. Following adoption, the cities will amend their planning area agreements with Washington County at which time, staff anticipates that annexation and development could begin to occur in some parts of the Basalt Creek Area, where infrastructure is available.

CURRENT YEAR BUDGET IMPACTS:
The City of Tualatin received approximately $350K from Metro's Construction Excise Tax (CET) grant program to perform concept planning. For City of Wilsonville staff time, $12,000 is funded by the grant, and $80,000 was approved for the project through the supplemental budget process.

FINANCIAL REVIEW / COMMENTS:
Reviewed by: _____CAR_____ Date: _____7/3/14_____

LEGAL REVIEW / COMMENT:
Reviewed by: _MEK_____ Date: _7/3/2014_____
N/A

COMMUNITY INVOLVEMENT PROCESS:
The project team is implementing the Public Involvement Plan, including:

- the redesigned project website, located at www.BasaltCreek.com, went live on May 15;
- over 145 individuals have subscribed to the project listserv;
- all property owners have been contacted by mail about the project;
- project updates are sent via Twitter, Facebook, and press releases;
- conducting interviews and focus group meetings with property owners, development experts, and interested residents and businesses;
- a recent community workshop.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups):
One of the outcomes of the Basalt Creek Concept Plan project will be to establish the future boundary between the cities of Wilsonville and Tualatin. The Basalt Creek area will be important for the long-term growth of Wilsonville's industrial land base and the associated employment opportunities. Growth in the Basalt Creek area will affect industrially-zoned properties in the Coffee Creek area, and it will be important to solicit the involvement of representatives from this area.

ALTERNATIVES: None at this time.

CITY MANAGER COMMENT:

ATTACHMENTS

A. Meeting Agenda
B. Presentation material
C. Existing Conditions maps
D. Draft Guiding Principles
E. Schedule

Joint Tualatin/Wilsonville Council Meeting #2

Purpose

- Tualatin and Wilsonville Councilors are updated on the current status of the project and process
- Findings from the June 17 community workshop are presented
- An overview of existing conditions, highlighting major findings, is provided
- Guiding Principles are discussed and prioritized

AGENDA

1. CALL TO ORDER

2. WELCOME AND INTRODUCTIONS

A. **Introductions:** Council, Staff and Consultant Team

3 PRESENTATION (30 min)

A. **Project Update:** Brief status update to prepare for a productive discussion of guiding principles

B. **Existing Conditions:** Overview of major findings related to market conditions, population and housing, environmental constraints, services and utilities, and transportation.

4. POLLING QUESTIONS EXERCISE (10 min)

Councilors will participate in an instant polling exercise, responding to the same questions posed in the community workshop and online survey.

5. WORKSHOP OUTCOMES (15 minutes)

Summary of outcomes of the June 17 community workshop, including results of instant polling, mapping exercise, and subsequent online survey.

5 ROUNDTABLE DISCUSSION (45 min)

A. **Guiding Principles:** Facilitated discussion of draft guiding principles. Councilors will participate in a dot exercise to prioritize the guiding principles**.** Councilors will also have the opportunity to suggest changes to principles and new principles

B. **Discussion:** After hearing about existing conditions and constraints, public input and discussing the guiding principles, what characteristics should the project team consider when developing land use scenarios?

6. NEXT STEPS

A. **Planning Activities:** Brief outline of next steps in the planning process.

B. **Joint Council Meeting #3:** December 2014

7. ADJOURN

Basalt Creek
Concept Plan

Joint Council Meeting

Wednesday, July 17th 2014

6:00-8:00pm

City of Tualatin

City of WILSONVILLE OREGON

Agenda

I. Introductions

II. Project Update

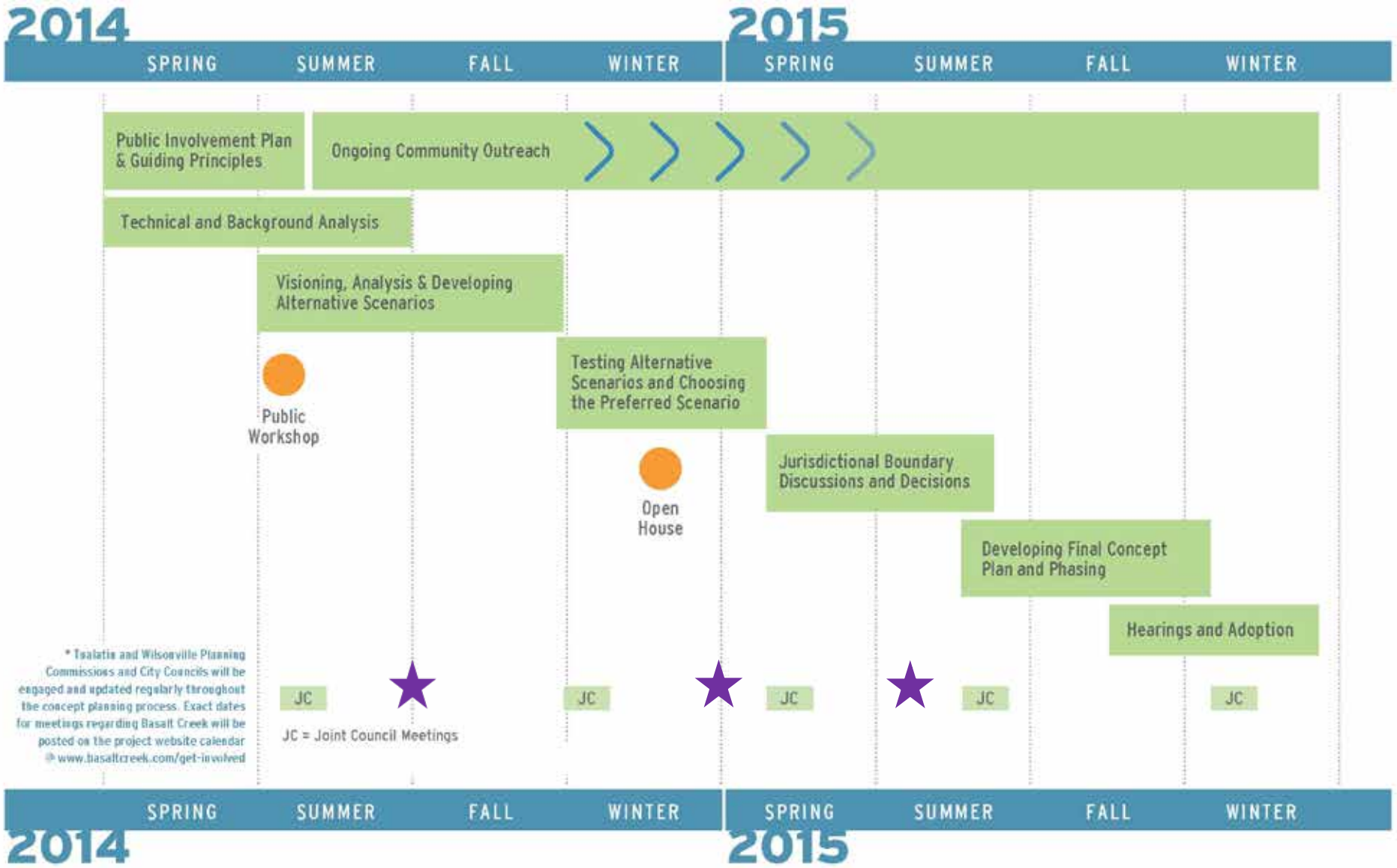
III. Existing Conditions

IV. Workshop Outcomes

V. Roundtable Discussion on Guiding Principles

VI. Next Steps

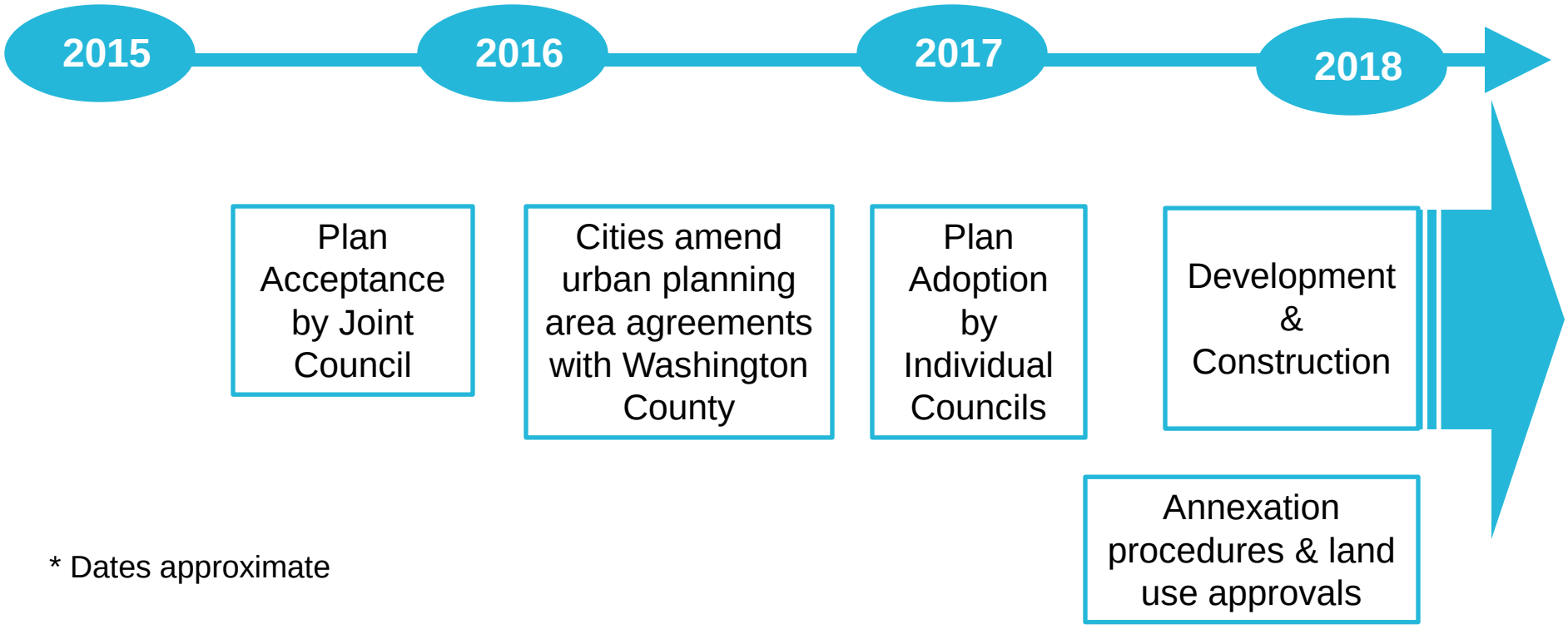
Project Schedule



What will the plan include?

