Oregon
John A. Kitzhaber, M.D., Governor

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NOTICE OF ADOPTED CHANGE TO A COMPREHENSIVE PLAN OR LAND USE REGULATION

Date: 02/13/2015

Jurisdiction: City of Beaverton

Local file no.: CPA 14-0011, CPA 14-0012, TA 2014-0002

DLCD file no.: 007-14

The Department of Land Conservation and Development (DLCD) received the attached notice of adopted amendment to a comprehensive plan or land use regulation on 02/06/2015. A copy of the adopted amendment is available for review at the DLCD office in Salem and the local government office.

Notice of the proposed amendment was submitted to DLCD 48 days prior to the first evidentiary hearing.

Appeal Procedures

Eligibility to appeal this amendment is governed by ORS 197.612, ORS 197.620, and ORS 197.830. Under ORS 197.830(9), a notice of intent to appeal a land use decision to LUBA must be filed no later than 21 days after the date the decision sought to be reviewed became final. If you have questions about the date the decision became final, please contact the jurisdiction that adopted the amendment.

A notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR chapter 661, division 10).

If the amendment is not appealed, it will be deemed acknowledged as set forth in ORS 197.625(1)(a). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

DLCD Contact

If you have questions about this notice, please contact DLCD's Plan Amendment Specialist at 503-934-0017 or plan.amendments@state.or.us

DLCD FORM 2

NOTICE OF ADOPTED CHANGE TO A COMPREHENSIVE PLAN OR LAND USE REGULATION

FOR DLCD USE
File No.: 007-14 {22474}
Received: 2/6/2015

Local governments are required to send notice of an adopted change to a comprehensive plan or land use regulation **no more than 20 days after the adoption**. (*See* OAR 660-018-0040). The rules require that the notice include a completed copy of this form. **This notice form is not for submittal of a completed periodic review task or a plan amendment reviewed in the manner of periodic review.** Use Form 4 for an adopted urban growth boundary including over 50 acres by a city with a population greater than 2,500 within the UGB or an urban growth boundary amendment over 100 acres adopted by a metropolitan service district. Use Form 5 for an adopted urban reserve designation, or amendment to add over 50 acres, by a city with a population greater than 2,500 within the UGB. Use Form 6 with submittal of an adopted periodic review task.

Jurisdiction: City of Beaverton

Local file no.: **CPA 2014-0011 and CPA 2014-0012 (Ordinance No. 4651)**
TA2014-0002 (Ordinance No. 4652)
South Cooper Mountain Community Plan Amendments

Date of adoption: 02/03/2015 Date sent: 02/06/2015

Was Notice of a Proposed Change (Form 1) submitted to DLCD?
Yes: Date (use the date of last revision if a revised Form 1was submitted): 09/19/2014
No

Is the adopted change different from what was described in the Notice of Proposed Change? Yes No
If yes, describe how the adoption differs from the proposal: Yes

Minor modifications to the Community Plan text and maps with regard to the Bike and Pedestrian Framework, the final implementing Comprehensive Plan and Development Code modifications are included with this notice

Local contact (name and title): Leigh Crabtree, Associate Planner
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Street address: 12725 SW Millikan Way / PO BOX 4755 City: Beaverton, OR Zip: 97076-4755

PLEASE COMPLETE ALL OF THE FOLLOWING SECTIONS THAT APPLY

For a change to comprehensive plan text:
Identify the sections of the plan that were added or amended and which statewide planning goals those sections implement, if any:
Volume I, Sections: 3.2, 3.4.1.g, 3.9.b, 3.13.c3.14, 6.4 Bicycle Improvements, Figure 6.2a, Functional Classification Plan, Figure 6.4a, Figure 6.6a, Figure 6.20, 7.3, 7.3.17.3.4.1.a, 7.4, 7.4.1.d; **Volume III**, Local Wetland Inventory (to be adopted through separate process), Habitat Benefit Area Map; **Volume IV** (see Volume I, Chapter 6, above); **Volume V**, South Cooper Mountain Community Plan

For a change to a comprehensive plan map:
Identify the former and new map designations and the area affected:

Change from	Washington County	AF-20 (Ag & Forest, 80-acre min.)	~ 480 acres
		EFU (Exclusive Farm Use, 80-acre min.)	~ 64 acres
to	City of Beaverton	Standard Density Residential	~ 170 acres
		Medium Density Residential	~ 237 acres
		High Density Residential	~ 109 acres
		Main Street	~ 9 acres

Location of affected property (T, R, Sec., TL and address): Twenty-one properties north of Scholls Ferry Road, south of Horse Tale Drive, between Loon Drive and Tile Flat Road, Maps 1S131, 2S106, 2S201

The subject property is entirely within an urban growth boundary Yes, Portland Metro

The subject property is partially within an urban growth boundary

If the comprehensive plan map change is a UGB amendment including less than 50 acres and/or by a city with a population less than 2,500 in the urban area, indicate the number of acres of the former rural plan designation, by type, included in the boundary.

Exclusive Farm Use – Acres:	Non-resource – Acres:
Forest – Acres:	Marginal Lands – Acres:
Rural Residential – Acres:	Natural Resource/Coastal/Open Space – Acres:
Rural Commercial or Industrial – Acres:	Other: – Acres:

If the comprehensive plan map change is an urban reserve amendment including less than 50 acres, or establishment or amendment of an urban reserve by a city with a population less than 2,500 in the urban area, indicate the number of acres, by plan designation, included in the boundary.

Exclusive Farm Use – Acres:	Non-resource – Acres:
Forest – Acres:	Marginal Lands – Acres:
Rural Residential – Acres:	Natural Resource/Coastal/Open Space – Acres:
Rural Commercial or Industrial – Acres:	Other: – Acres:

For a change to the text of an ordinance or code:

Identify the sections of the ordinance or code that were added or amended by title and number:
Development Code: Chapter 20, Land Use, Sections 20.05.15, 20.25.05.C; Chapter 40, Applications, Sections 40.15.15.4.C, 40.45.15.4.C, 40.45.15.5.C, 40.93.15.1.C, 40.97.15.4.C; Chapter 60, Special Requirements, Sections 60.05.25.9.E, 60.12.35.1.B.1.b, 60.55.25.9.A.6; Chapter 90, Definitions, Net Acreage (Acreage, Net), Compact Detached Housing, Habitat Benefit Area, Significant Natural Resource Area, View Corridor.

For a change to a zoning map:

Identify the former and new base zone designations and the area affected:

Change from	to	Acres:
Change from	to	Acres:
Change from	to	Acres:
Change from	to	Acres:

Identify additions to or removal from an overlay zone designation and the area affected:

Overlay zone designation:	Acres added:	Acres removed:

Location of affected property (T, R, Sec., TL and address):

List affected state or federal agencies, local governments and special districts: Metro, Washington County, City of Tigard, Clean Water Services, Tualatin Valley Water District, Beaverton Water District, Tualatin Hills Park and Recreation District, Oregon Department of State Lands, US Army Corps of Engineers, Oregon Department of Environmental Quality, Oregon Department of Transportation, Beaverton School District, Hillsboro School District.

Identify supplemental information that is included because it may be useful to inform DLCD or members of the public of the effect of the actual change that has been submitted with this Notice of Adopted Change, if any. If the submittal, including supplementary materials, exceeds 100 pages, include a summary of the amendment briefly describing its purpose and requirements.

South Cooper Mountain Concept Plan - concurrent acknowledgement of the concept plan for 2,300-acres, including the 544-acres within the South Cooper Mountain Community Plan area, by the Washington County Board of Commissioners through Resolution & Order No. 15-4 and by the Beaverton City Council through Resolution No. 4290.

ORDINANCE NO. 4651

AN ORDINANCE AMENDING ORDINANCE NO. 4187, THE COMPREHENSIVE PLAN, CPA 2014-0011, SOUTH COOPER MOUNTAIN COMMUNITY PLAN COMPREHENSIVE PLAN TEXT AMENDMENT, AND CPA 2014-0012, SOUTH COOPER MOUNTAIN COMMUNITY PLAN COMPREHENSIVE PLAN LAND USE MAP AMENDMENT

WHEREAS, Metro Ordinance No. 11-1264B identified that the City of Beaverton shall adopt comprehensive plan and land use regulations for the approximately 544-acre Area 3 (also known as the South Cooper Mountain Annexation Area or South Cooper Mountain Community Plan area) to authorize urbanization pursuant to Section 3.07.1120 of Metro's Urban Growth Management Functional Plan; and

WHEREAS, the City of Beaverton has developed the South Cooper Mountain Community Plan for the South Cooper Mountain Annexation Area, pursuant to Intergovernmental Agreements between Metro, Washington County, and the City of Beaverton; and

WHEREAS, the South Cooper Mountain Community Plan was developed through the active participation of a Community Advisory Committee (CAC) consisting of 21 community members and property owners and a Technical Advisory Committee (TAC) of subject experts and area special service providers; and

WHEREAS, the City conducted substantial community outreach and provided exceptional opportunity for community participation in the development of the South Cooper Mountain Community Plan; and

WHEREAS, the Beaverton City Council adopted Resolution No. 4232 on April 8, 2014, affirming the CAC and TAC recommended Preferred Concept Plan Scenario for South Cooper Mountain and directed staff to proceed with development of a more detailed community plan for the South Cooper Mountain Annexation Area; and

WHEREAS, the South Cooper Mountain Community Plan provides regulatory policies and maps, along with descriptions and illustrations of the context for those policies and maps; and

WHEREAS, the South Cooper Mountain Community Plan contains regulations for inclusion in the Comprehensive Plan and Development Code by which new development of land will be reviewed within the South Cooper Mountain Annexation Area; and

WHEREAS, the South Cooper Mountain Community Plan is consistent with Section 3.07.1120 of Metro's Urban Growth Management Functional Plan, Title 11 Planning for New Urban Areas; and

WHEREAS, the Planning Commission received and considered the submitted staff reports, memoranda, exhibits, and public testimony on the South Cooper Mountain Community Plan, inclusive of the amendments to the Comprehensive Plan text and land use map; and

WHEREAS, the Beaverton Planning Commission conducted public hearings on November 5, 2014, December 3, 2014, and December 10, 2014, at which time the Commission considered all testimony both written and oral; and

WHEREAS, the Beaverton Planning Commission, at the conclusion of its hearing on December 10, 2014, voted to recommend adoption of the South Cooper Mountain Community Plan, inclusive of the amendments proposed through CPA 2014-0011 and CPA 2014-0012, by the City Council; and

WHEREAS, the City Council has considered the entire Planning Commission record and the Commission's recommendation; now, therefore,

THE CITY OF BEAVERTON ORDAINS AS FOLLOWS:

Section 1. The Council adopts, as to criteria applicable to this request and findings thereon, the facts and findings contained in the staff reports dated October 29, 2014, and November 26, 2014, as amended, staff memoranda dated November 5, 2014, and December 2, 3, 9, and 10, 2014, the Planning Commission Land Use Order No. 2383, and Planning Commission Land Use Order No. 2384.

Section 2. Ordinance No. 4187, the Comprehensive Plan, is amended to read as set out in Exhibit "A" to this Ordinance, attached to and incorporated herein by this reference.

Section 3. Ordinance No. 4187, the Land Use Map, is amended as depicted in Exhibit "B" to this Ordinance, attached to and incorporated herein by this reference.

First reading this 13th day of January, 2015.

Second reading and passage this 3rd day of February, 2015.

Approved by the Mayor this 4th day of February, 2015.

ATTEST:

CATHY JANSEN, City Recorder

APPROVED:

DENNY DOYLE, Mayor

by Randy Ealy, Mayor Pro Tem

ORDINANCE EXHIBIT **A**

CPA 2014-0011
CPA 2014-0012

Comprehensive Plan Amendments

Volume I:

- Chapter 3: Land Use Element

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>

LAND USES

3.1 OVERVIEW

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3.2 PLANNING CONTEXT

Within the Portland Metropolitan Area, local governments must comply with both state and regional land use laws. Consistency with the Statewide Planning Goals (referenced in Appendix A), Transportation Planning Rule and other Oregon Administrative Rules (OAR) and Oregon Revised Statutes (ORS) is required. Metro, the elected regional government serving the tri-county area, has adopted a number of planning documents for guiding the region's future growth. In 1995 Metro adopted a future vision titled "Regional Urban Growth Goals and Objectives" and a map titled "2040 Growth Concept". Compiling data from within the region and using the context of the future vision and the map, Metro formulated the Regional Framework Plan (Framework Plan). The Framework Plan highlights programs and provides the basic concepts adopted as directives in the Urban Growth Management Functional Plan (Functional Plan). The city must comply or substantially comply with the directives found within the Functional Plan or justify an exception to the directives. The 2040 Growth Concept provided a general approach to approximately where and how much the urban growth boundary should expand, the mix of uses and range of densities to accommodate projected growth within the boundary.

Specifically, section 3.07.130 of the Functional Plan requires the following:

> *"For each of the following 2040 Growth Concept design types, city and county comprehensive plans shall be amended to include the boundaries of each area, determined by the city or county consistent with the general locations shown on the 2040 Growth Concept Map:*
>
> *Regional Centers – Nine regional centers will become the focus of compact development, redevelopment and high-quality transit service and multimodal street networks.*
>
> *Station Communities – Nodes of development centered approximately one-half mile around a light rail or high capacity transit station that feature a high-quality pedestrian environment.*
>
> *Town Centers – Local retail and services will be provided in town centers with compact development and transit service.*
>
> *Main Streets – Neighborhoods will be served by main streets with retail and service developments served by transit.*

Corridors – Along good quality transit lines, corridors feature a high-quality pedestrian environment, convenient access to transit, and somewhat higher than current densities.

Employment Areas – Various types of employment and some residential development are encouraged in employment areas with limited commercial uses.

Inner Neighborhood – Residential areas accessible to jobs and neighborhood businesses with smaller lot sizes are inner neighborhoods."

Beaverton's Downtown is designated a Regional Center on the 2040 Growth Concept Map. A portion of southeast Beaverton, adjacent to Highway 217, is part of the Washington Square Regional Center. Generally, the zoning districts allowed within the Beaverton Regional Center Comprehensive Plan designation include Regional Center – East, Regional Center – Old Town, and Regional Center – Transit Oriented. Other zoning districts consistent with the City's goals within the Washington Square Regional Center will be developed. The developments known as Koll Business Center, Marathon Industrial Park and Nimbus Industrial Park are located within the Washington Square Regional Center. Generally, densities in the Regional Center are intended to meet Metro's target of 60 persons per acre.

Station Communities in Beaverton include Beaverton Transit, Beaverton Central, South Tektronix, Beaverton Creek and Merlo. The Sunset and 170th/Elmonica Station Communities are located within Beaverton's urban service area, as is the eastern portion of the Willow Creek Station Community. Beaverton's zoning districts focus on the immediate station, within ½ mile, and the outer perimeter, ½ to 1 mile. These zoning district categories are labeled Station Community and Station Area, respectively. The Development Code specifies two Station Community zoning districts: Station Community – High Density Residential and Station Community – Multiple Use. Two Station Area zoning districts are identified as follows: Station Area – Medium Density Residential and Station Area – Multiple Use. Metro's target density is 45 persons per acre for the Station Community design type.

Beaverton has one Town Center, located in the vicinity of the intersection of Scholls Ferry Road and Murray Boulevard. The Bethany, Raleigh Hills, and Cedar Hills/Cedar Mill town centers are within Beaverton's urban service area. Additionally, the Sunset Transit Center is also designated as a town center. (Many of the design type boundaries overlap on the Growth Concept Map, especially in areas adjacent to light rail stations.) City Town Center zoning districts include Town Center – Multiple Use, Town Center – High Density Residential, and Town Center – Medium Density Residential. The Neighborhood Residential Medium Density (R-4) zoning district is also allowed within the Murray/Scholls Town Center. Densities are intended to reach the Metro target of 40 persons per acre.

Metro designated Main Streets on the 2040 Growth Concept Map including the following areas within Beaverton:

Murray Boulevard intersection with Allen Boulevard, and

Hall Boulevard intersection with Allen Boulevard.

An additional planned Main Street has been identified through planning efforts in the South Cooper Mountain Community Plan area, an area added to the Urban Growth Boundary and annexed to Beaverton after publication of the original 2040 Growth Concept Map. The planned Main Street will be along a future collector road on the north side of that road's intersection with Scholls Ferry Road, between 175th Avenue and Tile Flat Road.

Metro also designates Main Streets in the following areas that include both incorporated city areas and unincorporated county areas:

Farmington Road from the Regional Center westerly to the city limits,
Allen Boulevard intersection with Scholls Ferry Road, and
Cornell Road.

Main Streets allow a mix of commercial and medium to high density residential zoning districts. Main Streets within the City and its environs are currently developed or planned to develop primarily as commercial centers with some moderate and high density residential interspersed. Densities within this land use designation are intended to reach the target of 39 persons per acre as the areas redevelop. Although Metro designates Farmington Road as a Main Street, the City applied the Corridor designation due to the character of development adjacent to Farmington Road within the city limits.

Corridors in Beaverton include Walker Road, Cedar Hills Boulevard, Murray Boulevard, Hall Boulevard, Allen Boulevard, Farmington Road, Canyon Road, Scholls Ferry Road, Beaverton-Hillsdale Highway and Tualatin Valley Highway. Corridor development differs from Main Street development with respect to density and mix of uses. In the long term, Main Streets are intended to provide for an integrated mix of residential and employment opportunities. Whereas, Corridors provide nodes of residential and employment that may be integrated, but more likely reside side by side. The Metro density target for the Corridor design type is 25 persons per acre.

Employment Areas within Beaverton generally include the following areas commonly known as the Twin Oaks Industrial Park and Cornell Oaks Corporate Center. These areas are generally within Beaverton's Industrial zoning districts. The majority of Woodside Corporate Park is within the City's urban service boundary and Science Park in Cedar Mill is in the City's urban service area. Target densities within this design type are 20 persons per acre.

Industrial Areas are generally developed with low density industrial development. Designated Industrial Areas in Beaverton include the developments known as Southern Pacific Industrial Park, Allen Business Park, and Bevest Industrial Park. Generally, the block shown on the Comprehensive Plan Land Use Map as Industrial Areas are designated with Beaverton industrial zoning districts. No new commercial zoning will be allowed in these areas.

Generally, all other areas within the city are designated Inner Neighborhood on the Metro 2040 Growth Concept Map. Areas designated on the Comprehensive Plan Land Use Map as Neighborhood Residential generally comply with the Metro Inner Neighborhood Design Type, providing densities of 14 persons per acre. Within the Neighborhood Residential land use designation, four densities are allowed as follows: Low Density, Standard Density, Medium Density and High Density. In addition, commercial development within the Medium and High Density Neighborhood Residential designations will not, generally, be permitted. Existing capacity for residential development within these land use designations is needed to help meet the Metro growth targets. Development of another nature would lessen the City's compliance with these targets, consequently; conversions of Medium and High Density Neighborhood Residential land to other uses will be limited. Where conversions are desired, it must be demonstrated that the "substantial compliance" with the Metro housing capacity targets can be met with the remaining available land as allocated.

Figure III-1, Comprehensive Plan Land Use Map, appropriately designates land uses in compliance with the Statewide Planning Goals and Metro Functional Plan Title 1 requirements to define boundaries of Metro Design Types.
The Comprehensive Plan text is a policy document guiding land use within the City of Beaverton. As such, a hierarchy of policy language is provided in the following manner:

Goals	are brief guiding statements, which describe a desired result.
Policies	are statements of the City's general approach to meeting a goal.
Actions	direct specific City activities or events, consistent with goals and policies.
Text Boxes	provide references to source materials used when developing the goal, policy or action statement. Text boxes can also clarify the intent of a policy, but are not intended to serve as the policy direction itself. Text boxes appear with the typeface shown in this sentence.

3.3 COMMUNITY PLAN CONTEXT

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3.4 COMMUNITY IDENTITY

Beaverton's eleven general City planning goals are found in the introduction to the Comprehensive Plan. Each Element of the Comprehensive Plan refines those goals, and creates new goals, within the context of state and regional mandates and the topic of that particular element.

The first general goal states "Retain Beaverton as an outstanding City." An outstanding City is a place of quality for people to live and work. Fundamental to the achievement of this goal is the appearance of the community. There is no doubt that the community will continue to grow and

change as new people, businesses, and industries establish themselves in the area. A deliberate and continuous effort will be necessary to see that the multitude of decisions made in the process of growth collectively constitute progress toward an attractive, livable community.

3.4.1 Goal: Provide a policy framework for a community designed to establish a positive identity while enhancing livability.

Policies:

a) The City, through its development review process, shall apply urban design standards to guide public and private investment toward creating a positive community identity.

Action 1: *Adopt and apply land use regulations for landscaping, screening and buffering standards for interfaces between differing zones to reduce impacts of lighting and noises to retain a degree of privacy.*

Action 2: *Adopt and apply land use regulations respecting the natural and physical features of the landscape, including but not limited to, natural areas, site design for hillside areas, flood hazards, earthquake hazards and other environmental constraints.*

Action 3: *Adopt and apply land use regulations promoting development in ways that promote healthy watersheds and natural resources, use a natural system approach to development, and avoid impacting natural resources. A natural system approach includes sustainable stormwater management using habitat friendly development practices and low impact development techniques.*

Action 4: *Adopt and apply land use regulations allowing and encouraging techniques to reduce impacts to natural resources, known as Habitat Friendly Development and Low Impact Development.*

b) The City's urban design standards shall promote creation of public spaces and a good pedestrian environment.

c) Existing overhead utilities shall be placed underground in all parts of the community in conjunction with development.

d) Sign regulations shall limit the size, location, and number of signs throughout the City. Non-conforming signs shall be removed at the time of a change in use. Off-site advertising signs shall be prohibited in all districts of the City.

Action 1: *To ensure fairness, the City shall apply the sign amortization program to annexed properties that had their signs approved by Washington County.*

e) The City shall preserve significant natural resources identified on the City's Statewide Planning Goal 5 Inventories, Volume III of this Plan, through application of regulations requiring the careful siting of development.

***Action 1**: Adopt mapping showing habitat benefit areas. Habitat benefit areas, Clean Water Services' vegetated corridors and Beaverton identified Goal 5 Inventory areas frequently mutually support and are coincidental to one another.*

***Action 2:** Adopt and apply land use regulations that allow and encourage habitat friendly development practices that reduce impacts to habitat benefit areas, including preservation of the habitat benefit areas.*

***Action 3:** Develop a program to monitor reductions in density to allow for preservation and improvement of habitat benefit areas so that the reduction in density may be reported to Metro.*

***Action 4:** Promote habitat friendly development practices and low impact development techniques through the pre-application conference with development applicants.*

f) Historic buildings, structures, and sites shall be identified on the City's Statewide Planning Goal 5 Inventories, Volume III of this Plan. These resources shall be protected to the extent practicable to preserve community identity and retain important links with the past.

g) Significant ~~S~~scenic views and sites, as described in Section 7.4 of this plan, shall be identified on the City's Statewide Planning Goal 5 Inventories, Volume III of this Plan, and protected to the extent practicable. Other scenic views and sites that are not locally significant should be preserved for public enjoyment through voluntary, incentive-based measures to the extent practicable.

h) Private, semi-public, and public uses such as churches, non-commercial schools and parks that contribute to the livability of Beaverton shall be permitted or conditionally allowed in most City zoning districts.

i) Subsequent to their development in another zoning district, quasi-public and public uses should be converted to the Public/Quasi-Public zoning district on a regular basis through a City-initiated process. This will assist the general public in being aware of the location of such developments in their community and respond to the community's investment in public resources. Modifying only the zoning district and not the land use designation provides for future redevelopment opportunities through the zoning process.

j) Ensure public and private facilities, especially essential public facilities, are available and provided at the time of development to reduce initial and long-range costs to City businesses and residents.

Action 1: *On and off-site improvements should add to the character and quality of the area as a place for people to live and work. This includes such measures as utility undergrounding and basic pedestrian improvements such as street trees and sidewalks. Street trees are central to creating neighborhood community; therefore, land use regulations shall be adopted requiring street trees or a fee-in-lieu.*

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3.9 MAIN STREET DEVELOPMENT

The Main Street land use designation is a mixed use designation. Each mixed use designation must comply with the policies and actions set forth in Section 3.5 as well as those promulgated for the individual designation. Main Streets are intended to develop as cohesive communities with design features promoting an urban scale and pedestrian environment.

3.9.1 Goal: Main Street Areas with a vibrant mix of neighborhood commercial and residential uses in a pedestrian friendly environment that includes wide sidewalks with pedestrian amenities.

Policies:

a) Regulate new development along designated Main Streets to promote transit– supportive development that is relatively dense, mixed in use, and designed for the safety, interest, and convenience of pedestrians.

Action 1: *Adopt and apply land use regulations allowing increased building heights along main streets to promote an urban scale.*

Main Street regulations should require ground floor windows for commercial development to promote urban character and pedestrian - orientation, according to the Metro 2040 Land Use Code Workbook: A Guide for Updating Local Land Use Codes. The Corvallis Mixed use Residential and Mixed use Commercial districts require 60% glazing. Gresham and Portland require 50%.

Glazing provides security through "eyes on the street" and provides an interesting environment for pedestrians.

Action 2: *Adopt and apply land use regulations requiring design of ground floor facades to support pedestrian uses. Examples of supportive ground floor design include, but are not limited to,*

- *at least 50 % glazing or window displays along the ground floor building frontages facing the main street,*
- *building entrances facing the main*

The recommended minimum residential density for Main Street development is 15 units per acre according to the Metro 2040 Land Use Code Workbook: A Guide for Updating Local Land Use Codes. Similarly, the Metro Guide recommends minimum commercial floor area ratios of 0.40:1 up to 0.60:1. In areas where lease rates are low, there may be a need to allow shadow plans that demonstrate compliance through future site intensification. Office Commercial zoning, within Main Streets, should provide for 1 to 4 story buildings supplying professional services to the community.

street,

- *retail or small office space on the ground floor inviting activity, and*
- *awnings sheltering the sidewalk area facing the main street.*

Action 3: *Adopt and apply land use regulations generally requiring street trees planted so that the canopy provides continuous sidewalk coverage at full growth.*

Action 4: *Adopt and apply minimum densities and floor area ratios in designated Main Street areas.*

Action 5: *Adopt and apply modified landscape standards that allow a reduction in the amount of landscaping required for non-residential and mixed use development within Main Streets in exchange for pedestrian amenities.*

According to the Metro 2040 Land Use Code Workbook: A Guide for Updating Local Land Use Codes, the extent of landscaping needed in mixed use areas will depend on the type of development proposed. More landscaping may be needed to ensure privacy for residential uses, while less landscaping may be desirable for commercial visibility.

Action 6:*Allow limited commercial within residential projects where it can be appropriately integrated.*

Hoffice development typically provides an integrated office and housing unit, which is typically attached vertically or horizontally to the office with internal access.

b) Apply the Main Street land use designation to the areas identified in the Metro 2040 Urban Growth Concept Map and those identified through subsequent community plans.

Action 1: *Designate the following roads, and appropriate properties along the roads, as Main Streets:*

- *the intersection of Murray and Allen Boulevards,*
- *the intersection of Allen and Hall Boulevards, and*
- *the intersection of Allen Boulevard and Scholls Ferry Road.*
- *the intersection of the North-South collector road (between 175th Avenue and Tile Flat Road) and Scholls Ferry Road (within the limits of the City of Beaverton) in the South Cooper Mountain Community Plan area.*

c) Apply zoning districts as shown in subsection 3.14 Comprehensive Plan and Zoning District Matrix.

Action 1: *Adopt land use regulations in the Development Code providing criteria for rezones in Main Street Areas pursuant to subsection 3.14 Comprehensive Plan and*

Within the Main Street land use designation, commercial zoning is intended to provide for the shopping and service needs of the immediate neighborhood and should be readily accessible by foot, bicycle, and automobile. Two types of commercial activity are expected, individual stores, generally not exceeding 10,000 square feet in gross floor area and centers where any individual business should not exceed 15,000 square feet, with the exception of food markets. Residential zoning, within the Main Street land use designation, is intended to provide for single family attached and detached and multi-family developments. Generally, housing density will range from 8 to 43 units per acre. Where possible, residential and commercial uses should be part of an integrated mixed use development.

Zoning District Matrix. Recommended criteria include, but are not limited to, minimum and maximum zoning district sizes, floor area ratios, housing densities, distances to other similar zoning classifications, uses, and schools.

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3.13 RESIDENTIAL NEIGHBORHOOD DEVELOPMENT

3.13.1 Goal: Provide for the establishment and maintenance of safe, convenient, attractive and healthful places to live.

Policies:

a) Regulate residential development to provide for diverse housing needs by creating opportunities for single and multi-family development of various sizes, types and configurations.

Action 1: *Adopt and apply land use regulations requiring buffering of properties designated Neighborhood Residential (Standard and Low Density) from commercial and higher density residential uses to mitigate the impacts of such development on adjacent lower density residential development.*

Recommended land use regulations include:
- stepping the heights of buildings down to 35 feet within 100 feet of existing single family residences,
- developing a screening and buffering matrix providing required plant landscaping and screening structures, and
- increasing setbacks when adjacent to residential zones.

b) Encourage a variety of housing types in residential areas, by permitting or conditionally permitting any housing type (one, two or more, family dwellings) within any zoning district so long as the underlying residential density of the zoning district is met. Accessory dwelling units shall not be considered in the calculation of the underlying housing density.

Action 1: *Adopt and apply land use regulations permitting mobile homes in mobile home parks or on individual lots within mobile home subdivision and requiring conformity to the density regulations of the underlying land use designation.*

c) Require Planned Unit Development application procedures for projects proposing two or more ~~families~~ attached dwelling units within the Low Density and Standard Density land use designations. Planned Unit Developments encourage flexibility in standards and provide a mechanism for staff to make adequate findings with respect to compatibility in size, scale, and dimension. Exceptions to this requirement are dwellings designed as primary units with an accessory dwelling unit, as specified in the Development Code.

Action 1: *Adopt and apply regulations ensuring that home occupations are limited in scale within the Low Density and Standard Density Residential Neighborhood land use designations to businesses that do not display outward manifestations of a business. This*

includes limiting the number of customers visiting the site, signage, and number of employees.

d) Apply Residential Neighborhood designations (Low Density, Standard Density, Medium Density and High Density) consistent with the Metro 2040 Growth Concept Map and the City's housing target implementing strategy.

Residential Neighborhood Designations	Net Square Feet per Dwelling Unit
Low Density	10,000 – 12,500
Standard Density	5,000 – 8,750
Medium Density	2,000 – 4,999
High Density	1,000 – 1,250

e) Apply zoning districts as shown in subsection 3.14 Comprehensive Plan and Zoning District Matrix.

f) New Commercial zoning districts are not allowed within Residential Neighborhood Standard and Low Density land use designations. Existing properties with commercial zoning as shown on Figures III-2 through III-5 and listed by tax lot on said maps shall be allowed to continue in perpetuity. Expansion of the district is not allowed, but any use permitted within said district will be allowed subject to City approval through the procedures specified in the Development Code.

g) Enhance the City's landscape through design measures considering the natural setting of the land and the character of existing residential neighborhoods.

Action 1: *Adopt and apply land use regulations requiring residential development to provide public, semi-public, and/or private open space.*

h) Foster innovation and variety in design to enhance the visual character of the City's landscape. Innovation in design can include designing infill structures to integrate into existing neighborhoods through compatible scale, similar design features, and similar setbacks.

Action 1: *Adopt and apply land use regulations that provide flexibility in the Development Code to encourage creative infill and redevelopment solutions where the strict application of typical development standards will not meet the intent of efficient use of the land and preserve existing neighborhoods.*

Action 2: *Adopt and apply land use regulations to provide design standards for infill and redevelopment within existing neighborhoods.*

i) Residential development, in compliance with regional mandates, shall achieve at least 80% of the maximum density allowed in the respective zoning districts as applied through 3.14 Comprehensive Plan and Zoning District Matrix.

For the purposes of density calculation, dwelling unit is defined as the primary dwelling unit. Accessory dwelling units are allowed anywhere a single-family dwelling is permitted. Accessory dwelling units are considered subordinate and accessory to the primary dwelling and are not counted in the density calculation above.

Persons per acre may be calculated using the 1990 US Census Bureau ratio of 2.5 persons per household for Oregon. Generally, Low Density yields approximately 7 to 10 people per acre, Standard Density returns approximately 12 to 20 persons per acre, Medium Density results in a range of 20 to 52 persons per acre and High Density may yield 84 to 107 persons per acre.

LOW DENSITY RESIDENTIAL DEVELOPMENT:

3.13.2 Goal: Retain established large lot zoning in limited areas.

Policies:

a) Due to regional planning efforts to maintain minimal expansion of the regional Urban Growth Boundary, opportunities to increase land designated low density residential shall be limited.

b) Existing pockets of low density residential may continue, but expansion of low density residential areas shall not occur.

Regional inner neighborhood residential densities are 14 persons per acre. At maximum development, low density residential development, as specified herein, nets 10 persons per acre. In April 2000, 200 parcels were designated low density residential totaling approximately 89 acres. Overall, this area yields 356 persons fewer than envisioned by the regional model. To limit the City's deficit in its regional share of population, expansion of the low density residential areas must be prohibited.

STANDARD DENSITY RESIDENTIAL DEVELOPMENT:

3.13.3 Goal: Establish Standard Density Residential areas to provide moderate sized lots for typical single family residences with private open space.

Policies:

a) Apply zoning districts as shown in subsection 3.14 Comprehensive Plan and Zoning District Matrix to allow a variety of housing choices.

Action 1: *In recognition of the urban/suburban character of Beaverton, the City shall eliminate the Residential Agriculture zoning district and apply appropriate zoning consistent with the Comprehensive Plan and Zoning District Matrix (3.14).*

MEDIUM DENSITY RESIDENTIAL DEVELOPMENT:

3.13.4 Goal: Establish Medium Density Residential areas to allow for single family attached and detached, and multiple-family developments.

Policies:

a) Apply zoning districts as shown in subsection 3.14 Comprehensive Plan and Zoning District Matrix

b) Medium Density Residential zoning is located generally in areas with good access to arterial streets, good transit service, commercial service, and public open space, or should be designed in a coordinated manner to provide such amenities in the immediate vicinity.

HIGH DENSITY RESIDENTIAL DEVELOPMENT:

3.13.5 Goal: Establish High Density Residential areas to allow for a variety of housing types.

Policies:

a) Apply zoning districts as shown in subsection 3.14 Comprehensive Plan and Zoning District Matrix in areas with good access to arterial streets, transit service, commercial service, and public open space.

3.14 COMPREHENSIVE PLAN AND ZONING DISTRICT MATRIX

The City's Comprehensive Plan provides the overall planning perspective for the City. Integrating state and regional mandates, the plan provides land use patterns that are further implemented through zoning. The following Matrix prescribes the relationship between the Comprehensive Plan land use designations and zoning districts. Compliance with the Comprehensive Plan is achieved through development application approval consistent with the regulations of the Development Code.

COMPREHENSIVE PLAN AND ZONING DISTRICT MATRIX

Comprehensive Plan Designation	Zoning District
Downtown Regional Center	RC-E, RC-OT, RC-TO
Washington Square Regional Center	C-WS, OI-WS
Station Community	SC-HDR, SC-MU, SC-E1, SC-E3, SC-S[1]
Town Center	TC-HDR, TC-MU
Main Street[4]	Neighborhood Service, R-1, R-2
Corridor	General Commercial, Community Service, Neighborhood Service, R1, R2, R4, Corridor Commercial
Employment Areas	Office Industrial
Industrial	Industrial, Office Industrial
Neighborhood Residential[4] (equivalent to Metro's Inner and Outer Neighborhood Design Types)	
Low Density	R10[2]
Standard Density	R7, R5[3]
Medium Density	R4, R2
High Density	R1
Any of the plan designations cited above	Institutional

1. Limited to parcels formerly identified with Washington County Plan designations TO40-80, TO80-120, and TO:BUS within approximately ½ mile of the Sunset Transit Light Rail Station.
2. Existing pockets of low density residential may continue, but expansion of low density neighborhood residential areas shall not occur.
3. Existing properties with commercial zoning as shown on Figures III-2 through III-5 and listed by tax lot on said maps shall be allowed to continue in perpetuity. Expansion of the district is not allowed, but any use permitted within said district will be allowed subject to City approval through the procedures specified by the Development Code.
4. For the South Cooper Mountain Community Plan area, refer to 'Table 1: Comprehensive Plan and Zoning District Matrix' and 'Table 2: Land Use Designations and Capacity Estimates' within the South Cooper Mountain Community Plan for area specific zoning implementation requirements.

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ORDINANCE EXHIBIT **A**

Comprehensive Plan Amendments

Volume I:

- Chapter 6: Transportation Element

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>

TRANSPORTATION ELEMENT

6.1 BACKGROUND

Like many communities across the nation, Beaverton's development pattern evolved as a result of several economic and geographic circumstances that established the transportation framework of the City. The historic presence of a large beaver marsh in what is now central Beaverton, the advent of the railroad, and the community's early history as a commercial center of farming and logging activities all influenced its early settlement. The City's location within the Tualatin Valley and its proximity to Willamette River commerce in Portland destined Beaverton to become a regional transportation hub.

As the City grew, so did the demand for roads. The road systems of the various subareas reflect the transportation philosophies and attitudes during the times they were built. The central downtown area was the first to be officially platted and is characterized by the traditional grid pattern of streets. After the original traditional grid was established, subsequent street creation and extension patterns varied greatly as incremental development demanded. East Beaverton residential areas, such as Royal Woodlands, developed with a series of long local streets. In contrast, south Beaverton developed at a time when residents wanted to be protected from through traffic. The result was a maze of short, circuitous, dead-end streets that fulfilled this goal but overburdened the few connecting local streets and adjacent collector and arterial streets with high residential traffic volumes. The road system west of Murray Boulevard was initially designed to serve farming needs. It has proven to be inadequate in accommodating the travel needs of more recent residential development.

Over the years, the City has undertaken a number of efforts to evaluate and improve its transportation system. In 1976, Comprehensive Plan amendments were adopted that eliminated many proposed major streets in favor of protecting neighborhoods from increased traffic congestion. Beginning in 1978, the Beaverton Urban Renewal Agency undertook a number of improvements to the street circulation system of central Beaverton. In 1979 through 1983, the City participated with the region in planning for a future light rail transit system linking downtown Portland with eastern Washington County. The City updated its transit element and made other changes to the downtown plan, which included the provision for a new transit center in central Beaverton. In 1988, Plan amendments were adopted to update the bikeway and pedestrian elements, and to provide for a functional classification of streets.

Beaverton and the Portland region grew significantly in the early 1990s. Legislative changes also occurred. In May 1991, the State adopted the Transportation Planning Rule (Oregon Administrative Rules Section 660 Division 12), which implements Oregon's Statewide Planning Goal 12 (Oregon Administrative Rules Section 660 Division 15) and mandates transportation system planning for Oregon cities, counties, and regions. The Oregon Department of Transportation responded by adopting the Oregon Transportation Plan (1992). Metro responded to state and federal mandates by developing its 2040 Land Use Concept (1995) and adopting its Urban Growth Management Functional Plan (1996), Regional Framework Plan (1997), 2020 and 2035 Regional Transportation Plan (2000 and 2010 respectively).

Beaverton complied with these mandates by adopting an updated Transportation Element (1999), which is based on the 1997 Transportation System Plan (1999) that accommodates the growth projected to occur by forecast year 2015. In 2001, the City updated its Transportation System Plan to forecast year 2020 to be consistent with State and Metro plans as required. Then starting in 2008, the City began updating its Plan to forecast year 2035 to be consistent with Metro's new forecast year.

This Transportation Element is based on the 2035 Transportation System Plan Update and changes and corrections that were subsequently adopted in the document. The 2035 Transportation System Plan Update is included in Comprehensive Plan, Volume IV. The updated goals, policies, and actions that helped shape the alternatives analysis are included in section 6.2. The analysis and discussion of 2035 system needs are summarized and the system improvements are listed and/or mapped in section 6.3. Section 6.4 summarizes the projected revenues and estimates the cost of the transportation plan. Policies, actions, maps, and projects specific to the South Cooper Mountain Community Plan area were added to this Transportation Element as part of the planning process for that area.

6.2 TRANSPORTATION GOALS AND POLICIES

There are eight transportation goals with related policies organized under each goal. The goals and policies are not prioritized, and reflect the City of Beaverton's citywide goals.

The goals are brief guiding statements that describe a desired result. The policies describe the actions needed to move the community toward the goal. Below many of the policies, italic text provides details of the implementing actions and clarifies the intent of the policy. The transportation goals and policies are implemented by these actions, by the improvement projects included in the master plans for each transportation mode, and by the Development Code. Construction standards for improvements are found in the Development Code and Engineering Design Manual. Additional transportation policies specific to the South Cooper Mountain Community Plan area are included in that Community Plan.

6.2.1. Goal: Transportation facilities designed and constructed in a manner to enhance Beaverton's livability and meet federal, state, regional, and local requirements.

Policies:

a) Maintain the livability of Beaverton through proper location and design of transportation facilities.

Actions:

- *Design all transportation facilities to respect the characteristics of the surrounding land uses, natural features and natural hazards, and community amenities.*
- *Design transportation facilities consistent with habitat friendly development practices and low impact development techniques and water quality and quantity design principles, wherever practical and feasible Promote landscaping and pervious surfaces wherever practical and feasible.*
- *Continue to implement "green streets" designs.*

- *Recognizing that the magnitude and scale of transportation facilities also affect aesthetics and environmental quality, the City will continue to require design plans and impact analyses for transportation facilities as specified in the Development Code.*
- *Preserve right-of-way for improvements that are anticipated to be needed within a specified time period that is beyond the planning forecast year for this Transportation System Plan.*

b) Consider noise attenuation measures in the design and redesign of arterial streets immediately adjacent to residential development.

c) Protect residential neighborhoods from pollutants associated with nearby transportation facilities, industrial uses, and rail activities.

d) Locate and design multi-use paths to balance the needs of human use and enjoyment with resource preservation in areas identified on the Natural Resource Inventory Plan Map for their Significant Natural Resource values.

Action:

- *Proposals for multi-use paths through significant natural resource areas shall assess compatibility of the path with the resource. The assessment shall include the impacts of lighting, appropriate restrictions on uses of the path, and options available to mitigate the impacts of the path.*
- *Multi-use paths adjacent to stream reaches shall be designed to provide safe, convenient and pleasant pedestrian and/or bicycle connections that encourage use of alternative modes; recreational amenities; and visual and physical access to natural areas. Such paths shall be designed to run along the outer edge(s) of vegetated corridors wherever possible in order to avoid impacting protected resource areas.*

e) Protect neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas. Build streets to minimize speeding.

Actions:

- *Maintain street design standards and criteria for neighborhood traffic calming for use in new development and existing neighborhoods.*
- *Complete construction of the 125th Avenue extension prior to completing the Davies Road connection from Scholls Ferry Road to Barrows Road.*

f) New commercial and industrial development shall identify traffic plans for residential streets where increased cut-through traffic may occur due to the proposed development.

- Provide convenient direct pedestrian and bicycle facilities to promote the health and physical well-being of Beaverton residents, to reduce traffic congestion, to

provide commuting and recreational alternatives to the motor vehicle, and to support local commerce.

g) Continually explore novel or transformative transportation designs, technologies, and integration, especially in the context of large-scale economic and redevelopment planning efforts.

6.2.2. Goal: A balanced multimodal transportation system that provides mobility and accessibility for users.

Policies:

a) Recognize that streets are important to community identity and provide a needed service. Implement Beaverton's public street standards that recognize the multi-purpose nature of the street right-of-way for a combination of utility, pedestrian, bicycle, transit, truck, auto uses, and railroad crossings.

b) Provide a seamless and coordinated transportation system that is barrier-free, provides affordable and equitable access to travel choices, and serves the needs of people and businesses.

c) Develop and provide a safe, complete, attractive, efficient, and accessible system of pedestrian ways and bicycle ways, including bike lanes, cycletracks, bike boulevards, shared roadways, multi-use paths, and sidewalks according to the pedestrian and bicycle system maps, and the *Development Code* and *Engineering Design Manual* requirements.

Actions:

- *Continue to coordinate with Washington County, Metro, Beaverton area schools, Oregon Department of Transportation, the cities of Tigard, Hillsboro, and Portland, Tualatin Valley Fire & Rescue, and the Tualatin Hills Park and Recreation District.*
- *Sidewalks will remain the responsibility of fronting property owners. The City shall consider funding sidewalk improvements when such improvements serve the greater public good (such as a transportation or safety purpose), and funding is available.*
- *Maintain the opportunity for resident groups to fund pedestrian and bicycle facilities through the local improvement district process.*
- *In the South Cooper Mountain Community Plan area, provide multi-use paths as identified on Figure 6.2a in order to support and encourage walking and biking as modes of transportation. Multi-use paths shall be the responsibility of the property owner and constructed through the development review process. Required right-of-way dedication and improvements shall follow the same procedures as local streets. The City shall consider funding multi-use path improvements when such improvements serve the greater public good and funding is available.*

d) Design sidewalks and the pedestrian access systems to City standards to enhance walkability: complete the accessible pedestrian network, provide safe direct access to transit and activity centers, and provide safe crossings at intersections with pedestrian friendly design.

Actions:

- *Adjust parking lot design standards to be more pedestrian-friendly.*
- *Develop a performance measure for pedestrian facilities, and develop targets for different areas of the city. Consider factors such as long wait times at selected stop lights, closed crosswalks, noise and pollution, debris and obstacles on sidewalks, speed of traffic, and other factors reducing pedestrian friendliness.*

e) Provide connectivity to each area of the City for convenient multimodal access. Ensure pedestrian, bicycle, transit, and vehicle access to schools, parks, commercial, employment, and recreational areas, and destinations in station areas, regional and town centers by identifying and developing improvements that address connectivity needs.

f) Develop neighborhood and local connections to provide convenient circulation into and out of neighborhoods. Work to prevent and eliminate pedestrian and bicycle "cul-de-sacs" that require substantial out-of-direction travel for pedestrians and bicyclists.

g) Identify specific areas within the City where pedestrian needs and the pedestrian experience should be given highest priority in the design of streets, parking, intersections, connectivity, signal controls, mapping and signing, and other transportation facilities.

Actions:

- *Complete the accessible pedestrian network.*
- *Provide safe direct access to transit, employment and activity centers.*
- *Provide safe crossings with pedestrian friendly design.*
- *Complete bikeway improvements to close the gaps in the bicycle network.*

h) The permanent closure of an existing road in a developed neighborhood is not recommended and will be considered by the City only under the following circumstances: as a measure of last resort, when the quality of life in the neighborhood is being severely threatened by excessive traffic volumes or the presence of a traffic safety hazard; or, as part of a plan reviewed through the City's land use, site development, and/or capital improvement process(es). Maintain existing neighborhood connectivity by avoiding closures of existing streets except when the closure is part of a larger plan for improvements to the neighborhood.

Actions:

- *Jay Street is recommended to remain open between 158th Avenue and Burlington Drive.*

i) Design streets to accommodate transit while minimizing impacts to traffic flow.

Actions:

- *Improve transit service, pedestrian and bicycle facilities leading to transit waiting areas, and make the waiting areas themselves safe, comfortable, and attractive. Continue to work with TriMet, the Oregon Department of Transportation, and Washington County to develop and implement a transit shelter program, to place safe crossings at major transit stops, and to provide transit vehicle signal priority.*

j) Require developers to include pedestrian, bicycle, and transit-supportive improvements within proposed developments and adjacent rights-of-way in accordance with adopted policies and standards.

6.2.3. Goal: A safe transportation system.

Policies:

a) Improve traffic safety through a comprehensive program of education, enforcement, and engineering.

b) Design streets to serve anticipated function and intended uses as determined by the Comprehensive Plan.

Action:

- *Maintain a functional classification system that meets the City's needs and respects the needs of other agencies including, but not limited to, Washington County, Oregon Department of Transportation, the cities of Tigard, Hillsboro, and Portland, TriMet, Tualatin Valley Fire and Rescue, Tualatin Hills Park and Recreation District, and Metro.*

c) Enhance safety by prioritizing and mitigating high crash locations within the City.

Actions:

- *Work with Washington County to periodically review traffic collision and Safety Priority Index System information in an effort to systematically identify, prioritize, and remedy safety problems. The City should continue to expand its collision record evaluation program working cooperatively with Washington County and Oregon Department of Transportation*
- *Implement safety solutions for identified safety issues.*

d) Designate safe walkway and bikeway routes from residential areas to schools, parks, transit, and other activity centers.

Actions:

- *The City should continue to work with Beaverton area schools and the community in developing safe transit, pedestrian, and bicycle routes to schools, and educating users about available routes.*

- *Improvement projects near schools shall consider school access and safety during project development.*
- *The City shall coordinate with Beaverton area schools to notify students when designated routes are affected by construction or other activities.*

e) Construct multi-use paths only where they can be developed with satisfactory design components that address safety, security, maintainability, and acceptable uses. Multi-use paths should converge at traffic-controlled intersections to provide for safe crossing, and paths should be separate and distant from major streets for most of their length. Mid-block crossings for trails access, such as the Denney Road Fanno Creek Trail crossing, will be considered as appropriate where findings for safety are met and such crossings are approved by the City.

Actions:

- *Identify trail crossing treatments for appropriate use at locations where out-of-direction travel by path users to an existing traffic-controlled intersection is significant.*
- *Consider mid-block crossings where safe and appropriate.*
- *When multi-use paths follow rear lot lines, use design treatments to minimize the impacts to private property.*

f) Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system as a whole.

g) Maintain access management standards for streets consistent with City, County, and State requirements to reduce conflicts among vehicles, trucks, rail, bicycles, and pedestrians. Preserve the functional integrity of the road system by limiting access per City standards.

h) Ensure that adequate access for emergency services vehicles is provided throughout the City.

Actions:

- *Work cooperatively with Tualatin Valley Fire and Rescue and other Washington County emergency service providers to designate and periodically update Primary and Secondary Emergency Response Routes. Continue to work with these agencies to establish acceptable traffic calming strategies for these routes.*
- *Recognize the route designations and associated acceptable traffic calming strategies in the City's Traffic Calming Program.*

i) Meet federal and State safety compliance standards for operation, construction, and maintenance of the rail system.

j) Provide safe routing of hazardous materials consistent with federal guidelines, and provide for public involvement in the process.

