



OPPORTUNITIES & CONSTRAINTS

December 19, 2016



ACKNOWLEDGMENTS

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.



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SUMMARY

This report summarizes opportunities and constraints to be considered in preparing the Hood River Westside Area Concept Plan. The report's focus is primarily on physical conditions, including: the project area; landscape and city context; zoning, existing land use, ownership, parcel patterns, and buildable land; topography, environmental constraints, and parks; transportation; and storm water conditions. These topics are combined to define a first diagram of potential neighborhoods and districts for the Plan.

The following is a summary of key findings from this report.

- **Project area.** 447 acres
- **Landscape context.** The Columbia River Gorge, east and west hills of the Hood River valley, Mt. Hood and Mt. Adams provide a dramatic and beautiful backdrop to the project area.
- **City context.** The project area occupies about 22% of the City's total land area and 17% of the area within the Hood River Urban Growth Boundary.
- **Parcel patterns.** 36% of the project area is comprised of parcels greater than 5 acres in size.
- **Terraces and topography.** The project area is characterized three terraces sloping south to north toward the Columbia River. This condition allows for stunning views and the opportunity to define neighborhoods and districts based on the local topography and natural features. It also creates challenges for walkability, street connections, and development due to steep topography and rock outcroppings at the terrace edges.



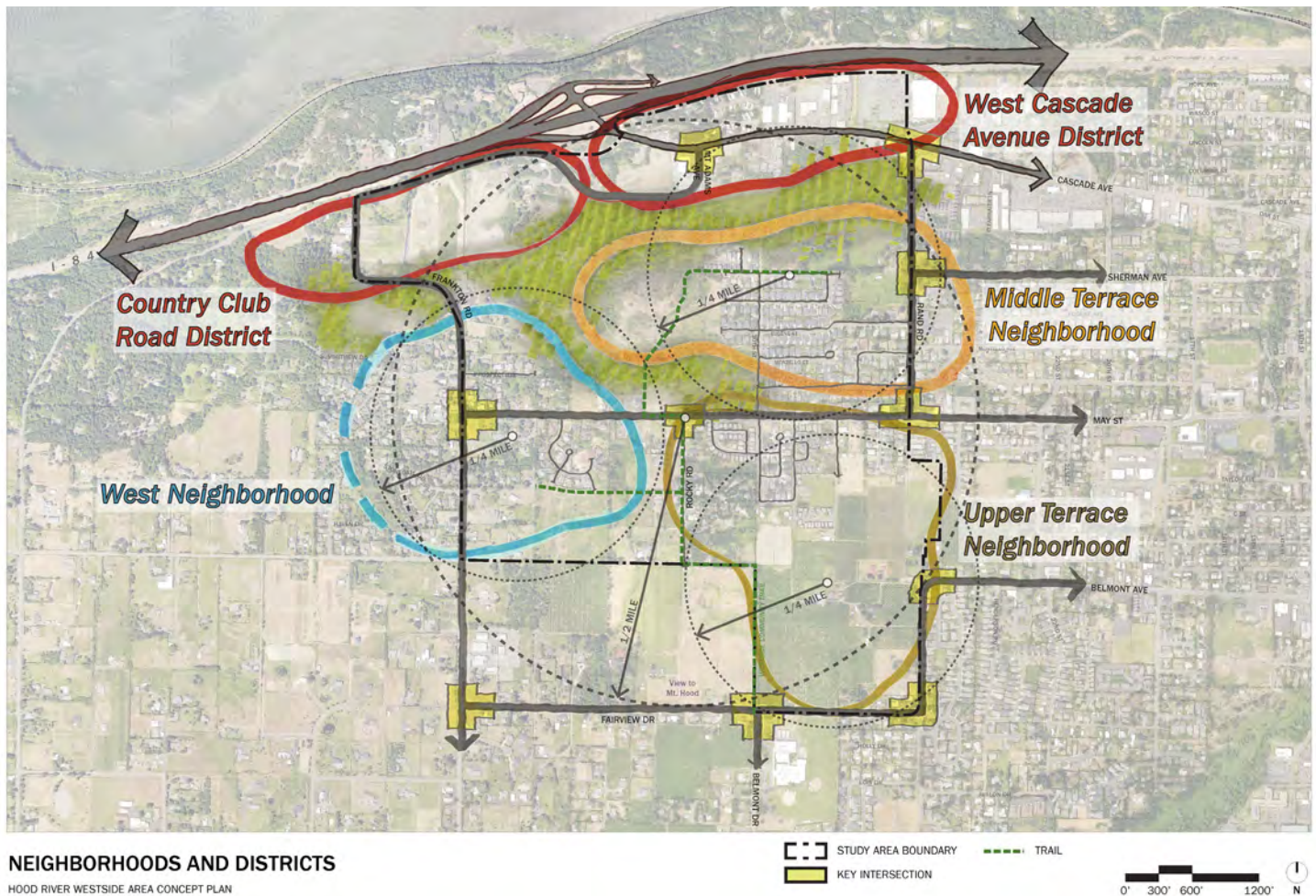
- **Motor vehicle circulation.** A key transportation issue is the proposed alignment of the Mt. Adams Ave. extension south of Wine Country Ave. The general location and capacity of the Mt. Adams Ave. extension was found to be a critical connectivity improvement in west Hood River that takes a significant amount of traffic away from other corridors such as Cascade Avenue, Rand Road, and even 13th Street.
- **Pedestrian and bicycle plans.** Many of the project area’s roadways are in need of sidewalk and bike lane infill to provide adequate non-automobile connectivity.
- **Westside Community Trail.** The trail connects Westside Elementary School (near Fairview Drive/Belmont Drive) to the Skate Park at Wasco Street/20th Street, as well as the waterfront via an additional planned path. When completed it will significantly enhance active transportation options in the Project Area, providing recreational opportunities as well as access to jobs, shopping, and other services.
- **Truck circulation.** Historically, agricultural trucks have traveled from south of the city to the Exit 62 interchange via Frankton Road and Country Club Road. Depending on its future alignment and design, the Mt. Adams extension may (or may not) attract truck trips in the future. As the Westside Area Concept Plan evolves, there should be consideration of the attractiveness of these routes for freight trucks and discussion regarding which route is best for truck and school bus circulation, especially in winter conditions.
- **2001 Stormwater Utility Plan.** The existing drainage system of City of Hood River includes open channels, culverts, and storm drain pipes within developed areas. According to the 2001 Capital Facilities Plan Stormwater Utility Report, the study area is located with the Columbia River and Indian Creek drainage basins. The 2001 plan also identified several “Problem Areas” where existing storm water facilities are failing and causing property damage. An update to the City’s Stormwater Plan is underway.
- **Low Impact Development Practices and Storm Water Management.** The Westside Area Concept Plan is an opportunity to incorporate low impact development practices on a broad scale, including: reducing impervious area at development sites; potential use of regional detention and water quality features; and, reduction of stream channel erosion.

Potential Neighborhoods and Districts

Based on the above, the project team has prepared a first draft diagram of neighborhoods and districts to use in organizing the Concept Plan. Each of the neighborhoods/districts responds to: physical dimensions that support safe pedestrian movement (one-quarter mile or less from center to edge); land form (the terraces and associated tree canopy with the bluffs); and existing and future street and trail connections. The edges of each neighborhood and district are conceptual and should be thought of as transition areas rather than hard and fast boundaries. Each neighborhood and district for the Westside Area has opportunities to create a unique sense of place.

The diagram illustrates:

- Two “districts” which would be primarily commercial and mixed use: the West Cascade Avenue District and Country Club Road District
- Three “neighborhoods” which would primarily walkable residential areas: the Middle Terrace Neighborhood, Upper Terrace Neighborhood, and West Neighborhood.



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INTRODUCTION



The purpose of this report is to summarize the Project Area’s existing and planned future conditions, so that opportunities and constraints for the Westside Area Concept Plan may be identified, discussed, and understood. This report is intended as a concise compilation of maps and explanatory text, consistent with the project’s scope of work.¹

Project Area

The Project Area (See Figure 1 and Figure 2) is located on the west side of Hood River and extends south from Interstate 84 at Exit 62 into a historically low-density residential area that includes numerous vacant parcels. In summary:



- The Project Area contains approximately 447 acres and consists of approximately 577 lots/parcels including developed neighborhoods, vacant and partially vacant lands.
- Approximately one half of the Project Area is vacant or partially vacant in Low Density Residential or Standard Density Residential zones.
- The Project Area includes a total of approximately 60 developable acres zoned General Commercial and Light Industrial, located in the “Gateway” area along Cascade Avenue.
- The Project Area includes a 17-acre vacant parcel owned by the Hood River County School District that is being considered for future facility needs.
- The westernmost 158 acres of the Project Area is located outside the city limits but within the Urban Growth Boundary (see Figure 5). An intergovernmental agreement between the City and the County addresses the County’s management of land use activities in this Urban Growth Area (“UGA”) consistent with City standards until such time that annexation occurs.

¹ The report is Technical Memorandum 1 (Task 2.1) in the Hood River Westside Area Plan scope of work.

Figure 1. Project Area

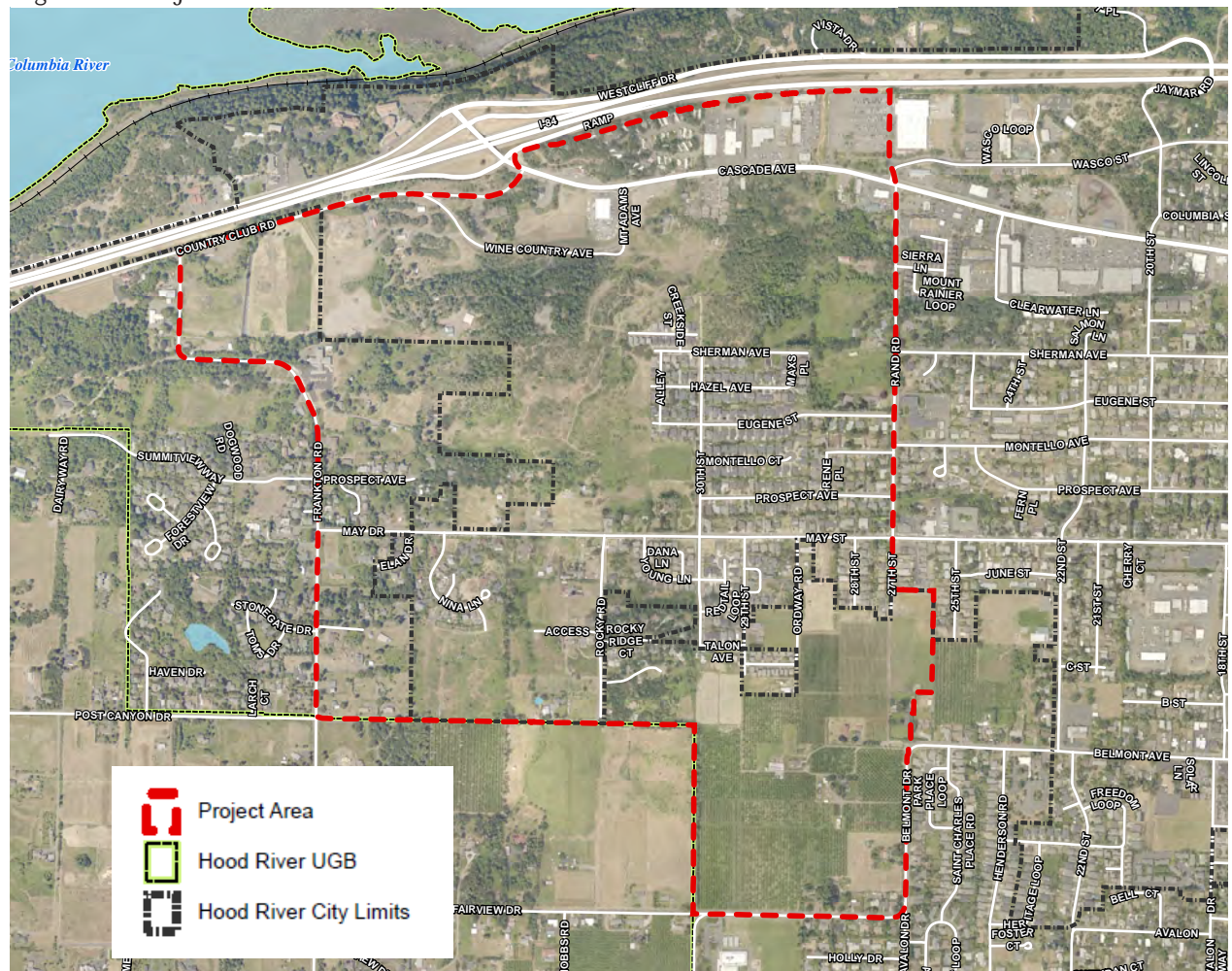


Figure 2. View of Project Area and City of Hood River, looking North

CONTEXT

Landscape Context

The Westside Area, and all of Hood River, enjoy one of the most beautiful landscapes of the Pacific Northwest. Positioned at the crossroads of the spectacular Columbia River Gorge and the magnificent Cascade Range, the City and project area are framed by the Gorge, the east and west hills of the Hood River valley, Mt. Hood and Mt. Adams. Throughout the project area, there are views of Mt. Hood, Mt. Adams, and the Columbia River. Proximity to these natural wonders fosters a strong connection by residents and visitors to the land, weather, recreational amenities, and rural and small community lifestyle in Hood River.