1. Land use concept and configuration
2. Local roadway connections
3. Multimodal network
4. Natural resource protection areas
5. Utilities (sewer, water and stormwater)
6. Jurisdictional boundary

What happens after adoption?



* Dates approximate

Agenda

I. Introductions

II. Project Update

III. Existing Conditions

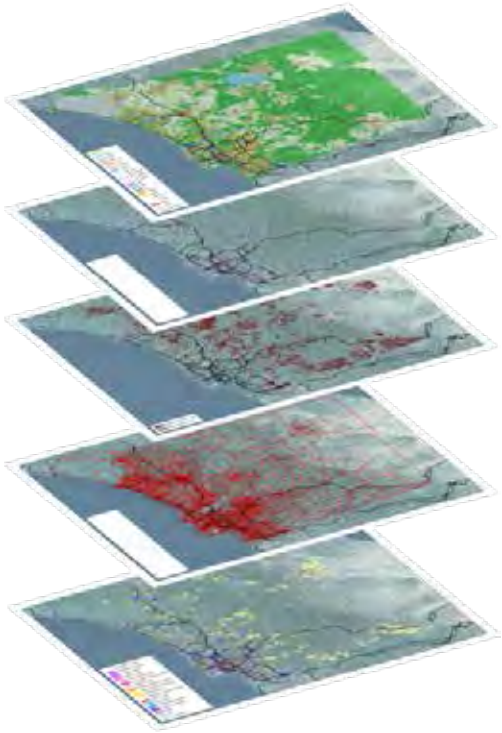
IV. Workshop Outcomes

V. Roundtable Discussion on Guiding Principles

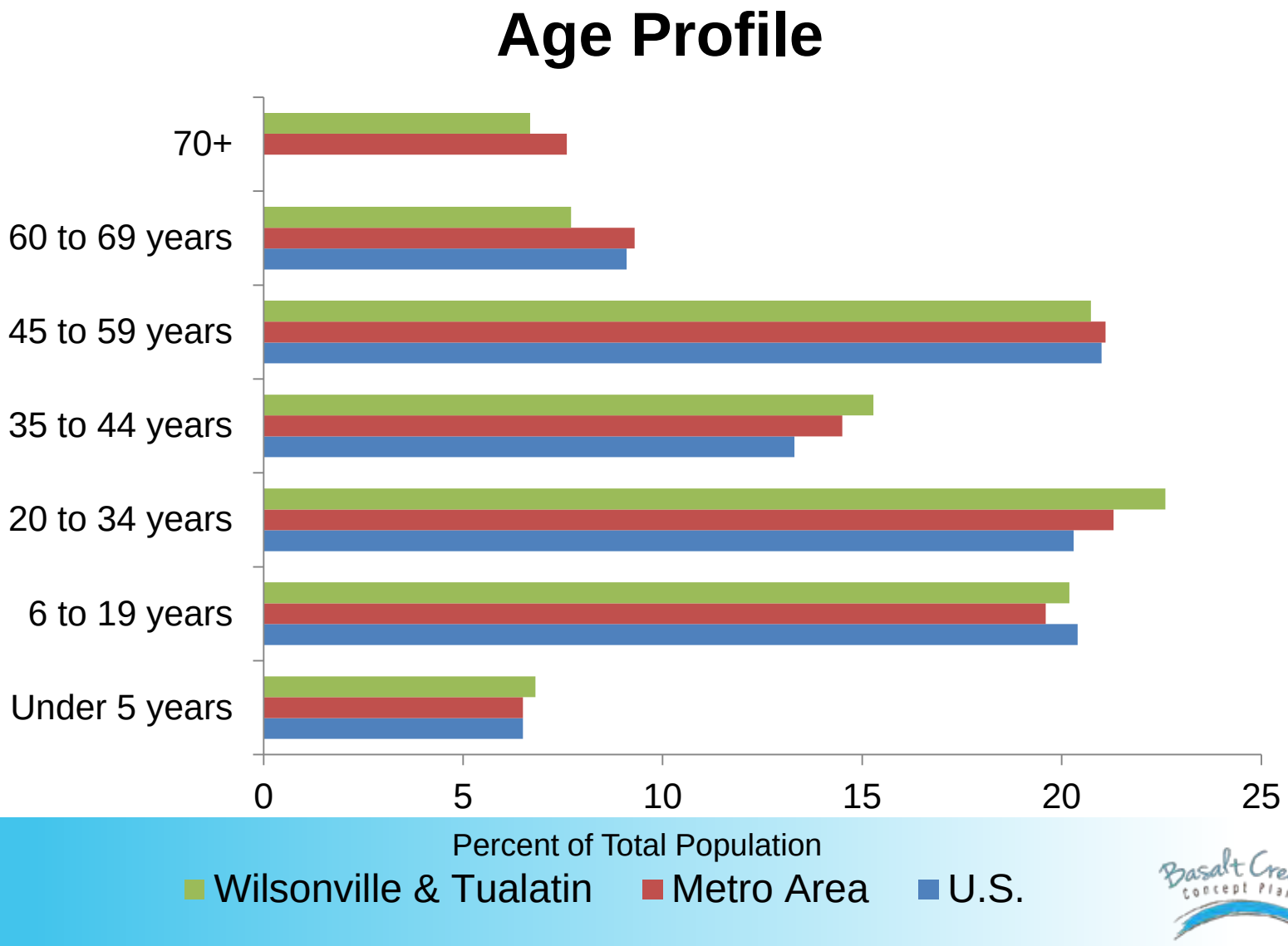
VI. Next Steps

Existing Conditions

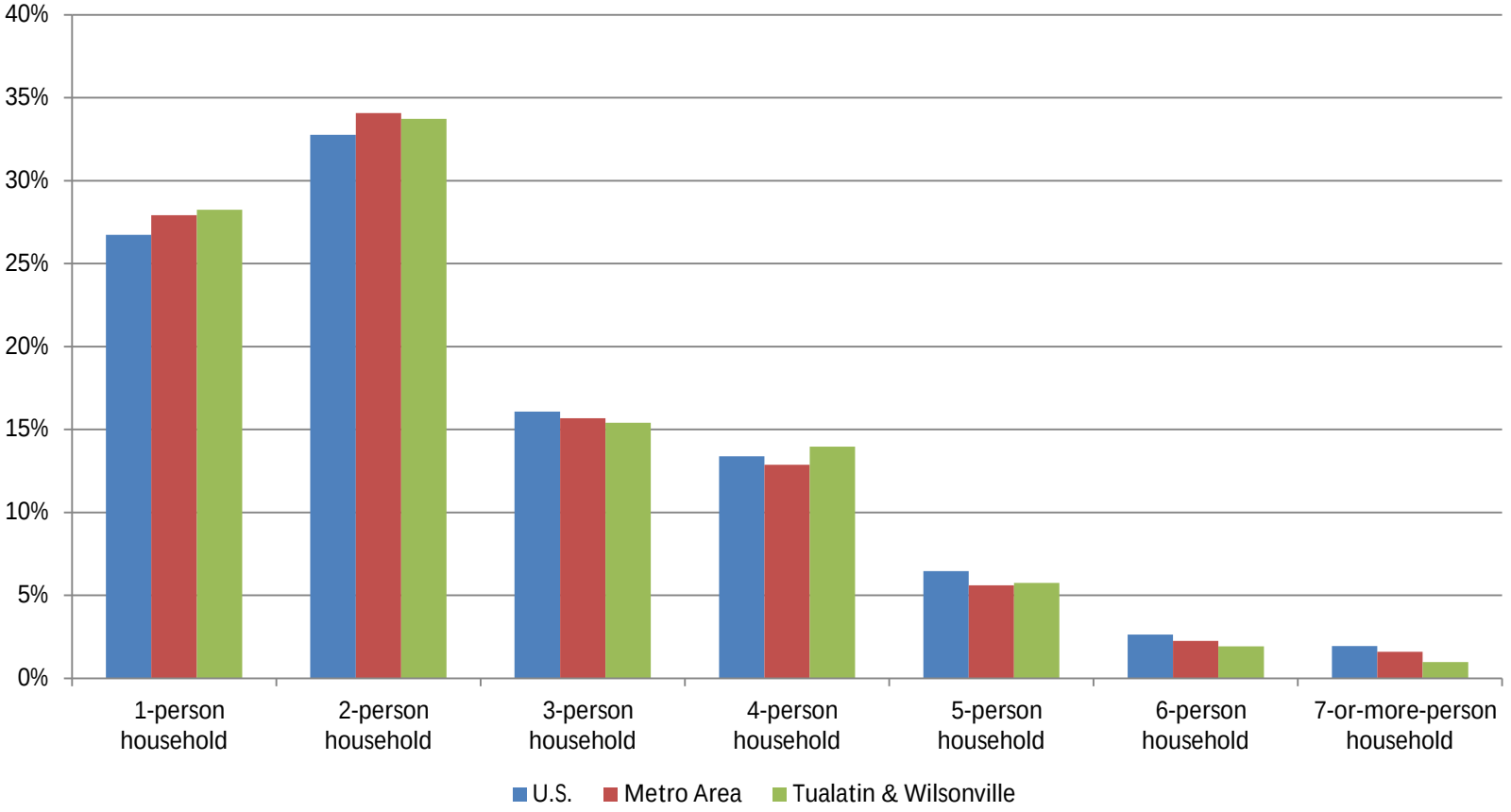
1. **Housing and Employment**
2. Environmental Constraints
3. Transportation
4. Infrastructure