Action:

- *Work with federal agencies, the Public Utility Commission, the Oregon Department of Environmental Quality, public safety providers, and Oregon Department of Transportation to assure consistent routes, laws, and regulations for the transport of hazardous materials.*

6.2.4. Goal: An efficient transportation system that reduces the percentage of trips by single occupant vehicles, reduces the number and length of trips, limits congestion, and improves air quality.

Policies:

a) Develop an energy efficient transportation system.

Actions:

- *Implement measures to reduce average trip distance, such as additional street connectivity, fostering more local retail and service business, and land use decisions.*
- *Reduce travel delay through signal timing and coordination and other intersection management techniques.*
- *Provide more multimodal access through improved transit, bicycle, and pedestrian facilities and access.*
- *Support dedicated local transit service, including rail as an option, to connect major employment areas with downtown.*
- *Provide support for systematic changes to transportation modes, such as the emergence of electric or alternative fuel vehicles.*
- *Explore new technologies to improve the operating efficiency of the transportation system, such as the use of light-emitting diode (LED) luminaires for street lighting.*

b) Support and implement trip reduction strategies developed regionally, including employment, tourist, and recreational trip reduction programs.

Actions:

- *Encourage implementation of travel demand management programs.*
  - *Work to shift traffic to off-peak travel hours.*
  - *Coordinate trip reduction strategies with Washington County, Metro, Westside Transportation Alliance, Oregon Department of Transportation, TriMet, neighboring cities, and the Oregon Department of Environmental Quality.*
  - *Seek to raise p.m. peak average vehicle occupancy (AVO) to 1.3 AVO or more in the evening peak and/or move 50 percent or more of the standard evening peak trip generation outside the peak hour.*
  - *Educate business groups, employees, and residents about trip reduction strategies.*
  - *Work with business groups, residents, and employees to develop and implement travel demand management programs.*
- *Support and implement strategies that achieve progress toward attaining Metro's 2040 Regional Non-Single Occupant Vehicle Modal Targets. 2040 Non-Single Occupant Vehicle Modal Targets are as follows:*
  - *Beaverton Regional Center: 45-55%;*
  - *Murray/Scholls Town Center: 45-55%;*
  - *Beaverton Main Streets, Station Communities, and Corridors: 45-55%;*

- *Beaverton Industrial Areas, Intermodal Facilities, Employment Areas, Inner and Outer Neighborhoods: 40-45%*

(Targets are subject to change with Metro Regional Transportation Plan Updates and apply to trips to, within, and out of each 2040 Design Type. The targets reflect conditions appropriate for the year 2040 and are needed to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single-occupancy vehicles.)

- *Continue to implement the following action plan to work toward achieving these targets:*
  - *Encourage development that effectively mixes land uses to reduce vehicle trip generation.*
  - *Develop consistent conditions for land use approval that require future employment related land use developments to agree to reduce peak hour trips through transportation demand management strategies.*
  - *Support efforts by Washington County, Oregon Department of Transportation, Department of Environmental Quality, TriMet, and the Westside Transportation Alliance to develop productive demand management measures that reduce vehicle miles traveled and peak hour trips.*
  - *Coordinate with Oregon Department of Transportation and TriMet on development of sufficient park-and-rides, including sites at transit stations and freeway interchange locations. Transfer stations and interchange construction and reconstruction projects should be required to identify potential park-and-ride sites. Explore park-and-ride locations along existing bus routes to minimize commuter parking impacts in neighborhoods.*
  - *Build on existing percentage of Regional Center employers (seven percent) who provide transit pass discounts to achieve 25 percent by 2020.*
  - *Work with Washington County, Westside Transportation Alliance, and TriMet to develop and implement a downtown Beaverton fareless transit area, a regional center transportation management agency, and reduced transit fare programs based on increased demand and funding availability.*
  - *Implement the master improvement plans for bicycles, transit, pedestrians, and motor vehicles to implement a convenient multimodal transportation system that encourages increased bicycle, pedestrian, and transit use.*

c) Limit the provision of parking to meet regional and State standards.

Actions:

- *Reduce parking per capita in accordance with Metro and State requirements, while minimizing impacts to neighborhoods.*
- *Encourage shared parking arrangements.*
- *Encourage public private partnerships to develop structured parking.*
- *Reduce parking in habitat benefit areas and other areas where parking can be provided in other locations including off-site, on the street, through shared uses, or in parking structures.*
- *Continue to implement the motor vehicle and bicycle parking ratios in new development.*

- *Continue to develop and implement a Regional Center parking plan.*
- *Implement residential parking permit districts in neighborhoods as requested and approved by City Council.*
- *Implement other parking-based transportation demand management strategies, such as metered and structured parking, to help achieve Metro's 2040 Non-Single Occupant Vehicle mode split targets.*

d) Manage parking in the Regional Center Old Town area.

Action:

- *Apply the following principles from the Beaverton Downtown Parking Solutions study.*
  - *Make the Old Town area accessible to all users through multiple modes.*
  - *Provide sufficient and convenient parking.*
  - *Make the Old Town area conveniently accessible for the priority user of the public parking system – the customer.*
  - *Provide adequate employee parking and encourage implementation of meaningful public and private sector programs that encourage employee use of modes other than the single-occupant vehicle.*
  - *Make parking user-friendly – easy to access, easy to understand.*
  - *Provide clear and strategic direction to new development to assure that new growth improves the overall system of access.*
  - *Manage the public parking supply using the 85% Rule[1] to inform and guide decision-making.*

e) Maintain mobility and performance standards that meet the needs of the City and are consistent with regional and State standards.

Action:

- *Maintain levels of service consistent with Metro's Regional Transportation Plan and the Oregon Transportation Plan. Applications for Comprehensive Plan Amendments shall comply with the requirements of OAR 660-012-0060 and as appropriate include a Transportation Impact Analysis that shows that the proposal will not degrade system performance below the acceptable two-hour peak demand-to-capacity ratio of 0.98. If the adopted Comprehensive Plan forecasts a two-hour peak demand-to-capacity ratio greater than 0.98 for a facility, then the proposed amendment shall not degrade performance beyond the forecasted ratio.*
- *System performance criteria and measures of effectiveness used to determine impacts and potential degradation of system performance in the Beaverton Regional Center (designated as an "area of special concern" in the Regional*

[1] The 85% Rule is a measure of parking utilization that acts as a benchmark against which parking management decisions are based. It is assumed that when an inventory of parking shows more than 85 percent occupancy in the peak hour, the supply becomes constrained and may not provide full and convenient access to its intended user. Once a supply of parking routinely exceeds 85 percent occupancy in the peak hour, the 85% Rule would require that parking management strategies be evaluated and/or implemented to bring peak hour occupancies to a level below 85 percent to assure intended uses are conveniently accommodated. (Ordinance 4470)

Transportation Plan) will be based on measures defined in the City of Beaverton Transportation System Plan.

f) Reduce traffic congestion and enhance traffic flow through such system management measures as intersection improvements, intelligent transportation systems, incident management, signal priority, optimization, and synchronization, and other similar measures.

g) Plan land uses to increase opportunities for multi-purpose trips (trip chaining).

Action:

- *Encourage mixed-use development where allowed to promote trip chaining in an effort to reduce vehicle trips, cold starts, and air pollution.*
- *Encourage the development and operation of neighborhood retail and service business in more locations to support local service needs.*
- *Encourage the use of alternative trip generation methodologies in transit-oriented developments and districts, where traditional trip generation expectations can be shown to be inflated.*

h) Require land use approval of proposals for new or improved transportation facilities. The approval process shall consider the project's identified impacts.

i) Support mixed-use development in appropriate locations and encourage local job creation in order to reduce the number of locally generated regional commuting and shopping trips.

j) Coordinate with TriMet and other agencies to implement transit improvements concurrent with roadway improvements, to improve access and frequency of service, to provide parking as appropriate at transit centers, and to increase ridership and service area. Encourage development of regional high capacity transit, including light rail transit, streetcar, and commuter rail.

Action:

- *Support light rail, commuter rail, streetcar, and feeder bus service, and bicycle and pedestrian access to and from transit service.*

6.2.5. Goal: Transportation facilities that serve and are accessible to all members of the community.

Policies:

a) Construct transportation facilities, including access to and within transit waiting areas, to meet the requirements of the Americans with Disabilities Act.

Action:

- *Identify, assess, and remove access barriers to persons with disabilities.*

b) Support TriMet, other transit service providers, and employers' and social service agencies' efforts that respond to the transit and transportation needs of elderly, economically disadvantaged, and disabled persons.

c) The totality of all projects and programs should benefit all populations equally.

6.2.6. Goal:Transportation facilities that provide safe efficient movement of goods.

Policies:

a) Designated arterial routes and freeway access are essential for efficient movement of goods. Design these facilities and adjacent land uses to reflect these needs.

b) Reflect the needs of rail and air transportation facilities and regional mobility corridors in land use decisions.

c) Maintain traffic flow and mobility on arterial and collector roadways. Examples that may be pursued include Transportation System Management (TSM) strategies such as access spacing, intelligent transportation systems (ITS), and signal systems or operational enhancements such as adaptive signal systems.

d) Ensure a safe and efficient freight system that facilitates the movement of goods to, from, and through Beaverton, the region, and the state while minimizing conflicts with other travel modes.

6.2.7 Goal: Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents.

Policies:

a) Coordinate transportation projects, policy issues, and development actions with all affected governmental units in the area. Key agencies for coordination include Washington County, Oregon Department of Transportation, TriMet, Metro, Tualatin Hills Park and Recreation District, Tualatin Valley Fire and Rescue, and the adjacent cities of Tigard, Hillsboro, and Portland.

b) Participate in regional transportation, growth management, and air quality improvement programs. Work with agencies to assure adequate funding of transportation facilities to support these programs.

c) Monitor and update the Transportation Element of the Comprehensive Plan so that issues and opportunities are addressed in a timely manner.

d) Maintain a current capital improvement program that establishes the City's construction and improvement priorities, and allocates the appropriate level of funding.

e) Establish rights-of-way through development review and, where appropriate, officially

secure them by dedication or reservation of property.

6.2.8. Goal: Create a stable, flexible financial system.

Policies:

a) Plan for an economically viable and cost-effective transportation system.

b) Identify and develop diverse and stable funding sources to implement recommended projects in a timely fashion.

c) Use the System Development Charge, Traffic Impact Fees, and development exactions as elements of an overall program to pay for adding capacity to the transportation system and for making safety improvements related to development impacts.

Action:

- *Base the transportation system taxes and fees on the total expected cost of making extra capacity and safety improvements over a twenty-year period, allocated back to development on a pro rata formula taking into account the relative expected future transportation impact of the development in question.*

d) Develop a long-range financial strategy to make needed improvements to the transportation system and to support operational and maintenance requirements by working in partnership with Metro, Oregon Department of Transportation, Washington County, and other jurisdictions and agencies.

Actions:

- *The financial strategy should consider the appropriate shares of motor vehicle fees, impact fees, property tax levies, and development contributions to balance needs, costs, and revenue. View the process of improving the transportation system as that of a partnership between the public (through fees and taxes) and private sectors (through exactions and conditions of development approval), each of which has appropriate roles in the financing of these improvements to meet present and projected needs.*

e) Provide adequate funding for maintenance of the capital investment in transportation facilities.

Actions:

- *Develop a long-term financing program that provides a stable source of funds to ensure cost-effective maintenance of transportation facilities and efficient effective use of public funds.*
- *Apply low impact development techniques on a city-wide basis where projects can accommodate the techniques.*
- *Fund the increased cost of the water quality and quantity additions to the streets through the surface water management program fees and systems development charges and other funding sources, as appropriate.*

f) Track and report transportation funding receipts and expenditures for the purposes of keeping Beaverton residents and businesses informed about funding the big picture.

6.3 TRANSPORTATION NEEDS

To establish transportation system needs and guide the development of an updated transportation plan, each mode of travel was inventoried for existing conditions. Then future growth was used to forecast year 2035 conditions for each mode. In addition, revenue streams were analyzed to establish reasonable funding levels that can be anticipated for transportation investment in Beaverton. (Note: the city-wide analysis supporting the identification of transportation needs was not updated upon inclusion of specific policies and projects serving the South Cooper Mountain Community Plan area. However, analysis specific to the planned land uses and transportation improvements identified in the Community Plan was undertaken as part of the planning effort for the Community Plan.)

Existing Conditions

Existing travel activity was collected throughout the City and compared to the previous transportation plan to determine how existing conditions changed. Bicycle volumes were found to have increased during peak traffic hours on corridors where investment was made to provide bike lanes such as 5th Street, Hall Boulevard, Hart Road, Walker Road, Jenkins Road, and on most roadways in downtown Beaverton.

Pedestrian volumes were found to have increased the most near the Beaverton Transit Center, which reflects additional connectivity opportunities to public transit. Motor vehicle volumes were found to have decreased or stayed the same as year 2000 levels on major corridors in the City, which reflects the downturn in the economy as well as improvements in capacity and connectivity in the roadway network. Overall, the volume trends indicated a positive shift away from peak hour motor vehicle trips to other modes.

Since the year 2000 analysis conducted for the previous forecast year 2020 transportation plan, significant investment was made in roadway, pedestrian, and bicycle improvements. In addition, the WES commuter rail line is providing a new public transit mode and link to areas south of Beaverton. Combined with the positive volume shifts observed during peak hours, the transportation system investment has resulted in improved roadway operations in 2008 compared to the year 2000. While there continue to be deficiencies in mobility and connectivity that are yet to be addressed, the efforts of the City and the region to improve transportation conditions in Beaverton is positive and continues to be recognized in such ways as the continued designation of Beaverton as a Bicycle Friendly Community at the Bronze Level by the League of American Bicyclists.

Future Growth

Land use is a key factor in developing a functional transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses are mixed together have a direct relationship to expected demands on the transportation system. Projected land uses were developed for areas within the urban growth boundary and reflect the Comprehensive Plan designations and coordination with Metro's 2035 land use projections. These land use projections

were used with Metro's travel demand model to project future travel volumes and determine future needs.

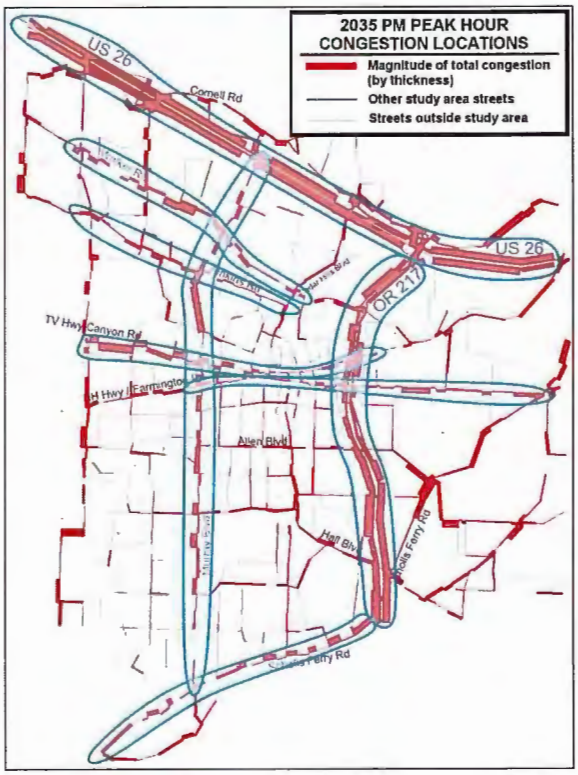
Beaverton Land Use Summary

Land Use	2005	2035	Increase	Percent Increase	Percent Annual Increase
Households (HH)	67,095	96,995	29,900	44%	1.2%
Retail Employees (RET)	23,395	36,240	12,845	55%	1.5%
Service Employees (SER)	30,342	64,732	34,390	113%	2.6%
Other Employees (OTH)	40,074	46,719	6,645	17%	0.5%

Source: Metro

Future Needs

Based upon land use and growth in the City and the increase in regional travel coming through Beaverton, future year 2035 conditions were evaluated. The impact of future growth would be severe without significant investment in transportation improvements. Corridors would become unmanageably congested resulting in travel speeds below five miles per hour over long stretches of road. The duration of congestion is likely to increase as a result of "peak spreading" and the additional demand on the transportation system that is already at or near capacity during the current peak periods. The greatest problem areas can be grouped into the following key deficiency areas:



Congestion Locations

- Lack of east-west capacity – Three of the key east-west routes (Tualatin Valley Highway, Cornell and Farmington) all experience significant congestion problems if improvements are not made.
- Lack of connectivity – Areas near OR 217 between Walker and Hall are the best examples, where all north-south movements must use local streets or divert to neighboring arterials. In addition, connections between Scholls Ferry Road and Oleson Road are limited.
- Lack of intersection turning capacity – Many intersections experience congested conditions and need additional right and left turning capacity.
- System performance issues – Traffic queues extending into upstream intersections along some corridors increase delay by blocking adjacent intersections so that only limited numbers of vehicles are able to travel through the intersection while the signal is green. This indicates the need for system management and considering corridor needs rather than individual intersections.

- The capacity deficiencies throughout the City indicate the need to not only invest in roadway operations and capacity, but also a need to balance investment with other modes of travel to provide improved travel choices and reduce the demand on the system. Projects to respond to these needs are identified in the transportation plan. In areas outside City limits, designations and projects included in the transportation plan are considered recommendations to the appropriate lead agency(ies) responsible for that area or facility.

Funding

Through previous planning efforts, transportation studies, and updates to the City's transportation plan, numerous transportation projects were identified to address future needs, creating an extensive set of system solutions in the 2015 and 2020 TSPs. While the majority of these projects identified in prior efforts remain applicable to existing and future needs of the transportation system, the large set of projects was not developed with financial constraints. The total for needed projects under City jurisdiction identified in the 2035 and 2020 TSPs is currently over $700 million. This level of transportation investment cannot be reasonably funded with anticipated City transportation revenues through 2035 of approximately $185 million.

Beaverton Funding Gap	
Item	**Total**
Capital Project Funding	$185 million
Previously Identified Projects (RTP & 2020 TSP)	$720 million
Funding Gap:	**$-535 million**

The costs of the transportation projects identified in the RTP and TSP exceed the reasonably expected funding levels by approximately $535 million. Since funding is not available for the entire set of identified projects, a subset of projects that can be reasonably funded was selected for prioritization and implementation. The purpose of the alternatives analysis performed for the 2035 TSP was to determine the needed projects and programs from current and past TSPs and the RTP that provide the greatest benefit to the transportation system using the estimated available funding resources.

6.4 DEVELOPING A FINANCIALLY CONSTRAINED TRANSPORTATION PLAN

To address system needs in the high-priority corridors, improvement projects from previous TSPs and other relevant studies were compiled and assessed for their potential to serve priority corridor travel patterns. Projects that were estimated to serve a priority corridor were then prioritized by mode to develop a high-priority list of projects that form the financially constrained Beaverton Action Plan.

All other projects continue to be recognized as needed Master Plan projects, meaning that the need remains, and if unanticipated funding sources become available, these projects will be pursued for implementation. **These RTP and City bicycle, pedestrian, street, and intersection improvement projects are included in the 2035 TSP, which is in Appendix IV.** They are not considered funded, however, for purposes of this Transportation Element.

Pedestrian Improvements

The existing pedestrian system network map was updated from the previous TSP to reflect recent improvements and the expanded study area. In most cases sidewalk improvements are aimed at closing gaps in the existing sidewalk network to provide connectivity rather than capacity. Generally, it is more important that a continuous sidewalk be available than it be of a certain type or size. Figure 6.1 Pedestrian Master Plan shows the existing gaps in the pedestrian system along arterial and collector roadways, as well as various activity generators that have the potential to attract pedestrian use.

Metro's RTP includes designations for pedestrian districts and transit/mixed use corridors. The RTP defines pedestrian districts as areas of high or potentially high pedestrian activity where regional policy places priority on creating a safe, direct, and attractive pedestrian environment. In general, these are areas planned for compact, mixed-use development served by transit and correspond to the following 2040 design type designations within the City of Beaverton: regional centers (RC), town centers (TC), station communities (SC), main streets, and corridors. The corresponding areas within the 2035 TSP boundary include the Beaverton Downtown RC, the Washington Square RC, Murray Scholls TC, Raleigh Hills TC, Cedar Mill TC, and the station communities including Sunset Transit Center, 185th and Baseline, Tektronix, Beaverton Creek, Elmonica/ Merlo. Areas such as these areas should be characterized by buildings oriented to the street and by boulevard street design features such as wider sidewalks with buffering from traffic, marked street crossing at intersections, pedestrian-scale lighting, benches, bus shelters, and street trees.

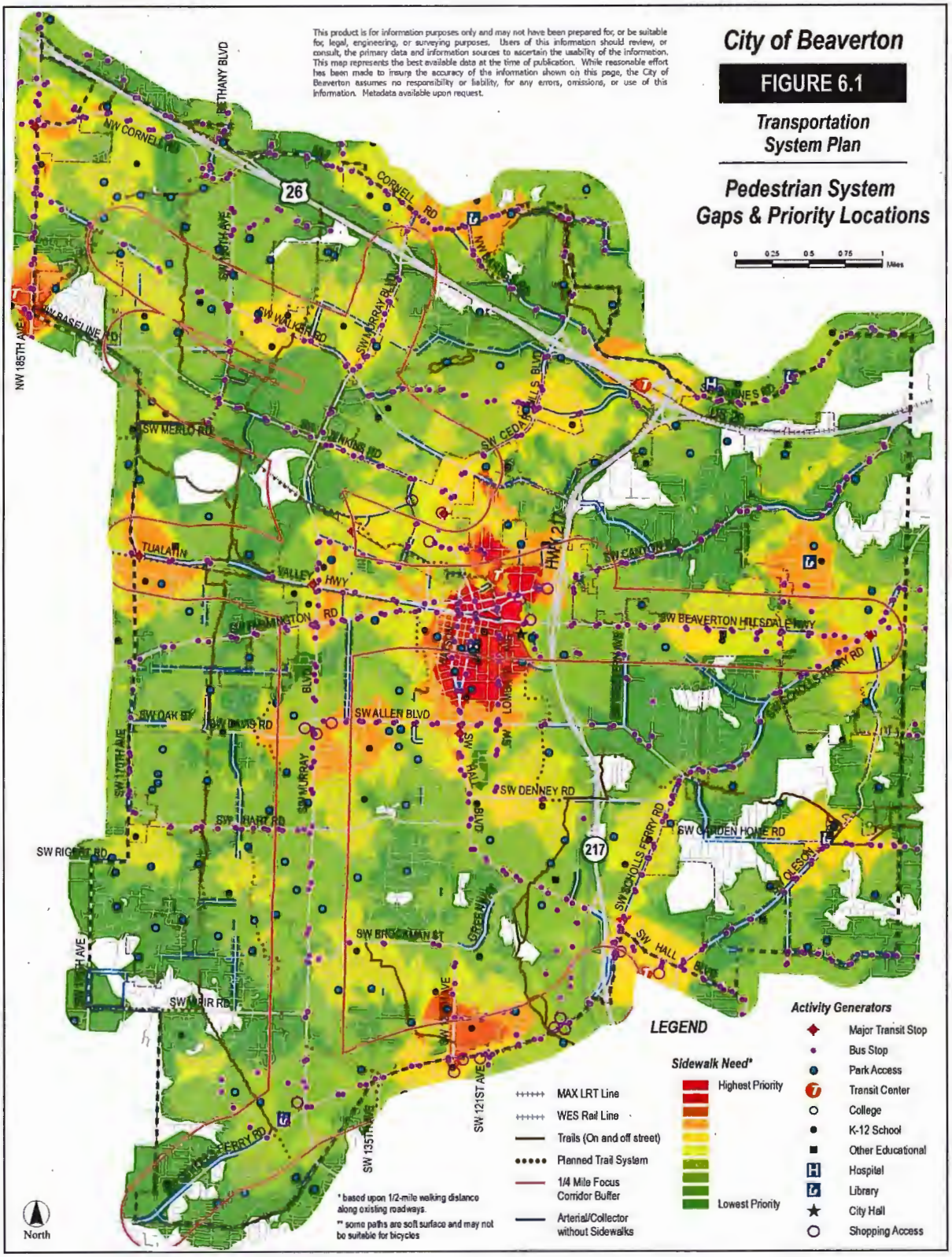
Transit/mixed-use corridors are defined as priority areas for pedestrian travel that are served by good quality transit service and that will generate substantial pedestrian traffic near neighborhood-oriented retail development, schools, parks, and bus stops. These corridors should include such design features as wide sidewalks with buffering from traffic, pedestrian scale-lighting, benches, bus shelters, and street trees. The 2040 design type designation for transit/mixed-use corridors is "Corridors." The corresponding corridor areas within the 2008 Beaverton TSP boundary include Murray Boulevard, Scholls Ferry Road, Hall Boulevard, Beaverton Hillsdale Highway/ Farmington Road, Canyon Road/ Tualatin Valley Highway, Cedar Hills Boulevard, Walker Road, and Cornell Road. The City of Beaverton Development Code regulations require new development in the pedestrian districts and transit/mixed use corridors to comply with the RTP descriptions listed above.

The most important existing pedestrian need in Beaverton is a well-connected pedestrian system within a half-mile grid of light rail transit (LRT) stations and key centers in Beaverton (parks, schools, retail, etc.). Additional needs include safe, direct and convenient access to transit and crossings of large arterial streets which act as barriers to pedestrian movement, marked crossings at major transit stops, as well as a sidewalk connectivity plan. A well-connected pedestrian system in the RTP designated pedestrian districts and transit/mixed use corridors will insure direct and logical pedestrian crossings at transit stops. The City of Beaverton coordinates with Washington County, TriMet, Metro, and ODOT to ensure that major transit stops are located at sites with a signalized and/or marked pedestrian crossing. In the future, additional activity centers will need to be considered and interconnected with the existing pedestrian system. The ranking of pedestrian strategies from the previous TSP is listed from most important to least important:

- Connect key pedestrian corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, etc.)
- Fill in gaps in the network where some sidewalks exist
- Pedestrian corridors to transit stations and stops
- Signalized pedestrian crossings
- Pedestrian corridors that connect neighborhoods
- Improve streets having sidewalks on one side to two sides
- As development occurs, construction of sidewalks by developers
- Pedestrian corridors that commuters might use
- Reconstruct all existing substandard sidewalks to City standards

The transportation network was analyzed to determine potential sidewalk locations that would maximize the benefit of additional infrastructure by providing service to as many activity locations as possible. In Figure 6.1, areas that would serve the greatest number of activity generators (generally located in dense development) are indicated in red, while locations that lie outside the walking distance, assumed to be ½ mile, to activity generators (generally areas of sparse development) or would provide benefit to the least number of users are indicated in green. Sidewalk gaps that exist in red shading indicate potential locations for prioritizing sidewalk improvements or additions. The figure indicates that the highest priority need locations lie within the Beaverton Regional Center, around Walker Road/170th Avenue, and along 155th Avenue between Davis Road and Weir Road.

The existing gap locations shown in Figure 6.1 represent the ultimate Pedestrian Master Plan of pedestrian system needs and projects. Those projects that were selected as high priority locations and are reasonably likely to be funded by 2035 are included in Table 6-1 Action Plan with other modal Action Plan projects. Figure 6.5 indicates the locations for these high priority projects.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City of Beaverton
FIGURE 6.1
Transportation System Plan
Pedestrian System Gaps & Priority Locations
0 0.25 0.5 0.75 1 Miles
BETHANY BLVD
NW CORNELL RD
CORNELL RD
26
NW 185TH AVE
SW BASELINE RD
SW WALKER RD
SW MURRAY BLVD
SW CEDAR HILLS BLVD
SW MERLO RD
SW WATKINS RD
TUALATIN VALLEY HWY
HWY 217
SW BEAVERTON HILLSDALE HWY
SW ALLEN BLVD
SW DENNEY RD
SW GARDEN HOME RD
SW SCHOLLS FERRY RD
SW HALL BLVD
SW OAK ST
SW DAVIS RD
SW HART RD
SW BROCKMAN ST
SW 170TH AVE
SW 135TH AVE
SW 121ST AVE
LEGEND
Sidewalk Need*
Highest Priority
Lowest Priority
MAX LRT Line
WES Rail Line
Trails (On and off street)
Planned Trail System
1/4 Mile Focus Corridor Buffer
Arterial/Collector without Sidewalks
* based upon 1/2-mile walking distance along existing roadways.
** some paths are soft surface and may not be suitable for bicycles
Activity Generators
Major Transit Stop
Bus Stop
Park Access
Transit Center
College
K-12 School
Other Educational
Hospital
Library
City Hall
Shopping Access
North
10_0274 S:_TRANSPORTATION_2010\10_0274\FIG_6.1.mxd GIS-MR, 20110128

Bicycle Improvements

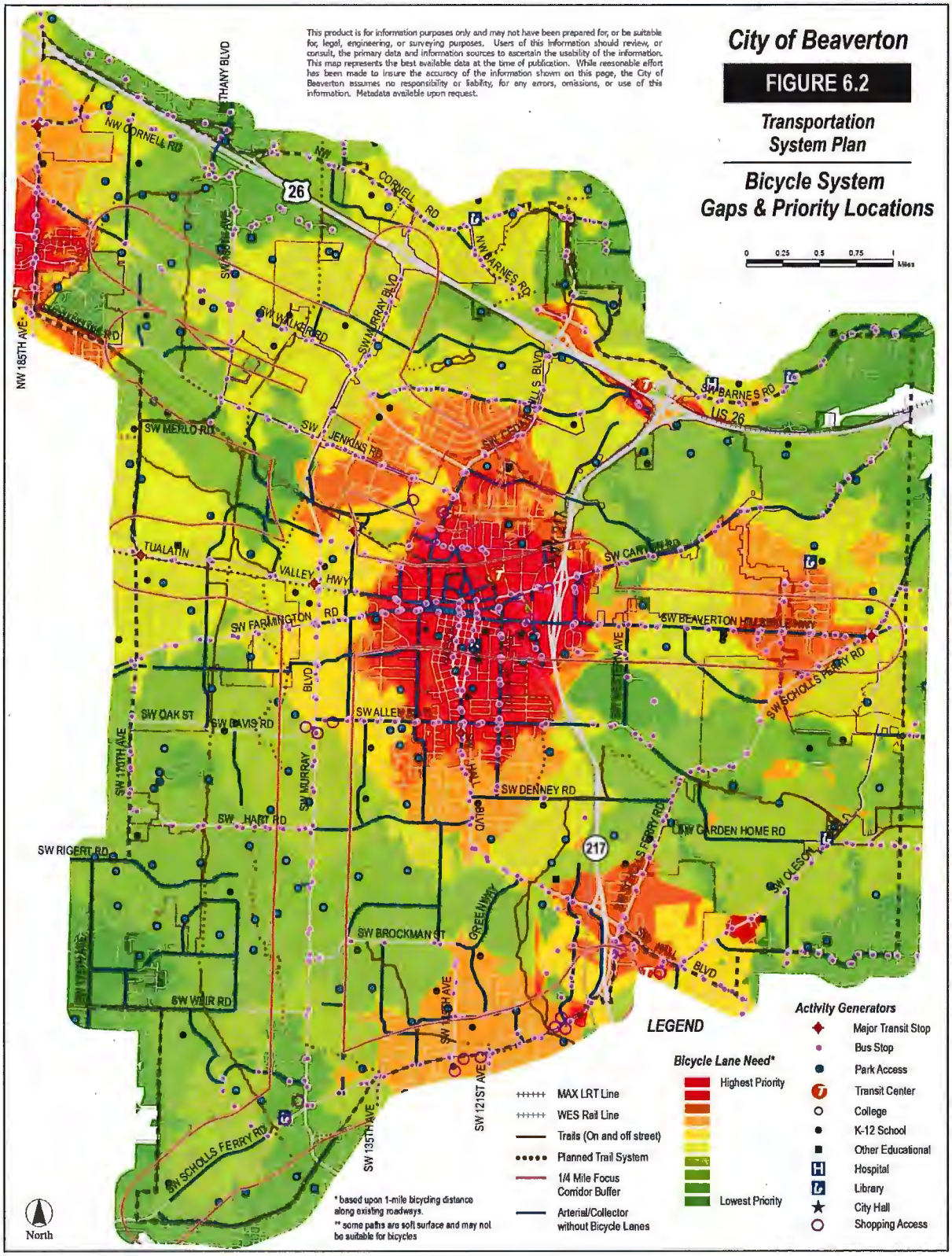
The Bicycle Master Plan has been updated from the previous TSP to include completed improvement projects and the expanded study area. Bikeway improvements are aimed at closing the gaps in the bicycle network along arterial and collector roadways. The ranking of the bicycle strategies from the previous transportation plan is listed from most important to least important:

- Connect key bicycle corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, transit centers, etc.)
- Fill in gaps in the network where some segments of bikeway exist
- Bicycle corridors that connect neighborhoods
- Construct bike lanes with roadway improvement projects
- Bicycle corridors that commuters might use
- Bicycle corridors providing mobility to and within commercial areas

State policy from the Transportation Planning Rule and City of Beaverton policy require that all arterial and collector roads have bikeways. City standards require that all arterials and collectors have bike lanes. Figure 6.2 Bicycle Master Plan shows the existing gaps in the bicycle system along arterial and collector roadways, as well as various activity generators that have the potential to attract bicycle use. As with the pedestrian system, the transportation network was analyzed to determine potential bicycle lane locations that would maximize the benefit of such widening or striping by providing service to as many activity locations as possible. In Figure 6.2, areas that would serve the greatest number of activity generators (generally located in dense development) are indicated in red, while locations that lie outside the cycling distance (assumed to be two miles) to activity generators or would provide benefit to the least number of users, are indicated in green. Bicycle lane gaps that exist in red shading indicate potential locations for prioritizing improvements such as striping or widening.

The highest priority locations for filling bicycle lane gaps are along Beaverton Hillsdale Highway between White Pine Lane and 107th Avenue, and Western Avenue and Jamieson Road south of Beaverton Hillsdale Highway. The existing gap locations shown in Figure 6.2 represent the ultimate master plan of bicycle system needs and projects. Those projects that were selected as high priority locations and are reasonably likely to be funded by 2035 are included in Table 6-1, the financially constrained improvement plan, with other modal projects. Figure 6.2a represents the bicycle and pedestrian needs for the South Cooper Mountain Community Plan Area. Figure 6.5 shows the locations for these high priority projects.

Please note, Trails is a term used to describe non-motorized transportation facilities such as access ways, shared-use paths, multi-use trails, and hiking paths. Alignment of proposed or planned trails, as depicted on Figures 6.1, 6.2, and 6.2a are preliminary and subject to further review to determine exact location. Conceptual Trails are those new pedestrian and or bicycle facilities shown located outside the current Urban Growth Boundary (UGB). Conceptual Trails demonstrate how pedestrian and bicycle facilities within city limits may be extended or connected in the long-term future. Alignments and functional classifications of Conceptual Trails are preliminary, tentative, and may ultimately be under the jurisdiction of another body. Conceptual Trails are not shown in the Transportation System Plan, rather they are found within either Community Plans or a non-regulatory documents.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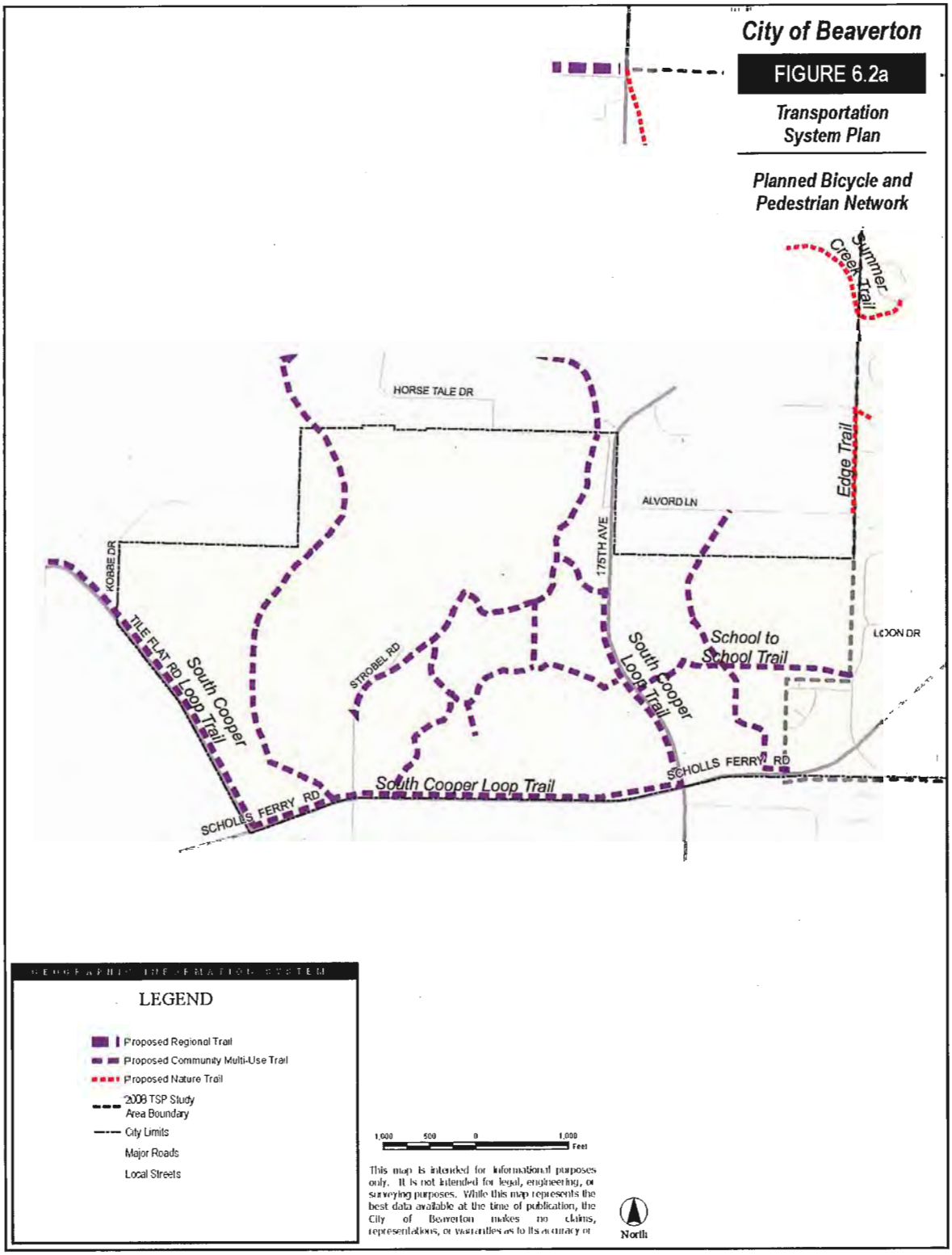
City of Beaverton
FIGURE 6.2
Transportation System Plan
Bicycle System Gaps & Priority Locations
0 0.25 0.5 0.75 1 Miles
NW CORNELL RD
NW BETHANY BLVD
NW 185TH AVE
SW WALKER RD
SW MURRAY BLVD
NW BARNES RD
SW BARNES RD
US 26
SW MERLO RD
SW JENKINS RD
SW CANYON RD
TUALATIN VALLEY HWY
SW FARMINGTON RD
SW BEAVERTON HILLSDALE HWY
SW SCHOLLS FERRY RD
SW OAK ST
SW DAVIS RD
SW 170TH AVE
SW MURRAY BLVD
SW ALLEN BLVD
SW DENNEY RD
SW HART RD
SW GARDEN HOME RD
SW RIGERT RD
SW OLESON
SW BROCKMAN ST
GREENWAY
SW WEIR RD
SW 121ST AVE
SW 135TH AVE
LEGEND
MAX LRT Line
WES Rail Line
Trails (On and off street)
Planned Trail System
1/4 Mile Focus Corridor Buffer
Arterial/Collector without Bicycle Lanes
Bicycle Lane Need*
Highest Priority
Lowest Priority
Activity Generators
Major Transit Stop
Bus Stop
Park Access
Transit Center
College
K-12 School
Other Educational
Hospital
Library
City Hall
Shopping Access
* based upon 1-mile bicycling distance along existing roadways.
** some paths are soft surface and may not be suitable for bicycles
North
10_0274 S:_TRANSPORTATION_2010\10_0274\FIG_6.2.mxd GIS-MRJ 2011-01-28


City of Beaverton
FIGURE 6.2a
Transportation System Plan
Planned Bicycle and Pedestrian Network
Summer Creek Trail
HORSE TALE DR
Edge Trail
ALVORD LN
175TH AVE
KOBBE DR
TILE FLAT RD
South Cooper Loop Trail
STROBEL RD
School to School Trail
LEON DR
SCHOLLS FERRY RD
South Cooper Loop Trail
LEGEND
Proposed Regional Trail
Proposed Community Multi-Use Trail
Proposed Nature Trail
2009 TSP Study Area Boundary
City Limits
Major Roads
Local Streets
1,000 500 0 1,000 Feet
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North

Transit Improvements

The existing TriMet services corridors were reviewed to determine which corridors may potentially be underserved in the future as development occurs if transit frequencies are not increased. To support TriMet investment in the potentially underserved corridors, pedestrian and bicycle connectivity was prioritized within one-quarter mile of major corridors. In addition to current transit service, WES Commuter Rail service connecting Beaverton to Wilsonville will enhance the area's access to employment. The service is focused on peak commute periods and will potentially reduce the congestion of adjacent frequent or regional bus routes and Highway 217. The importance of the frequent and regional bus lines in Beaverton will be enhanced as more passengers travel through Beaverton on both the MAX and WES lines leading to more passenger transfers throughout the city.

The existing transit system coverage area includes approximately 77 percent of the modeled transit supportive zones within the Beaverton TSP study area[2]. The future 2035 land use would increase the transit supportive area and the percentage of coverage to approximately 81 percent without an increase in service coverage.

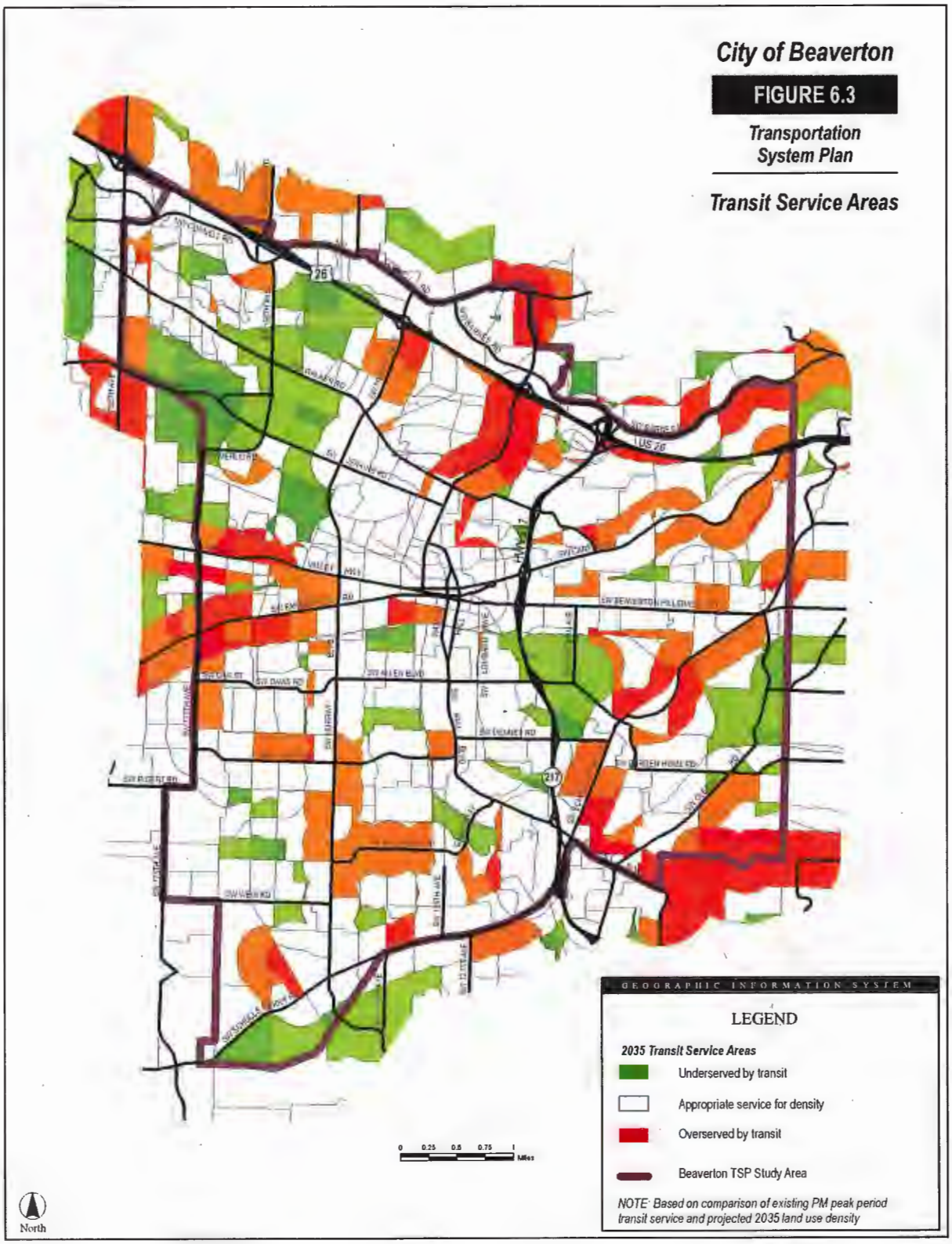
Corridors designated as frequent bus routes by the RTP in the 2035 TSP study area include Beaverton Hillsdale Highway, Tualatin Valley Highway, Cedar Hills Boulevard, and Hall Boulevard. Major Streets designated as regional bus routes in the 2035 TSP study area include Barnes Road, Murray Boulevard, 185th Avenue, Walker Road, Canyon Road, Farmington Road, Lombard Avenue, Allen Boulevard, Garden Home Road, Oleson Road, and Scholls Ferry Road.

Future transit stops along these streets would further improve the coverage of the transit supportive area in Beaverton:

- 173rd Avenue between Cornell Road and Walker Road
- Davis Road between 170th Avenue and Murray Boulevard
- Hart Road between Murray Boulevard and Hall Boulevard
- Weir Road between Murray Boulevard and Mount Adams Drive
- Scholls Ferry Road between Loon Drive and 155th Terrace
- Oleson Road between Garden Home Road and Scholls Ferry Road

Because TriMet is responsible for the region's transit master plan, it continually updates and reevaluates its coverage and routes, and adopts a five-year Transit Improvement Plan. The City reviews and comments on these and participates in the High Capacity Transit Plan and RTP development. Thus, the coverage area map, the RTP plans and projects, and the above recommendations to TriMet comprise the City's recommendations for transit improvements.

[2] Coverage is determined as the area within 0.25 miles of a bus stop or 0.50 miles of a light rail transit stop


City of Beaverton
FIGURE 6.3
Transportation System Plan
Transit Service Areas
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
2035 Transit Service Areas
Underserved by transit
Appropriate service for density
Overserved by transit
Beaverton TSP Study Area
NOTE: Based on comparison of existing PM peak period transit service and projected 2035 land use density
North
0 0.25 0.5 0.75 1 Miles
10_0274 S:_TRANSPORTATION_2010\10_0274\FIG_6.3.mxd GIS-MRJ 20100729

Functional Classification Plan

The current functional classification of streets in Beaverton was updated to reflect the expanded TSP study area, on-going regional planning, the functional needs of Beaverton, and consistency with the RTP. Classifications of principal arterial, arterial, collector, neighborhood route, and local were developed based on connectivity (defined in the 2020 TSP), which is the best indicator of function. Figures 6-4 and 6.4a provide the functional classification of Beaverton streets. Streets designated in the RTP are to be designed with a modal orientation that reflects the function of the street and the character of surrounding land uses.

Freeways provide the highest level of connectivity. These roadways generally span several jurisdictions and are of regional and statewide importance.

Principal arterial streets serve to connect neighboring cities and urban areas. They are of regional significance and often of statewide importance as well.

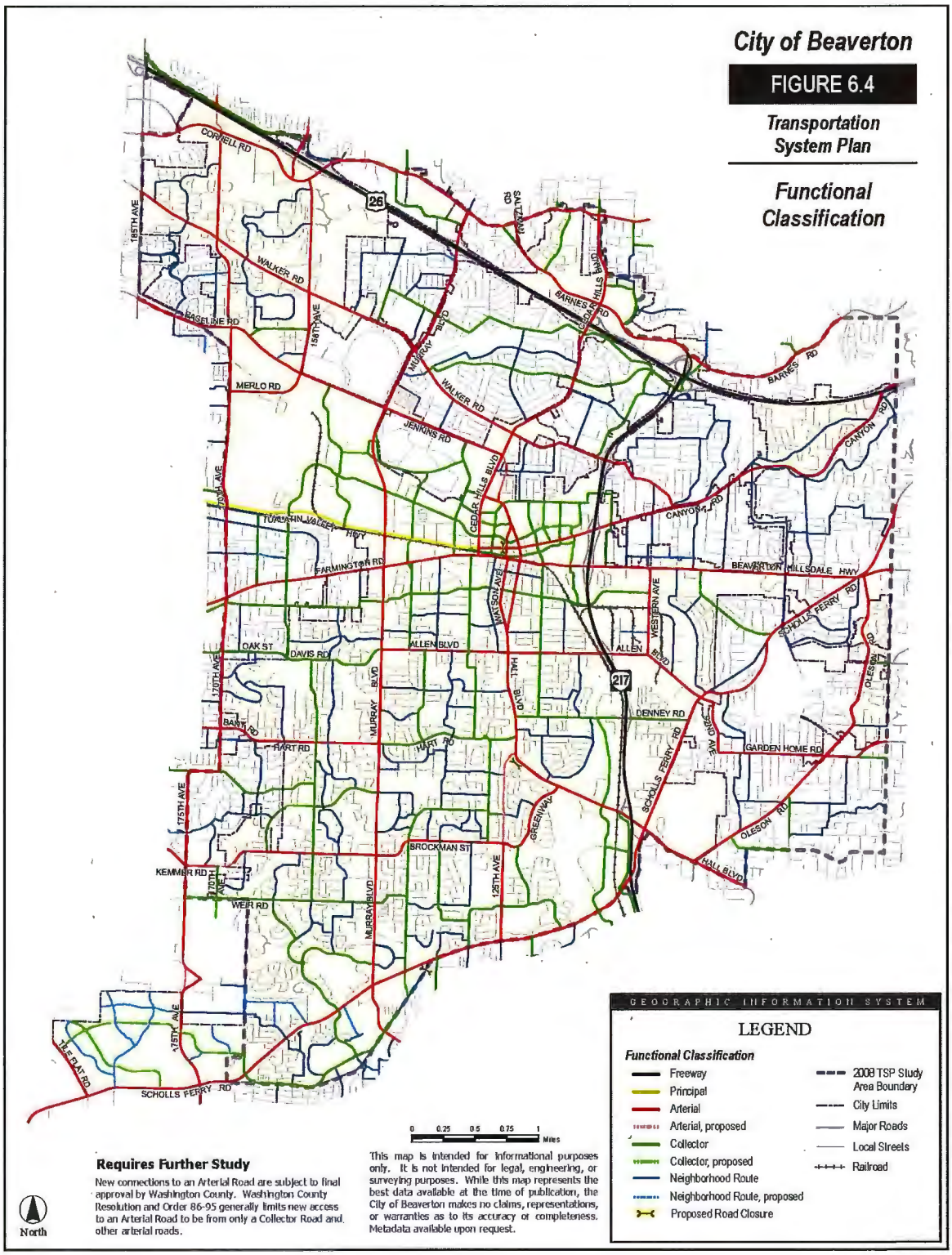
Arterial streets serve to interconnect and support principal arterials and freeways. They link major commercial, residential, industrial, and employment areas. Arterials are typically spaced about one mile apart to assure access to through routes and to reduce the incidence of traffic using collectors or local streets in lieu of a well-placed arterial street.

