

# Hood River Westside Area Concept Plan

## Project Advisory Committee



**Date:** August 16, 2017

**Time:** 6:00 to 9:00 PM

## Hood River Fire Station

Training Room  
1785 Meyer Parkway

# 5:00 – 6:00 Informal Open House

*Committee members and the public are welcome to attend an informal Open House prior to the PAC meeting. Project team members will be available to discuss current working drawings and recommendations.*

## Committee Meeting Agenda

6:00 p.m.	<p><b>Welcome</b></p> <ul style="list-style-type: none"> <li>Welcome and self-introductions</li> <li>Agenda overview and where we are in the process</li> </ul>	<p>Kevin Liburdy, City of Hood River</p> <p>Joe Dills, Angelo Planning Group</p>
6:05 p.m.	<p><b>Revised Land Use Framework</b></p> <p><i>This agenda item will review revisions to the Draft Concept Plan's Land Use Framework, made in response to the transect and other ideas discussed in June. See memo in the packet. As additional background and responsiveness to comments received, the team has also prepared the attached a memo titled "How Hood River's Housing Needs Analysis and Strategies Have Been Used in the Draft Concept Plan".</i></p> <ul style="list-style-type: none"> <li>Presentation</li> <li>Discussion and Committee feedback</li> <li><i>Note: See last agenda item for further discussion of the Land Use Framework later in the meeting.</i></li> </ul>	<p>Project Team</p>
6:40 p.m.	<p><b>Public Comment</b></p>	

For additional information, visit the project website at [www.hrwestsideplan.com](http://www.hrwestsideplan.com) or contact Kevin Liburdy, City of Hood River, via [Kevin@hrwestsideplan.com](mailto:Kevin@hrwestsideplan.com) or 541.387.5224. All public meeting locations are handicapped-accessible. Please let the City Recorder know if you will need any special accommodations to attend the meeting. Call (541) 387-5217 for more information. OREGON RELAY SERVICE 1-800-735-2900.

- 7:05 p.m.      **Updated Transportation Analysis**  
*The transportation analysis has been updated to align with the revised Land Use Framework, incorporate updated assumptions about long term growth and transit in Hood River, and address Exit 62. See memo in the packet.*
- Presentation
  - Discussion and Committee feedback
- John Bosket, DKS Associates

- 7:40 p.m.      **Implementation – Infrastructure Funding Plan**  
*This agenda item will be a discussion of the revenues, costs, issues and strategies for funding infrastructure in the Westside Area. See memo in the packet.*
- Presentation
  - Discussion and Committee feedback
- Lorelei Juntunen, ECONorthwest

- 8:20 p.m.      **Check-in on Land Use Framework**  
*This agenda item is a check-in with the Committee on member’s support and comments on the Land Use Framework.*
- Discussion questions:** *In the context of the working package of recommendations (land use, streets, pedestrian and bicycle network, open space, draft plan policies, code concepts, infrastructure funding)...*
- *Do you support the Land Use Framework as a working draft to forward to the Planning Commission to begin their work sessions?*
  - *What issues or options should be considered as the plan is finalized?*

- 8:40 p.m.      **Public Comment**

- 9:00 p.m.      **Next Steps and Adjourn**

*Note to Committee members – Working drafts of the following will be posted to the web site:*

- Draft street cross-sections
- Draft code amendments

Please see [www.hrwestsideplan.com/project-documents](http://www.hrwestsideplan.com/project-documents)

Due to limited time on the agenda, these materials are being made available for email review and comment after the meeting. Please provide comments to Kevin Liburdy ([Kevin@ci.hood-river.or.us](mailto:Kevin@ci.hood-river.or.us)) by August 25, 2017.

For additional information, visit the project website at [www.hrwestsideplan.com](http://www.hrwestsideplan.com) or contact Kevin Liburdy, City of Hood River, via [info@hrwestsideplan.com](mailto:info@hrwestsideplan.com) .

# Memorandum



8/9/2017

**To:** Project Advisory Committee and Technical Advisory Committee  
**Cc:** Project Team  
**From:** Joe Dills and Andrew Parish, Angelo Planning Group  
**Re:** Revised Land Use Framework – August 7, 2017

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## INTRODUCTION

The purpose of this memo is to describe the updated land use plan for the Concept Plan, called the Revised Land Use Framework – August, 7 2017. This framework is the result of discussions with the Project Advisory Committee and Technical Advisory Committee in June 2017, and subsequent follow up with the Project Management Team in July.

## SUMMARY OF DISCUSSION

The project team brought several ideas for refinement of the Land Use Framework to the June TAC and PAC meetings. To summarize, the team suggested:

- Reaffirming the project’s vision statement to increase the amount and mix of housing in the Westside Area as a foundational principle of the project.
- Using the concept of the “Urban-Rural Transect” as an organizing principle for refining the land use plan, in combination with the planning and design strategies crafted to date.
- Making one or more adjustments to the land use designations proposed for the Westside Area in order meet the Vision Statement while responding to concerns heard to date.

The project team received feedback on these issues both in the June meetings and through written comments after the meeting.<sup>1</sup> Major themes of the comments received included:

- General support for retaining the existing lower-density land use designations in the western portions of the study area south of May street, as this will make an appropriate transition to even lower-density rural land.
- Desire to keep all or most of the R-3 land in the plan that has been shown to date.

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<sup>1</sup> Please see the meeting summary for June 28, 2017 for a comprehensive summary of comments received at that meeting, available at [www.hrwestsideplan.com/project-documents/](http://www.hrwestsideplan.com/project-documents/)

- Desire to apply zoning changes only on vacant or partially vacant land that is expected to provide new development capacity, and avoiding changes to existing neighborhoods.

With these key concepts in mind, the project team has revised the Land Use Framework. This plan is shown in Figure 1, and the estimated housing capacity is detailed in Table 1. Committee members and other have asked questions and offered comments about how the Land Use Framework relates to the Hood River Housing Needs Analysis and Housing Strategy. For additional information on this topic, please see the memo titled “How Hood River’s Housing Needs Analysis and Strategies Have Been Used in the Draft Concept Plan” in the August 16<sup>th</sup> packet.

Figure 1. Revised Land Use Framework – August 7, 2017

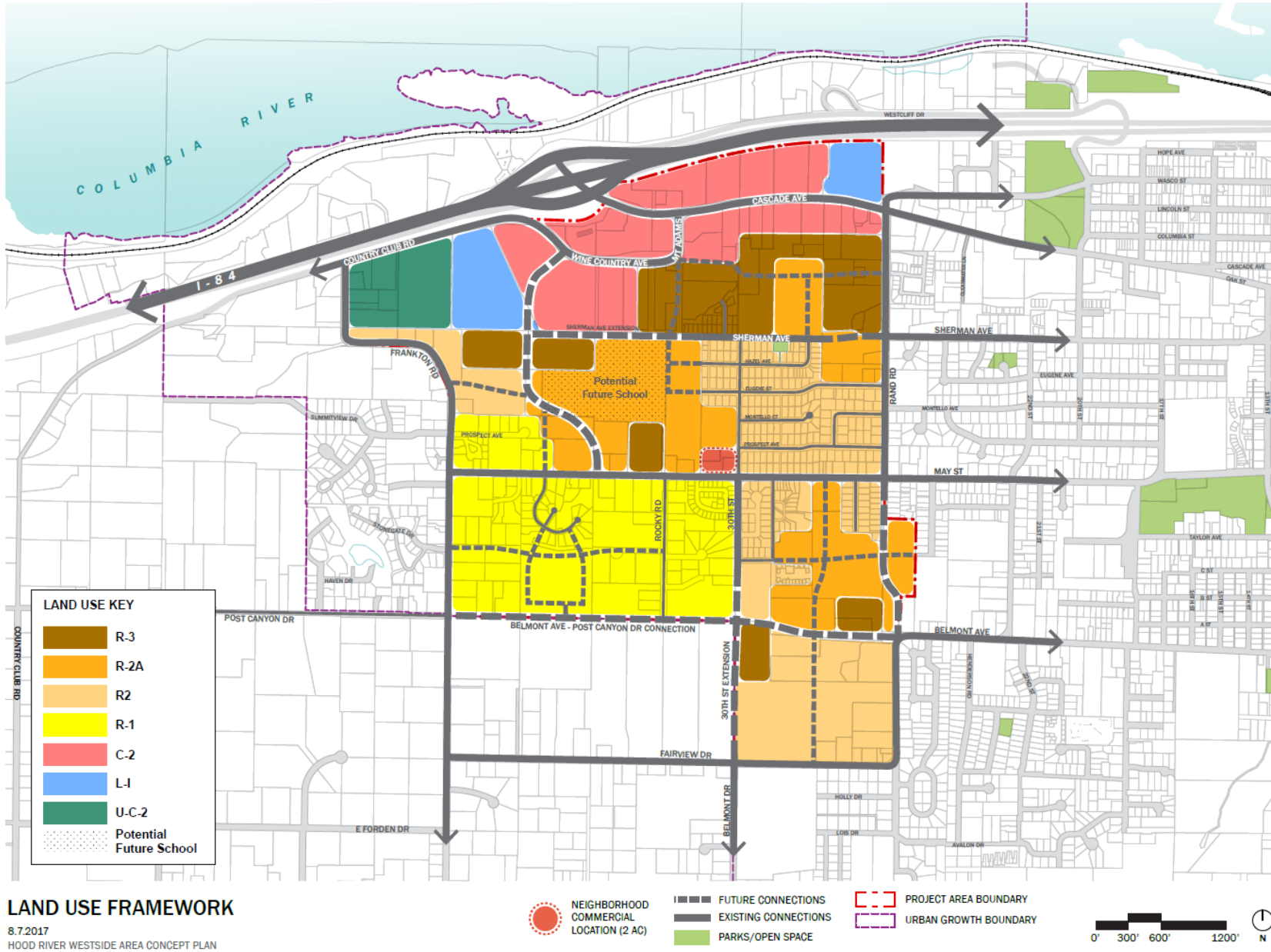


Table 1. Housing metrics of the Revised Land Use Framework – August 7, 2017.

Land Use Designation	Gross Density	Developable Acres	Total Units (Including approved developments)	Housing Mix and Types*		
				SFD	SFA	MF
R1	5.3	41.8	206	206	0	0
R2	7.7	37.0	288	158	75	55
R2A	8.4	51.05	429	227	116	86
R3	20.3	38.93	790	0	158	632
<b>TOTAL</b>	-	168.78	1,713	591	349	773
				<b>35%</b>	<b>20%</b>	<b>45%</b>

\* SFD – Single Family Detached; SFA – Single Family Attached; MF - Multifamily

For reference, the previous land use diagram is included at the end of this memorandum. Changes that led to this iteration include:

- A. Retention of existing R-1 zone south of May Street and in the western portion of the Study Area
- B. Retention of existing R-2 zone south of the Belmont Ave extension in the Upper Terrace neighborhood
- C. Removing one area of R-3 in the western portion of the study area.
- D. No change to zoning designations in areas that are already subdivided (R-2 zoned areas in East of the study area, and R-1 zoned areas in West).

These revisions to the land use plan aim to implement the vision statement for the Westside Area Concept Plan while addressing concerns expressed by committee members and the community during the last round of meetings.

The map and table for the previous iteration of the land use plan are also included for comparison.

Figure 3. Draft Preferred Alternative from 4.18.2017 (Provided for comparison)

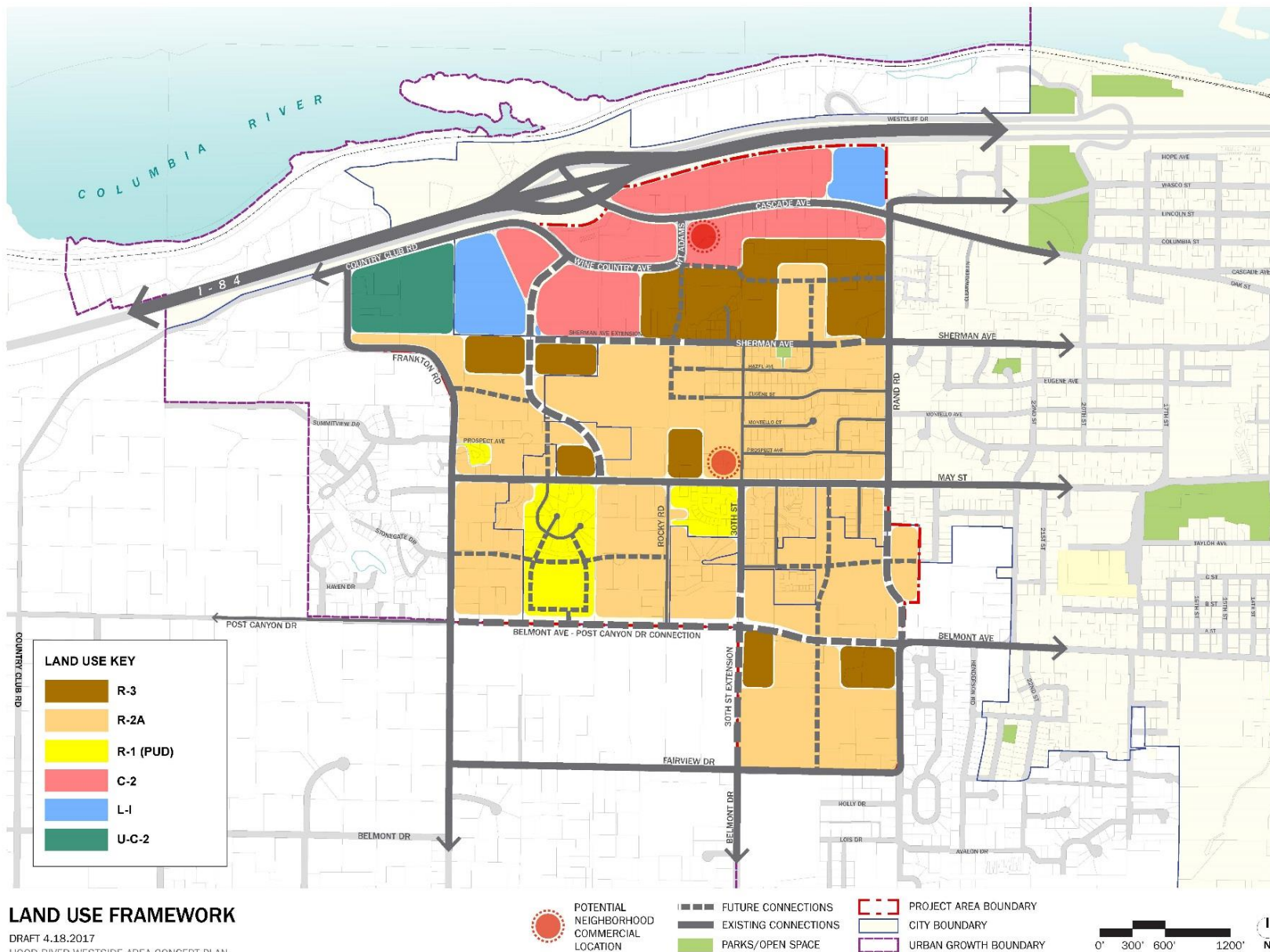


Table 2. Housing Units of the Draft Preferred Alternative from 4.18.2017 **(Provided for comparison)**

	R-1	R-2A	R-3	Total	
<b>SFD</b>	31	531	8	570	31%
<b>SFA</b>	0	271	160	431	24%
<b>MF</b>	0	200	630	830	45%
<b>Total</b>	31	1002	798	1831	100%



# Memorandum



8/9/2017

**To:** Hood River Westside Area Concept Plan Advisory Committees

**Cc:** Project Management Team

**From:** Joe Dills and Andrew Parish, Angelo Planning Group

**Re:** How Hood River's Housing Needs Analysis and Strategies Have Been Used in the Draft Concept Plan

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## INTRODUCTION

The purpose of this memorandum is to describe how previous work adopted by the City of Hood River on the topics of buildable lands and housing needs have been used in the Westside Area Concept Plan. This memorandum describes key planning concepts and assumptions in the Westside Area Concept Plan that were direct and indirect outcomes of previously-adopted work.

## HOUSING NEEDS ANALYSIS

City of Hood River Housing Needs Analysis (HNA), adopted September 2015, is made up of these documents:

- "Housing Needs Analysis" summary document;
- "Housing Needs Analysis 2015 to 2035" technical report, which includes a Buildable Lands Inventory and provides a methodology to meet specific statewide regulations; and
- "Hood River Housing Strategy," which makes recommendations for how to meet the City's identified housing needs.

The City adopted the Housing Needs Analysis summary report and comprehensive plan policies as part of Goal 10 of the Hood River Comprehensive Plan.

### Overall Findings

The Housing Needs Analysis documents examine trends in population, housing inventory, and buildable land of Hood River, and find that the City has just enough land to accommodate projected residential growth over the 20 year planning period (2015 through 2035).

The report notes several key caveats to its land and housing capacity findings:

- Hood River has limited opportunities for future expansion of the UGB<sup>1</sup>,
- The City has a very limited supply of residential land for multifamily development. The HNA recommends that the City consider rezoning single-family land (in R-1 and R-2 designations) for multifamily uses. In the absence of adding multifamily land as part of the HNA adoption, the report

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<sup>1</sup> The city is surrounded by the Columbia River Gorge National Scenic Area and by farmland. Expansion into either of these areas will be extremely complicated and difficult.

assumed that about 42% of new multifamily development would be accommodated on commercial (C-2) land.<sup>2</sup>

- There is an existing deficit of affordable housing in Hood River, both for low-income and workforce affordable housing. As noted on Page 49: “the median home value was 6.4 times median income in 2013, up from 4.5 in 2000. More than a third of Hood River households are unable to afford the fair market rent (\$845) on a two-bedroom rental in Hood River. In addition, half of the workers at businesses in Hood River live outside of the city or in nearby communities.”
- Much of the buildable residentially-designated land in the Urban Growth Area is in agricultural use (about 20 percent according to Table 2 of the HNA), and the timing of development of these properties (subject to the desires of individual property owners and other market factors) may impact the availability of residential units for the City.