City Context

The Project Area occupies about 22% of the City's total land area and 17% of the area within the Hood River Urban Growth Boundary. It is one of the least developed areas of the City, due to its geographic position at the far western edge of the City limits and Urban Growth Area, topographic constraints, and lesser availability of infrastructure than in other areas of the City.

The Project Area is well connected to the rest of the city via key existing and planned east-west streets: Cascade Avenue, Sherman Avenue, May Street, and Belmont Drive. The north-south routes are less continuous, but still provide the framework for good connections, including Rand Road, 30th Street, the planned Mt. Adams extension, and Frankton Road at the western edge of the Project Area. This framework of connections to and through the Project Area is very important for circulation and supporting active transportation choices of walking and biking. It is also important in designing new neighborhoods in West Hood River that are a connected and integral part of Hood River as a whole.

The Westside Area features a series of terraces that effectively define the sub-areas within it (see Figure 18). The Cascade Avenue and Country Club Road districts occupy the lower terrace. The middle terrace, generally north of May Street, extends roughly from 370' elevation to 490' elevation and contains existing subdivisions as well as a significant amount of undeveloped land west of 30th Street. The upper terrace, generally South of May Street, contains existing subdivisions, numerous large developable parcels, and active orchards. Each terrace has varying degrees of sloped lands within it. These localized topographic features are an important contextual element for multiple reasons, including:

- They can potentially define walkable districts and neighborhoods.
- They strongly influence the feasibility, cost, and locations of new streets and other infrastructure.
- They are a defining element for all of Hood River.

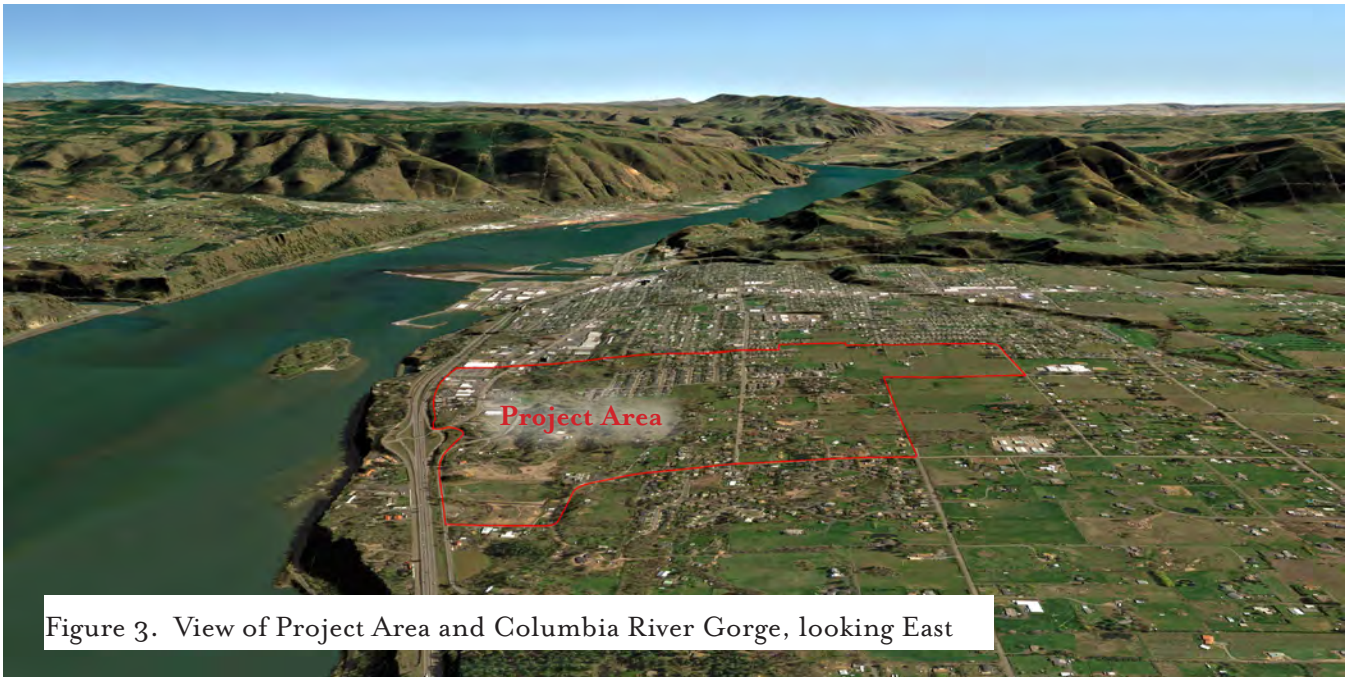


Figure 3. View of Project Area and Columbia River Gorge, looking East



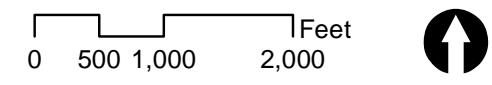
Figure 4. View of Project Area looking North

Figure 5. City Context



City Context

-  Study Area
-  Hood River UGB
-  Hood River City Limits
-  Rail Line



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Angelo Planning Group

Date:
9/27/2016
DRAFT

Coordinate System:
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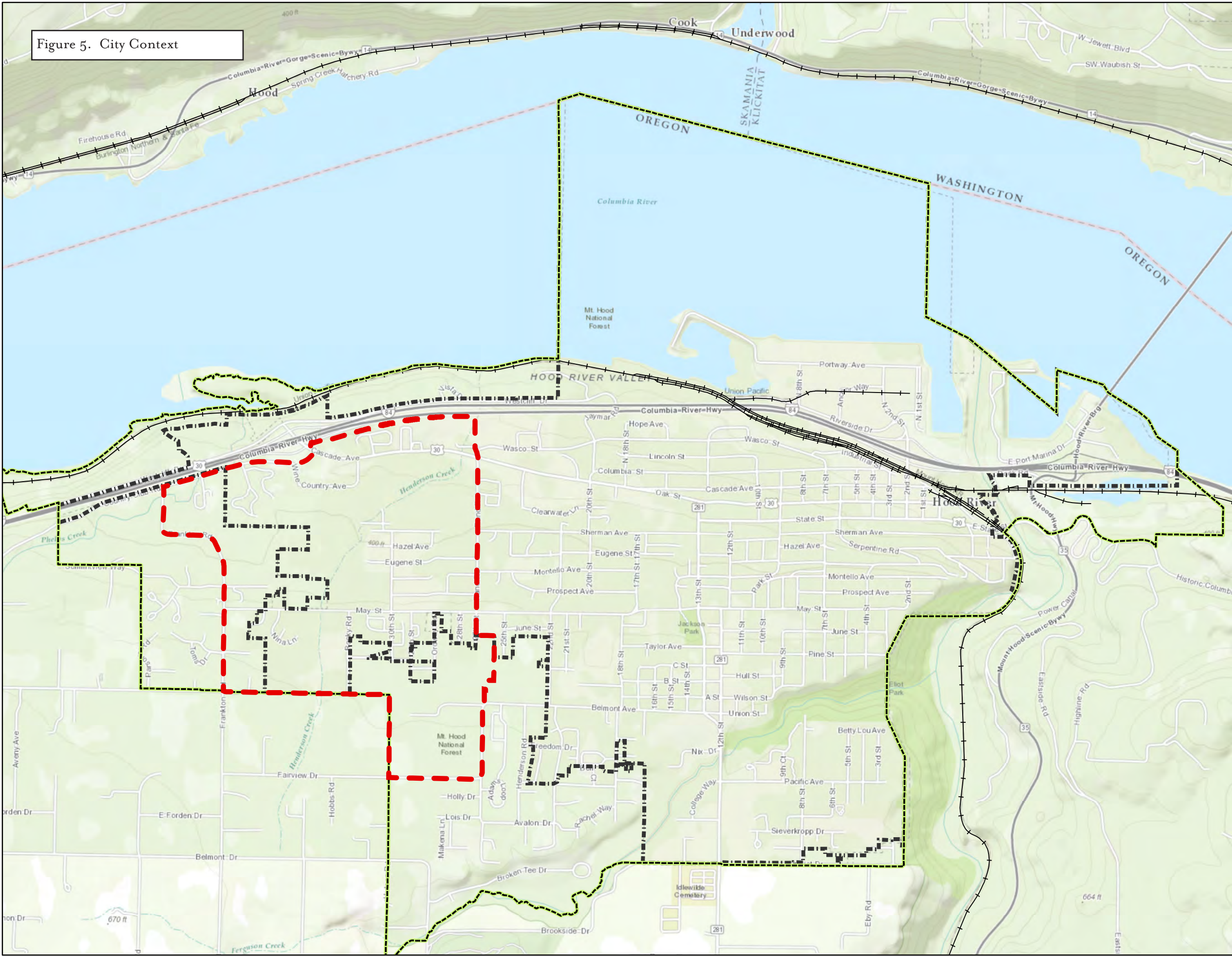
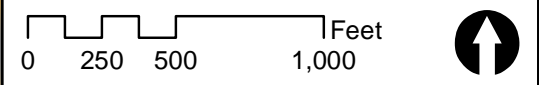
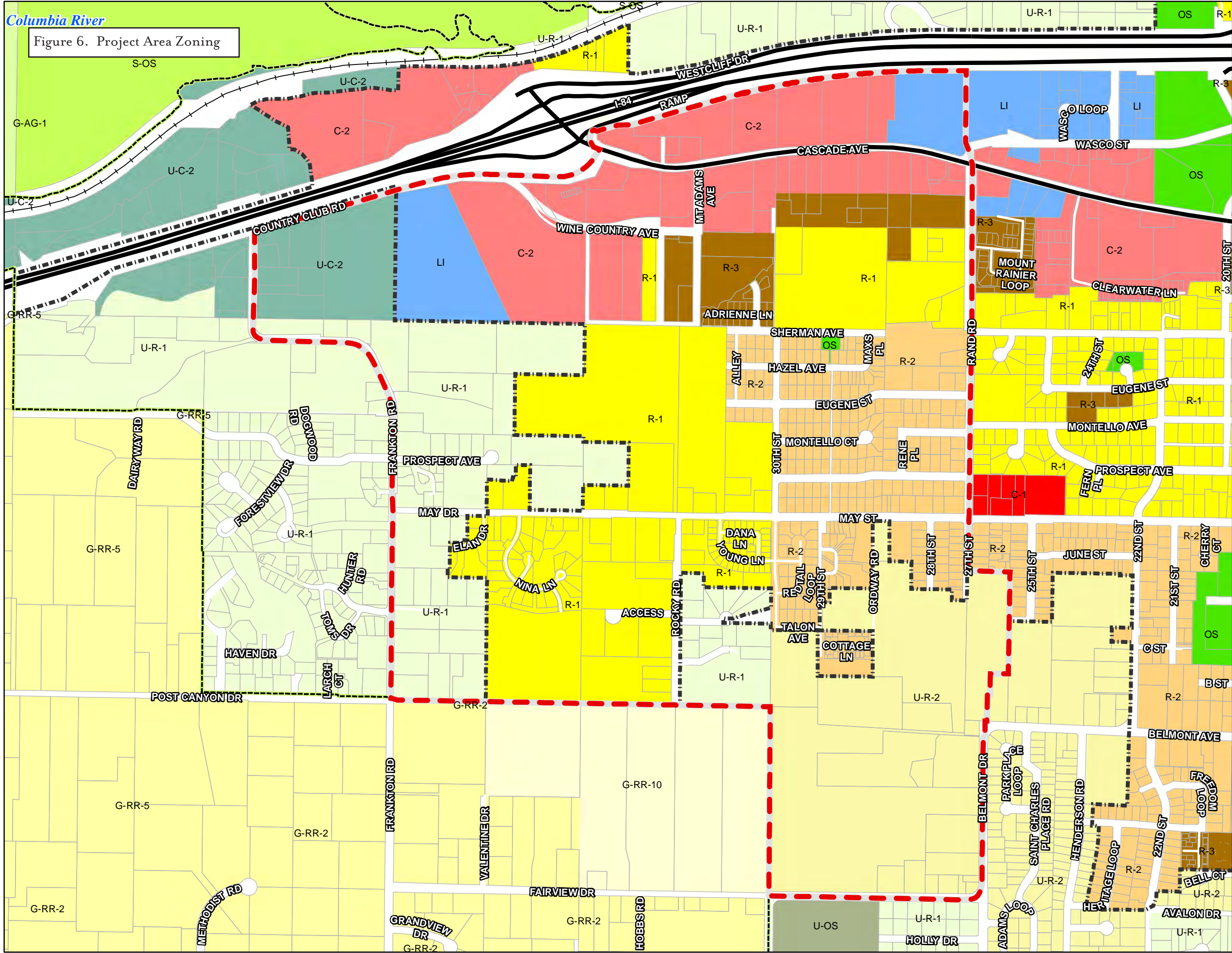


Figure 6. Project Area Zoning



Project Area Zoning

- Study Area
 - Hood River UGB
 - Hood River City Limits
 - Rail Line
- | County Zoning | |
|---------------|----------------|
| | G-AG-1 |
| | G-RR-10 |
| | G-RR-2; G-RR-5 |
| | S-OS |
| | U-C-2 |
| | U-OS |
| | U-R-1 |
| | U-R-2 |
-
- | City Zoning | |
|-------------|-----|
| | C-1 |
| | C-2 |
| | LI |
| | OS |
| | R-1 |
| | R-2 |
| | R-3 |



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LAND USE

Existing Uses

The Existing Land Use Map (Figure 7) was prepared from Assessors Records. The land uses have been summarized into the following categories:

- Park/Open Space
- Forest
- Residential (Single Family, Multi Family, and Manufactured Structure Park)
- Agricultural/Tract
- Commercial
- Industrial
- School
- State Owned
- City / County / Port Owned
- Church / Fraternal
- Vacant



Ownership and Parcelization

The Project Area is characterized by a number of medium to large acreage parcels under single ownership. Table I summarizes the distribution of parcels by size. Taking the Project Area as a whole, the average parcel size is .7 acres. Figure 8 shows the size of parcels within the Project Area and is annotated to identify the property owners with large holdings.