Collector streets balance access and circulation within residential, commercial, and industrial areas. Collectors differ from arterials in that they provide circulation within the city and distribute trips onto neighborhood routes and local streets.

Neighborhood routes are usually longer than local streets and provide connectivity to collectors or arterials. Because they have greater connectivity, they generally have more traffic than local streets and are used by residents to get into and out of their neighborhoods.

Local streets have the sole function of providing access to adjacent land. Local street design deliberately discourages through traffic and is important to neighborhood identity.

Conceptual Roads are those new roads shown located outside the current Urban Growth Boundary (UGB). Conceptual Roads demonstrate how roads within city limits may be extended or connected in the long-term future. Alignments and functional classifications of Conceptual Roads are preliminary, tentative, and may ultimately be under the jurisdiction of another body. Conceptual Roads are not shown in the Transportation System Plan, rather they are found within either Community Plans or a non-regulatory documents.


City of Beaverton
FIGURE 6.4
Transportation System Plan
Functional Classification
CORNELL RD
185TH AVE
WALKER RD
BASELINE RD
MERLO RD
158TH AVE
MURRAY BLVD
JENKINS RD
CEDAR HILLS BLVD
SALTZMAN RD
BARNES RD
CANYON RD
TUALATIN VALLEY HWY
FARMINGTON RD
BEAVERTON HILLSDALE HWY
SCHOLLS FERRY RD
OLESON RD
WESTERN AVE
170TH AVE
OAK ST
DAVIS RD
ALLEN BLVD
WATSON AVE
HALL BLVD
ALLEN
217
DENNEY RD
BANY RD
HART RD
GARDEN HOME RD
175TH AVE
BROCKMAN ST
GREENWAY
KEMMER RD
WEIR RD
125TH AVE
MURRAY BLVD
NAIL BLVD
TUALATIN-SHERWOOD RD
26
0 0.25 0.5 0.75 1 Miles
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
Functional Classification
Freeway
Principal
Arterial
Arterial, proposed
Collector
Collector, proposed
Neighborhood Route
Neighborhood Route, proposed
Proposed Road Closure
2008 TSP Study Area Boundary
City Limits
Major Roads
Local Streets
Railroad
Requires Further Study
New connections to an Arterial Road are subject to final approval by Washington County. Washington County Resolution and Order 86-95 generally limits new access to an Arterial Road to be from only a Collector Road and other arterial roads.
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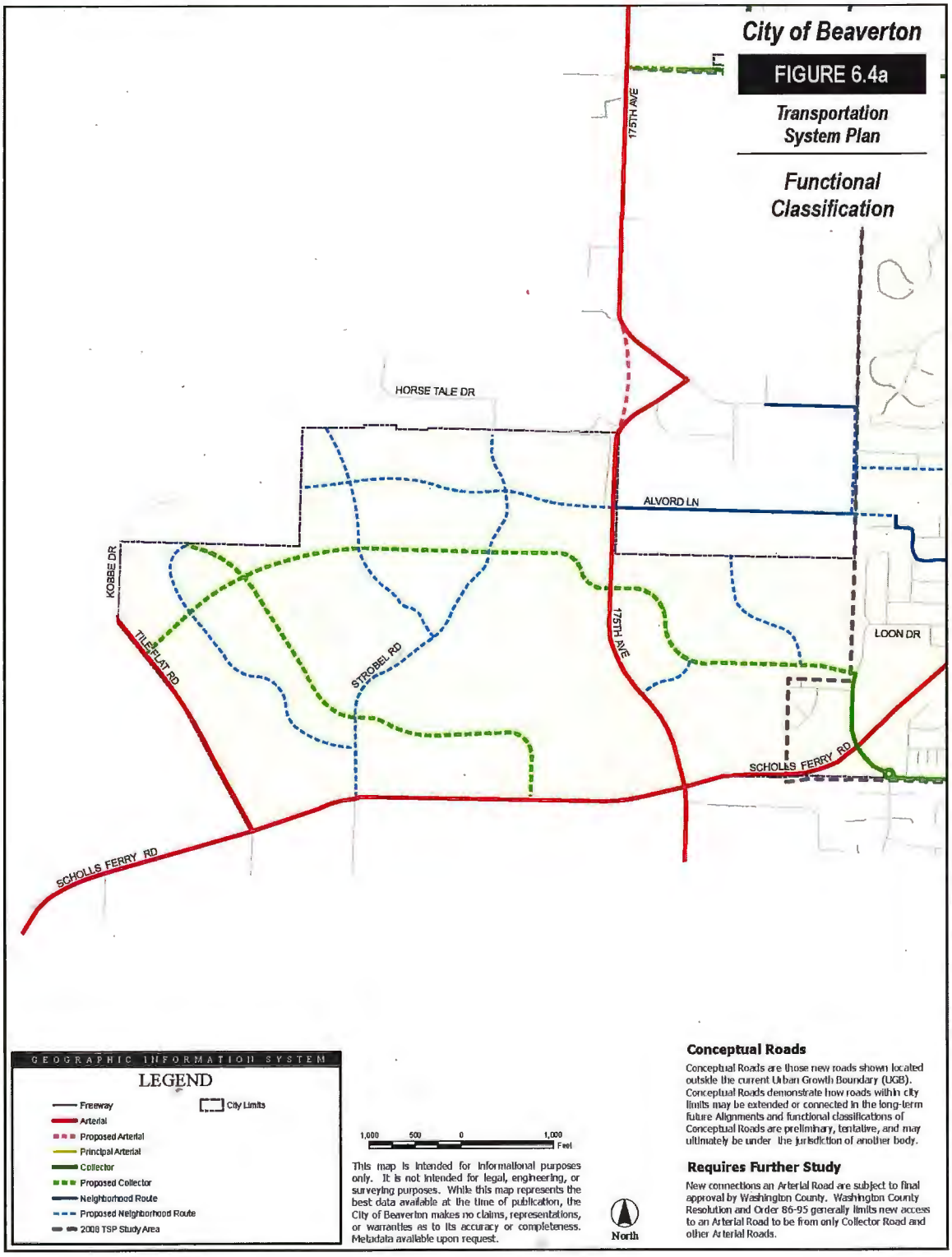
North
S:_CDD_2014\6_14_0885\14_0885_FunctionalClassificationFIG_6-4.mxd GIS-MRJ 12/29/2014


City of Beaverton
FIGURE 6.4a
Transportation System Plan
Functional Classification
175TH AVE
HORSE TALE DR
ALVORD LN
KOBBE DR
TILE FLAT RD
STROBEL RD
LOON DR
SCHOLLS FERRY RD
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
Freeway
Arterial
Proposed Arterial
Principal Arterial
Collector
Proposed Collector
Neighborhood Route
Proposed Neighborhood Route
2008 TSP Study Area
City Limits
1,000 500 0 1,000
Feet
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North
Conceptual Roads
Conceptual Roads are those new roads shown located outside the current Urban Growth Boundary (UGB). Conceptual Roads demonstrate how roads within city limits may be extended or connected in the long-term future. Alignments and functional classifications of Conceptual Roads are preliminary, tentative, and may ultimately be under the jurisdiction of another body.
Requires Further Study
New connections an Arterial Road are subject to final approval by Washington County. Washington County Resolution and Order 86-95 generally limits new access to an Arterial Road to be from only Collector Road and other Arterial Roads.
S:_CDD_20141_14_0985114_0985_FunctionalClassificationFIG_6-4a.mxd GIS-MRJ 12/23/2014

Transportation Demand Management

Transportation Demand Management (TDM) is the general term used to describe any action that removes single occupant vehicle trips from the roadway network during peak travel demand periods. As growth in the Beaverton area occurs, the number of vehicle trips and travel demand in the area will also increase. The ability to change a user's travel behavior and provide alternative mode choices will help accommodate this growth.

Generally, TDM focuses on reducing vehicle miles traveled and promoting alternative modes of travel for large employers of an area. This is due in part to the Employee Commute Options (ECO) rules that were passed by the Oregon Legislature in 1993 to help protect the health of Portland area residents from air pollution and to ensure that the area complied with the Federal Clean Air Act.[3]

Research has shown that a comprehensive set of complementary policies implemented over a large geographic area can have an effect on the number of vehicle miles traveled to/from that area.[4] However, the same research indicates that in order for TDM measures to be effective, they should go beyond the low-cost, uncontroversial measures commonly used such as carpooling, transportation coordinators/associations, priority parking spaces, etc. The more effective TDM measures include elements related to parking, improved services for alternative modes of travel, and other market-based measures. However, TDM includes a wide variety of actions that are specifically tailored to the individual needs of an area.

Redevelopment in the Beaverton area will also allow for TDM friendly development. With many regional trips destined to, or traveling through, the Beaverton area, region wide TDM measures should help to reduce congestion. Metro has established non-SOV (Single Occupancy Vehicle) mode share targets by 2040 for regional centers. These targets may also serve as performance measures for areas that have been designated as "Areas of Special Concern" The Beaverton Regional Center is classified by Metro as this type of area.[5] The 2040 non-SOV modal target for regional centers, town centers, station communities, main streets, and corridors is 45-55%.[6]

Transportation System Management

Transportation System Management (TSM) focuses on lower cost strategies to enhance operational performance of the transportation system by seeking solutions to immediate transportation problems, finding ways to better manage transportation, maximizing urban mobility, and treating all modes of travel as a coordinated system. These types of measures include such things as signal improvements, ramp metering, traffic calming, access management, intelligent transportation systems (ITS) and programs that enhance and smooth transit operations. Typically, the most significant measures that can provide tangible benefits to the traveling public are traffic signal coordination and systems.

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[3] Oregon Administrative Rules, Chapter 340, Division 30.

[4] *The Potential for Land Use Demand Management Policies to Reduce Automobile Trips*, ODOT, by ECO Northwest, June 1992.

[5] Based on the *2000 Metro Regional Transportation Plan*, Ordinance No. 00-869A (August 10, 2000), page 1-32.

[6] Based on the *2000 Metro Regional Transportation Plan*, Ordinance No. 00-869A (August 10, 2000), page 1-62.

TSM measures focus primarily on region wide improvements; however there are a number of TSM measures that are used in a smaller scale environment such as the Beaverton area. The following are TSM strategies appropriate for Beaverton to continue implementing:

- Traffic monitoring: The City and Washington County routinely collect traffic volume data in the area. The data is used as a tool to compare historical growth. The use of closed circuit television cameras and vehicle detection systems are used to help monitor the network during peak hours in order to make adjustments to signal timing to help improve flow and decrease delay, travel time, fuel consumption, and vehicle emissions.

- Signal coordination and optimization, and adaptive signal systems: The state-of-the-art traffic signal systems, using a central computer to communicate and coordinate timing plans, have proven to produce substantial benefits in reducing congestion and travel time while increasing travel speeds. In Beaverton, a recent signal timing update on Canyon Road corridor showed a reduction of 12 percent in total delay during midday, and 11 percent during the weekend period. Overall, the new signal update resulted in up to a 10 percent reduction in stops in the corridors and up to 11 percent reduction in overall delay. The reduction in side street delay in the project corridor ranged from eight percent to 33 percent. The implementation of signal optimization helps to maximize the total cycle length of a signal to provide optimal timing patterns for both the main arterial and the side street traffic. Optimization can provide additional reliability and efficiency for the transportation network. Adaptive signals are most responsive to traffic conditions and improve flow by 10 percent to 30 percent.

- Signal priority: The provision of signal priority works for both transit vehicles and emergency vehicles. Both operate on the same principles, which are improving the reliability and speed of the vehicles. Implementation of transit signal priority may supplement bus rapid transit (BRT) to improve transit travel along a corridor, allowing a bus to clear an intersection and begin passenger boarding/alighting downstream of the signal. Studies indicate that with signal priority transit travel times have decreased from 15 percent to 18 percent, while service reliability has increased from 12 percent to 23 percent for on-time performance.[7] These improvements can help cost effectiveness for transit operations.

- Information availability: An uninformed public can make inefficient transportation choices that could place a strain on the limited available capacity of a transportation network. This could create more congestion in an area that is already highly congested. By providing travelers with real-time information, the ability to make a more informed and efficient transportation decision is available.

- Incident management: Incident management includes detection, verification, response, site management, traffic management, clearance time, and recovery. Each of these steps takes time, during which the transportation operations along the corridor decrease. Research indicates that effective incident management has the potential to reduce response times by 40

[7] *Intelligent transportation system initiatives in Clark County: VAST Program*, January 2001.

percent and decrease fatalities by 10 percent in urban areas.[8] In addition, incident management has the potential to reduce delay to users and reduce emissions from vehicles.

- Access management strategies: Access management is important, particularly on high volume roadways, for maintaining traffic flow and mobility. Where local and neighborhood streets function to provide access, collector and arterial streets serve greater traffic volume. Numerous driveways, or street intersections, increase the number of conflicts and potential collisions and decrease mobility and traffic flow. Beaverton, and every city, needs a balance between streets that provide access and streets that serve mobility.

  Based on the 1999 Oregon Highway Plan (OHP), access points should not be allowed within 1320 feet of freeway interchanges. Interchanges within the TSP study area exist with numerous access points within 1320 of the interchange. These access points are locations of potential conflict with vehicles queued from the freeway on ramps, especially with queues formed from ramp meters. The following recommendation addresses the need to reclaim vehicular access control near the freeway interchanges to meet ODOT spacing standards:

  - As property redevelops, an evaluation of compliance with relevant access management policies is made for areas proximate to freeway interchanges.
  - If an existing access point is found non-compliant and it is the sole vehicular access for the property, a temporary access permit is issued that allows the property owners to continue access until such a time that alternative means can be made available.
  - In addition, the applicant will agree to potential cross-easements for circulation between adjoining properties.
  - When adjoining property re-develops that has compliant alternatives for vehicular access, the temporary permit of the first property owner is terminated and the noncompliant access is closed.
  - Intelligent Transportation System (ITS): ITS involves the application of advanced technologies and proven management techniques to relieve congestion, enhance safety, provide services to travelers, and assist transportation system operators in implementing suitable traffic management strategies. ITS focuses on increasing the efficiency of existing transportation infrastructure, which enhances the overall system performance and reduces the need to add capacity. Efficiency is achieved by providing services and information to travelers so they will make better travel decisions and to transportation system operators so they can better manage the system and improve system reliability. A regional ITS framework plan[9] has been developed by Washington County, ODOT, City of Beaverton, City of Tualatin, City of Tigard, City of Hillsboro, City of Portland, TriMet, FHWA, Washington County Consolidated Communications Agency (WCCCA) and Tualatin Valley Fire and Rescue that includes projects in the Beaverton area such as traffic monitoring, signal controller interconnect, information availability, incident management, weather data collection, traffic data retrieval, and advanced rail warning systems.

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[8] *Intelligent Transportation System Initiatives in Clark County: VAST Program*, January 2001.

[9] Washington County ITS Plan, prepared for ODOT by DKS Associates and ,

While the existing ITS infrastructure in Beaverton is moderate, projects planned through 2035 will greatly increase coverage and the type of ITS equipment used in Beaverton and throughout Washington County. Existing ITS equipment in Beaverton, future equipment that is included in the Washington County ITS Plan, and additional future equipment and projects can be used to improve operations in Beaverton. The following actions should be taken as follows:

- Implement ITS projects previously contained in the Washington County ITS plan, including:
  - Install fiber communication lines along US 26 from Highway 217 to the Helvetia interchange and along Tualatin Valley Highway from US 26 to Hillsboro.
  - Install an arterial management system along Scholls Ferry Road from Hall Boulevard to Murray Boulevard, along southwest 185th Avenue from US 26 to Baseline Road and along Cornell Road from Cornelius Pass Road to Hillsboro.
  - Installation of central signal system software that allows remote management of traffic signals and is integrated with other agencies throughout the region. Configure a virtual traffic operation center (TOC) at Washington County for the purpose of controlling regional traffic operations. To provide communication connections between Washington County and the City of Portland traffic signal systems server.
  - Configure a virtual TOC at the City of Beaverton for monitoring and control of City-maintained traffic operations. The connection between the City of Beaverton and the City of Portland traffic signal system server is already in place.
- Implement additional ITS projects not included in the Washington County ITS Plan to support the Beaverton transportation network, including installing fiber communication lines along all arterial roadways.
- Consider projects addressed in Metro's Transportation System Management and Operations (TSMO) strategic plan. The purpose of this plan is to identify and prioritize TSMO projects that will benefit the region. Revisions or additions to the regional ITS plan will require coordination with the agencies involved (including Washington County, ODOT, City of Beaverton, City of Tualatin, City of Tigard, City of Hillsboro, City of Portland, TriMet, FHWA, WCCCA and Tualatin Valley Fire and Rescue) to implement changes to the plan.

All of the previously mentioned TSM measures can work together in a transportation environment to help reduce congestion and decrease travel times for travelers. The following are the RTP projects that support Beaverton TSM. Beyond the RTP designated TSM projects, the City of Beaverton should continue to coordinate with TriMet, ODOT, and Washington County in providing signal priority at signalized intersections along rapid or frequent bus routes (Tualatin Valley Highway and Cedar Hills/Hall corridor – approximately 50 intersections) to increase transit efficiently, reduce transit travel times, and promote non-SOV person trips. Signal priority should be activated for transit vehicles that are operating behind schedule. The implementation of additional strategies should be on a case-by-case basis and evaluated for effectiveness.

- Scholls Ferry Road: Hall Boulevard to Murray Boulevard (RTP 10602); Install integrated advanced traffic monitoring systems (ATMS) and management equipment

- 185th Avenue: Baseline Road to US 26 (RTP 10604); Install integrated advanced traffic monitoring systems (ATMS) and management equipment
- Allen Boulevard, Cedar Hills Boulevard, Hall Boulevard, Farmington Road Beaverton-Hillsdale Highway (RTP 10642) Adaptive traffic signal systems; New signals and signal upgrades

Safety

The City monitors intersection collision history through its own safety index program and Washington County's Safety Priority Index System. Both are linked to the Oregon Department of Transportation's safety program. Intersections with high collision rates are given special attention for safety improvements. Safety improvement projects are developed and proposed for funding through various State and local sources.

6.5 TRANSPORTATION SYSTEM PLAN IMPROVEMENTS

Motor Vehicle Needs and Alternatives

Motor vehicle projects that were identified in the 2035 TSP as potentially meeting a need for a corridor in the initial screening process were summarized in a matrix and analyzed further for each corridor. The following three criteria were analyzed for each project that was considered:

- **Feasibility** - Includes issues such as right of way, land use impact, and overall cost. While not a fatal flaw analysis, it considers the likelihood that a project could be reasonably constructed. This measure favors projects that can be practically implemented. In some cases, projects may include factors that make implementation difficult, however given the magnitude of benefit the project is still considered feasible, even with the recognized challenges. In some cases regional projects are not considered feasible for the City of Beaverton due to total cost, and feasibility is contingent on funding partnerships with other regional agencies.
- **Grid and Function Consistency** – Considers issues related to system design such as connectivity, functional class of a facility, facility spacing, and consistency within the existing facility and regional design.
- **Congestion** – This considers if the project addresses an identified congestion issue. While identified projects generally address a specific operational need, in some cases these projects are local issues that do not impact the overall system or corridor need that has been identified as providing the greatest benefit to the system. In many cases a project may have been previously identified if the minor street delay was expected to exceed adopted performance standards. However, funding constraints do not allow every identified project to be constructed and only the specific focus corridor mobility is identified as the congestion need.

Each project was assigned a ranking of low, medium, or high based on the three criteria. Generally, projects that were not considered feasible were assigned a priority of "low" since they would not be a cost-effective solution to the problem, while projects that met all three criteria were considered high priority. A project that was considered "feasible" and met one of the other two criteria was listed as medium. **The Transportation System Solutions Report in the 2035 TSP Appendix contains additional detail for the alternatives analysis.** Additional right turn lane

channelization projects were identified based on capacity need and implementation feasibility in the TSP.

Financially Constrained Action Plan

Multimodal improvement projects that address the needs of the transportation system were selected based on the 2035 TSP alternatives analysis. Projects that were selected as high priority projects and are reasonably likely to be funded by 2035 are included in Table 6-1 with other modal Action Plan projects. Figure 6.5 shows the locations for these high priority Action Plan projects.

Table 6-1: Action Plan

RTP # or Orig. Ref#	2035 TSP ID	Location	Description	Juris.	Full Proj. Cost ($1,000s)	Phasing	City Cost ($1,000s)
2035 RTP Projects Funded by Others							
10546	2	170th Ave: Alexander St. to Merlo Rd.	Widen roadway to 4 lanes with left turn lanes at major intersections and bike lanes and sidewalks.	Wash Co	$30,095	2011-2015	$0
10561	7	Jenkins Rd: Murray Blvd. to 158th Ave.	Widen roadway from three to five lanes with bike lanes and sidewalks.	Wash Co	$16,635	2011-2015	$0
10570	9a	Walker Rd: 185th Ave. to Murray Blvd.	Widen from two to five lanes with bike lanes and sidewalks	Wash Co	$56,255	2016-2020	$ 0
10579	12	Barnes: Hwy. 217 to 119th (future)	Widen to five lanes with bike lanes and sidewalks	Wash Co	$32,475	2021-2025	$0
10602	15	Scholls Ferry: Hall Blvd. to Murray Blvd.	Install integrated ATMS and management equipment.	Wash Co	$1,190	2009-2010	$0
10607	18	Sunset Transit Center Station	Complete 9100 feet of sidewalk improvements.	Wash Co	$6,435	2011-2015	$0
10610	19	Saltzman Rd: Cornell Rd. to Barnes Rd.	Complete 950 feet of bike lanes in town center.	Wash Co	$885	2026-2030	$0
10613	20	Cornell Rd: Saltzman Rd. to 119th Ave.	Completes 1750 feet of bike lanes in town center.	Wash Co	$1,110	2026-2030	$0
10810	70	Westside Trail (Regional): Hwy 26 to THPRD Nature Park	To design and construct a regional trail multi-use segment in a utility corridor, 10'-12' wide paved.	THPRD	$4,285	2011-2015	$0
10811	71	Beaverton Creek Trail (Regional): SW 194th Ave. to Fanno Creek Trail	To design and construct a regional trail, 10'-12' wide paved and on street where appropriate.	THPRD	$7,500	2016-2020	$0
10813	72	Westside Trail (Regional): Farmington Rd. to Scholls Ferry Rd.	To design and construct a regional trail multi-use segment in a utility corridor, 10'-12' wide paved.	THPRD	$4,285	2011-2015	$0
10850	74	Beaver Creek Trail, Bronson Creek Trail	Construct Ped/Bike Trail	Hillsboro	$1,070	2016-2020	$0
10929	76	Frequent Bus: Line 76 – Beaverton / Tualatin: N/A to N/A	390 additional service hours upgrade and related bus stop and ROW improvements.	TriMet	$3,295	ongoing	$0
11122	80	OR 217: US 26 to OR 8	Widen OR 217 and structures. (Complete 2011)	ODOT	$40,360	2009-2010	$0
11124	81	US 26W: Cornell Rd to 185th Ave.	Widen US 26 to 6 lanes from Cornell Rd. to 185th Ave.	ODOT	$22,830	2011-2015	$0
TSM Projects							
		Walker Road: 173rd Ave to OR 217	Adaptive Signal Systems	Wash Co	$1,025	2016-2020	$0
		Walker Road: 173rd Ave to OR 217	Access Management Strategies	Wash Co	$1,000	2016-2020	$0

RTP # or Orig. Ref#	2035 TSP ID	Location	Description	Juris.	Full Proj. Cost ($1,000s)	Phasing	City Cost ($1,000s)
		Jenkins Road: 170th Ave to Cedar Hills Blvd	Adaptive Signal Systems	Wash Co	$1,115	2011-2015	$0
		Jenkins Road: 170th Ave to Cedar Hills Blvd	Access Management Strategies	Wash Co	$1,000	2011-2015	$0
		Canyon Road: 170th Ave to OR 217	Adaptive Signal Systems	ODOT	$1,410	2009-2010	$0
		Canyon Road: 170th Ave to OR 217	Access Management Strategies	ODOT	$1,000	2009-2010	$0
		Farmington Road/BH Hwy: Murray Blvd to Scholls Ferry Rd	Adaptive Signal Systems	Beaverton/ ODOT	$1,845	2011-2015	$1,845
		Farmington Road/BH Hwy: Murray Blvd to Scholls Ferry Rd	Access Management Strategies	Beaverton/ ODOT	$1,000	2011-2015	$1,000
		Scholls Ferry Road: Barrows Rd (west) to OR 217	Adaptive Signal Systems	Wash Co	$1,565	2009-2010	$0
		Scholls Ferry Road: Barrows Rd (west) to OR 217	Access Management Strategies	Wash Co	$1,000	2009-2010	$0
		Murray Boulevard: Scholls Ferry Rd to US 26	Adaptive Signal Systems	Wash Co	$2,165	2011-2015	$0
		Murray Boulevard: Scholls Ferry Rd to US 26	Access Management Strategies	Wash Co	$1,000	2011-2015	$0
Pedestrian Projects							
-	142	Downtown Beaverton Connectivity collector roadways: Hocken Avenue/ to 110th Avenue/	Add sidewalk	Beaverton	$1,365	2016-2020	$1,365
NA	514	Millikan Way: East Avenue to Lombard Avenue	Add sidewalk	Beaverton	$ 305	2011-2015	$ 305
NA	515	Watson Avenue: Millikan Way to Canyon Road	Add sidewalk (east side)	Beaverton	$ 325	2026-2030	$ 325
10646	48	Hall Blvd. / Watson Ave. pedestrian improvements: Cedar Hills Blvd.. to Allen Blvd.	Add pedestrian improvements at intersections and amenities (lighting, plazas).	Beaverton	$2,570	2021-2025	$2,570
-	110	Study and Improve unsignalized trail crossing of roadways in City jurisdiction	Add sidewalk	Beaverton	$13,170	ongoing	$13,170
-	143	Pedestrian Access to MAX: LRT Stations	Add sidewalk	Beaverton	$1,515	2011-2015	$1,515
-	171	170th/173rd Avenue: Baseline/Jenkins to Walker Road	Add sidewalk	Beaverton	$290	2009-2010	$290
Bicycle Projects							
-	200	Walker Road bike lanes: Cedar Hills Boulevard to Lynnfield Lane	Add bike lane	Wash Co/ Beaverton	$200	2026-2030	$200

RTP # or Orig. Ref#	2035 TSP ID	Location	Description	Juris.	Full Proj. Cost ($1,000s)	Phasing	City Cost ($1,000s)
10664	61	Watson Ave: Hall Blvd. to Farmington Rd..	Construct bike lanes.	Beaverton	$4,820	2021-2025	$4,820
10665	62	6th Ave: Murray Blvd. to Erickson Ave	Construct bike lanes.	Beaverton	$3,885	2011-2015	$3,885
-	176	Canyon Road: 110th Avenue to 91st Avenue	Add bike lane	ODOT	$1,725	2011-2015	$0
NA	566	114th Avenue: Center Street to MAX rail	Add signing and pavement marking for shared bike lane	Beaverton	$ 5	2009-2010	$ 5
NA	583	Hall Boulevard: Hocken Road to Cedar Hills Boulevard [private]	Add signing and pavement marking for shared bike lane	Beaverton	$ 10	2021-2025	$ 10
NA	584	Cedar Hills Boulevard: Hall Boulevard to Farmington Road	Add bike lane	Beaverton	$ 1,900	2026-2030	$ 1,900
NA	588	Hall Boulevard: Watson Avenue (north couplet) to Farmington Road	Add bike lane	Beaverton	$ 1,130	2026-2030	$ 1,130
NA	589	Millikan Way: Rose Biggi Avenue to Lombard Avenue	Add signing and pavement marking for shared bike lane	Beaverton	$ 25	2009-2010	$ 25
NA	590	Hall Boulevard: Watson Ave (north couplet) to Cedar Hills Blvd	Add bike lane	Beaverton	$ 1,270	2026-2030	$ 1,270
NA	591	Hocken Avenue: Millikan Way to Canyon Road	Restripe for designated bike lanes, and widen as needed at intersections	Beaverton	$ 275	2031-2035	$ 275
NA	592	Dawson Way: Hocken Avenue to Cedar Hills Boulevard	Add signing and pavement marking for shared bike lane	Beaverton	$ 10	2031-2035	$ 10
NA	593	Broadway Street: Canyon Road to Lombard Avenue	Add signing and pavement marking for shared bike lane	Beaverton	$25	2009-2010	$25
-	185	Beaverton-Hillsdale Hwy bike lanes: OR 217 to 91st Avenue	Add bike lane	ODOT	$685	2011-2015	$0
-	186	Beaverton-Hillsdale Hwy bike lanes: 91st Avenue to Multnomah. County Bound.	Add bike lane	ODOT	$1,350	2031-2035	$0
NA	568	Griffith Drive: 5th Street to Farmington Road	Add signing and pavement marking for shared bike lane	Beaverton	$ 20	2021-2025	$ 20
NA	569	Lombard Avenue 5th Street to Farmington Road	Add signing and pavement marking for shared bike lane. (Stripe bike lanes when financially feasible in future)	Beaverton	$ 15	2021-2025	$ 15
NA	570	Erickson Avenue: 6th Street to Farmington Road	Add signing and pavement marking for shared bike lane	Beaverton	$ 15	2021-2025	$ 15
NA	561	Cedar Hills Boulevard: Walker Road to Hall Boulevard	Add bike lane	Beaverton	$ 2,210	2026-2030	$ 2,210
NA	567	110th Avenue: BH Highway to Tualatin Valley Highway	Add bike lane	Wash Co	$ 765	2026-2030	$ 0
-	214	170th/173rd Avenue bike lanes: Baseline Road to Walker Road [complete]	Add bike lane	Beaverton	$455	2009-2010	$455
	594	Millikan Way at Murray Blvd to Cabot Street at 110th Avenue	Add signing for Regional Center bike route from Murray Boulevard via Millikan Way to Lombard Street, and connecting to Cabot Street at 110th Avenue via Lombard Street and Center Street. Add shared pavement markings where bike lanes do not exist.	Beaverton	$250	2011-2015	$250

RTP # or Orig. Ref#	2035 TSP ID	Location	Description	Juris.	Full Proj. Cost ($1,000s)	Phasing	City Cost ($1,000s)
Motor Vehicle Projects							
10616	22	Rose Biggi Ave: Crescent Street to Hall Blvd	Extend 2-lane Rose Biggi Ave. to Hall Blvd. (via Westgate Drive) to fill a gap; boulevard design; add sidewalks, bikeway (PE and ROW funded STIP Key #14400).	Beaverton	$3,750	2011-2020	$3,750
10617	23	Farmington Rd: Murray Blvd. to Hocken Ave	Construct turn lanes and intersection improvements; signalize where warranted; add bike lanes and sidewalks in gaps.	Beaverton	$9,320	2011-2015	$9,320
10618	24	Dawson/Westgate: Rose Biggi Avenue to Hocken Ave.	Extend 2 lane street from Hocken via Dawson and Westgate at Rose Biggi to fill a gap; realign Dawson/Westgate at Cedar Hills; add turn lanes at intersections, sidewalks, bikeway.	Beaverton	$9,535	2021-2025	$9,535
10619	25	Crescent St. multimodal extension: Rose Biggi Ave. to Cedar Hills Blvd.	Extend 2 lane Crescent from Cedar Hills to Rose Biggi Ave. to fill a gap; add sidewalks, bikeway.	Beaverton	$3,750	2031-2035	$3,750
10620	26	Millikan Way: Watson Ave. to 114th Ave.	Extend 2 lane Millikan Way to 114th to fill a gap; add turn lanes at intersections, sidewalks, bikeway.	Beaverton	$14,785	2026-2030	$14,785
10621	27	New street connection: Broadway to 115th Ave.	Construct new 2 lane street with bikeway and sidewalks.	Beaverton	$4,820	2031-2035	$4,820
10626	31	114th Ave./115th Ave.: LRT to Beaverton Hillsdale Hwy/Griffith Drive	Construct 2 lane street with bike and pedestrian improvements.	Beaverton	$10,710	2026-2030	$10,710
10628	33	Center Street and 113th Ave: Hall Blvd. to Cabot Street	Add sidewalks and bikelanes; add turn lanes where needed.	Beaverton	$5,785	2031-2035	$5,785
10631	35	141st/142nd/144th: 141st Ave. to 144th Ave.	Connect streets, add bikeways, sidewalks, turns lanes and signalize as warranted.	Beaverton	$6,855	2016-2020	$6,855
10636	40	Millikan Way: 141st Ave. to Hocken Ave.	Add turn lanes as needed, bike lanes and sidewalks, signalize as warranted.	Beaverton	$2,785	2016-2020.	$2,785
10638	41	Davies Rd: Scholls Ferry Rd. to Barrows Rd.	Extend 2 lane street with turn lanes, bike lanes and sidewalks.	Beaverton	$5,250	2031-2035	$5,250
10635	39	125th Ave: Brockman St. to Hall Blvd.	Construct new multimodal street with bike lanes and sidewalks	Beaverton	$14,890	2011-2015	$14,890
10642	44	Allen Blvd., Cedar Hills Blvd., Hall Blvd., Farmington Rd BH	Adaptive Traffic Signal Systems. New signals and signal upgrades.	Beaverton	$10,710	2016-2020	$10,710
5037	82	170th Ave/173rd Ave: Baseline Rd to Walker Rd [complete]	Widen to 3 lanes with bike lanes and sidewalks.	Beaverton	$8,100	2009-2010	$8,100
11b	90	158th/Jenkins	overlap NB RT	Wash Co	$165	2011-2015	$0
104	91	Cornell/US 26 WB	add 2nd WB LT lane (structure work)	ODOT	$1,315	2021-2025	$0
113	104	Murray/Brockman	add WB RT lane, ROW	Wash Co	$130	2021-2025	$0
50b	106	Scholls Ferry/OR 217 NB on ramp	Add 2nd NB LT lane And a 2nd WB LT lane	ODOT	$1,315	2011-2015	$0
3060	222	Tualatin Valley Hwy: 117th Avenue to Hillsboro	Implement access management strategies	ODOT	$21,900	2016-2020	$0
3061	223	Tualatin Valley Hwy: 209th Avenue to OR 217	Interconnect traffic signals	ODOT	$2,190	2016-2020	$0

RTP # or Orig. Ref#	2035 TSP ID	Location	Description	Juris.	Full Proj. Cost ($1,000s)	Phasing	City Cost ($1,000s)
3063	224	Murray Blvd: Tualatin Valley Hwy to Allen Blvd	Interconnect traffic signals	Wash Co	$75	2011-2015	$0
3086	226	158th: Walker to Jenkins	Widen to 5 lanes including bike lanes	Wash Co	$655	2011-2015	$0
0	232	Scholls Ferry Rd: Teal to 175th	Widen to 5-lanes including sidewalks and bike lanes	Wash Co	$6,045	2026-2030	$0
0	235	Various	Addition of 50 traffic signals per plan	Beaverton	$18,890	ongoing	$18,890
4	238	Merlo/170th	Signal phase change to permitted/protected for NB/SB approaches and to protected phasing for EB/WB approaches; add NB right turn lane; add NB, SB, and EB left turn lanes	Wash Co	$2,265	2011-2015	$0
10	242	Walker/158th	NB/SB double left turn lanes; add EB right turn lane; NB right turn lane; WB through lane (2 through lanes in each direction); signal phasing change to EB/WB permitted/protected phasing	Wash Co	$3,400	2011-2015	$0
28	252	Scholls Ferry/Barrows	Close Barrows at Scholls Ferry east	Wash Co	$225	2031-2035	$0
43	264	Hall/Greenway	Signal phase change to permitted/protected phasing for EB and WB approaches	Beaverton	$190	2016-2020	$190
44	265	Hall/Nimbus	Signal phase change to protected/permitted phasing for NB and SB approaches	Beaverton	$190	2016-2020	$190
57	276	Allen/Scholls Ferry	Widen Allen to 5 lanes; restripe WB approach; signal phase change for all approaches to permitted/protected phasing	Beaverton	$190	2016-2020	$190
61	280	BH Highway/OR 217 SB	Dual SB left turn lane	ODOT	$755	2021-2025	$0
20	248	Murray/Farmington	Double left turn lanes on all approaches, SB, EB, and WB right turn lanes	Wash Co/ Beaverton	$3,780	2011-2015	$3,780
64	283	Allen/OR 217 NB	Add WB right turn lane; signal modifications to NB/SB split phasing	ODOT	$755	2021-2025	$0
2	236a	Walker/173rd	Add EB/WB right turn lanes	Wash Co	$500	2011-2015	$0
17	245a	Walker/Murray	Add right turn lanes on all approaches	Wash Co	$1,000	2016-2020	$0
17	245b	Walker/Murray	Add double left turn lanes on NW bound Walker approach to match SE bound leg	Wash Co	$500	2016-2020	$0
18	246a	Murray/Jenkins	Add southbound right turn lane	Wash Co	$250	2011-2015	$0
35	259b	Canyon/Cedar Hills	Add NB left turn lane; add SB left turn lane	Beaverton	$3,500	2021-2025	$3,500
47	267b	Scholls Ferry/125th	Add SB right turn lane	Beaverton	$250	2031-2035	$250
103	89c	Cornell/173rd	SB RT lane	Beaverton	$500	2026-2030	$500
NA	700	Greenway/ Hall	Add EB RT lane	Beaverton	$250	2016-2020	$250
NA	701	170th/ Farmington	Add SB RT lane	Wash Co	$250	2031-2035	$0
NA	702	Hall/ Scholls	Add WB RT lane	ODOT	$250	2021-2025	$0
NA	703	158th/ Walker	Add WB RT lane	Wash Co	$250	2011-2015	$0
NA	704	158th/ Jenkins	Add WB RT lane	Wash Co	$250	2011-2015	$0

RTP # or Orig. Ref#	2035 TSP ID	Location	Description	Juris.	Full Proj. Cost ($1,000s)	Phasing	City Cost ($1,000s)
NA	705	Hocken/ Farmington	Add SB RT lane	Beaverton	$250	2026-2030	$250
NA	706	Cedar Hills/ Walker	Add EB/WB RT lanes	Beaverton	$500	2011-2015	$500
NA	707	Hall/ Allen	Add EB RT lane	Beaverton	$250	2021-2025	$250
NA	708	Hocken/ Canyon	Add EB RT lane	ODOT	$250	2026-2030	$0
NA	709	Murray/ Allen	Add SB RT lane	Wash Co	$250	2016-2020	$0
NA	710	Hwy 217 SB Ramps/ Hall	Add SB RT lane	ODOT	$250	2016-2020	$0
NA	711	170th/ Bany	Add EB RT lane	Wash Co	$250	2031-2035	$0
NA	712	Center/ Hall	Add WB RT lane	Beaverton	$250	2031-2035	$250
NA	713	Cedar Hills/ Barnes	Add WB RT lane storage	Wash Co	$250	2016-2020	$0

Action Plan Cost by Mode	
Other Projects	$0
TSM Projects	$2,845
Pedestrian Projects	$ 19,540
Bicycle Projects	$ 16,520
Motor Vehicle Projects	$140,035
Total Cost	**$178,940**

The Action Plan includes a mix of operational, capacity, and connectivity improvements for all modes of travel on City, County, and ODOT facilities. Table 6-2 summarizes the cost of the Action Plan by agency. As listed, the planned City of Beaverton funding amount (approximately $179 million) is significantly less than the prior unconstrained project list total (over $720 million) and is reasonable to achieve over the next 25 years.

Action Plan priorities and funding recommendations for other agencies are recommendations from Beaverton on how best to invest limited resources to serve future travel needs within the City. While these recommended Action Plan projects are within the range of reasonable funding for the area, until implementing measures are taken through an update to Metro's RTP, the Action Plan projects are not considered "reasonably likely to be funded" for Transportation Planning Rule purposes. The City submitted the Action Plan for inclusion in Metro's RTP and it is currently acknowledged in the corridor plans.

Table 6-2: Action Plan Funding by Agency	
Agency	**Sum of Action Plan Projects ($1,000s)**
ODOT	$98,340
Washington County	$172,425
Beaverton	$178,940
Hillsboro	$1,070
THPRD	$16,070
TriMet	$3,295
Total	$470,140

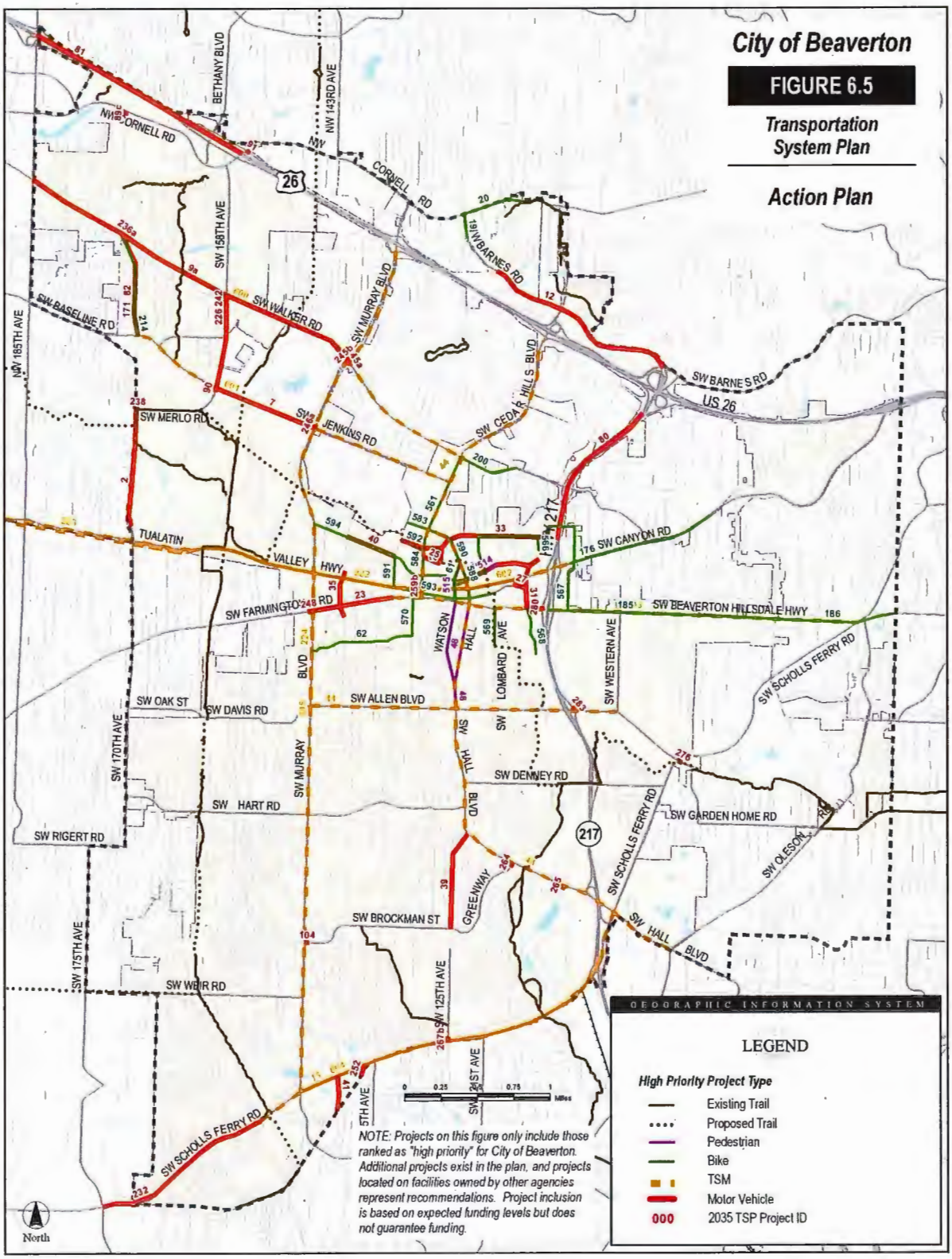
Project Implementation

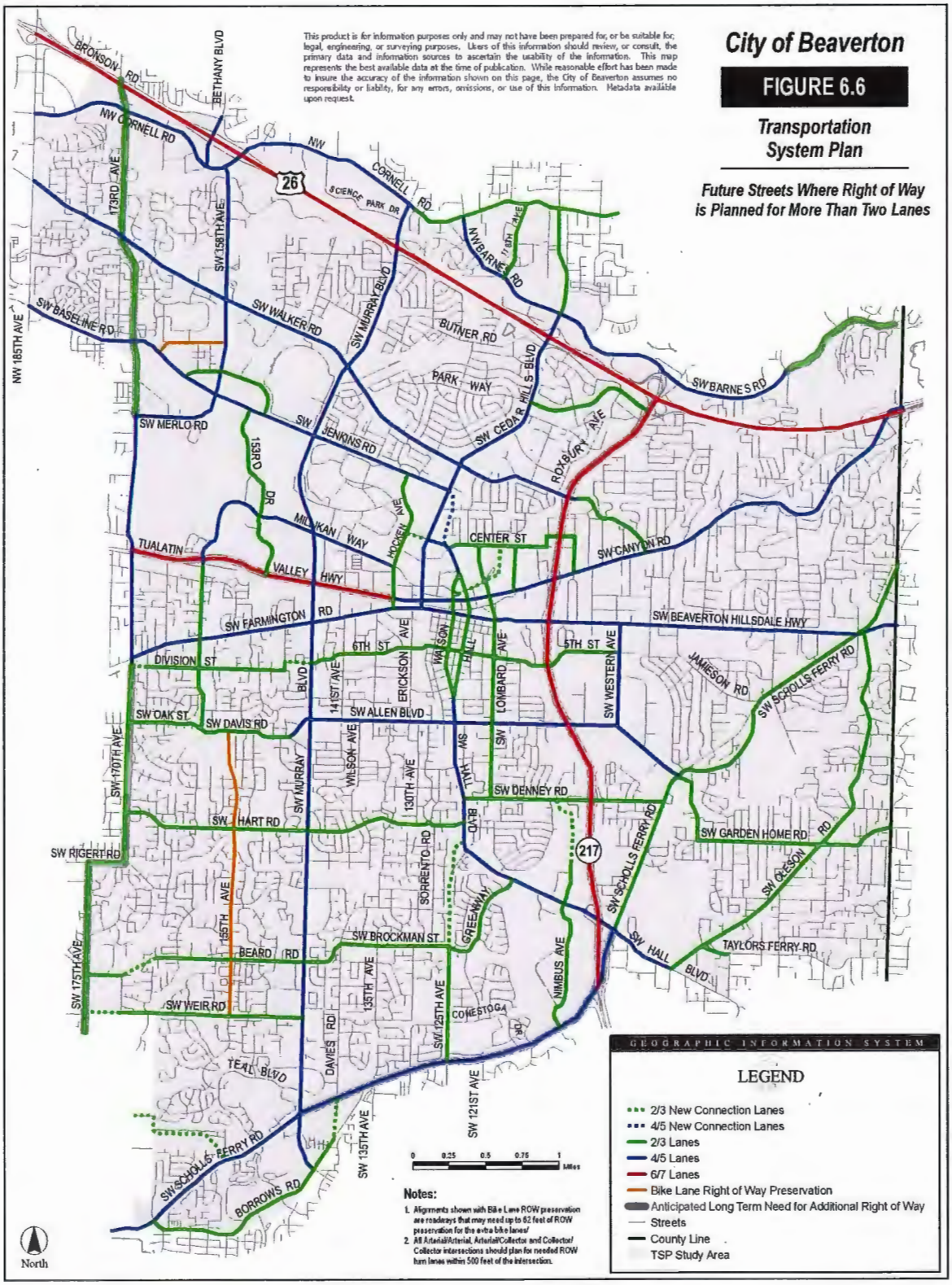
Transportation needs identified in the 2035 TSP analysis remain as unfunded needs though they are not all listed or mapped within this chapter. The figures and tables do not preclude implementing any project whether mapped or not mapped, listed or not listed, in order to take advantage of an opportunity provided by a proposed development or redevelopment, a roadway construction or reconstruction project, or any other project involving infrastructure improvements. The responsibility of new development to provide improvements and the standards to which all improvements must be built are identified in the Beaverton Development Code, the Engineering Design Manual, and the standards of 28 CFR Part 36 Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities (the Americans with Disabilities Act).

Any change within or adjacent to a transportation facility or public right-of-way represents an opportunity to expand or improve the system. To take advantage of such opportunities and make the most cost-effective use of public and private funds, the City may schedule and make financing provision for any transportation improvement that the City deems necessary or desirable, whether the improvement is specifically planned in the Comprehensive Plan or not, whether the improvement is funded publicly, privately, or in combination, whether the improvement is ultimate or interim, and regardless of the timing of the improvement relative to the priorities and timing in the Comprehensive Plan.

Correspondingly, the City Council may include a transportation improvement that it deems necessary in the capital improvement plan and budget. The City may seek state, regional, and federal funding assistance whether an improvement is specifically planned in the Comprehensive Plan or not, and whether the improvement is ultimate or interim. However, only those transportation improvements that comply with applicable provisions of the City's adopted codes, ordinances, and Comprehensive Plan shall be implemented.