The findings of the HNA, including the factors described above, inform the strategies and recommended actions of the Hood River Housing Strategy.

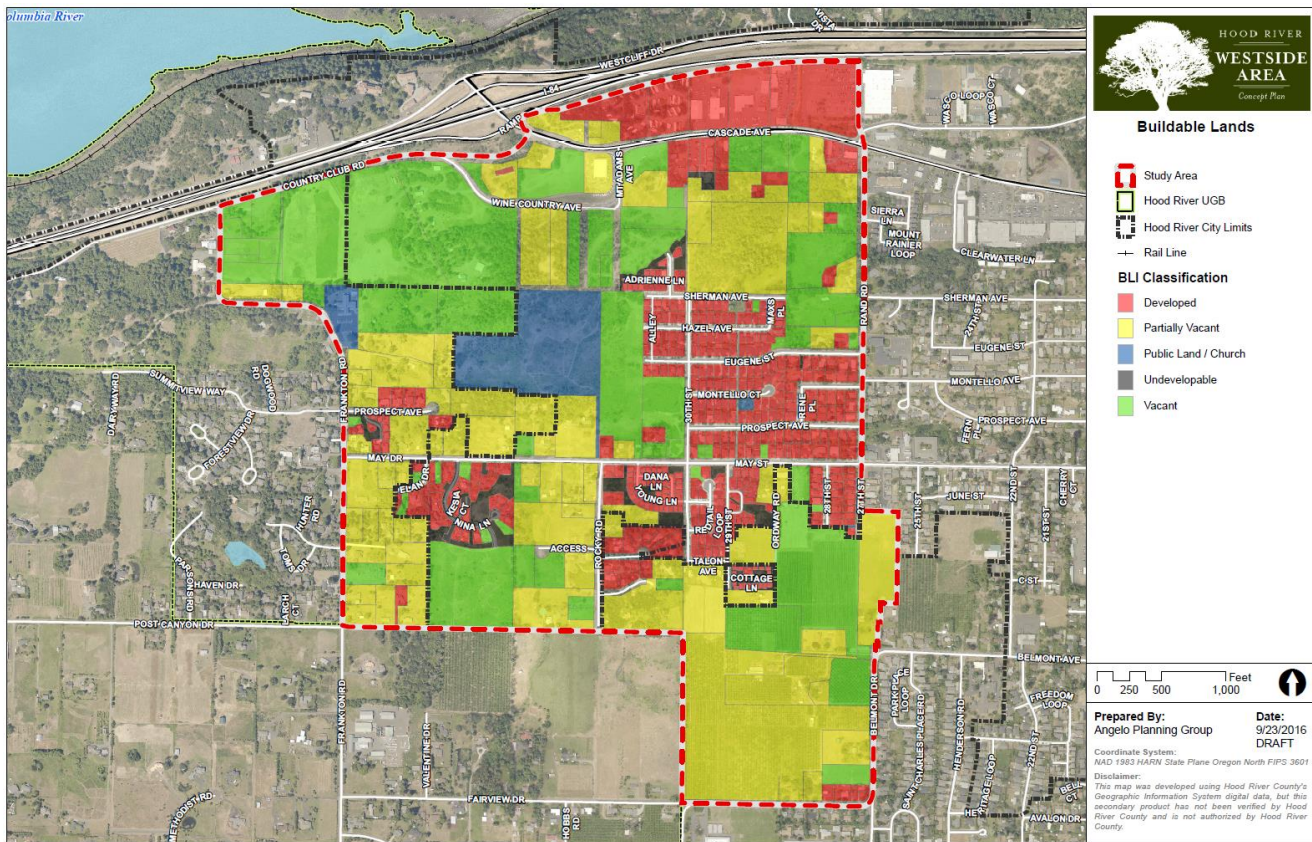
### Buildable Lands

The Hood River Residential Buildable Lands Inventory is a component of the Housing Needs Analysis that focuses on what land is available for residential uses. The inventory classifies land as either “vacant,” “partially vacant,” or “developed.” One notable finding that requires clarification is that “More than half of the capacity in residential Plan Designations is from partially vacant land. [The HNA assumes] that, over the 20-year period, much of the partially vacant land will infill and develop at urban densities.” (page 42). In the HNA, “Partially Vacant” refers to land that has an existing use but still has capacity to accommodate additional residential development. In the Westside Area, much of the land falls into this category because there are parcels with a single home on many acres. Partially vacant lands are assumed to eventually subdivide and develop in accordance with their Plan designation (See Figure 1 below which is based on the 2015 Buildable Lands Inventory.)

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<sup>2</sup> Table 5 of the HNA describes the allocation of needed housing by type and zoning designation through 2035. A total of 694 multifamily dwelling units are expected to be developed in the R-2, U-R-2, R-3 and C-2 zone. Of this number, 297 units, or 42 percent of the citywide need, is accommodated within the General Commercial (C-2) zone. The HNA cites the EOA, which identified a surplus of C-2 land beyond the land needed to accommodate growth over the 20-year period, though the EOA also shows a deficit of C-1 office land. Since adoption of the HNA, the City has approved or is reviewing a combined total of about 50 housing units in C-2 lands, located outside the Westside Area.

Figure 1 - Westside Area Buildable Lands



## HOUSING IN THE WESTSIDE AREA CONCEPT PLAN

### Westside Area Concept Plan: Draft Land Use Program

Housing supply and mix was first addressed in the Westside Area Planning in the January 12, 2017 "Draft Land Use Program" from ECONorthwest, who also prepared the City's Housing Needs Analysis. The central questions of that memorandum are: (1) what mix of uses is appropriate in the Westside Area, given existing development and zoning patterns, potential changes to city policy and zoning, and housing and employment land needs across the city; and (2) How can changes to the land use designations help address the City's need to provide more workforce and affordable housing? The land use program explains how the draft programs attempt to implement key concepts from prior efforts:

The Westside Area Concept Plan offers an opportunity to evaluate the following policy changes in the Westside Area:

- Identify land to rezone to allow additional multifamily development.
- Consider allowing a wider range of housing types.
- Evaluate reducing minimum lot sizes in the R-1 and R-2 zones.
- Identify publicly-owned properties that could be used for affordable housing.<sup>3</sup>

<sup>3</sup> See ECONorthwest memorandum - "Hood River Westside Area Concept Plan: Draft Land Use Program." January 12, 2017.

To implement these strategies, the Land Use Program memorandum provided a base scenario and two initial alternatives to begin to prepare the concept plan: the Base Case, which examines the effect of making no changes to current zoning designations or code in the Westside Area; the "Moderate increase in workforce and affordable housing" alternative, and the "Strong increase in workforce and affordable housing" alternative. These alternatives identified the range of land uses by type, density, and mix of residential development; capacity for a range of housing types; potential development of parks; opportunities for mixed use development; commercial land needed to provide services to households in the Westside Area; and commercial and industrial development.

The Technical Advisory Committee and Project Advisory Committee reviewed these alternatives, and they were the subject of an in-person and on-line open house. Subsequent refinement of these alternatives located the recommended land uses on particular parcels within the Westside Area to combine the land use program with frameworks for streets, bicycle and pedestrian paths, parks and open space, and water, stormwater, and sewer infrastructure.

### Implementing the Hood River Housing Strategy

The Hood River Housing Strategy reiterates the major findings of the HNA and provides policy recommendations. Table 1 below lists the actions identified in the Hood River Housing Strategy and their applicability to the Westside Area Concept Plan. For potential code changes noted below, it is recognized that the City will evaluate whether changes should be uniquely applied in the Westside Area, or applied citywide. The Westside project’s draft code recommendations will be a toolbox to work from.

Table 1: Implementing the Housing Strategy

Strategy 1: Increase the efficiency of use of land within the Hood River UGB	
<p><b>Action 1.1:</b> Identify land to rezone to allow additional moderate-and high-density single family detached and multifamily development. Specifically:  <i>"The City should focus on land that is vacant, along transportation corridors, in areas with current or planned water and wastewater service, and in a location that will not disrupt existing neighborhoods."</i></p>	<p>The Westside Area Concept Plan implements this action by re-designating roughly 30 acres of R-1/R-2 land to R-3. The proposed R-3 lands are:</p> <ul style="list-style-type: none"> <li>• On parcels that are mostly or entirely vacant vacant acreage</li> <li>• Distributed among each of the three planned neighborhoods of the Westside, so multi-family is not concentrated in one area</li> <li>• Located on collector and arterial streets</li> <li>• Within walking distance of Westside Elementary and the proposed future school in the Middle Terrace neighborhood</li> <li>• Along or within ¼ mile of future transit service</li> <li>• Primarily in undeveloped area so that transitions to adjacent uses and neighborhoods can be designed</li> <li>• All readily served by planned water and sewer services</li> </ul> <p>The Plan also includes selected areas where existing R-2 lands would be revised to a new “R-2A” designation. With code changes, these lands will be available for a range of housing types, including clustered development, duplexes, and</p>

	townhomes.
<b>Action 1.2:</b> Allow townhouses as a permitted use in R-2 and R-3	Allowed, subject to standards.
<b>Action 1.3:</b> Reduce the lot size in the R-1 zone to 5,000 Square Feet	Changes to minimum lot size in R-1 have not been discussed by the Committees. The project team views retention of the existing R-1 minimum lot size as consistent with transect strategy for the Westside.
<b>Action 1.4:</b> Reduce lot size in the R-2 zone  <i>"The City should consider allowing a minimum lot zone of between 4,000 and 2,500 square feet."</i>	The Westside Area Concept Plan evaluated two options to implement Action 1.4, reducing the minimum lot size from today's 5,000 SF to either 4,000 SF or 3,000 SF. To date, the plan has envisioned the creation of a new zone called "R-2A" rather than reducing the minimum lot size for all existing properties zoned R-2. R-2A would have a minimum lot size of 4,000 square feet. R-2's minimum lot size would be retained at the current 5,000 square feet.
<b>Action 1.5:</b> Revise Planned Unit Development (PUD) Ordinance	No changes are proposed for the PUD code. New provisions such as lot size flexibility, cottage clusters, etc. are proposed and would be available to applicants proposing PUDs.
<b>Action 1.6:</b> Develop a cottage code to allow development of denser single-family detached housing	Provisions for cluster subdivisions, cottage court developments, and co-housing are part of the working code amendments.
<b>Action 1.7:</b> Revise Accessory Dwelling Units ordinance	No changes are proposed as part of the Westside project.
<b>Action 1.8:</b> Revise Manufactured Park Standards	No changes are proposed as part of the Westside project.
<b>Strategy 2: Regulate and Manage Secondary and Short Term Rental Housing</b>	
This strategy is being implemented through a separate process	
<b>Strategy 3: Develop Affordable Housing</b>	
<b>Action 3.1:</b> Identify publicly-owned properties that could be used for affordable housing and partner with the Mid-Columbia Housing Authority to develop affordable housing	The Westside Area contains a parcel owned by Hood River County. The Concept Plan explicitly calls out the parcel for the development of affordable housing and provides streets, parks and open space, bicycle and pedestrian access, and other infrastructure to support the site.
<b>Action 3.2:</b> Establish a policy that notifies and allows local governments or qualified nonprofits the right of first refusal on surplus or tax delinquent private properties.	The Westside Area Concept Plan does not address this action.

<b>Action 3.3:</b> Explore or encourage flexibility and variances to parking standards...	The Westside Area Concept Plan will include zoning code changes to encourage "missing middle" and affordable housing products, including suggested revisions to parking standards.
<b>Action 3.4:</b> Consider and encourage use of Tax Increment Financing in the Urban Renewal Areas	The Westside Area is not an urban renewal area, and the Concept Plan does not address this action.
<b>Action 3.5:</b> Work with a nonprofit in development of a community land trust to support development primarily of owner-occupied housing	The Mid-Columbia Housing Authority is represented on the Technical Advisory Committee of this project, and discussions of "land banking" have taken place. A Comprehensive Plan implementation strategy is proposed supporting land banking in the Westside Area.
<b>Action 3.6:</b> Identify sources of funding to support government-subsidized affordable housing development.	The Concept Plan process has included conversations about a wide array of tools to support affordable housing development. These tools are within the proposed Comprehensive Plan implementation strategies
<b>Action 3.7:</b> Develop a tax program...to promote development of affordable and market-rate multifamily housing.	
<b>Action 3.8:</b> Develop a program to defer systems development charges and other fees for affordable housing development.	
<b>Action 3.9:</b> Evaluate the need for and benefit of an affordable housing ordinance.	
<b>Action 3.10:</b> Develop policies to encourage the use of durable, long-lasting building materials and energy efficient designs for development of affordable housing.	The Concept Plan does not address this action.

### Housing Mix in the Revised Land Use Plan (8.7.17) and Citywide

As part of the Westside Area Concept Plan process, the project team evaluated development potential under various plan alternatives based on assumptions for housing density and development types from the Land Use Programs memo and Housing Needs Analysis. Table 2 describes the estimated capacity and housing mix of the Westside Area under the Revised Land Use Plan (8.7.17), which is depicted in Figure 1. Housing capacity estimates are used to ensure adequate public infrastructure will be available to serve new development. However, actual development may be less intense than the infrastructure is planned to accommodate.

Table 3 adds this estimated capacity of the Westside Area to the citywide totals used in the HNA. Note that the citywide count of dwelling units is based on the American Communities Survey (ACS)<sup>4</sup>, which has a margin of

<sup>4</sup> 2009-2013 American Community Survey 5-Year Estimates; B25024

error of roughly 7% for the City of Hood River. Housing mix planning and estimates are not an exact science. Rather, they are planning policy applied to the land that are implemented through a combination of market forces and public and private investments. In this context, the proposed housing mix for the Westside Area would move the City very close to the overall HNA target of 55% single family detached, 10% single family attached, and 35% multifamily units overall. This table also does not take into account any possible future development of other areas of the City outside the Westside.

Figure 1. Map of the Revised Land Use Framework – 8.7.2017

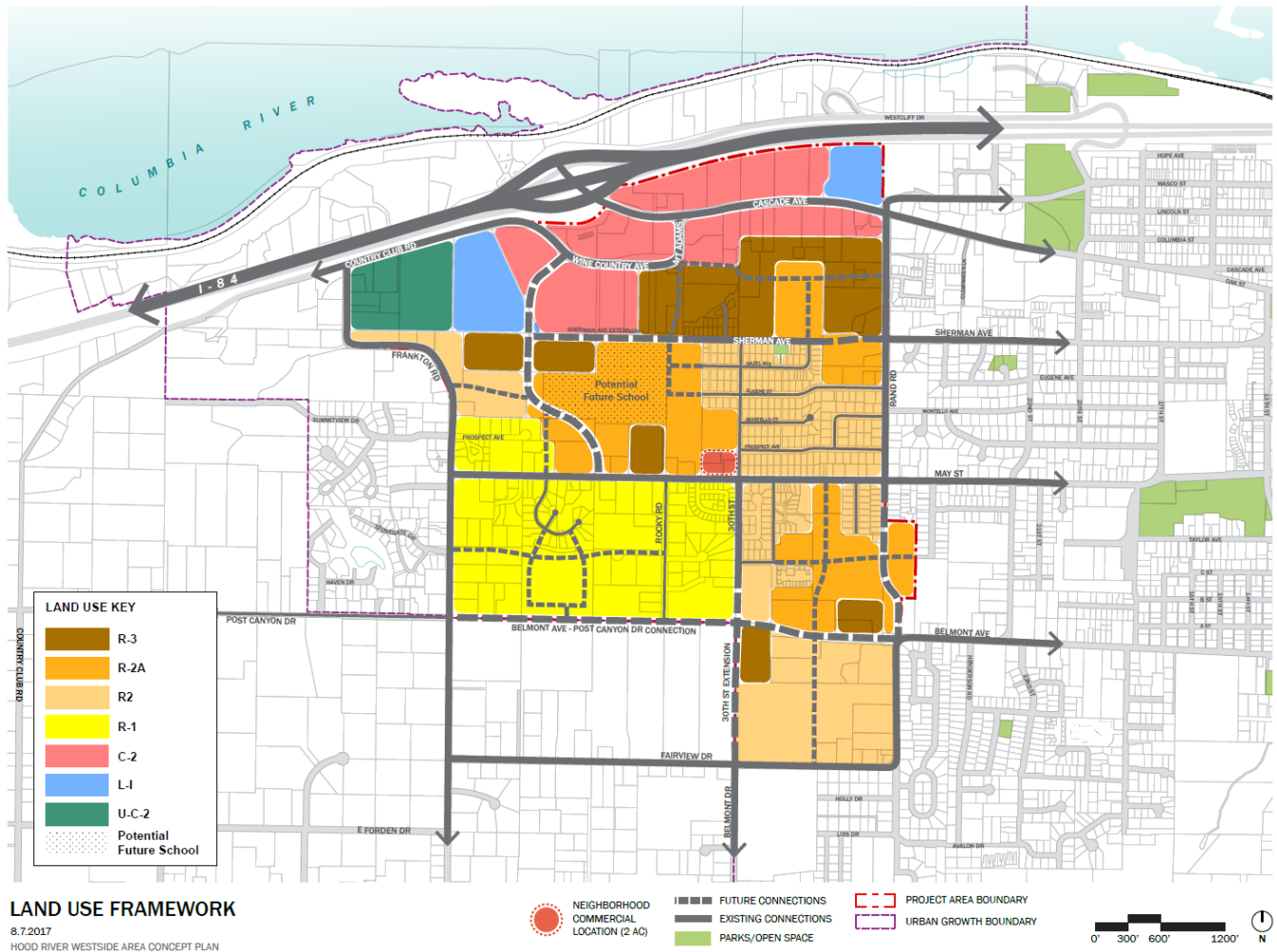


Table 2. Housing mix in the Revised Land Use Framework – 8.7.17.