Table I. Project Area Parcels

Parcel Size	Number of Parcels	Avg Size (acres)	Total Acres
<1 Acre	496	0.2	104.9
1-5 Acres	68	2.2	151.9
>5 Acres	13	11.3	146.8
Total	577	-	403.6



Table 2. Project Area Buildable Lands - Residential Designation

Residential Designation	Number of Taxlots	Total Acres	Developed Acres	Constrained Acres	Buildable Acres
R-1	123	119.61	35.76	14.03	69.8
Developed	70	11.44	9.81	1.6	0
Partially Vacant	22	49.49	5.5	6.55	37.43
Public Land	1	17.47	16.93	0.54	0
Undevelopable	11	5.55	3.52	2.05	0
Vacant	19	35.66	0	3.29	32.37
R-2	300	48.62	37.86	4.45	6.61
Developed	276	36.96	33.71	3.14	0
Partially Vacant	5	2.88	1.25	0.17	1.92
Public Land	2	0.32	0.31	0	0
Undevelopable	6	2.66	2.59	0.05	0
Vacant	11	5.8	0	1.09	4.69
R-3	33	14.39	3.63	3.49	7.32
Developed	21	2.6	2.24	0.4	0
Partially Vacant	1	2.01	0.25	0.33	1.43
Undevelopable	4	1.42	1.14	0.28	0
Vacant	7	8.36	0	2.48	5.89
U-R-1	67	65.97	17.45	7.59	40.91
Developed	27	7.86	7.21	0.65	0
Partially Vacant	31	42.82	7.75	4.69	30.35
Public Land	1	2.41	2.09	0.32	0
Undevelopable	2	0.53	0.4	0.13	0
Vacant	6	12.35	0	1.8	10.56
U-R-2	21	68.37	3.58	0.43	64.36
Developed	5	1.08	1.08	0	0
Partially Vacant	10	44.97	2.5	0.24	42.23
Vacant	6	22.32	0	0.19	22.13
Total	544	316.96	98.28	29.99	189

Table 3. Project Area Buildable Lands - Employment Designation

Employment BLI	Number of Taxlots	Total Acres
Developed	23	27.58
<1 Acre	15	3.46
1-5 Acres	7	17.74
>5 Acres	1	6.38
Partially Vacant	7	14.26
<1 Acre	2	1.74
1-5 Acres	6	12.52
Vacant	17	69.74
<1 Acre	6	4.01
1-5 Acres	7	14.93
>5 Acres	4	50.81
Total	48	111.58

Buildable Land



In 2015, ECONorthwest conducted a Buildable Lands Inventory and Housing Needs Analysis for the City of Hood River. That work is the source of the information in this section, along with a review of assessor data and aerial photography for non-residentially zoned land within the Project Area.

The Project Area is comprised of parcels with a range of sizes and development status. As shown on Figure 9, land north of Cascade Avenue is largely developed with existing commercial uses and a manufactured home park. A mix of developed commercial and residential uses and vacant land lies south of Cascade Avenue.



In the western portion of the Project Area lie several large, vacant parcels, including land owned by the School District.

There are several developed subdivisions in the eastern and southern portion of the project area.

The southeastern portion of the Project Area includes large parcels that are currently in agricultural use.



Slopes and wetlands in the Project Area limit its development capacity. There are roughly 45 acres of slopes greater than 25% within the Project Area and 7.5 acres of wetlands¹ (some of which constitutes stormwater facilities for residential developments).

The summary of buildable residential and employment lands is provided in the following tables. *Note: For the purposes of this employment land evaluation, the entirety of the Project Area's split-zoned parcels containing an employment designation (seven parcels total) were included.*

¹ Based on an 2003 Wetlands Inventory.

Physical Conditions, Schools and Parks

Figure 10 illustrates:

- Topography
- Slopes of 25% or greater
- Wetlands
- Open Space (parks)
- Westside Community Trail
- Henderson Creek

Topography and Slopes

As noted in the City Context section, the Project Area is characterized by a series of terraces sloping south to north toward the Columbia River. This condition allows for stunning views and the opportunity to define neighborhoods and districts based on the local topography and natural features. It also creates challenges for walkability, street connections, and development.

Environmental and Physical Constraints

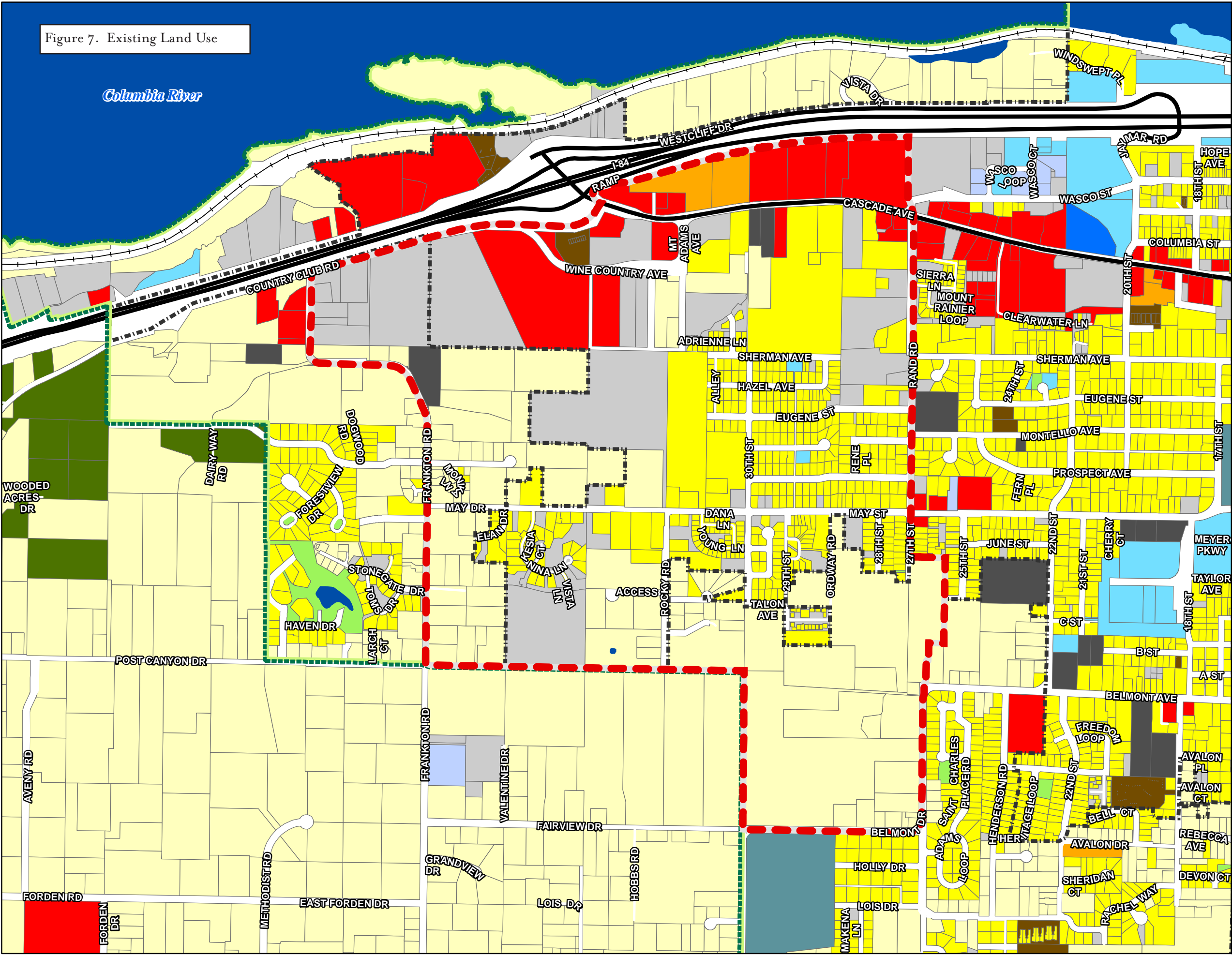
There are delineated wetlands within the Project Area. Many of these wetlands are associated with Henderson Creek which flows from the south to the northeast corner of the Project Area.

A portion of this creek is piped, and it reportedly overflows during storm events. Henderson Creek is an intermittent stream that is not very channelized, and has little to no riparian vegetation along its corridor.

Existing and Planned Parks

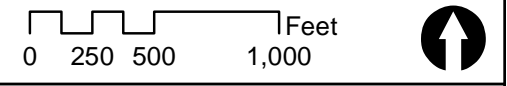
There are no planned parks in the area, and only one small existing park within the existing Adams View Subdivision on Montello Court, east of 30th Street.

Figure 7. Existing Land Use



**Existing Land Use
(Based on County Assessor Data)**

- Study
- Hood River UGB
- Hood River City Limits
- Rail Line
- Vacant
- Park / Open Space
- Forest
- Residential - Single Family
- Residential - Multifamily
- Manufactured Structure Park
- Agricultural/Tract
- Commercial Use
- Industrial Use
- School
- State Owned
- City / County / Port Owned
- Church / Fraternal



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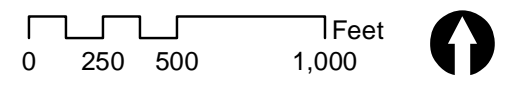
Figure 8. Project Area Owners and Parcel Size



Project Area Ownership and Parcel Size

- Parcel Size**
- < 1 Acre
 - 1 - 5 Acres
 - > 5 Acres
 - Study Area
 - Hood River UGB
 - Hood River City Limits
 - Rail Line

Properties greater than 5 acres in common ownership, as well as properties owned by Hood River County, are called out by owner name.



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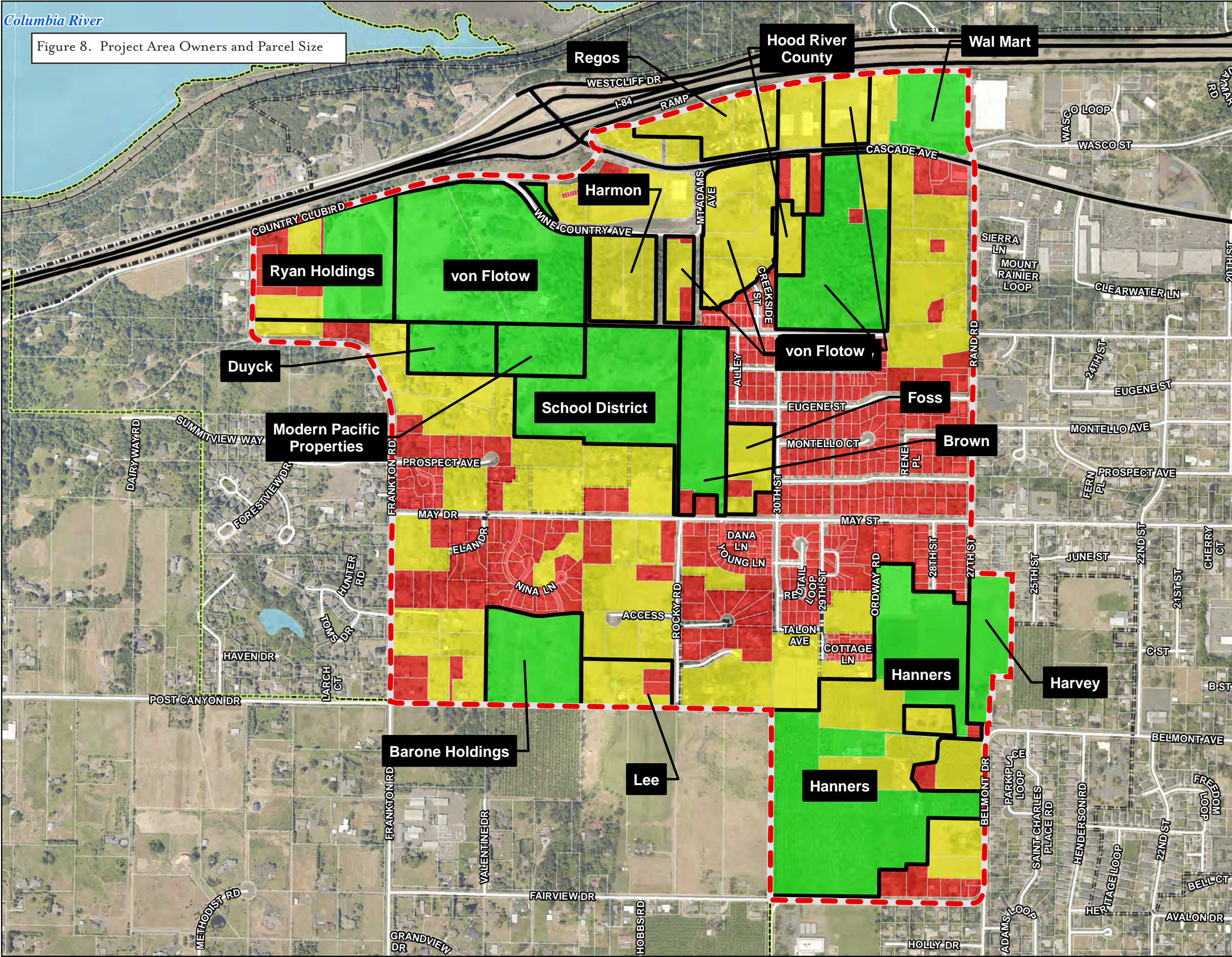


