



MEMORANDUM

CITY OF TUALATIN

DATE: December 9, 2014

TO: Tualatin Parks Advisory Committee

THROUGH: Rich Mueller, Parks & Recreation Manager

FROM: Cindy Hahn, Associate Planner

SUBJECT: Basalt Creek Concept Plan – Project Update

ISSUE BEFORE TPARK:

Tonight's presentation is a summary of the December 2 Joint City Council meeting with Wilsonville, including a review of a Base Case land use scenario that has been developed and evaluated. The presentation is for informational purposes and to gather input to help create two additional scenarios in Winter 2015.

EXECUTIVE SUMMARY:

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 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 as 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.

Alternative Scenarios

In order to create two additional alternative scenarios, the project team asked the Joint City Councils for input 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.

Staff will provide TPARK a verbal update on input received from the Joint City Councils on the above topics at the December 2 work session.

Next Steps

Another Joint City Council meeting is planned for February 2015, followed by a public open house to discuss alternative scenarios in March. Staff will be back at TPARK in March with another project update.

Attachments: A. Presentation

Joint Council Meeting #2

December 2, 2014



Agenda

I. Project Update

II. Building the Base Case

III. Base Case Scenario

a) Land Use

b) Transportation

c) Wet Infrastructure

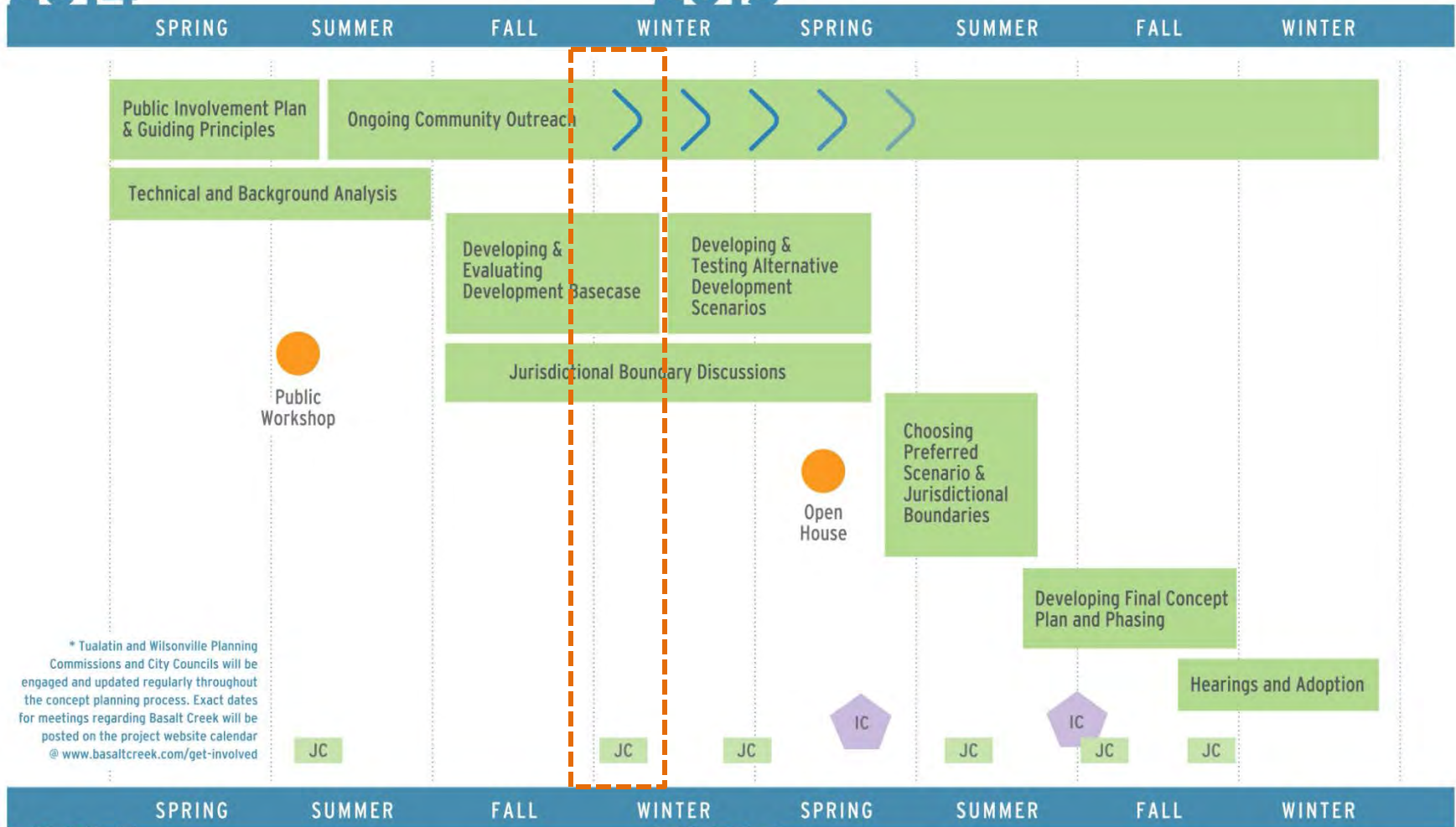
IV. Next Steps

V. Discussion

Project Update

2014

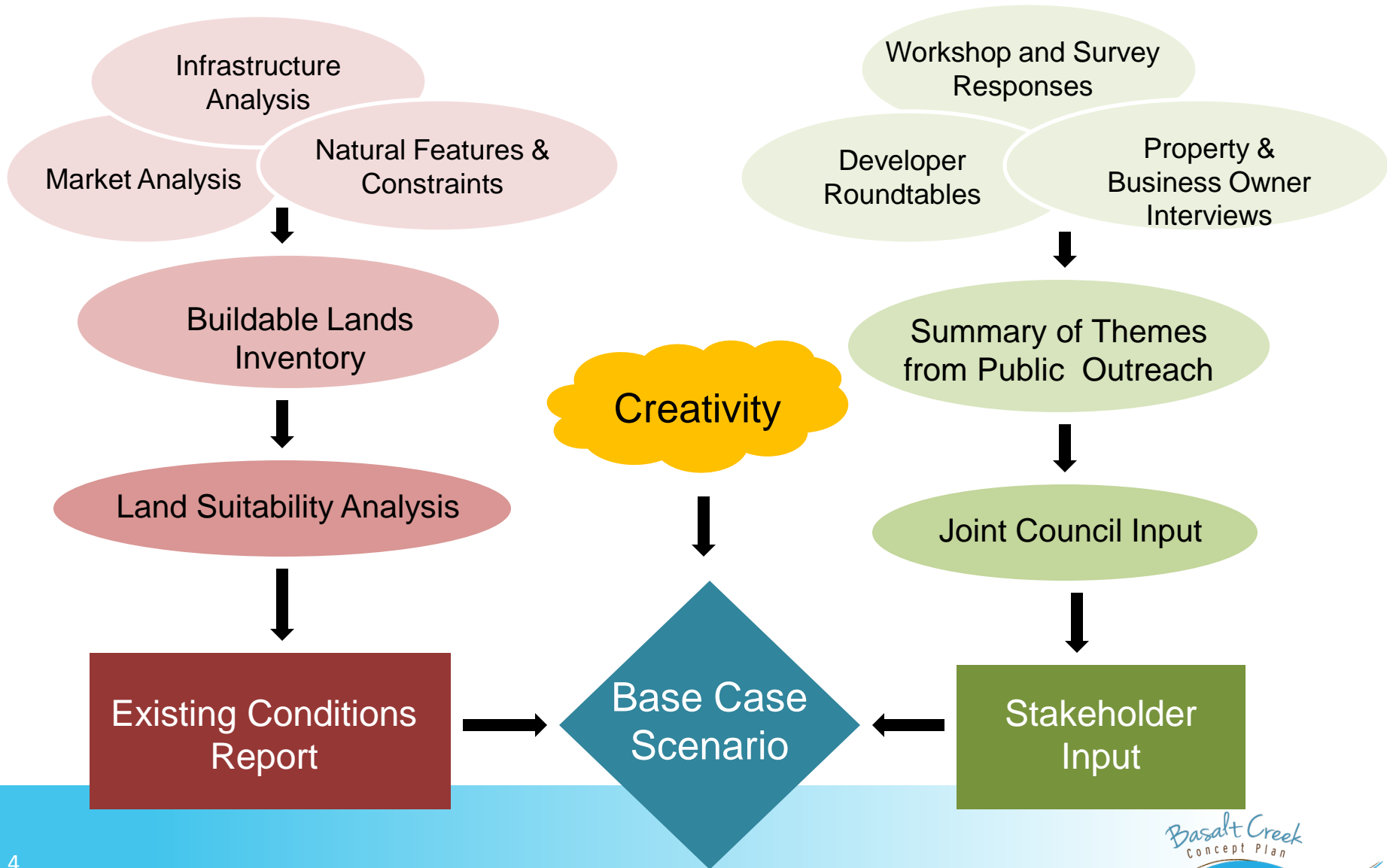
2015



* Tualatin and Wilsonville Planning Commissions and City Councils will be engaged and updated regularly throughout the concept planning process. Exact dates for meetings regarding Basalt Creek will be posted on the project website calendar @ www.basaltcreek.com/get-involved

JC = Joint Council Meetings
IC = Individual Council Meetings

Building the Base Case



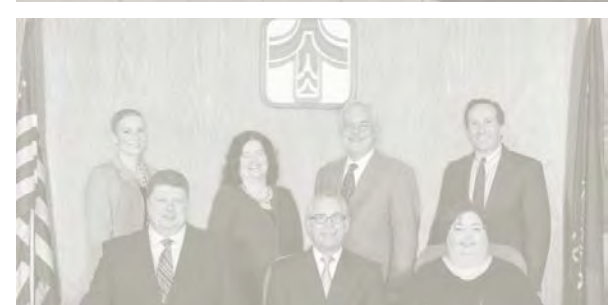
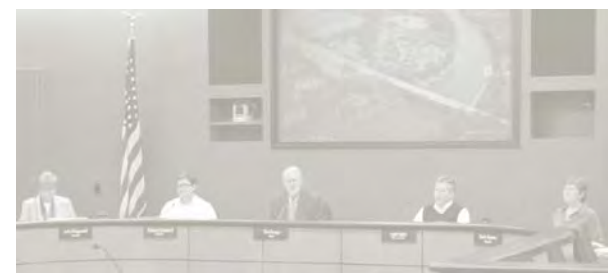
Base Case Objectives