Zoning Designation	Gross Density	Acres (Minus Assumed Parks)	Total Units (Including approved developments)	Unit Types*		
				SFD	SFA	MF
R1	5.3	41.8	<b>206</b>	206	0	0
R2	7.7	37.0	<b>288</b>	158	75	55
R2A	8.4	51.05	<b>429</b>	227	116	86
R3	20.3	38.93	<b>790</b>	0	158	632
<b>TOTAL</b>	-	<b>168.78</b>	<b>1713</b>	591	349	773
				<b>35%</b>	<b>20%</b>	<b>45%</b>

SFD = Single Family Detached; SFA = Single Family Attached (Townhouse); MF = Multi-family including duplexes, triplexes and apartments.

Table 3. Citywide Housing Mix

Citywide (source: ACS 2009-2013)			
SFD	SFA	MF	TOTAL
2,187	121	1,233	3,541
61.8%	3.4%	34.8%	
Westside Area Plan			
SFD	SFA	MF	TOTAL
593	342	768	1,703
New Citywide			
SFD	SFA	MF	TOTAL
<b>2,780</b>	<b>463</b>	<b>2,001</b>	<b>5,244</b>
<b>53%</b>	<b>9%</b>	<b>38%</b>	





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## TECHNICAL MEMORANDUM 8

DATE: August 9, 2017

TO: Joe Dills and Andrew Parish, Angelo Planning Group

FROM: John Bosket and Jasmine Pahukula

SUBJECT: Hood River Westside Area Concept Plan – Task 6.4 Second Transportation Analysis with Updated Assumptions

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The goal of the Westside Area Concept Plan is to develop an integrated land use and transportation plan for a site of approximately 450 acres located within the City of Hood River and Hood River County. A key outcome will be efficient and orderly land use comprised primarily of residential development. The purpose of this memorandum is to address OAR 660-012-0060 Transportation Planning Rule (TPR) requirements by evaluating the transportation impacts of the proposed plan and identifying any mitigation needed to ensure adequate transportation facilities will be in place to support planned growth.

## INTRODUCTION

### Updated Transportation Analysis and Assumptions

Following the completion of the initial transportation analysis for this project<sup>1</sup>, subsequent meetings with stakeholders led to refinements in the Revised Land Use Framework – July, 2017 for the Westside Area. This created a need to update the transportation analysis, but also provided an opportunity to incorporate new information that became available after the original work plan had been established. This updated transportation analysis includes the following modifications:

- Decreased 2040 population growth estimates. This change was made to align with new population forecasts from Portland State University, which assume an annual population growth rate of 1.4 percent to the year 2035, and 0.9 percent thereafter. The previous assumption was that the population would grow at an average rate of 2.0 percent per

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<sup>1</sup> Hood River Westside Area Concept Plan – Transportation Analysis Memorandum, DKS Associates, May 5, 2017.

year.

- The assumed number of people per household was changed from 2.25 to 2.39 to better align with assumptions made in the City’s 2015 Housing Needs Analysis.
- Reduced trips within the city limits to account for a mode shift from auto to transit. This reduction was based on the assumption that by 2040, the City of Hood River would have established a transit system comparable to what the City of Sandy has today. According to census data, as much as three percent of Sandy area commute trips are currently made by transit.
- A revised land use plan within the Westside study area (i.e., decreased household growth). In this memo, the revised plan is called the Revised Land Use Framework – July, 2017.
- Two additional study intersections were added (2<sup>nd</sup> Street/I-84 Westbound Ramps and 2<sup>nd</sup> Street/I-84 Eastbound Ramps) to assess potential impacts at the I-84 Exit 63 Interchange.

The combined impact of these changes reduced citywide population and household growth assumptions (note: employment growth assumptions were not changed) as shown in Table 1.

**Table 1: Changes in Population and Household Growth Resulting from Updated Analysis Assumptions**

Category	Scenario C - Strong increase in Workforce and Affordable Housing <sup>2</sup>	Revised Land Use Framework – July, 2017	Difference (Revised – Scenario C)
City of Hood River Total Population Estimate	15,583	13,352	-2,231
City of Hood River Total Household Estimate	6,520	5,586	-934
Number of New Households within the Westside Area (2017 to 2040)	2,271	1,703	-568

<sup>2</sup> Hood River Westside Area Concept Plant – Transportation Analysis Memorandum, DKS Associates, May 5, 2017.

## Study Area

The study area is bound by I-84 to the north, Rand Road/27th Street to the east, Belmont Drive and the urban growth boundary (UGB) to the south, and Frankton Road to the west. The following intersections were selected for traffic operations analysis and an evaluation of potential impacts from the proposed land use action.

1. Cascade Avenue/Westcliff Drive.
2. Cascade Avenue/I-84 Westbound Ramps
3. Cascade Avenue//I-84 Eastbound Ramps
4. Cascade Avenue/Mt. Adams Avenue
5. Cascade Avenue//Rand Road
6. Country Club Road/Frankton Road
7. Frankton Road/May Street
8. May Street/30<sup>th</sup> Street
9. Rand Road/27<sup>th</sup> Street/May Street
10. Frankton Road/Post Canyon Road/Belmont Avenue
11. Belmont Avenue/30<sup>th</sup> Street
12. Belmont Avenue/27<sup>th</sup> Street
13. 2<sup>nd</sup> Street/I-84 Westbound Ramps
14. 2<sup>nd</sup> Street/I-84 Eastbound Ramps

The study area and selected study intersections are shown in Figure 1.



Figure 1: Study Area

## Scenarios

This analysis evaluates the following two alternatives during the weekday p.m. peak hour in the year 2040:

- Transportation Base Case – includes land use consistent with the current Comprehensive Plan/Zoning and transportation improvements identified in the adopted City of Hood River Transportation System Plan (TSP) Motor Vehicle Financially Constrained Plan.<sup>3</sup>
- Revised Land Use Framework – July, 2017 – includes land use within the Westside Area Plan boundary which are based on the Draft Preferred Land Use Framework<sup>4</sup> as revised to incorporate many of the transect ideas presented to the Project Advisory Committee on June 28, 2017, and the same transportation improvements assumed for the Transportation Base Case, with some minor changes as described in the Transportation Network Assumptions section.

Land use and transportation network assumptions for each alternative are described in more detail in the following sections.

## Land Use Assumptions

The Transportation Base Case represents the existing Comprehensive Plan/Zoning that applies in the Westside Area. In other words, it does not change existing zoning to provide a baseline for use in comparing the alternatives.

The Transportation Base Case was developed by modifying population and housing growth assumptions previously used for the City's TSP update. This included using Portland State University's recent annual population growth rates of 1.4 percent through 2035, and 0.9 percent from 2035 to 2040, as well as changing the assumed number of people per household from 2.25 to 2.39 to better align with assumptions made in the City's 2015 Housing Needs Analysis<sup>5</sup>. Employment growth assumptions were taken from the City's 2011 Economic Opportunities Analysis<sup>6</sup>.

The Revised Land Use Framework – July, 2017 represents changes to the Comprehensive Plan/Zoning to accommodate an increased amount of workforce and affordable housing choices by increasing housing density and providing a greater mix of housing types within the Westside Area. This scenario changes selected undeveloped residential land within the study area to "R-2A" and R-3 type land uses, which increases the opportunities for small lot, duplex/triplex, townhome, cluster developments, and apartment housing. It retains developed R-2 lands in their current zoning and R-1 lands in the south and western parts of the study area. The current R-2 lands are also retained in the southern part of the study area near Westside Elementary School. Overall, these changes increase opportunities for workforce and affordable housing and create

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<sup>3</sup> City of Hood River Transportation System Plan, 2011.

<sup>4</sup> As reviewed by the Project Advisory Committee on April 26, 2017 and the joint Planning Commission/City Council meeting on May 22, 2017

<sup>5</sup> City of Hood River Housing Needs Analysis, September 2015, ECONorthwest.

<sup>6</sup> Hood River Economic Opportunities Analysis, June 2011, FSC Group.

a transect of land use densities across the study area and within neighborhoods.

The City's transportation model uses a control total for land use that is coordinated with Hood River County and ODOT. The overall housing and employment assumptions within the City of Hood River UGB were held constant between the two alternatives. The only difference was where the growth was assumed to occur. This is a technical modeling assumption and not a land use policy change.

## Transportation Network Assumptions

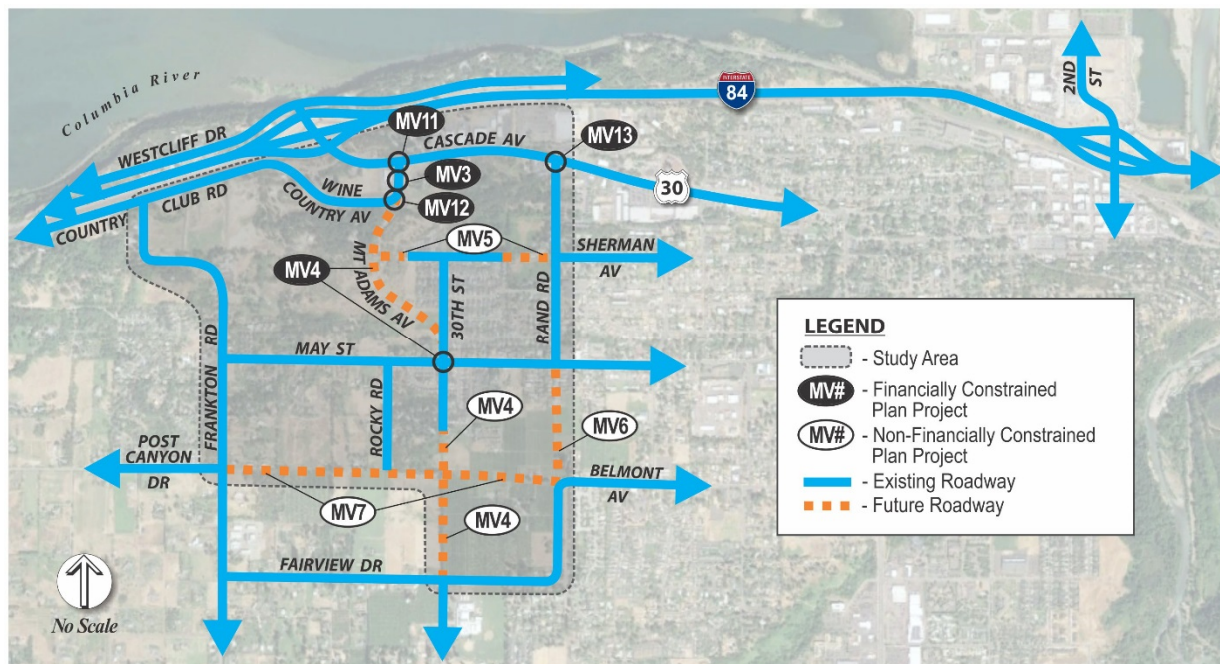
According to the TPR, in determining whether a proposed land use regulation amendment has a "significant effect" on the existing or planned transportation system, the evaluation must rely only on existing transportation facilities and planned facilities that are either funded or for which the state/local agency provides a written statement that the facility is reasonably likely to be funded by the end of the planning period.<sup>7</sup> The projects identified in the Motor Vehicle Financially Constrained Plan of the City's TSP were used to represent assumed transportation network conditions for the Transportation Base Case. The Financially Constrained Plan is a subset of all TSP projects that aligns with anticipated funding. Therefore, it is assumed that these projects are reasonably likely to be funded by 2040. The Motor Vehicle Financially Constrained Plan improvements within the Westside Area Plan boundary are listed below and shown in Figure 2.

Elements of each project that have already been constructed are not mentioned. The project ID numbers (e.g., MV3) are consistent with those used in the City's TSP.

- MV3 – Cascade Avenue/Mt. Adams Avenue:
  - Cascade Avenue at Mt. Adams Avenue: Construct a second northbound left turn lane and install yield control for eastbound right turn lane.
  - Mt. Adams Avenue at Wine Country Avenue: Construct northbound left turn lane, northbound shared through/right turn lane, channelized southbound right turn lane under yield control, southbound through lane, southbound left turn lane, eastbound left turn lane, eastbound shared through/right turn lane, east approach for property access including a westbound left turn lane, and a shared westbound through/right turn lane.
- MV4 – Mt. Adams Avenue (Wine Country Avenue to Fairview Drive): Construct Mt. Adams Avenue as a 3-lane minor arterial and construct a traffic signal at May Street/Mt. Adams Avenue/30<sup>th</sup> Street (30<sup>th</sup> Street north of May Street would be disconnected and cul-de-saced).
- MV11 – Mt. Adams Avenue/Cascade Avenue – Construct a traffic signal.
- MV12 – Mt. Adams Avenue/Wine Country Avenue - Construct a traffic signal.
- MV13 – Rand Road/Cascade Avenue - Construct a traffic signal, eastbound right turn lane and modify the northbound and southbound approach to include a left turn lane and a shared through/right turn lane.

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<sup>7</sup> OAR 660-012-0060(4)



**Figure 2: Transportation Base Case Transportation Network Assumptions**

A select group of street extension projects from the City TSP that are not on the Financially Constrained Plan were included as well. While projects for which no reasonable funding source has been identified would not typically be assumed to be in place for TPR analysis, these streets were included because they would be necessary to access new development as it occurs within the Westside Area Plan boundary. A portion of the cost for each of these new streets would be the responsibility of developers. However, means for funding the remainder of these new streets as the area develops must be identified to satisfy TPR requirements. These projects are also shown in Figure 2 and listed below.

- MV4 – Mt. Adams Avenue (May Street to Fairview Drive): includes improvements south of May Street.<sup>8</sup>
- MV5 – Sherman Avenue (Rand Road to Mt. Adams Avenue) – Extend Sherman Avenue from Rand Road to Mt. Adams Avenue.
- MV6 – Rand Road (May Street to Belmont Avenue) – Extend Rand Road/27<sup>th</sup> Street from the current stub south of May Street to Belmont Avenue.
- MV7 – Belmont Avenue (Rand Road to Frankton Road) – Extend Belmont Avenue to Frankton Road.

<sup>8</sup> Note: The portion of project MV4 from May Street to the north was included in TSP Financially Constrained Plan. Project MV4 is split into two “phases” for budgeting purposes.

The Revised Land Use Framework – July, 2017 has the same network assumptions as the Transportation Base Case with the following exceptions, which are shown in Figure 3:

- A shift in location for Project MV4, the portion of the Mt. Adams Avenue extension between Wine Country Avenue (formally referred to as Country Club Road in the TSP) and May Street is shifted to the west. This western alignment is hereafter referred to as “Alignment D” (project MV4.2 in Figure 3).
- A shift in location for Project MV12, the traffic signal on Mt. Adams Avenue at Wine Country Avenue is moved west to the new intersection of Wine Country Avenue at Alignment D (now project MV12.1)<sup>9</sup>. The Wine Country Avenue/Alignment D intersection includes a westbound through lane, a westbound left turn lane, an eastbound shared through-right lane, a northbound right turn lane, and a northbound left turn lane.
- Sherman Avenue is extended further to the west, all the way to Alignment D. A neighborhood collector street further to the south would provide a connection between Alignment D and Frankton Road.
- A shift in the location for the traffic signal on May Street at 30<sup>th</sup> Street. The signal is moved west to the new intersection with Alignment D (now project MV4.3).

Alignment D and the associated intersection improvements on Wine Country Avenue and May Street are not on the TSP Financially Constrained Plan. However, since they would replace the portion of project MV4 that is on the Financially Constrained Plan, the future funds allocated for those improvements would be transferred to the new Alignment D project.

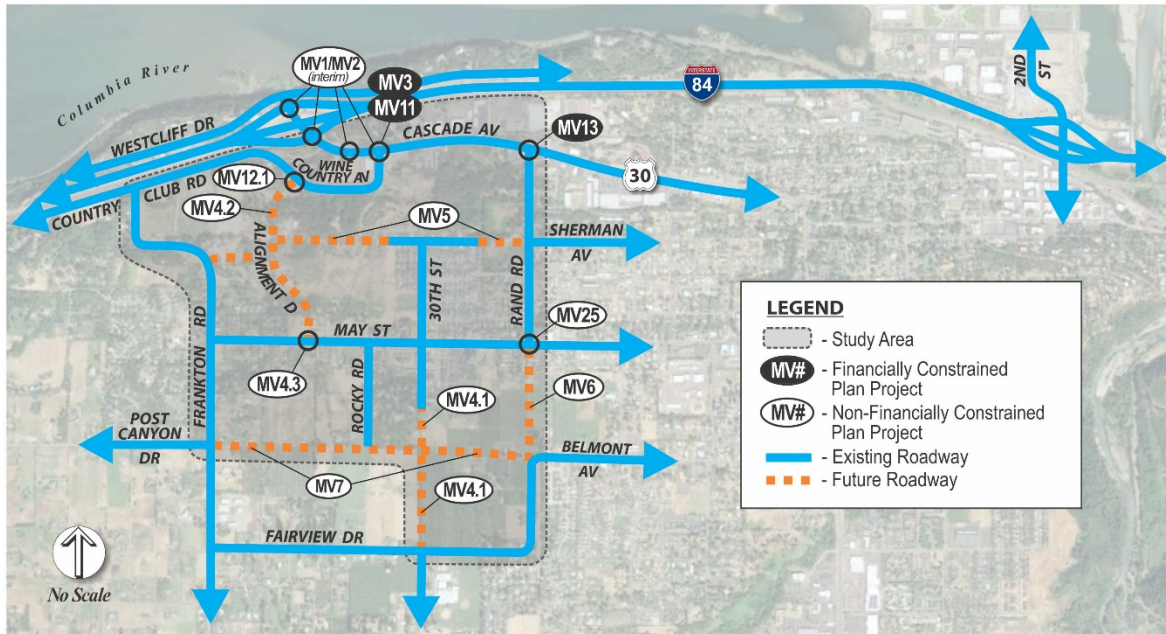
Two alternative alignments of the Mt. Adams Avenue extension, including Alignment D, were proposed (refer to the Alternatives Analysis Report<sup>10</sup>) instead of the alignment identified in the City’s TSP. Under the Revised Land Use Framework – July, 2017, the two alignments would be functionally equivalent from a transportation standpoint if appropriate intersection improvements are included at key locations where the alignments differ.