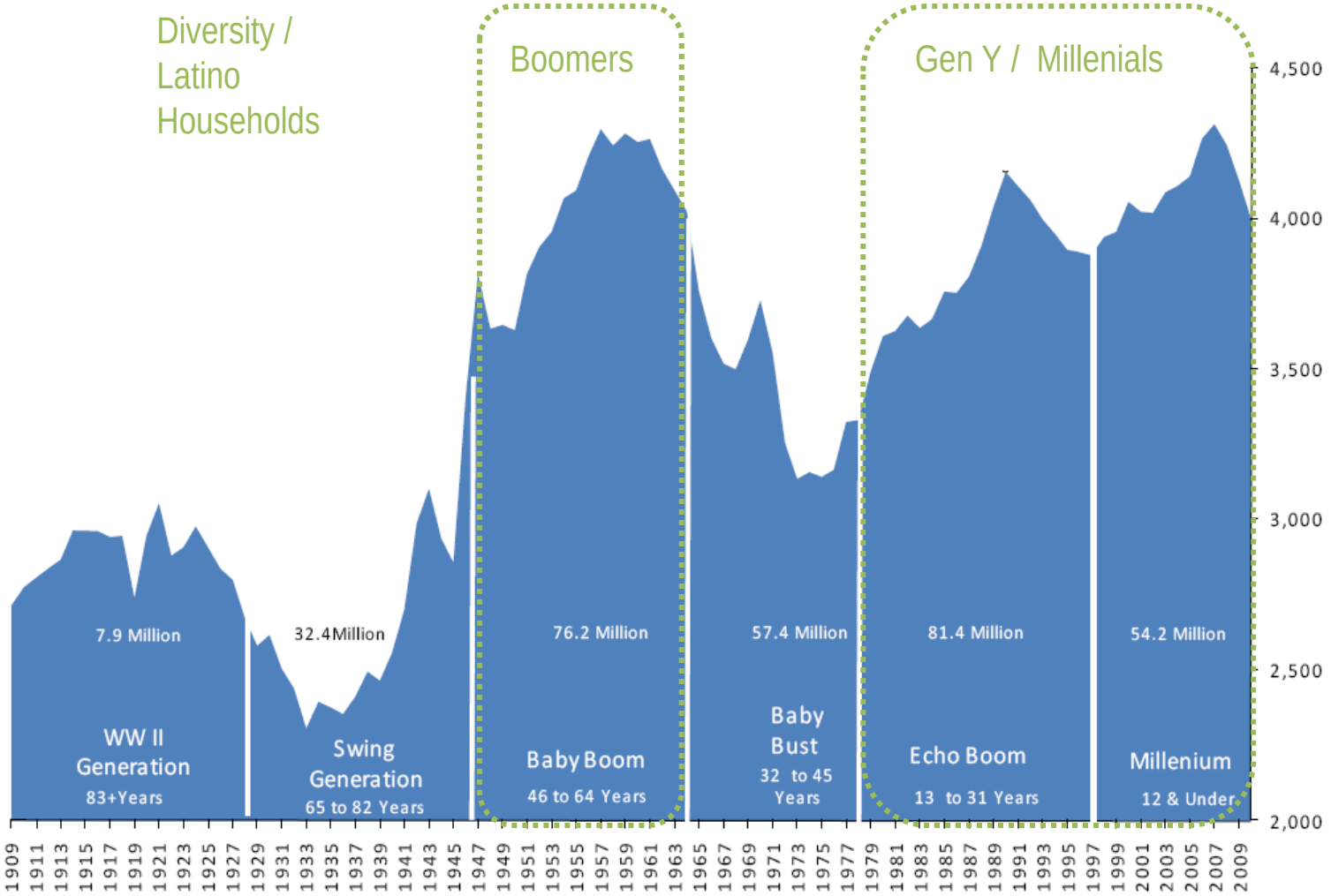
Age Profile for Tualatin & Wilsonville



Household Size

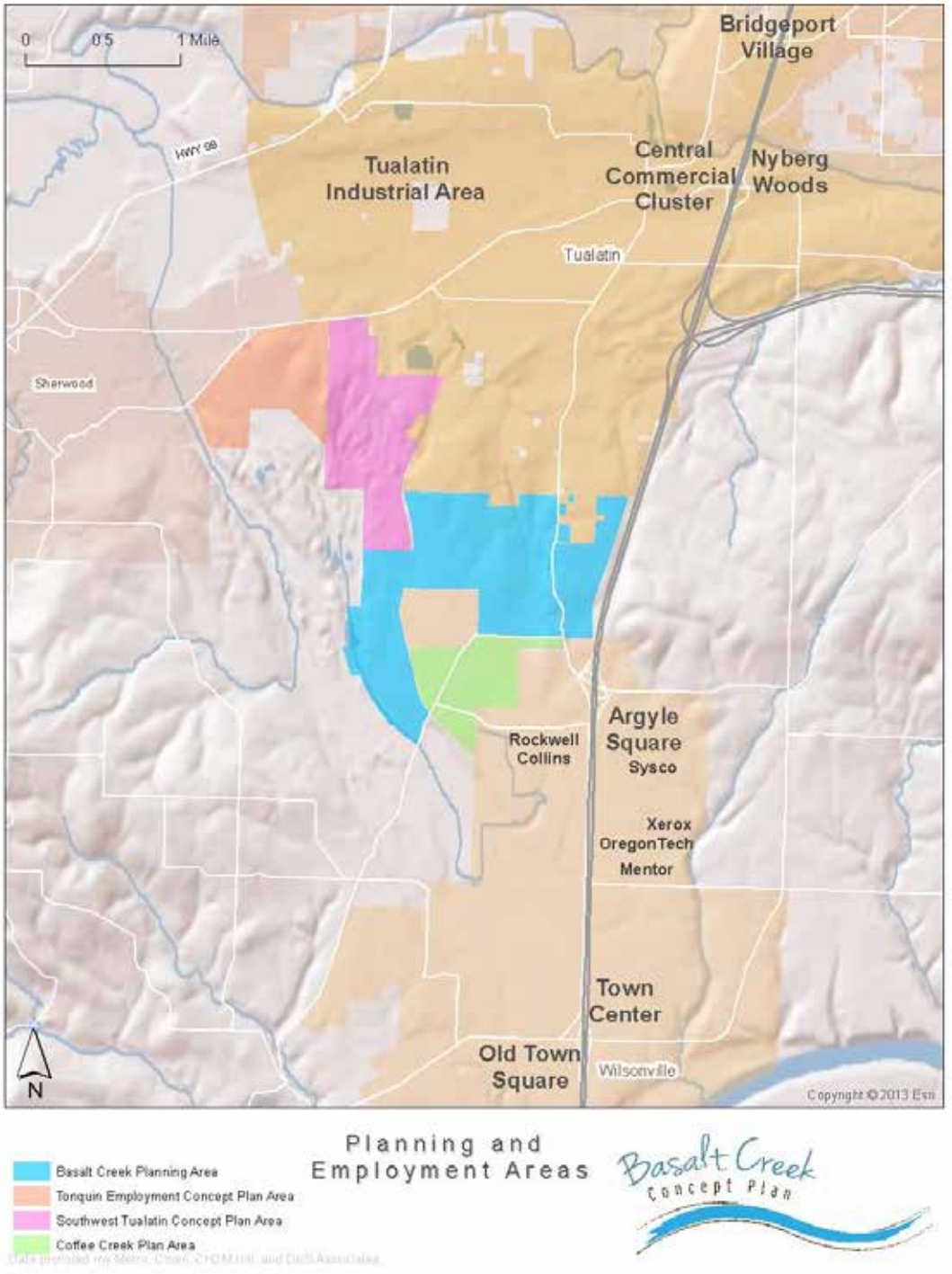


Three Big Trends for the Next Twenty Years



Source: National Center for Health Statistics, US Census Bureau; Heitman Research

Existing Employment Centers



Office

- Some potential office demand in the planning area, but slow to recover post-recession

- Higher office vacancy in Tualatin (20%) than in Wilsonville (7%)

Industrial

- Good access to I-5 for freight
- Near growing industrial area to the south
- Major employers nearby include Xerox, Mentor Graphics, and other tech/professional service companies – will influence Basalt's Creek's development
- Need to complement other planned industrial areas nearby

Retail

- Regional shopping centers already exist nearby
- Large-scale retail requires a large population base to draw from