Base Case
Scenario

- 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

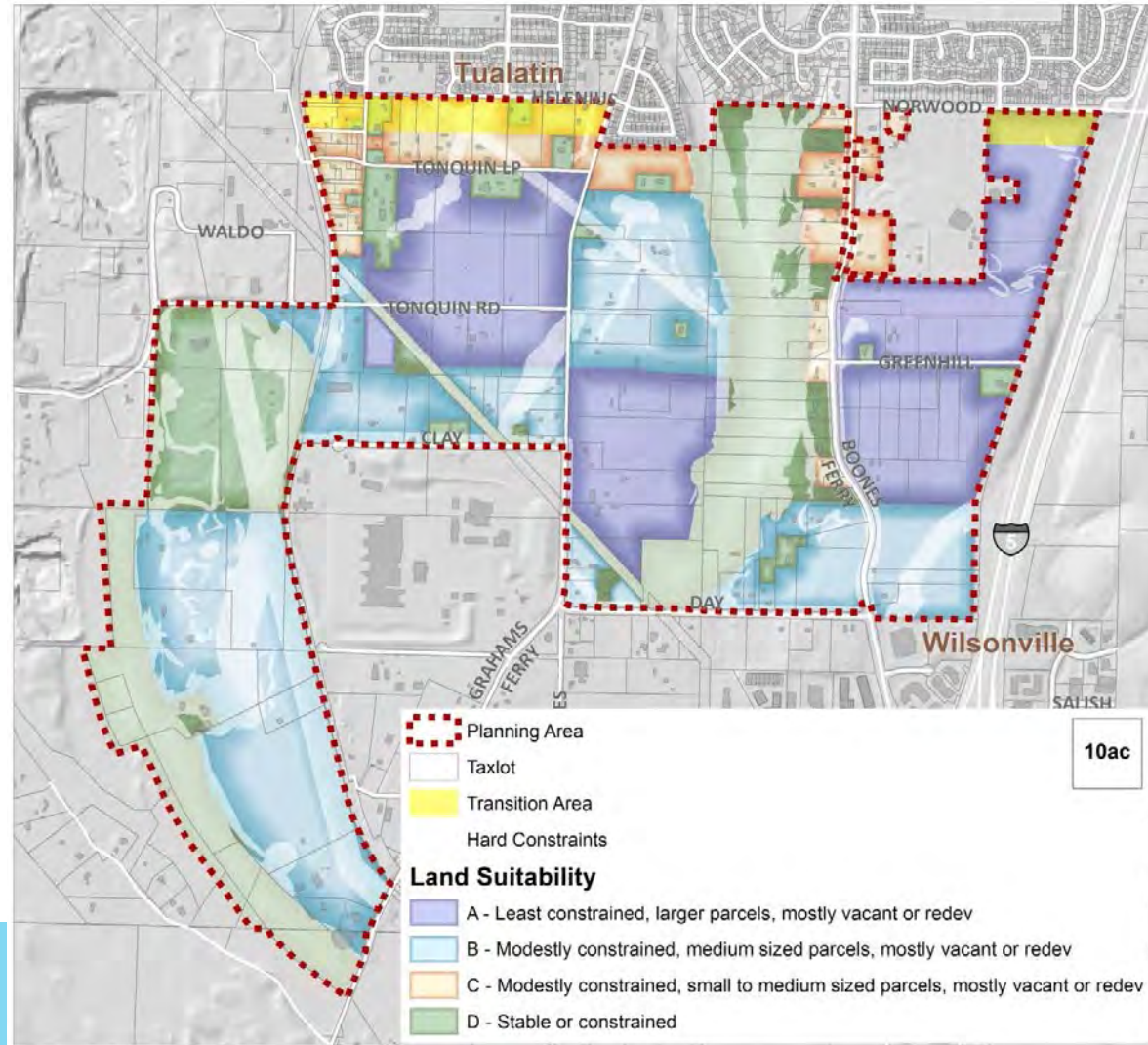
- Appropriate transitions between land uses
- Concerns about cut-through traffic
- Desire for green spaces and trails
- Small-scale retail to serve local neighborhoods and workers
- Market demand for updated industrial development type
- Explore creative, innovative land use solutions



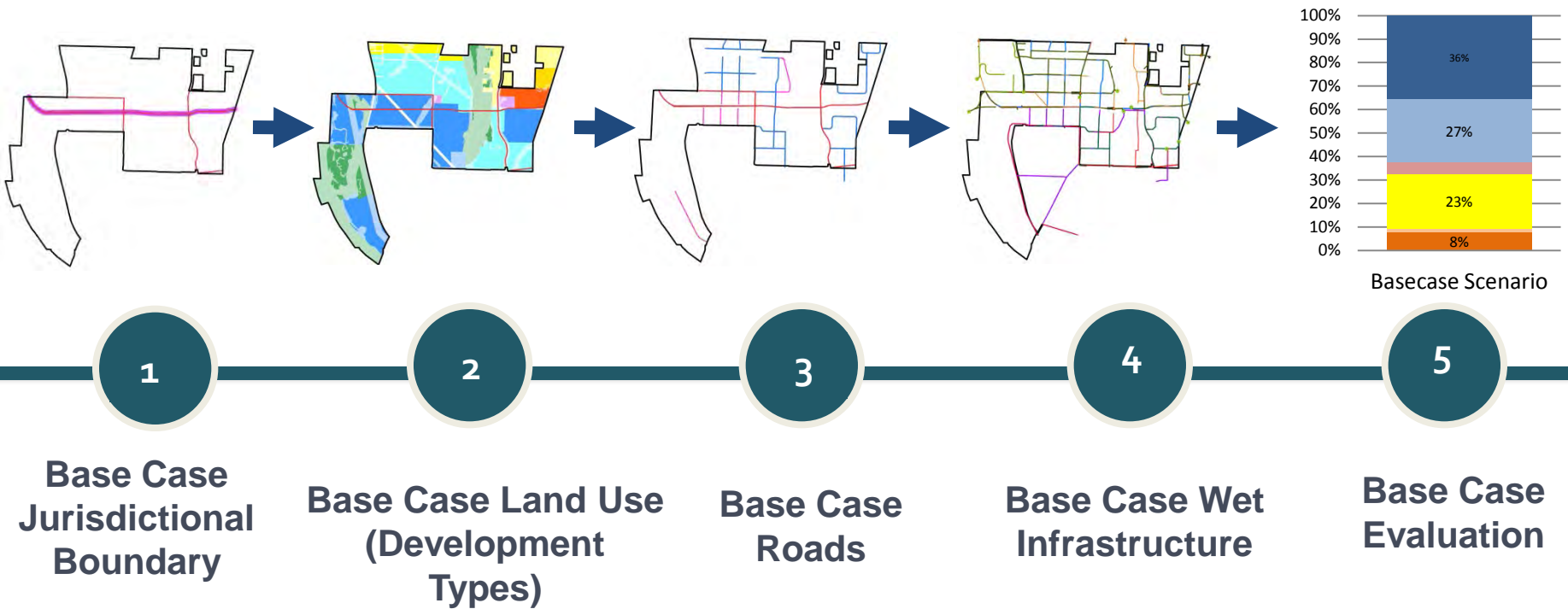
Building the Base Case

Land Suitability Analysis

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



Building the Base Case Scenario Development



Building the Base Case Scenarios are Crash Test Dummies





BASE CASE SCENARIO: LAND USE (DEVELOPMENT TYPES)