To move forward with the transportation analysis, the alignment shown in Figure 3 (Alignment D) was assumed to be in place as part of the Revised Land Use Framework – July, 2017. To be clear, this is not a final decision between the two proposed alignments. There are other factors including construction costs, grades, and other utilities that will be used to evaluate the two alignments before a decision is made. At the time of this writing, the project committees have supported the inclusion of Alignment D in the Draft Concept Plan. However, this will not be a final decision until the City adopts the plan.

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<sup>9</sup> The Streets Framework plan identifies two north-south connections between Wine Country Avenue and Sherman Avenue via the Mt. Adams Avenue extension and the 30th Street extension. Assuming these two roadway extensions are intended to provide local/neighborhood access only, it is recommended that both access points are limited to right-in, right-out only at the Wine Country Avenue/Mt. Adams Avenue intersection.

<sup>10</sup> Hood River Westside Area Concept Plan Alternatives Analysis Report DRAFT, January 2017.



**Figure 3: Revised Land Use Framework – July, 2017 Transportation Network Assumptions**



## TRANSPORTATION ANALYSIS

### Future Traffic Volume Development

To determine future year intersection traffic operations, year 2040 motor vehicle traffic volumes were forecasted at the study intersections. These volumes were forecasted by applying each alternative's land use and transportation network assumptions to the Hood River Travel Forecast Tool created for network analysis when the 2011 TSP was developed. In addition, all citywide internal trips (i.e., those beginning and ending within the city) were reduced by three percent to account for a mode shift of some trips from auto to transit. Future volumes at the study intersections are provided in Appendix A.

### Future Traffic Operations

Future intersection operations analysis was performed for the 14 study area intersections to identify potential transportation impacts from the proposed rezones associated with the Revised Land Use Framework – July, 2017. Intersections are the focus of the analysis because they are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity. Included are descriptions of the intersection performance measures, jurisdictional operational standards, and future traffic operational analysis.

#### Intersection Performance Measures

Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a good picture of intersection operations. In addition, they are often incorporated into agency mobility standards.

- Level of service (LOS): A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.
- Volume-to-capacity (v/c) ratio: A decimal representation (typically between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 0.95, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

## Jurisdictional Operating Standards

All study intersections are subject to the adopted operating standards of either the City of Hood River or ODOT. Having all intersections meet those standards is desired, but for TPR compliance they can fail to meet operating standards if the proposed land use action does not make conditions worse than they were otherwise, except for intersections within and adopted Interchange Area Management Plan (IAMP). The Transportation Base Case serves as the baseline benchmark for operational performance for non-IAMP intersections. However, IAMP intersections must meet the operating standards under the proposed land use action. The IAMP intersections are identified in Table 2.

Intersection performance measures used for operating standards vary by roadway jurisdiction. The study intersections under ODOT jurisdiction must comply with the v/c ratio targets in the Oregon Highway Plan (OHP), which specifies a v/c ratio target of 0.95 or less for the study intersections along Cascade Avenue.<sup>11</sup> The OHP specifies a more restrictive v/c target of 0.85 or less for ramp terminals.<sup>12</sup>

The study intersections under City of Hood River jurisdiction must comply with the LOS targets in the City's TSP, which requires a LOS D or better for city-owned streets.<sup>13</sup>

## Intersection Operations

The future traffic operations at the study intersections were determined for the weekday p.m. peak hour based on the Synchro<sup>9</sup> software analysis using 2000 Highway Capacity Manual methodology<sup>14</sup> for signalized intersections and 2010 Highway Capacity Manual methodology<sup>15</sup> for unsignalized intersections. The level of service (LOS) and volume to capacity (v/c) ratio of each study intersection are listed in Table 2. Detailed intersection analysis worksheets are included in Appendix B.

As shown, four study intersections fail to comply with operating standards by 2040 under the Transportation Base Case. These include:

- Cascade Avenue/I-84 Westbound Ramps (unsignalized)
- Cascade Avenue/I-84 Eastbound Ramps (unsignalized)
- Cascade Avenue/Mt. Adams Avenue (signalized)
- Rand Road/27<sup>th</sup> Street/May Street (unsignalized)

Under the Revised Land Use Framework – July, 2017, conditions worsen at the Cascade Avenue/Mt. Adams Avenue and Rand Road/27<sup>th</sup> Street/May Street intersections. Although conditions improve at the Exit 62 (Cascade Avenue/I-84) interchange under the Revised Land Use Framework – July, 2017, the Exit 62 interchange is part of an adopted IAMP. Therefore, those intersections must meet operating standards or mitigation will be required at all four of these intersections to achieve TPR compliance.

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<sup>11</sup> Table 7, Oregon Highway Plan, Oregon Department of Transportation, December 2011. Based on a District Highway, Non-MPO Outside of STAs where non-freeway posted speed <= 35 mph.

<sup>12</sup> Oregon Highway Plan, Oregon Department of Transportation, December 2011, page 76.

<sup>13</sup> City of Hood River Transportation System Plan, October 2011.

<sup>14</sup> *2000 Highway Capacity Manual*, Transportation Research Board, Washington DC, 2000.

<sup>15</sup> *2010 Highway Capacity Manual*, Transportation Research Board, Washington DC, 2010.

**Table 2: Future Study Intersection Operations 2040 Weekday P.M. Peak Hour**

Intersection		Operating Standard	Transportation Base Case			Revised Land Use Framework – July, 2017		
			LOS	Delay (sec)	v/c	LOS	Delay (sec)	v/c
1	Cascade Avenue/Westcliff Drive	0.95 v/c (IAMP)	A/B <sup>1</sup>	12.6 <sup>1</sup>	0.12 <sup>1</sup>	A/B <sup>1</sup>	12.3 <sup>1</sup>	0.10 <sup>1</sup>
2	Cascade Avenue/ I-84 Westbound Ramps	0.85 v/c (IAMP)	A/F	>1000	<b>3.40</b>	A/F	759.2	<b>2.59</b>
3	Cascade Avenue/ I-84 Eastbound Ramps	0.85 v/c (IAMP)	A/F	99.0	<b>1.07</b>	A/F	56.0	<b>0.92</b>
4	Cascade Avenue/Mt. Adams Avenue	0.95 v/c (IAMP)	F	168.7	<b>1.74</b>	F	196.4	<b>1.88</b>
5	Cascade Avenue/Rand Road	0.95 v/c (IAMP)	C	25.2	0.65	C	30.9	0.79
6	Country Club Road/Frankton Road	D	A/B	12.2	0.27	A/B	11.8	0.27
7	Frankton Road/May Street	D	A/C	15.3	0.38	A/C	17.4	0.42
8	May Street/30 <sup>th</sup> Street	D	C	26.5	0.57	A/C	17.5	0.29
9	Rand Road/27 <sup>th</sup> Street/May Street	D	<b>A/F</b>	162.7	1.22	<b>A/F</b>	387.8	1.71
10	Frankton Road/Post Canyon Road/Belmont Avenue	D	A/C	15.6	0.20	A/C	18.9	0.24
11	Belmont Avenue/30 <sup>th</sup> Street	D	A/D	29.1	0.20	A/C	23.4	0.32
12	Belmont Avenue/27 <sup>th</sup> Street	D	A/B	13.9	0.13	A/B	12.3	0.10
13	2 <sup>nd</sup> Street/I-84 Westbound Ramps	0.85 v/c (IAMP)	C	22.3	0.77	C	23.3	0.79
14	2 <sup>nd</sup> Street/I-84 Eastbound Ramps	0.85 v/c (IAMP)	B	18.7	0.82	B	18.9	0.81
-	Alignment D/May Street	D	-	-	-	D	52.5	0.44
<p><b>Bolded Red and Shaded</b> values do not meet operating standards.                      Two-Way Stop Controlled intersections:                      LOS = Level of Service of Major Street/Minor Street (i.e., A/F)                      V/C = Volume-to-Capacity Ratio of Worst Movement</p>								

Delay = Seconds of Delay of Worst Movement  
<sup>1</sup> Due to the atypical traffic control at this intersection, the future operations were determined using 2000 Highway Capacity Manual methodology for unsignalized intersections.

**Why do conditions at the I-84 Exit 62 ramp intersections improve under the Revised Land Use Framework – July, 2017?**

Future traffic volume forecasts for each alternative use a shortest path analysis, where “short” is defined by how much time it takes to arrive at a destination. Therefore, excessive congestion can result in routing changes across the city. In this case, the unimproved Exit 62 interchange operates very poorly under the Transportation Base Case and drivers will experience very long delays. The increased housing density in the Westside Area associated with the Revised Land Use Framework – July, 2017 creates more vehicle trip demand for the Exit 62 interchange area. However, the shift of the Mt. Adams Avenue extension to Alignment D, approximately 900 feet to the west, makes Alignment D less attractive for some trips (because the trips take more time). About half of the diverted trips will choose to enter Hood River from Exit 63 and travel westbound down Cascade Avenue instead of using the Exit 62 interchange. The remaining diverted trips enter the city from the south via OR35 and from the east via State Street and will also choose to travel westbound down Cascade Avenue instead of using the Exit 62 interchange. The net result is fewer trips in the Exit 62 interchange and less delay under the Revised Land Use Framework – July, 2017, though congestion may be increased elsewhere.

Mitigation for the Exit 62 interchange is assumed to include the improvements recommended at this location in the City’s TSP. The Exit 62 improvements in the City’s adopted TSP (MV1) include:

Cascade Avenue/ I-84 Westbound Ramps:

- Construct traffic signal
- Construct northbound left turn lane (full length of the bridge)
- Construct second southbound through lane
- Construct westbound left turn lane
- Construct shared westbound through/left turn lane
- Construct westbound right turn lane

Cascade Avenue/ I-84 Eastbound Ramps:

- Construct traffic signal
- Construct northbound right turn lane (drop lane from Cascade Avenue to I-84 eastbound)
- Construct second southbound through lane
- Construct southbound left turn lane
- Construct eastbound right turn lane



Mitigation for the Cascade Avenue/Mt. Adams Avenue intersection is assumed to include the remainder of the improvements recommended at this location in the City's TSP. These include:

- Construct a westbound left turn lane on Cascade Avenue (part of project MV2)

To accommodate the construction of new turn lanes at the Exit 62 interchange and Cascade Avenue/Mt. Adams Avenue intersection, the additional improvements, also included in the City's adopted TSP (MV2), will be required on Cascade Avenue between the interchange and Mt. Adams Avenue:

- Construct second eastbound lane from I-84 eastbound ramp terminal to Mt. Adams Avenue
- Construct a second westbound lane from Mt. Adams Avenue to I-84 eastbound ramp terminal (ends as right turn lane)

To summarize, the above-listed improvements at and near Exit 62 are included in the City's currently adopted TSP and are necessary to accommodate Hood River's growth under either the Transportation Base Case or Revised Land Use Framework – July, 2017.

The City's TSP does not identify any improvements for the intersection of Rand Road/27th Street/May Street. If a traffic signal were constructed, operating conditions could be improved to a LOS B, which would meet adopted standards (see Table 3). Alternatively, the City could consider constructing a mini-roundabout at this location to fit within available right-of-way at a significantly lower cost. Refer to Appendix C for an example of a mini-roundabout. This project (MV25) is the only new improvement that would be added to City's TSP to accommodate growth under the proposed Revised Land Use Framework – July, 2017.

With these mitigations in place, conditions at the four identified intersections will comply with operational standards under the Transportation Base Case and Revised Land Use Framework – July, 2017 and would meet TPR requirements.

Note: Under the Mitigated Transportation Base Case, conditions worsen at Belmont Avenue/30<sup>th</sup> Street. However, under the Mitigated Revised Land Use Framework – July, 2017, conditions at Belmont Avenue/30<sup>th</sup> Street will comply with operations standards and would meet TPR requirements.


**Table 3: Future Study Intersection Operations 2040 Weekday P.M. Peak Hour - Mitigated**

Intersection	Operating Standard	Transportation Base Case			Revised Land Use Framework – July, 2017		
		LOS	Delay (sec)	v/c	LOS	Delay (sec)	v/c
1 Cascade Avenue/Westcliff Drive	0.95 v/c	B	14.8	0.11	B	18.2	0.11
2 Cascade Avenue/ I-84 Westbound Ramps	0.85 v/c	C	27.6	0.73	C	27.0	0.67
3 Cascade Avenue/ I-84 Eastbound Ramps	0.85 v/c	C	26.0	0.65	C	22.9	0.66
4 Cascade Avenue/Mt. Adams Avenue	0.95 v/c	B	16.7	0.87	B	19.1	0.83
5 Cascade Avenue/Rand Road	0.95 v/c	C	23.1	0.72	C	28.1	0.85
6 Country Club Road/Frankton Road	D	A/B	12.7	0.31	A/B	11.8	0.26
7 Frankton Road/May Street	D	A/B	14.7	0.31	A/C	16.3	0.39
8 May Street/30 <sup>th</sup> Street	D	C	20.6	0.51	A/B	14.1	0.22
9 Rand Road/27 <sup>th</sup> Street/May Street	D	B	10.9	0.59	B	19.1	0.77
10 Frankton Road/Post Canyon Road/Belmont Avenue	D	A/C	17.4	0.23	A/C	18.2	0.23
11 Belmont Avenue/30 <sup>th</sup> Street	D	<b>A/E</b>	43.9	0.35	A/C	23.6	0.32
12 Belmont Avenue/27 <sup>th</sup> Street	D	A/B	15.5	0.14	A/B	15.8	0.21
13 2 <sup>nd</sup> Street & I-84 Westbound Ramps	0.85 v/c	C	20.3	0.73	C	22.2	0.77
14 2 <sup>nd</sup> Street & I-84 Eastbound Ramps	0.85 v/c	B	18.5	0.80	B	19.1	0.81
- Alignment D/May Street	D	-	-	-	D	48.1	0.42
<b>Bolded Red and Shaded</b> values do not meet operating standards. Two-Way Stop Controlled intersections:							

	LOS = Level of Service of Major Street/Minor Street (i.e., A/F) V/C = Volume-to-Capacity Ratio of Worst Movement Delay = Seconds of Delay of Worst Movement
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### Interchange Ramp Queues

In addition to intersection operations, projected vehicle queues on the I-84 Exit 62 and Exit 63 off-ramps were also compared between alternatives to identify potential safety issues. Safety concerns arise if ramp queues exceed the provided storage area and spill back into the portion of the ramp needed to slow to a stop from exiting freeway speeds. The result is an increased risk for high-speed rear-end collisions. This is not a new issue. In 2011, the Exit 62 Interchange Area Management Plan previously analyzed ramp queues and identified the need for ramp capacity improvements.

SimTraffic modeling software was used to estimate the 95th percentile vehicle queues for the I-84 Exit 62 and Exit 63 westbound and eastbound off-ramps, without mitigating improvements, so as to assess the level of mitigations required. This analysis estimates the queue length that would not be exceeded in 95 percent of the queues formed during the peak hour.

Vehicle queues at the Cascade Avenue/I-84 Westbound Ramps are very long and would extend back into the freeway mainline under the Transportation Base Case. Conditions improve under the Revised Land Use Framework – July, 2017; however, the queues still would extend back into the freeway mainline. This change is due to the diversion of trips to the Exit 63 interchange and westbound Cascade Avenue to avoid excessive delays at the Exit 62 interchange. Detailed queuing results for the westbound and eastbound ramps at the I-84 Exit 62 and Exit 63 interchanges in their current unimproved states are included in Appendix D.

Table 4 identifies the 95th percentile queue lengths for the westbound and eastbound ramps at the I-84 Exit 62 and Exit 63 interchanges with the proposed mitigations. Operating standards at the intersections would be met under both alternatives. Queue lengths can be accommodated during the design to ensure the vehicle queues don't extend into the deceleration area.

**Table 4: 2040 Weekday P.M. Peak Hour Motor Vehicle 95th Percentile Queuing - Mitigated**

Intersection	Movement	95 <sup>th</sup> Percentile Vehicle Queue Length (ft.)	
		Transportation Base Case	Revised Land Use Framework – July, 2017
2 Cascade Avenue/ I-84 Westbound Ramps	Left	275	250
	Left/Through	325	275
	Right	125	75
3 Cascade Avenue/ I-84 Eastbound Ramps	Left/Through	100	100
	Right	250	225
13 2 <sup>nd</sup> Street & I-84 Westbound Ramps	Left/Through	425	375
	Right	200	175
14 2 <sup>nd</sup> Street & I-84 Eastbound Ramps	Left/Through	250	300
	Right	150	200

### Alternative Interim Improvements for TPR Compliance

The proposed mitigation at the Exit 62 interchange, which includes significant interchange reconstruction, is not reasonably likely to be funded by 2040. As an alternative to full interchange reconstruction, which was estimated to cost approximately \$35 million, a set of interim improvements are offered for consideration that would cost approximately \$5 million. Congestion would still be present, but ramp queues would be maintained at a safe length so stopped vehicles would not queue back onto the freeway mainline or within the portion of the off-ramps needed to decelerate to a stop from freeway speeds. These improvements (MV1/MV2 Interim) include:

#### Cascade Avenue/ I-84 Westbound Ramps

- Construct a traffic signal
- Install queue detection devices on the off-ramp and ability to pre-empt signal timing to allow the off-ramp queues to be cleared during times when queue lengths become excessive

#### Cascade Avenue/ I-84 Eastbound Ramps

- Construct an eastbound shared through/left turn lane to create an exclusive lane for the heavier right turn movement



#### Cascade Avenue

- Construct second eastbound lane from the I-84 eastbound ramp terminal to Mt. Adams Avenue (would tie into the existing eastbound right turn lane at Mt. Adams Avenue)

#### Westcliff Drive/Cascade Avenue

- Install a stop sign on the eastbound approach
- Remove the stop sign for the northbound right turn lane

Tables 5 and 6 show the intersection operations and Exit 62 queuing with the above improvements in place (also includes all other improvements previously discussed). As noted, the interim improvements do not meet the operating standards (v/c ratio targets), but they do prevent ramp queues from backing onto the mainline or obstructing vehicles exiting from the freeway. Although the Exit 62 interchange ramp intersections do not meet the operating standards under the Revised Land Use Framework – July 2017, the v/c ratios are less than 1.0, which is a significant improvement. While this analysis was completed for the year 2040, ODOT is advised to implement the identified safety improvements (MV1/MV2 Interim) in the near term rather than waiting until 2040.