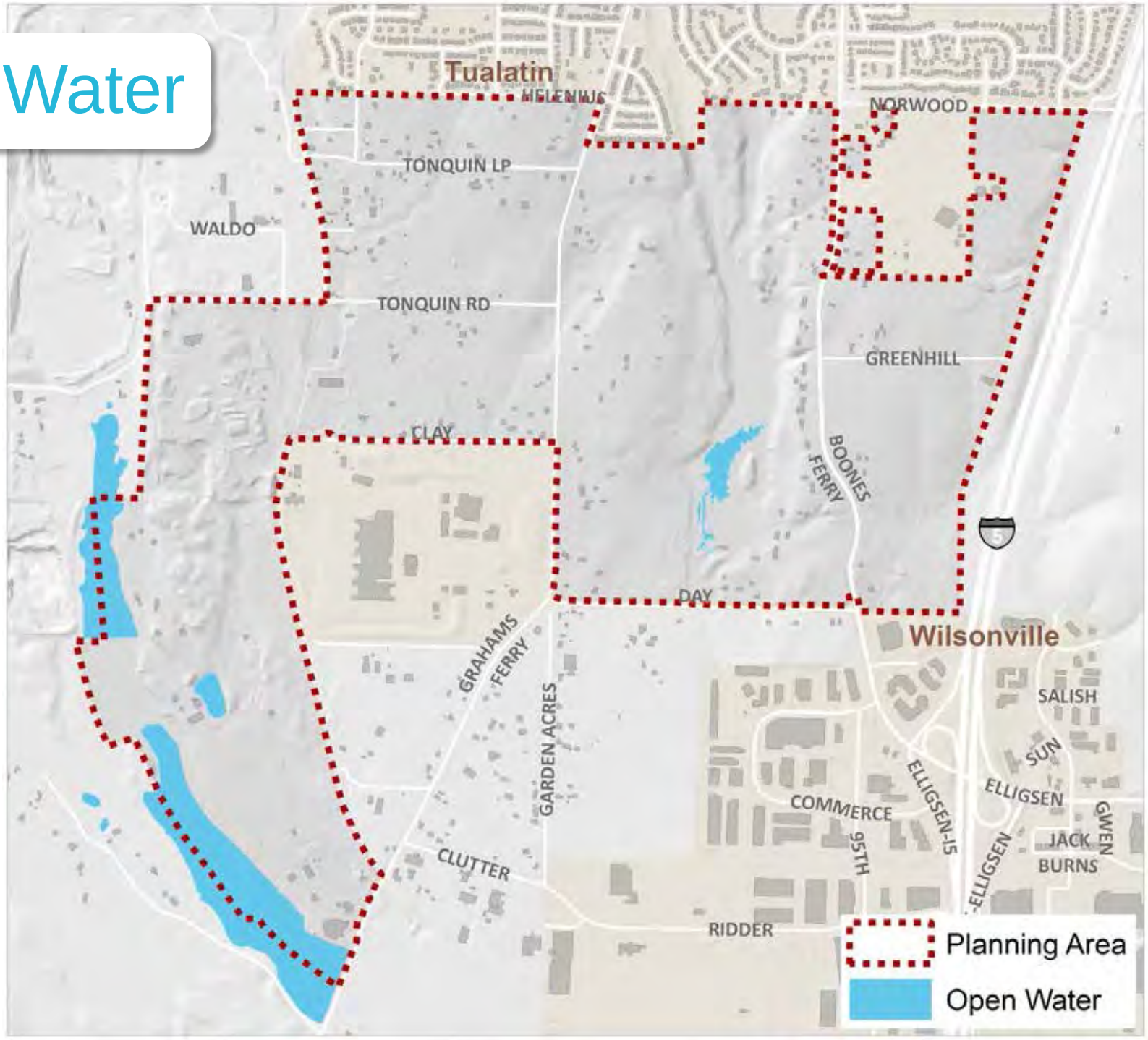
Existing Conditions

1. Housing and Employment
2. **Environmental Constraints**
3. Transportation
4. Infrastructure

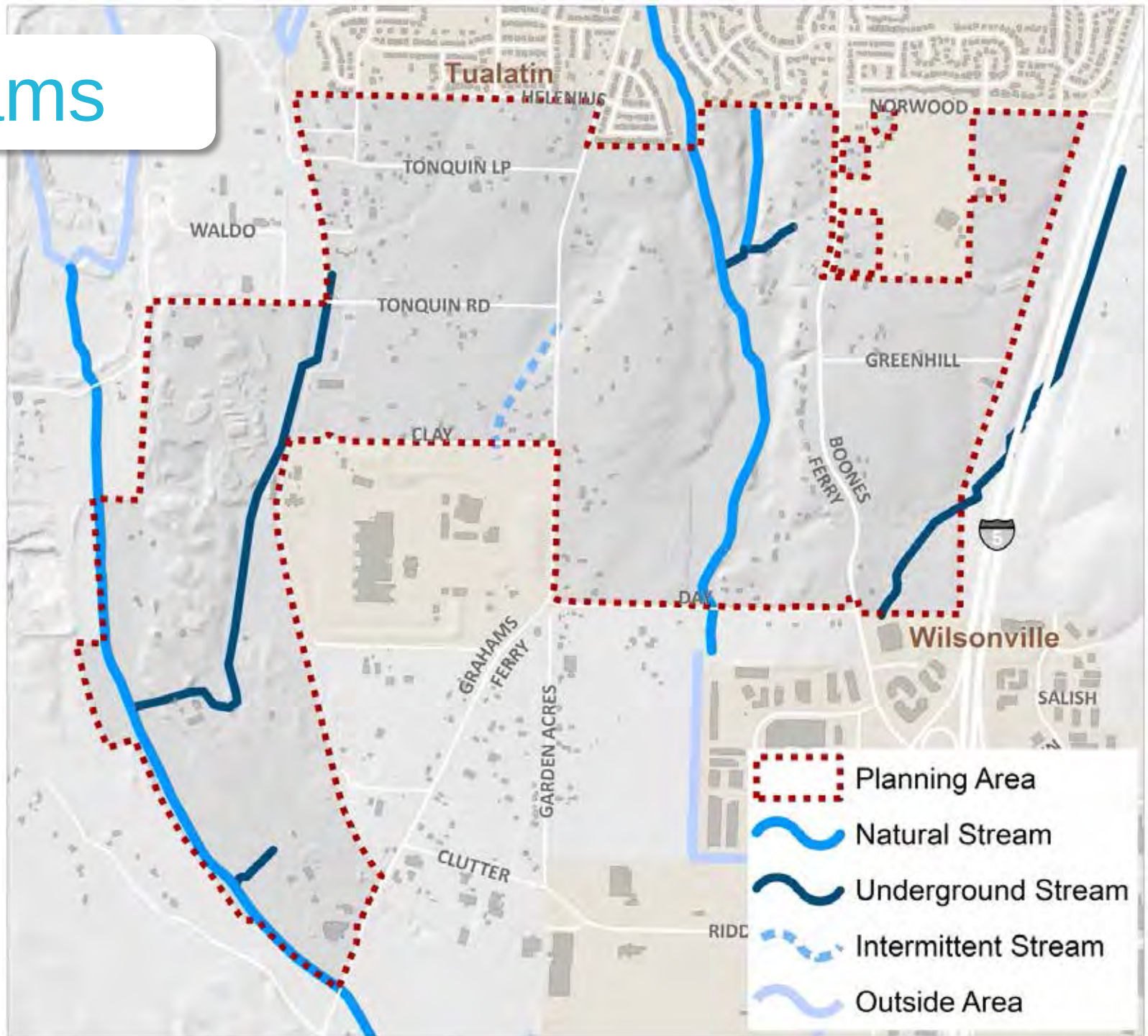
Environmental Constraints

- Wetlands
- Habitat
- Steep slopes

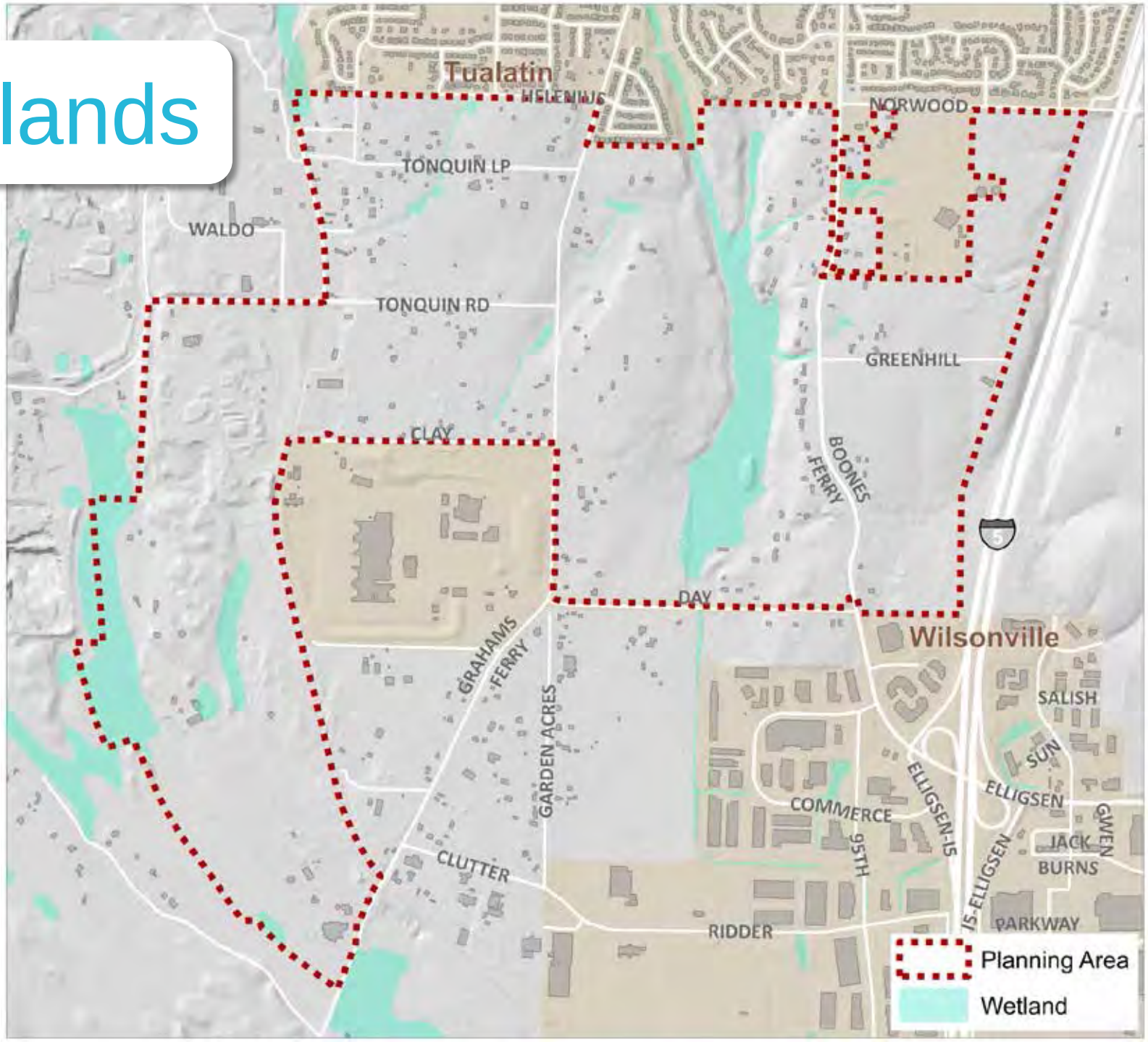
Open Water


Tualatin
NORWOOD
TONQUIN LP
WALDO
TONQUIN RD
GREENHILL
CLAY
BOONES FERRY
DAY
Wilsonville
GRAHAMS FERRY
GARDEN ACRES
SALISH
SUN
ELLIGSEN
COMMERCE
ELLIGSEN-15
95TH
JACK BURNS
GWEN
CLUTTER
RIDDER
Planning Area
Open Water