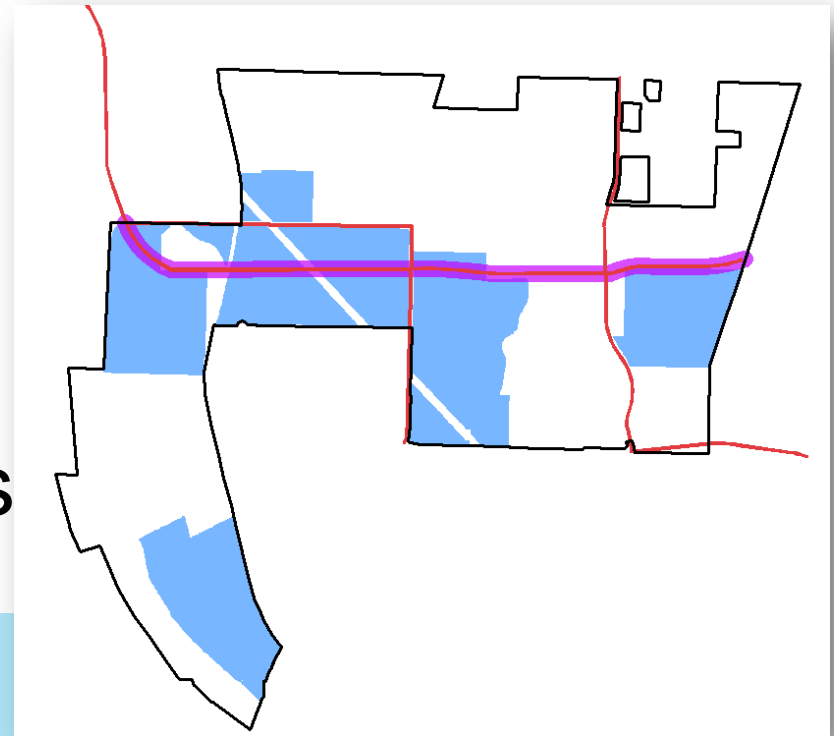
Light Industrial and Warehousing

Land Use Mix

- Retail 1%
- Office 5%
- Industrial 94%

Structure

- Ave. height: 1-2 stories



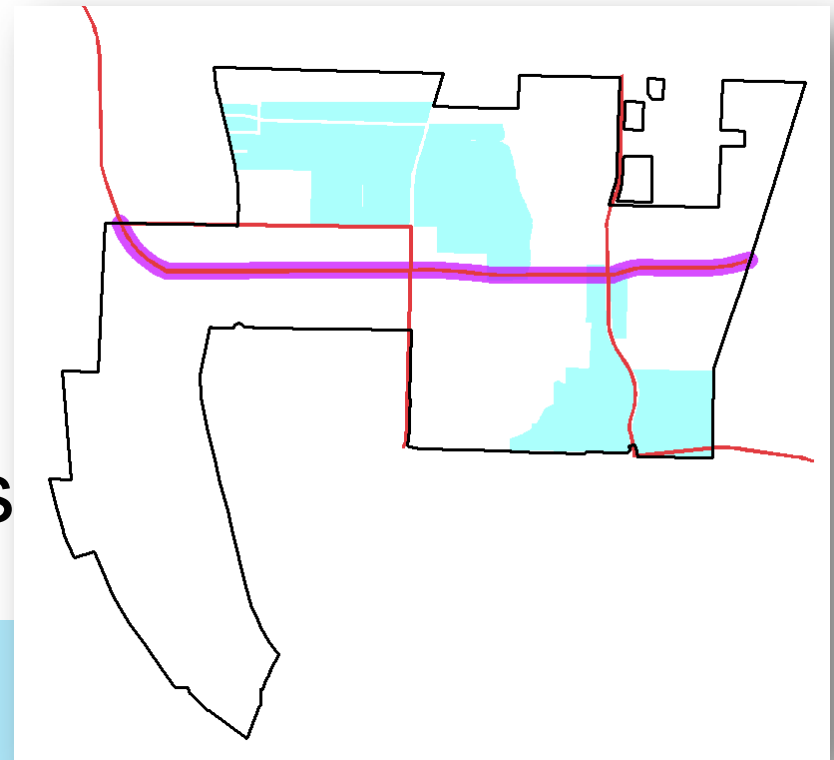
Office Park/Flex

Land Use Mix

- Retail 13%
- Office 31%
- Industrial 56%

Structure

- Ave. height: 1-4 stories



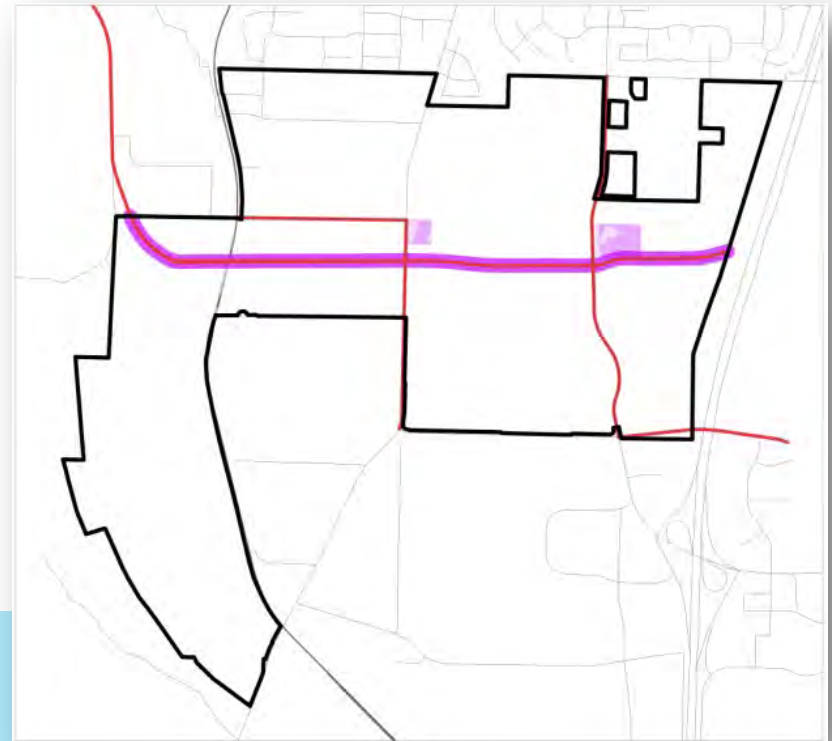
Neighborhood Commercial

Land Use Mix

- Commercial
 - Retail 77%
 - Office 7%
- Residential 3%
- Industrial 13%

Structure

- Ave. height: 1 story



Conventional Single Family

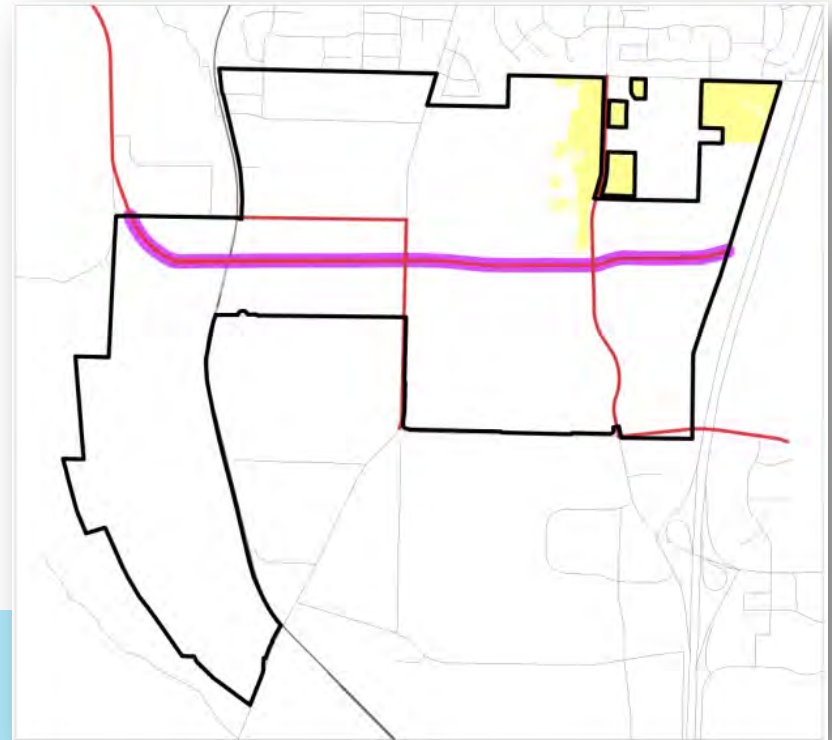


Land Use Mix

- Single Family
 - 6,000 sf: 12%
 - 7,500 sf: 88%

Structure

- Ave. height: 2 stories



Suburban Residential

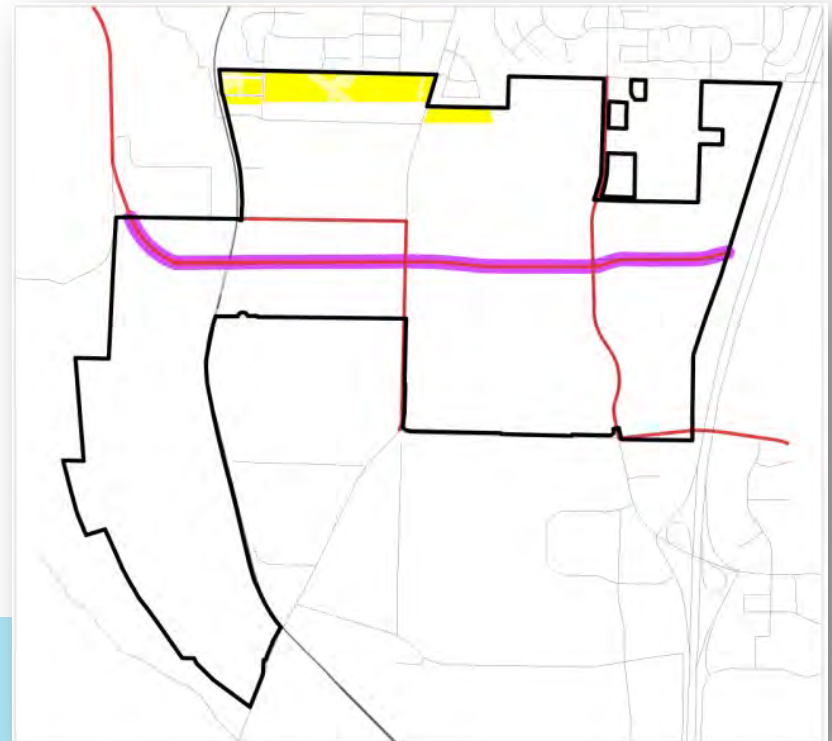


Land Use Mix

- Single Family
 - 5,000 sf: 50%
 - 6,000 sf: 40%
 - 7,500 sf: 10%

Structure

- Ave. height: 2 stories



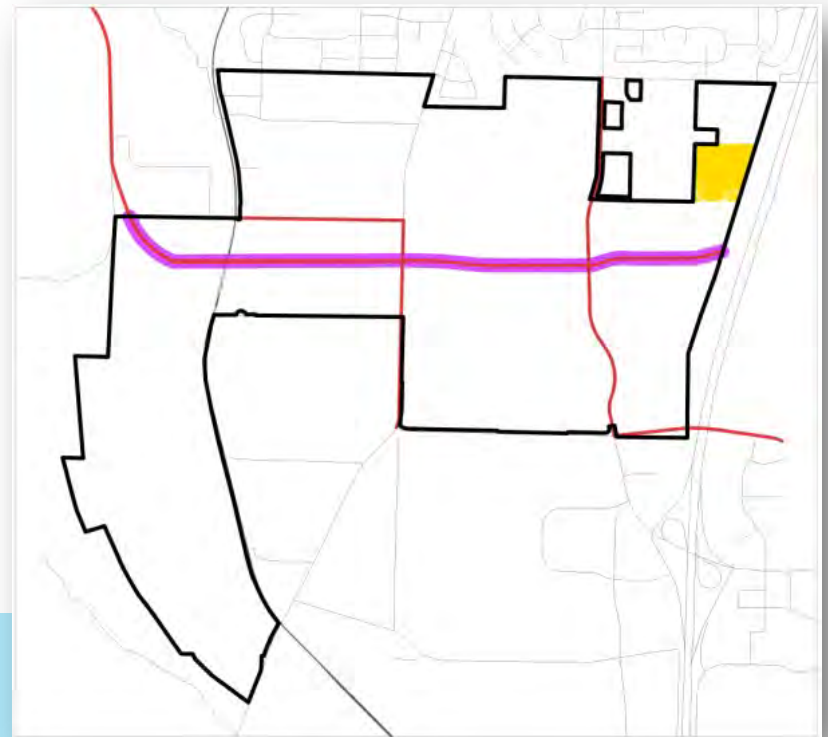
Compact Neighborhood

Land Use Mix

- Townhomes 19%
- Single Family
 - 5,000 sf: 23%
 - 6,000 sf: 47%
 - 7,500 sf: 12%