**Table 5: Future Study Intersection Operations 2040 Weekday P.M. Peak Hour – Mitigated with Interim Improvements**

Intersection		Operating Standard	Transportation Base Case			Revised Land Use Framework – July, 2017		
			LOS	Delay (sec)	v/c	LOS	Delay (sec)	v/c
1	Cascade Avenue/Westcliff Drive	0.95 v/c (IAMP)	A/B <sup>1</sup>	12.0 <sup>1</sup>	0.09 <sup>1</sup>	A/B <sup>1</sup>	12.2 <sup>1</sup>	0.12 <sup>1</sup>
2	Cascade Avenue/ I-84 Westbound Ramps	0.85 v/c (IAMP)	D	49.9	<b>1.05</b>	D	35.7	0.93
3	Cascade Avenue/ I-84 Eastbound Ramps	0.85 v/c (IAMP)	A/F	115.6	<b>1.11</b>	A/E	46.4	0.87
4	Cascade Avenue/Mt. Adams Avenue	0.95 v/c (IAMP)	B	17.7	0.88	B	19.1	0.83
5	Cascade Avenue/Rand Road	0.95 v/c (IAMP)	C	23.1	0.72	C	28.1	0.85
6	Country Club Road/Frankton Road	D	A/B	12.7	0.31	A/B	11.8	0.26
7	Frankton Road/May Street	D	A/B	14.7	0.31	A/C	16.3	0.39
8	May Street/30 <sup>th</sup> Street	D	C	20.6	0.51	A/B	14.1	0.22
9	Rand Road/27 <sup>th</sup> Street/May Street	D	B	10.9	0.59	B	19.1	0.77
10	Frankton Road/Post Canyon Road/Belmont Avenue	D	A/C	17.4	0.23	A/C	18.2	0.23
11	Belmont Avenue/30 <sup>th</sup> Street	D	<b>A/E</b>	43.9	0.35	A/C	23.6	0.32
12	Belmont Avenue/27 <sup>th</sup> Street	D	A/B	15.5	0.14	A/B	15.8	0.21
13	2 <sup>nd</sup> Street/I-84 Westbound Ramps	0.85 v/c (IAMP)	C	20.3	0.73	C	22.2	0.77
14	2 <sup>nd</sup> Street/I-84 Eastbound Ramps	0.85 v/c (IAMP)	B	18.5	0.80	B	19.1	0.81
-	Alignment D/May Street	D	-	-	-	D	48.1	0.42

**Bolded Red and Shaded** values do not meet operating standards.

Two-Way Stop Controlled intersections:  
 LOS = Level of Service of Major Street/Minor Street (i.e., A/F)  
 V/C = Volume-to-Capacity Ratio of Worst Movement  
 Delay = Seconds of Delay of Worst Movement  
<sup>1</sup> Due to the atypical traffic control at this intersection, the future operations were determined using 2000 Highway Capacity Manual methodology for unsignalized intersections.

**Table 6: 2040 Weekday P.M. Peak Hour Motor Vehicle 95th Percentile Queuing – Mitigated with Interim Improvements**

	Intersection	Movement	95 <sup>th</sup> Percentile Vehicle Queue Length (ft.)	
			Transportation Base Case	Revised Land Use Framework – July, 2017
2	Cascade Avenue/ I-84 Westbound Ramps	Left /Through/Right	1,300	400
3	Cascade Avenue/ I-84 Eastbound Ramps	Left /Through	225	150
		Right	300	250

## SUMMARY OF KEY FINDINGS & RECOMMENDATIONS

Both the proposed land uses and minor transportation network changes associated with the Revised Land Use Framework – July, 2017 will have a “significant effect”, as defined by the Transportation Planning Rule, on the operational performance of the intersections at the Exit 62 interchange, Cascade Avenue/Mt. Adams Avenue, and Rand Road/27<sup>th</sup> Street/May Street. All four identified intersections will fail to meet adopted operational standards by 2040 under the Transportation Base Case and Revised Land Use Framework – July, 2017.

The following set of improvements are recommended to supplement the Financially Constrained Plan improvements and mitigate the impacts of the proposed land use action, allowing for TPR compliance. This includes the interim Exit 62 interchange improvements in lieu of the full set of interchange improvements included in the City’s TSP. However, to comply with the TPR, ODOT must be willing to provide a letter stating that these improvements are sufficient and reasonably likely to be funded by 2040.

Note: There is an identifier for each improvement highlighting the project source. Most required projects are already identified in the City’s adopted TSP. There is one new project recommended for the TSP that is necessary to accommodate growth under the proposed land use plan. There are four new interim projects recommended to satisfy TPR requirements.

Cascade Avenue/ I-84 Westbound Ramps (MV1/MV2 Interim)

- Construct a traffic signal (currently in the adopted TSP)
- Install queue detection devices on the off-ramp and ability to pre-empt signal timing to allow the off-ramp queues to be cleared during times when queue lengths become excessive (new interim project recommended for the TSP)

Cascade Avenue/ I-84 Eastbound Ramps (MV1/MV2 Interim)

- Construct an eastbound shared through/left turn lane to create an exclusive lane for the heavier right turn movement (currently in the adopted TSP)

Cascade Avenue (MV1/MV2 Interim)

- Construct second eastbound lane from the I-84 eastbound ramp terminal to Mt. Adams Avenue that would tie into the existing eastbound right turn lane at Mt. Adams Avenue (currently in the adopted TSP)

Westcliff Drive/Cascade Avenue (MV1/MV2 Interim)

- Install a stop sign on the eastbound approach (new interim project recommended for the TSP)
- Remove the stop sign for the northbound right turn lane (new interim project recommended for the TSP)

Rand Road/27th Street/May Street: (MV25)

- Construct a traffic signal; or (new project recommended for the TSP)
- Construct a mini-roundabout (new project recommended for the TSP, pending further design review)

Funding must also be identified for the following improvements currently in the City’s TSP to ensure adequate facilities will be in place to support development in the Westside Area:

- MV2 – Cascade Avenue/Mt. Adams Avenue – Construct a westbound left turn lane on Cascade Avenue
- MV2 – Cascade Avenue widening – Construct a second westbound lane from Mt. Adams Avenue to I-84 eastbound ramp terminal that ends as right turn lane
- MV4.1 – 30th Street (May Street to Fairview Drive) – Extend 30th Street from May Street to Fairview Drive
- MV5 – Sherman Avenue (Rand Road to Alignment D) – Extend Sherman Avenue from Rand Road to Alignment D.
- MV6 – Rand Road (May Street to Belmont Avenue) – Extend Rand Road/27<sup>th</sup> Street from the current stub south of May Street to Belmont Avenue.
- MV7 – Belmont Avenue (Rand Road to Frankton Road) – Extend Belmont Avenue to Frankton Road.

If the Mt. Adams Avenue alignment further to the west (Alignment D) is selected, additional refinements to the current TSP include:

- May Street/30<sup>th</sup> Street Intersection – remove project to construct a traffic signal at this

intersection

- May Street/Alignment D – construct a traffic signal or roundabout (MV4.3 - this is essentially the above-listed project shifted to the west)
- Mt. Adams Avenue/Country Club Road – remove project (MV12) to construct a traffic signal at this location
- Wine County Avenue/Alignment D – construct a traffic signal, a westbound left turn lane and a northbound left turn lane (MV12.1 - this is essentially the above-listed project shifted to the west)
- New Neighborhood Collector – Construct a Neighborhood Collector street between Alignment D and Frankton Road to the south of the Sherman Avenue alignment.

Funding must also be identified for these improvements; however, some would come from funding assumed for the Financially Constrained Plan project to construct the Mt. Adams Avenue extension from Cascade Avenue to May Street.

Table 7 summarizes the transportation improvements listed above. It makes a distinction between transportation improvements already identified in the City's TSP and new transportation improvements needed to support the Revised Land Use Framework – July 2017.

**Table 7: Summary of the Transportation Improvements**

ID	Project	Total Cost Estimate	Project Description	On the 2011 TSP Financially Constrained Project List?	On the 2011 TSP Non-Financially Constrained Project List?	Interim Improvement	New project to add to the TSP	Only Needed if Revised Land Use Framework - July 2017 is approved	Pedestrian/Bicycle Only Improvement <sup>a</sup>
MV1/MV2 Interim	I-84 Exit 62 Interchange	\$ 5,000,000	I-84 Westbound Ramp/Terminal - Construct traffic signal		x	x			
			I-84 Westbound Ramp/Terminal - Install queue detection devices on the off-ramp and ability to pre-empt signal timing to allow the off-ramp queues to be cleared during times when queue lengths become excessive			x	x		
			I-84 Eastbound Ramp/Terminal Construct an eastbound shared through/left turn lane to create an exclusive lane for the heavier right turn movement		x	x			
			Cascade Avenue - Construct second eastbound lane from the I-84 eastbound ramp terminal to Mt. Adams Avenue (would tie into the existing eastbound right turn lane at Mt. Adams Avenue)		x	x			
			Westcliff Drive/Cascade Avenue - Install a stop sign on the eastbound approach - Remove the stop sign for the northbound right turn lane			x	x		
MV2	Cascade Avenue	\$1,306,000	- Construct a second westbound lane from Mt. Adams Avenue to I-84 eastbound ramp terminal that ends as right turn lane (currently in the adopted TSP)		x				
		\$346,000	Cascade Avenue/Mt. Adams Avenue - Construct a westbound left turn lane on Cascade Avenue		x				
MV3	Cascade Ave at Mt. Adams Ave	\$844,000	-Construct a northbound left turn lane -Install yield control for eastbound right turn lane	x					



ID	Project	Total Cost Estimate	Project Description	On the 2011 TSP Financially Constrained Project List?	On the 2011 TSP Non-Financially Constrained Project List?	Interim Improvement	New project to add to the TSP	Only Needed if Revised Land Use Framework - July 2017 is approved	Pedestrian/Bicycle Only Improvement <sup>a</sup>
MV4.1	30 <sup>th</sup> Street (May Street to Fairview Drive)	\$7,120,000	Construct 30th Street as a 3-lane minor arterial from the current stub south of May Street to Fairview Dr. the south/west edge of the urban growth boundary (UGB). 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).		x				
MV4.2	Alignment D (Wine Country Avenue to May Street)	\$13,602,000	Construct Alignment D as a 3-lane minor arterial from Country Club Road to May Street.	x*					
MV4.3	May Street/Alignment D	\$350,000	Construct a traffic signal	x*					
MV5	Sherman Avenue (Rand Road to Alignment D )	\$7,814,000	Extend Sherman Avenue from Rand Road to Alignment D (middle segment of this extension exists)		x*				
MV6	Rand Road (May Street to Belmont)	\$2,971,463	Extend Rand Road/27th Street from the current stub south of May Street to Belmont Avenue.		x				
MV7	Belmont Avenue (Rand Road to Frankton Road)	\$9,807,992	Extend Belmont Avenue to Frankton Road, opposite Post Canyon Drive. The alignment of Belmont Avenue 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)		x				



ID	Project	Total Cost Estimate	Project Description	On the 2011 TSP Financially Constrained Project List?	On the 2011 TSP Non-Financially Constrained Project List?	Interim Improvement	New project to add to the TSP	Only Needed if Revised Land Use Framework - July 2017 is approved	Pedestrian/Bicycle Only Improvement <sup>a</sup>
MV11	Mt Adams Avenue/Cascade Avenue	\$398,931	Construct a traffic signal	x					
MV13	Rand Road/Cascade Avenue	\$1,750,000	Construct a 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, and construct an eastbound right turn lane	x					
MV12.1	Wine Country Avenue/Alignment D	\$498,000	Construct a traffic signal	x					
			Construct a westbound left-turn lane		x*				
MV25	Rand Road/27 <sup>th</sup> Street/May Street	\$350,000	Construct a traffic signal				x	x	
P1.1	Historic Columbia River Highway Trail	\$6,933,000	Construct an asphalt path along Westcliff Drive east to Westside Community Trail (via Wasco Street)		x*				x
P13	Historic Columbia River Highway Trail, south side of Cascade Avenue	\$1,185,000	Construct an asphalt or concrete path on the south side of Cascade Avenue.				x		x
P14	30 <sup>th</sup> Street North Extension	\$359,000	Construct 6-foot bike lanes and 5- foot sidewalks between 30th Street to Mt. Adams Avenue/Wine Country Avenue				x		x
P15	Westside Community Trail extension to Cascade Avenue	\$67,000	Extend the Westside Community Trail north between Sherman Avenue and Cascade Avenue				x		x
P4	Westside Community Trail	-	Extend Westside Community Trail east to connect with the existing trail at 20th Street.	x					x
BL7	Rand Road	\$239,358	Construct bike lanes (portion within the Westside Area only)		x				x
BL6	May Street	\$515,921	Construct bike lanes (portion within the Westside Area only)	x					x





ID	Project	Total Cost Estimate	Project Description	On the 2011 TSP Financially Constrained Project List?	On the 2011 TSP Non-Financially Constrained Project List?	Interim Improvement	New project to add to the TSP	Only Needed if Revised Land Use Framework - July 2017 is approved	Pedestrian/Bicycle Only Improvement <sup>a</sup>
P16	Upper Terrace Neighborhood Trail	\$793,000	Construct Upper Terrace Neighborhood Trail between May Street and Fairview Drive				x		x
P17	Post Canyon Drive Bike Lanes and Sidewalks	\$778,000	Construct 6-foot bike lanes and 5- foot sidewalks between Frankton Road and West UGB Boundary				x		x
P18	West Community Trail extension west to Frankton Road	\$103,000	Extend the Westside Community Trail west between Rocky Road and Frankton Road				x		x
P19	Trail from Sherman Avenue to Frankton Road	\$112,000	Construct a trail from Alignment D to Frankton Road				x		x
BL2	Frankton Bike Lanes	\$387,533	Construct bike lanes		x				x
BL1	Country Club Bike Lanes	\$416,028	Construct bike lanes		x				x
	Total Cost	\$64,047,225							

<sup>a</sup> The pedestrian and bicycle improvements are not discussed in this memo. Refer to the Bicycle/Pedestrian Framework and Technical Memo 6.1:Funding Review and Funding Toolkit for more information.

\* This project is a modified version of another project that is already included in the TSP.



## APPENDIX

A – 2040 Traffic Volumes

B – 2040 HCM Reports

C – Mini Roundabout Example

D – 2040 Queuing Reports



DATE: August 9th, 2017  
 TO: Joe Dills, Angelo Planning Group  
 FROM: ECONorthwest  
 SUBJECT: TECHNICAL MEMO 6.1: FUNDING REVIEW AND FUNDING TOOLKIT

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ECONorthwest (ECO) is part of a consulting team led by Angelo Planning Group (APG) that is proposing and evaluating land use concepts for Hood River's Westside Area. This memorandum documents: (1) the estimated infrastructure funding costs and revenues for water, sanitary sewer, storm water, transportation and parks; (2) the existing and potential funding tools and programs that could be used to fund those potential funding gaps and implement the Draft Westside Area Concept Plan.

This memorandum is an updated version of the Technical Memorandum 6 (TM6). The project management team and technical advisory team reviewed TM6, which described potential funding sources and system development charge revenue estimates. This was provided as a first informational memo, prior to the availability of infrastructure cost estimates. This memorandum updates TM6 with updated revenue estimates, infrastructure costs, comparison of costs and revenues, cost sharing ideas and specific tools for future consideration. The infrastructure costs were determined through the larger Westside Area Concept Plan process, the details of which are documented in separate memoranda from the team's engineering and planning partners.

## Organization and Approach

This memorandum has the following sections:

- **Systems development charge revenue estimates.** Systems development charges (SDCs), fees imposed on new development, are the main revenue source currently available to fund infrastructure in the City of Hood River. As such, we begin with an estimate of the revenues that would be generated from new Westside Area development, and a description of methodology and assumptions underlying those estimates.
- **Funding gap analysis and funding strategies.** This section compares SDC revenues to expected infrastructure costs to estimate whether funding gaps exist for each type of infrastructure, and describes an approach to filling those gaps (as needed) with supplemental revenue sources. ECONorthwest led a funding workshop and subsequent phone meetings with City staff to verify the information and strategies contained in this memo.
- **Impact of development charges / fees on housing affordability.** Housing affordability is a key concern for the City of Hood River. This section describes the relationship between potential increases in development charges and housing affordability. The analysis described in this technical memorandum reflects the City's desire to provide both market-rate and subsidized workforce and affordable housing choices and

discusses the potential impact that any new fees, or changes in fees, assessed on new development will have on new housing prices.

Appendices provide detailed cost estimates and a description of each of the possible funding sources.

This technical memorandum is about *funding*; it identifies funding sources and tools, compares them to costs, and identifies gaps where they exist. While the terms “funding” and “financing” are often used interchangeably, there is an important distinction between the two concepts. Providing infrastructure costs money, and somebody has to pay those costs. The ultimate source of revenue for these costs is *funding*. Funding comes from households and businesses that pay taxes and fees, non-profit contributors, or others that give at various levels to build and maintain the infrastructure. When the funds for the infrastructure costs are borrowed and paid back over time, then these costs have been *financed*. Financing plans are typically undertaken at the transition from planning to implementation of a specific piece of infrastructure (for example, a specific interchange or road network improvement), include cash flow analysis that details ability to repay debt over time with specific assumptions about borrowing capacity, interest rates, and other financing terms accounted for.