Streams


Tualatin
HELENIUS
NORWOOD
TONQUIN LP
WALDO
TONQUIN RD
GREENHILL
CLAY
BOONES FERRY
DAK
Wilsonville
SALISH
GRAHAMS FERRY
GARDEN ACRES
CLUTTER
RIDD
Planning Area
Natural Stream
Underground Stream
Intermittent Stream
Outside Area

Wetlands


Tualatin
HELENIUS
NORWOOD
TONQUIN LP
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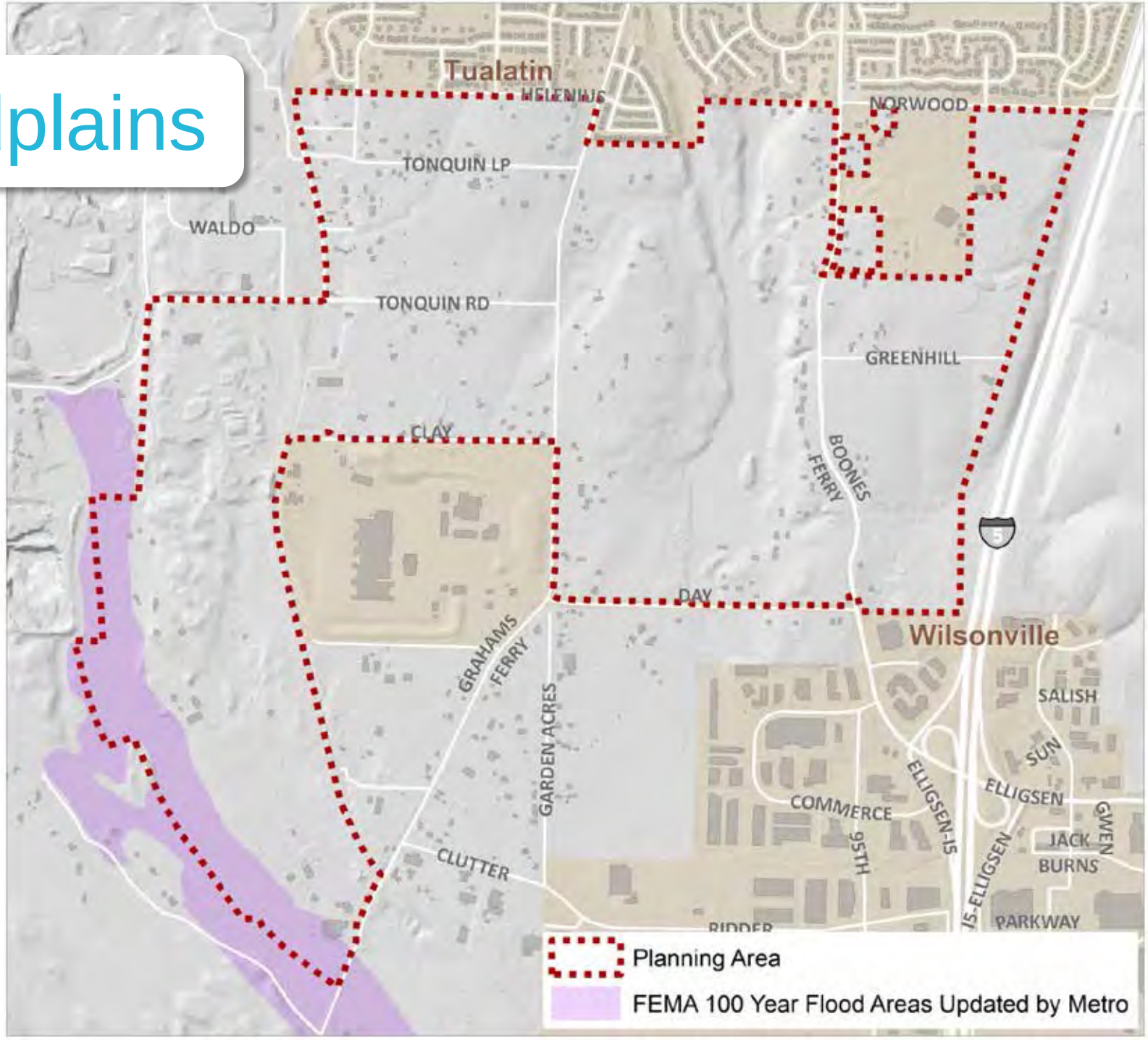
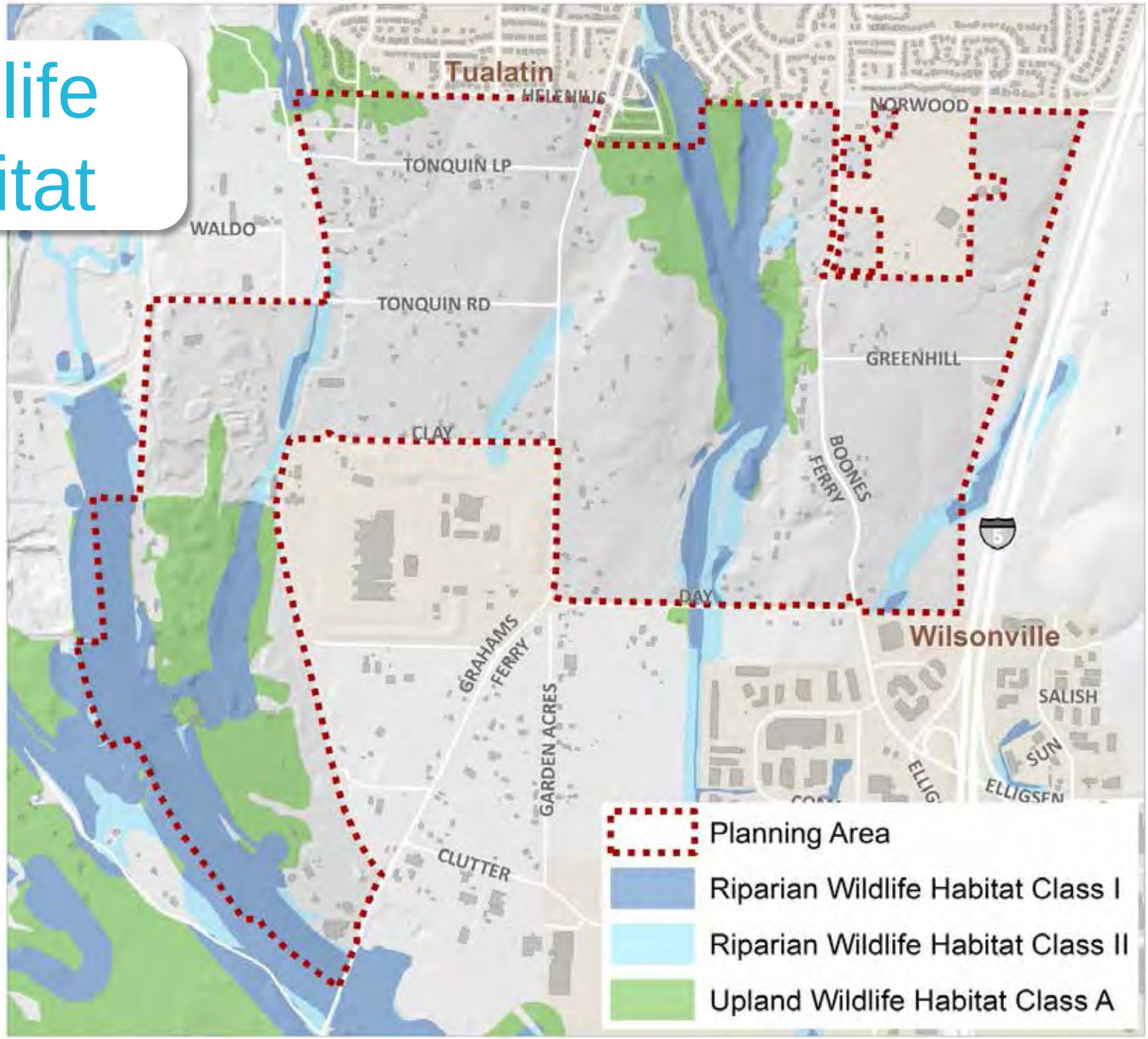
GREENHILL
CLAY
BOONES
FERRY
DAY
Wilsonville
GRAHAMS
FERRY
GARDEN ACRES
SALISH
SUN
ELLIGSEN
COMMERCE
ELLIGSEN-15
GWEN
JACK
BURNS
95TH
CLUTTER
IS-ELLIGSEN
PARKWAY
RIDDER
Planning Area
Wetland