Structure

- Ave. height: 2 stories



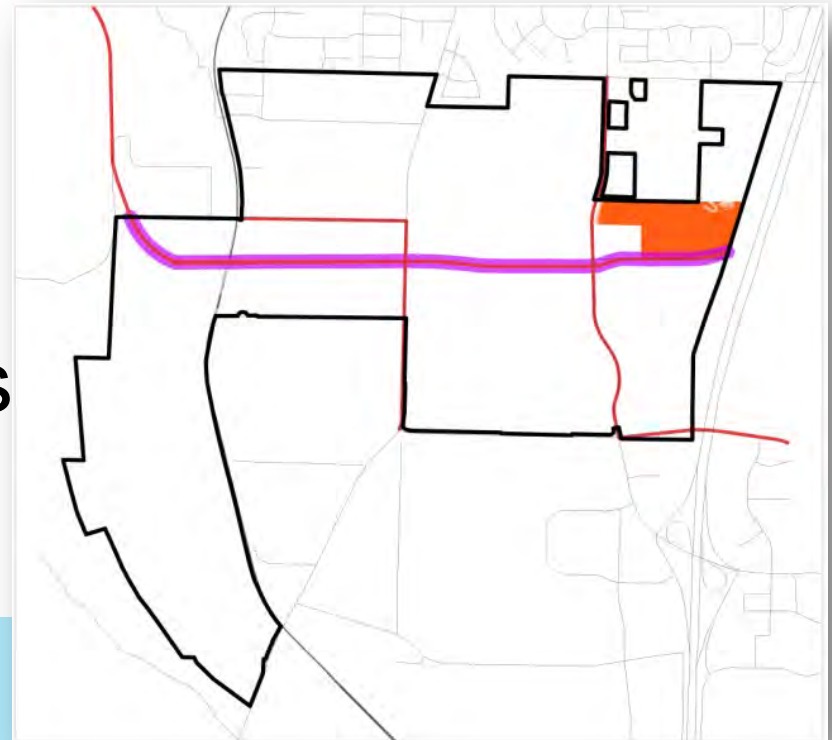
Suburban Multifamily

Land Use Mix

- Multifamily 97%
- Townhomes 3%

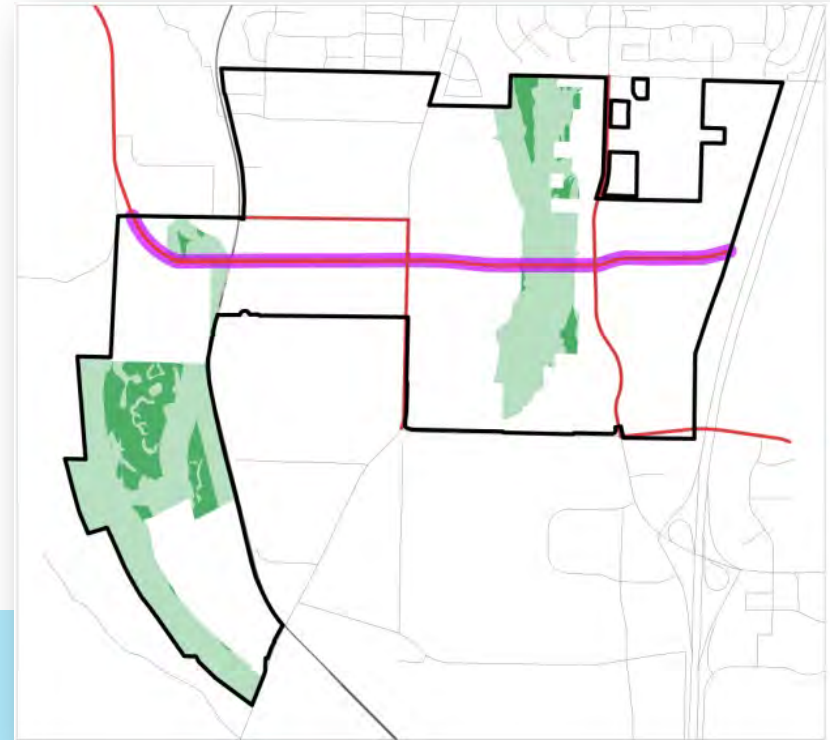
Structure

- Ave. height: 2-3 stories

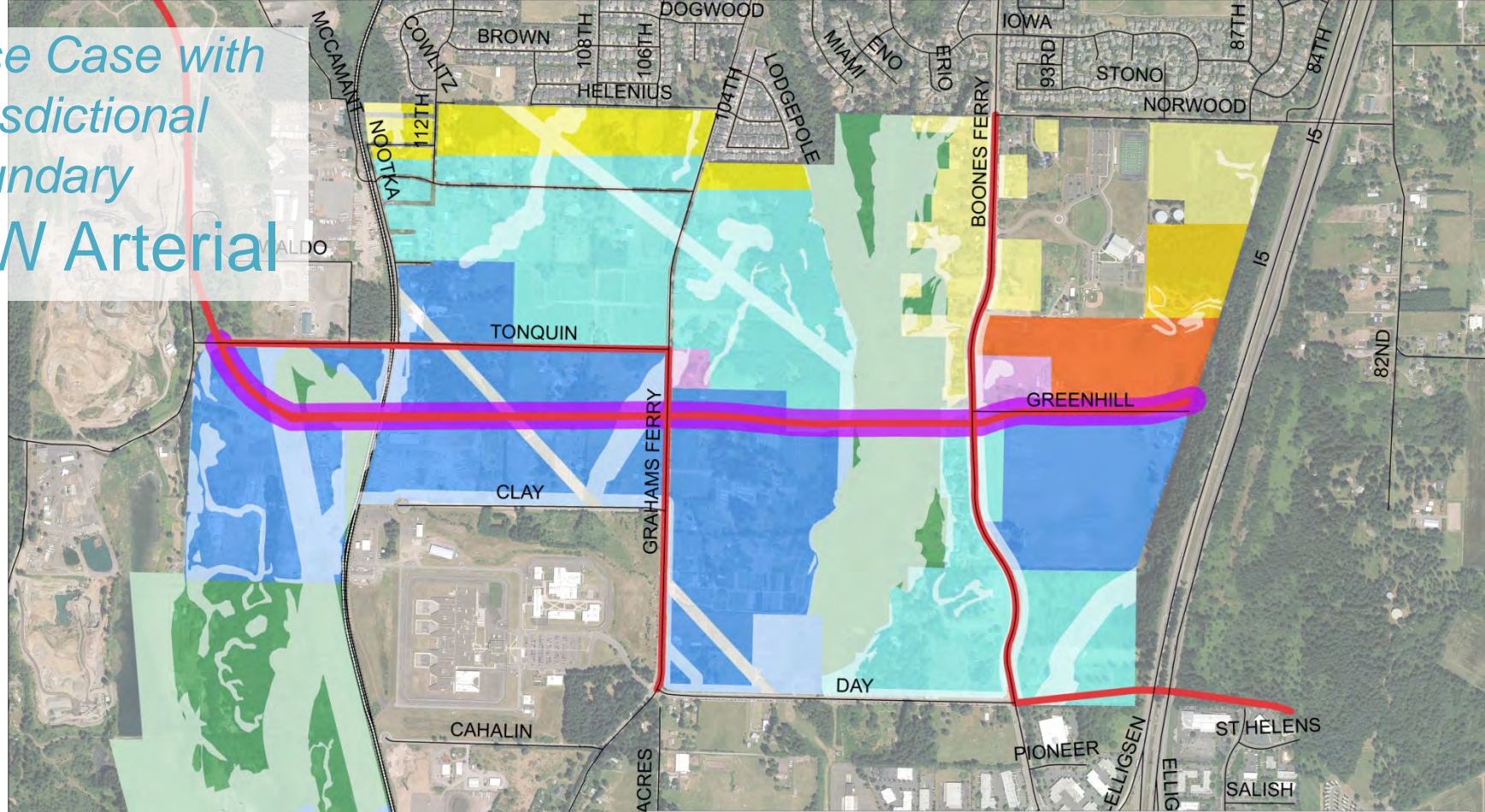


Undeveloped Natural Areas

- 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



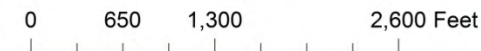
Basalt Creek Base Case Scenario

Legend

-  Planned Future Roads
-  Basecase Local Access Roads
-  Basecase Local Connector Roads
-  Basecase Jurisdictional Boundary
-  Existing Streets
-  Railroad

Development Type

-  Neighborhood Commercial
-  Suburban Multifamily
-  Compact Neighborhood
-  Suburban Residential
-  Conventional Single Family
-  Office Park/Flex
-  Light Industrial and Warehousing
-  Undeveloped Natural Area





BASE CASE SCENARIO: INDICATORS (EVALUATION CRITERIA)

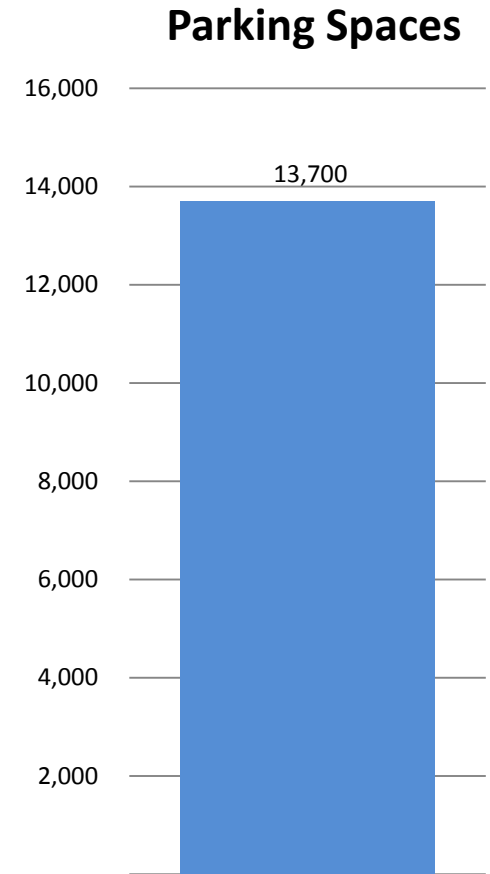
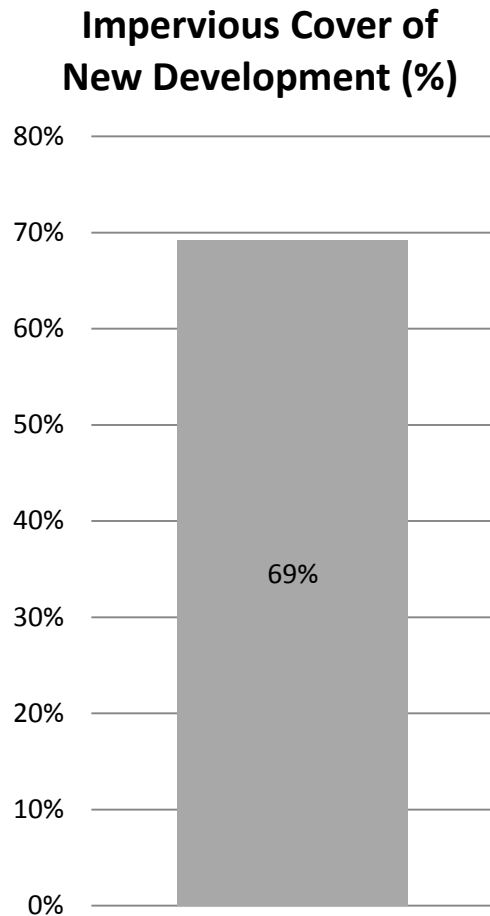
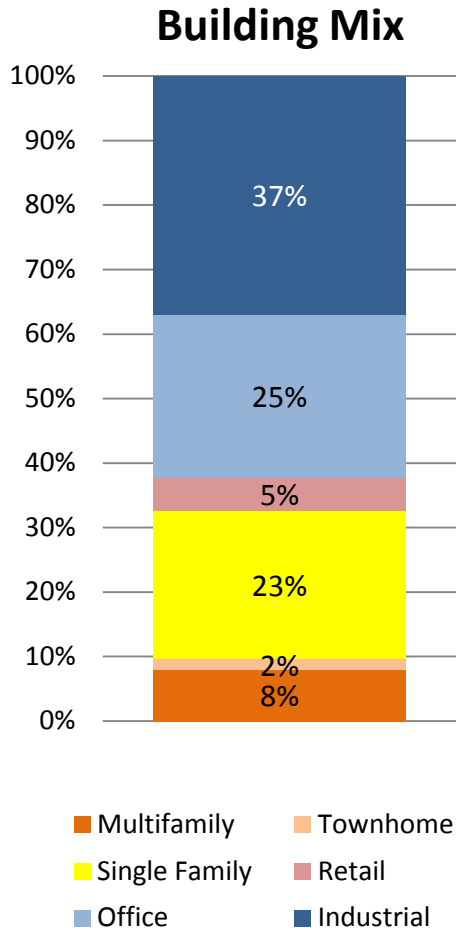
Comparison to Forecast