## Westside Area SDC Revenue Estimates

System development charges (SDCs) are one-time impact fees assessed on new development for various types of infrastructure. They are intended to fund the increased capital costs incurred by a municipality or utility resulting from the infrastructure or other needs associated with new development.

ECONorthwest received estimates of new development in the study area over the planning period from APG. The estimates included number of new single family attached units, single family detached units, and multifamily dwellings (including duplex and 3+ units). APG assumed ten units per non-duplex multifamily building. Using this information, ECONorthwest estimated SDC revenue. We assume current SDC rates for all land uses. Because specific timing of development over the 20-year period is not forecasted, we estimate potential revenue at full-build out in the first year. This approach is a methodological necessity; in reality, development and infrastructure projects will be built over time and SDCs rates may increase. ECONorthwest communicated with City and County staff to verify SDC rates and understand how SDC rates are applied in the study area.

The City of Hood River currently charges four citywide SDCs: water, wastewater, stormwater, and transportation. Additionally, the City collects the Parks and Recreation SDC on behalf of the Parks and Recreation district. Key assumptions about each SDC are below:

- **Water.** SDC is charged per water meter. City staff verified current rates. City staff provided ECONorthwest the following assumptions:
  - Single family units: 0.75” water meter per unit
  - Multifamily units: 1.5” water meter per building

- Schools: two 3" water meters per middle school
- Commercial/Industrial connections: 1" or larger<sup>1</sup>
- **Wastewater.** SDC is charged per water meter. City staff verified current rates. Assumptions are the same as for the water SDC.
- **Stormwater.** The SDC is charged per equivalent residential unit (ERU). Commercial/industrial properties are charged per square foot of impervious area. This was calculated using APG's estimates of net developable land (accounting for environmental constraints and existing right of way) multiplied by the ratio of existing net impervious area to parcel size for commercial and industrial development in the City of Hood River. City staff verified current SDC rates.<sup>2</sup>
- **Transportation.** SDC is charged per unit. City staff verified current rates. ECONorthwest assumes:
  - Single family detached units: charged single family rate per unit
  - Multifamily units: charged multifamily rate per unit
  - Retail: charged specialty retail center rate
  - Office: charged general office rate
  - Flex/Business: 50% charged general office rate, 50% charged light industrial rate
  - Government/other: charged government office rate
  - Warehouse: charged warehouse rate
  - General industrial: charged light industrial rate
  - School: charged middle school rate per student
- **Parks and Recreation.** SDC is charged per unit. Parks and Recreation staff verified current rates. Parks and Recreation staff provided the following ECONorthwest assumptions:
  - Single family units: charged single family rate per unit
  - Multifamily units: charged multifamily rate per unit

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<sup>1</sup> In order to determine what share of water connections larger than 1-inch the City of Hood River used 2011 data of the percentage of apartments in terms of all non-house connections (18.2%). This share was then used to estimate the number of apartment connections that could be assumed to be associated with the non-house connection numbers. Using this method, the City determined there were 113 apartments included in the total non-house connections. Subtracting the apartments from the total Commercial/Industrial connections (229) yielded a new total of 116 Commercial/Industrial connections not including apartments. The ratio of Commercial/Industrial accounts with 1-inch or larger meters as compared to single-family residential accounts is 3.3%.

<sup>2</sup> City staff confirmed one ERU is equal to one single-family unit and one multifamily building. The charge per SF of impervious area for commercial and industrial has not increased for FYE 2018 at the time of publishing this memo.

In coordination with City, County, and project staff, ECONorthwest used the following assumptions:

- The study area boundary is completely within the Hood River Urban Growth Boundary. However, part of the study area is outside of the current City limits. ECONorthwest discussed timing of annexation with City and County staff, who agreed that ECONorthwest should assume properties will be annexed at the time of development, and therefore will pay all City SDCs.<sup>3,4</sup>
- In most cases, development does not occur at the maximum amount of zoned capacity. To account for this and ensure that assumptions are not an over estimate, ECONorthwest assumes that development will achieve 80% of the housing estimates prepared for the Concept Plan. The Concept Plan's estimates are consistent with assumptions in the City's Housing Needs Analysis.

Exhibit 1 summarizes SDC revenue generated over the study period in the study area for each infrastructure type. Total SDC revenue totals almost \$12.9 million. For a detailed breakdown of SDC revenue by infrastructure type, see Appendix A. This total revenue estimate compares to \$9.56 million<sup>5</sup> that is estimated for the base zoning that exists today.

#### **Exhibit 1. SDC Revenue (2017\$), Westside Area**

<b>City SDCs</b>	
Water	\$3,182,629
Wastewater	\$1,431,486
Stormwater	\$941,112
Transportation	\$3,408,317
<b>Total</b>	<b>\$8,963,544</b>
<b>Parks and Recreation SDC</b>	<b>\$3,901,134</b>
<b>Total SDC Revenue</b>	<b>\$12,864,678</b>

Source: Angelo Planning Group, City of Hood River, Hood River Parks and Recreation. Calculated by ECONorthwest.

AFTT

## **Funding Gap Analysis and Funding Strategies**

This section compares estimated infrastructure costs to revenues to determine whether there is a potential funding gap for each type of infrastructure. The gap analysis is followed by a discussion of possible ways to address the funding shortage. Long range concept plans, such as is being done for the Westside Area, very commonly identify funding gaps for their total area-wide infrastructure, particularly transportation facilities. The reasons for this include: prior

<sup>3</sup> There is a future 20-unit subdivision in the southeastern portion of the study area that will not pay City Water SDCs if constructed because it will be served by the Ice Fountain Water District (IFWD). In addition, the City is processing an annexation application for a nearby parcel that is likely to result in an 18-unit PUD that will be served by IFWD and will not pay City Water SDCs.

<sup>4</sup> Some properties in the western portion of the study area are part of the Frankton Sewer LID and are not contiguous to the city limits, and may only pay the City Sewer SDC upon development (ranging from 67 to 149 units depending on scenario) if annexation is not feasible.

<sup>5</sup> See "Technical Memo 6: Funding Review and Funding Toolkit", page 4, ECONorthwest, February 3, 2017

master plan documents are old with out of date cost estimates; previous funding analysis was citywide or was not conducted at all; revenue sources such as SDCs have not been updated to reflect rising costs; and, new standards, best practices and community ideas add projects and costs. Transportation facilities are particularly expensive projects, often comprising 60-70% of an area's total infrastructure investment, and rarely are fully covered by known revenue sources.

Exhibit 2 provides a comparison of costs and revenues for each type of infrastructure. Its columns show the following for each infrastructure type:

- Column A: Total project costs (see details in Appendix B)
- Column B: Infrastructure costs attributable to Westside Area development. Column A with the following netted out:
  - Portions of projects that are intended to improve a city-wide infrastructure system rather than to support added development capacity in the Westside Area.
  - Portion of costs funded by developers or other non-City sources
- Column C: Portion of Column B that is or should be funded by SDCs
- Column D: SDC Revenue that is generated by development in the Westside Area, and therefore what "gap" there is solely reflective of (as described in the section above, with details in Appendix A)
- Column E: The funding gap, which compares the assumptions stated. portion of the total costs that are attributable to Westside Area development to the SDCs that are generated by Westside Area development.

#### Exhibit 2. Summary: Total Westside Area Infrastructure Cost-Revenue Comparison

	A. Total Cost	B. Cost attributable to Westside	C. Portion of Westside Costs (B) that are SDC funded	D. Westside SDC Revenue	E. SDC funding gap ((minus D)
Water	\$6,148,100	\$1,599,993	\$1,599,993	\$3,182,629	\$0
Stormwater	\$9,096,300	\$2,334,875	\$2,334,875	\$941,112	\$1,393,763
Sewer	\$7,074,200	\$536,040	\$536,040	\$1,431,486	\$0
Parks	\$5.6M to \$7.5M**	\$5.6M to \$7.5M**	\$5.6M to \$7.5M**	\$3,901,134	\$1.7M to \$3.6M
Transportation	\$64,047,225	\$12,397,837	\$5.2M to \$6.7M*	\$3,408,317	\$1.8M to \$3.3M
<b>Total</b>	<b>\$92M - \$93.8M</b>	<b>\$24.1M to \$26.0M</b>	<b>\$15.2M to \$18.7M</b>	<b>\$12.9M</b>	<b>\$4.9M to \$8.3M</b>

\*See section on transportation for detail regarding assumptions

\*\*See section on parks for detail regarding assumptions

Source: APG, DEA, DKS, City of Hood River, Hood River Parks and Recreation. Calculated by ECONorthwest.

Note: 2017 dollars

It is important to note that a "gap" is an estimated numerical difference, based on assumptions. This analysis is a first-ever analysis of costs and revenues for Westside Area projects. Typically, the City approaches funding from a city-wide perspective. What costs and what revenues are attributable to the Westside Area, and therefore what "gap" there is solely reflective of the assumptions stated.

## Water, Wastewater, and Stormwater

The City expects developers to fund most of the projects identified in the project cost list. As a result, for water and wastewater, that there will be no funding gap given that developers will absorb the costs for most of these improvements. Therefore, no additional revenue will be needed to fund those projects. Depending on the application of SDC credits in exchange for the provision of infrastructure, which will play out over time as development occurs, the Westside Area may be a net contributor to the City SDC pool in the categories of water and wastewater. The true accounting plays out over time and cannot be determined until the assessment of SDC credits is complete at the individual project level, but this analysis indicates the Westside Area is likely to have a net positive impact on the city-wide SDC pool.

For stormwater, there is an estimated gap of \$1.39 million, about 15% of total costs. A “base case” of existing stormwater costs does not exist, so it unknown how this gap compares existing conditions. The City is currently updating its Storm Water Management Plan and should assess the adequacy of city-wide stormwater SDCs to cover city-wide costs during or after that process.

## Parks

The Westside Area Concept Plan assumes that 10.7 acres of parks will be needed to meet desired the level of service standard, assuming that open space provided at the school property can help to meet the Concept Plan area’s level of service standard. Land acquisition cost was assumed to be \$350,000 per acre;<sup>6</sup> the cost of park improvement is assumed at \$4-8 per square foot.<sup>7</sup> These assumptions are preliminary, and more detailed design, engineering, and pricing analysis would be needed to understand the cost of providing parks in the Westside Area. Exhibit 3 provides an overview of assumptions.

### Exhibit 3. Parks Cost-Revenue Comparison

Improvement Cost	\$1,864,368 - \$3,728,736
Land Cost	\$3,745,000
<b>Total:</b>	<b>\$5,609,368 - \$7,473,736</b>
<b>SDC Revenue</b>	<b>\$3,901,134</b>
<b>Gap</b>	<b>\$1,706,234 - \$3,572,602</b>

Source: Angelo Planning Group, City of Hood River, Hood River Parks and Recreation. Calculated by ECONorthwest.

Note: All cost and revenue estimates are presented in 2017 dollars.

This is a first cut at parks planning that will require additional analysis. Unlike other types of infrastructure, the location of parks are unknown. However, given this analysis, it is likely that

<sup>6</sup> ECONorthwest arrived at the price estimate of \$350,000 per acre by surveying properties currently listed for sale, as well as looking at land sales that had occurred within the past two years to determine a likely average price for undeveloped land within the study area.

<sup>7</sup> Assumption provided by APG, based on review of parks costs in Wilsonville and Washington County, built to a relatively high standard. The \$4/sq foot end of the range represents a more modest improvement standard. The estimate will need to be updated as more is known about park location, amenity, and other variables.



the City will need funds beyond current SDCs to support the parks vision for the Westside Area. As with stormwater, it is unknown how this cost-revenue picture compares to a base case, because there is no parks plan that exists for the Westside today. The City and Parks and Recreation district should consider the following options:

- Consider applying parks SDCs to commercial and industrial uses as well as residential uses. This would require finding a nexus between development of commercial and industrial uses and the need for park development, given that employees use parks.
- Seek land donations or exaction from developers. A parkland dedication could reduce the City's expenditures on land, but may affect overall Parks SDC revenues due to the issuance of SDC waivers in exchange for dedicated land.
- Seek financial management strategies that reduce or phase in costs. For example, seek opportunities to acquire park land earlier, and hold it for later park development and new housing units are constructed. Given the increase in land costs, this approach could keep costs down.
- Lower costs per acre for improvements. Estimates in this memorandum are preliminary, and may be higher than actual costs for development in Hood River, especially as more is known about the types of park amenity that will best serve the community.
- Increase parks SDCs. Note that this will increase the burden on developers to fund parks, and should be considered in concert with an assessment of impact on development feasibility.
- Grants from the State or Oregon or other sources
- Reduce level of service requirement. A reassessment of the amount of developed parks acreage required per person in Hood River may help lower the City's land and improvement costs.

## Transportation

For all infrastructure including transportation, Hood River's SDC collection and allocation system functions City-wide. Revenues from development in Westside Area flow to a City-wide pool, which is allocated to projects across the City regardless of where the revenues were generated. The City intends to treat Westside Area project costs and revenues in the same way. However, as is the case in almost all newly developing areas and cities, transportation is the most expensive and the most underfunded segment of infrastructure, and the City's revenue pool already falls short of City-wide transportation needs. For this reason, it is important to the City to understand Westside Area contributions to the SDC revenue pool relative to the costs required to accommodate Westside Area growth.

Before this concept plan process commenced, the City had already identified a set of transportation projects in the Westside Area that were underfunded relative to available systems development charges. To address overall SDC shortfalls relative to City-wide transportation funding needs, the City has identified a set of projects called "financially

constrained” projects and adopted them in the Hood River Transportation System Plan<sup>8</sup>. These are priority projects necessary for adequate system function and to meet requirements of Oregon’s Transportation Planning Rule (TPR, OAR 660-12). The Concept Plan’s transportation analysis has verified the need for these projects and identified the need for one additional project: as signal or mini-roundabout at the Rand-27<sup>th</sup>-May intersection. A key new project within the existing TSP, the “Mt Adams Extension” has shifted to the west and is now known as “Alignment D”. In addition, the transportation analysis has identified a much needed interim improvement to Exit 62 (a \$5 million project), which Hood River’s current TSP recognizes as needing a full interchange upgrade (a \$27 million project). Based on this analysis, ODOT has stated it will commit to funding the \$5 million interim improvements within the planning period (by 2040). ODOT’s funding commitment is conditioned on the City adopting “reasonably likely” funding measures and policies for Westside Area’s transportation facilities.<sup>9</sup>

In that context, our approach to evaluating the funding gap in transportation used the following steps:

1. Inventory transportation projects in two categories: streets and pedestrian bicycle facilities. In the TSP, streets are called Motor Vehicle facilities (identified with project names beginning with “MV”) and are “complete streets” in that they include sidewalks and, where needed, bike paths.
2. Estimate total costs for projects that are located in the Westside Area, by individual transportation project. DKS completed this work, and identified \$11.7 million for streets and \$2.3 million for pedestrian-bicycle facilities.<sup>10</sup>
3. For each project, determine the portion of total project cost that is attributable to Westside Area development. This is the portion of project cost that is rightly compared to SDC revenues that are generated in the Westside Area to estimate a gap. To do this, for each project based on input from with DKS, APG, and City staff, we identified: (1) whether the project is currently on or should be considered for the City’s financially constrained list in the future; (2) whether it is or should be SDC eligible and at what percentage; and (3) what portion of the project’s costs should be shared by other sources (ODOT, the County, or broader City-wide SDCs or other funding sources). These assumptions are provided in detail in Appendix B. Depending on which financially constrained scenario the City opts to use as the model for cost estimates, the range of costs for Westside Area transportation projects that are SDC eligible is \$5.2 million to \$6.7 million<sup>11</sup>.

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<sup>8</sup> The financially constrained list is also used in the City’s Transportation SDC methodology.

<sup>9</sup> As of the writing of this memo, the specifics of ODOTs and the City’s obligations are under discussion.

<sup>10</sup> DKS Consulting, see Appendix B. This work is preliminary and subject to change.

<sup>11</sup> The financially constrained project costs are preliminary and require additional review. They were determined by developing two development scenarios. A full explanation of all the projects included in each scenario is included in Appendix B.

4. Based on a comparison of available SDC revenue generated in the Westside Area to the result of the steps described above, estimate the **SDC funding gap** for financially constrained Westside Area projects, as well as the total funding gap. Our strategies focus on filling the gap for financially constrained projects, as these are the projects that are most critical to the system and to allowing new Westside Area development to occur.

Given the estimated SDC funds of approximately \$3.4 million, the remaining SDC funding gap range is \$1.8 million to \$3.3 million. If all SDC revenues were used for streets, the SDC funding gap for streets would be \$1.6 million to \$3.1 million.

The City allocates SDC revenues as part of a City-wide process that evaluates the need for financially constrained projects and projects needed to meet TPR requirements. Given that this analysis focuses on only Westside Area SDC revenues and transportation projects, this analysis provides incomplete information for the City to make decisions. Finding additional revenues will be a challenge, and will require additional analysis, decision-making, and public process. Based on conversations and analysis to date, the following strategies are likely the best starting places for the City to consider as the gap is clarified. Further, the tools are likely to be used in combination:

- Increase Citywide SDC rates. Many of the Westside Area projects benefit the entire City, and development of Westside Area also benefits the City through increasing tax base.
- Apply a sole source SDC in the Westside. Sole source SDCs are charged inside of a particular geographic area and are used to fund investments in that area only (as opposed to the City-wide allocation system currently used). The City of Hood River has not used sole-source SDCs in the past. A rough estimate of the SDC increase that would be needed in the Westside Area to fill the gap is about \$1,200.<sup>12</sup> A sole source SDC should be discussed with stakeholders, compared to a City-wide approach, and considered in combination with other potential strategies.
- Local improvement district, reimbursement district, or other kinds of public private partnership. This category of tools generally leverage private funding sources for infrastructure investments. There are a range of creative possibilities in this category that can be explored. They generally work best when a developer or property owner would be highly motivated to construct a particular segment of infrastructure, for example, when one segment of infrastructure serves a large development parcel or parcels, and that infrastructure is necessary to allow development to occur. Alignment D from Wine County Road to Sherman may be one example of this situation.<sup>13</sup>
  - Local improvement districts (LIDs) are special assessment districts in which property owners are assessed a fee to pay for capital improvements, such

<sup>12</sup> To estimate this, we began with the estimate of the portion of SDC revenue that comes from residential development: roughly 60%. We therefore divided 60% of transportation SDC funding gap by the number of units anticipated in the Westside Area for this order-of-magnitude estimate.