Floodplains

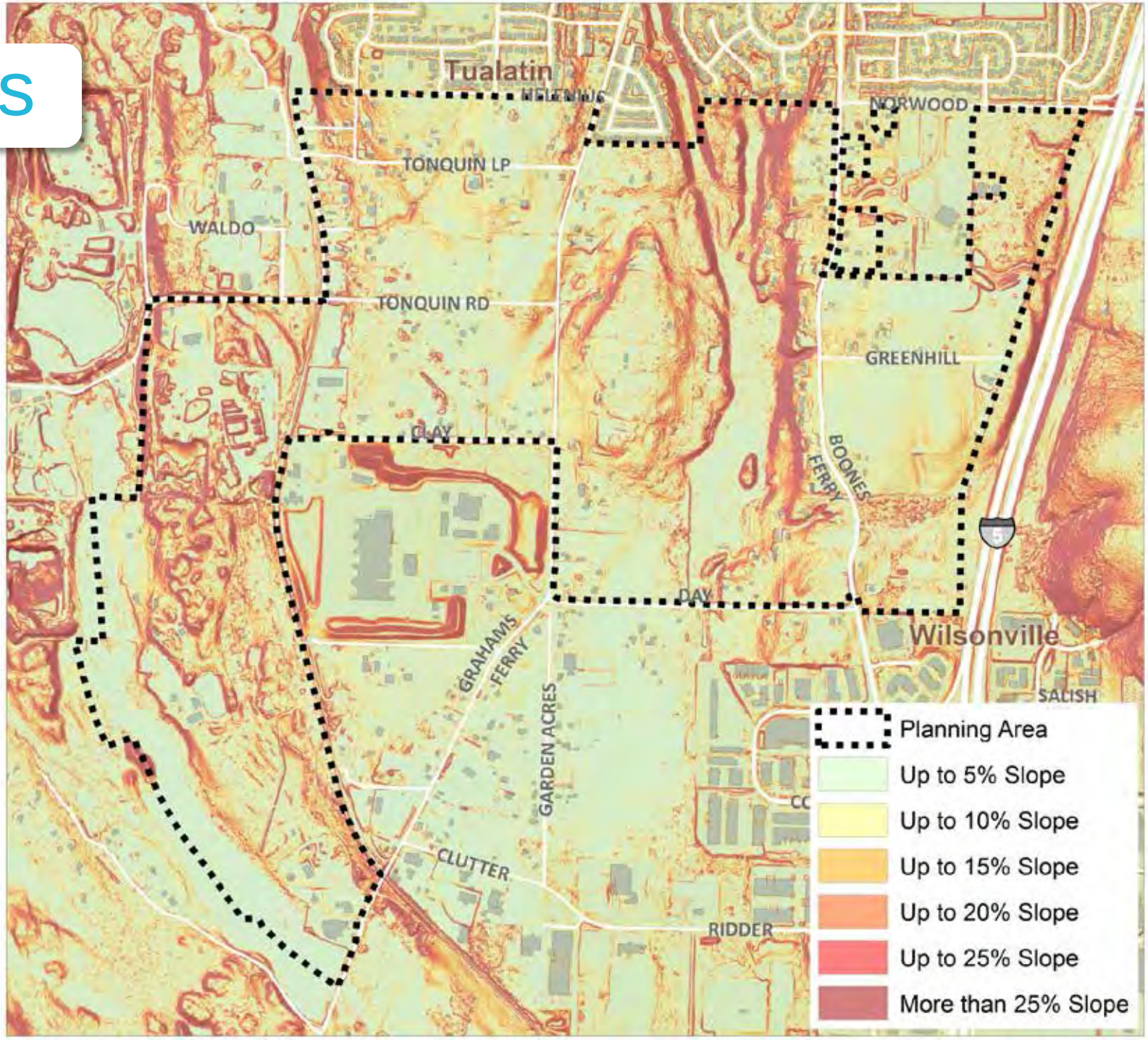


Wildlife Habitat

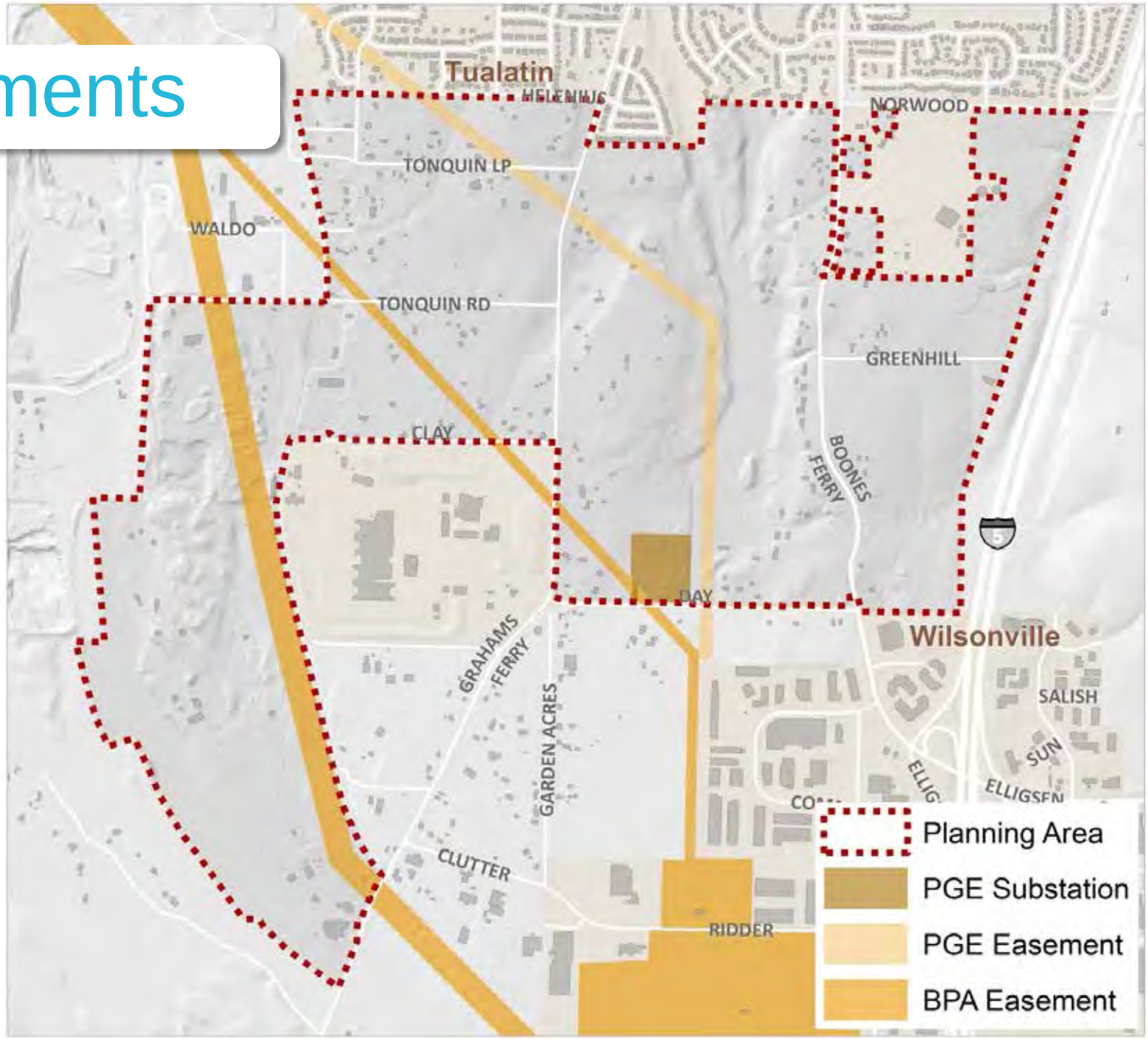


Data Source:
Metro Title 13
Wetlands
Inventory 2014

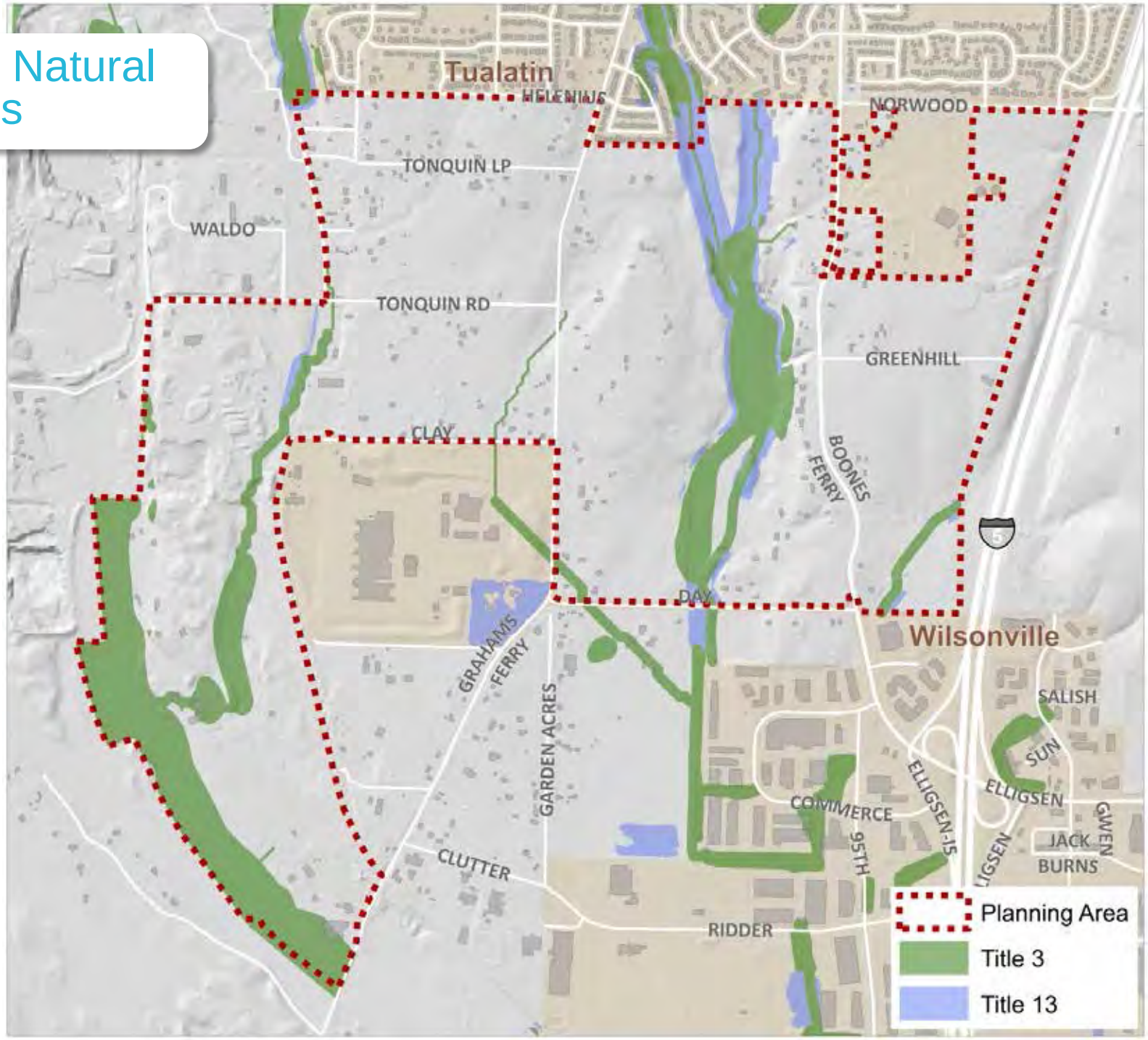
Slopes


Tualatin
NORWOOD
TONQUIN LP
WALDO
TONQUIN RD
GREENHILL
DAY
BOONES FERRY
DAY
Wilsonville
GRAHAMS FERRY
GARDEN ACRES
SALISH
CLUTTER
RIDDER
Planning Area
Up to 5% Slope
Up to 10% Slope
Up to 15% Slope
Up to 20% Slope
Up to 25% Slope
More than 25% Slope

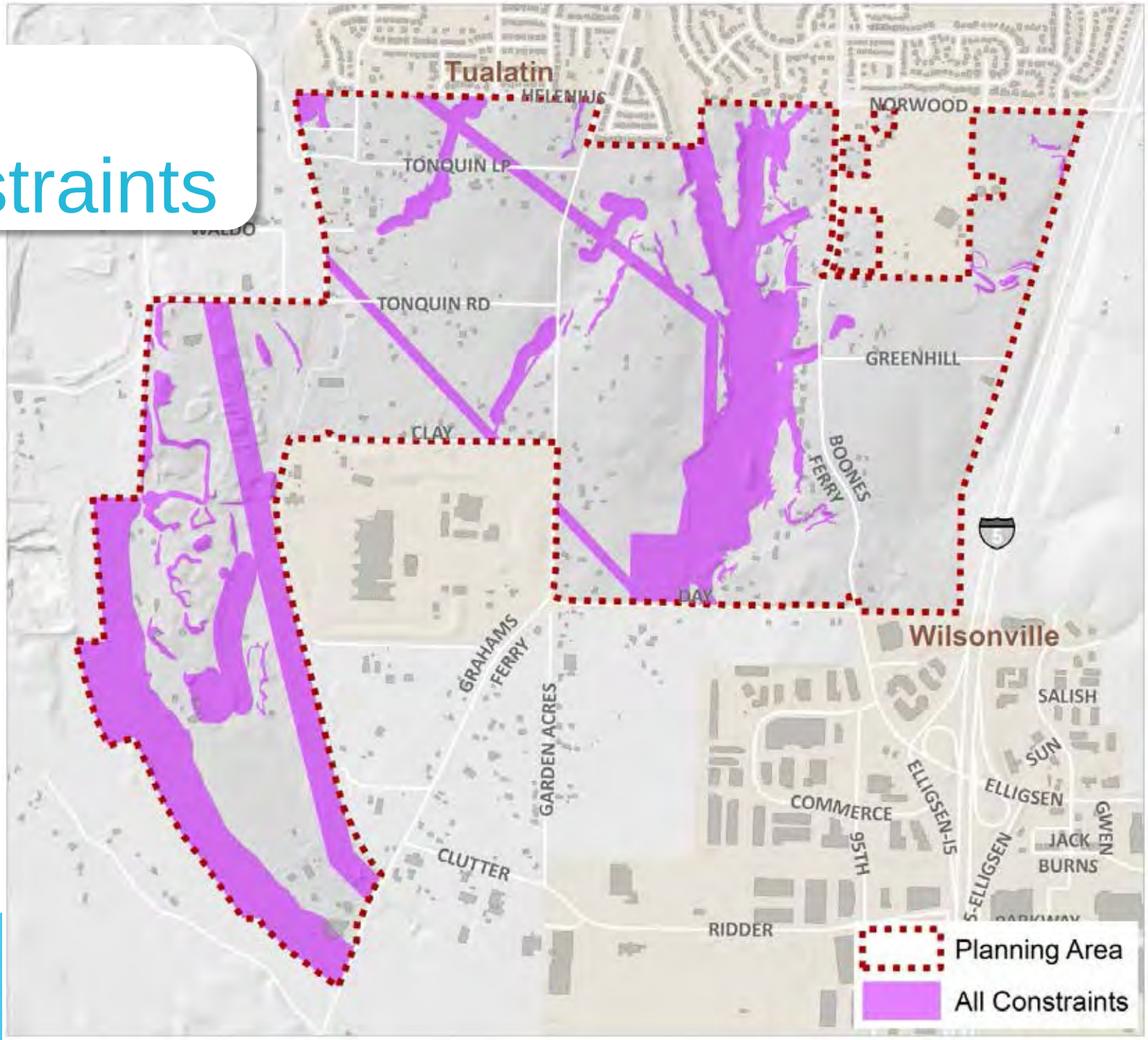