	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

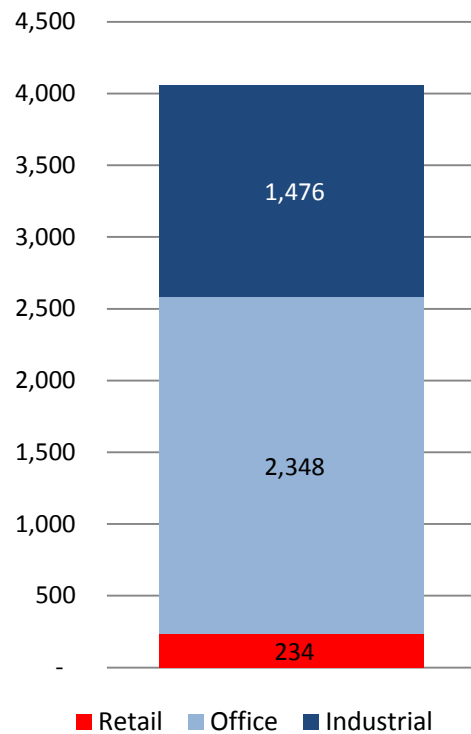
Physical Form



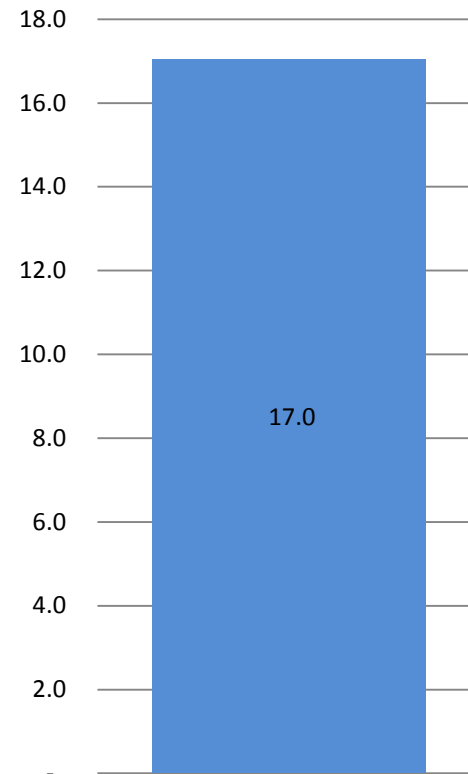
Base Case Indicators

Employment

Employment by Type



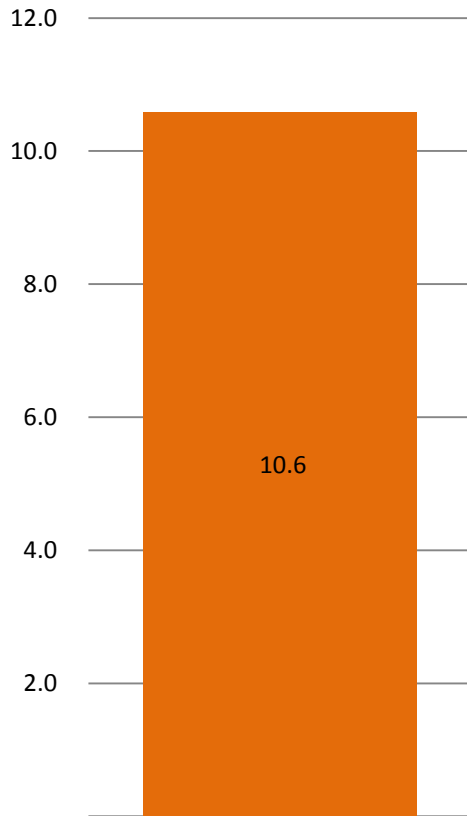
Jobs per Net Acre



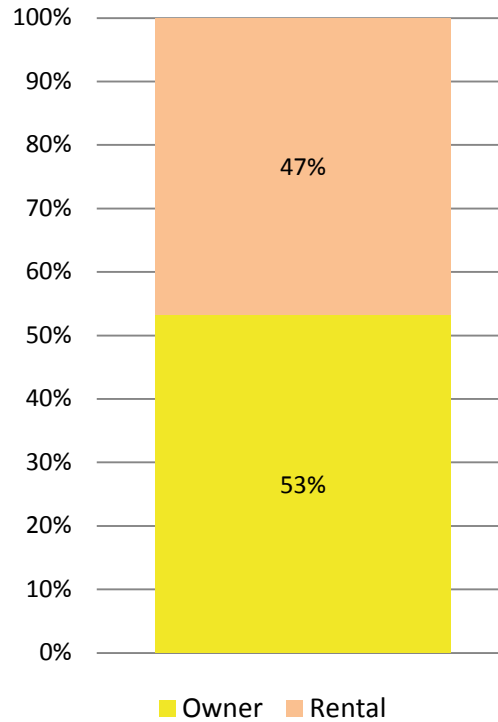
Base Case Indicators

Housing

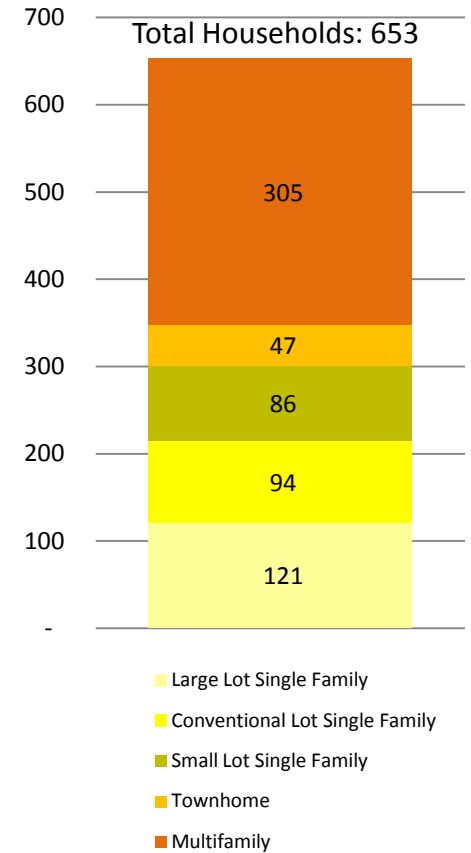
Housing Units per Net Acre



Owner / Renter Mix



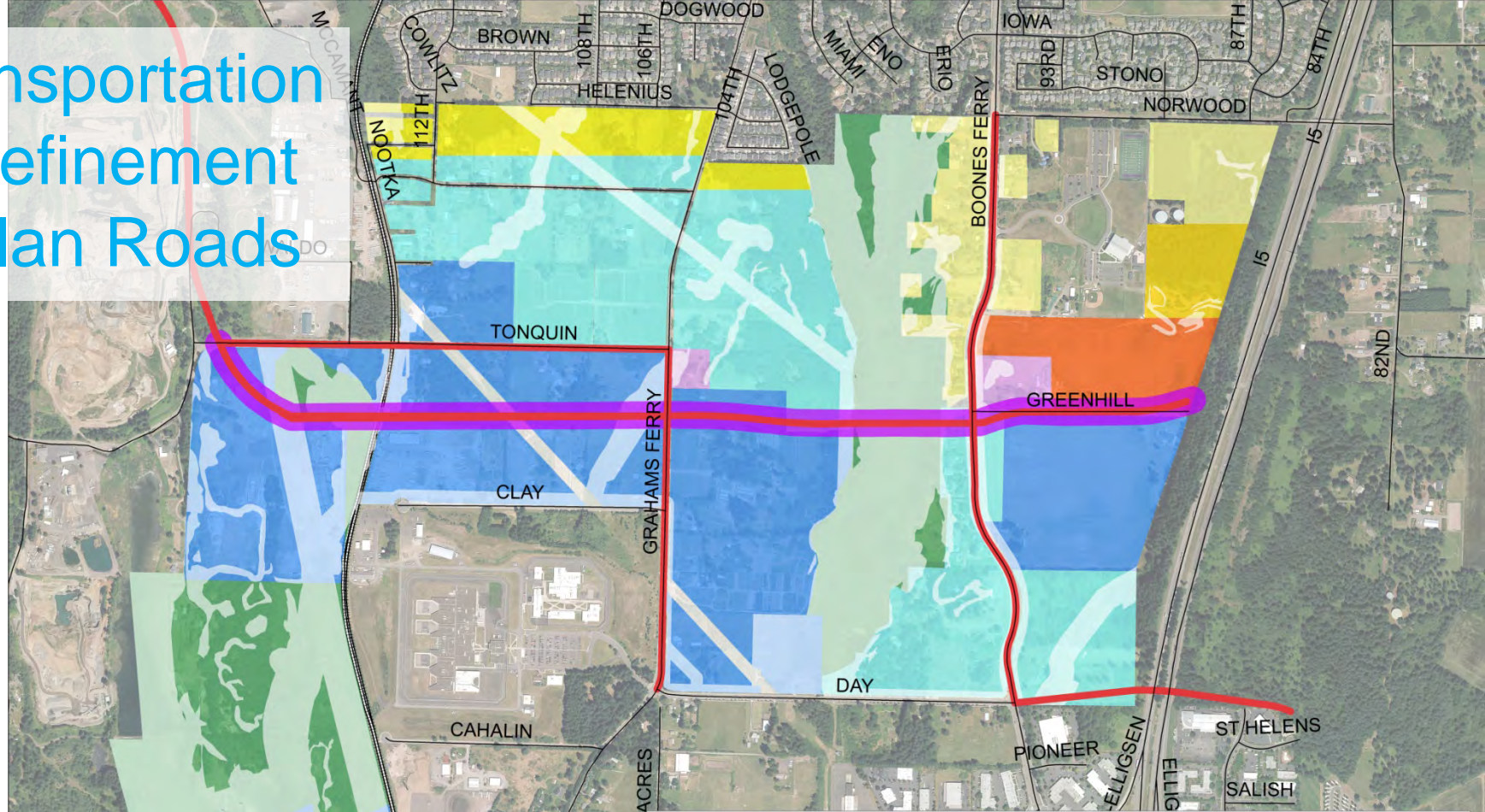
Housing by Type





BASE CASE SCENARIO: TRANSPORTATION

Transportation Refinement Plan Roads



Basalt Creek Base Case Scenario

Legend

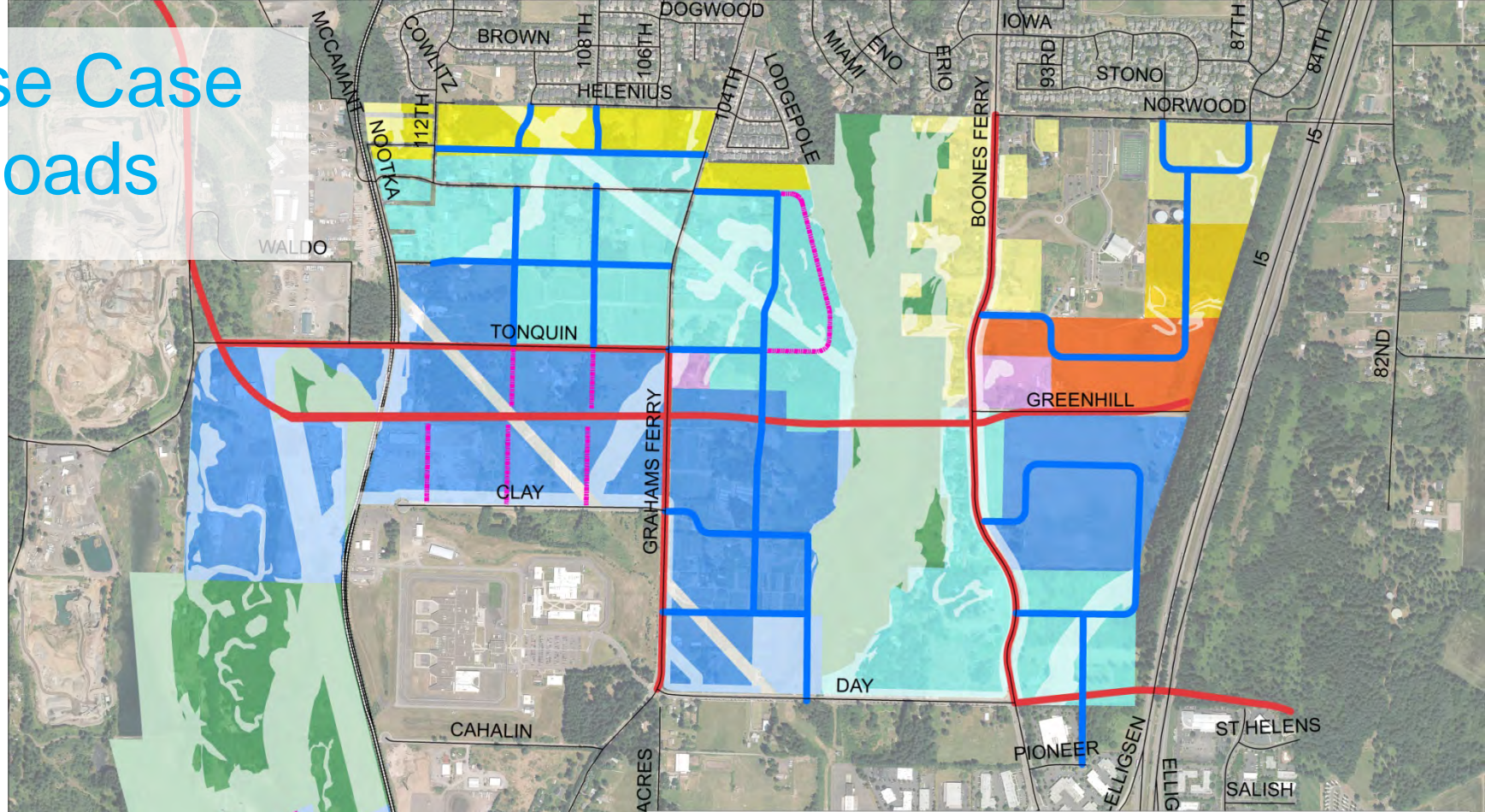
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Development Type

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-  Suburban Residential
-  Conventional Single Family
-  Office Park/Flex
-  Light Industrial and Warehousing
-  Undeveloped Natural Area

0 650 1,300 2,600 Feet

Base Case Roads



Basalt Creek Base Case Scenario

Legend

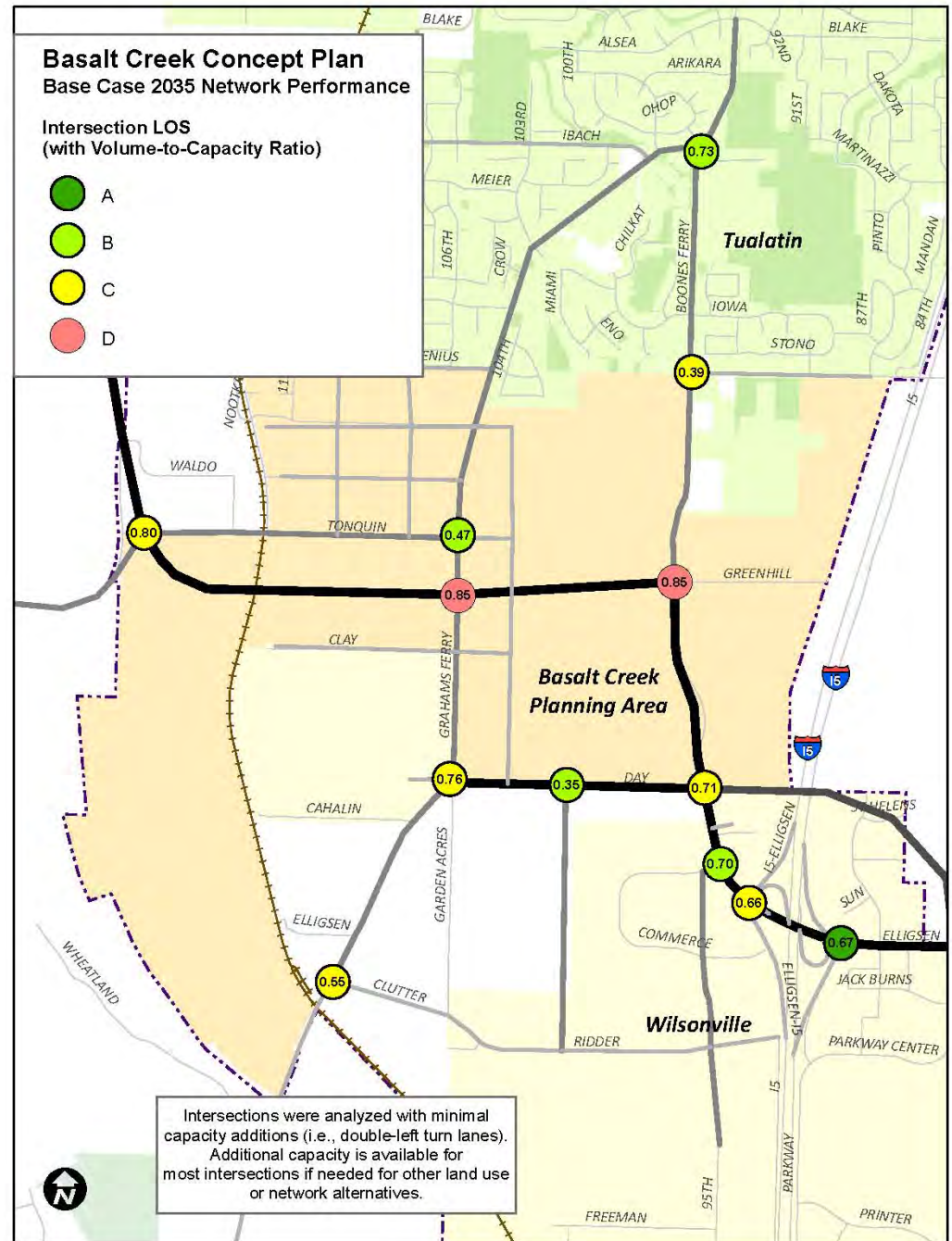
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-  Railroad