<sup>13</sup> Cost estimates included in the Appendix in detail already show a substantial developer investment in this particular project. Total cost burden to the developer would need to be considered.

as streetscape enhancements, underground utilities, or shared open space. LIDs must be supported by a majority of affected property owners. LIDs spread the costs of infrastructure over a number of properties, and are usually levied over time. In some cases, municipalities may choose to borrow against that revenue stream to create up-front funding sources.

- Developer-build approaches. Developers can generally build infrastructure to a lower cost than the public sector. Partnerships with developers can leverage existing public funding sources to bring in additional private funds and lower costs. The City has experience with these types of mechanisms in the past, specifically to fund Mt. Adams and Wine Country Road investment. The City used a pool of public money from ODOT and the City to fund the road, but the developer designed and constructed the road to City standards. The developer agreed to use his own money to fill any funding gaps beyond the pool of resources available to him from the City and ODOT. This approach reduced costs and brought additional private dollars to the project. Reimbursement districts also fall into this category, allowing developers to construct the infrastructure in exchange for reimbursements through SDC credits or other funding sources.
- Financial management approach. While this approach does not reduce costs or increase revenues, the City will seek ways to be more efficient with the resource available as the infrastructure is invested. For example, the City may seek to acquire right-of-way up front and hold it until it is time to construct the facility. As land prices are likely to rise in the future, this can help to manage costs. There may also be opportunities to phase infrastructure investments over time to reduce the costs that are needed up front. For example, for Alignment D from Wine Country to Sherman to connect to Frankton is a logical first phase, while the steeper section that connects to May could be longer term.
- Find opportunities to reduce infrastructure costs. One option for doing this is to reduce mobility standards to bring project costs down. Another is to seek opportunities for value engineering as project are more fully designed for implementation.
- General fund contributions. The City may choose to directly contribute to infrastructure development from its general fund through the typical budgeting and prioritization process. The City may also choose to bond against the general fund (general obligation bond) to increase the amount of funding available up-front to cover infrastructure costs, and then re-pay the bonds over time with general fund dollars. A general obligation bond increases the tax rates on residents and requires a vote of the public. As such, it is typically only used for significant projects that benefit the City as a whole.
- State or grant funding. This funding source may be most appropriate for bike/ped projects, and trail projects, but could potentially be used for other types of projects as well.

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## Impact of development charges/fees on housing affordability

Affordability of housing in Hood River is an increasingly important issue, and the City is interested in finding as many avenues to address housing affordability as possible. Fees charged on new development (such as systems development charges or other fees) increase the cost of development. The City asked ECONorthwest to consider this relationship and its impacts on housing affordability in this analysis.

Theoretically, increased fees on new development are passed on to future homebuyers, and increase housing price for those homes. The actual relationship between new fees and housing prices, however, is less direct.

It is a common misconception that developers “set the price” of new development to cover costs and profit margins. However much they would like to, developers cannot control how much a homebuyer is willing or able to pay for a new home, and cannot control the price of the competing supply that is available in our free market housing system. They cannot simply increase the sale price to account for a new fee beyond what the market will otherwise bear.

The price of housing is determined no differently than any other good or service in a competitive market—it is established at an equilibrium between the quantity demanded and quantity supplied with similar size and features at a given market price. Thus, for development charges or fees to have an impact on the price of housing, it would need to affect either the demand for, or the supply of housing in the Hood River market.

Development fees and charges would not likely have any impact on housing demand (or the number of people needing to purchase a home and their willingness to pay for it). In other words, a development charge or fee on some homes in Hood River will not result in a change in the number of buyers looking to purchase homes in the Hood River area, nor the amount that those buyers are willing to pay for a given home with a given set of attributes.

Costs of production impact the supply curve, and therefore the market price of a good. For example, a developer will build a house on a vacant lot if the anticipated sales price of the home exceeds the anticipated development costs plus an acceptable rate of return on their capital. If the developer’s costs increase—for example, from the imposition of a new fee—then it would reduce their net operating income, and reduce the interest of financiers (banks) in underwriting the project. If a developer is not able to achieve a minimally acceptable operating income, they cannot build, and therefore decrease the supply of homes on the market. If the fee is the singular cause of this increase, then the fee could slow new development and result in supply constraints, which would then potentially have an impact on pricing in the entire market. In this way, new fees could theoretically increase housing pricing in Hood River’s market.

In the study area, if additional or higher SDCs are charged than in other parts of the City, and if there remains sufficient demand at a higher pricepoint needed to cover the full cost of production so that new development can occur, developers will charge a higher rent or sales

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price as a result of these fees. The impact of this increase could affect pricing in the entire market, as the new development in the study area serves as new “comps” for appraisals with competing supply.

While in these circumstances fees and SDCs can make a difference for development feasibility and unit pricing, they must be considered in context. It is important to note that while fees increase the costs of development, they are typically a smaller contributor to overall development feasibility than larger market forces such as achievable sales pricing or rents or labor and construction costs. To fully understand the degree of impact, the City would need to conduct analysis at the time that the development is moving forward, as markets change over time in ways that are very consequential.

Achieving a balance between supply of units and demand for those units (ensuring that new construction occurs at rates that match household formation and in-migration) is the best strategy for slowing housing price increases. It is important to ensure that fees and SDCs are not creating a barrier to housing construction that could reduce needed supply. One way to keep fees lower, and reduce the likelihood of housing price impacts associated with fees, is to ensure that development is efficiently using available infrastructure and maximizing the investments of public dollars. These kinds of actions can mean that fees do not have to be increased, or can be spread over a larger total number of units.

Efforts like the one the City is undertaking in the Westside Area Concept Plan Area to ensure that infrastructure is comprehensively planned and that many units are sharing the infrastructure costs are best practice. If higher density scenarios do not also have higher infrastructure costs, then, on a per-unit basis, each individual unit will pay lower fees *and* more units will be added to the market relative to demand to help to slow price increases. From a pricing perspective, this is the best possible outcome.

The City may also want to consider additional tools for funding affordable housing in the study area. The City’s adopted Hood River Housing Strategy includes a wide range of tools that can be used for these purposes<sup>14</sup>. It includes three broad strategies: (1) Increase the efficiency of use of land within the Hood River UGB, (2) Regulate and manage secondary and short-term rental housing, and (3) Develop affordable housing. The third strategy lists many recommended actions, including to identify sources of funding to support government-subsidized affordable housing development (for example, TRT), develop a tax abatement program, and work with a nonprofit to develop a community land trust.

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<sup>14</sup> *Hood River Housing Strategy* (2015), ECONorthwest.

[http://centralpt.com/upload/375/2015HousingStudy/19124\\_HoodRiverHousingStrategy2015Final.pdf](http://centralpt.com/upload/375/2015HousingStudy/19124_HoodRiverHousingStrategy2015Final.pdf)

## Appendix A: Detail of SDC Revenue Estimates

This appendix provides detailed information and calculations associated with the estimates of SDC revenue included in this memorandum. All assumptions regarding methods for SDC calculations and SDC rates came from the City's SDC rate schedules and were verified through conversations with City staff. Estimates of the amount of Westside Area development (number of residential units, amount of commercial or industrial development) were provided by APG. Estimates of the number of water meters, number of permits, conversions to gross floor area, and other necessary assumptions to translate APGs estimates of amount of new development into units necessary to calculate SDC revenue were provided by and / or discussed and vetted by the City of Hood River. All dollar values are 2017 dollars.

### Exhibit A.1: Estimates of Water SDC Revenues, Westside Area Concept Plan Area, City of Hood River, Oregon

Unit: Water Meter	SDC Rate (per water meter)	Number of Water Meters	SDC Revenue
3/4"	\$ 4,010	507	\$ 2,033,070
1"	\$ 6,683	10	\$ 66,830
1 1/2"	\$ 13,367	71	\$ 949,057
2"	\$ 21,387	0	\$ -
3"	\$ 66,836	2	\$ 133,672
4"	\$ 133,670	0	\$ -
6"	\$ 267,343	0	\$ -
8"	\$ 360,911	0	\$ -
<b>Total</b>			<b>\$ 3,182,629</b>

Source: ECONorthwest, 2017, based on data from DEA and the City of Hood River

### Exhibit A.2: Estimates of Wastewater Systems Development Charge Revenues, Westside Area Concept Plan Area, City of Hood River, Oregon

Unit: Water Meter	SDC Rate (per water meter)	Water Meters	SDC Revenue
3/4"	\$ 1,804	507	\$ 914,628
1"	\$ 3,014	10	\$ 30,140
1 1/2"	\$ 6,008	71	\$ 426,568
2"	\$ 9,617	0	\$ -
3"	\$ 30,075	2	\$ 60,150
4"	\$ 60,133	0	\$ -
6"	\$ 120,283	0	\$ -
8"	\$ 162,374	0	\$ -
<b>Total</b>			<b>\$ 1,431,486</b>

Source: ECONorthwest, 2017, based on data from DEA and the City of Hood River

**Exhibit A.3: Estimates of Stormwater Systems Development Charge Revenues, Westside Area Concept Plan Area, City of Hood River, Oregon**

Unit	SDC Rate	Number	SDC Revenue
Residential- per permit	\$ 673.00	814	\$ 547,714
Industrial - per SF impervious	\$ 0.26	295,606	\$ 76,858
Commercial - per SF impervious	\$ 0.26	1,039,738	\$ 270,332
School - per SF impervious	\$ 0.26	177,725	\$ 46,208
<b>Total</b>			<b>\$ 941,112</b>

Source: ECONorthwest, 2017, based on data from DEA and the City of Hood River

**Exhibit A.4: Estimates of Transportation Systems Development Charge Revenues, Westside Area Concept Plan Area, City of Hood River, Oregon**

Unit	SDC Rate	Number	SDC Revenue	Notes
Single Family (per dwelling unit)	\$ 1,889	473	\$ 893,119	
Multi-family (per dwelling unit)	\$ 1,323	618	\$ 818,143	
Residential Townhome (per dwelling unit)	\$ 1,156	279	\$ 322,755	
Specialty Retail Center (per TSGFA)	\$ 3,233	131	\$ 424,692	Retail
General Office (per TSGFA)	\$ 2,174	84	\$ 183,323	Office (100%) and Flex/Business park (50%)
Government office (per TSGFA)	\$ 13,607	39	\$ 529,186	Gov't/other
Warehouse (per TSGFA)	\$ 979	25	\$ 24,845	Warehouse
General light industrial (per TSGFA)	\$ 1,376	80	\$ 109,854	Flex/Business Park (50%) and General industrial (100%)
Middle School(per student)	\$ 128	800	\$ 102,400	Ranged from 750-850 students
<b>Total</b>			<b>\$ 3,408,317</b>	

ECONorthwest, 2017, based on data from DKS and the City of Hood River

Note: TSGFA means Thousand Square Feet of Gross Floor Area

**Exhibit A.5: Estimates of Parks Systems Development Charge Revenues, Westside Area Concept Plan Area, City of Hood River, Oregon**

Unit	SDC Rate	Number	SDC Revenue
Single Family (per unit)		\$3,256	752 \$ 2,448,512
Multifamily (per unit)		\$2,349	618 \$ 1,452,622
			<b>\$ 3,901,134</b>

ECONorthwest, 2017, based on data from APG and the City of Hood River



## Appendix B: Detail of Project Costs

This appendix provides the details of the infrastructure costs used in this memorandum. David Evans and Associates (DEA) provided wastewater, stormwater, and water project costs. DKS Consulting provided transportation costs. Angelo Planning Group (APG) provided parks cost and associated assumptions.

### Exhibit B.1: Estimates of Wastewater Project Costs, Westside Area Concept Plan Area, City of Hood River, Oregon

Description	Pipe Diameter	Total Length (ft)	Unit Cost (\$/LF)	SubTotal	Funded by City	City Portion of Project Costs
Connection to Belmont Dr	8	1,100	365	\$401,500	0%	\$0
Connection to 29 <sup>th</sup> St	8	400	365	\$146,000	0%	\$0
Connection to 30 <sup>th</sup> St	8	1,360	365	\$496,400	0%	\$0
Rocky Rd Connection	8	1,800	365	\$657,000	22%	\$144,540
Vista Loop Connection to Blackberry	8	810	365	\$295,700	0%	\$0
Vista Loop Connection to Kesia Ct.	8	600	365	\$219,000	0%	\$0
Blackberry Dr. - East to Vista Loop	8	730	365	\$266,500	0%	\$0
East-West Connection to Frankton Rd	8	650	365	\$237,300	50%	\$118,650
New North-South (Alignment D) - Wine Country to May Dr.	8	2,650	365	\$967,300	0%	\$0
May Dr Connection to Align D (East to West and West to East)	8	400	365	\$146,000	50%	\$73,000
Sherman Rd Connection to Align D (East to West)	8	900	365	\$328,500	0%	\$0
High School to Align D	8	650	365	\$237,300	0%	\$0
Frankton Road to Align D (West to East)	8	1,400	365	\$511,000	?	
Adams Extension North from Cascade Av	8	2,190	365	\$799,400	25%	\$199,850
Prospect Av Extension East of Adams	8	630	365	\$230,000	0%	\$0
Montello Av Extension (East to West and West to East)	8	1,230	365	\$449,000	0%	\$0
Eugene Av Extension to Adams	8	350	365	\$127,800	0%	\$0
Hazel West Connection	8	380	365	\$138,700	0%	\$0
Sherman West Connection	8	400	365	\$146,000	0%	\$0
Sherman Connection to Adams	8	750	365	\$273,800	0%	\$0
<b>Total</b>				<b>\$7,074,200</b>		<b>\$536,040</b>
<b>SDC Revenue</b>						<b>\$1,431,486</b>
<b>Gap</b>						<b>\$0</b>

Source: DEA and the City of Hood River, with SDC revenues calculated by ECONorthwest, 2017

Note: The City is evaluating options for funding Frankton Road to Alignment D (West to East), and will continue to study this along with other projects in this table.

## Exhibit B.2: Estimates of Stormwater Project Costs, Westside Area Concept Plan Area, City of Hood River, Oregon

Description	Diameter	Length	Unit Cost (\$/LF)	Total Cost	Funded by City	City Portion of Project Costs
<b>Stormwater Basin A</b>						
West Extension from Belmont	12	400	\$328	\$131,200	0%	\$0
	18	600	\$395	\$237,000	0%	\$0
Rand Rd. South Ext from May Ave	18	1,500	\$395	\$592,500	33%	\$195,525
May Extension West from Rand Road	12	680	\$328	\$223,000	100%	\$223,000
May Extension West from POC	24	430	\$693	\$243,400	100%	\$243,400
<b>Total</b>				<b>\$1,427,100</b>		<b>\$661,925</b>
<b>Stormwater Basin B</b>						
30TH Street Extension South	15	250	\$368	\$368,000	0%	\$0
May Ave Extension East from 30th St (CIP C8-G)	18	600	\$395	\$237,000	100%	\$237,000
Hazel South Ext West from 30th St	12	365	\$328	\$239,500	0%	\$0
Sherman Extension West from 30th St	12	350	\$328	\$229,600	0%	\$0
Cascade Ave Extension West to POC	18	300	\$395	\$118,500	0%	\$0
<b>Total</b>				<b>\$1,192,600</b>		<b>\$237,000</b>
<b>Stormwater Basin C</b>						
Rocky Rd Extension South to Study Boundary	15	1,300	\$368	\$478,400	25%	\$119,600
Prospect Ext West to Adams Ave	12	600	\$328	\$196,800	0%	\$0
Montello Ave Ext West to Adams Ave	12	600	\$328	\$196,800	0%	\$0
Eugene Ave Ext West to Adams Ave	12	730	\$328	\$239,500	0%	\$0
Sherman Extension East to Adams Ave	12	450	\$328	\$147,600	0%	\$0
Adams Ave Ext from May Ave to Cascade Ave	18	1,300	\$395	\$513,500	0%	\$0
	24	450	\$566	\$254,700	0%	\$0
Cascade Ave Ext West to POC	24	700	\$566	\$396,200	0%	\$0
<b>Total</b>				<b>\$2,423,500</b>		<b>\$119,600</b>
<b>Stormwater Basin D</b>						
May Ext East from Align D	12	570	\$328	\$187,000	35%	\$65,450
May Ext West from Align D	15	300	\$368	\$110,400	100%	\$110,400
Extension East from Stonegate Dr	12	600	\$328	\$196,800	0%	\$0
Extension North to May Ave	12	650	\$328	\$213,200	0%	\$0
May Ext East from Frankton	15	600	\$368	\$220,800	50%	\$110,400
May Ext West from Nina Ln	12	350	\$328	\$114,800	100%	\$114,800
W Prospect Ave Ext East	12	300	\$328	\$98,400	100%	\$98,400
	15	300	\$368	\$110,400	0%	\$0
North Ext from May to Align D	15	650	\$368	\$239,200	0%	\$0
Hazel Ext to Align D	12	600	\$328	\$196,800	0%	\$0
Sherman Ext West to Align D	12	600	\$328	\$196,800	0%	\$0
Align D Ext from May to POC	15	870	\$368	\$320,200	0%	\$0
	18	820	\$395	\$323,900	0%	\$0
	24	1250	\$566	\$707,500	0%	\$0
<b>Total</b>				<b>\$3,236,200</b>		<b>\$499,450</b>
<b>Stormwater Basin E</b>						
West Ext to Frankton Rd	15	500	\$368	\$184,000	100%	\$184,000
Frankton Ext to the North	15	700	\$368	\$257,600	100%	\$257,600
North Ext from Frankton to Country Club Rd/POC	18	950	\$395	\$375,300	100%	\$375,300
<b>Total</b>				<b>\$816,900</b>		<b>\$816,900</b>
<b>Total:</b>				<b>\$9,096,300</b>		<b>\$2,334,875</b>
<b>SDC Revenue</b>						<b>\$941,112</b>
<b>Gap</b>						<b>\$1,393,763</b>