Figure 9. Buildable Lands

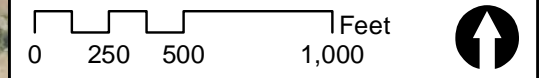
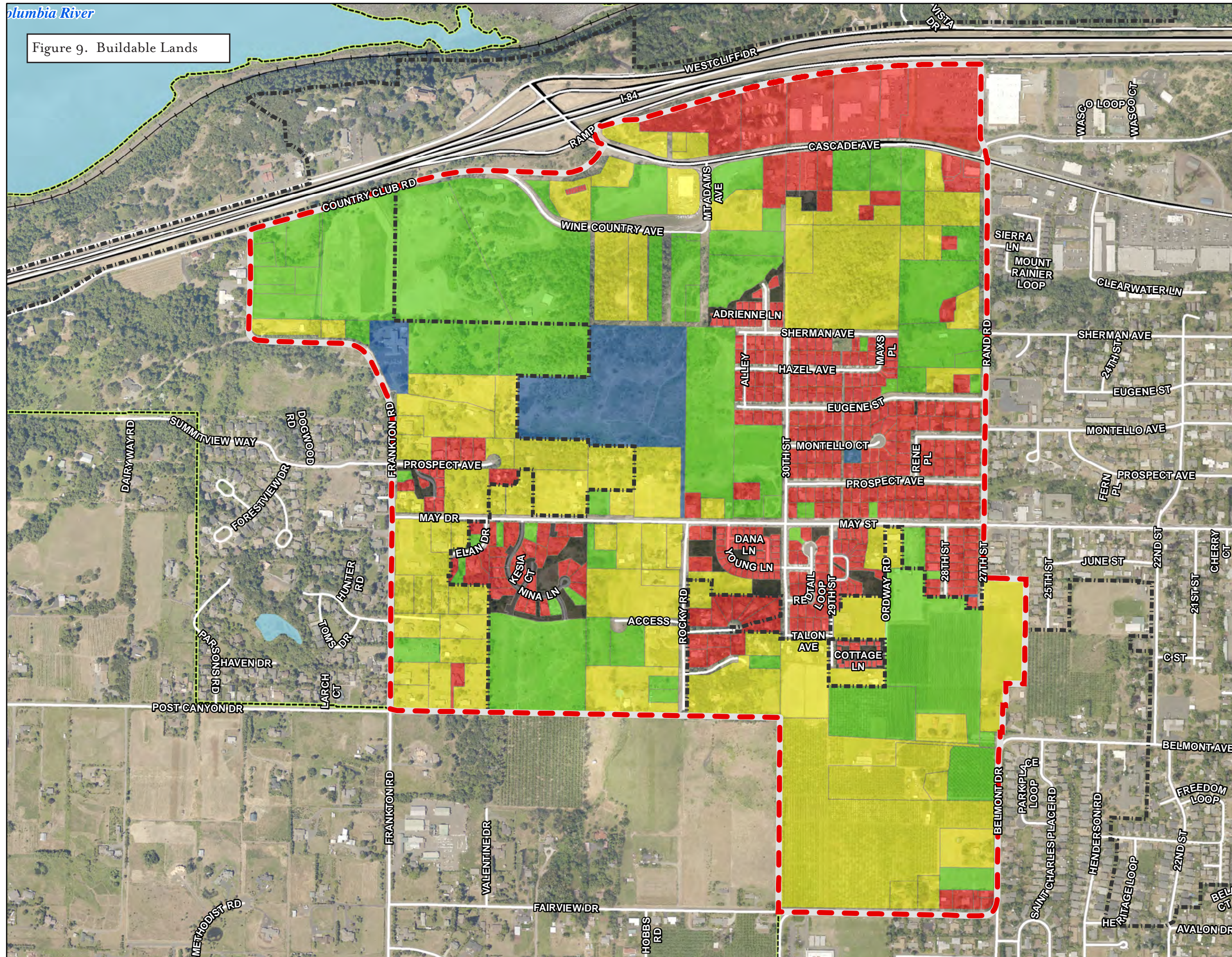


Buildable Lands

- Study Area
- Hood River UGB
- Hood River City Limits
- Rail Line

BLI Classification

- Developed
- Partially Vacant
- Public Land / Church
- Undevelopable
- Vacant

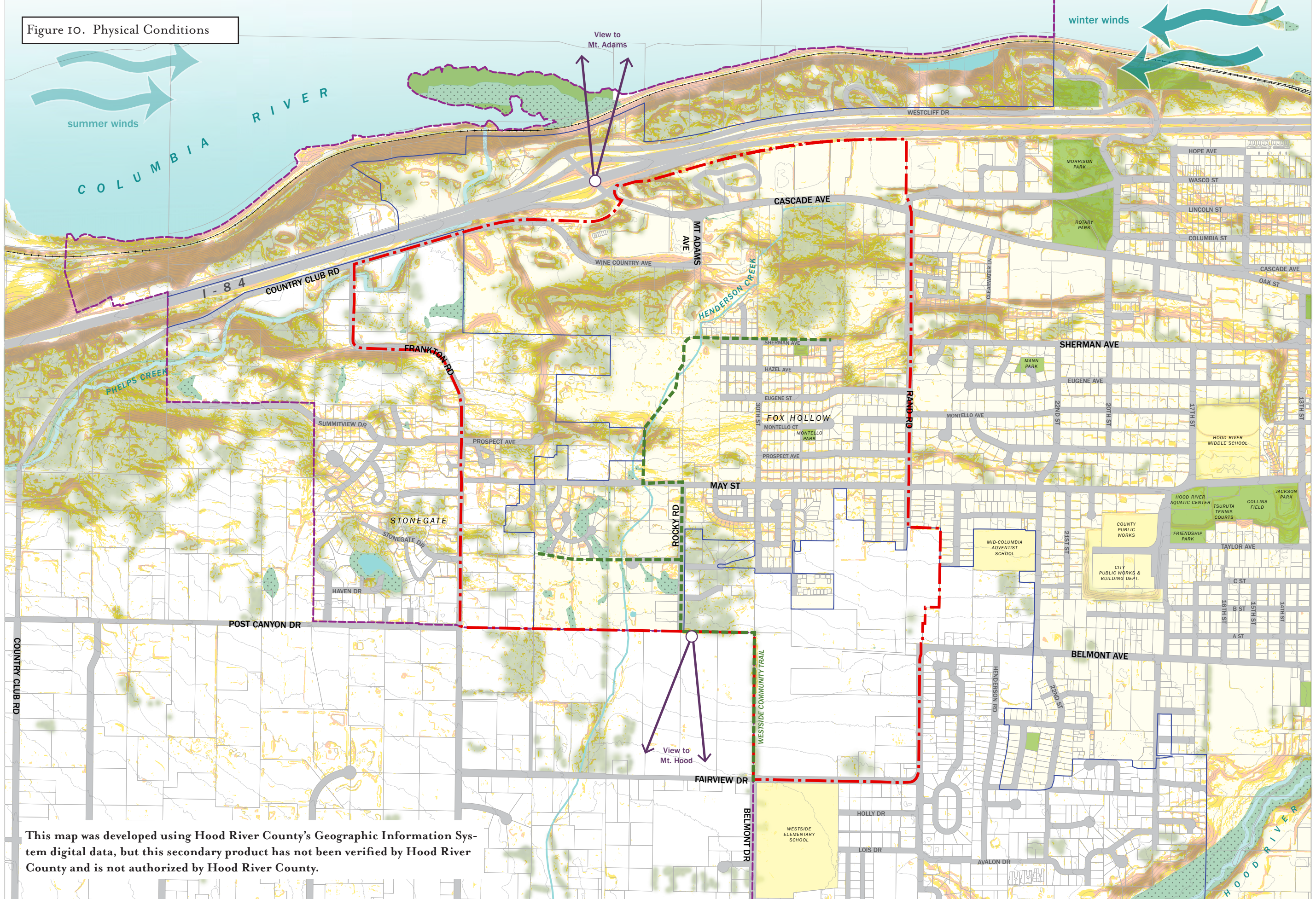


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Figure 10. Physical Conditions



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PHYSICAL CONDITIONS
HOOD RIVER WESTSIDE AREA CONCEPT PLAN

STUDY AREA BOUNDARY	WETLAND	TRAIL
CITY BOUNDARY	PARK	>25% SLOPES
URBAN GROWTH BOUNDARY	TREE COVER	>15% SLOPES

0' 300' 600' 1200' N

TRANSPORTATION

Transportation System Plan Overview



The City of Hood River and Hood River County adopted updates of their Transportation System Plans (TSP) in 2011. The TSP is a comprehensive transportation plan for all modes of travel and includes five key coordinated plans:

- Motor Vehicle Plan (Figure 14)
- Functional Classification for Streets (Figure 11)
- Bicycle Plan (Figure 13)
- Pedestrian Plan (Figure 12)
- Street Connectivity (Figure 15)



The City of Hood River TSP is an integral part of Hood River's Comprehensive Plan, and was prepared in compliance with Oregon Statewide Planning Goal 12 and the Transportation Planning Rule (OAR 660-012). Land use alternatives were considered during the planning process and policies and code standards were adopted along with the TSP. The 18-month planning process included extensive public involvement.

The five maps referenced above are shown in Figure 11 through Figure 15. The following is a summary of key elements and transportation issues for the Westside Area Concept Plan.

Motor Vehicle Plan and Functional Classification

A key transportation issue is the proposed alignment of the Mt. Adams Avenue extension south of Wine Country Ave. The general location and capacity of the Mt. Adams Avenue extension was found to be a critical connectivity improvement in west Hood River that takes a significant amount of traffic away from other corridors such as Cascade Avenue, Rand Road, and even 13th Street. The ability to modify the proposed alignment of the Mt. Adams Avenue extension was recently explored, including alignment with Rocky Road and the addition of other, smaller street extensions in the area. The findings from this effort were that the alignment of Mt. Adams Avenue designated in the City's TSP can be modified without substantially impacting the intended function, as long as new intersections created are appropriately designed and controlled. Also, the general level of traffic-carrying capacity must be maintained to ensure the route attracts sufficient trips to balance the use of the street network and avoid heavy congestion or costly improvements elsewhere. Topography and how the alignment supports walkable neighborhood design will be key considerations in evaluating alternatives and selecting the preferred alignment as part of the Westside Area Concept Plan. Such a change also should be reviewed in the context of the County's TSP.

As a minor arterial, the street cross-section for Mt. Adams Avenue would include:

- 10-foot sidewalks (includes a 4-foot by 4-foot tree well every 30 feet)
- 6-foot bike lanes
- one 12-foot travel lane in each direction
- a 14-foot center turn lane or planted median

A minimum of 70 feet of right-of-way typically is required to construct a minor arterial street, plus 10-foot utility easements on each side. This footprint represents the standard design from the City's TSP, which can be modified with City approval to accommodate a variety of constraints (e.g. topography) or special designs created to complement the surrounding land uses. Additional right-of-way or slope easements may be needed in some addresses due to topographical constraints.

Following adoption of the City's TSP, several projects have been implemented or moved forward including: completion of the realignment of County Club Road (Project MV3); completion of sidewalk and bike lane infill on May Street east of Rand Road (portions of Projects SW8 and BL6); and, funding has been programmed in ODOT's Statewide Transportation Improvement Program (STIP) for some of the needed improvements to the Cascade Avenue/Rand Road intersection (Project MV13).

While the intersection on Cascade Avenue at Mt. Adams Avenue was partially improved as part of the Country Club Road realignment, key elements such as a westbound left turn lane on Cascade Avenue and a traffic signal are still needed. Safety concerns related to this intersection have recently been expressed, suggesting that the remaining improvements may be needed in the near future.

Another significant planned transportation improvement within the Project Area is the reconstruction of the Exit 62 interchange and widening of Cascade Avenue from the freeway to Mt. Adams Avenue. This project will require a substantial investment, but is part of a primary gateway for the west side of Hood River and will be important for supporting future growth.

Pedestrian and Bicycle Plans

Many of the Project Area roadways are in need of sidewalk and bike lane infill to provide adequate non-auto mode connectivity - planned sidewalk projects are shown in Table 4. In addition, two paths have been identified in the City's TSP: the Westside Community Trail (P4) and the Post Canyon Path (PII). The alignments of these paths in the TSP are only conceptual and should be refined as part of this planning effort.

The Westside Community Trail will connect Westside Elementary School (near Fairview Drive/Belmont Drive) to the Skate Park at Wasco Street/20th Street, as well as the waterfront via an additional planned path. When completed it will significantly enhance active transportation options in the

Project Area, providing recreational opportunities as well as access to jobs, shopping, and other services.

The Post Canyon Trail is proposed as an interim improvement, providing east-west connectivity for pedestrians and bicyclists until Belmont Avenue can be extended to Frankton Road. However, this “interim” improvement may be able to be retained after the road extension is complete, replacing the need for a sidewalk and bike lanes.

Transit

The City of Hood River is currently provided public transit service by Columbia Area Transit (CAT), which includes Dial-A-Ride service and intercity connections to The Dalles and Portland. To support and expand on current transit service, the following key needs were identified in the City’s TSP:

- Consistent and increased annual funding to allow for local intercity and/or flex-route transit service within the City, while allowing CAT to maintain its current Dial-A-Ride and regional system.
- Improvements near transit stops to provide short-term bicycle parking, ADA-compliant curb ramps, benches, and shelters.
- The City of Hood River is committed to supporting regional efforts to provide and expand transit services in the City. Specific approaches of interest expressed in the City’s TSP that are most applicable to the Westside Area Concept Plan include:
 - Support development of transit service through identified commuter corridors.
 - Consider development of local and/or intercity transit facilities as a means of addressing parking shortages in Hood River.
 - Help facilitate development of transit facilities in appropriate locations (e.g., park and rides near other transit facilities, major employment and/or population centers).
 - Ensure zoning standards allow development of transit facilities and require appropriate transit supportive facilities through the development review process.