Development Type

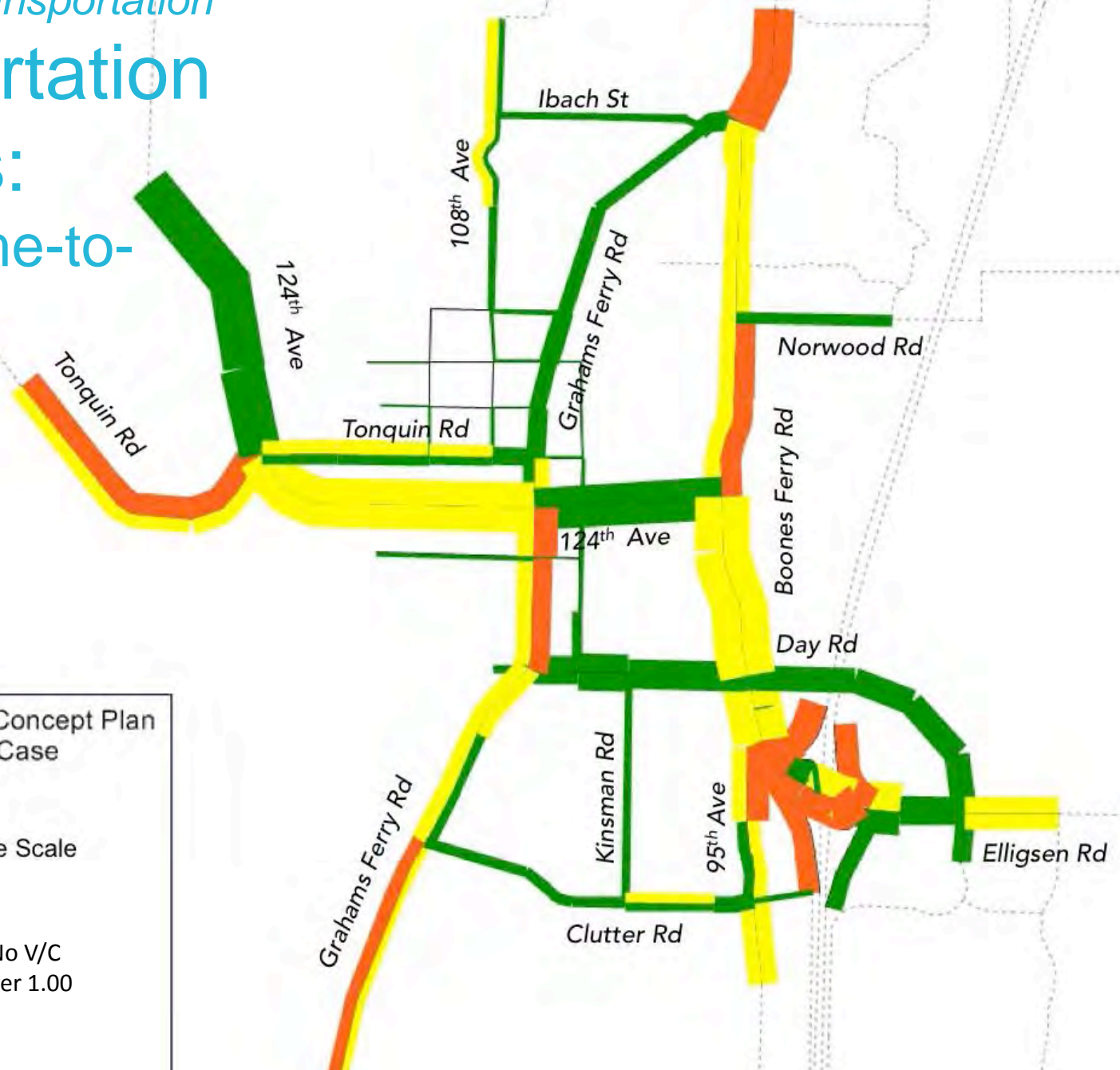
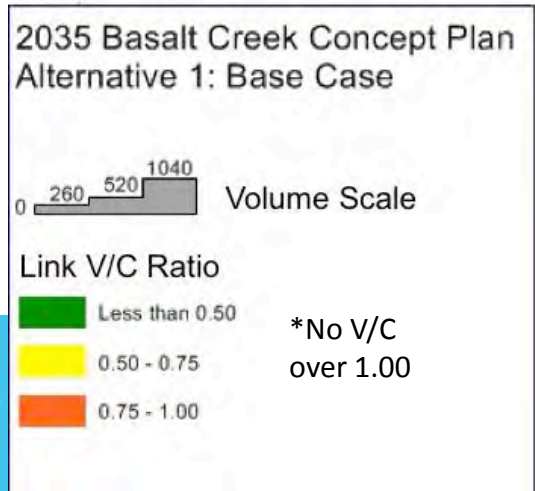
-  Neighborhood Commercial
-  Suburban Multifamily
-  Compact Neighborhood
-  Suburban Residential
-  Conventional Single Family
-  Office Park/Flex
-  Light Industrial and Warehousing
-  Undeveloped Natural Area

0 650 1,300 2,600 Feet

Base Case Transportation Transportation Analysis: Intersection Volume-to- Capacity



Base Case Transportation Transportation Analysis: Link Volume-to- Capacity

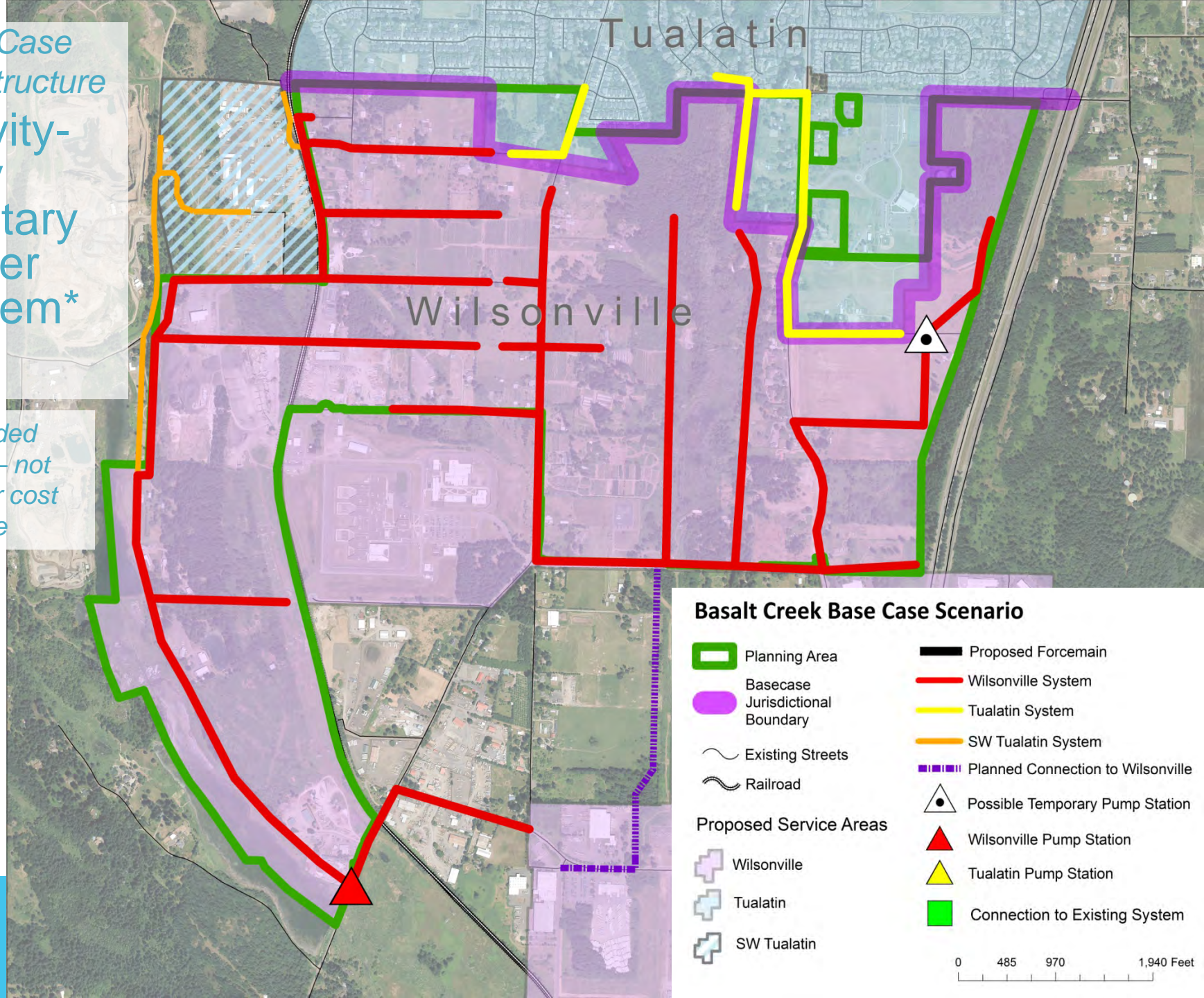




BASE CASE SCENARIO: WET INFRASTRUCTURE

Base Case
Infrastructure
Gravity-
Only
Sanitary
Sewer
System*

*Discarded
Option – not
used for cost
estimate



Basalt Creek Base Case Scenario

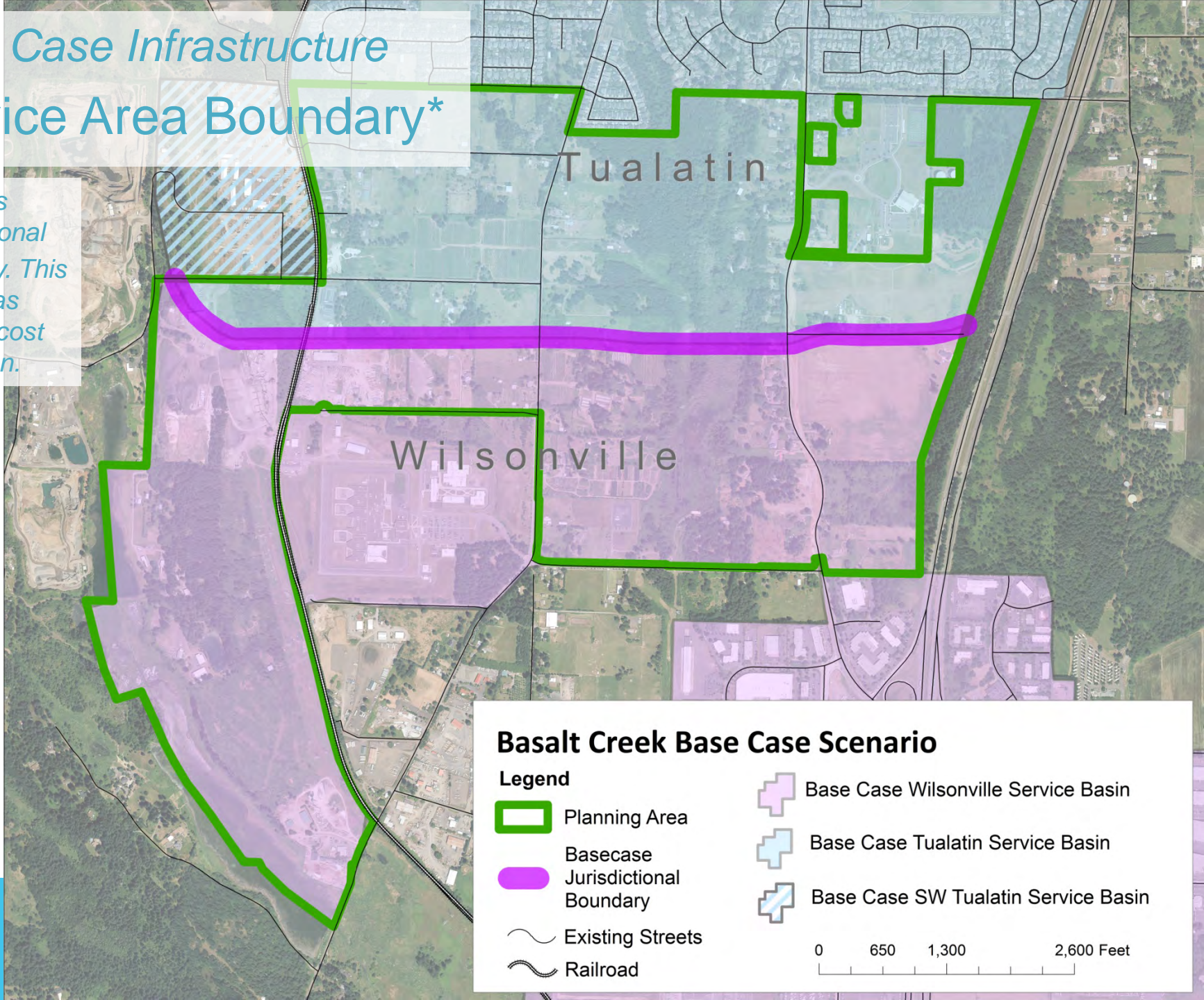
- Planning Area
- Basecase Jurisdictional Boundary
- Existing Streets
- Railroad
- Proposed Service Areas
 - Wilsonville
 - Tualatin
 - SW Tualatin
- Proposed Forcemain
- Wilsonville System
- Tualatin System
- SW Tualatin System
- Planned Connection to Wilsonville
- Possible Temporary Pump Station
- Wilsonville Pump Station
- Tualatin Pump Station
- Connection to Existing System

0 485 970 1,940 Feet

Base Case Infrastructure

Service Area Boundary*

*Same as Jurisdictional Boundary. This option was used for cost estimation.