Easements


Tualatin
NORWOOD
TONQUIN LP
WALDO
TONQUIN RD
GREENHILL
CLAY
BOONES FERRY
DAY
Wilsonville
GRAHAMS FERRY
GARDEN ACRES
SALISH
SUN
ELLIGSEN
CLUTTER
RIDDER
Planning Area
PGE Substation
PGE Easement
BPA Easement

Protected Natural Resources



All Constraints



All Constraints

- 276 acres constrained
- Study area total is 847 acres
- 33% constrained

Existing Conditions

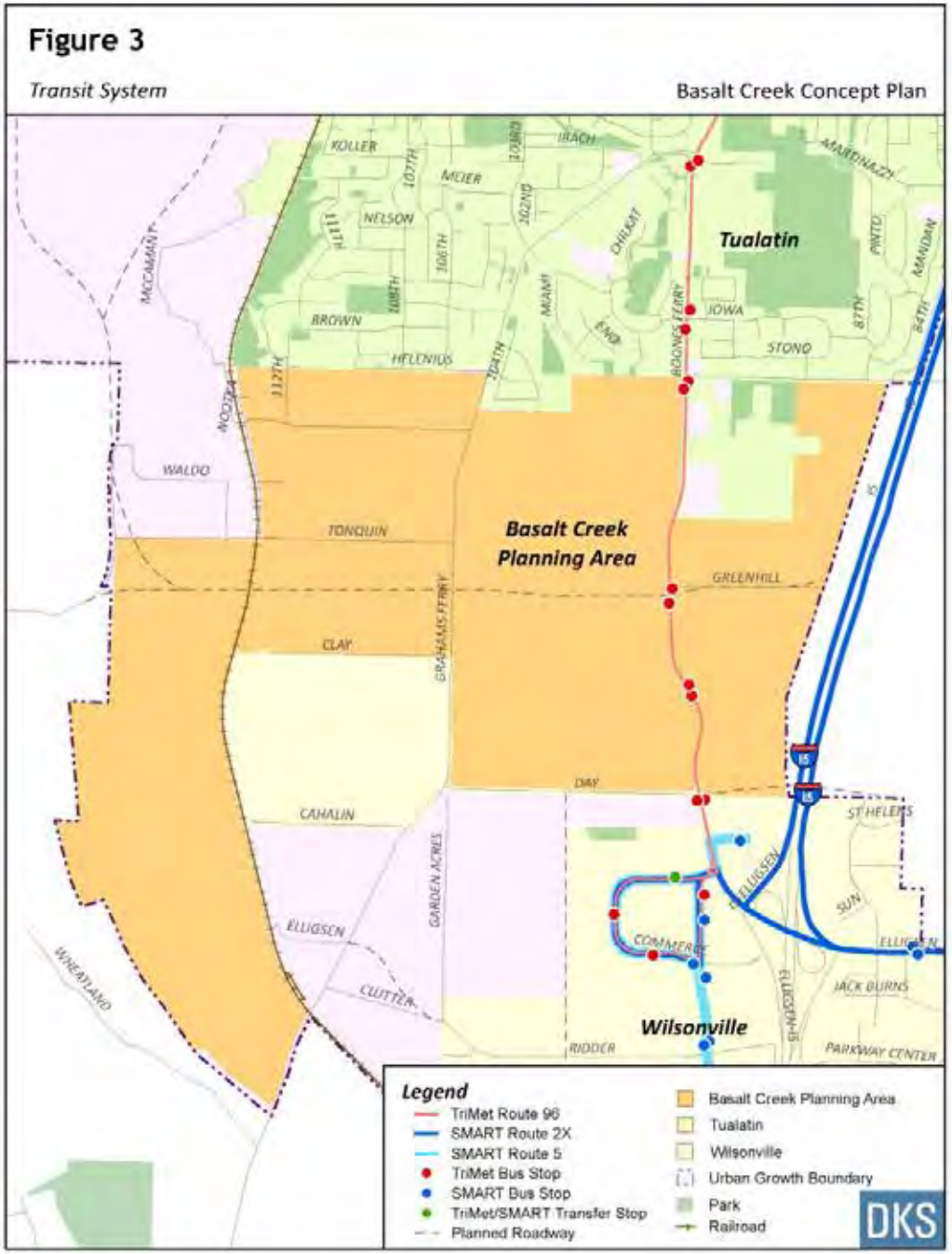
1. Housing and Employment
2. Environmental Constraints
3. **Transportation**
4. Infrastructure