Truck Circulation

Another key issue is truck circulation. Historically, agricultural trucks have traveled from south of the city, via Frankton Road and Country Club Road to get to the Exit 62 interchange. The Mt. Adams extension could potentially attract truck trips in the future, but it will be relatively steep in sections. As the Westside Area Concept Plan evolves, there should be consideration of the attractiveness of these routes for freight trucks and discussion regarding which route is best for truck and even school bus circulation, especially in winter conditions.

Planned Improvements

The following projects are the motor vehicle, pedestrian, and bicycle projects included in the City's TSP within the Project Area. Project numbers correspond to the numbers on each of the maps, and cost estimates (planning level) are in 2010 dollars.

Table 4. Sidewalk Infill Projects

Project ID	Name/Location	Cost Estimate (High)	Cost Estimate (Low)	Notes
SW1	Rand Road	\$1,010,000	\$460,000	Low estimate assumes sidewalks on east side of street only.
SW3	Cascade Avenue/HCRH-Westcliff Drive to Mt. Adams Avenue	\$125,000	\$125,000	Estimate includes 6' sidewalk on the north side of the roadway.
SW8	May Street	\$1,245,000	\$470,000	Low estimate assumes sidewalks on south side of street only.
SW12	Frankton Road	\$1,855,000	\$310,000	Low estimate assumes sidewalks on one side of street from May Street south to city limits (Post Canyon Road).
SW13	Country Club Road	\$705,000	\$705,000	Sidewalk proposed for south side of the street only.
SW14	Cascade Avenue/HCRH (between Mt. Adams Avenue and Rand Road)	\$225,000	\$90,000	Widen sidewalks to 6' on both sides of the road, as adjacent development occurs.

Table 5. Enhanced Pedestrian Crossing Projects

Project ID	Name/Location	Description	Cost Estimate
CR13	Rocky Road & May Street	Stripe crosswalks on east and/or west legs of intersection across May Street and add advance warning signage to assist crossing for future Westside Community Trail.	\$5,000
CR14	Fairview Drive & Belmont Drive	Consider adding stop signs to Belmont Drive to make this intersection an all-way stop (future north-south extension of Mt. Adams Avenue will not have stop signs when street is extended). Stripe crosswalks on all legs of the intersection. Reconfigure intersection geometry to reduce the radius of the curve on Belmont Drive, to lower vehicle speeds. Consider installing curb extensions or refuge islands to reduce crossing distances.	\$45,000
CR20	(Future) Westside Community Trail & Belmont Drive	Add advance stop bars before crosswalk. Consider relocating crossing or closing school parking lot driveway in order to reduce complication of turning movements at the crossing. Complete project CR 14 (described previously) to improve nearby intersection at Fairview Drive and Belmont Drive, with the goal of reducing the speed of motorists approaching the crossing eastbound on Belmont Drive.	\$5,000
CR21	Cascade Avenue-HCRH (midblock between Mt. Adams Avenue and Rand Road)	Consider installing midblock crosswalk with advance warning signage. Consider installing rectangular rapid flash beacons to improve motorist compliance if necessary after an observation period.	\$25,000

Table 6. Path Projects

Project ID	Name/Location	Cost Estimate	Notes
P4	Westside Community Trail	Project already funded by Hood River Valley Parks & Recreation	This previously proposed path being pursued by Hood River Valley Parks & Recreation would create a key link in Hood River's bicycle and pedestrian networks.
P7	Cascade Avenue between Mt Adams Avenue and Westcliff Drive	\$255,000	Proposed 10' path along the south side of Cascade Avenue between Mt Adams Avenue and Westcliff Drive. See SW3 for sidewalk on north side of the roadway.
PII	Post Canyon Path	\$660,000	A road extension of Belmont Avenue to Post Canyon Drive is proposed. Sidewalk and bike lane would be included as part of that construction. However, this project to construct an east-west path between Belmont Avenue and Frankton Road, aligned with Post Canyon Drive, could be constructed as an interim improvement or as a complementary one. The alignment of this path should remain within the urban growth boundary and should avoid the National Scenic Area.

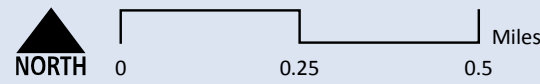
Table 7. Bicycle Projects

Project ID	Name/Location	Facility Type	Cost Estimate	Notes
BL1	Country Club Road	Bike Lane	\$365,000	Roadway expansion
BL2	Frankton Road	Bike Lane	\$340,000	Roadway expansion
BL3	Cascade Avenue-Oak Street-HCRH	Bike Lane	\$135,000	Intermittent bike lanes exist; assumes restriping along half of corridor length
BL6	May Street	Bike Lane	\$890,000	Roadway expansion
BL7	Rand Road	Bike Lane	\$210,000	Roadway expansion

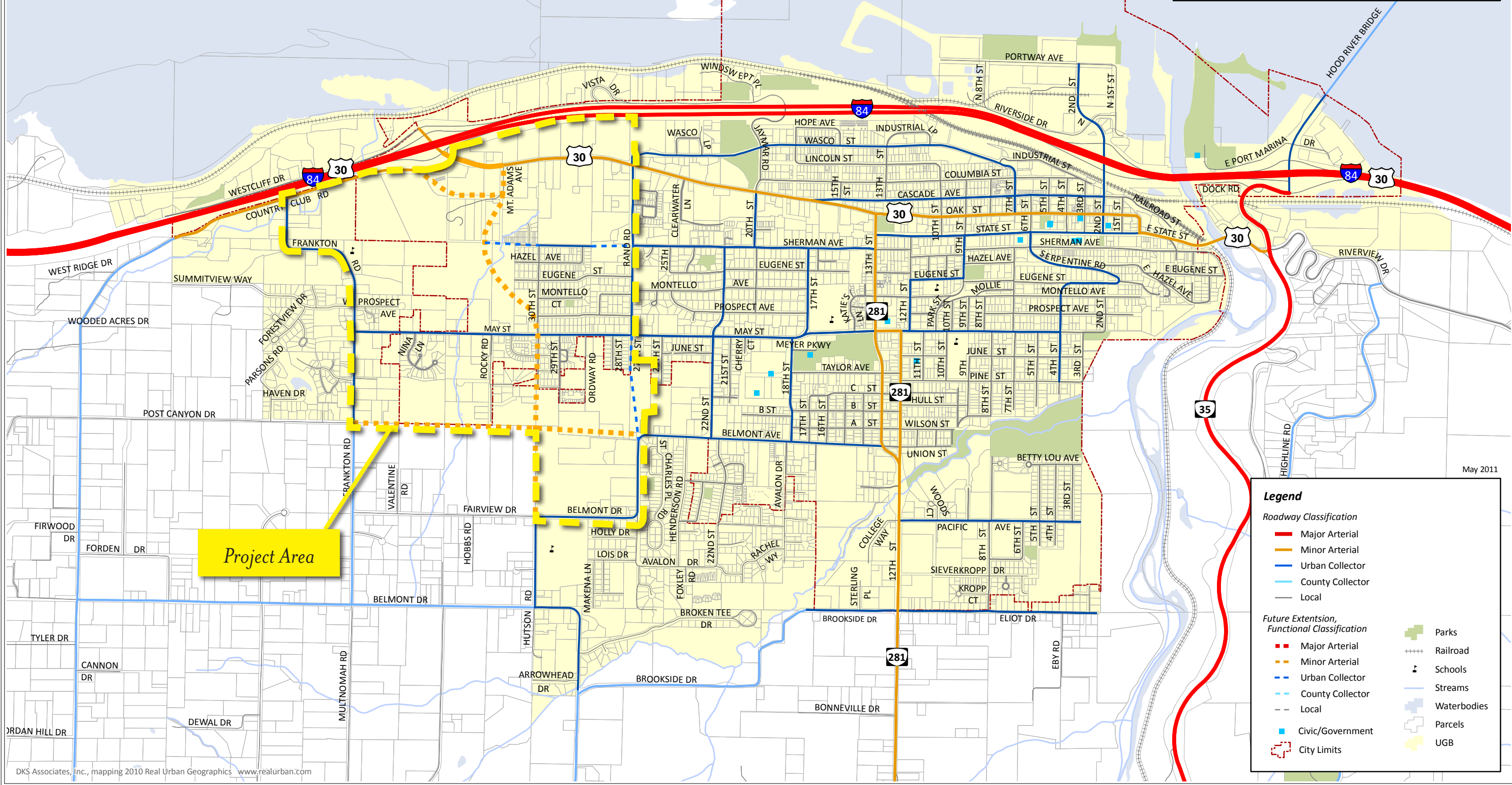
Table 8. Motor Vehicle Projects

Project ID	Location	Description	Planning Cost Level
MV1	I-84 Exit 62 Inter-change	I-84 Westbound Ramps/Terminal Construct traffic signal Construct northbound left turn lane (full length of bridge) Construct second southbound through lane Construct westbound left turn lane Construct shared westbound through/left turn lane Construct westbound right turn lane I-84 Eastbound Ramps/Terminal Construct traffic signal Construct northbound right turn lane (drop lane from Cascade Ave.) Construct second southbound through lane Construct southbound left turn lane Construct eastbound right turn lane	\$20,900,000
MV2	Cascade Ave (HCRH): I-84 Exit 62 Inter-change to Rand Rd.	Construct second eastbound lane from I-84 eastbound ramp terminal to Mt. Adams Ave. (ends as right turn lane) Construct second westbound lane from Mt. Adams Ave. to I-84 eastbound ramp terminal (ends as right turn lane) Widen Cascade Ave. between Mt. Adams Ave. and Rand Rd. to include one travel lane in each direction and a center turn lane (Traffic signal on Cascade Ave. at Mt. Adams Ave. listed as separate project – MVII)	\$2,700,000

MV3	Country Club Rd. Re-alignment / Mt. Adams Ave.	<p>Realign Country Club Road to intersect with Mt. Adams Ave., disconnecting the existing intersection on Cascade Ave. with Country Club Rd. to motor vehicle traffic</p> <p>Construct Mt. Adams Ave. from Cascade Ave. to realigned Country Club Rd. Cascade Ave. at Mt. Adams Ave.</p> <p>Construct two northbound left turn lanes on inside, full length to Country Club Rd. on outside)</p> <p>Construct northbound right turn lane</p> <p>Install yield control for eastbound right turn lane (constructed as part of MV2)</p> <p>(Traffic signal on Cascade Ave. at Mt. Adams Ave. listed as separate project – MV11)</p> <p>Mt. Adams Ave. at Country Club Rd.</p> <p>When Mt. Adams Ave. is extended to the south (MV4), construct northbound left turn lane</p> <p>When Mt. Adams Ave. is extended to the south (MV4), construct northbound shared through/right turn lane</p> <p>Construct channelized southbound right turn lane under yield control (drop lane from Mt. Adams Ave.)</p> <p>Construct southbound through lane</p> <p>Construct southbound left turn lane serving property access on east approach</p> <p>Construct eastbound left turn lane</p> <p>Construct eastbound shared through/right turn lane</p> <p>Construct east approach for property access, including a westbound left turn lane, and a shared westbound through/right turn lane</p> <p>(Traffic signal on Mt. Adams Ave. at Country Club Rd. listed as separate project – MV12)</p>	\$3,700,000
MV4	Mt. Adams Ave.: Country Club Rd. to Fairview Dr.	<p>Construct Mt. Adams Ave. as a 3-lane minor arterial from Country Club Rd. to Fairview Dr. along the existing 30th St. alignment and the south/west edge of the urban growth boundary (UGB). This project would be an extension of the Mt. Adams Ave. segment constructed under MV3. The alignment of this roadway should remain within the urban growth boundary and should avoid the National Scenic Area. Improvements within the National Scenic Area may be subject to review for consistency with National Scenic Area provisions. New roadways constructed adjacent to the urban growth boundary may be modified by the City Engineer to include only 3/4-street improvements (e.g., no curb and sidewalk adjacent to the urban growth boundary).</p> <p>Construct a traffic signal at the intersection of Mt. Adams Avenue/ May Street, two-way-stop-control at Mt. Adams Avenue/Fairview Drive, and a roundabout or traffic signal at Hutson Road/ Belmont Drive.</p>	\$11,940,000
MV5	Sherman Ave.: Rand Rd. to Mt. Adams Ave.	Extend Sherman Ave. from Rand Rd. to Mt. Adams Ave. (middle segment of this extension exists)	\$2,145,000
MV6	Rand Rd.: May St. to Belmont Ave.	Extend Rand Rd./27th St. from the current stub south of May St. to Belmont Ave.	\$3,220,000
MV7	Belmont Ave.: Rand Rd. to Frankton Rd.	Extend Belmont Ave. to Frankton Rd., opposite Post Canyon Dr. The alignment of Belmont Ave. would fall within the southern UGB and avoid the National Scenic Area. Improvements within the National Scenic Area may be subject to review for consistency with National Scenic Area provisions. New roadways constructed adjacent to the urban growth boundary may be modified by the City Engineer to include only 3/4-street improvements (e.g., no curb and sidewalk adjacent to the urban growth boundary).	\$8,605,000
MV11	Mt. Adams Ave./ Cascade Ave. (HCRH)	Construct traffic signal (Assumes complementary road improvements constructed as part of MV2 and MV3)	\$350,000
MV12	Mt. Adams Ave./ Country Club Rd.	Construct traffic signal (Assumes complementary road improvements constructed as part of MV3 and MV4)	\$350,000
MV13	Rand Rd./ Cascade Ave. (HCRH)	Construct traffic signal Modify northbound approach to include a left turn lane and a shared through/right turn lane Modify southbound approach to include a left turn lane and a shared through/right turn lane Construct eastbound right turn lane	\$1,000,000