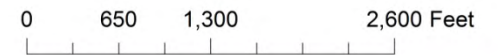


Basalt Creek Base Case Scenario

Legend

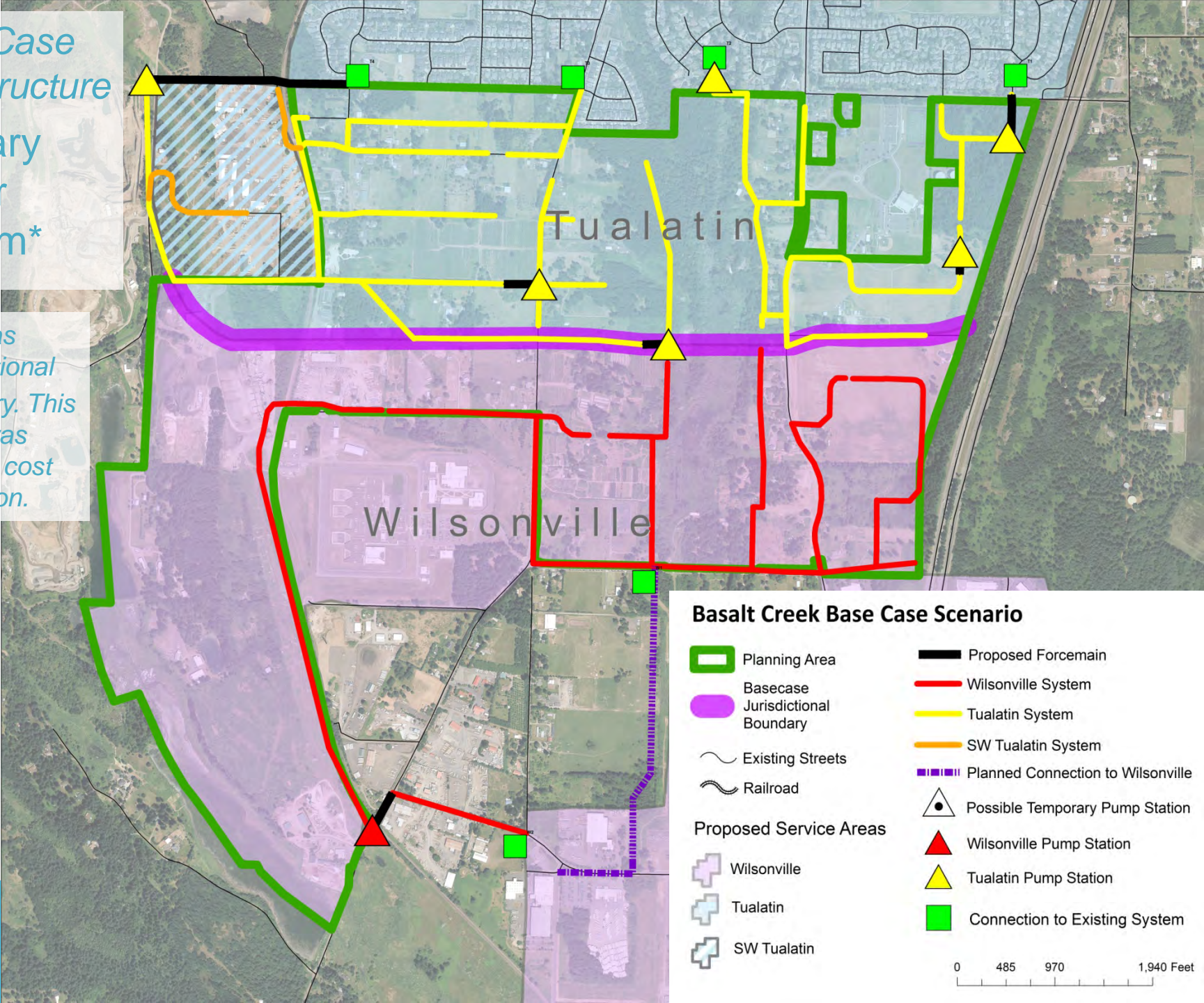
- Planning Area
- Basecase Jurisdictional Boundary
- Existing Streets
- Railroad

- Base Case Wilsonville Service Basin
- Base Case Tualatin Service Basin
- Base Case SW Tualatin Service Basin



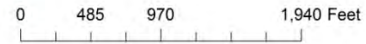
Base Case Infrastructure Sanitary Sewer System*

*Same as Jurisdictional Boundary. This option was used for cost estimation.



Basalt Creek Base Case Scenario

- Planning Area
- Basecase Jurisdictional Boundary
- Existing Streets
- Railroad
- Proposed Service Areas
 - Wilsonville
 - Tualatin
 - SW Tualatin
- Proposed Forcemain
- Wilsonville System
- Tualatin System
- SW Tualatin System
- Planned Connection to Wilsonville
- Possible Temporary Pump Station
- Wilsonville Pump Station
- Tualatin Pump Station
- Connection to Existing System



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

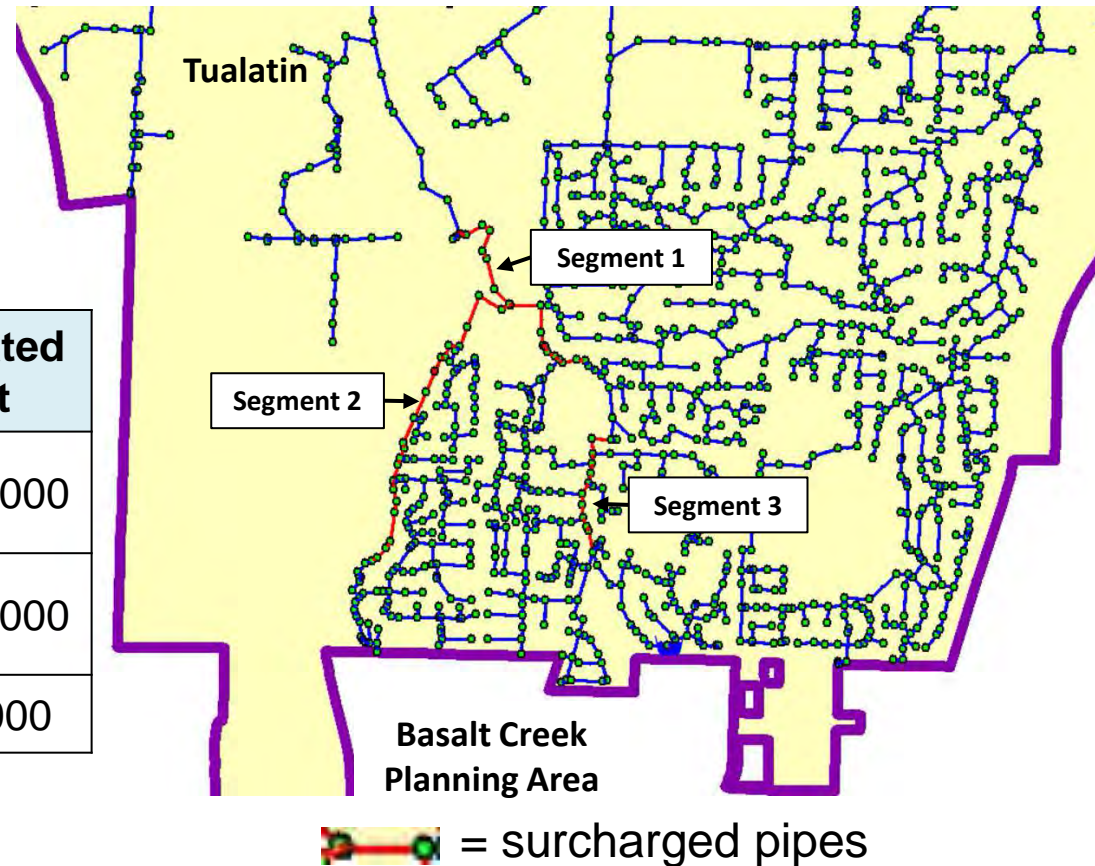
Peak Flows

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



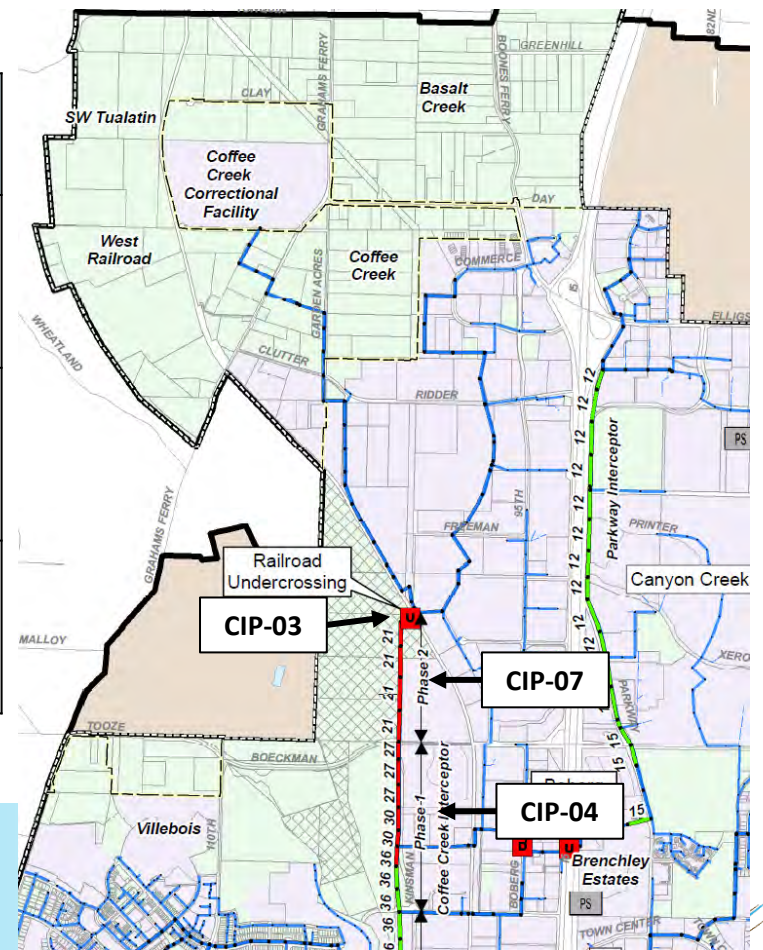
Base Case Infrastructure

Sanitary Sewer - Wilsonville

System

Expected upgrades:

Proj. ID No.	Project Name	Upgrade Description	Estimated Cost
CIP-03	Coffee Creek Interceptor RR Undercrossing	Undercrossing, 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