Bike and Pedestrian System

- Several projects in Cities' TSPs to enhance bike/ped connectivity in the area
- Washington County standards in place for bike/ped facilities on new and improved roads
- Ice Age Tonquin Trail in process

Transit System

- WES
- Frequent bus service to Downtown Portland



Transportation Refinement Plan

- **Purpose** New transportation system between Tualatin-Sherwood Rd & I-5

- **Components** 18 transportation investments – short, medium and long-term

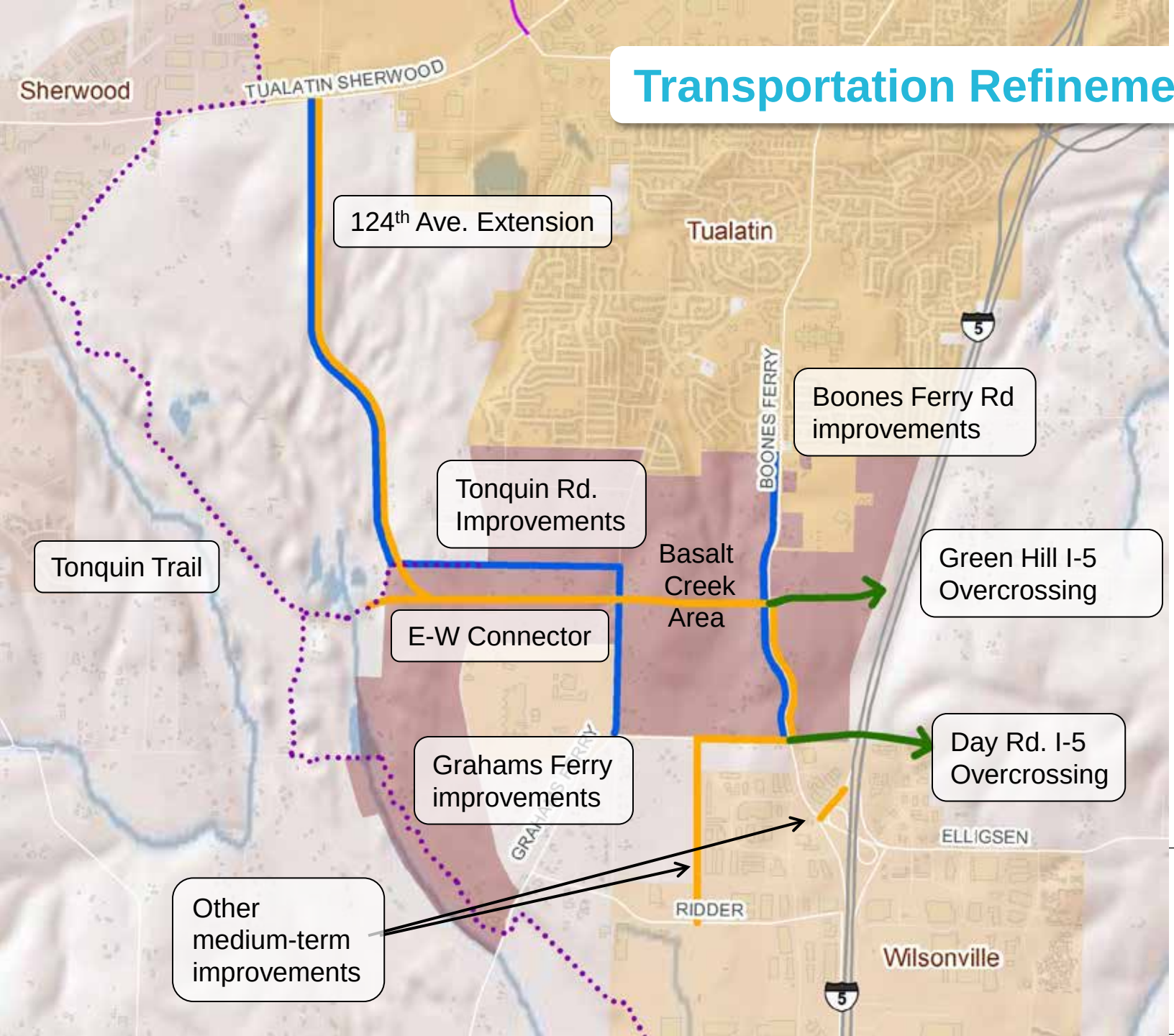
Basalt Creek Transportation Refinement Plan (TRP)

Implications

- Alignments and access points for major roads and improvements are already established

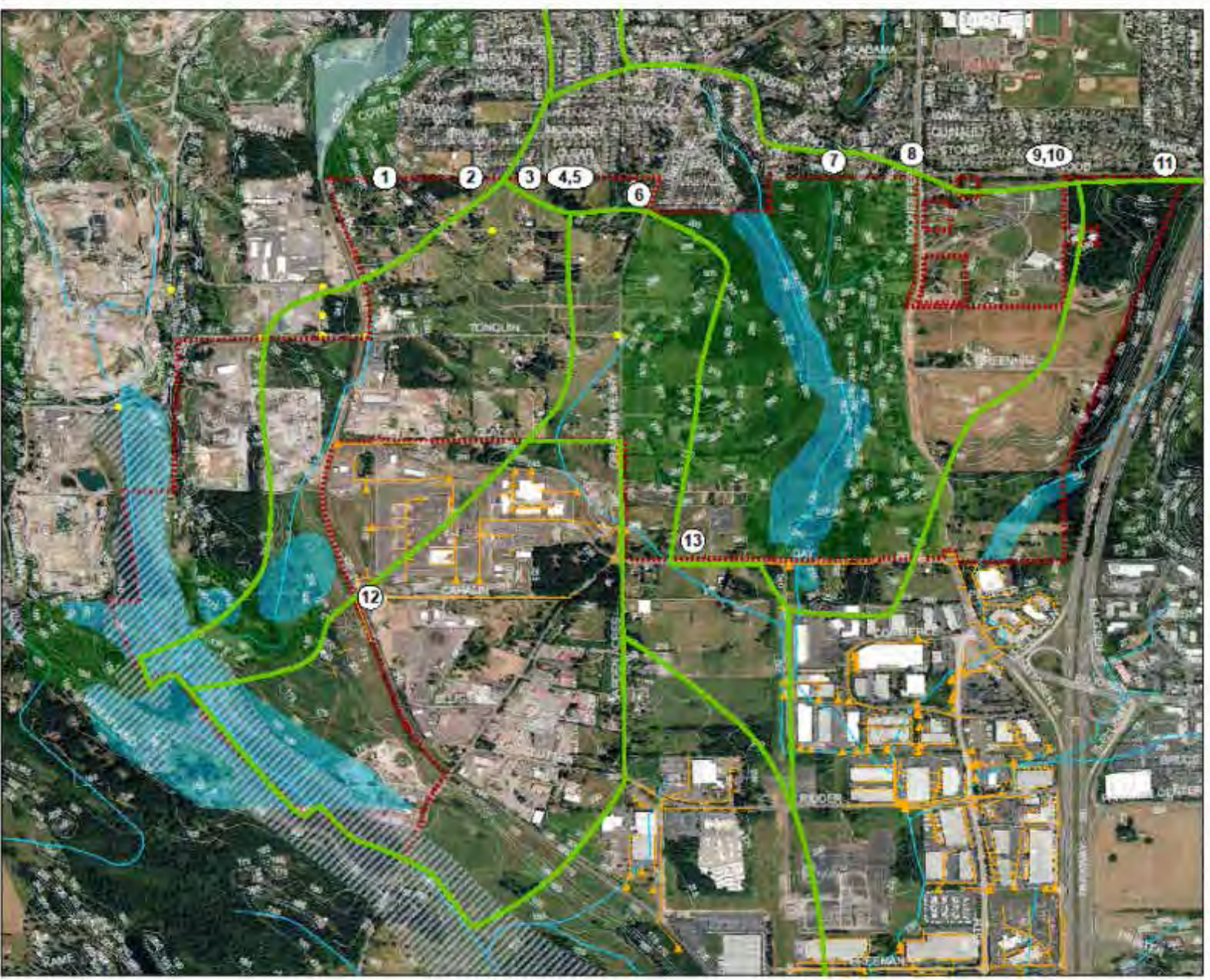
- Local roads and multimodal connections still need attention

Transportation Refinement Plan



Existing Conditions

1. Housing and Employment
2. Environmental Constraints
3. Transportation
4. **Infrastructure**



LEGEND

- Planning Area
- No Resource
- Water Area and Wetland
- Wildlife Habitat
- Water Area/Wetland&F/W Habitat
- Significant Natural Area
- 100-year Floodplain
- Washington County Culverts
- Wilsonville Stormwater Outlets
- Wilsonville Stormwater System
- CONTOUR_5FT
- Streets
- Stream channels
- Delineated Drainage Basin
- (X) Potential points of connection (see Tab

0 250 500 1,000
Feet

FIGURE 1
Existing
Stormwater Infrastructure and Drainage Area
Existing Stormwater and Wastewater Infrast
Basalt Creek Planning Area

CH2MH

Stormwater

- Basins generally flow toward Wilsonville
- Pinch point in existing Wilsonville system (south of Day Road) will need to be addressed to increase capacity
- Very small service area drains toward the northwest, through CWS/Tualatin system (Connection Point 1 and 2)