Streets where future right-of-way is needed for more than two lanes are identified in Figures 6.6 and 6.6a. At times, right-of-way may be needed for construction of bike lanes on a collector or arterial to City standards. Such needs are also included in Figures 6.6 and 6.6a to preserve the right-of-way if new development is proposed or anticipated in the area or additional funds are accessed. In addition, arterial and collector intersections should plan for right-of-way for turn lanes within 500 feet of the intersection.


City of Beaverton
FIGURE 6.5
Transportation System Plan
Action Plan
BETHANY BLVD
NW 143RD AVE
NW CORNELL RD
CORNELL RD
26
NW BARNES RD
SW 158TH AVE
SW BASELINE RD
SW WALKER RD
SW MURRAY BLVD
SW CEDAR HILLS BLVD
SW BARNES RD
US 26
NW 185TH AVE
SW MERLO RD
SW JENKINS RD
217
TUALATIN VALLEY HWY
SW CANYON RD
SW FARMINGTON RD
SW BEAVERTON HILLSDALE HWY
SW WESTERN AVE
SW SCHOLLS FERRY RD
SW OAK ST
SW DAVIS RD
SW ALLEN BLVD
SW LOMBARD AVE
SW HALL BLVD
SW 170TH AVE
SW MURRAY BLVD
SW DENNEY RD
SW HART RD
SW GARDEN HOME RD
SW RIGERT RD
SW OLESON RD
SW GREENWAY
SW BROCKMAN ST
SW HALL BLVD
SW 175TH AVE
SW WEIR RD
SW 125TH AVE
SW 124ST AVE
SW 115TH AVE
SW SCHOLLS FERRY RD
0 0.25 0.75 1 Miles
NOTE: Projects on this figure only include those ranked as "high priority" for City of Beaverton. Additional projects exist in the plan, and projects located on facilities owned by other agencies represent recommendations. Project inclusion is based on expected funding levels but does not guarantee funding.
North
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
High Priority Project Type
Existing Trail
Proposed Trail
Pedestrian
Bike
TSM
Motor Vehicle
000 2035 TSP Project ID
10_0274 6_TRANSPORTATION_2010\10_027 4\FIG_6.5.mxd GIS-HRJ 20100729

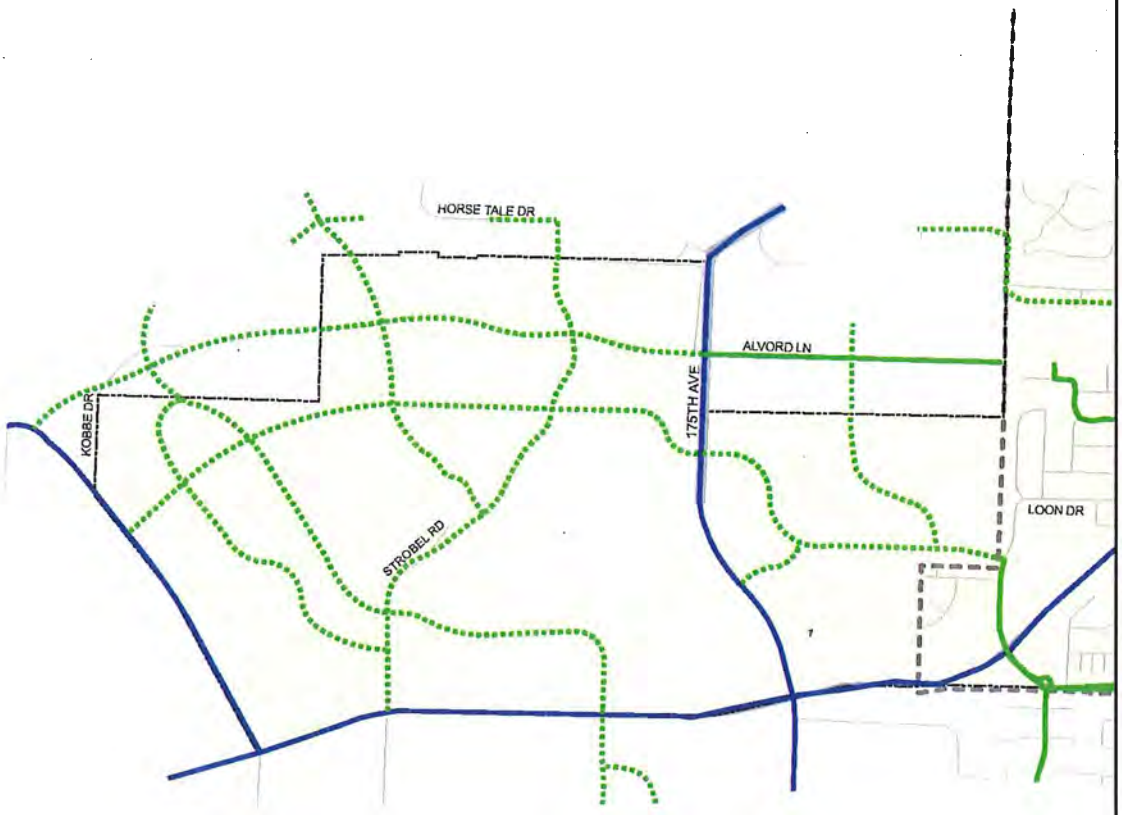

This product is for information purposes only and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review, or consult, the primary data and information sources to ascertain the usability of the information. This map represents the best available data at the time of publication. While reasonable effort has been made to insure the accuracy of the information shown on this page, the City of Beaverton assumes no responsibility or liability, for any errors, omissions, or use of this information. Metadata available upon request.
City of Beaverton
FIGURE 6.6
Transportation System Plan
Future Streets Where Right of Way is Planned for More Than Two Lanes
BRONSON RD
BETHANY BLVD
NW CORNELL RD
NW 185TH AVE
173RD AVE
SW 158TH AVE
26
SCIENCE PARK DR
NW CORNELL RD
NW BARNES RD
SW BASELINE RD
SW WALKER RD
SW MURRAY BLVD
BUTNER RD
PARK WAY
SW CEDAR HILLS BLVD
SW BARNES RD
SW MERLO RD
SW JENKINS RD
153RD DR
ROXBURY AVE
MILLKAN WAY
HOCKEN AVE
CENTER ST
SW CANYON RD
TUALATIN VALLEY HWY
SW FARMINGTON RD
SW BEAVERTON HILLSDALE HWY
DIVISION ST
6TH ST
141ST AVE
ERICKSON AVE
WATSON AVE
LOMBARD AVE
5TH ST
SW WESTERN AVE
JAMIESON RD
SW SCHOLLS FERRY RD
SW OAK ST
SW DAVIS RD
SW ALLEN BLVD
SW 170TH AVE
SW MURRAY BLVD
WILSON AVE
130TH AVE
SW HALL BLVD
SW DENNEY RD
SW HART RD
SW GARDEN HOME RD
SW RIGERT RD
SORRENTO RD
217
SW OLESON RD
SW 155TH AVE
GREENWAY
SW BROCKMAN ST
SW HALL BLVD
TAYLORS FERRY RD
SW 175TH AVE
BEARD RD
NIMBUS AVE
SW WEIR RD
135TH AVE
SW 125TH AVE
CONESTOGA
DAVIES RD
TEAL BLVD
SW 121ST AVE
SW 135TH AVE
SW SCHOLLS FERRY RD
BORROWS RD
0 0.25 0.5 0.75 1 Miles
Notes:
1. Alignments shown with Bike Lane ROW preservation are roadways that may need up to 62 feet of ROW preservation for the extra bike lanes/
2. All Arterial/Arterial, Arterial/Collector and Collector/Collector intersections should plan for needed ROW turn lanes within 500 feet of the intersection.
North
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
2/3 New Connection Lanes
4/5 New Connection Lanes
2/3 Lanes
4/5 Lanes
6/7 Lanes
Bike Lane Right of Way Preservation
Anticipated Long Term Need for Additional Right of Way
Streets
County Line
TSP Study Area
10_0274 S:_TRANSPORTATION_2010\10_0274\FIG_6.6.mxd GIS-MRJ 20100826

City of Beaverton

FIGURE 6.6a

Transportation System Plan

Future Streets Where Right of Way is Planned for More Than Two Lanes



LEGEND

- 2/3 New Connection Lanes
- 4/5 New Connection Lanes
- 2/3 Lanes
- 4/5 Lanes
- 6/7 Lanes
- Bike Lane Right of Way Preservation
- Anticipated Long Term Need for Additional Right of Way
- 2009 TSP Study Area Boundary
- City Limits
- Major Roads
- Local Streets

1,000 500 0 1,000 Feet

This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or

North

Other Multimodal Improvements

Local Connectivity Maps

The Local Connectivity Maps identify recommended and adopted local bicycle, pedestrian, and multimodal street connections. As new development and redevelopment occur, there is an opportunity to work toward completion of the local circulation system by providing new, more direct and convenient connections within subareas for all modes. Such new connections can also help reduce out-of-direction and cut-through vehicle traffic in neighborhoods.

The 2035 updated Local Connectivity Maps (Figures 6.7 through 6.23) identify existing street stubs and potential future local connections that shall be evaluated and considered with new development. A new connection may be a local street, or if there are environmental or existing development constraints, a pedestrian and bicycle way can be considered. Each potential connection is numbered and an arrow points in the general direction of a possible new connection. A corresponding data table, Table 6-3, notes if a potential or definite environmental problem or another constraint has been identified and whether a multimodal street ("pursue multimodal") or a bicycle and pedestrian connection ("pursue non-auto") is recommended to be pursued or is already adopted. Adopted Washington County connections within Beaverton's planning area are also noted for information.

Beaverton's Development Code requires that additional street, bicycle, and pedestrian connections be considered and constructed where feasible. The Figure 6.7 and Table 6-3 recommendations address some of the existing local street stubs and additional identified potential connections in the study area. The fact that there are potential connections not noted on the map or in this table does not negate the Code requirements for additional multimodal connections. Numbers correspond to map locations. Arrow directions are general in nature and represent the recommended direction, though arrow direction may change with design. Additional collector and arterial connections are noted on the Functional Classification map.

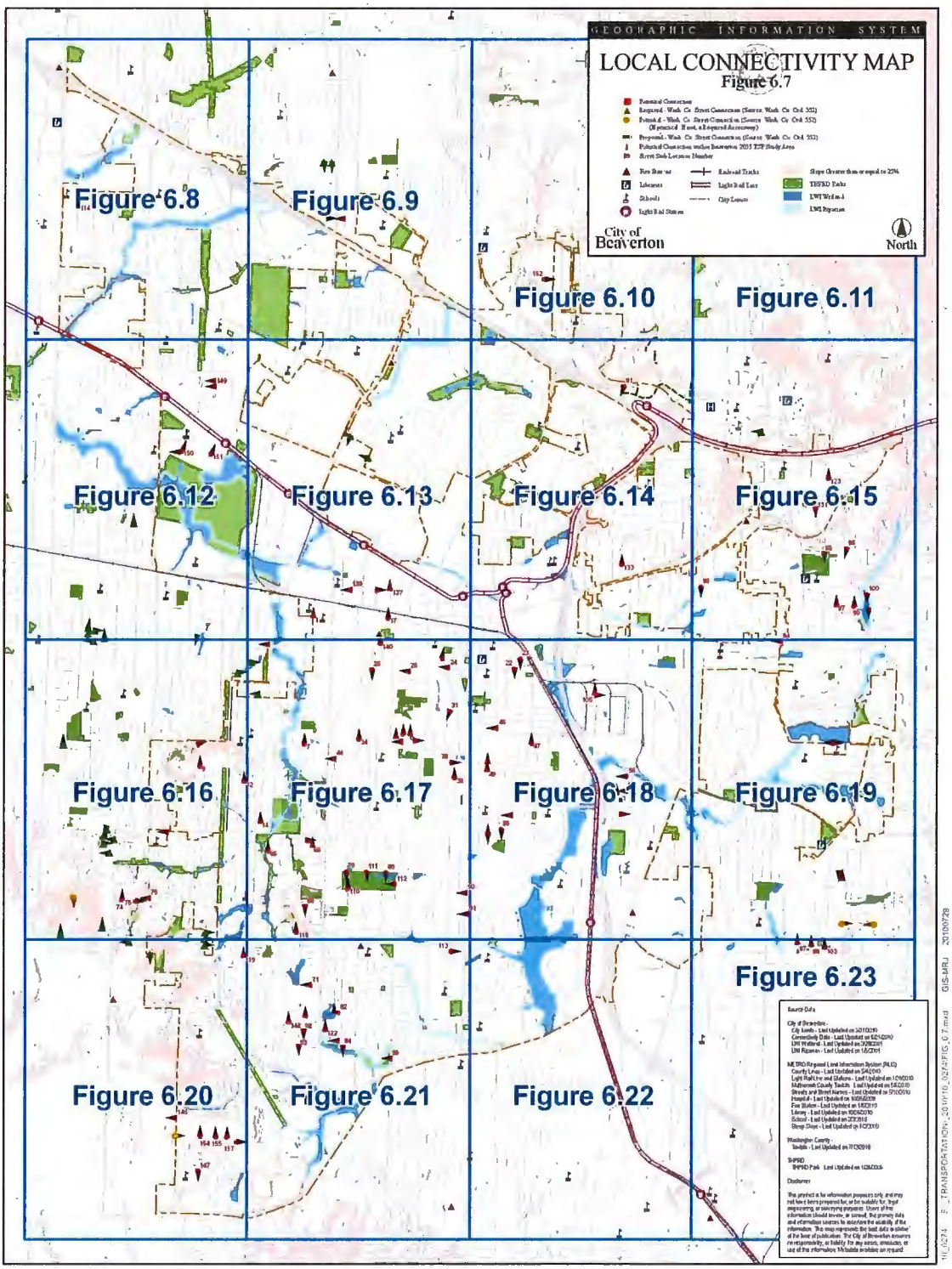
Table 6-3: Local Connectivity Recommendations

Map ID#	P = Potential or Definite Problems: problems may include existing development or environmental constraints M = Minimal Problems A = City Adopted Street Connections County = Washington County Adopted Connection	Recommendation
1	P	Feasibility Constraints
2	M	Pursue Multimodal
7	P	Pursue Non-auto
8	P	Pursue Non-auto
9	P	Pursue Non-auto
12	P	Pursue Multimodal
14	P	Pursue Multimodal
17	P	Feasibility Constraints

Map ID#	P = Potential or Definite Problems: problems may include existing development or environmental constraints M = Minimal Problems A = City Adopted Street Connections County = Washington County Adopted Connection	Recommendation
21	P	Pursue Non-auto
22	P	Feasibility Constraints
23	P	Consider Multimodal
24	P	Consider Multimodal
25	P	Consider Multimodal
26	P	Feasibility Constraints
29	P	Consider Multimodal
31	P	Consider Multimodal
33	P	Consider Multimodal
34	P	Pursue Multimodal
35	P	Feasibility Constraints
36	P	Consider Non-auto
38	M	Pursue Multimodal
39	M	Consider Multimodal
44	P	Pursue Multimodal
46	P	Consider Multimodal
47	P	Consider Non-auto
48	P	Feasibility Constraints
49	P	Pursue Multimodal
50	M	Consider Future Cul-de-sac, Pursue Non-auto
54	P	Pursue Non-auto
55	P	Feasibility Constraints
56	P	Consider Non-auto
58	P	Consider Non-auto
59	P	Feasibility Constraints
60	P	Feasibility Constraints
65	P	Consider Non-auto
66	P	Consider Multimodal
68	P	Pursue Multimodal
71	P	Pursue Multimodal
74	P	Pursue Multimodal
75	M	Consider Non-auto
76	P	Consider Non-auto
79	P	Pursue Non-auto
80	P	Pursue Non-auto
81	M	Pursue Multimodal (into Transit Center)
82	P	Pursue Multimodal
83	P	Consider Non-auto
84	P	Consider Non-auto
85	M	Pursue Non-auto

Map ID#	P = Potential or Definite Problems: problems may include existing development or environmental constraints M = Minimal Problems A = City Adopted Street Connections County = Washington County Adopted Connection	Recommendation
86	M	Pursue Non-auto
87	M	Pursue Non-auto
88	M	Pursue Non-auto
89	P	Pursue Non-auto
90	M	Pursue Non-auto
91	M	Pursue Multimodal east of 125th, Pursue Non-auto west of 125th
92	P	Consider Multimodal
93	P	Consider Non-auto
94	P	Consider Non-auto
95	County	Pursue Non-auto
96	County	Feasibility Constraints
97	County	Feasibility Constraints
98	M	Consider Multimodal
99	County	Consider Non-auto
100	County	Feasibility Constraints
101	County	Consider Non-auto
102	P	Pursue Non-auto
103	M	Pursue Non-auto
105	P	Consider Multimodal
106	P	Consider Non-auto
107	P	Consider Non-auto
108	P	Consider Non-auto
110	P	Pursue Non-auto
111	P	Pursue Non-auto
112	P	Pursue Non-auto
113	P	Potential Connection
114	P	Consider Non-auto
117	M	Pursue Multimodal
118	M	Pursue Non-auto
119	M	Pursue Multimodal
122	M	Pursue Multimodal
123	M	Pursue Multimodal
129	M	Pursue Multimodal
130	M	Pursue Multimodal
131	M	Pursue Multimodal
133	M	Pursue Multimodal
137	A	Adopted Street Connection
138	A	Adopted Street Connection
139	A	Adopted Street Connection

Map ID#	P = Potential or Definite Problems: problems may include existing development or environmental constraints M = Minimal Problems A = City Adopted Street Connections County = Washington County Adopted Connection	Recommendation
140	M	Consider Non-auto
142	M	Consider Non-auto
143	M	Pursue Multimodal
146	M	Pursue Multimodal
147	M	Pursue Multimodal
148	County	Pursue Multimodal
149	County	Pursue Multimodal
150	M	Pursue Multimodal
151	M	Pursue Multimodal
152	P	Pursue Multimodal
153	P	Pursue Non-auto
154	P	Pursue Non-auto
155	P	Pursue Non-auto
156	P	Pursue Non-auto
157	P	Pursue Non-auto
158	M	Pursue Multimodal
159	M	Pursue Multimodal
160	M	Pursue Multimodal
161	M	Pursue Multimodal


GEOGRAPHIC INFORMATION SYSTEM
LOCAL CONNECTIVITY MAP
Figure 6.7
City of Beaverton
North
Figure 6.8
Figure 6.9
Figure 6.10
Figure 6.11
Figure 6.12
Figure 6.13
Figure 6.14
Figure 6.15
Figure 6.16
Figure 6.17
Figure 6.18
Figure 6.19
Figure 6.20
Figure 6.21
Figure 6.22
Figure 6.23

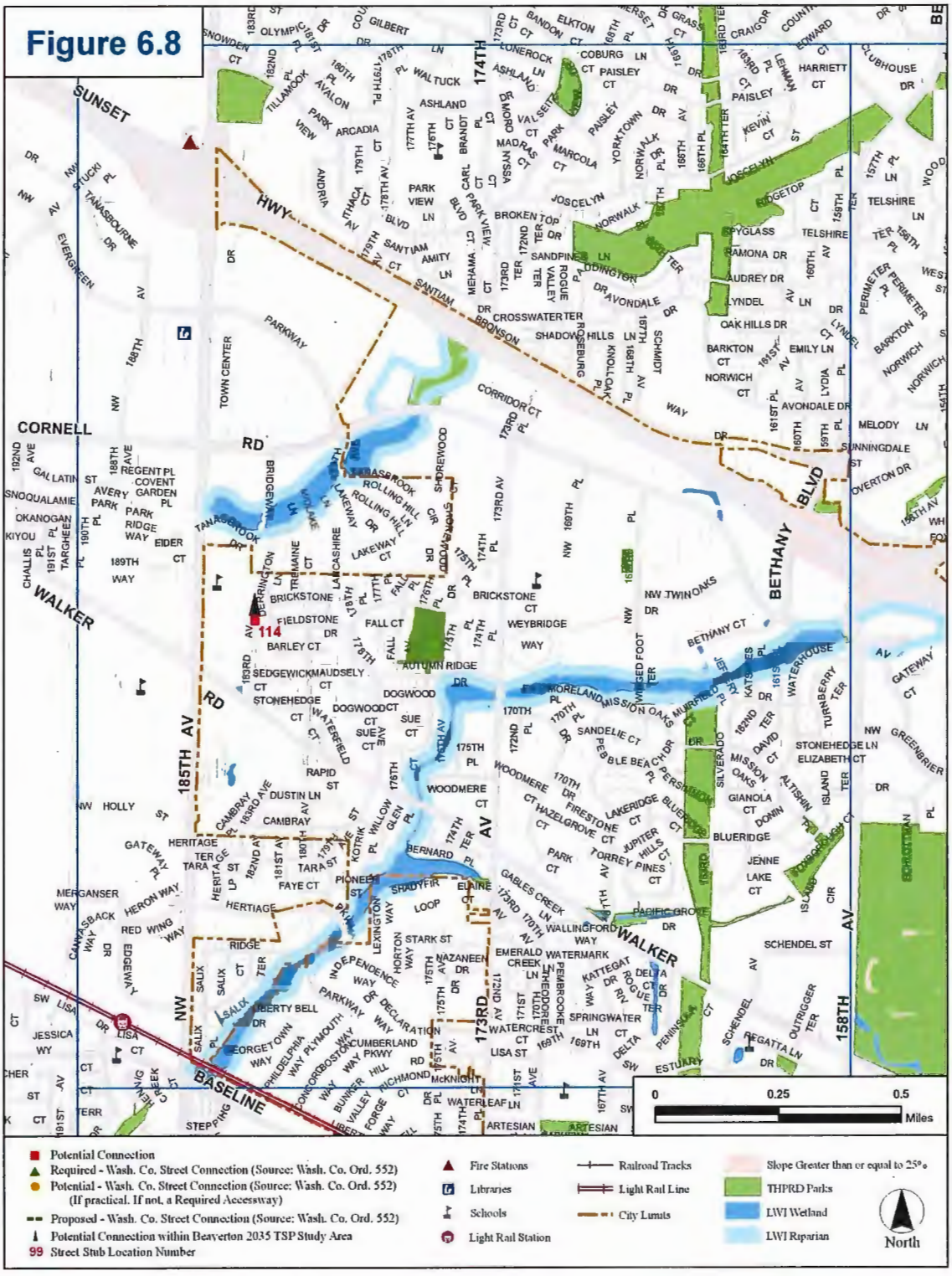
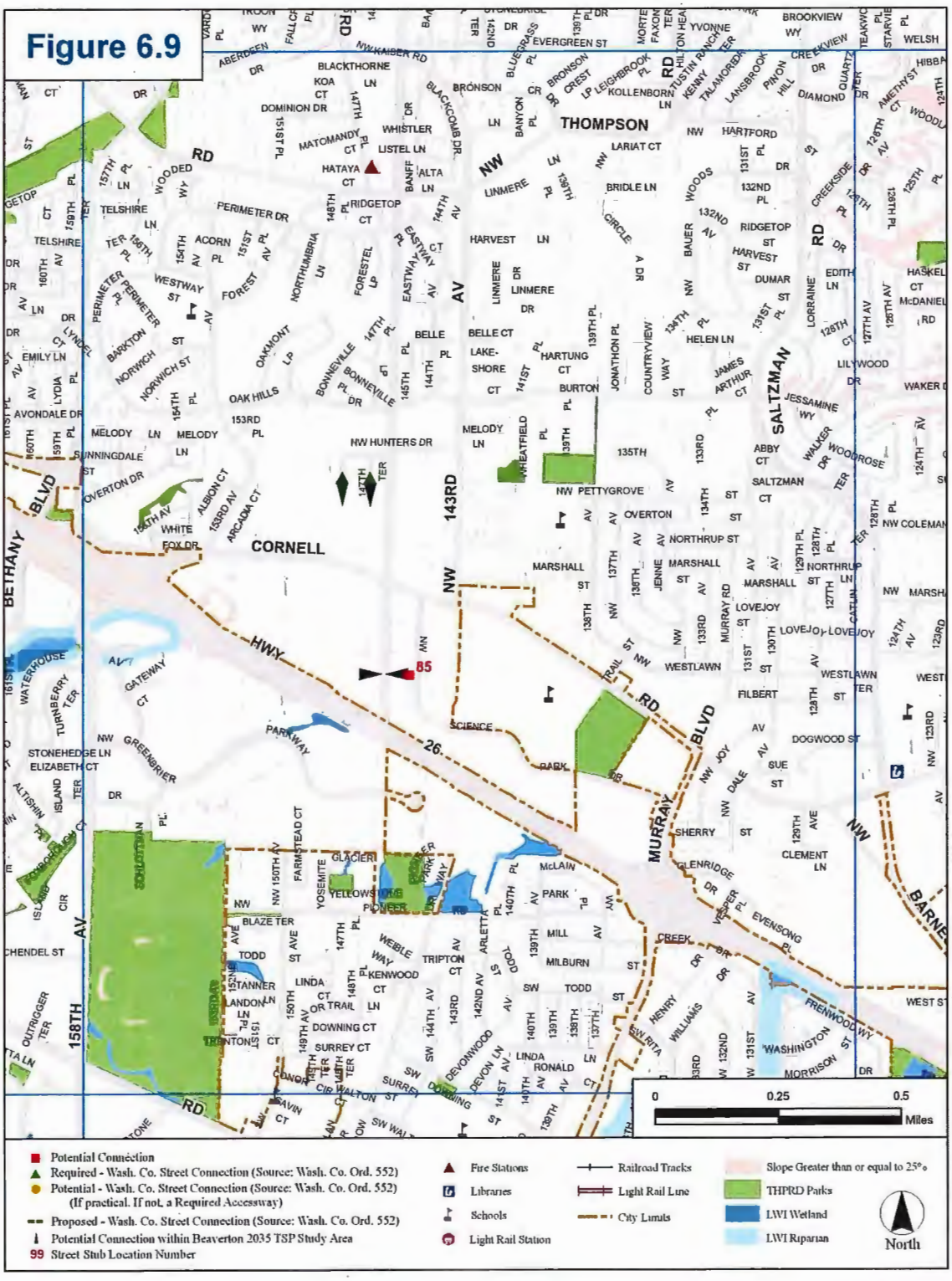


Figure 6.8
SUNSET
HWY
CORNELL
RD
WALKER
BETHANY
BLVD
185TH AV
173RD AV
174TH
158TH
BASELINE
114
0
0.25
0.5
Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
North

Figure 6.9


THOMPSON
CORNELL
BETHANY BLVD
143RD AV
158TH AV
HWY 26
MURRAY BLVD
NW 143RD AV
NW HUNTERS DR
SALTZMAN RD
BARNES RD
0
0.25
0.5
Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552) (If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
North

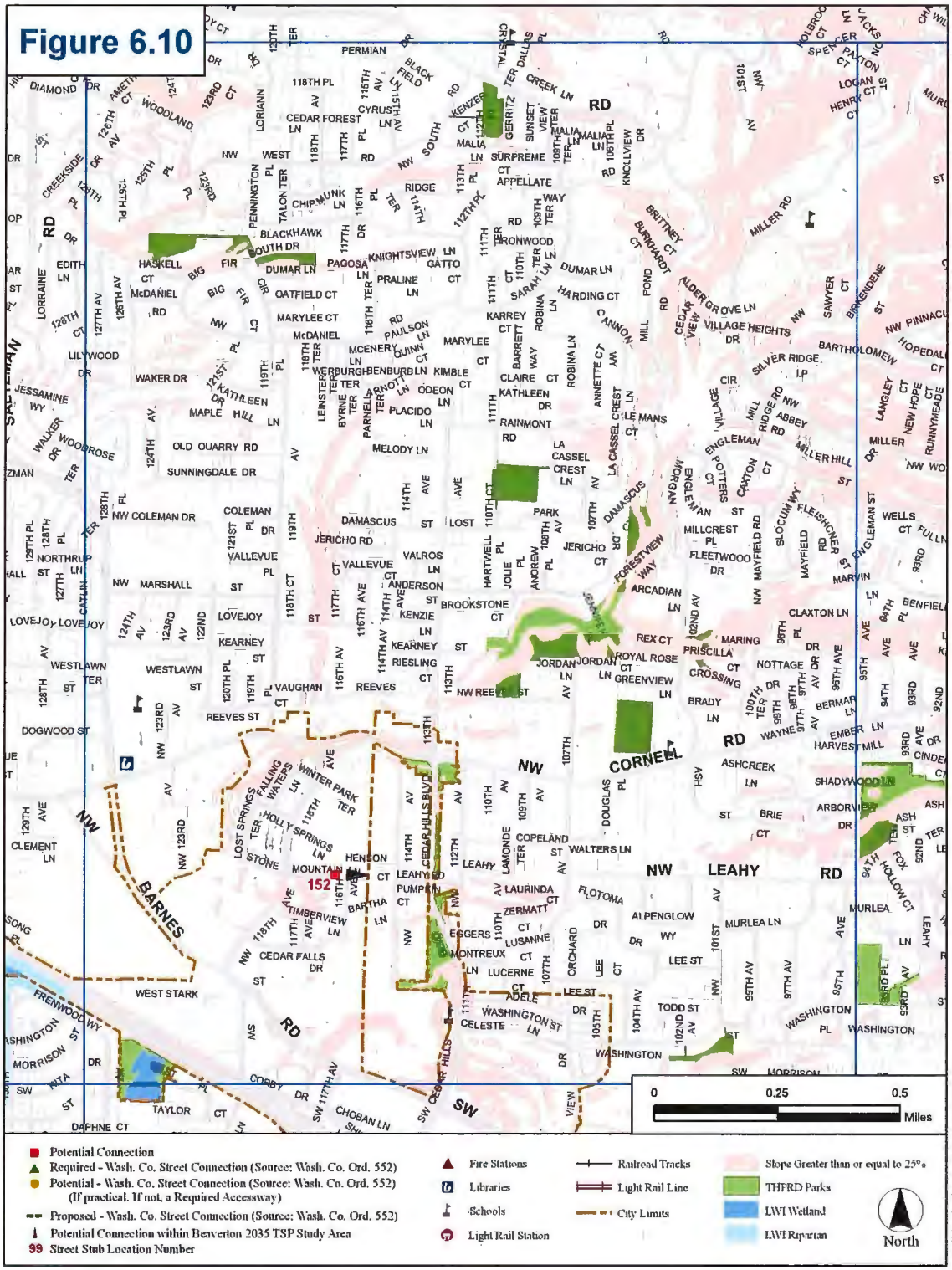


Figure 6.10
0
0.25
0.5
Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
North

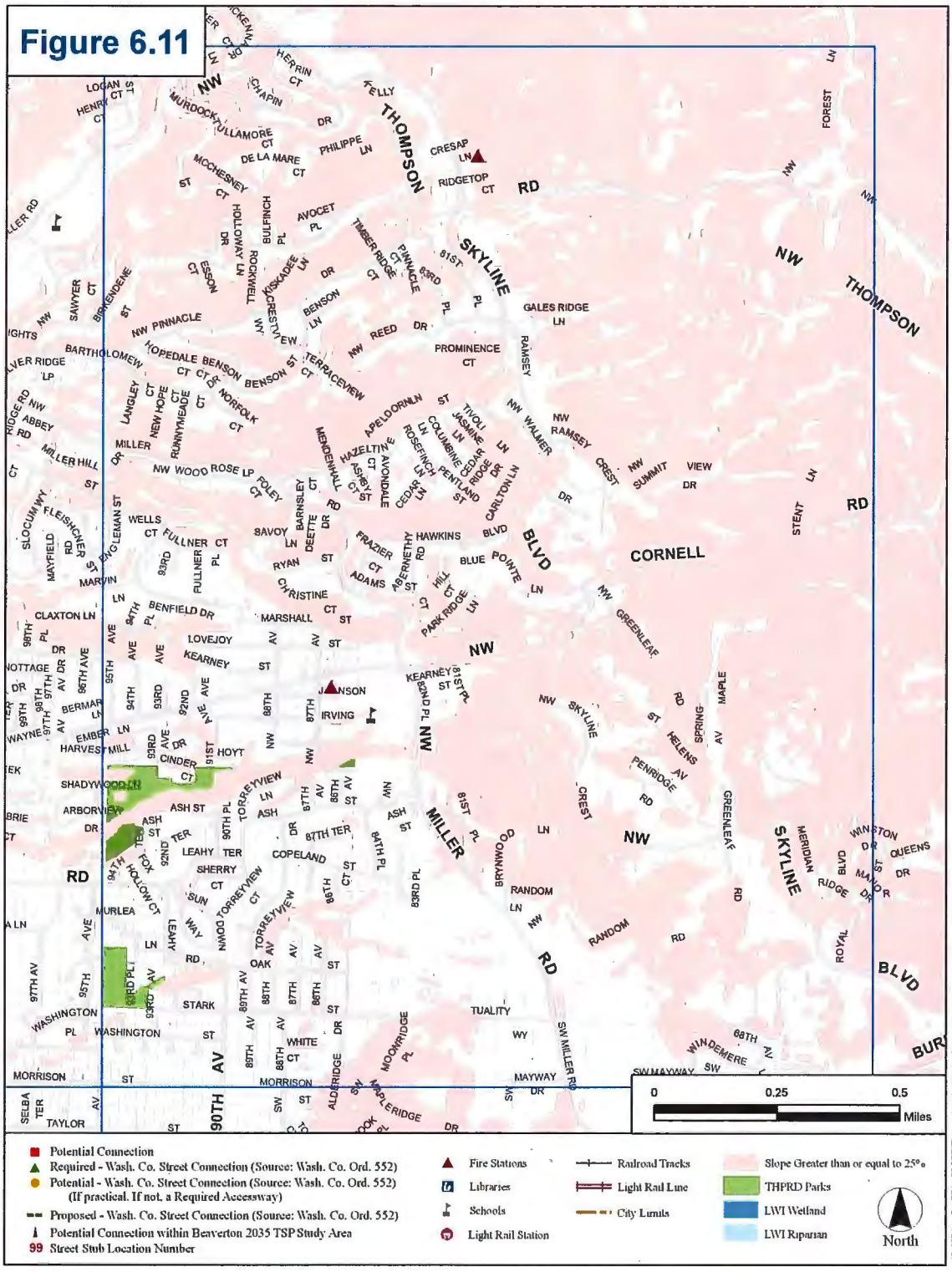


Figure 6.11
THOMPSON
SKYLINE
CORNELL
MILLER
RD
BLVD
NW
0
0.25
0.5
Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
North

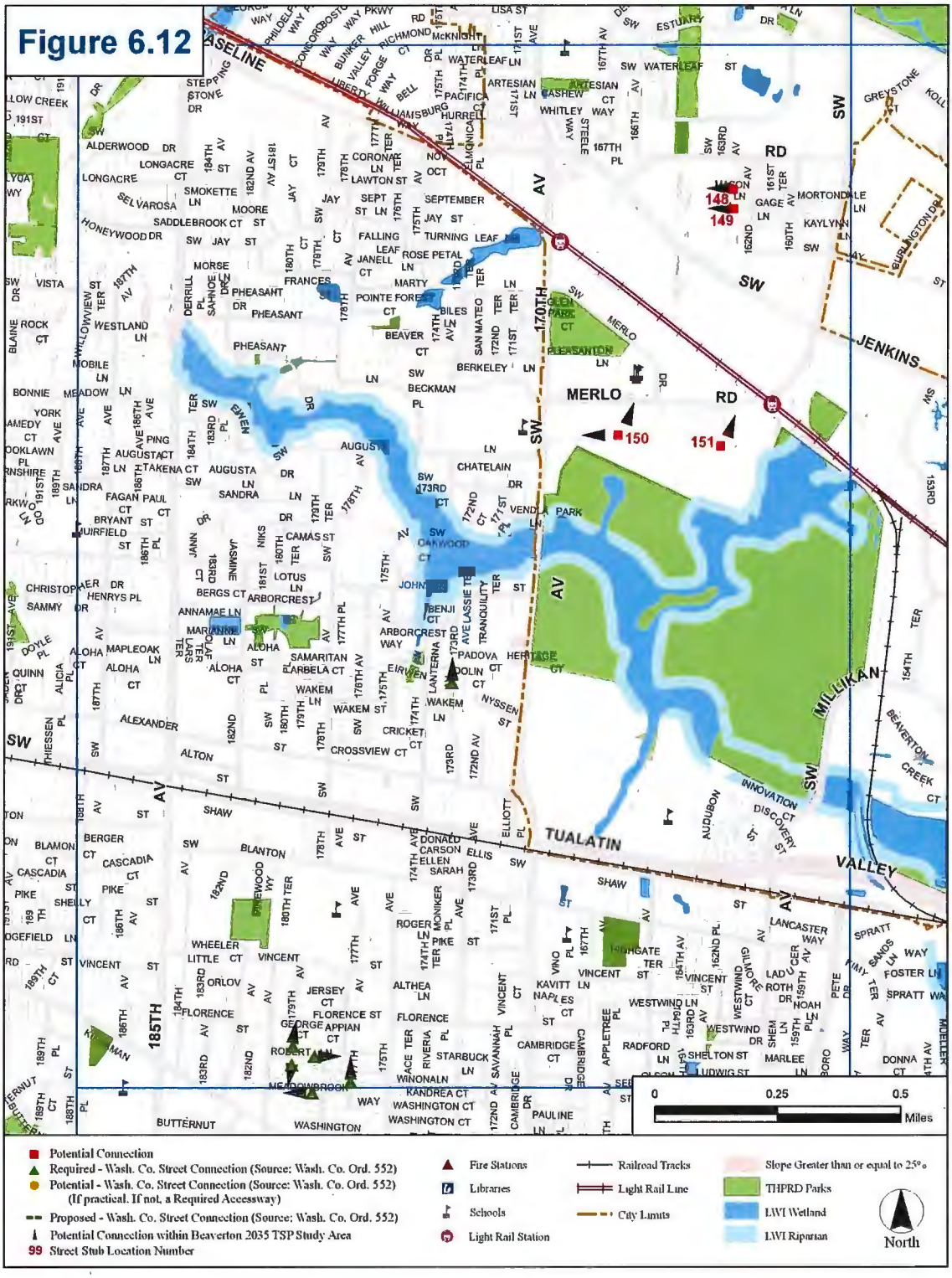


Figure 6.12
BASELINE
MERLO
RD
150
151
148
149
JENKINS
MILLIKAN
TUALATIN
VALLEY
185TH
170TH
AV
SW
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
0
0.25
0.5
Miles
North

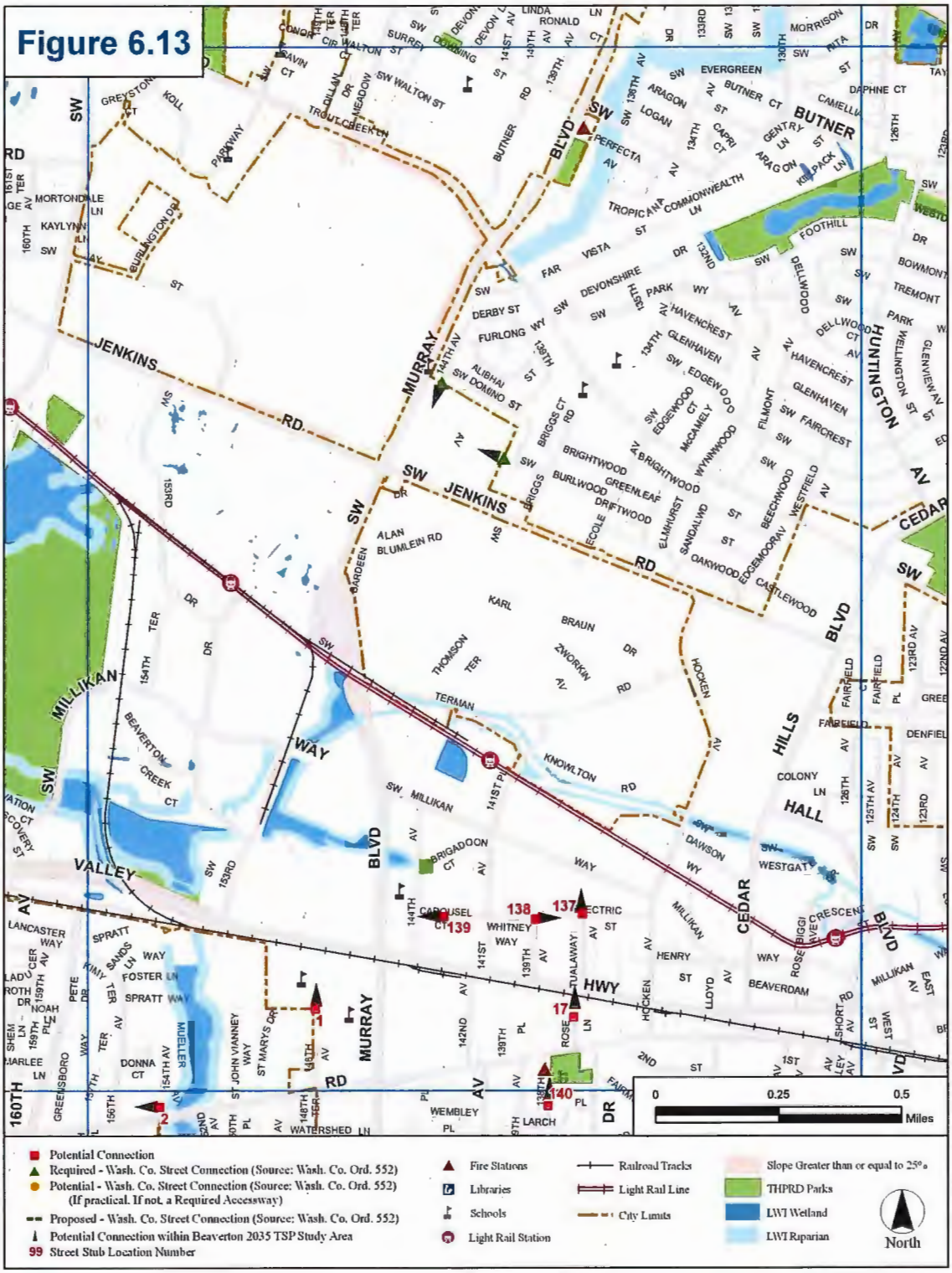


Figure 6.13
JENKINS RD
SW JENKINS RD
MURRAY BLVD
MILLIKAN WAY
CEDAR HILLS BLVD
HUNTINGTON AV
CEDAR HALL BLVD
BUTNER RD
HWY 217
160TH AV
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552) (If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
0
0.25
0.5
Miles
North

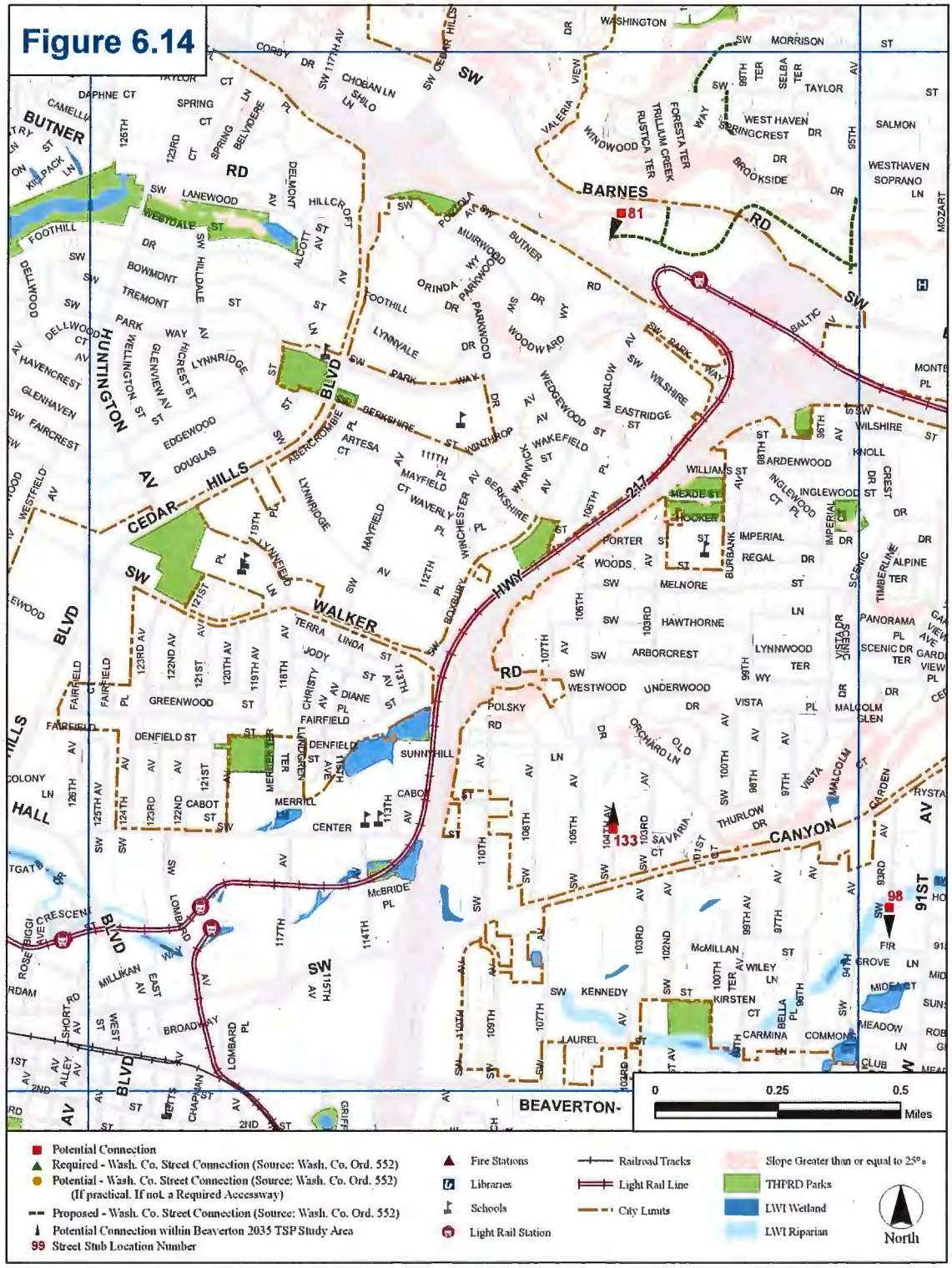


Figure 6.14
BEAVERTON-
0
0.25
0.5
Miles
North
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian

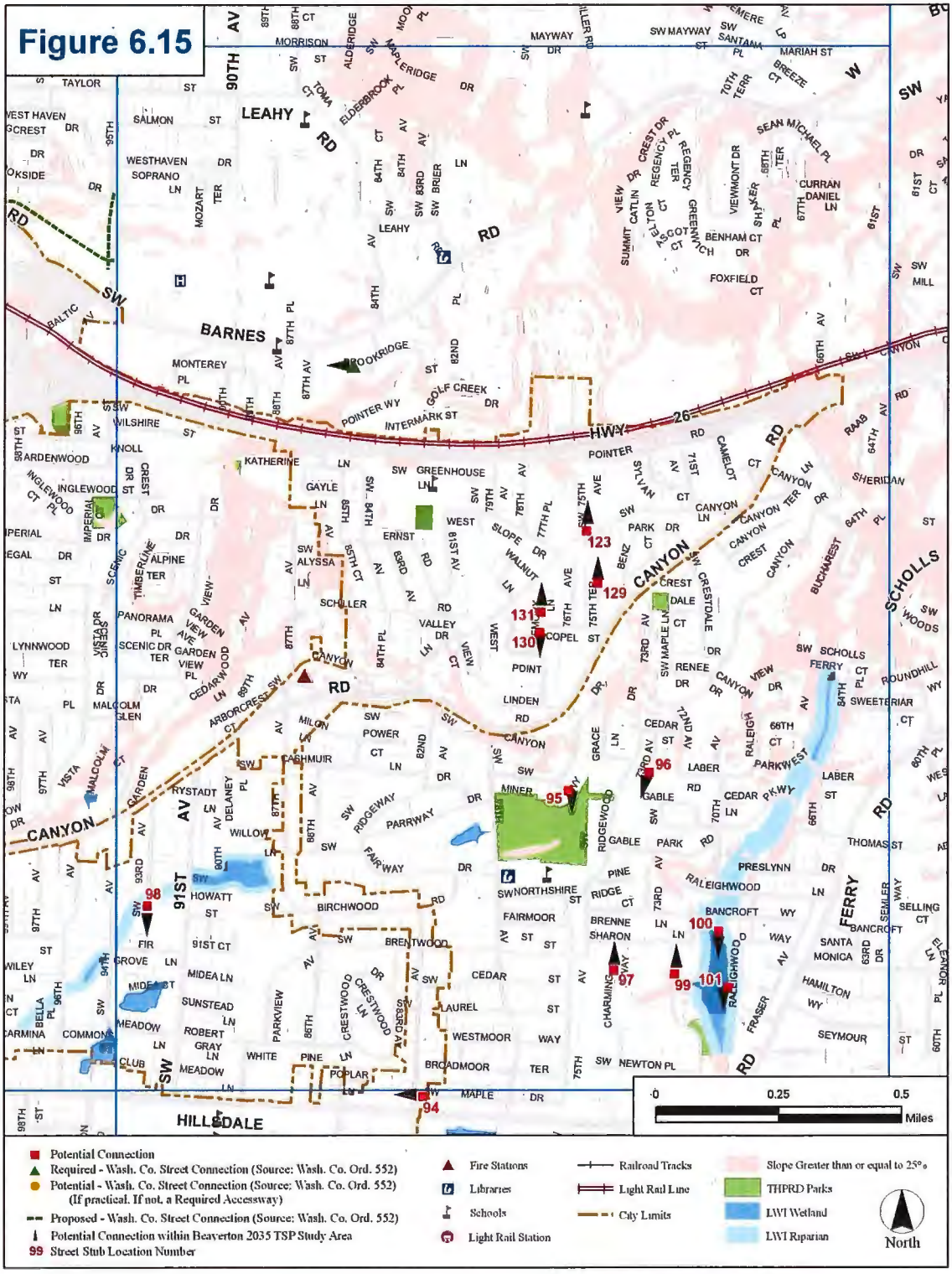


Figure 6.15
LEAHY
BARNES
HWY 26
CANYON
SCHOLLS FERRY
HILLSDALE
0 0.25 0.5 Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552) (If practical. If not, a Required Accessway)
Proposed - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential Connection within Beaverton 2035 TSP Study Area
99 Street Stub Location Number
Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
North