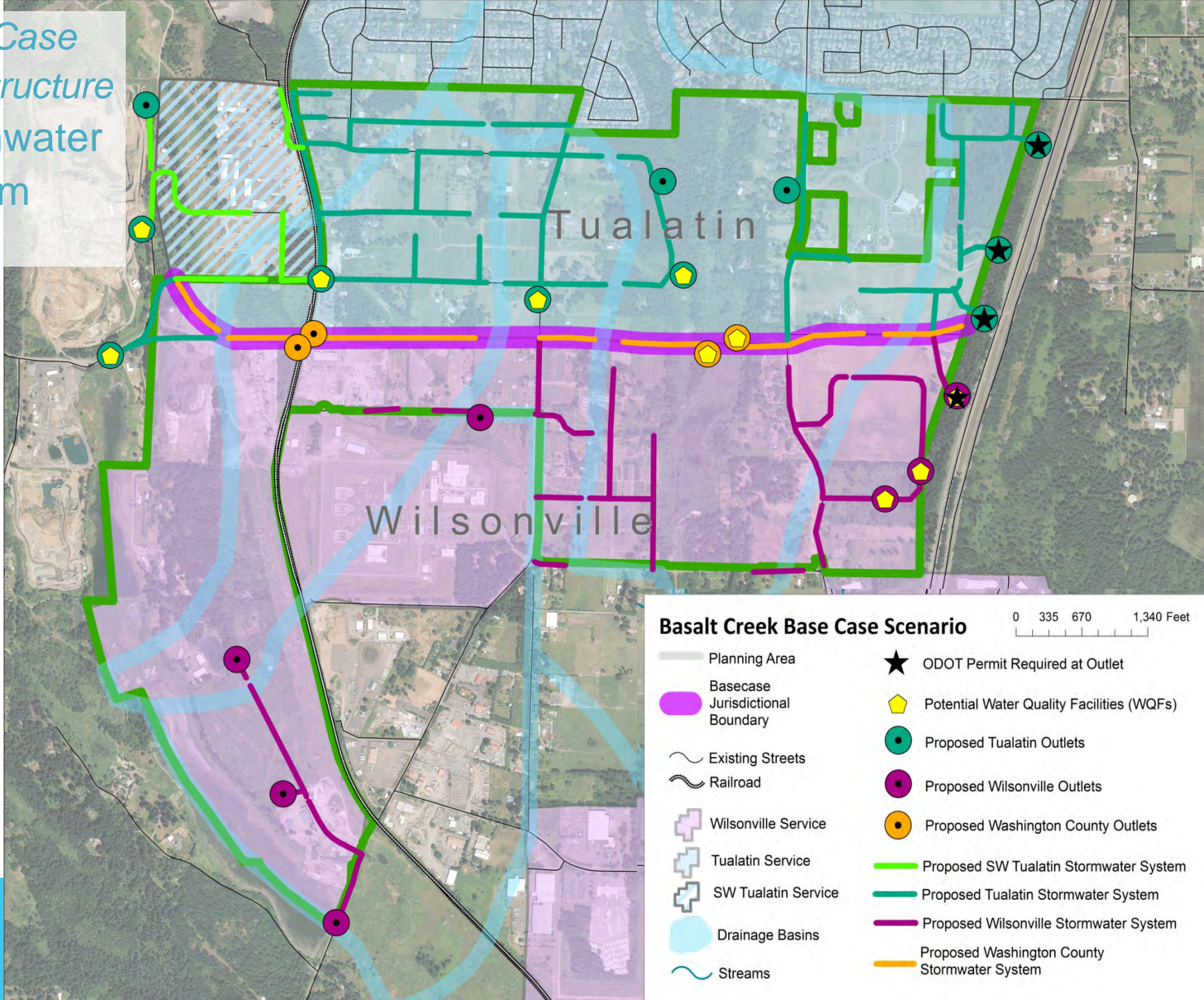


Base Case Infrastructure Sanitary Sewer Costs

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



Basalt Creek Base Case Scenario

0 335 670 1,340 Feet

- Planning Area
- Basecase Jurisdictional Boundary
- Existing Streets
- Railroad
- Wilsonville Service
- Tualatin Service
- SW Tualatin Service
- Drainage Basins
- Streams
- ODOT Permit Required at Outlet
- Potential Water Quality Facilities (WQFs)
- Proposed Tualatin Outlets
- Proposed Wilsonville Outlets
- Proposed Washington County Outlets
- Proposed SW Tualatin Stormwater System
- Proposed Tualatin Stormwater System
- Proposed Wilsonville Stormwater System
- Proposed Washington County 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

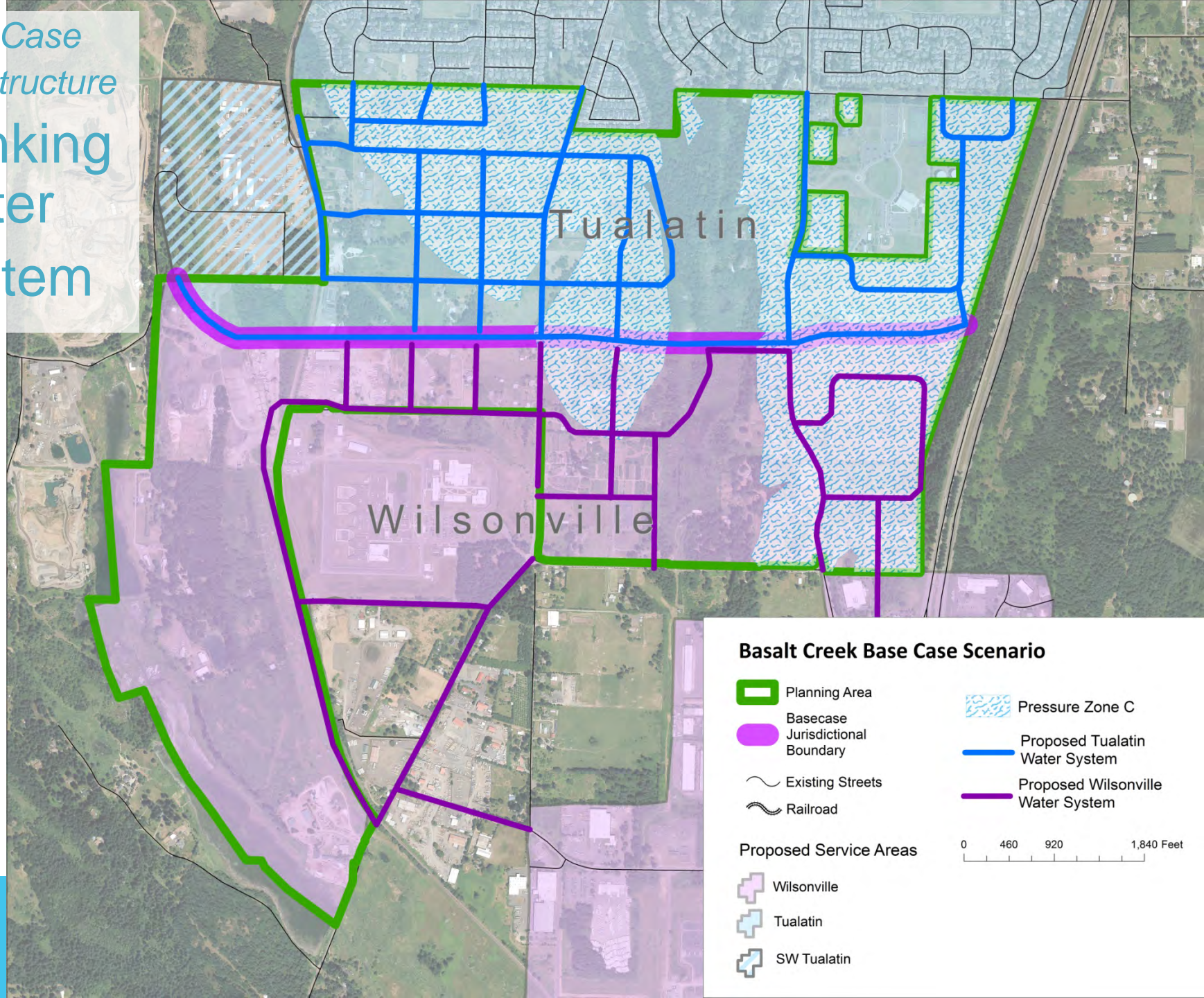
NOTE:
Stormwater collection for E-W arterial is not included

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



Basalt Creek Base Case Scenario

-  Planning Area
-  Basecase Jurisdictional Boundary
-  Existing Streets
-  Railroad
-  Pressure Zone C
-  Proposed Tualatin Water System
-  Proposed Wilsonville Water System

Proposed Service Areas

-  Wilsonville
-  Tualatin
-  SW Tualatin

0 460 920 1,840 Feet

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

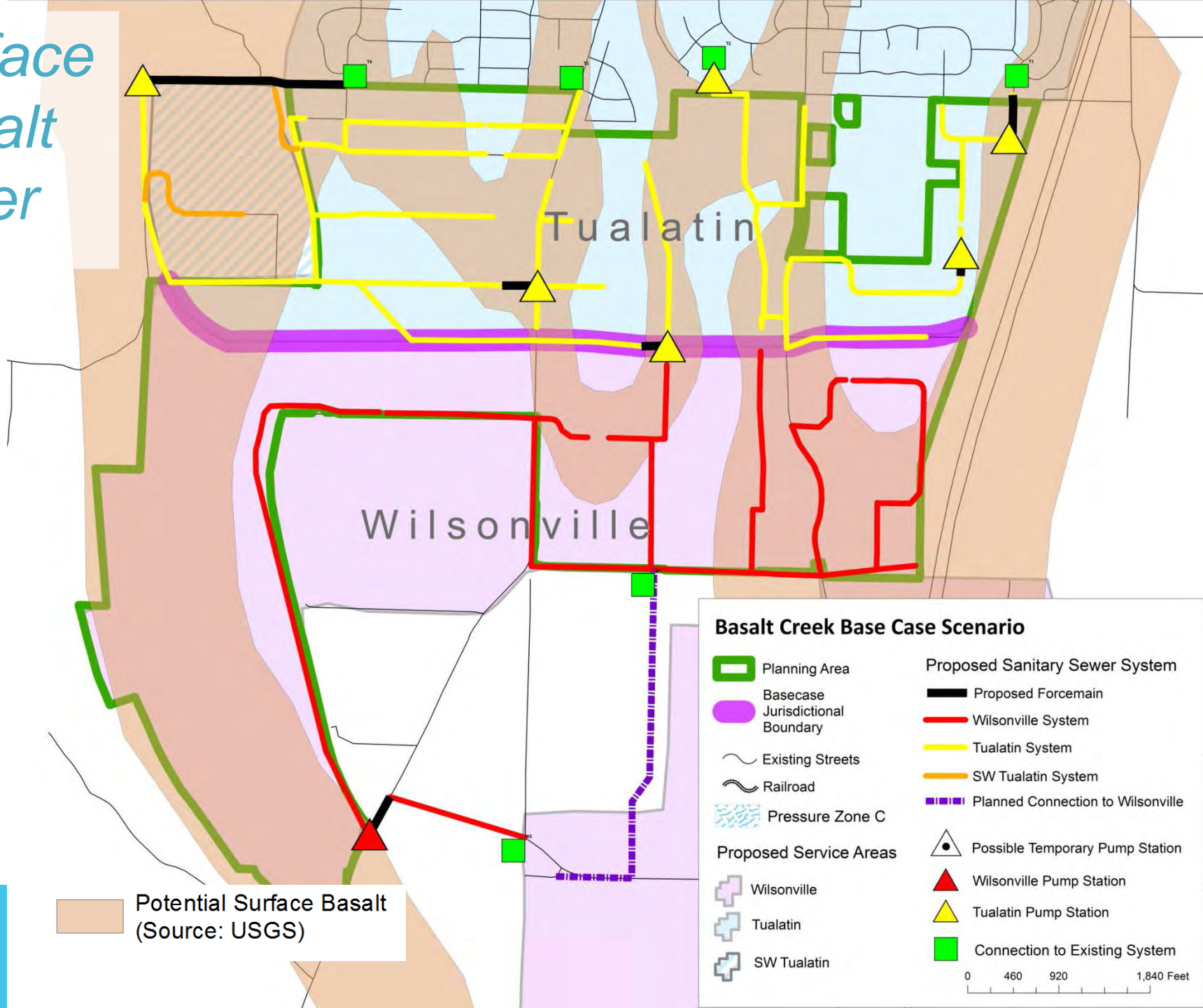
Shallow Basalt Rock:

- 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



Potential Surface Basalt
(Source: USGS)

Basalt Creek Base Case Scenario

- Planning Area
- Basecase Jurisdictional Boundary
- Existing Streets
- Railroad
- Pressure Zone C
- Proposed Service Areas
 - Wilsonville
 - Tualatin
 - SW Tualatin
- Proposed Sanitary Sewer System
 - Proposed Forcemain
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- Wilsonville Pump Station
- Tualatin Pump Station
- Connection to Existing System

0 460 920 1,840 Feet

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



DISCUSSION

Discussion Questions

- Feedback or questions on the Base Case Scenario?
- Input on changes in the Base Case to evaluate in the alternative scenarios?