City of Hood River
 Transportation System Plan
 Figure II. Roadway Functional Classification



Legend

Roadway Classification

- Major Arterial
- Minor Arterial
- Urban Collector
- County Collector
- Local

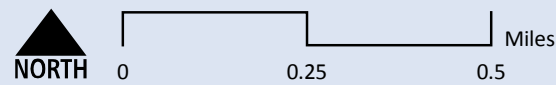
Future Extension, Functional Classification

- - - Major Arterial
- - - Minor Arterial
- - - Urban Collector
- - - County Collector
- - - Local
- Civic/Government
- City Limits

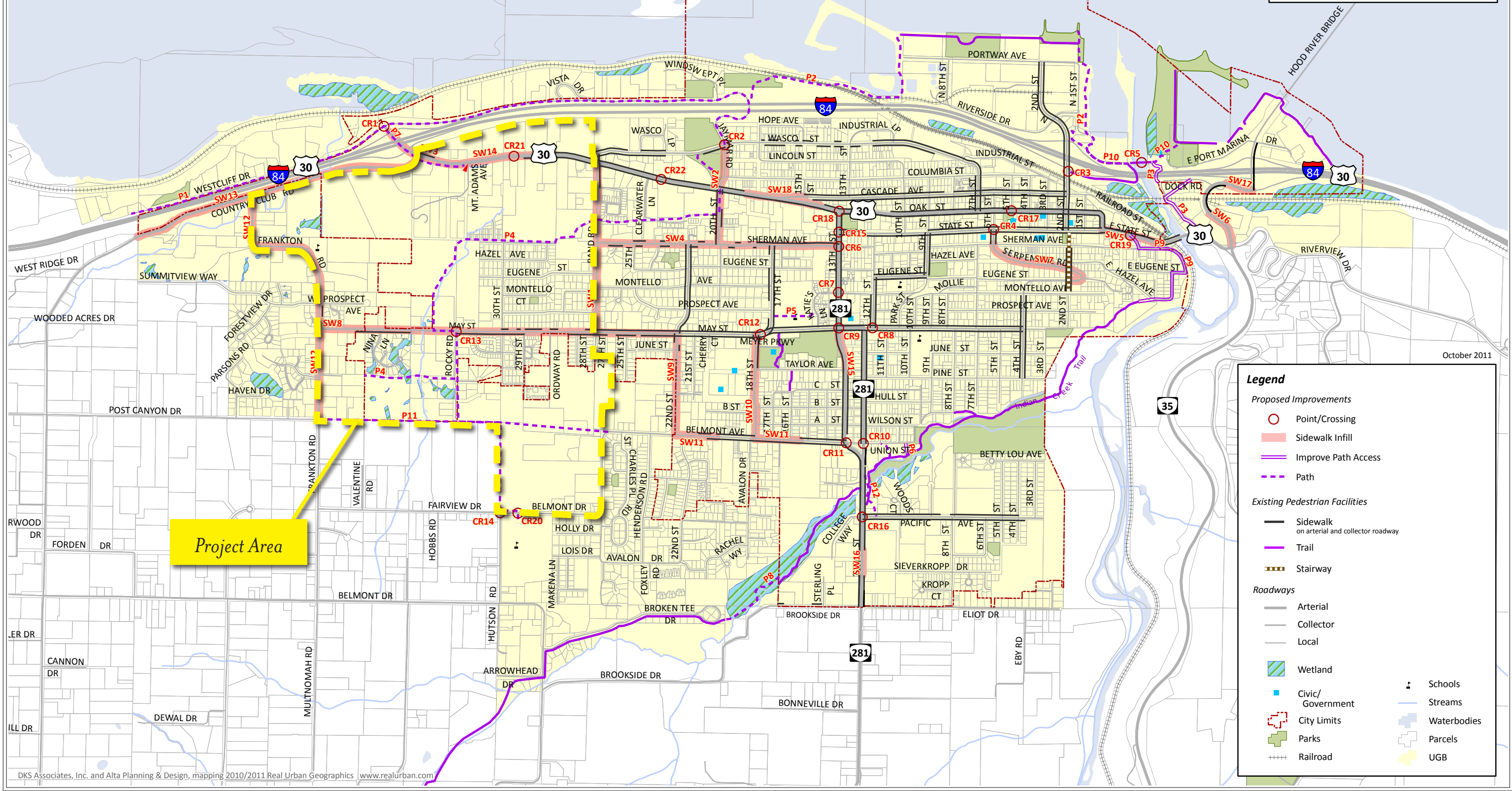
- Parks
- + + + + Railroad
- Schools
- Streams
- Waterbodies
- Parcels
- UGB

May 2011

DKS Associates, Inc., mapping 2010 Real Urban Geographics www.realurban.com



City of Hood River
Transportation System Plan
 Figure 12. Pedestrian System Plan



October 2011

Legend

Proposed Improvements

- Point/Crossing
- ▬ Sidewalk Infill
- ▬ Improve Path Access
- ▬ Path

Existing Pedestrian Facilities

- ▬ Sidewalk on arterial and collector roadway
- ▬ Trail
- ▬ Stairway

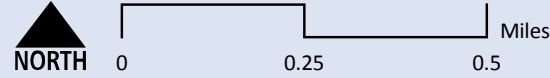
Roadways

- ▬ Arterial
- ▬ Collector
- ▬ Local

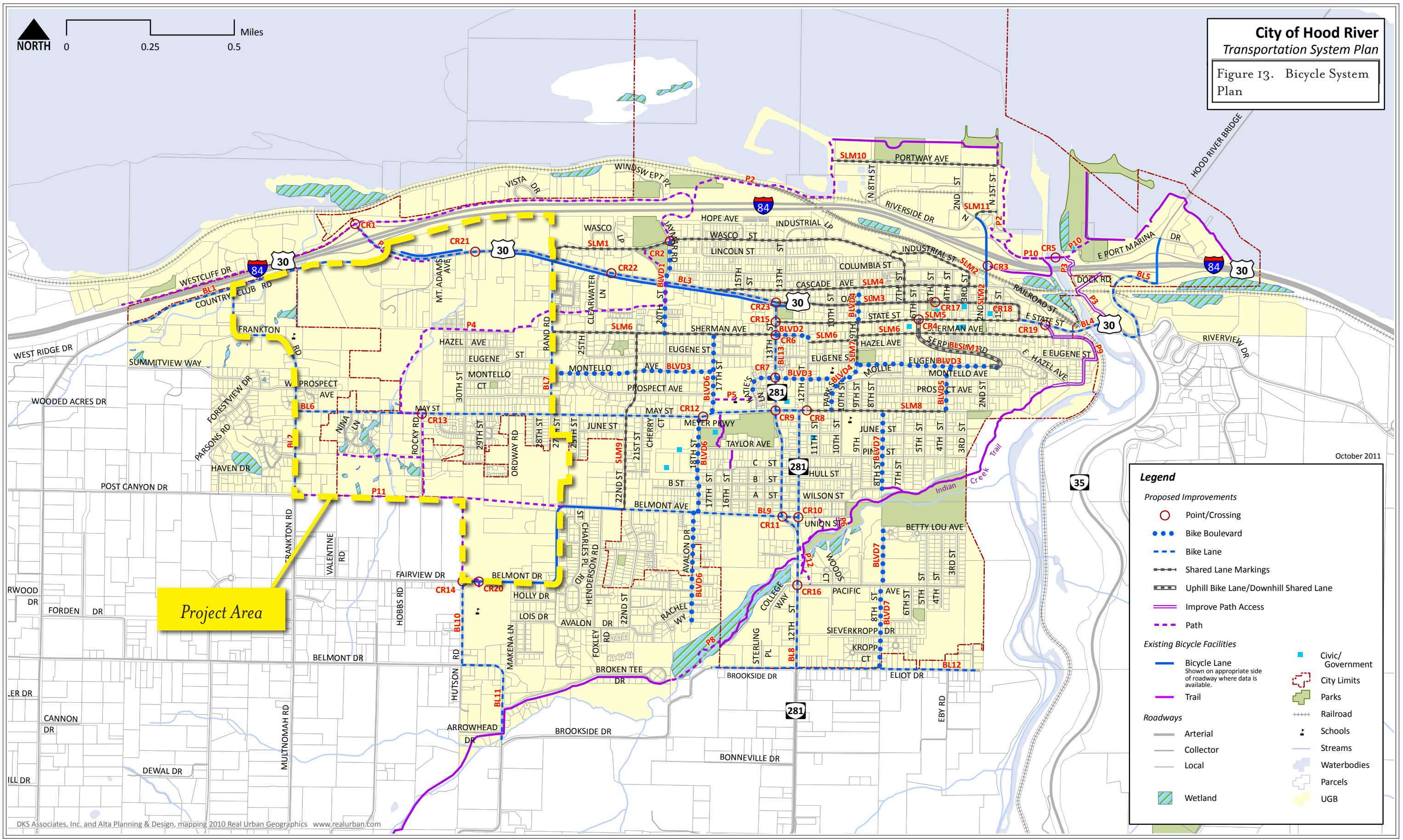
Other Features

- ▨ Wetland
- Civic/Government
- ▬ City Limits
- Parks
- ▬ Railroad
- ⚡ Schools
- ▬ Streams
- ▬ Waterbodies
- ▬ Parcels
- ▬ UGB

DKS Associates, Inc. and Alta Planning & Design, mapping 2010/2011 Real Urban Geographics www.realurban.com



City of Hood River
 Transportation System Plan
 Figure 13. Bicycle System Plan



Project Area

Legend

Proposed Improvements

- Point/Crossing
- Bike Boulevard
- Bike Lane
- Shared Lane Markings
- Uphill Bike Lane/Downhill Shared Lane
- Improve Path Access
- Path

Existing Bicycle Facilities

- Bicycle Lane
Shown on appropriate side of roadway where data is available.
- Trail

Other Features

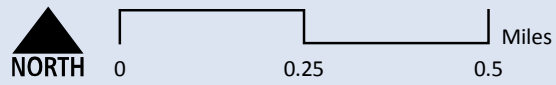
- Civic/Government
- City Limits
- Parks
- Railroad
- Schools
- Streams
- Waterbodies
- Parcels
- UGB

Roadways

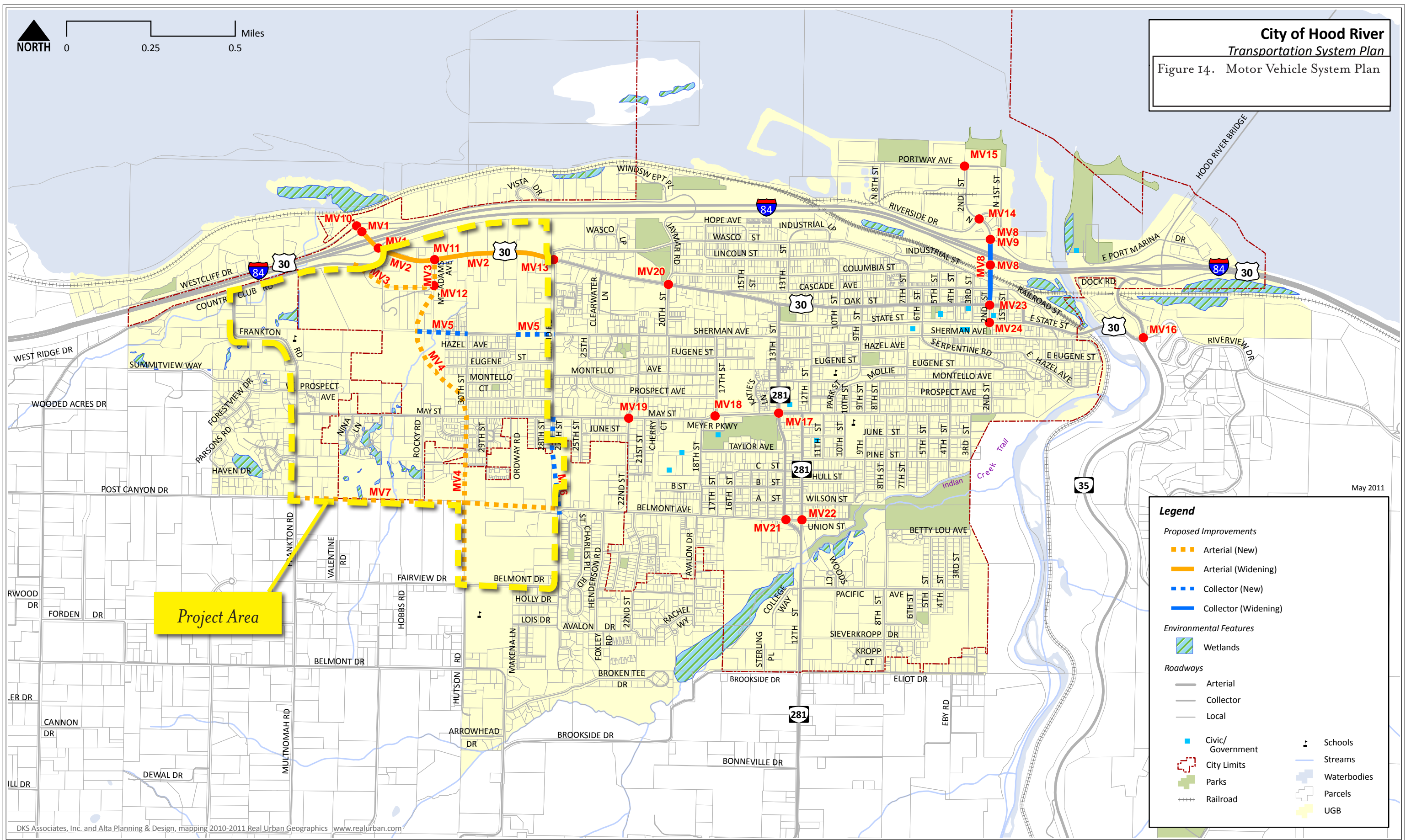
- Arterial
- Collector
- Local
- Wetland