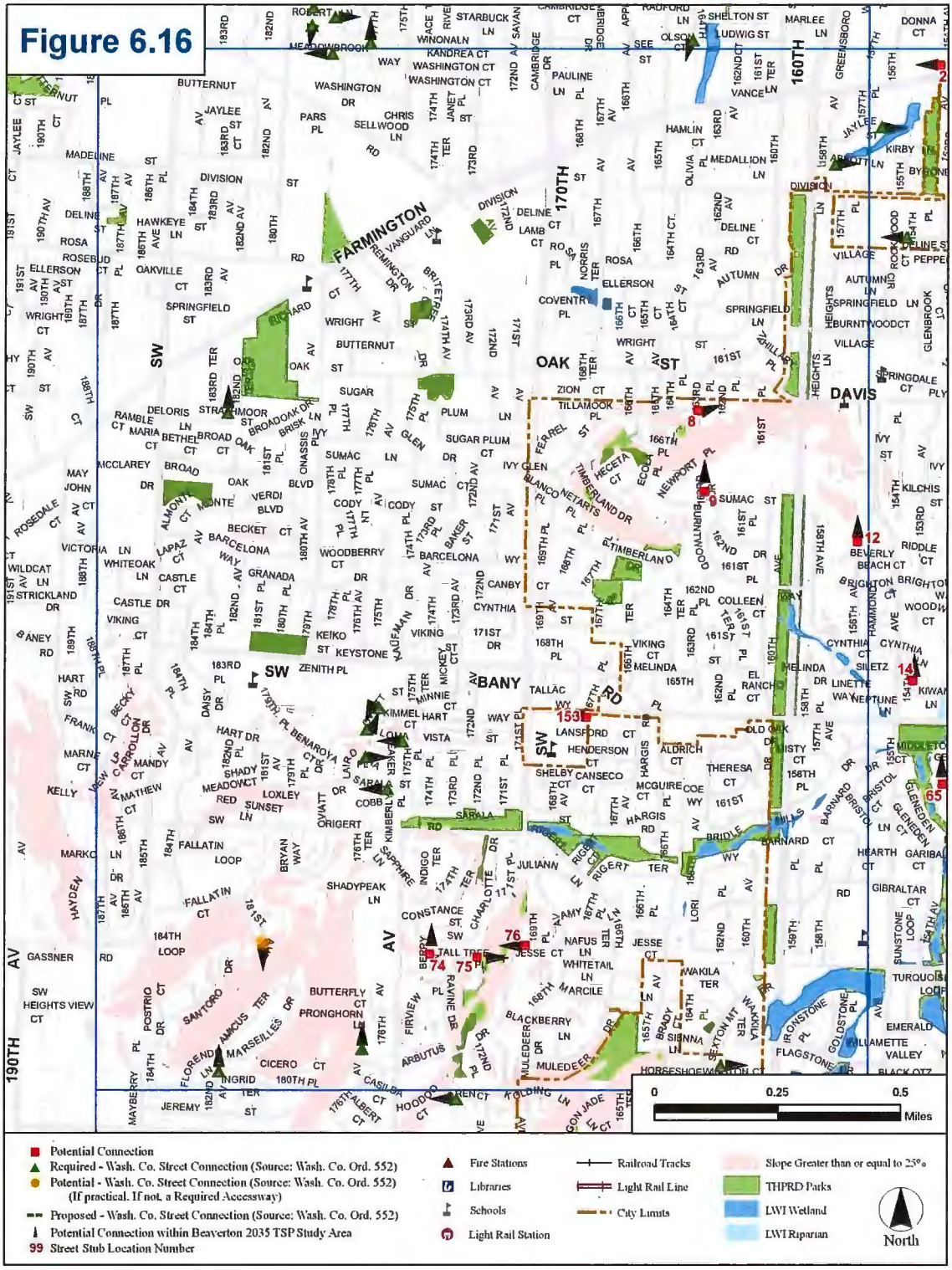


Figure 6.16
FARMINGTON
OAK
ST
DAVIS
BANY
SW
160TH
170TH
190TH
AV
0
0.25
0.5
Miles
North
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
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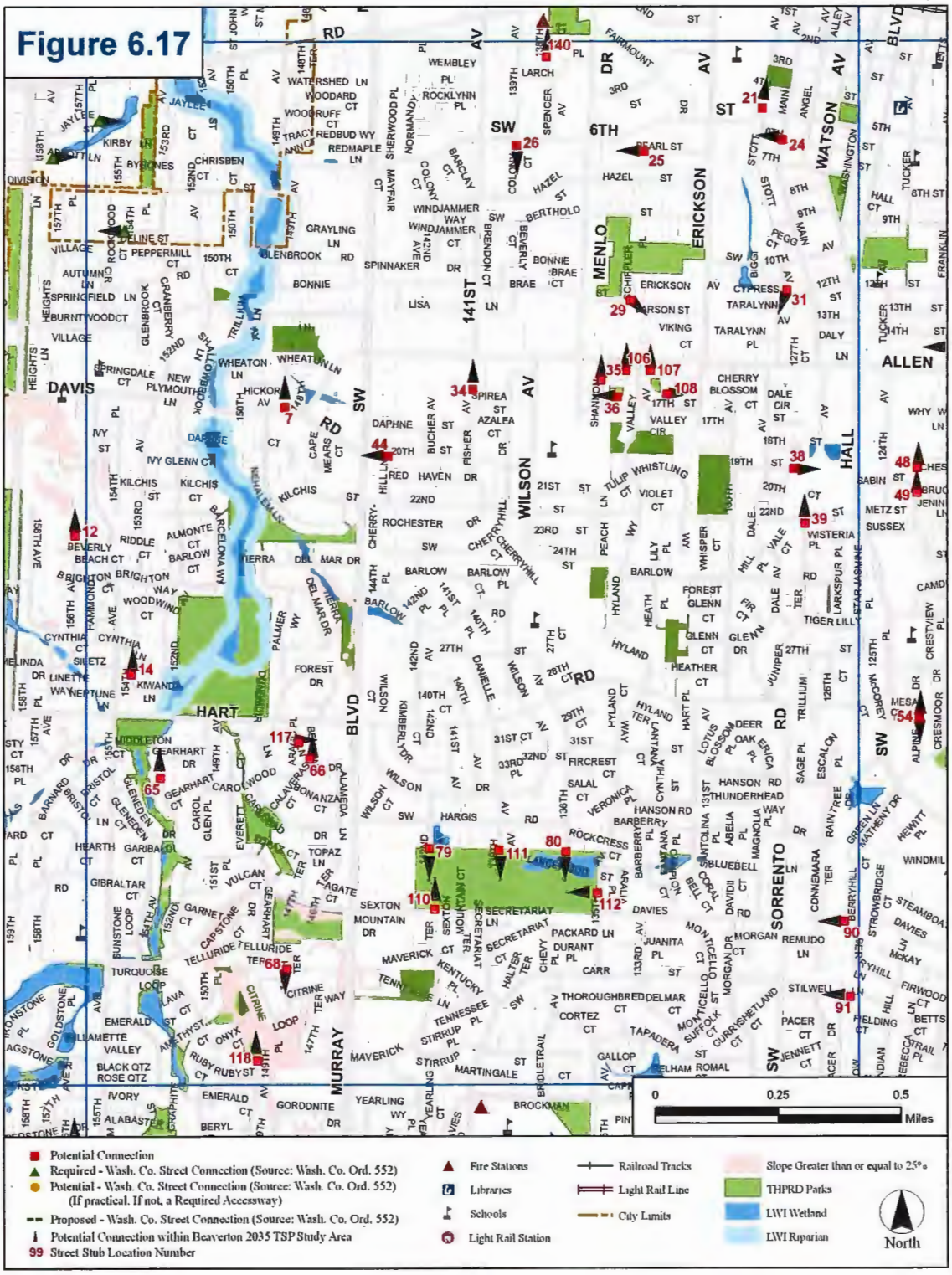
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(If practical. If not, a Required Accessway)
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Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
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Miles
North

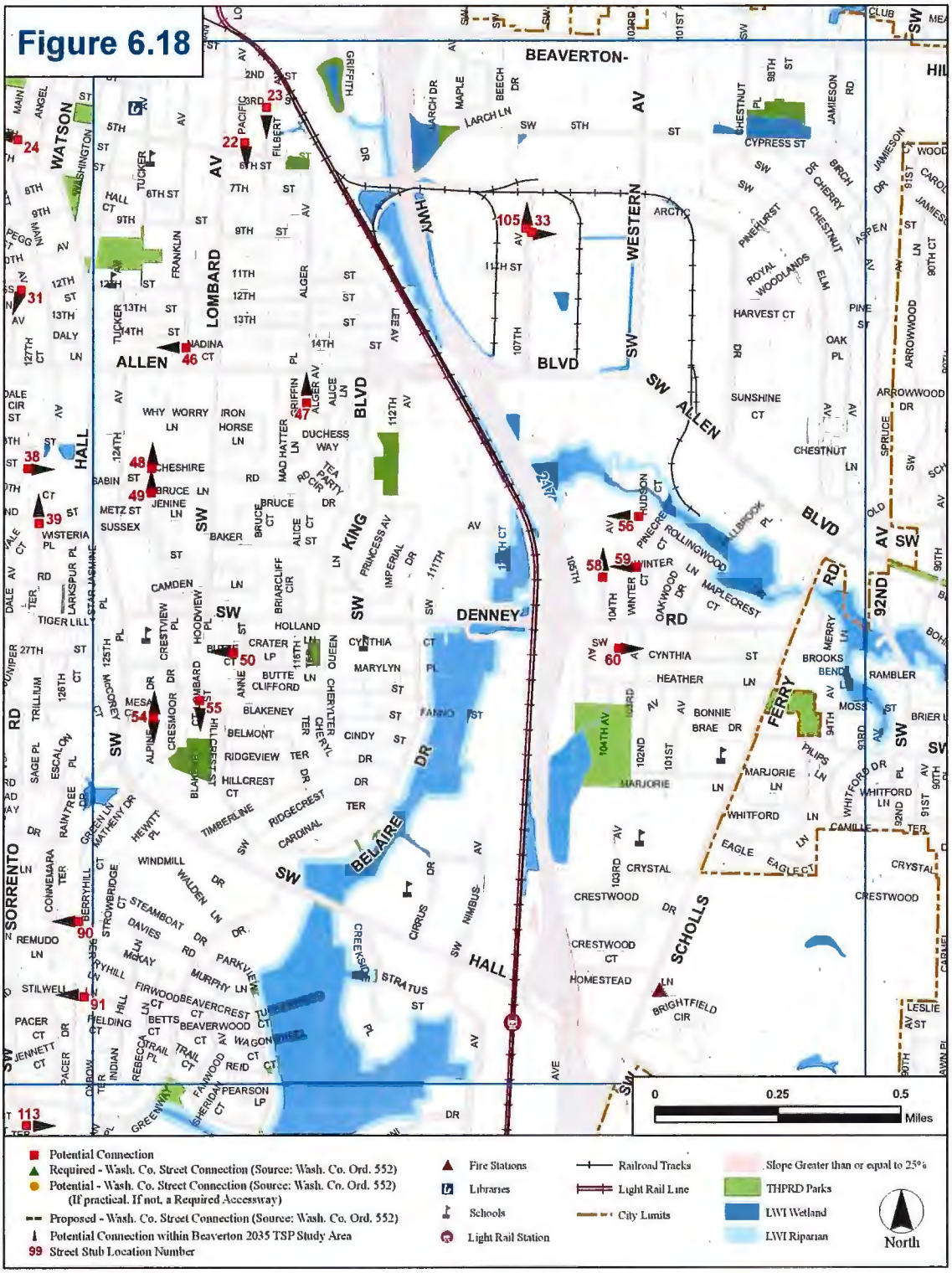
Figure 6.18
BEAVERTON-
DENNEY
BELAIRE
HALL
ALLEN
WATSON
LOMBARD
KING
HALL BLVD
WESTERN AV
SW ALLEN BLVD
92ND AV
FERRY RD
SCHOLLS FERRY RD
SORRENTO RD
0
0.25
0.5
Miles
North
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
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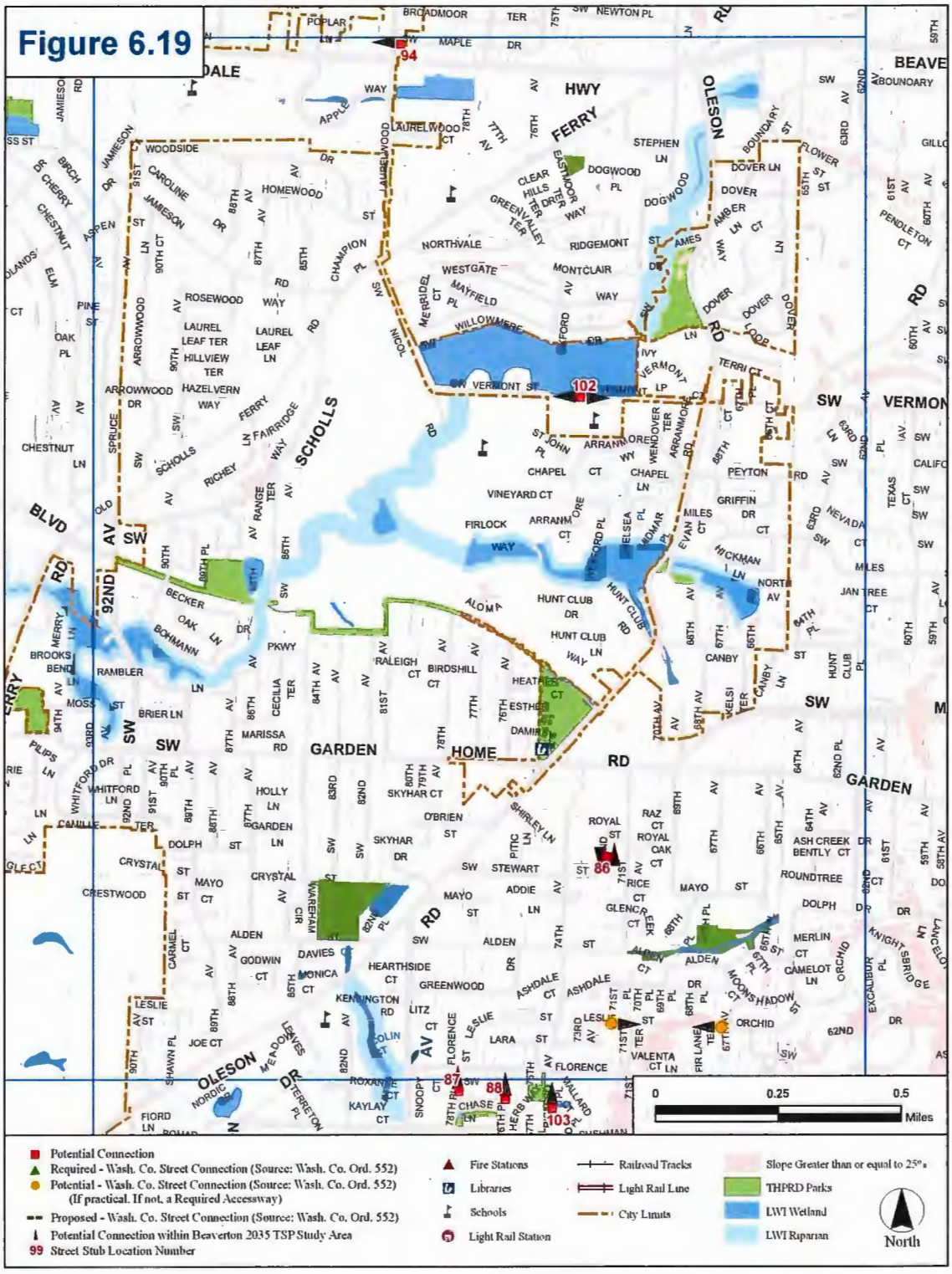
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian

Figure 6.19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Potential Connection
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Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
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Schools
Light Rail Station
Railroad Tracks
Light Rail Line
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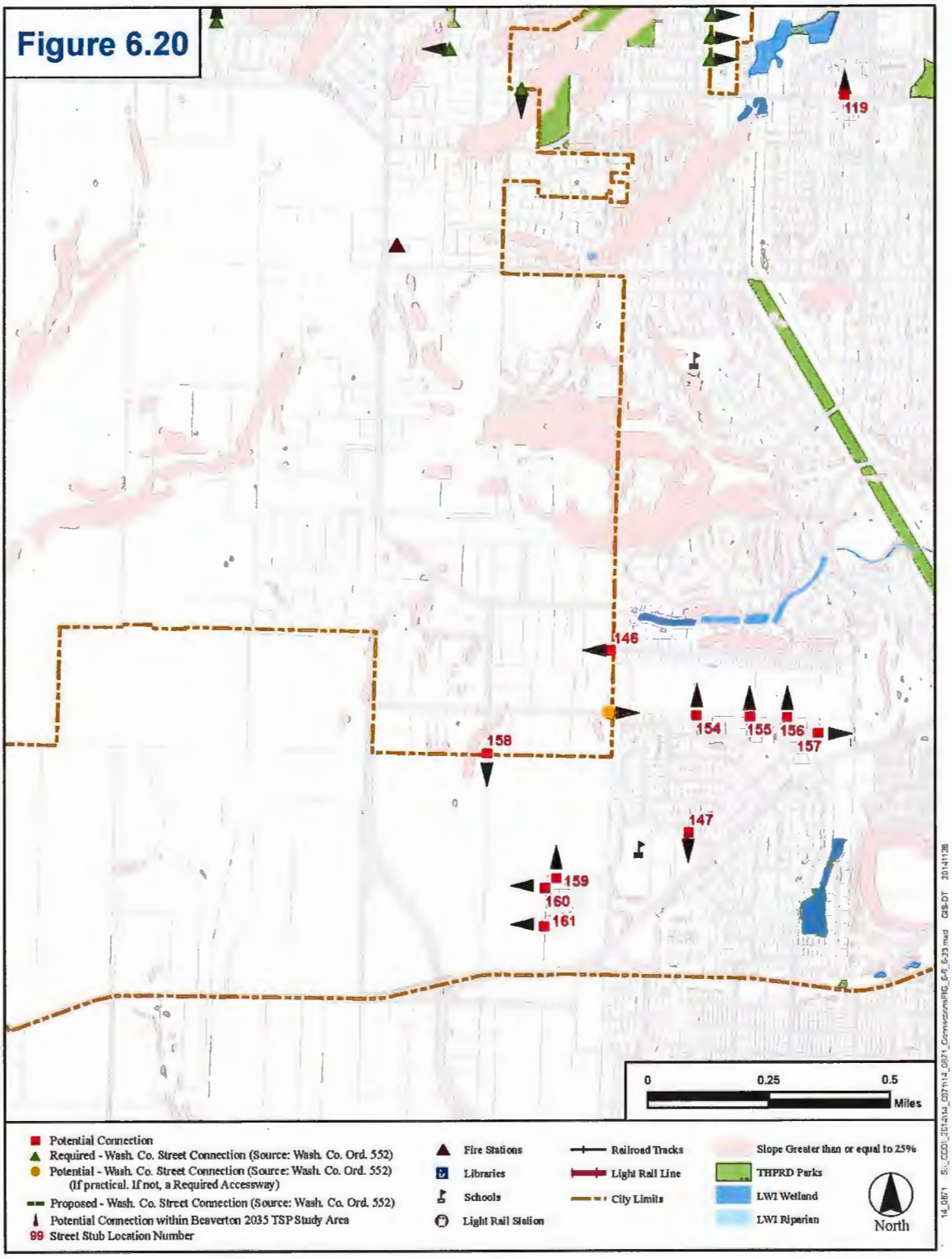
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian

Figure 6.20


119
146
154
155
156
157
158
147
159
160
161
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0.25
0.5
Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552) (If practical. If not, a Required Accessway)
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LWI Wetland
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North

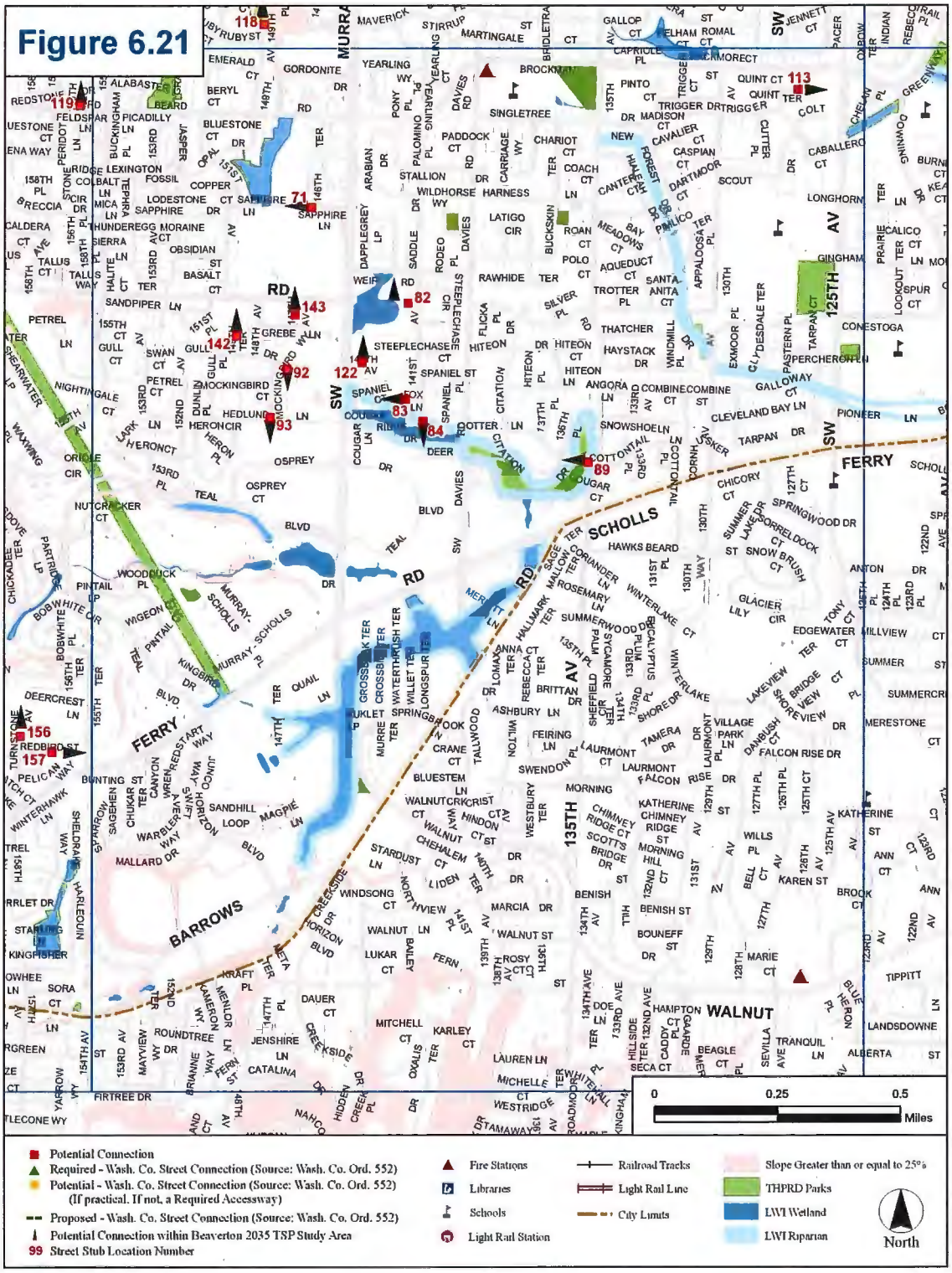
Figure 6.21
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Miles
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
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Railroad Tracks
Light Rail Line
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Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian
North

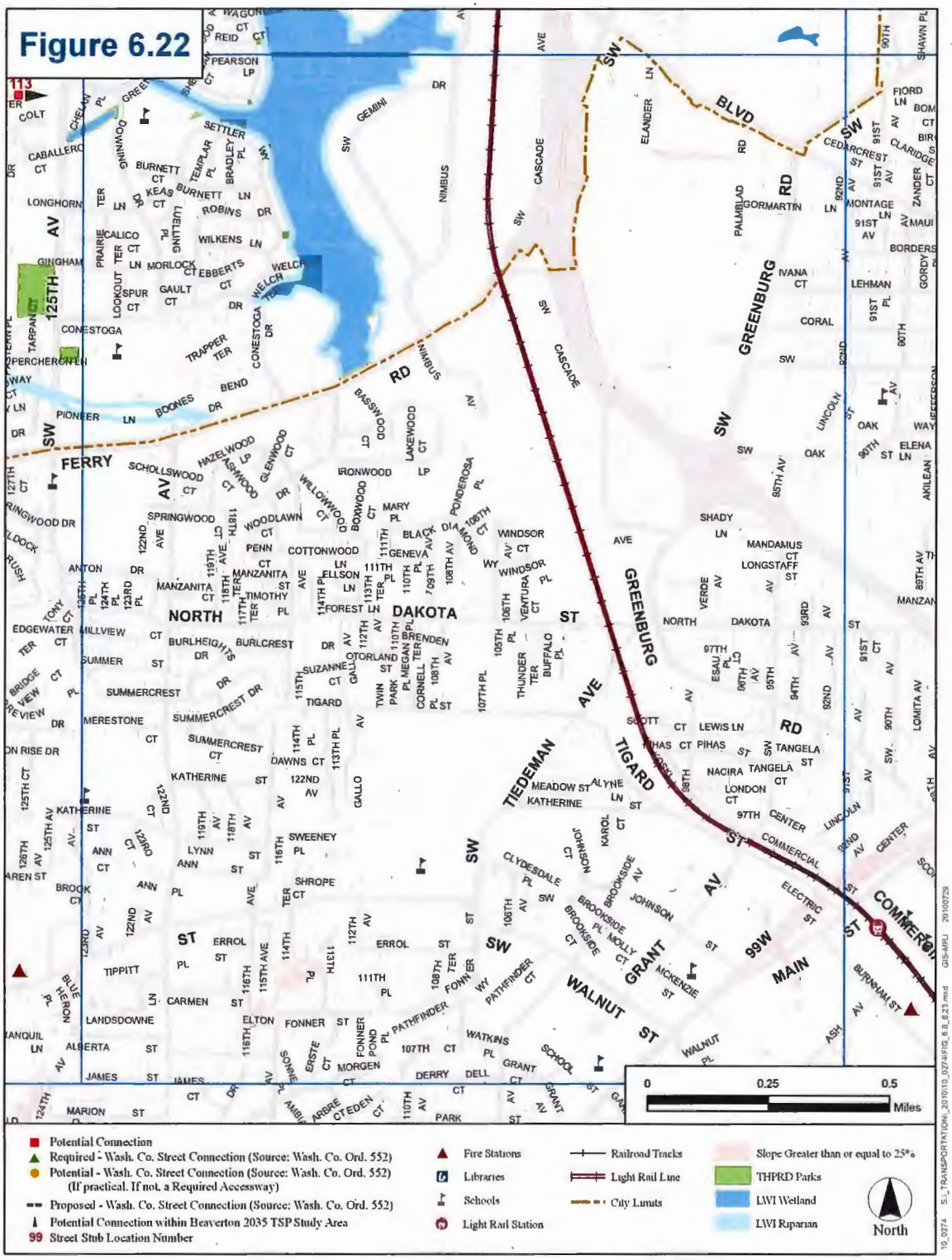
Figure 6.22
0
0.25
0.5
Miles
North
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
(If practical. If not, a Required Accessway)
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LWI Wetland
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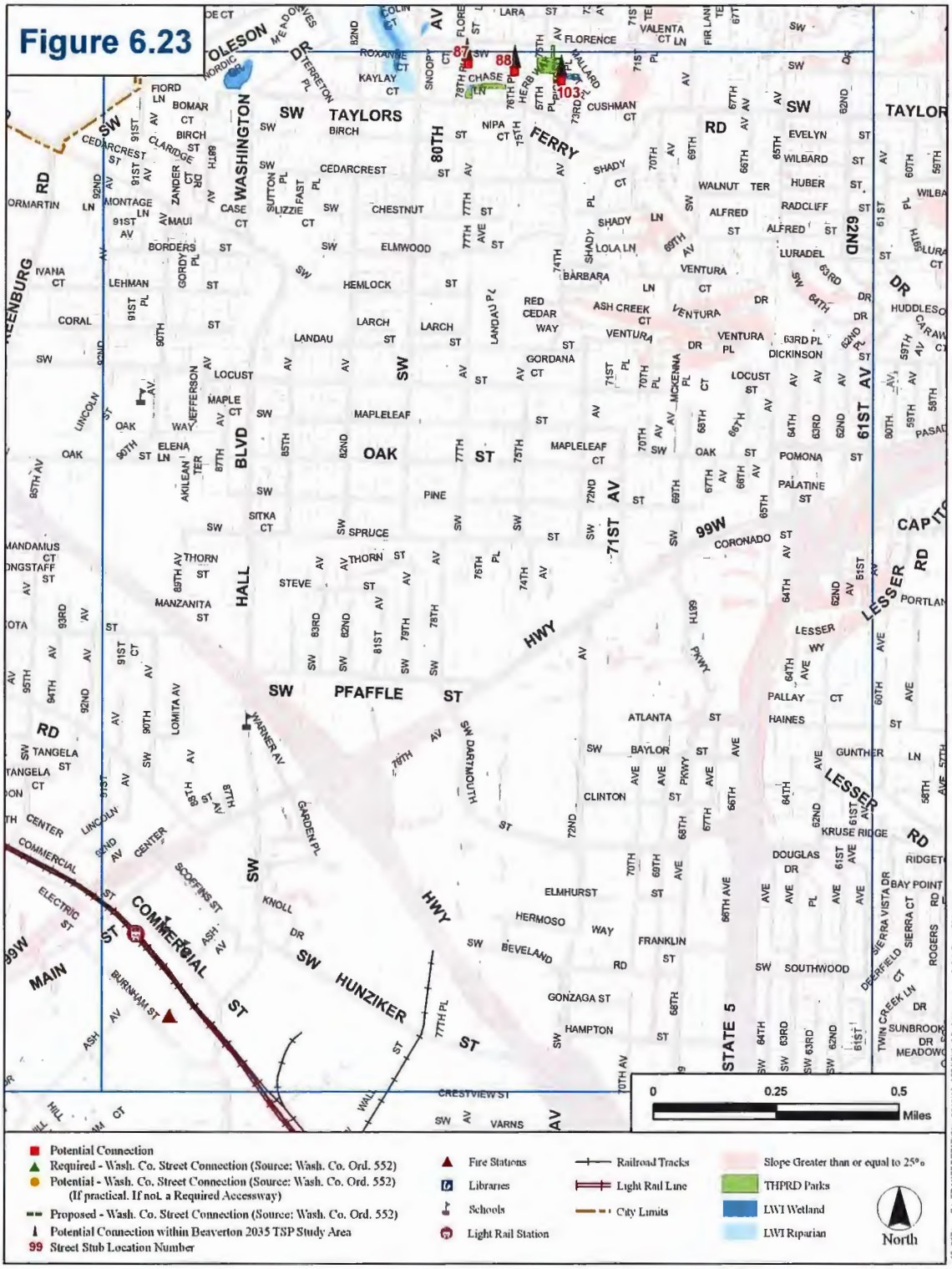
Figure 6.23
SW TAYLORS
SW PFAFFLE ST
SW HUNZIKER ST
SW COMMERCIAL ST
SW MAIN ST
OAK BLVD
HALL BLVD
WASHINGTON DR
80TH AV
FERRY RD
71ST AV
61ST AV
99W
HWY
LESSER RD
CAPITOL HWY
STATE 5
0
0.25
0.5
Miles
North
Potential Connection
Required - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552)
Potential - Wash. Co. Street Connection (Source: Wash. Co. Ord. 552) (If practical. If not a Required Accessway)
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Fire Stations
Libraries
Schools
Light Rail Station
Railroad Tracks
Light Rail Line
City Limits
Slope Greater than or equal to 25%
THPRD Parks
LWI Wetland
LWI Riparian

System Maintenance

Preservation and maintenance of the transportation system are essential to protecting the transportation investment. The majority of gas tax revenues are used for maintenance. With an increasing inventory of streets and the need for greater maintenance of older facilities, protecting and increasing maintenance funds is critical.

A key concept is that pavement quality deteriorates 40 percent in the first 75 percent of pavement life. However, there is a rapid acceleration of this deterioration later, so that in the next 12 percent of life, there is another 40 percent drop in quality. The City's pavement management program tracks pavement condition so that repairs can be made at an optimum time in pavement life. Pavement management projects are scheduled and funded through the City's capital improvement plan. The transportation maintenance system in the 2020 TSP remains the recommended system:

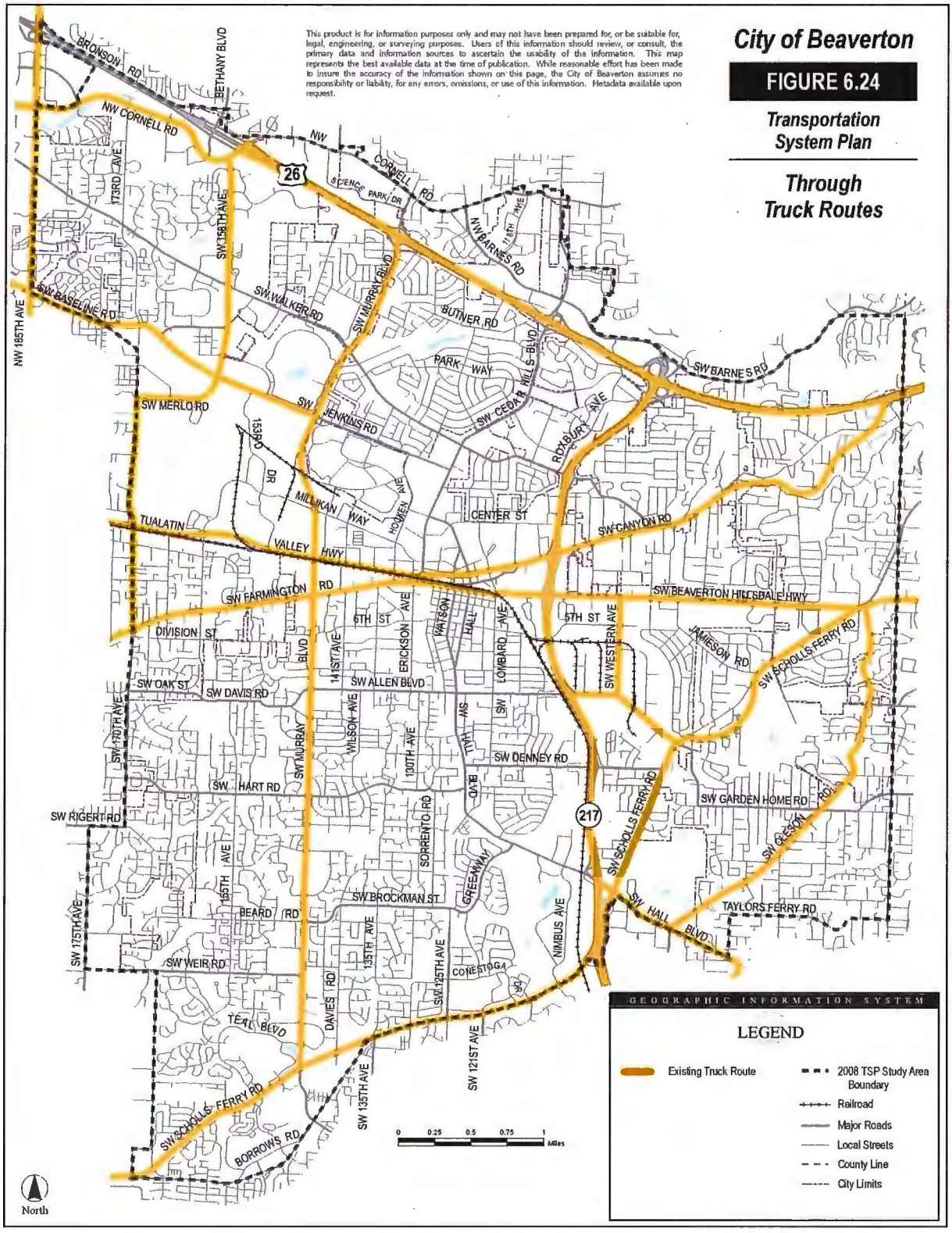
- Maintain roadways using a balanced approach which develops a pavement management system and budget to address needs over a ten year period
- Maintain roadways using a need based approach which addresses current and future needs as they arise

Freight System Improvements

Truck

Efficient truck movement plays a vital role in the economical movement of raw materials and finished products. The establishment of through truck routes provides for this efficient movement while at the same time maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. The through truck route map indicates truck routes along several of the primary arterials through the study area including Highway 217, US 26, Scholls Ferry Road, Murray Boulevard, Farmington Road and Canyon Road, among others. The objective of this route designation is to allow these routes to focus on design criteria that is "truck friendly"; i.e., 12-foot travel lanes, longer access spacing, 35-foot (or larger) curb returns, and pavement design that accommodates a larger share of trucks.

A freight system reliability analysis was performed for sections of two of these routes (Farmington Road and Canyon Road) that traverse the Beaverton Regional Center. Existing travel times through these areas for the midday and PM peak hour were compared and midday travel times for 2035 were projected. Each direction of both routes currently is up to 20 percent faster (80 seconds or less) during the midday period. Operational improvements are needed in the future to continue to provide corridor freight mobility.


This product is for information purposes only and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review, or consult, the primary data and information sources to ascertain the usability of the information. This map represents the best available data at the time of publication. While reasonable effort has been made to insure the accuracy of the information shown on this page, the City of Beaverton assumes no responsibility or liability, for any errors, omissions, or use of this information. Metadata available upon request.
City of Beaverton
FIGURE 6.24
Transportation System Plan
Through Truck Routes
BRONSON RD
BETHANY BLVD
NW CORNELL RD
NW CORNELL RD
26
SCIENCE PARK DR
NW BARNES RD
173RD AVE
SW 185TH AVE
NW 185TH AVE
SW BASELINE RD
SW WALKER RD
SW MURRAY BLVD
BUTNER RD
PARK WAY
SW BARNES RD
SW CEDAR HILLS BLVD
SW MERLO RD
SW JENKINS RD
153RD DR
ROXBURY AVE
MILLIKAN WAY
HOKEN AVE
CENTER ST
SW CANYON RD
TUALATIN VALLEY HWY
SW FARMINGTON RD
SW BEAVERTON HILLSDALE HWY
DIVISION ST
6TH ST
ERICKSON AVE
WATSON AVE
HALL BLVD
LOMBARD AVE
5TH ST
SW WESTERN AVE
JAMIESON RD
SW SCHOLLS FERRY RD
SW OAK ST
SW DAVIS RD
141ST AVE
SW ALLEN BLVD
SW 170TH AVE
SW MURRAY BLVD
WILSON AVE
190TH AVE
SW HALL BLVD
SW DENNEY RD
SW HART RD
SW RIGERT RD
SORRENTO RD
217
SW GARDEN HOME RD
SW GARDEN HOME RD
SW CLESON RD
SW 175TH AVE
165TH AVE
BEARD RD
SW BROCKMAN ST
GREENWAY
NIMBUS AVE
SW HALL BLVD
TAYLORS FERRY RD
SW WEIR RD
135TH AVE
SW 125TH AVE
CONESTOGA
SW 121ST AVE
TEAL BLVD
DAVIES RD
SW 135TH AVE
SW SCHOLLS FERRY RD
BORROWS RD
0 0.25 0.5 0.75 1 Miles
North
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
Existing Truck Route
2008 TSP Study Area Boundary
Railroad
Major Roads
Local Streets
County Line
City Limits
10_0274 S:_TRANSPORTATION_2010\10_0274\FIG_6.24.mxd GIS-MRU 20100826

Rail

The RTP designates the rail lines traveling along Highway 217 and Tualatin Valley Highway as part of the regional freight system. These lines serve many areas of regional concern including industrial areas, truck terminals, and several employment areas along the route. The freight rail lines provide additional connections to the main roadway freight truck routes. In addition the WES commuter rail service travels along much of the freight rail route along Highway 217. The train frequency along this route is expected to increase with the addition of WES commuter rail service. At-grade gated rail crossings along the south edge of Canyon Road and along Highway 217 impact existing traffic flows during train events at several major arterials (including Murray Boulevard, Farmington Road, Hall Boulevard and Scholls Ferry Road, among others). Such events would further impede traffic flow in the future and restrict capacity of these major facilities. Figure 6.25 shows the locations of rail facilities and street crossings in Beaverton.

Parking

The Beaverton Downtown Parking Solutions Strategy dealt with the supply and demand for parking with downtown redevelopment associated with the 2040 Growth Concept, which envisions higher-density, mixed-use, pedestrian oriented development within Centers throughout the Portland Region. The study recommended a number of policy level actions and parking management strategies that were taken initially or are currently proceeding toward implementation. As parking occupancy increases, this study provides the incremental steps and thresholds for that area and for Beaverton as a whole as parking demand increases.

Pipeline, Air, and Water

There are three other modes of transportation included in the TSP: pipeline, air, and water. While there are some natural gas pipelines in Beaverton, no plans were identified for expansion. There is also a petroleum gas line (gasoline and diesel) that runs from the Port of Portland to Eugene through Beaverton, but no plans were identified for expansion. There are currently no airports within the Beaverton TSP Study area. There are two private heliports (PGE and Turel) located in the southwest corner of Beaverton. There are also no navigable waterways in Beaverton.

Funding Summary and Need

Existing revenue sources are expected to provide approximately $270 million for transportation use through 2035. In addition, future potential sources such as a street maintenance fee and a City SDC could add approximately $42 million through 2035, for a total of $312 million in transportation resources. Existing expenditures such as personnel, operations and maintenance, and street lighting are expected to cost approximately $125 million through 2035, leaving approximately $185 million for additional transportation programs and projects. This indicates that the Action Plan projects listed in Table 6-1 (total cost of $179 million) are reasonably likely to be funded through 2035 with the incorporation of the additional funding sources. Table 6-4 summarizes the existing and potential future transportation revenues and expenditures.

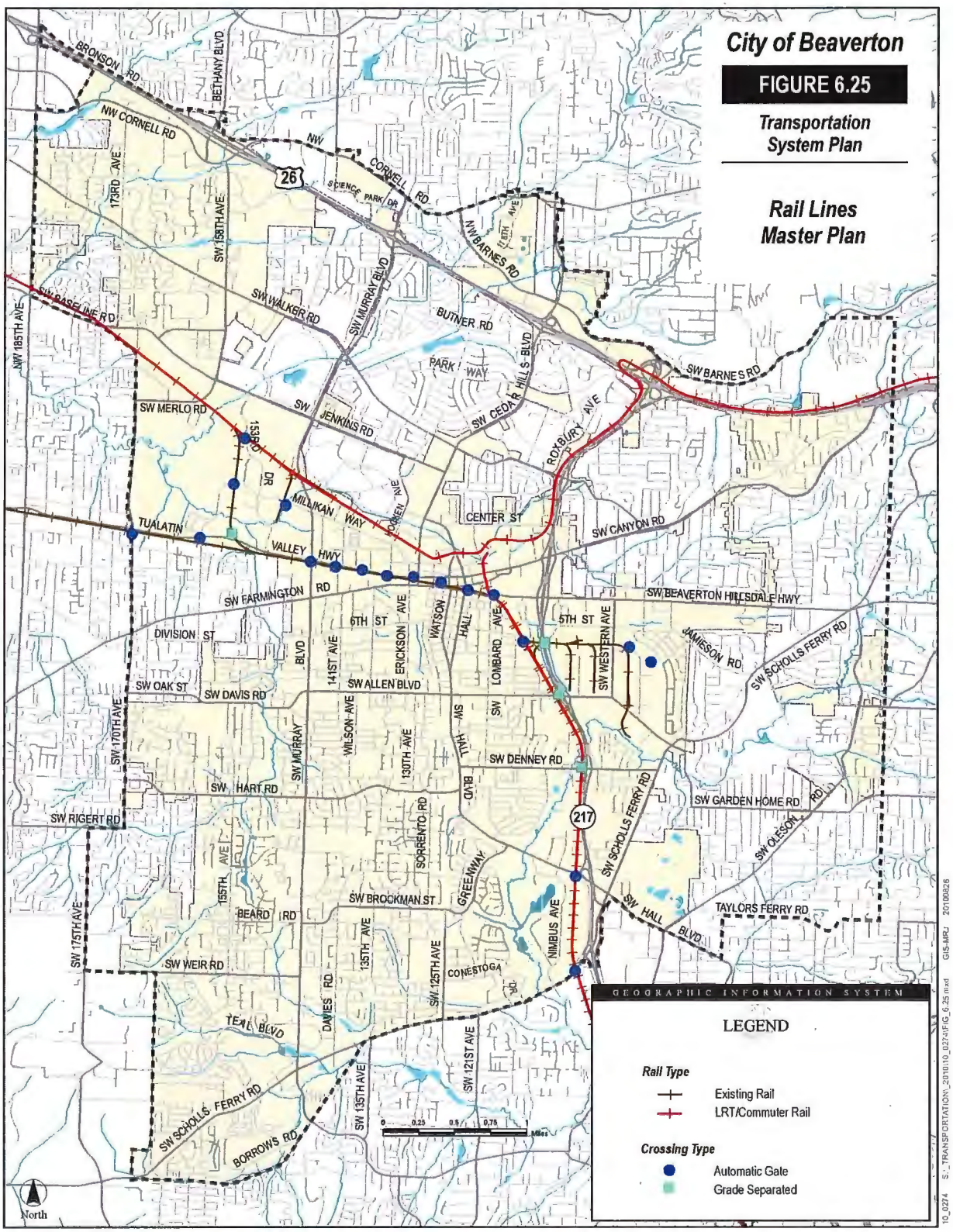

City of Beaverton
FIGURE 6.25
Transportation System Plan
Rail Lines Master Plan
BRONSON RD
BETHANY BLVD
NW CORNELL RD
NW CORNELL RD
SCIENCE PARK DR
NW BARNES RD
SW BARNES RD
SW WALKER RD
SW MURRAY BLVD
BUTNER RD
PARK WAY
SW CEDAR HILLS BLVD
SW BASELINE RD
SW MERLO RD
SW JENKINS RD
ROXBURY AVE
MILLIKAN WAY
CENTER ST
SW CANYON RD
TUALATIN
VALLEY HWY
SW FARMINGTON RD
SW BEAVERTON HILLSDALE HWY
DIVISION ST
6TH ST
5TH ST
SW OAK ST
SW DAVIS RD
SW ALLEN BLVD
SW DENNEY RD
SW HART RD
SW RIGERT RD
SW GARDEN HOME RD
TAYLORS FERRY RD
SW HALL BLVD
SW SCHOLLS FERRY RD
SW WEIR RD
SW BROCKMAN ST
BEARD RD
TEAL BLVD
SW BORROWS RD
SW 135TH AVE
SW 125TH AVE
SW 121ST AVE
NIMBUS AVE
CONESTOGA
GREENWAY
SORRENTO RD
WILSON AVE
ERICKSON AVE
WATSON AVE
HALL AVE
LOMBARD AVE
SW WESTERN AVE
JAMIESON RD
SW OLESON RD
26
217
North
GEOGRAPHIC INFORMATION SYSTEM
LEGEND
Rail Type
Existing Rail
LRT/Commuter Rail
Crossing Type
Automatic Gate
Grade Separated

Table 6-4: Beaverton TSP Funding Breakdown

Current Revenue Sources	Annual Amount ($1,000s)	Estimated Revenues Through 2035 ($1,000s)
State Hwy Trust Fund	$ 3,200	$ 86,400
HB 2001	$ 1,645	$ 44,430
Bike 1% Fund	$ 32	$ 864
County Gas Tax	$ 320	$ 8,640
County SDC for transportation	$ 400	$ 10,800
Street Lighting Fees	$ 900	$ 24,300
Franchise Fees	$ 1,500	$ 39,900
Fed MTIP	-	$ 29,000
MSTIP	-	$ 24,110
Total Current Revenue	*$ 7,997*	*$ 268,445*
Potential Future Sources		
Street Maintenance Fee	$ 1,500	$ 37,500
City SDC	$ 200	$ 4,800
Total Future Revenue Sources	*$ 1,700*	*$ 42,300*
Current Expenditure		
101 - Street Operations & Maintenance		
Personnel Services	$ 2,000	$ 54,000
Mat/Ser/Cap Outlay (multi use)	$ 1,000	$ 27,000
Mat/Ser/Cap Outlay (Traffic)	$ 475	$ 12,825
111 - Street Lighting		
Mat/Ser/Cap Outlay	$ 900	$ 24,300
Personnel Services	$ 180	$ 4,860
310 - Transportation Capital Projects		
CIP		$ 2,500
Total Current Expenditures	$ 4,555	$ 125,485
Available Funds for Capital Projects		$185,260
High Priority Project Cost		$178,940
Difference (Funds – Costs)		+$6,320 (3%)

ORDINANCE EXHIBIT **A**

Comprehensive Plan Amendments

Volume I:

- Chapter 7: Natural, Cultural, Historic, Scenic, Energy, and Groundwater Resources Element

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>

CHAPTER SEVEN: NATURAL, CULTURAL, HISTORIC, SCENIC, ENERGY, AND GROUNDWATER RESOURCES ELEMENT

7.1 OVERVIEW

This Plan element addresses natural, cultural, historic, scenic, energy, and groundwater resources within the context of Statewide Planning Goal 5. Statewide Planning Goal 5, Open Spaces, Scenic Resources and Historic Area, and Natural Resources, provides a mechanism for local governments to plan for resources. Procedures to comply with this goal are specified in Oregon Revised Statutes (ORS 660-23-000 through 660-23-250.) The procedures include a three-part process:

1) Inventory the resource,
2) Analyze the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit or prohibit a conflicting use, and
3) Adopt a program to implement the decisions made through the ESEE analysis.

An alternative process is also provided for some resources: the Safe Harbor alternative. In this alternative, local governments are given the option to adopt inventories based on information gathered by other agencies, or to adopt standardized programs to implement protection of the resource, thereby eliminating the need to complete the ESEE analysis.

Volume III of the Comprehensive Plan, Statewide Planning Goal 5 Resource Inventory Documents, provides the information necessary to satisfy the inventory requirements of this goal. This information includes quantity, quality and location data on specific resources. Additionally, the inventoried resources are mapped or listed, and a determination of significance of the individual resource sites is provided in map or list form.

The text that follows addresses the third requirement in the Goal 5 process. Where possible, the program decision has been to follow the Safe Harbor regulations of the goal; therefore, an ESEE analysis is not necessary. Where necessary, the ESEE analysis is included in Volume III.