October 2011

DKS Associates, Inc. and Alta Planning & Design, mapping 2010 Real Urban Geographics www.realurban.com



City of Hood River
Transportation System Plan
 Figure 14. Motor Vehicle System Plan



May 2011

Legend

Proposed Improvements

- Arterial (New)
- Arterial (Widening)
- Collector (New)
- Collector (Widening)

Environmental Features

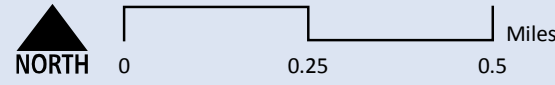
- Wetlands

Roadways

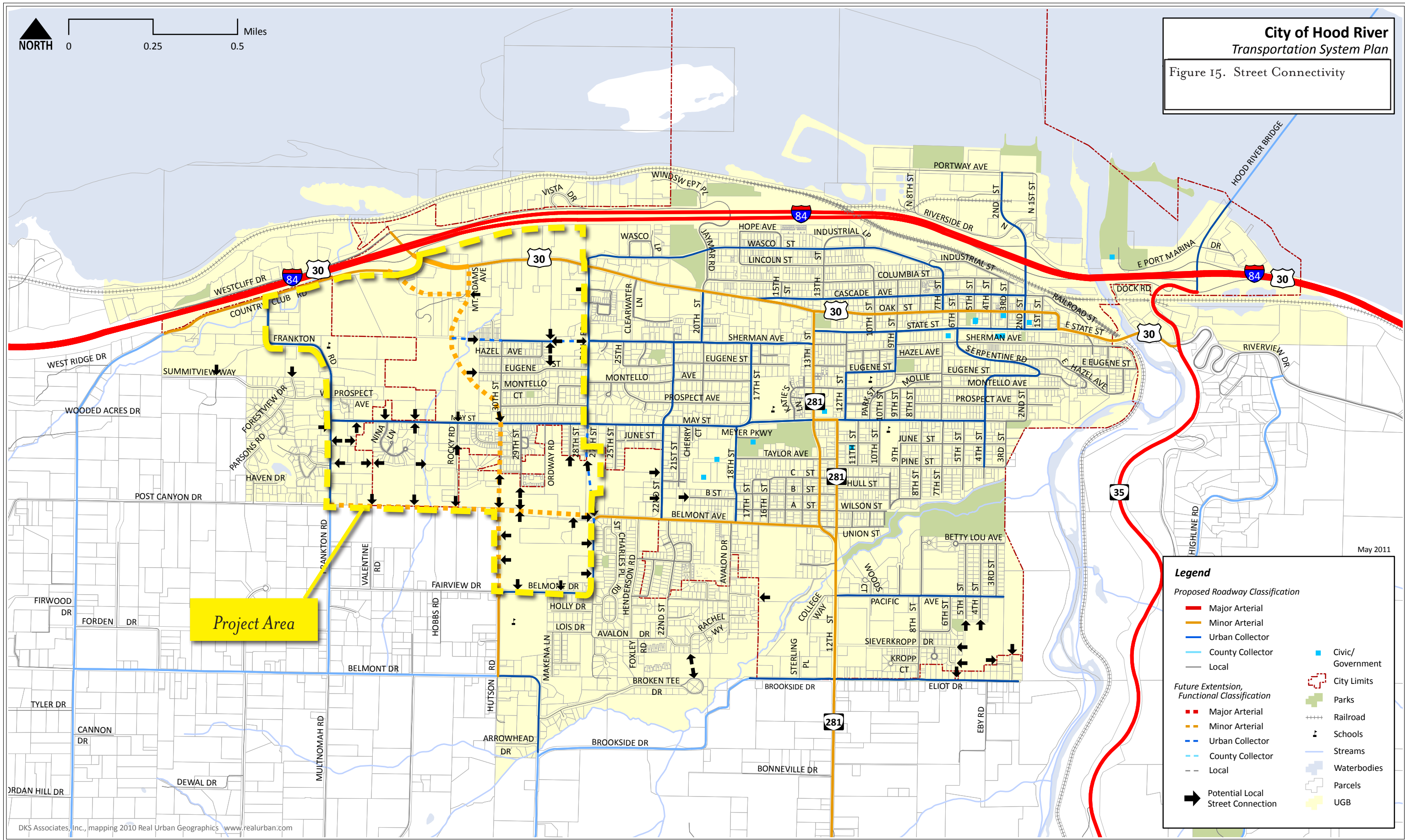
- Arterial
- Collector
- Local

- Civic/ Government
- City Limits
- Parks
- Railroad
- Schools
- Streams
- Waterbodies
- Parcels
- UGB

DKS Associates, Inc. and Alta Planning & Design, mapping 2010-2011 Real Urban Geographics www.realurban.com



City of Hood River
Transportation System Plan
 Figure 15. Street Connectivity



May 2011

Legend

Proposed Roadway Classification

- Major Arterial
- Minor Arterial
- Urban Collector
- County Collector
- Local

Future Extension, Functional Classification

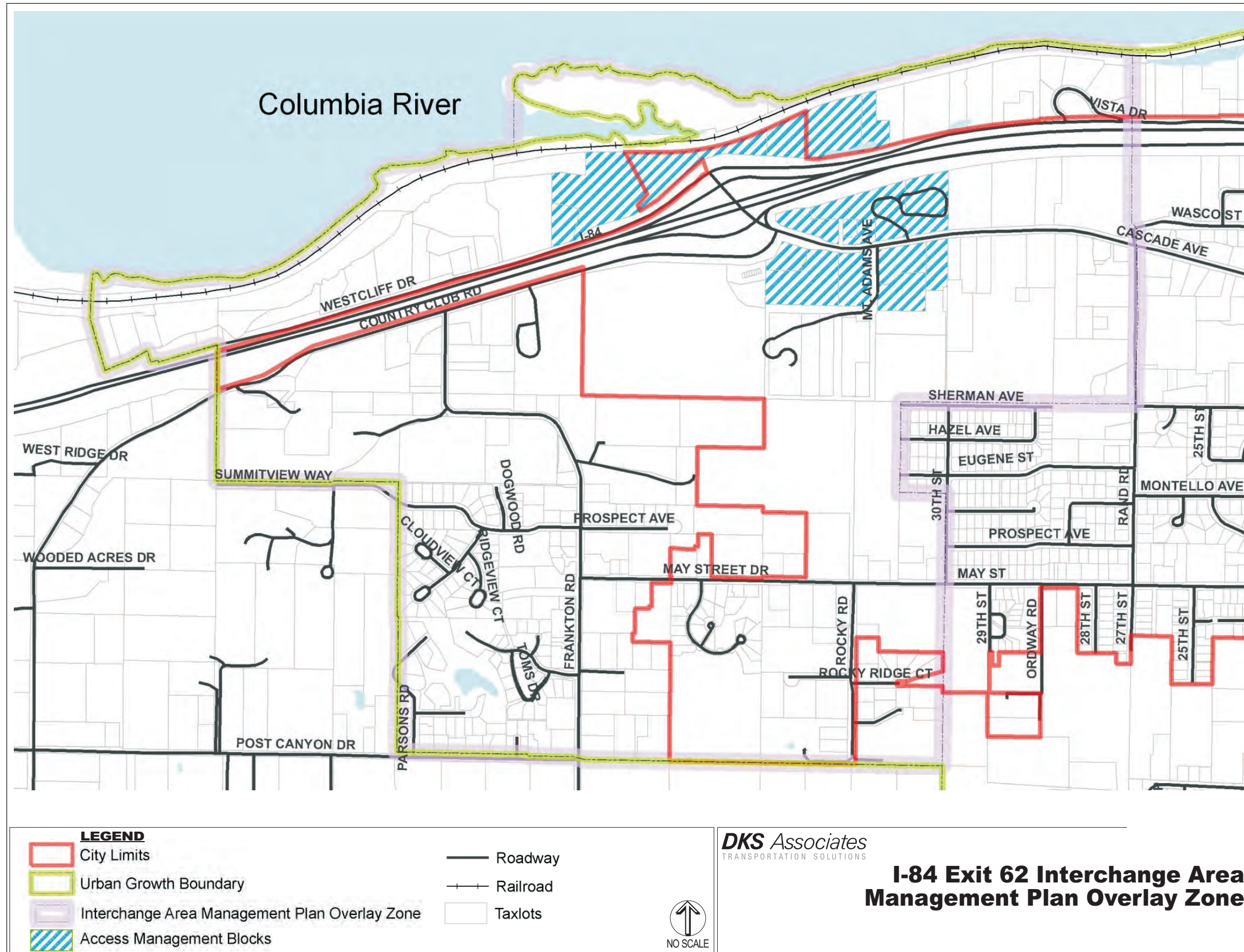
- - - Major Arterial
- - - Minor Arterial
- - - Urban Collector
- - - County Collector
- - - Local

- Civic/Government
- City Limits
- Parks
- + + + + Railroad
- ▲ Schools
- Streams
- Waterbodies
- Parcels
- UGB

➔ Potential Local Street Connection

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Figure 16. Interchange Area Master Plan (IAMP) Overlay Zone



STORMWATER AND LOW IMPACT DEVELOPMENT

This memo provides a summary of existing storm water infrastructure within and adjacent to the Hood River Westside study area, and will identify opportunities to utilize Low Impact Development (LIDA) strategies. As noted in the 2001 Capital Facilities Plan Stormwater Utility report there are three (3) major drainage basins. They are the Columbia River, Hood River, and Indian Creek. The study area appears to be located with the Columbia River and Indian Creek drainage basins.

The general topography includes slopes from 0 to 2 percent north of Interstate 84 (I-84). South of I-84, the terrain rises at a slope of 10 to 35 percent to an elevation of approximately 420 feet. In the southern portion of the project area the slopes decrease to 2 to 5 percent.

The existing drainage system of City of Hood River includes open channels, culverts, and storm drain pipes within the developed areas. The 2001 plan also identified several “Problem Areas” where existing storm water facilities are failing and causing property damage. This memo also reviews key physical features that will affect the study area’s generation of storm water and the range of potential methods for managing water quantity and quality.

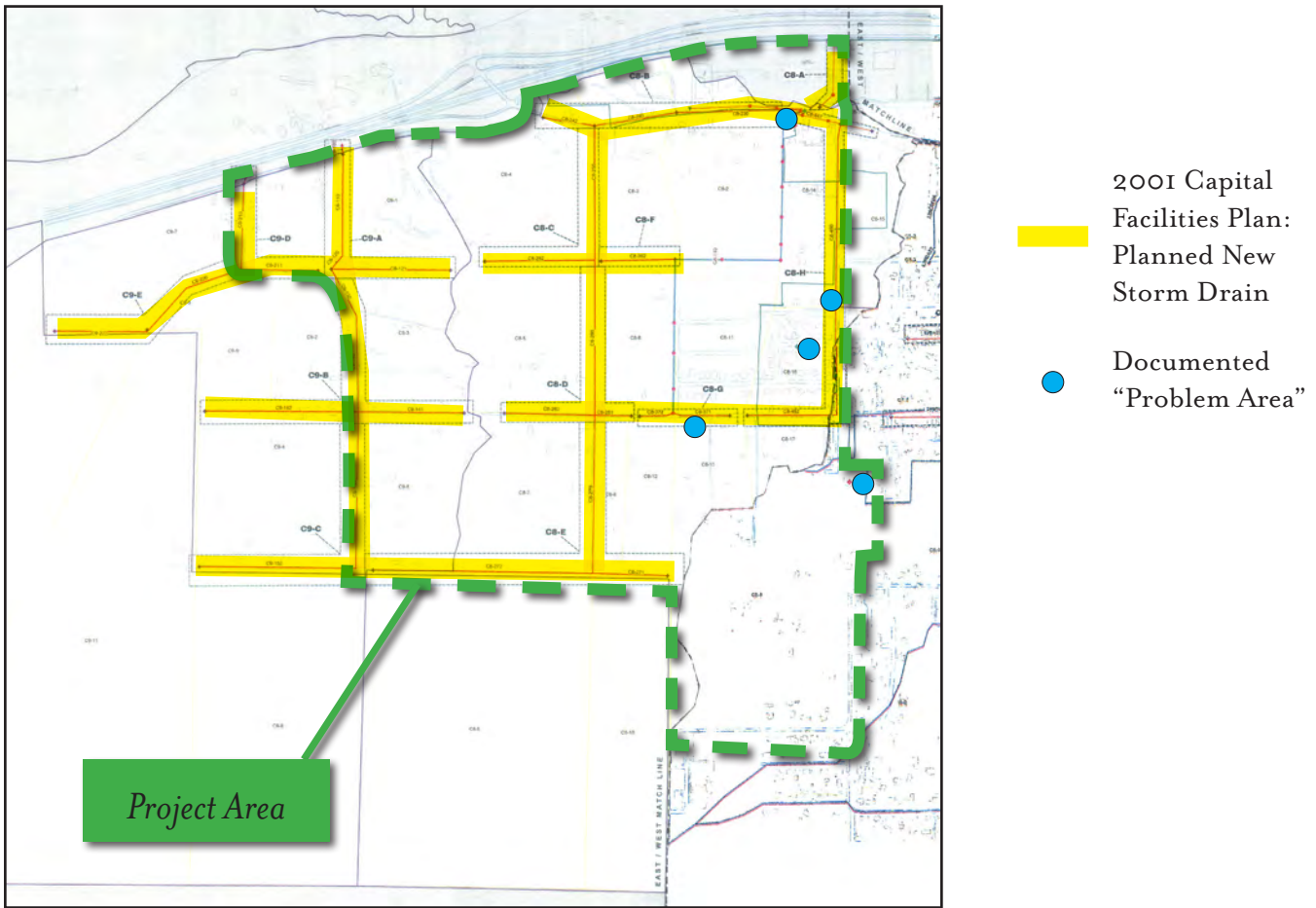
Existing Storm Water Conveyance and Treatment

The Hood River Public Works Department builds, maintains, and enhances the public drainage system to meet public needs and to comply with water quality regulations set by the Oregon Department of Environmental Quality (DEQ).