The resource protection goals, policies and actions that follow in this section are divided into Statewide Planning Goal 5 resource categories, to match each City inventory. Each category provides the foundation for the regulations and programs designed to protect, enhance or restore these resources, and to further demonstrate compliance with Statewide Planning Goal 5.

Metro, the regional government encompassing Washington, Clackamas, and Multnomah counties, identified regionally significant wildlife habitat and riparian corridors. These areas were divided into categories: wildlife habitat, riparian corridors, and upland wildlife habitat and subdivided by classes: I, II and III or Class A, B and C. Upon completion of the inventory, the local governments within the Tualatin Basin combined together to form the Tualatin Basin Natural Resource Coordinating Committee, also known as the Tualatin Basin Partners. This group, headed by Washington County, conducted an ESEE analysis and developed a program to protect, conserve and restore Class I and II riparian corridors, Class I and II wildlife habitat, and Class A upland wildlife habitat (termed Habitat Benefit Areas) as a voluntary program. Each local government, through the Tualatin Basin Partnership, agreed to "allow and encourage" habitat friendly

development practices to comply with the intergovernmental agreement that the partners have with Metro. Additionally, to minimize storm water impacts on the Habitat Benefit Areas low impact development techniques are proposed, in some cases, throughout the city. The program, applies only to Habitat Benefit Areas, is implemented through the Beaverton Development Code, Engineering Design Manual and Municipal Code.

The protection of natural resources is necessary to preserve a healthy, sustainable environment in an urban setting. Protection of these resources today will ensure that as the community grows in density and expands its boundaries the natural landscape will be preserved for the health, safety and welfare of its citizens. Natural resources also provide aesthetic beauty. Their protection benefits property values and increases the livability of the City.

Beaverton is fortunate to have natural and historic resources that significantly add to the quality of life. These include streams, adjacent riparian areas, wetlands, large wooded tracts, open space, and historic sites and buildings. Under state planning goals, the citizens of Beaverton have the opportunity and obligation to protect these resources. While it is unreasonable to expect all of Beaverton's resource areas to remain unchanged, we must recognize that the presence of these areas contributes to our overall quality of life. The retention of these resources maintains visual and scenic diversity, provides areas for education and passive or active recreation, and can provide site development amenities for residents and employees alike. Thus, a balance between full protection of all inventoried resources and full development of the inventoried resources is provided in the following goals, policies and actions.

7.1.1 Goal: Balance development rights with natural resource protection.

Policies:

a) Coordinate resource protection programs with affected local, state, and federal regulatory agencies, and notify them of development proposals within natural resource areas.

Action 1: *Adopt land use processes to incorporate notification to appropriate agencies as part of the development review process.*

Action 2: *Continue membership and activity within the Tualatin Basin Natural Resources Coordinating Committee.*

Action 3: *Encourage the use of the habitat friendly development practices of lo9w impact development techniques through the Pre-Application Conference.*

Action 4: *Proactively lead the way with development of city buildings by using habitat friendly development practices and low impact development techniques.*

Action 5: *Develop a comprehensive habitat benefit area plan for the Beaverton Downtown Regional Center to integrate Beaverton Creek into the Regional Center as an amenity.*

b) Where adverse impacts to Significant Natural Resources cannot be practicably avoided, require mitigation of the same resource type commensurate with the impact, at a location as close as possible to the impacted resource site.

c) Allow for relaxation of development standards to protect significant natural and historic resources. Such standards may include but are not limited to minimum setbacks, maximum building height, minimum street width, location of bicycle, pedestrian and multi-use paths, etc.

Action 1: *Adopt and apply land use regulations that allow and encourage habitat friendly and low impact development practices within habitat benefit areas, and where appropriate, throughout the city.*

Action 2: *Adopt and apply a system to allow flexibility in applying the site development standards when development employs low impact development techniques and habitat friendly development practices.*

Action 3: *Adopt and apply an incentive program to encourage the use of the low impact development techniques and habitat friendly development practices.*

d) City policies or regulations shall not interfere with actions necessary for nuisance abatement or protecting the safety, health and welfare of Beaverton's citizens.

e) Upon annexation of unincorporated properties with County Goal 5 natural resource designations, the City shall rely on the Urban Planning Area Agreement with Washington County to determine the appropriate City designation.

Action 1: *The City shall work with Washington County to periodically update the UPAA to ensure compatibility in Goal 5 resource inventories, significance determination, and program decisions.*

7.2 CULTURAL AND HISTORIC RESOURCES

Cultural and Historic Resources are our connection to the past. Cultural resources include areas characterized by evidence of an ethnic, religious, or social group with distinctive traits, beliefs, and social forms. For example, an archaeological site, such as an Indian burial ground, could be an important or significant cultural resource requiring review. There are no known significant or important cultural resources within the city limits.

Historic resources are lands with sites, structures, and objects that have local, regional, statewide, or national historical significance. A continued effort to protect and preserve these types of resources whenever possible will keep Beaverton from being "just another suburb."

In 1983, a county-wide inventory of cultural and historic resources was conducted by Washington County Museum. When the museum staff considered the resources within Beaverton, they realized that the city was so rich in historic resources that they, because of time and staffing

restraints, would not be able to do a complete and detailed inventory. Beaverton, therefore, would need to proceed on its own.

At the recommendation of the Washington County Museum and the State Historic Preservation Office, Beaverton began its inventory with a detailed analysis of the buildings located on the original plat of Beaverton dated December 26, 1868 and the map of Steel's Addition to Beaverton. In August of 1984, the City nominated the "Downtown Beaverton Historic District" to the National Park Service National Register of Historic Places. The district, as described on the nomination form, is an irregular 2 X 3 block area bounded by SW Canyon Boulevard on the north, SW East Street and SW Washington Street on the east, SW Second Street on the south, and SW Watson Street on the west. This district includes buildings used for commercial, entertainment and private residences.

Within the boundaries of the Downtown Beaverton Historic District structures are classified based on building date, architectural style, materials, condition, alterations, building setback and use. Properties within the boundaries of the Historic District are classified into six categories: 1) Primary significant, 2) Secondary significant, 3) Historic non-contributing, 4) Compatible non-contributing, 5) Non-compatible non-contributing, and 6) vacant. The inventory contained in Volume III of this Comprehensive Plan provides more detailed information regarding the individual properties and their designations.

In 1986, the City further developed the inventory of historic resources and evaluated these resources with the assistance of a task force of local historians, architects, and interested citizens, following the process specified by Statewide Planning Goal 5. Each resource was reviewed to determine if any conflicting uses existed. If so, the economic, social, environmental, and energy consequences of protecting the resource, limiting the conflicting use, or allowing the conflicting use were evaluated. The City has adopted a complete inventory of the city's significant and important historic resources and created an Historic Resource Review Committee (HRRC) to review alterations or demolitions of these resources and to promote, through education, the appreciation of the city's numerous historic resources.

In 1995 a State Statutes were amended to require local governments to allow a property owner to refuse consent to any form of historic property designation at any point in the designation process. This refusal removes the property from consideration for historic property designation by the State Historic Preservation Office and local governments (ORS 197.772). Additionally, similar revisions were made to the Statewide Planning Goal 5 Historic Resources section of the Oregon Revised Statutes (ORS 660-23-200).

Beginning in 1998, a study was undertaken to update the City's Historic Resources Inventory based on guidelines established by OAR 660-23-0200. This work was completed, but has not been adopted. It is anticipated that adoption will occur after a new program for resource protection is defined, so that owners of properties listed in the inventory will be aware of the effects of a listing.

7.2.1 Goal: Preserve, manage and encourage restoration of historic sites, structures, and objects designated as Significant Historic Landmarks, and protect the character of the Downtown Historic District as listed on the National Register of Historic Places.

Policies:

a) With the cooperation of property owners, protect enhance and perpetuate Significant Historic Landmarks and the Downtown Historic District representing or reflecting elements of the City's cultural, social, economic, political and architectural history.

b) Consistent with State law, property owner permission shall be required before a historic or cultural resource may be listed in the City's Goal 5 inventory. Should a property owner request, in writing, removal of a historic or cultural resource from the inventory, the City shall honor that request as expeditiously as possible.

Action 1: *Adopt procedures to expedite removal of historic or cultural resource designation from properties where property owners request, in writing, said removal.*

c) The Historic Resource Review Committee (HRRC) shall review alterations and demolitions to designated Significant Historic Landmarks as well as new construction in designated historic districts. They shall also comment on other issues pertaining to historic resources. This may include, but is not limited to, making recommendations regarding the designation of proposed Significant Historic Landmarks or Significant Historic Districts to the Planning Commission. The HRRC shall also be responsible for updating the City's significant historic resource inventory.

Action 1: *Adopt an update to the City's Historic Resources Inventory based on survey work done in 1998-1999, after a voluntary, incentive-based program to protect inventoried resources is defined.*

Action 2: *Define and designate local historic districts, and create and adopt architectural design guidelines for historic districts, along with other incentive based programs to preserve the integrity of Significant Historic structures, objects, or sites. Designate a historic district in the Old Town area in conjunction with the adoption of architectural design guidelines for the area to preserve its historic integrity.*

Action 3: *Establish information programs to assist property owners and residents in the recognition and appreciation of significant historic resources.*

Action 4: *Provide the opportunity for innovative design solutions to problems encountered in the adaptive reuse of historic buildings through development of a combination of incentive programs and design guidelines.*

Action 5: *Develop and adopt design criteria for new or redeveloped structures within a designated Historic District so as to preserve or enhance the integrity of the area.*

d) To ensure that no historic resource is lost unnecessarily and that all avenues and possibilities for the retention of the building have been exhausted, before a resource is allowed to be demolished, the person requesting the demolition must establish that the building either cannot be moved because of a lack of structural integrity or cannot be sold to be moved to another site.

e) Encourage citizen participation in historic preservation and related activities as a source of positive community identity.

f) The City's historic resource protection regulations shall apply to all historic resources in the city on the National Register of Historic Places, regardless of whether these resources are listed in the local inventory.

7.3 NATURAL RESOURCES

Natural Resources are classified and addressed in this section by Statewide Planning Goal 5 categories. Associated with these categories are detailed background data including inventory and assessment information that provided the findings to determine the significance of resources. Adopted inventories of significant natural resources are included in the maps and listings of Significant Natural Resources located in Volume III of the Comprehensive Plan. The inventory lists and maps were adopted over time, based on state regulations.

Statewide Planning Goal 5 continues to be revised and updated. Each periodic review updates the City's inventory, and at the same time applies the most current requirements to ensure continued protection of significant natural resources.

In 1984, an inventory of Beaverton's natural resources was done to determine their quality and quantity. The City adopted a map layer entitled: Significant and Important Natural Resources and Other Important Natural Resources. These areas were then evaluated as to the economic, social, and environmental consequences of protecting the natural resource or allowing conflicting uses. Areas shown on the map as Significant Natural Resources are generally wetlands or riparian-stream corridors that were considered important principally for their wildlife habitat values. Areas shown on the map as Important Natural Resources contained major stands of trees, drainage swales, and other natural vegetation that were determined to be primarily important for their aesthetic value, although many also provide wildlife habitat of some, although relatively less, importance.

The map at that time delineated, as clearly as possible, the appropriate boundaries of the Significant and Important Natural Resources. However, it is also necessary to rely on inventory, field investigation, and other factors conducted in conjunction with the review of a proposed site development to define more precise boundaries, such as the exact location of a riparian corridor boundary on a specific site.

In 1991 the City Board of Design Review adopted an additional significant tree inventory. Although this inventory was not conducted pursuant to Statewide Planning Goal 5, and was not adopted by the City Council, it did serve to further define trees and stands of trees of importance to the City

In 2000, a Local Wetland Inventory (LWI) was completed. The LWI is one of the City's Goal 5 resource inventories comprising Volume III of the Comprehensive Plan. The City employed the Goal 5 regulations by conducting the inventory reconnaissance using the Oregon Freshwater Assessment Methodology (OFWAM) to satisfy the quality and quantity requirements of the regulations. Significance was determined based on applying the LWI criteria, using the OFWAM findings. The LWI includes wetlands meeting state criteria for significance. A list of locally significant wetlands is found in Comprehensive Plan Volume III, Local Wetland Inventory Text, Appendix A Table 5.

Also in 2000, an Urban Riparian Assessment was completed following the procedures found within the Urban Riparian Inventory and Assessment Guide, developed by the Division of State Lands. This assessment was adopted, and included in Comprehensive Plan Volume III, Appendix C of the Local Wetland Inventory. It is intended to be used as a tool by planners to indicate that additional information on the location of the riparian area is required prior to development approval.

In 2000 the City also determined that certain streams are fish-bearing following the Goal 5 Safe Harbor requirements for Riparian Corridor inventories and determinations of significance. The significant fish bearing streams are identified on page 3 of Planning Commission Order No. 1318, enclosed in the opening pages of the Local Wetland Inventory.

Adequate riparian corridors are of particular importance for their positive effect on the adjacent water resource. They act as natural filters for pollutants, provide flood control benefits, and reduce erosion. Vegetation in riparian corridors provides shade and cover for both fish and other aquatic and upland wildlife species. The riparian corridors within the City are typically located within residential, commercial, and campus industrial areas. Generally the vegetation in these riparian areas has been removed, or altered substantially. As the City continues to grow and increases density, the remaining unaltered riparian corridors will be subject to development pressures. Removal of vegetation and the construction of structures within the riparian areas are the activities most likely to conflict with riparian functions and values. These conflicting uses can be managed through regulatory provisions that limit encroachment. Where encroachment is permitted, prescribed levels of mitigation and restoration can be required.

Although areas of significant wildlife habitat, as defined by the State Goal 5 Administrative Rule, have not been identified in the city, measures to protect significant riparian areas and wetlands also serve to protect fish and wildlife. Areas of fish and wildlife habitat are important to our community because they add to our overall quality of life by permitting observation and appreciation of our stewardship responsibilities in close proximity to our homes and workplaces. While these resources exist elsewhere in Oregon, they are important remnants of the natural environment close to our everyday activities.

In 2002, Metro released a Preliminary Draft Riparian Corridor and Wildlife Habitat Inventory for public review. In September 2003, Metro released a Discussion Draft of the Economic, Social, Environmental and Energy Analysis (ESEE). In 2004, Metro released the Phase II ESEE: Draft Analysis of Program Options. In August 2004, the Tualatin Basin Partners held a public hearing to review the draft program and the mapping. In March 2005, the Tualatin Basin Partners endorsed the staff report, exhibits, program report, and mapping. The package was submitted to Metro for inclusion in their Council action on the overall Metro Nature in the Neighborhoods Program. Metro Council approved the program in September 2005. The Partners then began to draft two issue papers outlining the habitat friendly development practices and how they might apply in the Tualatin Basin and more specifically, within habitat benefit areas.

As codified in Metro's Urban Growth Management Functional Plan (UGMFP), sections 3.07.1370 and 3.07.1320, the Metro Council designated as "Habitat Conservation Areas" regionally significant fish and wildlife habitat, which includes riparian Class I and II habitat within the Metro boundary and upland wildlife Class A and B habitat on land that is added to the Urban Growth Boundary after December 28, 2005.

7.3.1 Significant Natural Resources

7.3.1.1 Goal: Conserve, protect, enhance or restore the functions and values of inventoried Significant Natural Resources.

Policies:

a) Inventoried natural resources shall be conserved, protected, enhanced or restored:

- to retain the visual and scenic diversity of our community;
- for their educational and recreational values;
- to provide habitats for fish and wildlife in our urban area.

b) Conserve, protect and enhance natural resource sites and values though a combination of programs that involve development regulations, purchase of land and conservation easements, educational efforts, and mitigation of impacts on resource sites.

Action 1: *Establish acquisition programs for Significant Goal 5 Resources; prepare and maintain a long-range list of priority resource locations for public acquisition.*

Action 2: *Facilitate and encourage habitat friendly development practices and low impact development through flexibility in site development standards and reduction in surface water management fees and systems development charges.*

c) Inventoried natural resources shall be incorporated into the landscape design of development projects as part of a site development plan, recognizing them as amenities for residents and employees alike.

d) The City shall rely on its site development permitting process as the mechanism to balance the

needs of development with natural resource protection.

Action 1: *For properties located within significant natural resource areas, the City shall consider relaxation of its development standards where necessary to accomplish protection of riparian, ~~and~~ wetland and significant upland habitat areas. Such standards include, but are not limited to, setbacks, building height, street width, location of bike paths, etc. Where the combination of riparian, wetlands, and other requirements would result in an unbuildable lot, such a situation may be relevant to a decision that may grant a hardship variance.*

Action 2: *City Staff will provide pre-application conferences to developers of property to provide available information and to discuss alternative methods of development acceptable to meet the adopted policies and ordinance standards.*

Action 3: *Adopt and apply land use regulations that require integration of natural features with the overall design of developments. Natural features include, but are not limited to, wetlands and water areas, intermittent and perennial streams, riparian corridors, urban forests and significant individual or community trees, slopes, geologic hazards, flooding, and erosion prone soils.*

Action 4: *Adopt and apply land use regulations that will minimize impacts from adjacent uses. Development Code design criteria shall be adopted that address the following considerations:*

- *Land uses immediately adjacent to protected resource areas should be designed to physically separate human activity from the resource activity. Preferred development abutting the resource should be 1) buildings with entrances oriented away from the resource area, and then 2) roadways with limited or no street parking with 3) parking lots as the lowest preference.*
- *Garbage facilities and materials storage areas should be located away from habitat areas.*
- *Habitat areas should be preserved as a few large connected areas, rather than many disconnected small areas and should be designed to minimize the amount of habitat edge exposed to development areas.*
- *Existing native vegetation should be retained to provide wildlife habitat. Snags and dying trees should be left in protected wildlife areas for wildlife use.*
- *To minimize disturbances to wildlife, lights for buildings and parking areas should be screened, and the light should be directed away from the protected habitat areas,*
- *Walkways should not bisect wildlife areas. If walkways do encroach upon wildlife areas, security lighting should be designed to shine primarily on the path and avoid shining directly into habitat areas.*

Regulations to address the above considerations shall not compromise public safety.

Action 5: *Adopt and apply regulations for resource areas, mitigation sites, areas adjacent to natural areas, wetlands, and tree groves that include but are not limited to the following requirements:*

- *Require use of native vegetation in mitigation areas and riparian buffers. Seed-and fruit-producing native plants with aesthetic value should be incorporated into the landscaping at locations adjacent to wildlife habitat areas.*

- *Allow for buffer averaging in order to create opportunities for habitat protection and enhancement while accommodating urban forms of development.*

e) Development within Significant Natural Resource areas shall be consistent with the relevant regulations or guidelines of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, U.S. Army Corps of Engineers, Oregon Division of State Lands, Clean Water Services, and the Oregon Department of Environmental Quality.

***Action 1**: During pre-application conferences for developers, City staff will attempt to identify any Federal, State, or local requirements and regulations affecting sites in Significant Natural Resource areas.*

***Action 2:** The City will continue to monitor and review policies and regulations as necessary, to ensure consistency with Federal, State, and service providers' guidelines and regulations.*

f) Specific uses of or development activities in Significant Natural Resources areas shall be evaluated carefully and those uses or activities that are complementary and compatible with resource protection shall be permitted. This is not intended to prohibit a land use permitted by the underlying zoning district but only to regulate the design of development such as building or parking location or type of landscaping.

g) Limited alteration or improvement of Significant Natural Resource areas may be permitted so long as potential losses are mitigated and "best management practices" are employed.

h) Roads and utilities, which must be located within, or traverse through, a Significant Natural Resource Area, shall be carefully planned and aligned so as to minimize loss and disruption. A rehabilitation or restoration plan shall be a necessary component. The City should allow variations from standard street sections in these areas.

7.3.2 Riparian Corridors

Significant Riparian Corridors are identified in Planning Commission Order No. 1318, located in the beginning of the Local Wetland Inventory within Volume III of the Comprehensive Plan. Properties listed as Significant Riparian Corridors must comply with the policies and actions set forth in Section 7.3.1 as well as those promulgated in this section.

7.3.2.1 Goal: Promote a healthy environment and natural landscape in riparian corridors, and manage conflicting uses through education, and adoption and enforcement of regulations.

Policies:

a) Significant Riparian Corridors shall be protected for their fish and wildlife habitat values, and other values associated with the natural resource area. Development plans for these areas shall treat these components as assets and encroachment into the riparian corridor shall require enhancement, mitigation, or restoration.

Action 1: *Develop and implement a fish habitat protection program in compliance with Statewide Planning Goal 5.*

Action 2: *Amend City regulations and development standards to ensure compliance with Clean Water Services Design and Construction Standards relating to development in or near water resource areas.*

Action 3:*Work with other local governments in the Tualatin River Watershed to develop and implement a program to comply with the Federal Endangered Species Act (ESA) for Federally listed threatened or endangered species found within the watershed.*

b) Streams, creeks, and other watercourses, including a number of small drainages not identified on the Significant Natural Resources inventory maps, can be significant amenities. The City should protect the natural resource values of these areas from damage or degradation caused intentionally or by neglect. The city should cooperate with and assist property owners in maintaining and upgrading these areas for their potential aesthetic, wildlife, or recreational value.

7.3.3 SIGNIFICANT WETLANDS

The Local Wetland Inventory is part of the Statewide Planning Goal 5 Inventory Resource documents. Significant wetlands are found within Appendix A, Table 5 of the Local Wetland Inventory. The Significant Wetlands designation must comply with the policies and actions set forth in Section 7.3.1 as well as those promulgated in this section.

7.3.3.1 Goal: Protect or enhance wetlands adopted as Significant Wetlands in the Local Wetland Inventory.

Policies:

a) Significant Wetlands in the Local Wetland Inventory shall be protected for their filtration, flood control, wildlife habitat, natural vegetation and other water resource values.

b) Development within the buffer area adjacent to a significant wetland shall be subject to restrictions on building, grading, excavation, placement of fill, and native vegetation removal.

Action 1*: Amend the City regulations and development standards as appropriate, to ensure compliance with Clean Water Services Design and Construction Standards provisions for encroachment.*

c) Where development is constrained due to wetland protection regulations, a hardship variance may be granted if approval criteria are met.

***Action 1**: Amend the implementing ordinances as appropriate to ensure compliance with Clean Water Services Design and Construction Standards provisions for a hardship variance.*

7.3.4 WILDLIFE HABITAT

OAR 660-23-110 contains procedures and requirements for complying with Statewide Planning Goal 5 as is pertains to protection of wildlife habitat. The rule specifies that a local government must obtain any current habitat inventory information from the Oregon Department of Fish and Wildlife (ODFW) and other state and federal agencies. Under "safe harbor" criteria, OAR 660-23-110(4) says local governments may determine that "wildlife" does not include fish, and that significant wildlife habitat is only those sites where one or more of the following conditions exist:

(a) The habitat has been documented to perform a life support function for a wildlife species listed by the federal government as a threatened or endangered species, or by the state of Oregon as a threatened, endangered or sensitive species;
(b) The habitat has documented occurrences of more than incidental use by a species described under (a) above;
(c) The habitat has been documented as a sensitive bird nesting, roosting, or watering resource site for osprey or great blue herons;
(d) The habitat has been documented to be essential to achieving policies or population objectives specified in a wildlife species management plan adopted by the Oregon Fish and Wildlife Commission; or
(e) The area is identified and mapped by ODFW as habitat for a wildlife species of concern and/or as a habitat of concern.

According to OAR 660-23-110(1)(a), "documented" means that an area is shown on a map published or issued by a state or federal agency, or by a professional with demonstrated expertise in habitat identification.

In 1999 the Planning Commission indicated that staff should use the "safe harbor" criteria to determine the presence of significant wildlife habitat in the city, based on documentation from ODFW and other appropriate agencies. Staff subsequently sent letters to ODFW and the United States Fish and Wildlife Service asking whether they had any documentation regarding the presence in the city of the types of habitat listed above. Both agencies responded with letters indicating that there was no documentation of such habitat in the city, although such habitat may be present. Based on these responses, it has been determined that there is no evidence available to demonstrate the presence of significant wildlife habitat, meeting State "safe harbor" criteria, in the city limits as of the year 2000.

Although there is presently no documented significant wildlife habitat in the city, wildlife habitat that does not meet State safe harbor significance criteria is certainly present. The presence of common wildlife species (e.g., squirrels, raccoons, beaver, various species of birds, etc.) in the city is a source of interest and entertainment for citizens and generally enriches our daily lives. In protecting significant natural resources in the city, such as wetlands, riparian corridors and scenic trees, habitat for these wildlife species can also be protected.

In the event documentation is provided to the City in the future of the presence in the city of wildlife habitat meeting the "safe harbor" criteria, it will be necessary to give further consideration to City programs for wildlife habitat protection.

7.3.4.1 Goal: Protect wildlife habitat in the city in association with protecting significant natural resources.

Policies:

a) Limit impacts from development or human intrusion on sites likely to contain wildlife habitat through use of regulations adopted for protection of other natural resources, or by adopting new regulations if necessary.

Action 1: *Adopt development regulations that call for consideration of impacts of development on wildlife species likely to be present on development sites, and mitigation of such impacts to the extent practicable. These regulations should allow for flexibility in development standards to achieve wildlife habitat protection.*

Action 2: *Use existing or new development regulations to minimize impacts to areas identified by Metro as significant regional upland habitat within areas added to the Urban Growth Boundary after December 28, 2005.*

7.4 SCENIC VIEWS AND SITES

Significant Scenic Views and Sites are lands that are valued for their aesthetic appearance. Conserving the views of surrounding scenic features such as mountain ranges, Mount Hood, streams and wetlands, and forested areas, helps to maintain the quality of life and unique character of the City. Scenic sites in the city may include streams, wetlands, forested areas or single specimen trees identified on either public or private lands. Significant scenic sites may also have value as wildlife habitat while providing a link to other natural resources such as streams and wetlands as well as parks and other open space. Scenic sites can be viewed from surrounding residences, shopping or employment areas, public or semi-public open spaces such as parks, or from nearby or adjoining bicycle, pedestrian and multi-use pathways or streets. Conservation of both Significant Scenic Views and Sites adds to the livability and attractiveness of our community. That, in turn, helps to maintain property values, and provides an attractive backdrop for businesses located in the City.

The City of Beaverton has focused its efforts on identifying and conserving scenic sites, particularly forested areas and specimen trees, because these resources are considered to be most vulnerable to loss as a result of development. Other scenic sites, including streams and wetlands, are protected to some degree under federal, state and local regulations. ~~At this point, the City has chosen to not address conservation of scenic view of surrounding mountains, including Mount Hood, although such scenic views may be present in the city.~~ For scenic sites to have any aesthetic value to the public, however, views of those sites must be conserved along with the sites.

At this point, the City has chosen to not to regulate conservation of scenic views of surrounding mountains, including Mount Hood, although such scenic views may be present in the city.

However, where such views can be preserved for public enjoyment through voluntary, incentive-based measures, it will help to maintain the quality of life and unique character of the City.

7.4.1 Goal: Conserve Significant Scenic Views and Sites, and the value they add to community.

Policies:

a) Help to preserve and enhance the City's character, beauty and livability through the identification and protection of significant scenic sites in the city and views of those sites.

Action 1: *Following the Goal 5 process:*

- *survey forested areas and specimen trees in the city, evaluating them using the criteria in Policy b) below, and adopt an inventory of scenic sites and views of those sites;*
- *identify land uses or development activities that might conflict with conservation of the inventoried scenic sites and views, as well as the impact area of the conflicting uses on each inventoried scenic site and view;*
- *consider the economic, social, environmental and energy (ESEE) consequences of allowing, limiting or prohibiting identified conflicting uses within each identified impact area; and*
- *devise and adopt a program to conserve the inventoried significant scenic sites and views . The program should make use of a variety of conservation tools including existing and new development regulations, acquisition of property or scenic easements, and public education efforts.*

b) Significant Scenic Sites may include forested areas or a specimen tree and are determined to have two or more of the following characteristics:

- aesthetic value,
- uniqueness of tree size, shape, rarity of specie,
- proximity of forested area to wetlands or riparian areas,
- provides slope stability,
- absorption of rainfall (canopy effects to offset adjoining impervious surfaces), and
- absorbs stormwater runoff.

All significant scenic sites must be visible from an existing or planned viewpoint that is safe and accessible to the general public.

c) The City will balance the conservation of significant scenic resources with the need to allow urban uses and activities.

d) Provide incentives for protection of Scenic Views of topographic features such as mountain ranges and individual peaks for public enjoyment.

Action 1: *Facilitate and encourage preservation of scenic views of topographic features through flexibility in site development standards and reduction in open space requirements, as appropriate.*

7.5 ENERGY

Energy is generated from resources such as natural gas, oil, coal, geothermal, uranium, flowing water, sunshine, wind, and municipal waste. The City lacks significant energy sources, as defined by OAR 660-23-019(a). The City's greatest influence over the protection of energy resources derives from efforts to reduce energy consumption

In the 1970s and early 1980s, the rising costs of fossil fuels resulted in government sponsored incentive programs to encourage research, development and feasible applications of renewable energy technologies such as solar and wind. To provide citizens with the opportunity to utilize solar technologies, Beaverton in conjunction with twenty-one other jurisdictions within the Portland-Vancouver Metropolitan area, participated in the development of a uniform solar access protection ordinance.

Current development programs lack incentives or public demand for the use of renewable energy resources, despite federal objectives to reduce energy consumption, continuing price increases for fossil fuels and increased concerns over the impacts of hydro and geothermal power, and nonrenewable energy resources.

Zoning regulations and transportation plans are currently structured to maximize energy savings. The City has higher density and mixed used districts to allow for living, working and shopping in close proximity, thereby reducing energy consumption for travel. Further, the City's transportation plan has mapped multi-modal transportation corridors for use by automobiles, pedestrians and bicycles. The Westside Light Rail was developed as part of a transportation network designed to reduce energy consumption and to improve air quality.

7.5.1 Goal: Development projects and patterns in the City that result in reduced energy consumption.

7.5.2 Goal: Increased use of solar energy and other renewable energy resources in new development in the City.

Policies:

a) Assist in the conservation of energy by promoting more efficient transportation modes and land use patterns.
b) Encourage higher density development where appropriate.
c) Continue to update applicable codes and regulations to promote energy conservation.
d) Support educational programs on energy conservation and use of renewable energy resources through cooperation with other agencies and energy suppliers.
e) Support energy programs that inform senior citizens and low income groups of available local, state, and federal winterization, and energy efficient programs.
f) Support state and federal legislation that encourages energy saving design and building practices.
g) The City should set an energy efficient example by using best management conservation practices in all of their facilities. Alternatives should be economically beneficial.

h) The City shall retain and apply regulations requiring consideration of solar energy options in the development process.

7.6 GROUNDWATER RESOURCES

Although most of the potable water used in the city is imported, at times of peak use water is drawn from aquifers via City wells. Some of this water is injected into aquifers in the winter when supplies exceed demand, and withdrawn during summer months. Contamination of these groundwater resources can occur through pollution emanating from surface sources.

7.6.1 Goal: Protect groundwater in the City from contamination.

Policies:

a) Cooperate with other local water providers and neighboring jurisdictions in preventing pollution in areas around municipal and domestic wells so as to protect groundwater that is a source of potable water for the City from contamination.

Action 1: *Develop a groundwater wellhead protection program, in cooperation with local water districts and neighboring jurisdictions.*

ORDINANCE EXHIBIT **A**

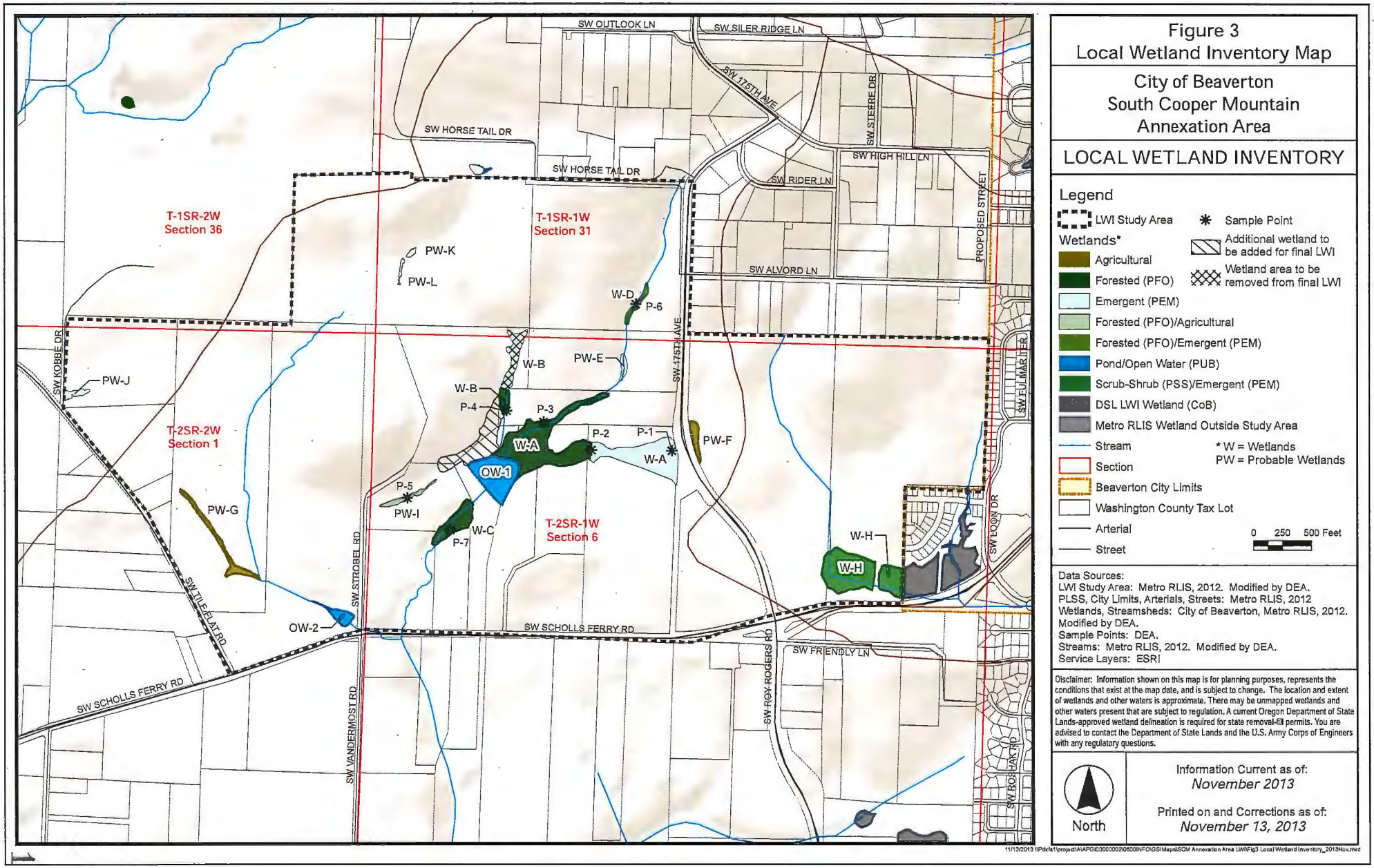
Comprehensive Plan Amendments

Volume III:

- Local Wetland Inventory Map

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>



11/13/2013 \\Pdcfs1\project\A\APGI\0000002\0600\INFO\GIS\Maps\SCM Annexation Area LWI\Fig3 Local Wetland Inventory_2013Nov.mxd

Figure 3
Local Wetland Inventory Map

City of Beaverton
South Cooper Mountain
Annexation Area

LOCAL WETLAND INVENTORY

Legend

- LWI Study Area
- Sample Point
- Wetlands*
- Additional wetland to be added for final LWI
- Wetland area to be removed from final LWI
- Agricultural
- Forested (PFO)
- Emergent (PEM)
- Forested (PFO)/Agricultural
- Forested (PFO)/Emergent (PEM)
- Pond/Open Water (PUB)
- Scrub-Shrub (PSS)/Emergent (PEM)
- DSL LWI Wetland (CoB)
- Metro RLIS Wetland Outside Study Area
- Stream
- Section
- Beaverton City Limits
- Washington County Tax Lot
- Arterial
- Street

* W = Wetlands
PW = Probable Wetlands

0 250 500 Feet

Data Sources:
LWI Study Area: Metro RLIS, 2012. Modified by DEA.
PLSS, City Limits, Arterials, Streets: Metro RLIS, 2012
Wetlands, Streamsheds: City of Beaverton, Metro RLIS, 2012. Modified by DEA.
Sample Points: DEA.
Streams: Metro RLIS, 2012. Modified by DEA.
Service Layers: ESRI

Disclaimer: Information shown on this map is for planning purposes, represents the conditions that exist at the map date, and is subject to change. The location and extent of wetlands and other waters is approximate. There may be unmapped wetlands and other waters present that are subject to regulation. A current Oregon Department of State Lands-approved wetland delineation is required for state removal-fill permits. You are advised to contact the Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

North

Information Current as of:
November 2013

Printed on and Corrections as of:
November 13, 2013

ORDINANCE EXHIBIT **A**

Comprehensive Plan Amendments

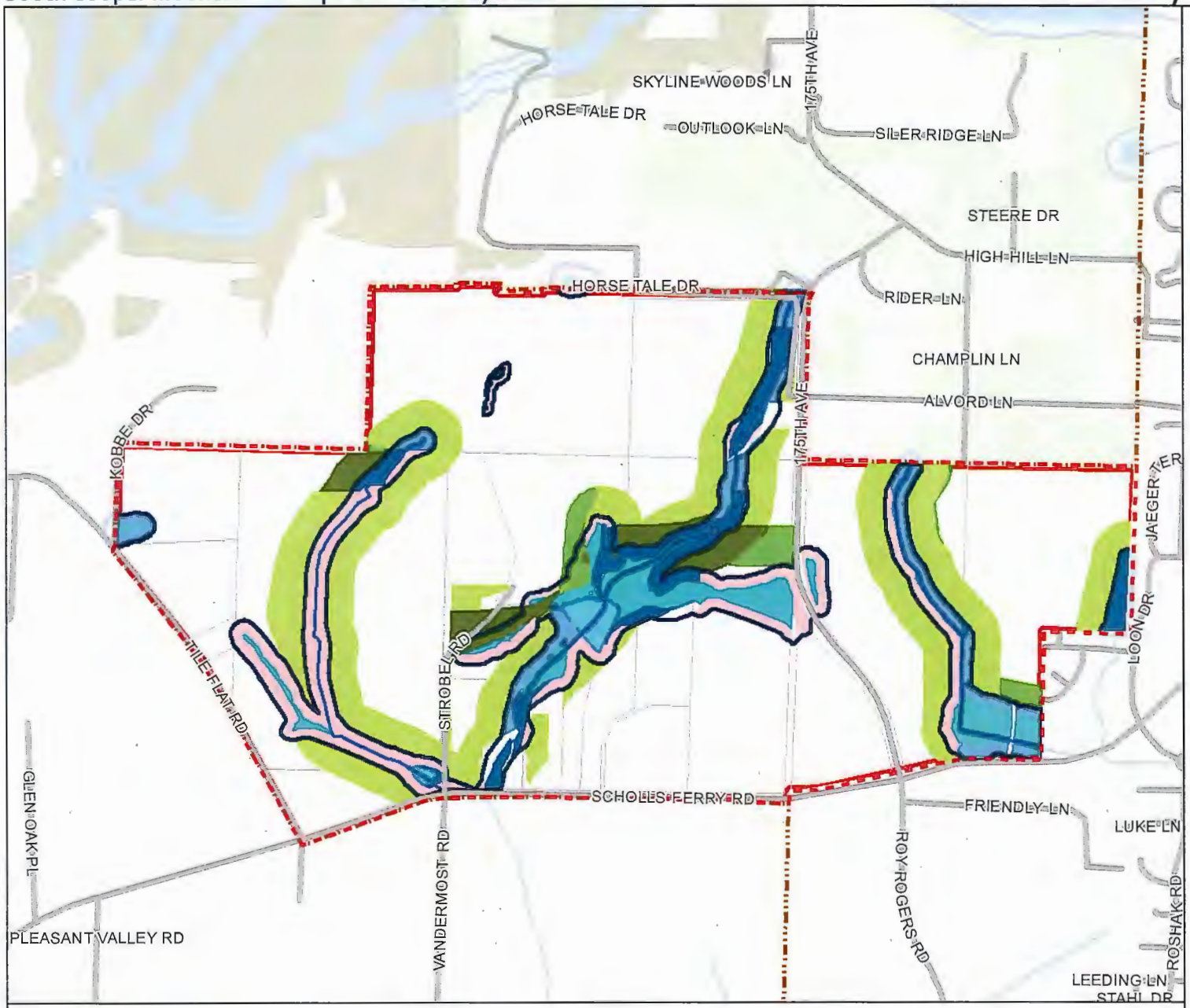
Volume III:

- Habitat Benefit Area Map

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>

SCM Community Plan Natural Resources



- South Cooper Mountain Community Plan Boundary
- Urban Growth Boundary
- Existing Roads
- Taxlots
- Streams
- Open Water
- Wetland/Probable Wetland
- Riparian & Wetland Buffers

Upland Habitat Quality

- Upland Wildlife Habitat Class A
- Upland Wildlife Habitat Class B
- Upland Wildlife Habitat Class C

Riparian Habitat Quality

- Riparian Wildlife Habitat Class I
- Riparian Wildlife Habitat Class II
- Riparian Wildlife Habitat Class III

Prepared By:
Angelo Planning Group
Date: 11/25/2014

NORTH

0 500 1,000 2,000
Feet

Beaverton
South Cooper Mountain

DISCLAIMER
This map is intended for informational purposes only. It is not intended for legal, engineering, or surveying purposes. While this map represents the best data available at the time of publication, the City of Beaverton makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.
Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

ORDINANCE EXHIBIT **A**

Comprehensive Plan Amendments

Volume IV: Transportation System Plan

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>

Volume IV

Transportation System Plan

See

Chapter Six: Transportation Element

ORDINANCE EXHIBIT **A**

Comprehensive Plan Amendments

Volume V: Community Plans

Proposed deletions are ~~struck out~~

Proposed additions are <u>underlined</u>

South Cooper Mountain

Community Plan

Insert Exhibit 5

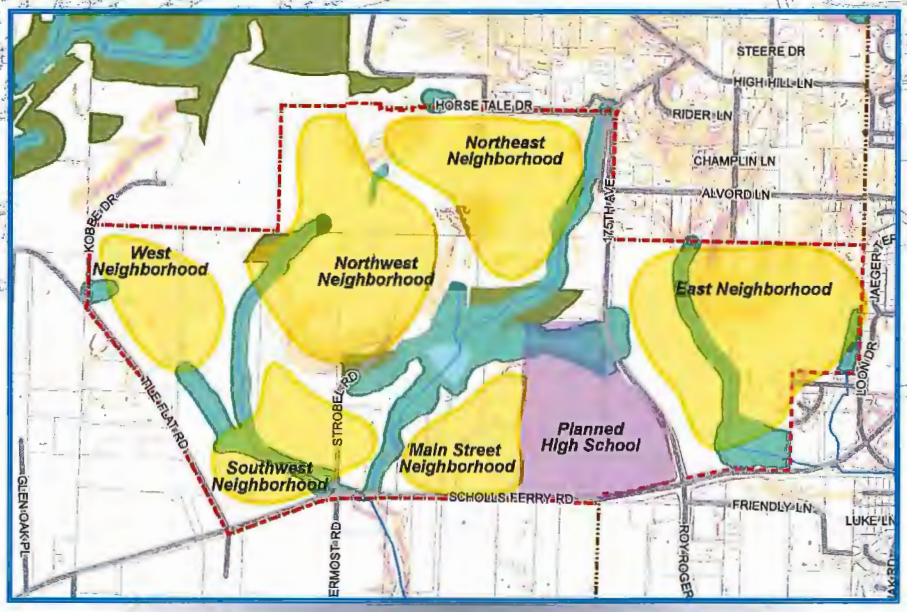
South Cooper Mountain Community Plan

In Volume V: Community Plans

Beaverton
South Cooper Mountain
The Region's Next Great Community

South Cooper Mountain
Community Plan

December 2014



Beaverton
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ACKNOWLEDGEMENTS

Beaverton City Council

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Betty Bode
Denny Doyle, Mayor
Mark Fagin, Council President
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Beaverton Planning Commission

Mimi Doukas, Vice Chair
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South Cooper Mountain Citizens Advisory Committee

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Kathy Cobb, Urban Reserve Area property owner
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David Dunahugh, Crescent Grove Cemetery Association, SCM property owner
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Brian Wegener, Tualatin Riverkeepers
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Justin Wood, Homebuilders Association

*Please see **Appendix A** for Project Committees and Team.*

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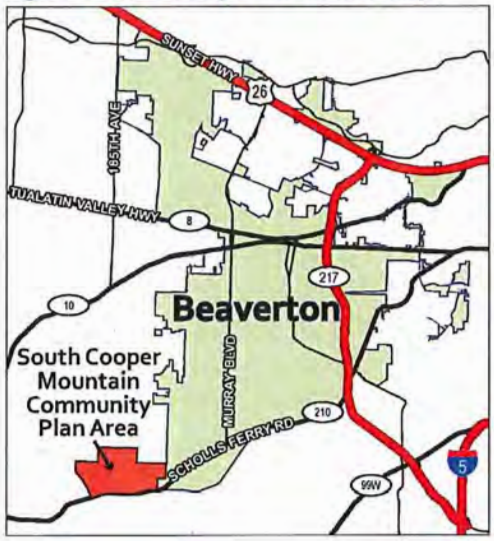
INTRODUCTION

Community Plan Boundary

The South Cooper Mountain Community Plan encompasses approximately 544 acres located at the southwest edge of the City of Beaverton (see Figure 1). This area, referred to in this plan as the Community Plan area, was added to the Urban Growth Boundary in 2011 and was annexed by the City of Beaverton in 2013.[1] The plan area is located generally north of SW Scholls Ferry Road, south of Horse Tale Drive, east of SW Tile Flat Road, and west of SW Loon Drive. The Community Plan area boundary is shown in Figure 2.

Figure 1: Community Plan Context Map



About the South Cooper Mountain Community Plan and Concept Plan

The South Cooper Mountain Community Plan (Community Plan) was created as part of a larger planning effort that produced the South Cooper Mountain Concept Plan (Concept Plan). The Concept and Community Plans were developed through an intergovernmental process with extensive community involvement, described beginning on page 6. The geographic scope and role of each document are summarized below.

South Cooper Mountain Concept Plan

The Concept Plan establishes the overall vision and long range planning strategies[2] for South Cooper Mountain, and guides comprehensive planning for areas within the Urban Growth Boundary (UGB). There are three subareas referenced in Concept Plan:

- The South Cooper Mountain Annexation Area, now referred to as the South Cooper Mountain Community Plan area – the 544-acre area within the UGB and the City of Beaverton that is the subject of this Community Plan;[3]
- The Urban Reserve Area – the 1,242-acre area of land designated as Urban Reserve north of the Community Plan area;[4] and

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[1] *During much of the process that led to the creation of this plan, this area was referred to as the South Cooper Mountain Annexation Area (SCMAA).*

[2] *The Concept Plan includes near-term recommendations which guide planning and development in the next twenty years, and long-term recommendations intended to guide planning and development in the 20-50 year time frame.*

[3] *This is the subject area of this Community Plan, and is referred to herein as the Community Plan area.*

[4] *The Urban Reserve adjacent to the Community Plan area was called Urban Reserve 6B during the Urban and Rural Reserves designation process. For more on the Urban and Rural Reserves program, visit http://www.oregonmetro.gov/index.cfm/go/by.web/id=26257.*

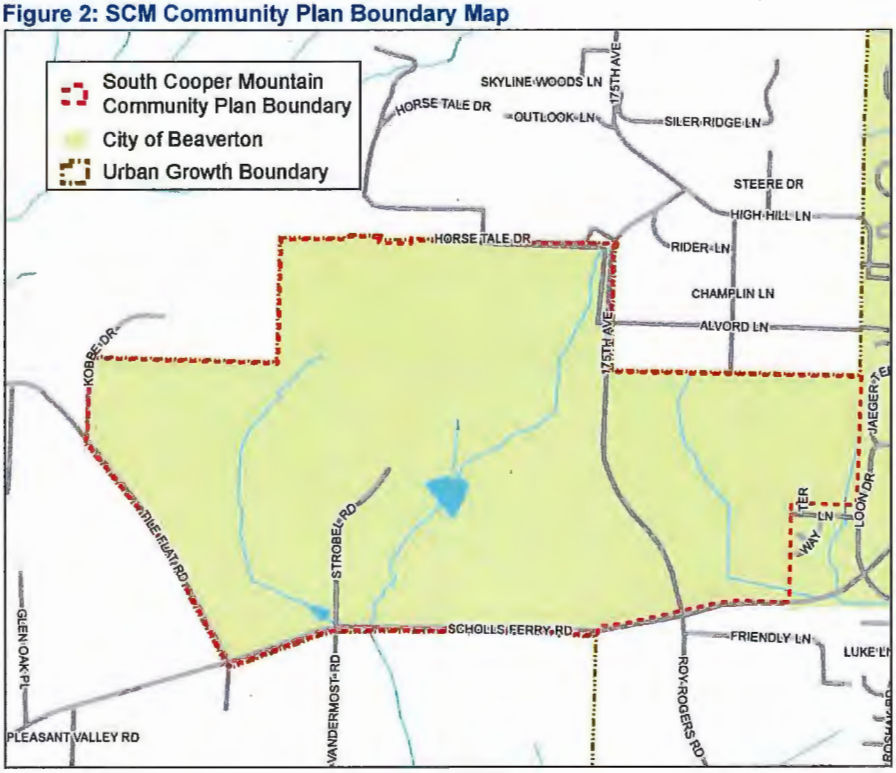
- North Cooper Mountain – a 504-acre area included within the Urban Growth Boundary in 2002 that is within the urban area of unincorporated Washington County.

These subareas are displayed in Figure 3.

Pursuant to Metro Urban Growth Management Functional Plan (UGMFP) Title 11,[5] a concept plan is intended to guide, not bind, amendments to city or county comprehensive plans or land use regulations following addition of an area to the UGB. The SCM Concept Plan lays the groundwork for amendments to City of Beaverton and Washington County comprehensive plans and land use regulations that will implement the plan. The Concept Plan also serves to guide and help coordinate future planning and infrastructure investments by the City of Beaverton and other service providers. The Concept Plan sets the stage for: coordinated and cohesive land use patterns; transportation networks; trails, bicycle and pedestrian networks; natural resource protection; access to Cooper Mountain Nature Park; public services and facilities; and infrastructure funding.

In compliance with Metro requirements,[6] the Concept Plan is inclusive of land within the 1,242 acre

Figure 2: SCM Community Plan Boundary Map



[5] *Metro UGMFP Title 11, section 3.07.1110 Planning for Areas Designated Urban Reserve.*

[6] *Metro Ord. No. 11-1264B, Exhibit B, South Cooper Mountain, condition #1:* "The city of Beaverton, in coordination with Washington County and Metro, shall adopt comprehensive plan provisions and land use regulations for Area 3 to authorize urbanization, pursuant to Metro Code section 3.07.1120. To implement Principle 1 of Exhibit B to the Reserves IGA between Metro and Washington County, the city shall undertake and complete this planning for the whole of Urban Reserve Area 6B, in order to provide appropriate protection and enhancement to the public lands and natural features, and protect and enhance the integrity of Titles 3 and 13 resources in the area. Planning for trail and pedestrian and bicycle travel shall be coordinated with Metro and the county to ensure appropriate access to Cooper Mountain Nature Park."

Urban Reserve Area, as well as the 544-acre area recently added to the UGB and annexed into Beaverton.

The landscape character of the Concept Pan area is illustrated in Figure 4, and the Concept Plan map is shown in Figure 5.

Figure 3: South Cooper Mountain Concept Plan Subareas

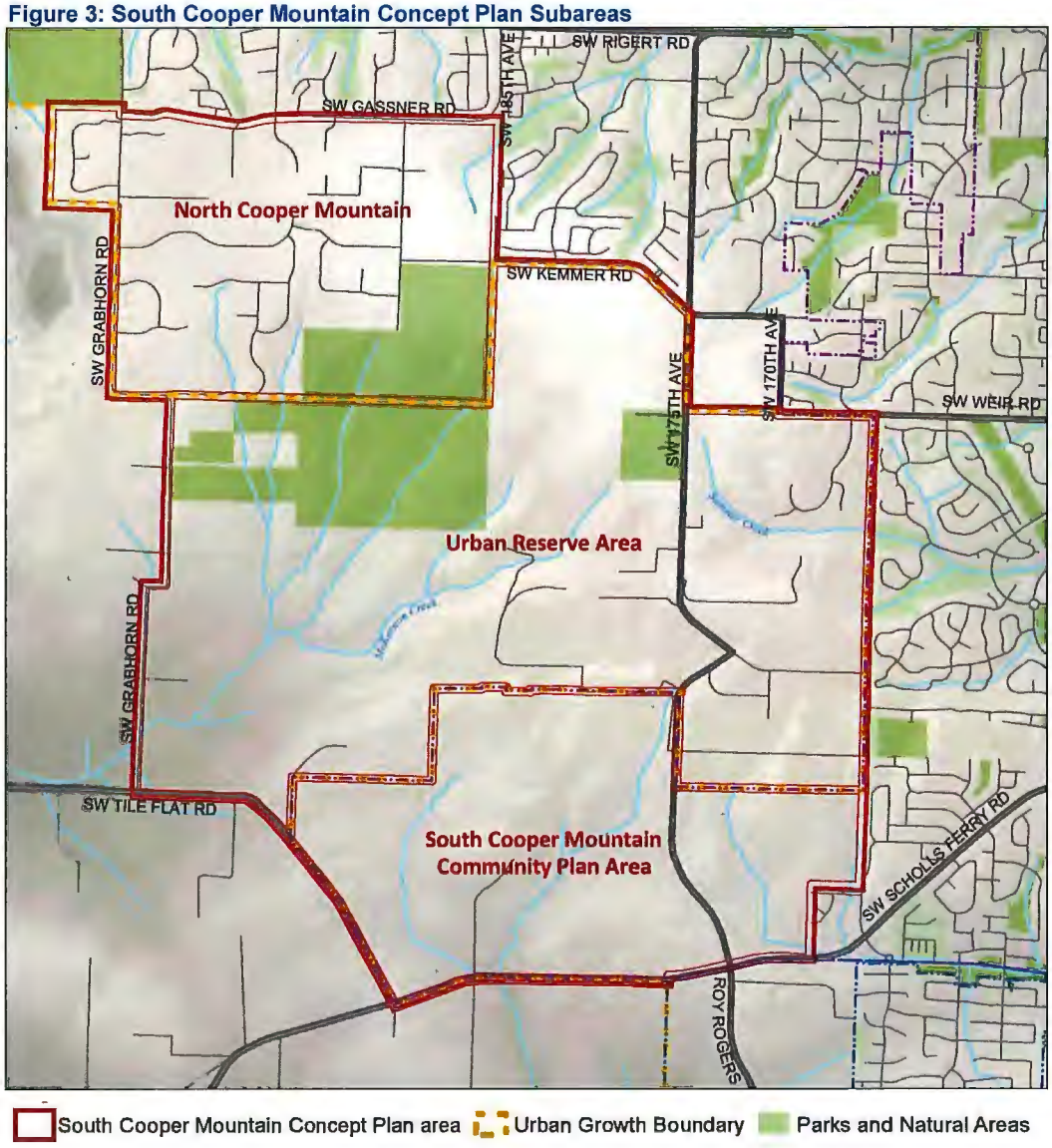


Figure 4: South Cooper Mountain Concept Plan Landscape Character

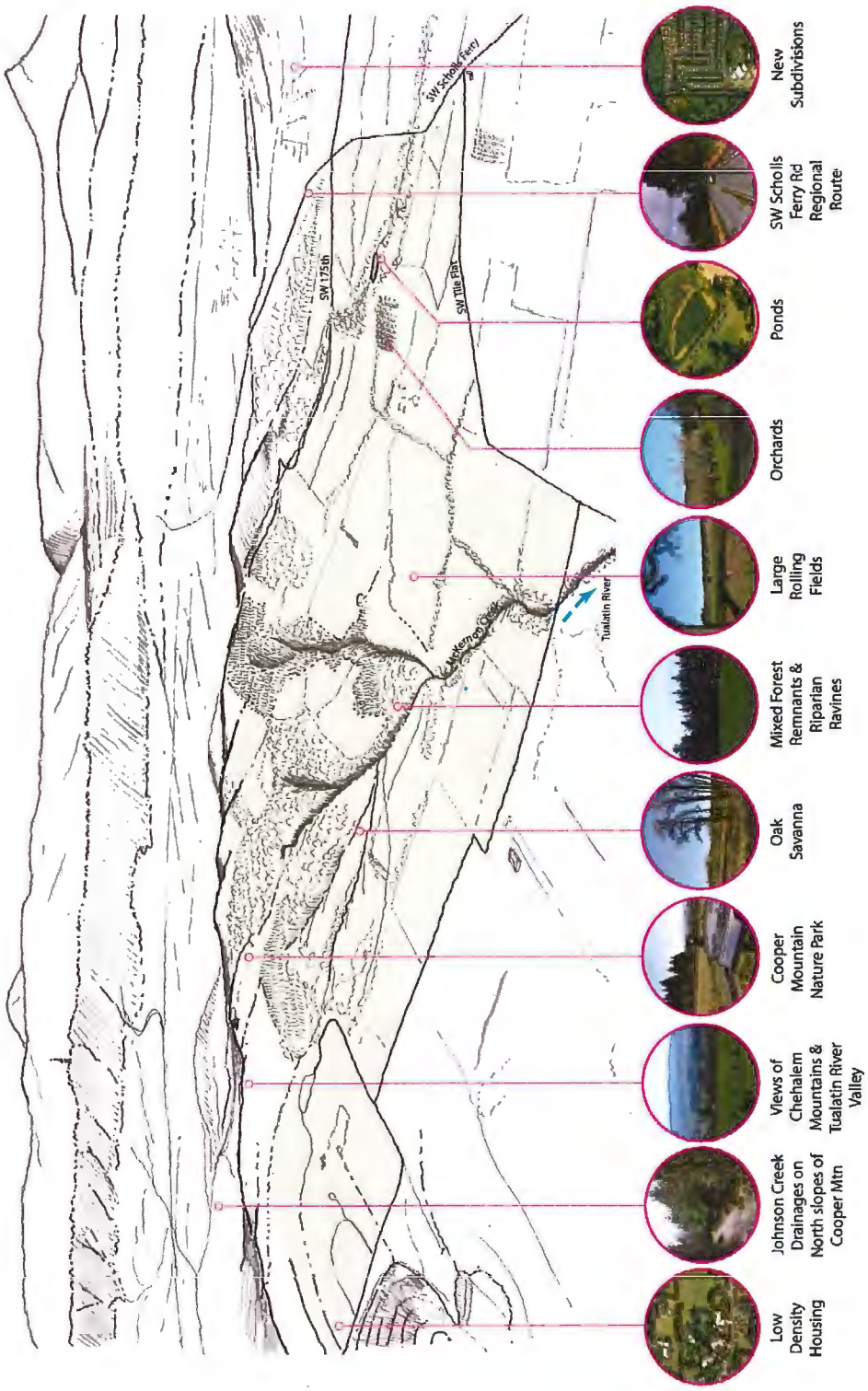
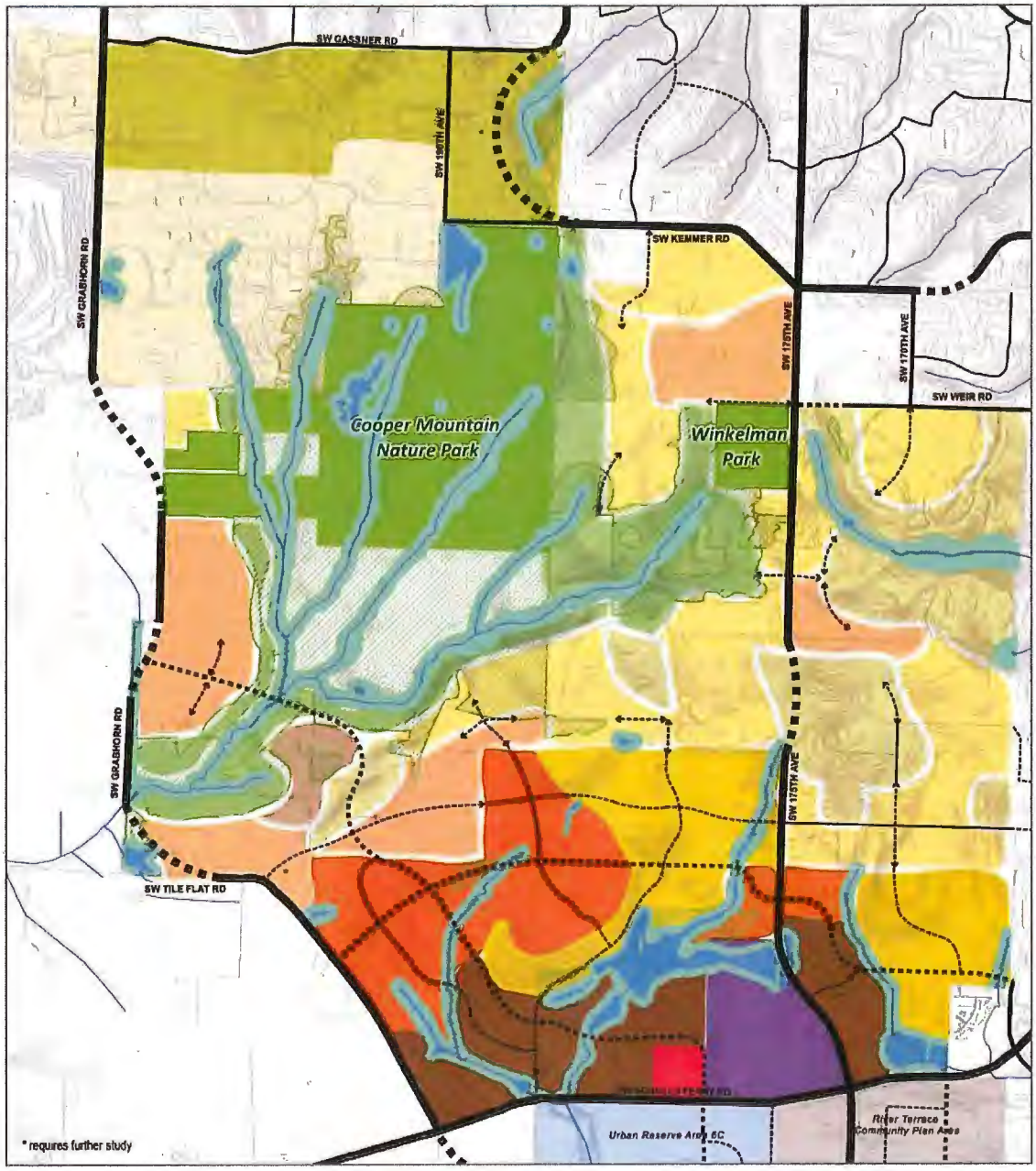


Figure 5: South Cooper Mountain Concept Plan Map



Concept Plan Land Use Framework

- Urban Growth Boundary
- Streams
- Open Water/Wetland/Probable Wetland
- Riparian & Wetland Buffers
- Class A Upland Habitat
- Planned High School Site
- Study Area Tax Lots

Transportation Framework

- Arterial
- Collector
- Neighborhood Route

See also Transportation Framework maps. Realignments and new roads shown in dashed lines. New alignments are conceptual.

Near Term (0-20 Year) Land Use

- Very Low Density Neighborhood
- Low Density Neighborhood
- Single Family Neighborhood
- Compact Neighborhood
- Urban Neighborhood
- Main Street Commercial

Future Land Use

- Future Low Density Hillside Neighborhood
- Future Cluster Neighborhood
- Future Single Family Neighborhood
- Future Compact Neighborhood
- Future Urban Neighborhood
- Future Neighborhood Commercial

Date: 11/14/2014

Prepared By: Angelo Planning Group
This map is intended for informational purposes only

NORTH

0 500 1,000 2,000 Feet

South Cooper Mountain Community Plan

The South Cooper Mountain Community Plan is part of the City's Comprehensive Plan. It provides regulatory policies and maps, along with descriptions and illustrations of the context for those policies and maps. The Community Plan was developed in compliance with Metro's requirements for new urban areas, which are codified in Title 11 of Metro's Urban Growth Management Functional Plan. It addresses only the 544 acres that are within the City of Beaverton, and is intended to implement the vision established by the Concept Plan for the South Cooper Mountain area.

Planning Process

The Concept and Community Plans were developed through an 18-month planning process that included a variety of opportunities for input from stakeholders and the general public. A Technical Advisory Committee (TAC) composed of staff from affected jurisdictions, agencies, service providers and districts, provided input and guidance to the project team about technical aspects of the planning process. A Citizens Advisory Committee (CAC) composed of community representatives including residents, property owners, businesses, developers, city and county planning commissioners, citizen involvement organizations, advocacy groups, and other affected stakeholders provided feedback to the project team throughout the planning process. In addition, the Beaverton City Council and Planning Commission provided direction at key milestones during the planning process. The general public was invited to participate at key points through open houses, online workshops, and community outreach meetings.

The first phase of the planning process included establishment of Guiding Principles for the project (see page 10) followed by study and documentation of existing conditions and future needs in the planning area. The project team evaluated land use, transportation, the real estate market, water and sewer infrastructure, stormwater, natural resources, parks, and energy as a part of the existing conditions assessment.[7]

The second phase of the project began with a visioning workshop, attended by roughly 60 interested parties, with another 20 people participating through an online version of the workshop. This workshop solicited input on priorities and preferences for future land use and transportation scenarios in the Concept Plan area. Results of this workshop were used to develop three initial Concept Plan "scenarios" addressing future land use and transportation patterns for the planning area.[8] These three scenarios were vetted by the project's TAC and CAC and then fully analyzed to evaluate and compare transportation, infrastructure, park, school, natural resource, and land use implications. Based on the findings from the scenario evaluation, two hybrid scenarios were created that combined the best-performing elements of the three original scenarios. The two hybrid scenarios were discussed by the TAC and CAC and shared with the public at an open house and community outreach meetings. Based on input from those groups, a preferred scenario was developed. That preferred scenario became the basis for the Concept Plan and for the more detailed and refined set of recommendations that are embodied in this Community Plan.

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[7] *South Cooper Mountain Concept & Community Plans, SUMMARY REPORT: Existing Conditions & Future Needs, June 6, 2013.*

[8] *South Cooper Mountain Concept & Community Plans, Scenarios for Future Growth, September 12, 2013.*

PLANNING AREA CONTEXT

Landscape Setting

The Community Plan area sits at the base of the south slope of Cooper Mountain. The topography gradually climbs up in elevation moving north from Scholls Ferry Road (at approximately 300' elevation), with several small hills and hummocks. There are four distinct high points that present constraints with respect to road connectivity, but also provide opportunities for viewpoints and the shaping of development patterns. Views are primarily to the southwest, capturing the scenic vista of Chehalem Ridge. Views of Mt. Hood to the east are available from the central high point.

The Community Plan area includes three small tributaries of the Tualatin River. The central tributary is surrounded by a chain of linked upland, riparian forest and wetland areas that provide important habitat value. The remaining tributaries have been degraded by farming and forestry activities. All three tributaries are recognized as resource areas under state, regional and local regulations.

Figure 6: Community Plan Area Topography and Resources

Of the 544 total acres in the Community Plan area, roughly 364 acres are considered developable after accounting for natural resource and slope constraints. The 364 acres represent a "gross buildable

acreage", and includes land for future roads, stormwater management facilities, civic uses such as parks and schools[9], and commercial and residential development.

Transportation Context

East-west and north-south connections are limited both within and around the Community Plan area, and several important area roadways that serve regional traffic are nearing capacity. SW Scholls Ferry Road and SW 175th Avenue / Roy Rogers Road in particular carry large volumes of through-traffic. North-south commute patterns between Tualatin / Sherwood / Yamhill County and Washington County employment destinations rely heavily on SW 175th Avenue, despite its terrain, narrow width, and sharp curves. SW Tile Flat and SW Grabhorn Roads presently serve more through-traffic than their current rural nature and sharp curves would suggest. SW Tile Flat Road forms the western edge of the UGB in the Community Plan area.

Roads within the Community Plan area are not currently built to urban standards, and need improvements to resolve safety issues and accommodate new growth. There are no sidewalks or bike lanes at this time because existing roads were designed according to rural road standards.[10] Other existing issues in the vicinity include the "kink" or hairpin turn on SW 175th Avenue at High Hill Lane, the skewed intersection at SW Kemmer Road and SW 175th Avenue, the multiple 90-degree turns on SW Grabhorn Road, and congestion at the intersection of Roy Rogers Road / 175th Avenue and SW Scholls Ferry Road. The closest transit service is available on SW Scholls Ferry Road at SW Teal Boulevard.

Transportation is the most-often cited concern of area residents, including motorist safety, bicycle and pedestrian safety, and traffic congestion.

Services and Service Providers

Service providers for the Community Plan area and the current public facilities and services available to the area are summarized below. Future facilities needed to serve the area are described under "Institutional / Civic Uses" starting on page 15 for schools and parks and under "Infrastructure Provision" starting on page 31 for water, sewer, and stormwater.

Drinking Water & Sanitary Sewer

The City of Beaverton will provide drinking water to the Community Plan area, although the Tualatin Valley Water District (TVWD) also has water distribution lines adjacent to the northeastern side of the Community Plan area. The City has existing water lines in SW Loon Drive and within the Churchill Forest subdivision to the east of the Community Plan area as well as a new line within SW Scholls Ferry Road as far west as SW 175th Avenue.

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[9] *The planned Beaverton School District future high school, the location of which has been determined and land has been acquired, is not included in the "developable" acreage.*

[10] *As of the writing of this Community Plan, SW Scholls Ferry Road is being widened by Washington County, including sidewalks and bike lanes within the UGB, with concurrent extension of sanitary sewer and water lines by the cities of Beaverton and Tigard.*

The City of Beaverton will be responsible for providing sanitary sewer infrastructure in the Community Plan area through an inter-governmental agreement (IGA) with Clean Water Services (CWS). The closest existing sewer facilities are located to the southeast of the Community Plan area, including a new line recently extended in SW Scholls Ferry Road as far west as SW 175th Avenue.

Fire and Public Safety

Tualatin Valley Fire & Rescue (TVF&R) provides fire and emergency medical services in the area. The TVF&R station closest to the Community Plan area is Station 69 on SW 175th Avenue south of SW Kemmer Road.

The Beaverton Police Department (BPD) provides law enforcement within the Community Plan area. All BPD public services are provided through the main police department offices in Beaverton City Hall, which is the base of operations for all BPD personnel. In addition, there are inter-governmental agreements in place for emergency response that allow Sheriff's deputies from Washington County to respond to calls within city limits based on proximity, regardless of boundaries.

Schools and Parks

The Community Plan area is divided, with the Beaverton School District (BSD) serving the eastern portion, and the Hillsboro School District (HSD) serving the western portion. BSD is planning to build a new high school within the Community Plan area, at the northwest corner of SW Scholls Ferry Road and SW 175th Avenue. The site is roughly 45 acres, and will include a comprehensive high school along with sports fields and other facilities. The closest existing BSD elementary school is Scholls Heights Elementary, located just east of the Community Plan area on SW Loon Drive. On the Hillsboro School District (HSD) side, the nearest elementary school is Groner Elementary, which is located several miles west of the plan area.

The Beaverton School Facility Plan was updated and adopted as part of the city's comprehensive plan in 2010. The Hillsboro School District last updated Population and Enrollment Forecasts in April 2012. These plans were considered in determining the amount of land and improvements needed for public school facilities to serve the SCM Community Plan area, as required by Metro.[11]

Tualatin Hills Park and Recreation District (THPRD) is anticipated to be the primary park and recreation service provider for the Community Plan area.[12] The city's Development Code currently does not require annexation to THPRD if it can be demonstrated that commensurate parks and recreational facilities can be provided by the developer.[13]

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[11] *Per Metro UGMFP Title 11, 3.07.1120.C.5.*

[12] *THPRD is the designated service provider for the Community Plan area, as well as for the URA to the north; however, property owners are not required to annex into the district.*

[13] *Per Section 40.93 of the Beaverton Community Development Code (Tualatin Hills Park And Recreation District Annexation Waiver), an applicant may request approval of a Tualatin Hills Park and Recreation District (THPRD) Annexation Waiver which would waive the requirement to annex property into the District as a condition of approval of any development as specified in Section 60.33 of the Development Code. A THPRD annexation waiver may only be requested by the property owner(s) for any development proposed outside of THPRD boundaries who wish to provide their own park and recreation facilities and services rather than annex the site to THPRD.*

Libraries

The City, as a member of the Washington County Cooperative Library Services (WCCLS) receives funding to support library services from Washington County. The branch closest to the study area is the Beaverton City Library at Murray Scholls, an approximately 10,500 square foot facility located in the Murray Scholls Town Center. The Murray-Scholls branch library is heavily used and the City is currently looking to lease additional space to expand library services in south Beaverton.

Solid Waste & Recycling

The City of Beaverton Solid Waste & Recycling program regulates seven franchised haulers and sets rates for the collection of garbage, recycling and yard debris from all customers within the city limits. Waste Management (WM) of Oregon is the hauler in the area.

Electricity & Natural Gas

Portland General Electric (PGE) provides electric power to the area in and around the area. There is a new substation located immediately south of the Community Plan area across Scholls Ferry Road.

NW Natural provides natural gas to customers in the vicinity of the Community Plan area. A natural gas transmission pipeline runs down SW Scholls Ferry Road to SW Roy Rogers Road at the southern edge of the Community Plan area and another runs down SW Scholls Ferry Road to SW Pleasant Valley Road southwest of the Community Plan area; a third runs within the power line easement east of the Community Plan area.[14]

COMMUNITY PLAN ELEMENTS

Guiding Principles: Overarching Policies for the South Cooper Mountain Community Plan

Context

The policies listed below are refined policy statements from the SCM Guiding Principles.[15] These policies established the foundation for, and helped shape, the South Cooper Mountain Concept Plan. Developed in 2013, the original Guiding Principles captured ideas from previous planning work and agreements by the City of Beaverton, Metro and Washington County, and, added new vision statements agreed upon by the TAC and the CAC. The principles served as broad criteria for decision making for the entire 2,300-acre SCM Concept Plan area, including the Community Plan area. In this Community Plan, the guiding principles serve as overarching policies.

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[14] *Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System Public Map Viewer: https://www.npms.phmsa.dot.gov/PublicViewer/, accessed 4/30/13. These do not include distribution pipelines serving individual users.*

[15] *Please see South Cooper Mountain Concept Plan for the full text of the Guiding Principles.*

Overarching Policies

1. *Implement the Concept Plan. Implement the South Cooper Mountain Concept Plan in a comprehensive and proactive manner, through the: Comprehensive Plan; Development Code; land use reviews; infrastructure planning; natural resource planning; coordination with service providers; capital improvement planning; community involvement, and other means as needed.*

2. *Create Beaverton's next great community. Create a community that is walkable, family-friendly, livable, and includes quality neighborhoods, great green spaces, community focal points, a Main Street, and well-designed development.*

3. *Create a sustainable community. Create a community that meets the needs of Beaverton and the South Cooper Mountain area today and tomorrow, while minimizing negative environmental, social, and economic impacts. Support low-carbon economies and lifestyles, energy efficiency and security, health and well-being, and ecosystem stewardship; and enable future residents and the broader community to meet their own needs.*

4. *Implement a realistic funding plan for infrastructure. Work closely with the public and private sector to implement the SCM Infrastructure Funding Plan. Coordinate with Tigard, Washington County, and all service providers to plan, fund and deliver the infrastructure needed to implement community plans on South Cooper Mountain.*

5. *Provide housing choices. Provide a variety of housing types and densities to provide options for a range of income levels. Provide housing choices consistent with the overall housing needs of Beaverton.*

6. *Provide transportation options. Provide a well-connected transportation network that promotes options for all modes of travel, and encourages walking, biking and future transit service. Address north-south, east-west, and other regional travel issues in coordination with neighboring cities, Washington County, Metro, Tri-Met and Oregon Department of Transportation.*

7. *Provide appropriate protection, enhancement and access to Cooper Mountain's natural resources and public lands. Avoid and minimize impacts, protect key natural resources, and design new growth so that it is integrated with natural areas and other open spaces. Provide appropriately located access to natural areas and open space.*

8. *Coordinate with regional requirements and plans. Coordinate with Metro, Washington County, Tigard and other governments regarding Urban Growth Boundary expansion areas and Urban Reserves. Coordinate transportation planning with the 2035 Regional Transportation Plan and Regional Transportation Functional Plan. Promote connections from South Cooper Mountain to the area's regional trails and green spaces.*

9. *Coordinate with other planning in the area. Coordinate with the River Terrace and South Hillsboro Community Plans. Coordinate with planning for regional water facilities. As additional planning projects in the area are identified, provide information and promote coordination with the South Cooper Mountain Concept Plan.*

10. *Ensure that the plan complements existing neighborhoods and commercial areas so that South Cooper Mountain is a part of greater Beaverton.*

11. *Plan new civic uses so they are focal points for the community. Ensure schools, parks and other civic uses are centers of community activity. Integrate the planned new high school with neighborhoods and other development within the plan.*

12. *Promote compatibility with adjacent rural areas. Promote compatibility between urban uses and agricultural/forestry uses outside the Urban Growth Boundary.*

Land Use

Land Use Implementation

Context

Land Use Designations

Land use designations for the South Cooper Mountain Community Plan area are shown on the Land Use Map (Figure 7). The Land Use Map is the term used for the Comprehensive Plan Map in the City of Beaverton Comprehensive Plan.[16]

The designations on the Land Use Map displayed in Figure 7 serve as the Comprehensive Plan designations for the area. They are implemented by zoning districts as listed in Chapter 3.14 of the Comprehensive Plan and as shown in the Zoning District Matrix included in Table 1 below.

[16] *The Land Use Map published in this document is advisory - the city's official Land Use Map is the controlling map of Comprehensive Plan designations.*

Figure 7: Community Plan Land Use Map

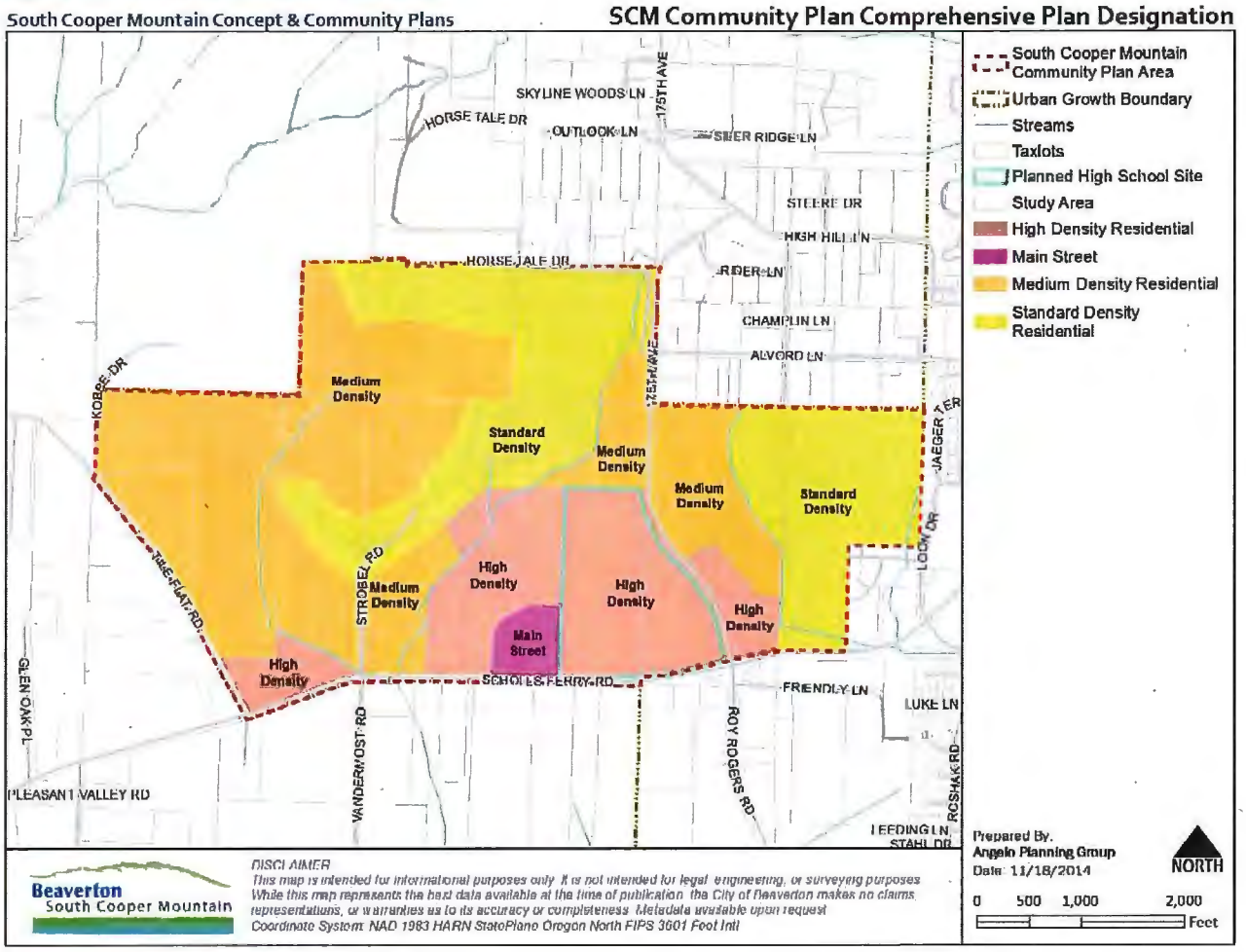

Table 1: Comprehensive Plan and Zoning District Matrix

Comprehensive Plan and Zoning District Matrix: South Cooper Mountain Community Plan		
Comprehensive Plan Designation	Zoning District	Near-Term Land Use Development Type from SCM Concept Plan
Standard Density Residential	R7, R5	Single Family Neighborhood
Medium Density Residential	R4, R2	Compact Neighborhood 50% of Urban Neighborhood
High Density Residential	R1	50% of Urban Neighborhood
Main Street	Neighborhood Service, R1, R2	Main Street Commercial

The Land Use Map and Zoning Strategy – Balancing Certainty and Flexibility

The Land Use Map designations have been applied to implement the South Cooper Mountain Concept Plan. The boundaries of the Land Use designations are intended to reflect key outcomes of the Concept Plan, for example:

- Providing a transition of density from areas of higher density (e.g. along SW Scholls Ferry Road) to areas of lower density (e.g. near SW Loon Drive).
- Coordinating land use with the network of arterial streets, collectors, neighborhood routes, and local streets.
- Protecting natural resource areas and integrating them as amenities for future development.
- Providing a range of residential areas that ultimately result in a variety of housing types, neighborhood framework, and amount of new housing that is consistent with the estimates made in the South Cooper Mountain Concept Plan.

For all of the above reasons, the boundaries of the Land Use designations follow the intended outcomes of the Concept Plan. In some cases, the boundaries follow property lines; in other cases they follow planned roads or logical dimensions between property lines, resulting in more than one designation on a parcel. It is anticipated and expected that refinements to the boundaries of the Land Use designations may be needed as zoning is applied when land use applications are brought forward.

The zoning map for the Community Plan will be created over time through review of development proposals that implement the density of the land use designations. This approach allows for implementation of zoning districts based upon community designs that are sensitive to existing topography and responsive to unknown constraints associated with design and construction of new infrastructure, but still satisfy the density goals of the Community Plan. This approach is intended to achieve a balance of certainty and flexibility. The City's intent is to:

- Implement the vision and concepts described in the Concept Plan;
- Implement the policies in this Community Plan and applicable requirements of the Beaverton Development Code and other regulations; and,
- Provide flexibility for phased development and adjustments needed for site specific conditions, design ideas, and market needs.
- Provide an efficient process for applying new zoning, through use of the City's zone map amendment procedures, where applicable.

The Land Use Implementation Policies describe the steps and requirements that the City will use to achieve a balance of certainty and flexibility for land use in the Community Plan area.

Overall Development Program

The overall development program for the Community Plan area is summarized in Table 2 by Land Use designation, with the projected dwelling unit capacity of each district, and total for the planning area. For the Medium and Standard Density Residential comprehensive plan designations, capacity estimates are provided based on assumptions of the mix of the R-2 vs. R-4 and R-5 vs. R-7 zones, respectively, that are consistent with the Concept Plan. Capacity estimates for all residential zones do

not include the land needed for civic / institutional uses. Civic/institutional uses are identified in Table 3 – they are typically conditional uses in residential zones and the assumed acreage for these uses has been deducted from the table below.

Table 2: Land Use Designations and Capacity Estimates

Land Use Designation	Gross Acres[17]	Gross Residential Acres[18]	Net Residential Acres[19]	Assumed Mix of Zones	Estimated Housing Capacity (units)[20]	Minimum Housing Capacity (units)[21]
High Density	109	59	27	100% R-1	1,090	950
Medium Density	237	221	128	30% R-2 70% R-4	1,810	1,450
Standard Density	170	159	89	30% R-5 70% R-7	620	500
Main Street	9	0	0	100% NS	N/A	N/A
Total	525	438	245		3,530	2,900

Institutional / Civic Uses

The need for the following civic uses has been identified through the planning process in order to meet the needs of the new growth. School needs were coordinated with the Beaverton School District and the Hillsboro School District. Park needs were coordinated with the Tualatin Hills Park and Recreation District.

Table 3: Civic Use Land Needs

Use	Estimated Land Need
Neighborhood Parks	Nine to 11 acres (three to four parks)
Elementary Schools	20 acres (two 10-acre school sites)
High School	45 acres (BSD high school site)

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[17] *Gross acres in Table 2 excludes existing right-of-way, which accounts for the difference from the 544-acre total area of the SCM Community Plan area.*

[18] *Excludes land for civic uses. In the Main Street designation, does not include land assumed to be designated NS. While residential uses are allowed in the NS zone, this area is anticipated to be developed primarily with commercial uses.*

[19] *Net acreage, as defined in the city's development code, excludes street dedications, environmentally constrained lands, and land set aside in separate tracts or dedicated to a public entity for schools, parks, or open spaces.*

[20] *The regulatory maximum capacity under the city's Development Code is calculated based on gross acres, per section 20.25.15 of the Beaverton Development Code. However, this calculation produces an unrealistically high estimate of capacity that is rarely, if ever, achieved in practice. The more realistic estimate of capacity included in Table 2 was based on net acres and the allowed densities in each zone, consistent with the city's capacity estimates for the rest of the city.*

[21] *Minimum residential density is calculated based on net acres rather than gross acres. The minimum number of units is calculated by dividing 80% of the net acres by the minimum land area per unit.*

It is assumed that the service providers (THPRD and Beaverton and Hillsboro School Districts) will use their standard site selection and land acquisition processes to acquire the land needed for these facilities (BSD is already in possession of the 45-acre high school site). In addition, current development review practices provide for coordination through the requirement to obtain Service Provider Letters indicating that service levels are, or can be made to be, sufficient to support proposed development.

Land Use Implementation Policies

1. *The City shall adopt a Land Use Map as part of the Community Plan that establishes initial comprehensive plan map designations for the South Cooper Mountain Community Plan area.*

2. *Washington County zoning, as administered by the City, shall remain in place until new City zoning is applied. Existing agricultural uses in the Community Plan area shall be allowed to continue until the property owner decides to transition to urban development and submits a development application to the City, at which time the property will be rezoned consistent with the Community Plan. City of Beaverton development code requirements are applicable to all site modifications, such as resource protection and grading standards, and shall be enforced throughout the SCM Community Plan area regardless of whether urban or rural zoning is in place.*

3. *Zoning may be applied[22] through initiation by the City or as requested by an applicant. Zoning and development review applications may be requested concurrently. The mix of zones applied to a given development site shall be generally consistent with the assumed mix of zones shown in Table 2. Deviations of up to 10 percentage points may be allowed from the mix shown in Table 2 (e.g. if the mix shown is 30/70 then the deviation may be between 20/80 and 40/60). The percentage shall be calculated based on gross site acres.*

4. *Amendments to the boundaries of Land Use Map designations may be proposed as individual requests prior to development, or simultaneously when development is proposed. This policy is intended to provide a means for the Land Use map and zoning to be aligned with site-specific conditions, and the placement of roads, housing densities, parks, schools and other development that will occur incrementally over time.*

5. *All Land Use map amendments will be required to demonstrate consistency with all policies in this Community Plan in addition to applicable Comprehensive Plan policies, Development Code requirements, and other applicable regulations. In addition, amendments to the Land Use Map will be required to demonstrate that the affected neighborhood(s) (as depicted on Figure 8) continue to provide a mix of land use designations and opportunities for a variety of housing types. The goal of this policy is to ensure that South Cooper Mountain's neighborhoods and livability are enhanced by variety in the type and design of housing.*

6. *The City will support efforts by THPRD and Beaverton and Hillsboro School Districts to find, acquire and develop appropriate sites for neighborhood parks and elementary schools within the Community Plan area. The following location criteria shall guide the selection of appropriate sites:*

    a. *<u>Neighborhood Parks</u>*

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[22] *Section 40.97 of the Development Code of the City of Beaverton (Zoning Map Amendment) outlines various applications used in applying City zoning to properties within the City.*

i. *Two to four acres per neighborhood park of unconstrained, relatively level land for active recreation facilities*
ii. *Good frontage on a local street or Neighborhood Route with on-street parking*
iii. *Good connections to trails*
iv. *Focal points for neighborhoods, with walkable "catchment areas"*
v. *Co-location adjacent to a school is highly desirable*

b. *Elementary Schools*

i. *Eight to ten acres of unconstrained, relatively level land per elementary school*
ii. *Good access from Neighborhood Routes or Collector roads*
iii. *Generally not adjacent to an arterial road*
iv. *Focal points for neighborhoods, centrally-located within walkable attendance areas*
v. *Opportunities to co-locate schools adjacent to parks should be sought*

7. *As a matter of policy and planning for neighborhood cohesiveness, the City encourages BSD and HSD to work toward an adjustment of the boundary that would result in all of the Community Plan area being served by BSD.*

Neighborhoods and Housing

Context

Neighborhood Framework

Existing topography, natural resources and existing and planned streets provide the backdrop for new neighborhoods in the Community Plan area. Conceptual neighborhood areas have been drawn and are illustrated as yellow subareas on Figure 8. (The purple subarea on Figure 8 is the site of the planned BSD high school.) Each neighborhood is ½ mile or less across, representing a walking distance of about 5 minutes from center of the neighborhood to its edge.

Housing Variety

Providing a variety of housing types can improve the aesthetic character of the neighborhoods by avoiding large, monotonous areas of the same building form. A variety of housing also helps provide different housing types for different income levels.

Table 4 below lists the housing types and supporting uses that are allowed within each of the zones that will implement the Plan Designations of the Community Plan.

Figure 8: Conceptual Neighborhoods

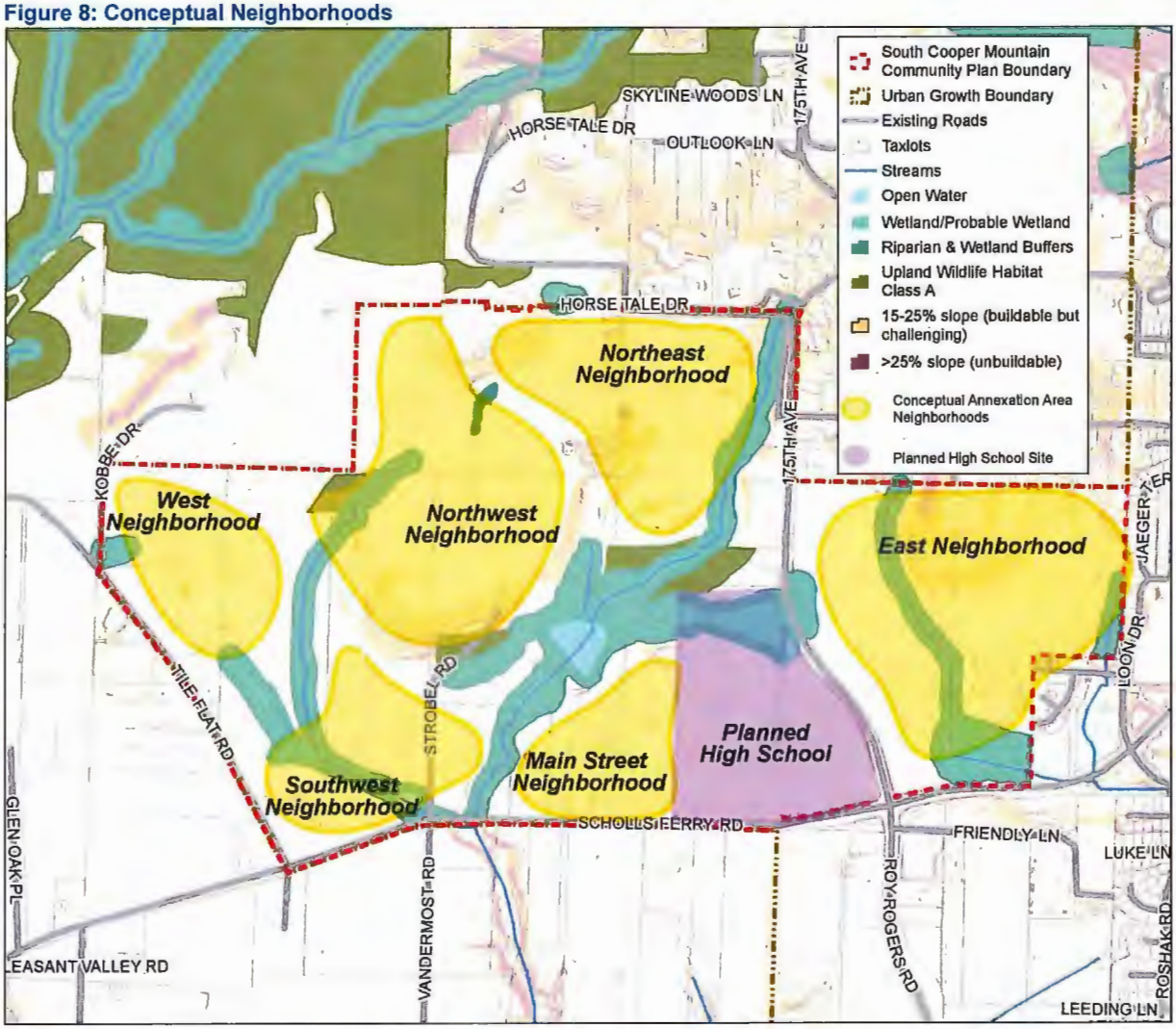


Table 4: Allowed Uses & Housing Types

Zoning District	Uses & Housing Types Allowed
R-1	Attached housing, detached housing allowed outright; schools, parks, churches and certain other commercial & civic uses allowed conditionally
R-2	Attached housing, detached housing allowed outright; schools, parks and, churches certain other commercial & civic uses allowed conditionally
R-4	Detached housing allowed outright, limited attached housing allowed conditionally; schools, parks, churches and certain other commercial & civic uses allowed conditionally
R-5	Detached housing allowed outright, duplexes allowed conditionally; schools, parks, churches and certain other commercial & civic uses allowed conditionally
R-7	Detached housing allowed outright; schools, parks, churches and certain other commercial & civic uses allowed conditionally
NS	Many commercial uses, including retail, service, eating and drinking establishments, and offices allowed outright; attached and detached housing allowed conditionally; schools and parks allowed outright, churches and certain other civic uses allowed conditionally

Housing Affordability

Planning for a mix of housing types and densities allows construction of housing units that are affordable to different income levels. The neighborhood adjacent to the Main Street is an appropriate location for a small affordable housing development because it will be zoned for mixed use and high density, will have local shops, and will be close to future transit. However, the Main Street neighborhood is not the only suitable location. For the Community Plan area, it will be important to provide a variety of options and locations where affordable housing development is possible and can be integrated into neighborhoods as they develop.

The City's existing policies and standards provide incentives for integration of affordable housing into Planned Unit Developments. The City also uses the following tools as affordable housing incentives:

- Tax exemptions for non-profits who provide affordable housing;
- Fee waivers for planning and site review fees;
- SDC waivers and subsidies;
- Use of Community Development Block Grants to fund infrastructure serving affordable housing;
- Acquisition, banking and write-downs of land; and
- Assignment of staff to assist affordable housing projects through the funding, development review and permit process.

The City is also considering a new tool that would defer payment of SDCs until occupancy for housing that qualifies as affordable.

Neighborhood and Housing Policies

1. *Development shall contribute to creating walkable neighborhoods. This policy is implemented by demonstrating consistency with the neighborhood design principles listed below:*

   a. *Clear focal points shall be provided. Focal points include but are not limited to: parks, schools, community gathering spaces, neighborhood services (i.e. day care), scenic viewpoints, and/or natural areas that are visually and physically accessible to the public. Residential developments shall provide at least one focal point per 40 acres of gross site area. The decision-making authority may require additional focal points or require provision of a focal point for smaller sites in order to ensure that all neighborhoods have at least one focal point or to ensure cohesiveness and legibility among adjacent developments.*

   b. *A network of walkable blocks and trails, consistent with the Transportation Framework Plan and the Bicycle and Pedestrian Framework Plan, shall be provided.*

   c. *The orientation of streets, blocks, development and/or trails shall be planned so that natural areas are not "walled off", but rather are as physically and visually accessible to the public as practicable.*

   d. *The provision of parks shall be coordinated with the Tualatin Hills Park and Recreation District.*

2. *Residential developments shall provide a variety of housing types consistent with the applicable zone(s). The goal of this policy and implementing code standards is to ensure that, over time and multiple individual development reviews, South Cooper Mountain's neighborhoods and livability are enhanced by variety in the type and design of housing in order to promote aesthetically pleasing residential neighborhoods as well as opportunities for people of varying incomes and life stages to live within the same neighborhood.*

3. *The City will support efforts to provide affordable housing in South Cooper Mountain. The City will evaluate the feasibility of pro-active involvement in affordable housing projects and supportive programs benefiting South Cooper Mountain.*

Figure 9: Neighborhood Design Principles in a Medium Density Residential Neighborhood

Main Street

Context

"Main Streets" are a "design type" identified in Metro's 2040 Growth Concept. As described in Chapter 3 of the Comprehensive Plan, they are intended to include small-scale retail and services to serve adjacent neighborhoods, along with some medium- to high-density housing, and should have access to transit. The City's goal is to provide Main Street areas with a vibrant mix of neighborhood commercial and residential uses in a pedestrian friendly environment that includes wide sidewalks with pedestrian amenities. They are intended to develop as cohesive communities with design features promoting an urban scale and pedestrian environment. The Main Street Comprehensive Plan designation is implemented by the Neighborhood Service, R1 and R2 zones.

The SCM Main Street is planned to be located adjacent to the planned BSD high school (see Figure 7 and 8), creating a community focal point and potential future transit node. Visibility from Scholls Ferry Road, and proximity to the High School, are key location and site planning criteria for the Main Street. It is planned to have a clear structure of blocks, and direct street and trail connections to the nearby neighborhoods, the high school, and the emerging River Terrace neighborhood located to the south of SCM in Tigard. Strong street, pedestrian and bike connections will support the success of the businesses in the Main Street and reduce reliance on the automobile for future SCM residents to meet their daily needs. The more pedestrian-oriented the Main Street is designed to be, the more it will establish a unique identity and draw community use.

The amount of land designated for a future Main Street was determined based on a market study considering the estimated household expenditures of existing and future residents of the South Cooper Mountain Concept Plan area. Because the portion of household expenditures on neighborhood retail varies widely, based on availability of retail, how accessible it is, and the appeal of the retail to nearby households, there is some inherent uncertainty in how much retail area the market will demand and support at this particular location. The visible location along Scholls Ferry Road and proximity to employees, students and community events at the High School are intended to enhance the viability of the retail on Main Street.