Information on the existing storm water system was gathered from the City of Hood River. Their May 2001 Capital Facilities Plan Stormwater Utility report was used to establish an inventory of existing publicly owned storm water conveyance facilities, and to identify potential connection points for service to the study area.

There are existing storm drain pipe systems in areas where properties have been developed. Some of these storm systems are not within existing road rights-of-way, but are located through private properties. It is unclear if these systems include access easements for maintenance. The 2001 report also identified elements of the existing system that were documented as “Problem Areas”. These areas have been susceptible to flooding caused by under-sized storm drain pipes, maintenance issues, and/or damaged pipe systems. The following map of the Study Area identifies the “Problem Area” locations within or adjacent to the Study area. The map also shows the potential future storm system as developed in the 2001 report.

Figure 17. Planned Stormwater Facilities and Documented Problem Areas



There are also areas where storm culverts are provided along nature paths, as shown in photo below. Although sediment control measures have been installed at the end of the culvert in the form of a rip-rap pad, it appears the capacity of the culvert has been decreased by a layer of sediment.



Storm water quality treatment/detention facilities are not documented within the study area. However, we did observe this privately owned extended dry detention basin located off of Sherman Avenue.



Privately owned facilities are to be maintained by the property owner. The City is reliant on the property owner to conduct necessary maintenance of their facility to prevent potential impacts downstream.

Low Impact Development Opportunities and Constraints

Development impacts storm water in two ways: 1) by increasing impervious area, resulting in greater proportions of rainfall becoming runoff (quantity); and 2) by affecting the mix of pollutants that can be borne by that runoff and carried to downstream waters of the U.S (quality). The goal of storm water management in the Hood River Westside Concept study area will be to proactively incorporate features into the planning that will meet long-term goals of the City of Hood River. These goals include meeting the requirements of the Clean Water Act, as laid out in MS4 permits; the permit addresses requirements to manage storm water quality. Another goal is to reduce stream channel erosion caused by increased storm water runoff.

There are three elements to a successful approach to complying with these goals:

- I. **Avoidance**—preserve direct connection to soils by preserving pervious areas, and enhance vegetative interception of rain and soil uptake (e.g., minimize impervious area and maximize protection and retention of natural areas)

2. **Infiltration**—direct flow from new impervious areas to areas where storm water can infiltrate into the ground(e.g., local infiltration systems)
3. **Detention**—capture a portion or all of the runoff that doesn't infiltrate and reduce the flow rate or volume that is still discharged to the downstream channel or sewer system.

To varying degrees, each of these approaches assist with meeting both quantity and quality goals. To implement these three approaches at the site and neighborhood development level, we have found that the application of Low Impact Development Approach (LIDA) methodologies reduce peak runoff rates and improve storm water quality.

The five objectives of LIDA are to:

1. Conserve Existing Resources
2. Minimize Disturbance
3. Minimize Soil Compaction
4. Minimize Imperviousness
5. Direct Runoff from Impervious Areas onto Pervious Areas

Common Best Management Practices (BMPs) with guidance for their selection are included in Table 9.

The application of infiltration methodologies to reduce peak runoff rates and improve storm water quality may be limited in the study area, due to the slopes and soil types. Although site specific assessments should be performed prior to development, this finding sets the general approach for addressing the future needs of the study area as it develops. While infiltration should be examined at the site level, for planning purposes the principal broad-scale tool in the Hood River Westside development will likely be local storm water detention of small storms with the aim of matching pre-development flow patterns.v

Examples of LIDA BMPs

LIDA Swale



Vegetated Filter Strip



Extended Dry Basin



Table 9. LIDA Selection for Site Conditions

	Green Roof	Porous Pavement	Flow-through Planter	Infiltration Planter/ Rain Garden	Vegetated Filter Strip	LIDA Swale
Reduce imperviousness	✓	✓				
Infiltrate		✓		✓	✓	✓
Detention/ flow control		✓		✓		
Provide Habitat			✓	✓	✓	✓
Near Vegetated Corridor			✓	✓	✓	✓
Private property	✓	✓	✓	✓	✓	✓
Private street		✓	✓	✓	✓	✓
Public Street/ROW*			✓		✓	✓
On or next to building	✓		✓			
Parking lot		✓	✓	✓	✓	✓
Landscaped area			✓	✓	✓	✓
Steep slope	✓		✓			
Soils with low infiltration rate	✓	✓	✓		✓	✓
High GW table	✓		✓		✓	✓
Contaminated soils	✓		✓			

* Check with local jurisdiction about use in ROW

Source: Clean Water Services, *Low Impact Development Approaches Handbook*, July 2009.

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NEIGHBORHOODS AND DISTRICTS

Principles



One of the land use objectives for the Westside Area Concept Plan is to:

Apply smart growth development strategies including: (1) efficient use of land resources; (2) full utilization of urban services; (3) mixed use; (4) transportation options; and, (5) detailed, human scaled design. (*Hood River Westside Area Concept Plan scope of work, page 19.*)



Creating walkable neighborhoods and walkable commercial/mixed use districts is an essential planning strategy to achieve the smart growth objectives listed above. If a residential or commercial area provides for safe, comfortable, and convenient walking, it has the foundation for a high level of livability, economic success, and active and healthy lifestyles. Good motor vehicle circulation and parking are of course also important and should be planned in concert with providing for the pedestrian. It is a question of priorities and balancing, not one choice over the other.

Characteristics



Size - The starting point for creating walkable neighborhoods and districts is the size of the area being planned. A quarter-mile walking distance (from origin to destination) is generally accepted as very walkable area because most people can traverse this distance in a comfortable 5-10 minute walk. For local reference, the distance from 2nd Street to 7th Street in downtown Hood River is approximately one-quarter mile. Within the Project Area, the distance between 30th Street and Rand Road along May Street is approximately one-quarter mile.

Landform - The shape of land is also important. Conceptual neighborhoods and transportation connections should be shaped by the forms and features of the land – for example, a terraced slope, existing vegetation and significant trees, wetland or stream corridors, and even existing agricultural uses can inform and define neighborhoods and connections. The quarter-mile dimension discussed above is important, but site-specific constraints such as steep slopes should also be considered when planning for walkability.

Connections – East-west and north-south routes through the Project Area should be clear, connected, and serve all modes of transportation, including walking, biking, transit, and cars. Within each neighborhood or district, a hierarchy of street types, including pathways and trails for pedestrians and bikes, will help to knit the neighborhoods and districts into a larger community.

Sense of Place - Each neighborhood should be characterized by a sense of place. This could be associated with significant views, land uses, natural features, or other conditions that create a geographic identity.

Neighborhoods and Districts

Figure 18 shows a first draft of how residential and mixed-use neighborhoods as well as commercial districts might be created for the Westside Area. Using the principles and characteristics described above, the team has identified:

- Two districts - Cascade Avenue and Country Club Road; and
- Three neighborhoods - Middle Terrace, West, and Upper Terrace

Each of the areas respond to: size opportunities (one-quarter mile or less from center to edge); land form (the terraces and associated tree canopy with the bluffs); and connections (better in some areas than others). The edges of these areas are conceptual and should be thought of as transition areas rather than hard and fast boundaries.

Each neighborhood and district for the Westside Area has opportunities for a unique sense of place. Examples are listed below, but these are only preliminary concepts. The community will be engaged in a discussion of the sense of place for each neighborhood and district. The initial ideas are:

West Cascade Avenue District

- West Gateway to Hood River
- Opportunity for a new mixed use district, with shopping, multi-family residential, and services

Country Club Road District

- Larger site commercial and light industrial uses

Middle Terrace Neighborhood

- Views of Mt. Adams and Gorge
- Highly walkable neighborhood, anchored by a future school, with great trails, and a mix of housing types

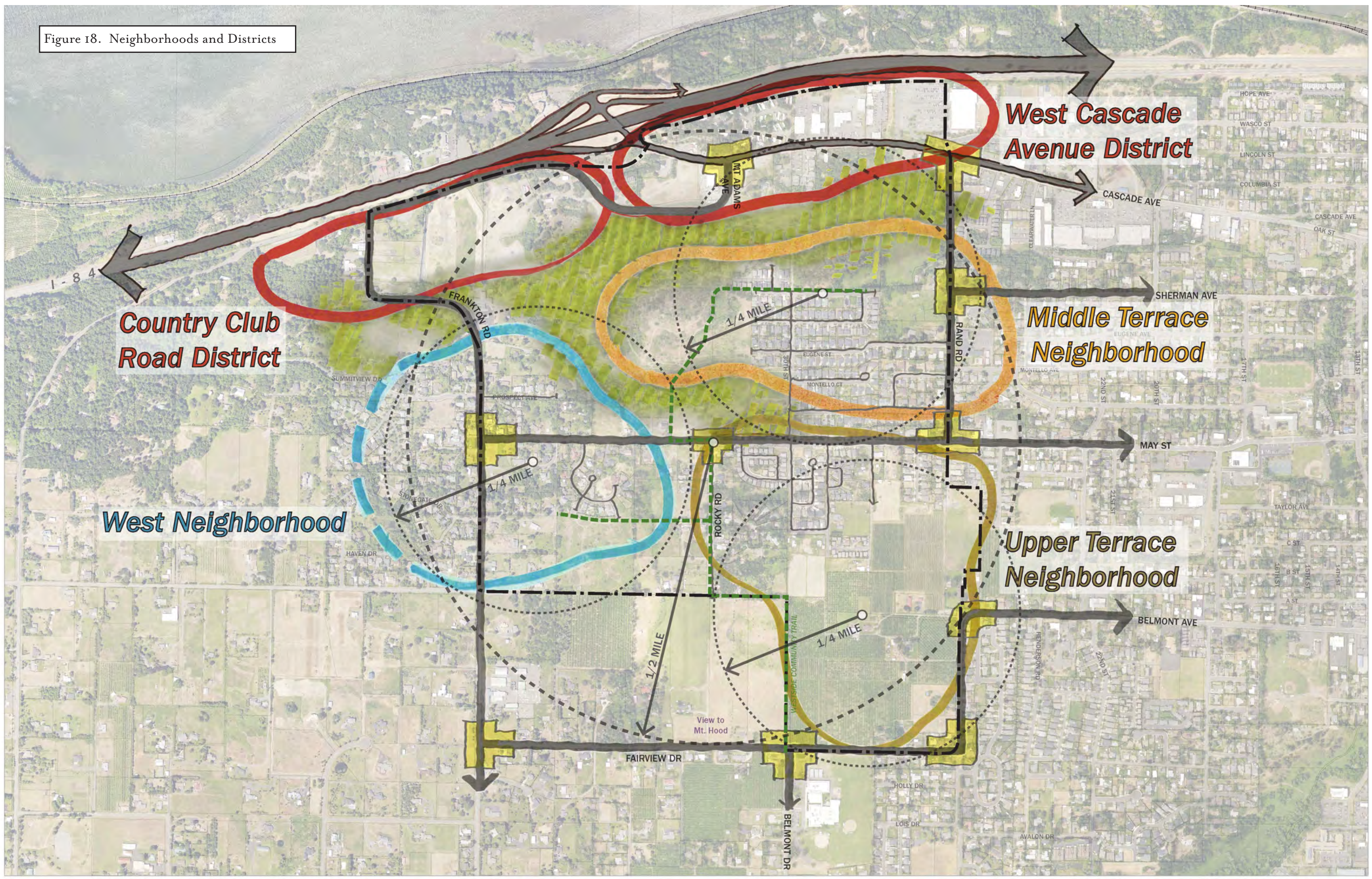
Upper Terrace Neighborhood

- Mountain and Gorge views
- New walkable neighborhoods, with a mix of housing types
- A sense of Hood River's agricultural heritage

West Neighborhood

- Western edge of the City
- Transition to the rural area

Figure 18. Neighborhoods and Districts



NEIGHBORHOODS AND DISTRICTS

HOOD RIVER WESTSIDE AREA CONCEPT PLAN

- STUDY AREA BOUNDARY
- KEY INTERSECTION
- TRAIL



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HOOD RIVER
WESTSIDE
AREA
Concept Plan

December 19, 2016