Main Street Policies

1. *Plan the Main Street area to provide local shopping opportunities. Main Street should complement and not compete with larger centers such as Progress Ridge.*

2. *Ensure that the Main Street area is designed as a pedestrian-oriented center that also provides for excellent accessibility by car and bicycle.*

3. *Ensure that the Main Street area is designed to have a complementary relationship with the adjacent High School and associated civic and recreational uses. Access and pedestrian routes should be coordinated. Uses within the Main Street should support the school district's policies for healthy food choices and active lifestyles.*

4. *The design of the Main Street are should follow these principles:*

    a. *Land uses and circulation should be organized into a series of walkable blocks.*

b. *Buildings should be oriented to the street along key routes. The City should consider tailored building orientation standards so that the storefront character is continuous along the most active edges of the blocks.*

c. *Mixed use buildings, 2 stories and taller, are encouraged.*

d. *Future transit should be anticipated and accommodated.*

e. *Public gathering spaces should be accommodated through a plaza, festival street, or parking area that can be converted to Saturday-market type use during community events.*

Transportation

Streets

Context

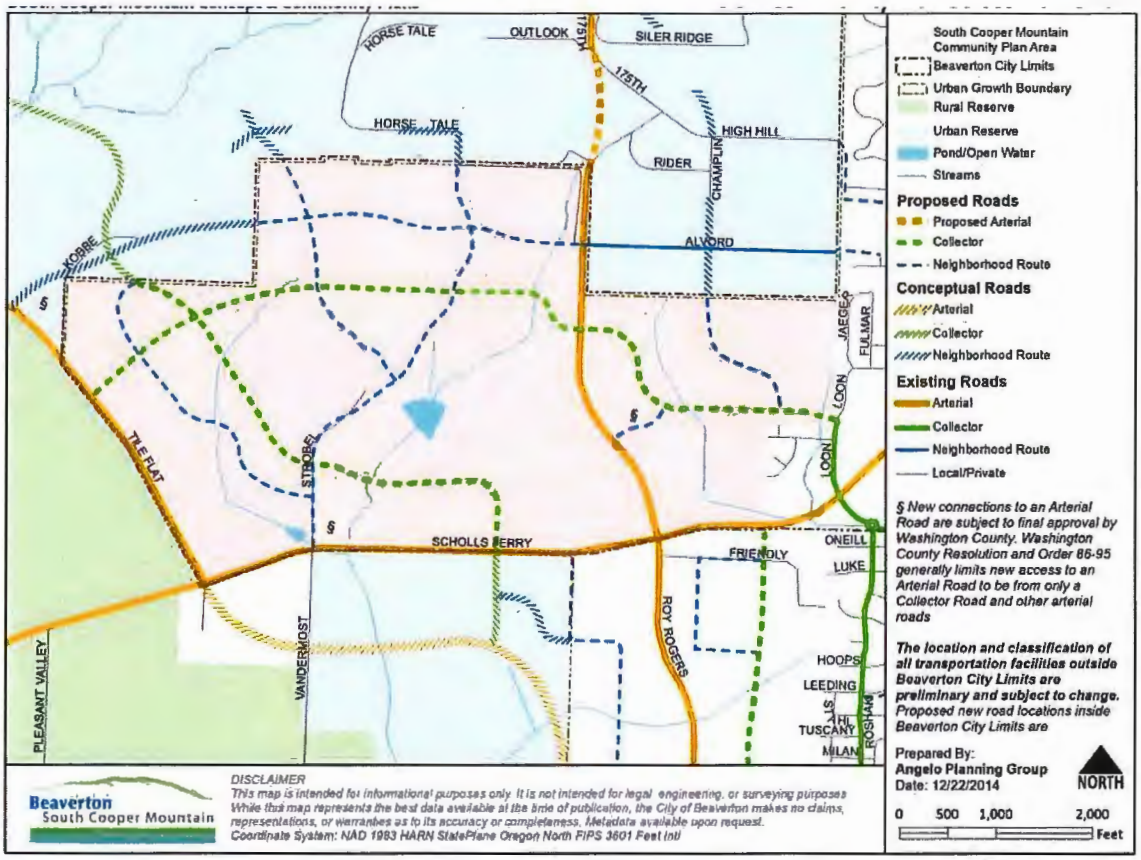
The existing major roadways that flank and run through the Community Plan area – SW Scholls Ferry Road on the south, SW 175th Avenue through the plan area, and SW Tile Flat Road on the west – have evolved over time. Historically they were farm-to-market roads and rural access routes. With the success of employment centers to the north and south, and the urbanization of the suburban communities in the Metro area, they have become even more important for regional commuting and local trips between the nearby communities. These roads will continue to serve as important routes to and through the plan area, as the land use context of south Cooper Mountain transitions from rural to urban. As urban development occurs, these arterials will provide an important new role as streets directly adjacent to urban neighborhoods, schools, and a Main Street. Accordingly, the policies in this section are intended to guide a balanced approach that provides for mobility and pedestrian safety, walking, biking, future transit, and access to urban uses.

SW Scholls Ferry Road, SW 175th Avenue and SW Tile Flat Road are under the jurisdiction of Washington County and are subject to County road standards. The policies of this plan pertaining to those streets are intended to guide selection of appropriate design treatments within the range of options allowed by the County in consultation and close coordination with the City of Beaverton and City of Tigard. A continued partnership approach will help the successful implementation of the planned transportation facilities, and adjacent land uses, in the area over time.

There are few alternatives today to the existing major roads, which all experience congestion during peak commute times. There is a need to supplement the arterial network with a connected network of collectors, neighborhood routes, and local streets to provide continuous routes that are parallel to the arterials and can offer access to and through new neighborhoods as they develop.

With several busy arterial roads bounding and splitting the Community Plan area, and important planned pedestrian destinations adjacent to them (including the future high school site and the planned Main Street area), thoughtfully designed and located pedestrian crossings will be critical to ensuring safe pedestrian access throughout the plan area. Pedestrian and bicycle connections to the planned high school and to River Terrace are particularly important for providing safe routes to school and walking and biking access that connects South Cooper Mountain and River Terrace.

Figure 10: Community Plan Street Framework



Street Policies

1. *The streets planned for the Community Plan area are illustrated in Figure 10. The Beaverton Transportation System Plan and Washington County Transportation System Plans will be updated consistent with Figure 10 and will be the controlling documents for transportation planning. Should conflicts arise between the maps in Chapter 6 of the City's Comprehensive Plan and the maps in this document, those in Chapter 6 shall prevail.*

2. *The City of Beaverton will work with the Beaverton School District, the City of Tigard, Washington County, Tualatin Valley Fire and Rescue, Tualatin Hills Park and Recreation District, and other service providers to establish appropriate access and circulation serving the community.*

3. *SW Scholls Ferry Road, SW 175th Avenue, and SW Tile Flat Road are under Washington County jurisdiction. The City of Beaverton will coordinate with Washington County through transportation facility design and land use regulations and review to recognize and balance the urban mobility needs with the multi-modal urban community functions of these key roadways. The city will advocate for the objectives for each street provided below during planning and design for improvement projects affecting those streets within the Community Plan area.*

    a. *SW 175th Avenue within the Community Plan area shall be improved through a coordinated approach between the City, County and adjacent land owners. The City shall proactively initiate this coordination. SW 175th Avenue should be designed to provide for mobility needs and provide an attractive and welcoming entrance to the area. Safe, protected pedestrian crossing opportunities shall be provided near important pedestrian destinations, such as the future high*

school site, when a need is demonstrated and such crossings are appropriately and safely designed and located.

b. *SW Scholls Ferry Road adjacent to the Community Plan area should be designed to provide for efficient movement of vehicles, including freight, but should also provide for safe bicycle and pedestrian facilities, especially in the vicinity of the Main Street. The City of Beaverton will work with City of Tigard and Washington County to explore coordinated access, and a pedestrian crossing, in the vicinity of the high school and Main Street.*

c. *SW Tile Flat Road adjacent to the Community Plan area should retain a rural design, particularly on the west side adjacent to land designated as Rural Reserve. All expansions requiring additional right-of-way should be to the east (urban) side. Safe bicycle and pedestrian movements shall be accommodated by a shared-use pathway adjacent to the road on the east side, with trees and other landscaping to provide a visual buffer to adjacent rural lands.*

4. *The new east-west Collector street is intended to provide a parallel route to SW Scholls Ferry Road that connects through the full width of the Community Plan area. This street shall be designed to provide a safe and comfortable connection for pedestrians and bicyclists as well as cars and to create a clear, direct and convenient route that connects the eastern, northern and western neighborhoods.*

5. *The new north-south Collector road from SW Scholls Ferry Road through the Community Plan area is intended to provide connectivity through the Community Plan area.*

6. *North of SW Scholls Ferry Road, this new collector shall serve as the Main Street area of South Cooper Mountain. The Main Street section of this Collector road shall be designated as a Major Pedestrian Route. Pedestrian-oriented features appropriate to a Main Street and features that encourage cars to travel more slowly through the Main Street area should be emphasized in design of the road.*

7. *The alignment of the North-South Collector shall account for, and not preclude, future extension to the west to SW Grabhorn Road and south to serve Urban Reserve 6C.*

8. *Within the Community Plan area, new neighborhoods shall be served and linked by a connected network of streets. Neighborhood Route connections shall provide connectivity between neighborhoods. The preferred network is illustrated in Figure 10. The City may permit flexibility to adapt to site specific conditions and ownerships provided the conceptual network in Figure 10, or equivalent, is provided.*

9. *The City shall coordinate with Washington County to evaluate the need for, and feasibility of, any proposed Neighborhood Route connections to Arterial roads.*

10. *In refining specific alignments for new roads identified on the Community Plan Street Framework map through the development review or project design process, impacts to natural resources shall be minimized to the extent possible while retaining key connections.*

11. *Low Impact Development and "green street" techniques to manage stormwater runoff shall be utilized whenever feasible in the design of new streets and urban upgrades within the SCM Community Plan area, subject to the approval of the City Engineer.*

12. *Conceptual Road: New roads shown located outside the current Urban Growth Boundary (UGB). Conceptual Roads demonstrate how roads within city limits may be extended or connected*

in the long-term future. Alignments and functional classifications of Conceptual Roads are preliminary, tentative, and may ultimately be under the jurisdiction of another body.

Bicycle and Pedestrian Framework

Context

Provision of a diverse and connected bicycle and pedestrian network consistent with regional active transportation goals is one of the great opportunities for the Community Plan area. The bicycle and pedestrian network will provide for local travel on bike and on foot, and support the overarching goal to create Beaverton's next great community. The network also serves to connect to destinations outside of the Community Plan area, such as Cooper Mountain Nature Park, the future Cooper Mountain Regional Trail, and River Terrace's trail system.

While the ultimate trail widths and designs will be determined at time of design and development, the following trail typology is recommended for planning purposes, based on THPRD's 2006 Trails Plan:

- **Community Multi-Use Trails:** These trails link important land uses and areas of interest with one another and connect users to the regional trail system. They are assumed to be paved paths that accommodate pedestrians (including those with disabilities) and bicyclists, recognizing that topographic constraints may be challenging. Within the planning area, it is assumed that multi-use trails that parallel roadways will be separated by a landscaped area. Trail width should be 8 to 10 feet paved width one- to two-foot gravel shoulders.
- **Pedestrian-Only Nature Trails:** These are assumed to be soft-surface trails that are for pedestrians only (though they should be accessible to those with disabilities whenever feasible). They provide connections through and along natural areas, including links to the Cooper Mountain Nature Park trail system. Widths may range from 3 to 8 feet.

A conceptual bicycle and pedestrian framework plan is included in Figure 11, illustrating the plan to achieve the policy objectives listed below.

Bicycle and Pedestrian Framework Policies

1. *Bicycle and Pedestrian Crossings: While the location and design of specific crossing points will be determined through further site-specific engineering evaluation, safe, protected pedestrian crossing opportunities should be provided near important pedestrian destinations, such as the future high school site, when a need is demonstrated and such crossings can be appropriately and safely designed and located, as determined by an engineering-level safety analysis.*

2. *Trails: Trails within the Community Plan area shall be provided as shown on Figure 11; however, the City may permit flexibility to adapt to site specific conditions and ownerships provided the conceptual network in Figure 11, or equivalent, is provided. The following principles shall provide guidance in the refinement of trail alignments within the Community Plan area:*

   a. *Stream Corridor Trails: Trails along stream corridors shall be built at the outer edge(s) of the vegetated corridors wherever possible, consistent with CWS standards. Such trails shall be designed to provide a recreational amenity and safe, pleasant pedestrian and/or bicycle connections between neighborhoods, as well as offering visual access to the resource area. Additional native vegetation shall be provided to either side of such trails wherever possible in order to enhance their value as wildlife corridors as well as transportation corridors.*

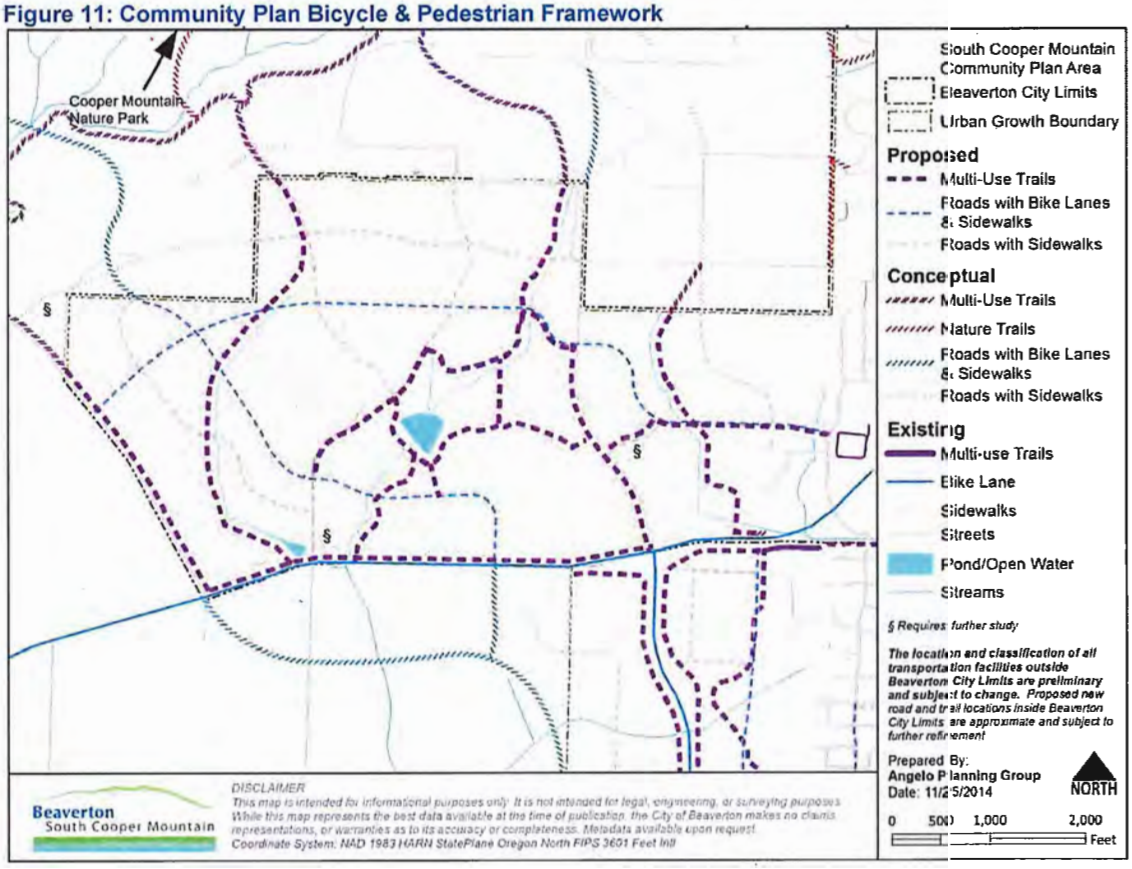
b. *Trails through Resource Areas: The site specific design and location of providing trail connections across wetland resource areas within the Community Plan area shall be addressed on a case-by-case basis. There is a need to provide safe and convenient pedestrian and/or bicycle across the central natural resource area located north of the high school and Main Street. There is also a need to provide access to the River Terrace Trail south of SW Scholls Ferry Road. These, and other trails through resource areas, shall be designed to minimize impacts to the natural resources. Maintenance and enhancement of wildlife corridors and connections between resource areas should be considered when designing and locating trails.*

c. *School to School Trail: A multi-use path shall link from SW Loon Drive at Scholls Heights Elementary school to SW 175th Avenue at the planned high school site as shown in Figure 11 in order to provide safe routes to both schools and to connect neighborhoods to the east to the planned high school.*

d. *Western Edge Trail: The community multi-use trail along the east side of SW Tile Flat Road within the Community Plan area shall be designed with trees and other landscaping to provide a visual buffer to adjacent rural lands. This trail shall be designed so that it can be extended further north, paralleling SW Grabhorn Road as far as Cooper Mountain Nature Park, when that portion of the Urban Reserve Area is brought into the UGB and developed.*

3. *Conceptual Trail: New pedestrian and or bicycle facilities shown located outside the current Urban Growth Boundary (UGB). Conceptual Trail demonstrate how pedestrian and bicycle facilities within city limits may be extended or connected in the long-term future. Alignments and functional classifications of Conceptual Trail are preliminary, tentative, and may ultimately be under the jurisdiction of another body.*

Figure 11: Community Plan Bicycle & Pedestrian Framework



Resource Protection and Enhancement

Significant Natural Resources & Open Space Edges

Context

The two highest-quality natural areas within the Community Plan area are the central riparian/wetland area and the wetland area in the southeast corner of the plan area. These are shown in Figure 12 and described below.

Central riparian/wetland area: This area contains a diversity of native habitats, including wetland, riparian, and upland habitat. It contains the most intact stream within the Community Plan area; human disturbance throughout this resource area appears to be relatively minimal, with the exception of an existing dam (removal of which should be evaluated for feasibility and environmental impacts). The area is home to a diverse mix of vegetation and frequented by migratory birds. This area includes wetlands identified as W-A and W-C in the Local Wetlands Inventory (LWI) prepared for the Community Plan area, both of which were found to meet locally significant wetland criteria.

Eastern wetland: This wetland area covers roughly 4.5 acres, and is contiguous with wetlands on the Churchill Forest subdivision property that have been protected as part of the subdivision approval. This wetland, identified as W-H in the LWI prepared for the Community Plan area, provides diverse wildlife habitat, and meets criteria for designation as a locally significant wetland.

In addition, the two drainage corridors on the eastern and western sides of the plan area are regulated by Clean Water Services' (CWS) vegetated corridor regulations. Both are currently degraded, but CWS regulations will require restoration of native vegetation upon development approval.

These resources can become amenities for the future neighborhoods if they are appropriately protected and restored.

Natural Resource Policies

1. *Locally significant wetlands and protected riparian corridors within the Community Plan area shall be protected and enhanced, consistent with local, state, and federal regulations.*

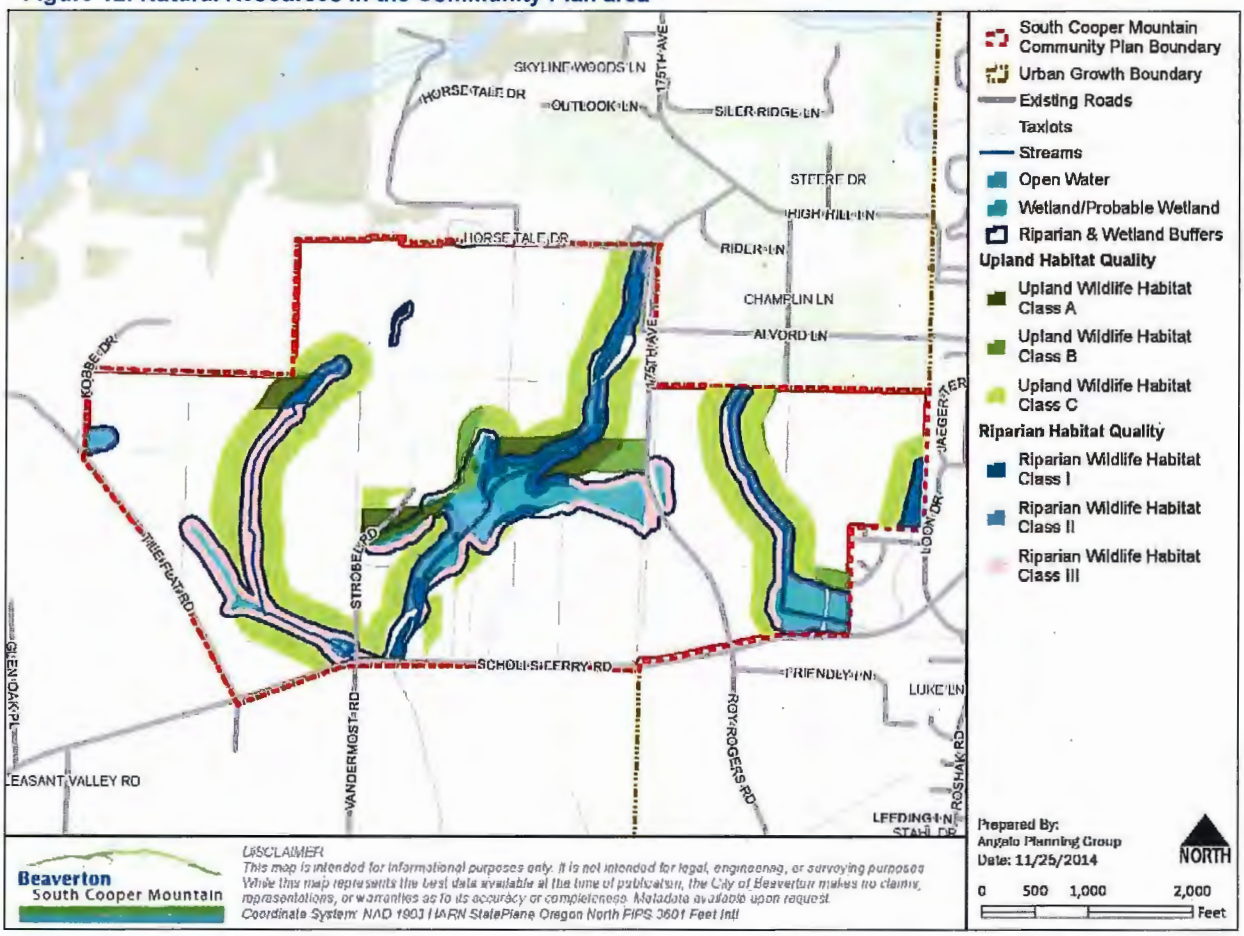
2. *Development adjacent to significant natural resource areas shall be designed to provide visual and/or physical access to the resource area and limit continuous rear lot line edges abutting a significant natural resource through one or more of the following treatments of the open space edge.*

    a. *parallel trail along the edge of the vegetated corridor with access points from adjacent roads and community focal points;*

    b. *local streets that run adjacent to the edge of the vegetated corridor, without development between the street and the vegetated corridor; or*

    c. *neighborhood parks, pocket parks, schools and similar uses that connect to the resource area and provide breaks between developed areas abutting the resource.*

Figure 12: Natural Resources in the Community Plan area



Urban Forestry Management

Context

Trees provide a variety of important environmental services, in addition to offering aesthetic benefits. The environmental services include: contributing to stormwater management by intercepting rainfall; moderating temperature; providing habitat; enhancing air quality; and improving soil stability on sloping terrain. Large stands of mature trees in the Community Plan area were removed prior to annexation to the City of Beaverton and in the interim period during which the SCM Concept Plan and Community Plan were being developed. Efforts should be made to restore and maintain tree canopy throughout the Community Plan area.

Title 13 of Metro's Urban Growth Management Functional Plan requires that local governments protect identified regionally significant upland wildlife areas within UGB expansion areas.[23] Several areas meeting Metro's criteria for designation as "Class A Upland Habitat" have been identified in the SCM Community Plan area, along with areas that meet the criteria for "Class B Upland Habitat" and "Class C

[23] *Metro UGMFP Title 13, section 3.07.1330 Implementation Alternatives for Cities and Counties and section 3.07.1370 Future Metro Urban Growth Boundary Expansion Areas.*

Upland Habitat".[24] The City of Beaverton has tree protection and mitigation standards for certain types of trees, including Landscape Trees, Community Trees, Significant Individual Trees, Trees within Significant Natural Resource Areas and Trees within Significant Groves.[25]

Urban Forestry Policies

1. *The City shall explore options to encourage and incentivize tree planting and retention of mature trees within the Community Plan area.*
2. *Tree planting already required by City regulations (e.g. landscaped areas, street trees) shall be maximized as a method to increase the tree canopy in the Community Plan area.*
3. *Regionally Significant Upland Habitat within the SCM Community Plan area shall be protected through application of the City's existing tree protection standards and incentives for Habitat Benefit Area preservation, as appropriate.*

Scenic Views

Context

Scenic views are recognized as resources in Chapter 7 of the Comprehensive Plan. There are a number of locations within the Community Plan area that offer scenic views of the Tualatin Valley and Chehalem ridge to the southwest. These views are an integral component of the unique character of the Community Plan area, and are key amenities to be retained and enhanced as urbanization occurs. In addition to aesthetic qualities, scenic viewpoints provide a visual connection between the contemporary growth of the city and rural heritage of the area.

Scenic View Policies

1. *The city will encourage protection of view corridors for the enjoyment of adjacent neighborhoods and the broader community on lands that currently offer views of the Chehalem Ridge. Viewpoints should provide seating and space for passersby and should provide for the permanent protection of the view through measures such as easements. Techniques for view corridor preservation may include:*

    a. *Streets that "T", stub, or curve at a location offering a viewpoint, with a break between buildings;*

    b. *Neighborhood or pocket parks situated to offer a viewpoint;*

    c. *Gaps between buildings with small seating areas adjacent to the sidewalk (see Figure 13 for an illustration of this concept); and/or*

    d. *Limitations on building heights down-slope from a viewpoint.*

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[24] *See DRAFT Natural Resources Memorandum by David Evans and Associates, Inc., June 3, 2013.*

[25] *Beaverton Development Code Chapter 60, Section 60.60. Trees and Vegetation.*

Figure 13: Scenic Viewpoint Visualization

Rural Edges and Transitions

Context

The Community Plan area abuts land outside the UGB, west of SW Tile Flat Road, that is designated Rural Reserve and zoned for Exclusive Farm Use, a rural resource zone. Since this land is assumed to be retained for agricultural use over the next several decades, or until the urban reserves have all been added to the UGB, the border between urban and rural lands should be sensitive to adjacent rural uses. Measures to enhance compatibility between farm/forest lands and UGB expansion areas are also required as a condition of the UGB expansion for the SCM Community Plan area.[26]

Due to urban density targets for the plan area, and the unconstrained nature of the land available for development immediately east of SW Tile Flat Road, it is not appropriate to substantially reduce planned densities adjacent to the rural edge in the interest of an urban-rural transition. Further, even standard single-family neighborhoods can have a visual and spill-over impact on adjacent rural areas if not carefully designed. Therefore, the policies below emphasize a design approach to rural edges and transitions.

Rural Transition Policies

1. *Require that development abutting SW Tile Flat Road provide a landscaped buffer with trees and shrubs that provide a visual screen for adjacent rural uses.*

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[26] *Metro Ord. No. 11-1264B condition #4 for SCM states that "Land use regulations shall include provision – such as setbacks, buffers and designated lanes for movement of slow-moving machinery – to enhance compatibility between urban uses and agricultural and forest practices on adjacent land outside the UGB that is zoned for farm or forest use pursuant to statewide planning Goal 3 or 4."*

Figure 14: Rural to Urban Transition along SW Tile Flat Road

Infrastructure Provision

Context

Drinking Water

As with other planning strategies for South Cooper Mountain, the water system for the Community Plan was conceptually planned during the Concept Plan process and evaluating the area as a whole. The water system expansion into South Cooper Mountain, and the SCM Community Plan area specifically, will be based on the largest single point demand in the area: fire service flow. Although providing domestic and irrigation services to the area is essential, the water system expansion will be developed to provide sufficient fire flow while maintaining a minimum water pressure.

The new 24-inch water line in SW Scholls Ferry Road will extend to SW 175th Avenue and the planned High School site. Additional development to the north and west will require expanded network connections.

A new 24-inch water line is planned to extend along SW 175th Avenue, ultimately connecting to a future five-million-gallon tank to be located near the intersection of SW 175th Avenue/SW Weir Road. By supplementing the existing system with this new five million-gallon storage tank, there will be adequate water storage to serve the entire planning area. It is scheduled to be constructed by 2020.

Other major water lines will be constructed in large loops within the existing or future right-of-ways of SW Scholls Ferry Road (west of SW 175th Avenue), the planned east-west collector roadway through the Community Plan area, the planned north-south Main Street collector roadway, and SW Tile Flat Road. Development occurring within the interior of SCMAA area will connect to one of these mainlines. The conceptual water system plan for the full Concept Plan area is shown in Figure 15. Water line alignments are conceptual and subject to further design and engineering. Water lines outside of Community Plan area are also conceptual and shown only for context and to inform future planning in the area.

A planning-level cost estimate to construct these facilities is approximately $9.1 million for the Community Plan area (including soft costs such as engineering and contingency but excluding the cost of the planned storage tank).[27]

Sanitary Sewer

The SCM Community Plan area will be served by different sewer line locations, as shown in the conceptual sanitary sewer system plan for the full Concept Plan area in Figure 15.

An existing 21-inch gravity sanitary sewer located in SW Scholls Ferry Road can serve some of the area east of 175th Avenue and north of Scholls Ferry Road as well as the planned High School site.

With the exception of the high school area, the areas west of SW 175th Avenue will be conveyed towards the low point in SW Scholls Ferry Road (at the creek crossing near SW Vandermost Road) and eventually be conveyed to the new River Terrace Pump Station. The River Terrace Pump Station will be located within the urban growth boundary along the creeks south of SW Scholls Ferry Road and west of SW Roy Rogers Road. The River Terrace Pump Station is anticipated to be in operation by the end of 2015, and all flows from this proposed pump station will be directed to the intersection of Scholls Ferry Road and 175th Avenue to connect to the 21-inch Scholls Ferry Road Sanitary Sewer Extension and ultimately to the Durham Wastewater Treatment Plant.

Major sewer lines will be extended within future collector road right-of-ways, as well as in SW Tile Flat Road and SW Scholls Ferry Road west of SW 175th Avenue. In addition, the low lying creek will have sanitary sewers on each side to convey waste water to the low point in SW Scholls Ferry Road.

A planning-level cost estimate to construct these facilities is approximately $12.3 million (including soft costs such as engineering and contingency but excluding the cost of the planned River Terrace Pump Station).[28]

The conceptual sewer system plan for the full Concept Plan area is shown in 13. Sewer line alignments are conceptual and subject to further design and engineering. Sewer lines outside of Community Plan area are also conceptual and shown only for context and to inform future planning in the area.

Stormwater

Conceptual storm water management planning was conducted during scenarios phase of the Concept Plan. The work identifiedr: (1) A preference by the City of Beaverton and Clean Water Services (CWS) for an approach that uses Regional Stormwater Facilities (RSFs); (2) Recognition that there are challenges to implementing RSFs, and flexibility is needed to apply site-scale storm water management instead of, or in combination with, RSFs; and (3) Changing water quality regulations merit further planning for South Cooper Mountain, including the creation of a Storm Water Management Plan for the

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[27] *Details of the cost estimates and planned water system are available in the Water System Concept Plan – Summary Findings and Planning Level Cost Estimates memorandum prepared by David Evans and Associates, Inc., June 11, 2014.*

[28] *Details of the cost estimates and planned sewer system are available in the Sanitary Sewer Concept Plan – Summary Findings and Planning Level Cost Estimates memorandum prepared by David Evans and Associates, Inc., June 11, 2014.*

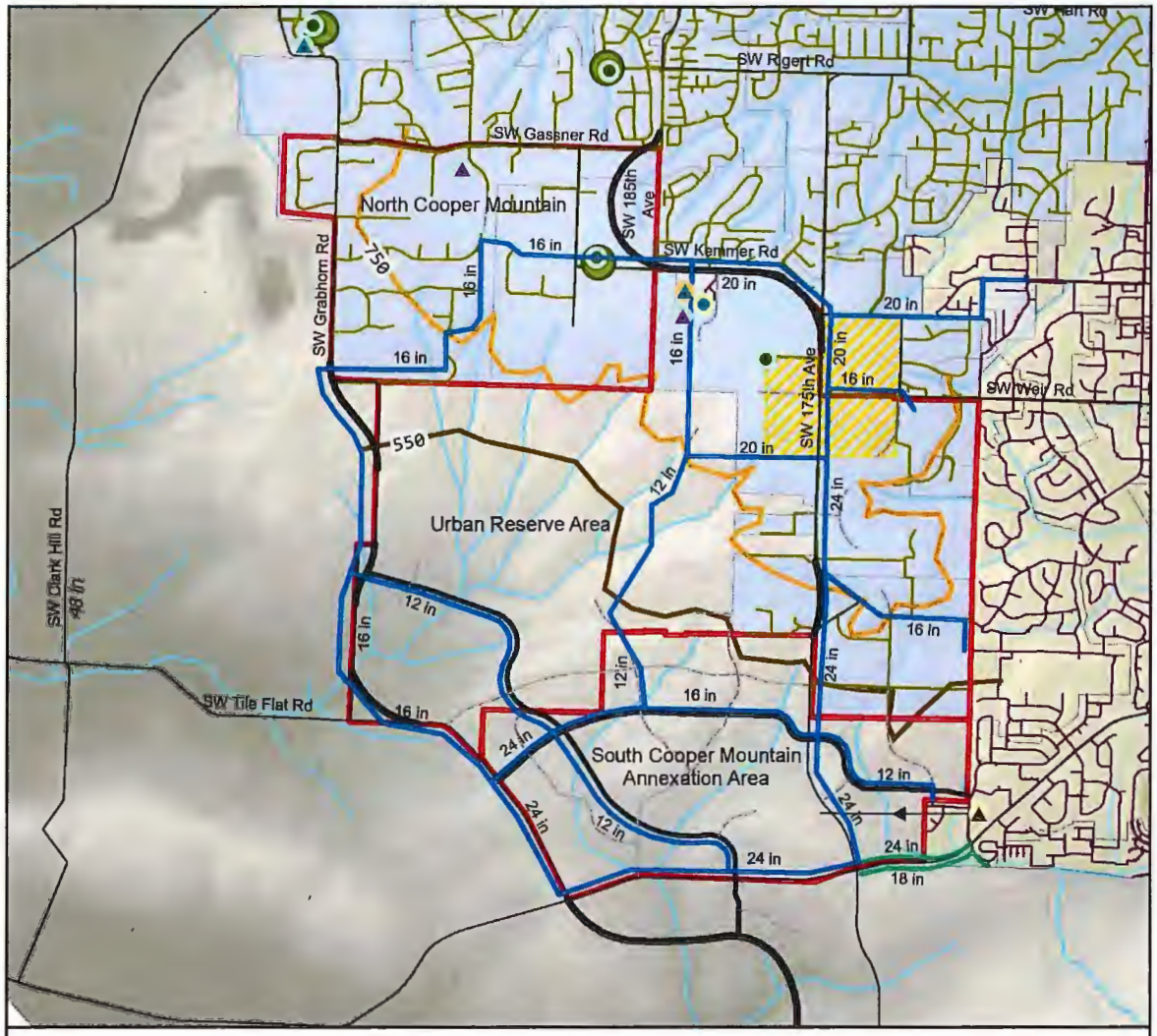
Community Plan area. The description below summarizes elements of the work that was prepared for the Concept Plan.[29]

The preferred approach for implementing Overarching Principles 3 (sustainability), 4 (funding plan), and 7 (natural resources) is to plan for large scale dry detention ponds, termed Regional Stormwater Facilities (RSFs) by CWS, in order to manage peak runoff rates to avoid downstream impacts. This approach is preferred because it is consistent with planning in other new areas added to the Urban Growth Boundary; it provides planned, comprehensive flow control in a cost-effective manner; and, it provides the highest level of certainty of meeting the flow management guidelines being established by CWS. In addition, RSFs will meet water quality requirements (capture and treatment of stormwater pollutants) as well as preserving the stream health of the receiving channel by avoiding hydrographic modification.

It should be noted that RSFs require a high level of coordinated implementation. Options should be available so that there is some flexibility as how to design and construct facilities to serve individual properties prior to regional facilities being available.

[29] *For the scenario level evaluation, please see Stormwater and Water Quality Scenario Summary, David Evans and Associates, December 19, 2014.*

Figure 15: Conceptual Future Water System for SCM Concept Plan Area



South Cooper Mountain Future Water System

Legend

Reservoirs
- Beaverton, In service
- TVWD Pump Station
- Potential Reservoir Site Zone*

ASR Wells
- Beaverton, Drilled not producing
- JWC, In service
- TVWD, In service
- TVWD, Planned

Existing Waterlines
- CoB Water Main
- TVWD Waterline
- Potential non-potable*

New Waterlines
- Under construction (Local)
- Planned (Local)*

Future Pressure Zones
- 550 ft elevation
- 750 ft elevation
- CoB Supply Zone
- TVWD Supply Zone
- South Cooper Mountain Study Area
- Streams
- Arterials
- New Arterial
- New Collector

* Locations of planned facilities are conceptual only.

Prepared By: David Evans and Associates, Inc.

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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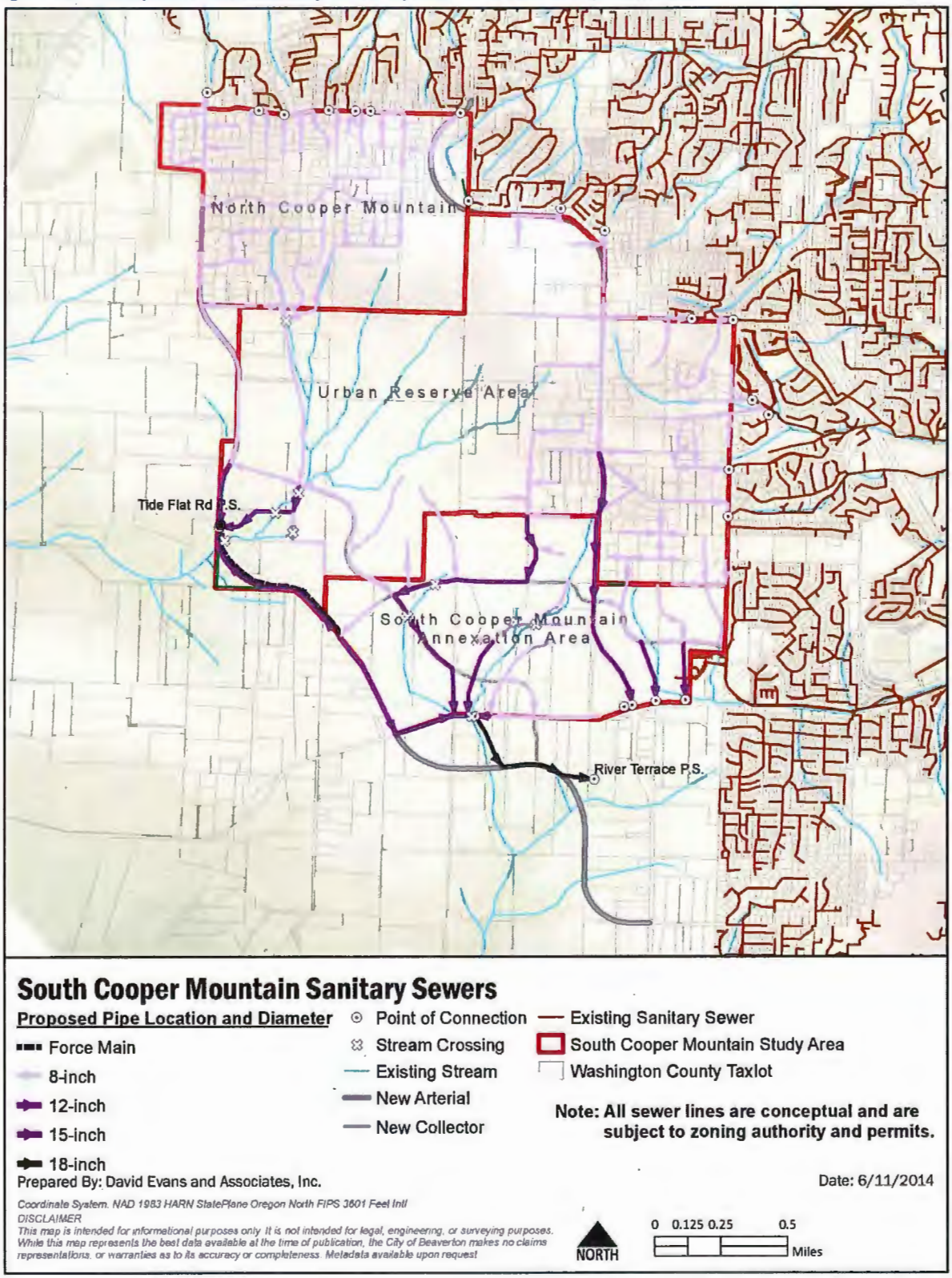
NORTH

0 1,000 2,000 4,000 Feet

Date: 6/11/2014

Figure 16: Conceptual Future Sanitary Sewer System for SCM Concept Plan Area



In the scenarios phase of the Concept Plan, RSFs were tentatively sized and located based on estimates of impervious area upland of the facilities. The sizing tool was the Western Washington Hydrologic Model, which matches flow-duration curves for a range of storms pre- and post-development. CWS is in the process of updating its conveyance and detention standards based on a similar approach. Thus the work prepared during the Concept Plan was an approximation of that anticipated standard of care. Fine tuning of the location, upland area, and final facility size (including buffer and access areas) will be required as future planning and development occurs.

Additional site-specific reviews of opportunities for Low Impact Development Approaches (LIDA) are encouraged as part of development, which may reduce the size of downstream detention facilities. This would be a joint decision of CWS and the City of Beaverton and would need to be decided prior to the commitment for any particular facility.

No matter what specific storm water management facilities are planned, it is essential that the detention ponds and conveyance work are planned and designed in combination with other elements of the Community Plan, including: protection and enhancement of natural resource areas, provision of parks and open spaces, and management of stormwater at the site and street scale.

Infrastructure Policies

1. *Urban development shall not be allowed until urban services, including water and sewer, are available to the subject property.*

2. *The City shall work with service providers and property owners to extend urban services in a coordinated and efficient manner.*

3. *The City of Beaverton will coordinate closely with the City of Tigard on the final location and timing of the River Terrace Pump Station.*

4. *The City shall use the South Cooper Mountain Infrastructure Funding Plan as the basis of financing decisions for public facilities and services in the SCM Community Plan area.*

5. *The City shall develop memorandums of understanding with service providers to implement the South Cooper Mountain Infrastructure Funding Plan.*

6. *The City shall work with Clean Water Services to develop a Stormwater Management Plan for the SCM Community Plan area. In the interim, the City will work with Clean Water Services and developers to apply existing storm water management regulations.*

7. *In identifying specific alignments for new water and sewer infrastructure, impacts to natural resources shall be avoided or minimized to the extent possible.*

APPENDIX A: PROJECT COMMITTEES AND TEAM

South Cooper Mountain Technical Advisory Committee

Susan Shanks, City of Tigard

Dyami Valentine, Washington County Department of Land Use and Transportation

Kevin Hanway, City of Hillsboro Water Department; Tyler Wubbena (alternate), City of Hillsboro Water Department

Jeannine Rustad, City of Hillsboro Planning Department; Daniel Rutzick (alternate), City of Hillsboro Planning Department

Anne Debbaut, Department of Land Conservation and Development (DLCD)

Tim O'Brien, Metro

Lidwien Rahman, Oregon Department of Transportation (ODOT)

Tom Mills, TriMet

Carrie Pak, Clean Water Services (CWS)

Aisha Willits, Tualatin Hills Parks and Recreation District (THPRD)

Richard Hoffman, Tualatin Valley Fire & Rescue (TVF&R)

Mark Knudsen, Tualatin Valley Water District (TVWD); Stu David (alternate), TVWD

Dick Steinbrugge, Beaverton School District (BSD); David Etchart (alternate), BSD

Adam Stewart, Hillsboro School District (HSD); Loren Rogers (alternate), HSD

Finance Task Force

John O'Neill

Martin Moore

Dan Grimberg

David Waffle

Toby LaFrance

Andy Braun

Aisha Willits

David Winship

Jabra Khasho

Dyami Valentine

Matt Wellner

Guests: Wally Remmers, Tom Brian, Kenny Asher, Susan Shanks

APPENDIX A: PROJECT COMMITTEES AND TEAM

City of Beaverton
South Cooper Mountain Planning Team

Valerie Sutton, Senior Planner, Project Manager

Steve Sparks, Principal Planner

Leigh Crabtree, Associate Planner

Cassera Phipps, Assistant Planner

Juston Manville, GIS Manager

Sheila Martin, Administrative Assistant

City of Beaverton Core Project Team

Jabra Khasho

Cindy Dolezel

Peter Arellano

Jim Duggan

Lani Parr

Jason Wachs

Jeff Salvon

Andrea Nelson

Kenneth Rencher

Luke Pelz

Wendy Prather

Brion Barnett

David Winship

Andrew Barrett

Mark Boguslawski

Eric Oathes

Geoff Spalding

Alma Flores

Patrick O'Claire

Dave Waffle

Bill LaMarche

Todd Juhasz

Megan Cohen

Randy Ealy

APPENDIX A: PROJECT COMMITTEES AND TEAM

Consultant Team

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Becky Hewitt, Angelo Planning Group, Planner and Assistant Project Manager

Cathy Corliss, Angelo Planning Group, Principal

Matt Hastie, Angelo Planning Group, Finance Task Force Facilitator

Andrew Parish, Angelo Planning Group, Planner

David Evans and Associates

Claudia Sterling, David Evans and Associates, Storm Water Engineer

Ethan Rosenthal, David Evans and Associates, Ecologist

Paul Fendt, David Evans and Associates, Storm Water Engineer

Steve Harrison, David Evans and Associates, Engineer

Sara Gilbert, David Evans and Associates, GIS Specialist

DKS Associates

Carl Springer, DKS Associates, Transportation Planner

Kevin Chewuk, DKS Associates, Transportation Planner

ECONorthwest

Nick Popenuk, ECONorthwest, Funding Plan Manager

Lisa Wall, ECONorthwest, Analyst

Anne Fifield, ECONorthwest, Market Analyst

Fregonese Associates

Glen Bolen, Fregonese Associates, Planner

Max Bolen, Fregonese Associates, Scenario Analyst

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Eryn Deeming Kehe, JLA Public Involvement, Public Involvement Advisor

Kalin Schmoldt, JLA Public Involvement, Public Involvement Manager

Walker Macy

Ken Pirie, Walker Macy, Urban Designer

Mike Zilis, Walker Macy, Urban Designer

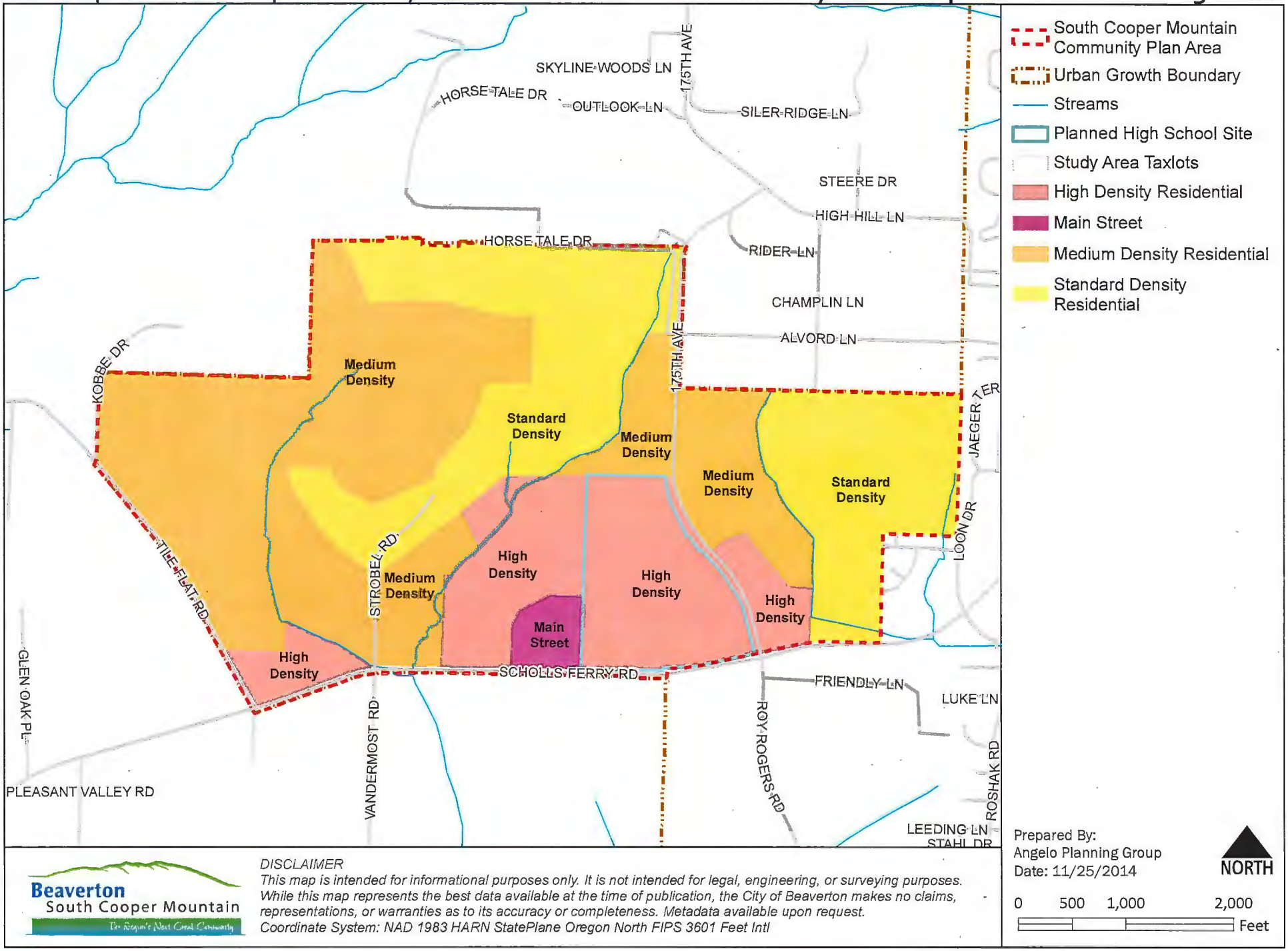
Nathan Kappen, Walker Macy, Urban Designer

Saumya Kini, Walker Macy, Urban Designer

ORDINANCE EXHIBIT **B**

Comprehensive Plan
Land Use Map Amendment

SCM Community Plan Comprehensive Plan Designation



Beaverton South Cooper Mountain
The Region's Next Great Community

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