Source: DEA and the City of Hood River, with SDC revenues calculated by ECONorthwest, 2017

### Exhibit B.3: Estimates of Water Project Costs, Westside Area Concept Plan Area, City of Hood River, Oregon

Description	Pipe Diameter	Total Length (ft)	Unit Cost (\$/LF)	SubTotal	Funded by City	City Portion of Project Costs
Belmont Dr. West Ext to Rocky Rd	10	2,180	291	\$634,400	0%	\$0
29 <sup>th</sup> St. Extension South	8	420	270	\$113,400	0%	\$0
30 <sup>th</sup> St. Extension South	8	400	270	\$108,000	0%	\$0
Blackberry Dr. from Rocky Rd. to Frankton Rd	10	1,940	291	\$564,600	0%	\$0
Vista Loo connection to Blackberry Dr.	8	1,150	270	\$310,500	0%	\$0
May Dr. Extension to Frankton Rd	8	650	270	\$175,500	60%	\$105,300
Elan Dr. Extension to Frankton Rd	8	420	270	\$113,400	0%	\$0
Frankton Rd South Extension from Blackberry Dr.	8	650	270	\$175,500	100%	\$175,500
Frankton Rd - May St. to Blackberry Dr.	8	650	270	\$175,500	100%	\$175,500
Frankton Rd - May St. to Country Club	8	2,650	270	\$715,500	100%	\$715,500
Country Club Rd Extension to Frankton	8	1,180	270	\$318,600	0%	\$0
New North-South Arterial (Alignment D) - Wine Coun	8	2,680	270	\$723,600	0%	\$0
East-West Connection from Align D to Frankton Rd	8	720	270	\$194,400	50%	\$97,200
Prospect Av from Align D to Frankton Rd	8	980	270	\$264,600	50%	\$132,300
Adams Extension North to 30 <sup>th</sup> St.	8	2,230	270	\$602,100	33%	\$198,693
Sherman Extension West to Align D	8	1,680	270	\$453,600	0%	\$0
High School from Sherman to Align D	8	950	270	\$256,500	0%	\$0
Hazel Extension West to Adams	8	470	270	\$126,900	0%	\$0
Eugene Extension West to Adams	8	450	270	\$121,500	0%	\$0
<b>Total:</b>				<b>\$6,148,100</b>		<b>\$1,599,993</b>
<b>SDC Revenue</b>						<b>\$3,182,629</b>
<b>Gap</b>						<b>\$0</b>

Source: DEA and the City of Hood River, with SDC revenues calculated by ECONorthwest, 2017

### Exhibit B.4: Estimates of Park Project Costs, Westside Area Concept Plan Area, City of Hood River, Oregon

Land to be purchased	10.7 acres
Estimated land costs	\$3,745,000
Park SF in plan	466,092
Assumed improvement cost PSF	\$4 - \$8
<b>Total Costs</b>	<b>\$5,609,368 - \$7,473,736</b>
<b>SDC Revenue</b>	<b>\$3,901,134</b>
<b>Total Funding Gap</b>	<b>\$1,708,324 - \$3,572,602</b>

SDC revenues calculated by ECONorthwest, 2017

Note: Acreage estimate assumes that some portion of the open space is accommodated through the open space available at the school site.

### Transportation Financially Constrained Scenario Table Header Descriptions

- **Part of 2011 TSP Financially Constrained Project list?** – Notes all projects that are included in the financially constrained project list within the 2011 Hood River TSP. These are priority projects necessary for adequate system function and to meet requirements of Oregon’s Transportation Planning Rule (TPR, OAR 660-12). Source: DKS and City of Hood River
- **Should be on Financially Constrained list?** – Notes the project team’s assessment of each project for potential inclusion or removal from future financially constrained project lists. This column includes details on two different financially constrained project list scenarios shown in Exhibit B5 and B6. Source: Project team and City of Hood River.
- **% SDC Eligible** – Notes the share of current or potential new project SDC funding eligibility based on the 2011 Hood River TSP and project team assessment. Source: DKS and City of Hood River.
- **Total Project Costs** – An initial assessment of project costs prepared by DKS.
- **Developer Costs (Local Road Equivalent)** – The portion of total costs that have been identified as being local road equivalent improvements and are the responsibility of developers. Source: DKS
- **Westside Costs** – Total project costs attributable to the Westside that are not considered local road equivalent projects. Source: DKS
- **Financially Constrained SDC Eligible Westside Project Costs** – An estimate of SDC eligible projects costs based on the % SDC Eligible column.
- **ODOT Cost, Other city sources, and County funded** – These columns provide initial estimates of additional funding from other city, county, and state funding sources. These estimates are based project team conversations with City staff, and county and ODOT stakeholders.



**Exhibit B.5: Transportation Financially Constrained Scenario A**

ID	Project	Part of 2011 TSP Financially Constrained Project list?	Should be on Financially Constrained list?	% SDC Eligible	Total Cost Estimate	Developer Cost (Local Road Equivalent)	Westside Cost	Financially Constrained SDC Eligible Westside Projects Cost	ODOT Cost	Other city sources	County funded
MV1/MV2 Interim	I-84 Exit 62 Interchange	no	no	0%	\$5,000,000	\$0	\$0	\$0	\$5,000,000	\$0	\$0
MV2	Cascade Avenue	no	no	0%	\$1,652,000	\$0	?	\$0	\$0	?	?
MV3	Cascade Ave at Mt. Adams Ave	yes	yes	100%	\$844,000	\$0	\$844,000	\$844,000	?	\$0	\$0
MV4.1	30 <sup>th</sup> Street (May Street to Fairview Drive)	no	no	0%	\$7,120,000	\$3,560,000	\$3,560,000	\$0	\$0	\$0	\$0
MV4.2	Alignment D (Wine Country Avenue to May Street)	yes	no	100%	\$13,602,000	\$8,259,000	\$1,335,750	\$1,335,750	\$0	\$4,007,250	\$0
MV4.3	May Street/Alignment D	yes	no	100%	\$350,000	\$0	\$87,500	\$87,500	\$0	\$262,500	\$0
MV5	Sherman Avenue (Rand Road to Alignment D )	no	yes	100%	\$7,814,000	\$6,570,000	\$1,244,000	\$1,244,000	\$0	\$0	\$0
MV6	Rand Road (May Street to Belmont)	no	no	0%	\$2,971,463	\$2,325,000	\$323,231	\$0	\$0	\$323,231	\$0
MV7	Belmont Avenue (Rand Road to Frankton Road)	no	no	0%	\$9,807,992	\$7,440,000	\$1,183,996	\$0	\$0	\$1,183,996	\$0
MV11	Mt Adams Avenue/Cascade Avenue	yes	yes	100%	\$398,931	\$0	\$199,465	\$199,465	\$0	\$0	\$199,465
MV13	Rand Road/Cascade Avenue	yes	yes	100%	\$1,750,000	\$0	\$1,000,000	\$1,000,000	\$750,000	\$0	\$0
MV12.1	Wine Country Avenue/Alignment D	yes	yes	100%	\$498,000	\$0	\$124,500	\$124,500	\$0	\$373,500	\$0
MV25	Rand Road/2 <sup>nd</sup> Street/May Street	no	yes	100%	\$350,000	\$0	\$175,000	\$175,000	\$0	\$175,000	\$0
<b>Subtotal MV Projects</b>					<b>\$52,158,385</b>	<b>\$28,154,000</b>	<b>\$10,077,443</b>	<b>\$5,010,215</b>	<b>\$5,750,000</b>	<b>\$6,325,477</b>	<b>\$199,465</b>
P1.1	Historic Columbia River Highway Trail	no	no	0%	\$6,933,000	\$6,933,000	\$0	\$0	not in study area	\$0	\$0
P13	Historic Columbia River Highway Trail, south side of Cascade Avenue	no	no	0%	\$1,185,000	\$1,185,000	\$0	\$0	\$0	\$0	\$0
P14	30 <sup>th</sup> Street North Extension	no	no	0%	\$359,000	\$359,000	\$0	\$0	\$0	\$0	\$0
P15	Westside Community Trail extension to Cascade Avenue	no	no	0%	\$67,000	\$0	\$67,000	\$0	\$0	\$0	\$0
P4	Westside Community Trail	yes	no	0%	-	-	-	-	-	-	-
BL7	Rand Road	no	no	0%	\$239,358	\$0	\$119,679	\$0	\$0	\$119,679	\$0
BL6	May Street	yes	no	33%	\$515,921	\$0	\$515,921	\$168,706	\$0	\$0	\$0
P16	Upper Terrace Neighborhood Trail	no	no	0%	\$793,000	\$0	\$793,000	\$0	\$0	\$0	\$0
P17	Post Canyon Drive Bike Lanes and Sidewalks	no	no	0%	\$778,000	\$0	\$0	\$0	\$0	\$778,000	\$0
P18	West Community Trail extension west to Frankton Road	no	no	0%	\$103,000	\$0	\$103,000	\$0	\$0	\$0	\$0
P19	Trail from Sherman Avenue to Frankton Road	no	no	0%	\$112,000	\$0	\$112,000	\$0	\$0	\$0	\$0
BL2	Frankton Bike Lanes	no	no	0%	\$387,533	\$0	\$193,766	\$0	\$0	\$193,766	\$0
BL1	Country Club Bike Lanes	no	no	0%	\$416,028	\$0	\$416,028	\$0	\$0	\$0	\$0
<b>Subtotal Ped and Bike Projects</b>					<b>\$11,888,840</b>	<b>\$8,477,000</b>	<b>\$2,320,394</b>	<b>\$168,706</b>	<b>\$0</b>	<b>\$1,091,445</b>	<b>\$0</b>
<b>Total Cost</b>					<b>\$64,047,225</b>	<b>\$36,631,000</b>	<b>\$12,397,837</b>	<b>\$5,178,922</b>	<b>\$5,750,000</b>	<b>\$7,416,923</b>	<b>\$199,465</b>

Source: Data provided by DKS and the City of Hood River

Note: Column subtotals and totals for Westside, ODOT, other city sources, and county funded subject to change as more is known about how total costs are allocated.

**Exhibit B.6: Transportation Financially Constrained Scenario B**

ID	Project	Part of 2011 TSP Financially Constrained Project list?	Should be on Financially Constrained list?	% SDC Eligible	Total Cost Estimate	Developer Cost (Local Road Equivalent)	Westside Cost	Financially Constrained SDC Eligible Westside Projects Cost	ODOT Cost	Other city sources	County funded
MV1/MV2 Interim	I-84 Exit 62 Interchange	no	no	0%	\$5,000,000	\$0	\$0	\$0	\$5,000,000	\$0	\$0
MV2	Cascade Avenue	no	no	0%	\$1,652,000	\$0	?	\$0	\$0	?	?
MV3	Cascade Ave at Mt. Adams Ave	yes	yes	100%	\$844,000	\$0	\$844,000	\$844,000	\$0	\$0	\$0
MV4.1	30 <sup>th</sup> Street (May Street to Fairview Drive)	no	no	0%	\$7,120,000	\$3,560,000	\$3,560,000	\$0	\$0	\$0	\$0
MV4.2	Alignment D (Wine Country Avenue to May Street)	yes	yes	100%	\$13,602,000	\$8,259,000	\$1,335,750	\$1,335,750	\$0	\$4,007,250	\$0
MV4.3	May Street/Alignment D	yes	yes	100%	\$350,000	\$0	\$87,500	\$87,500	\$0	\$262,500	\$0
MV5	Sherman Avenue (Rand Road to Alignment D)	no	yes	100%	\$7,814,000	\$6,570,000	\$1,244,000	\$1,244,000	\$0	\$0	\$0
MV6	Rand Road (May Street to Belmont)	no	yes	100%	\$2,971,463	\$2,325,000	\$323,231	\$323,231	\$0	\$323,231	\$0
MV7	Belmont Avenue (Rand Road to Frankton Road)	no	yes	100%	\$9,807,992	\$7,440,000	\$1,183,996	\$1,183,996	\$0	\$1,183,996	\$0
MV11	Mt Adams Avenue/Cascade Avenue	yes	yes	100%	\$398,931	\$0	\$199,465	\$199,465	\$0	\$0	\$199,465
MV13	Rand Road/Cascade Avenue	yes	yes	100%	\$1,750,000	\$0	\$1,000,000	\$1,000,000	\$750,000	\$0	\$0
MV12.1	Wine Country Avenue/Alignment D	yes	yes	100%	\$498,000	\$0	\$124,500	\$124,500	\$0	\$373,500	\$0
MV25	Rand Road/2 <sup>nd</sup> Street/May Street	no	yes	100%	\$350,000	\$0	\$175,000	\$175,000	\$0	\$175,000	\$0
<b>Subtotal MV Projects</b>					<b>\$52,158,385</b>	<b>\$28,154,000</b>	<b>\$10,077,443</b>	<b>\$6,517,443</b>	<b>\$5,750,000</b>	<b>\$6,325,477</b>	<b>\$199,465</b>
P1.1	Historic Columbia River Highway Trail	no	no	0%	\$6,933,000	\$6,933,000	\$0	\$0	not in study area	\$0	\$0
P13	Historic Columbia River Highway Trail, south side of Cascade Avenue	no	no	0%	\$1,185,000	\$1,185,000	\$0	\$0	\$0	\$0	\$0
P14	30 <sup>th</sup> Street North Extension	no	no	0%	\$359,000	\$359,000	\$0	\$0	\$0	\$0	\$0
P15	Westside Community Trail extension to Cascade Avenue	no	no	0%	\$67,000	\$0	\$67,000	\$0	\$0	\$0	\$0
P4	Westside Community Trail	yes	no	0%	-	-	-	-	-	-	-
BL7	Rand Road	no	no	0%	\$239,358	\$0	\$119,679	\$0	\$0	\$119,679	\$0
BL6	May Street	yes	no	33%	\$515,921	\$0	\$515,921	\$168,706	\$0	\$0	\$0
P16	Upper Terrace Neighborhood Trail	no	no	0%	\$793,000	\$0	\$793,000	\$0	\$0	\$0	\$0
P17	Post Canyon Drive Bike Lanes and Sidewalks	no	no	0%	\$778,000	\$0	\$0	\$0	\$0	\$778,000	\$0
P18	West Community Trail extension west to Frankton Road	no	no	0%	\$103,000	\$0	\$103,000	\$0	\$0	\$0	\$0
P19	Trail from Sherman Avenue to Frankton Road	no	no	0%	\$112,000	\$0	\$112,000	\$0	\$0	\$0	\$0
BL2	Frankton Bike Lanes	no	no	0%	\$387,533	\$0	\$193,766	\$0	\$0	\$193,766	\$0
BL1	Country Club Bike Lanes	no	no	0%	\$416,028	\$0	\$416,028	\$0	\$0	\$0	\$0
<b>Subtotal Ped and Bike Projects</b>					<b>\$11,888,840</b>	<b>\$8,477,000</b>	<b>\$2,320,394</b>	<b>\$168,706</b>	<b>\$0</b>	<b>\$1,091,445</b>	<b>\$0</b>
<b>Total Cost</b>					<b>\$64,047,225</b>	<b>\$36,631,000</b>	<b>\$12,397,837</b>	<b>\$6,686,149</b>	<b>\$5,750,000</b>	<b>\$7,416,923</b>	<b>\$199,465</b>

Source: Data provided by DKS and the City of Hood River

Note: Column subtotals and totals for Westside, ODOT, other city sources, and county funded subject to change as more is known about how total costs are allocated.



## Appendix C: Documentation of Funding Sources

This section describes the universe of funding sources that could be used in the Westside Area Concept Plan area. The tools are organized in the following categories:

- **Existing funding tools.** These are tools the City of Hood River currently uses which could be applied in the Westside Area.
- **Potential new funding tools.** These are tools the City of Hood River does not currently use, but that are used in other communities in Oregon to fund the types of infrastructure considered in this analysis.
- **Infrequently used or challenging tools.** While technically possible, these tools are problematic and/or rarely used.

### Existing funding tools

The City of Hood River has these tools in place, and could apply them in the Westside Area. They are: Systems Development Charges, Fuel Tax, Local Improvement District, Property Tax: bonds, and cost sharing.

#### System Development Charge

##### How it works

System Development Charges (SDCs) are one-time impact fees assessed on all new development for various types of infrastructure. They are intended to fund the increased capital costs incurred by a municipality or utility resulting from the infrastructure or other needs associated with new development. Local jurisdictions must adopt a method that complies with state statutes for calculating the charges that sets the fee to reflect the actual cost of the needed capital improvements to which the fee is related. The City of Hood River currently charges transportation, water, wastewater, and stormwater SDCs. Additionally, properties in Hood River must pay the County Parks and Recreation District's SDC.

##### What it can be used for

SDC revenue can be spent on projects specifically outlined in a master plan, capital improvement plan, or other similar plan to be funded by, or in-part by SDC revenue. The project list can be updated or modified.

##### Key considerations

SDCs are paid by developers when they obtain permits, and contribute to a pool of SDCs that are then used to pay for approved projects across the City. Understanding immediate capacity to pay for the necessary up-front capital investment in infrastructure in the study area therefore requires an understanding both of the amount of revenue generated in the study area *and* the available city-wide SDCs.

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Development fees can affect the financial feasibility of development, because they increase the costs of construction for developers. See section 3 below for further explanation.

## **Local Fuel Tax**

### **How it works**

A fuel tax is on the sale of gasoline and other fuels, levied as a fixed dollar amount per gallon. The City of Hood River currently has a three-cent per gallon gas tax that generates about \$300,000 in revenue annually, but the City could increase the tax amount by a public vote (ORS 319.950).

### **What it can be used for**

Local fuel tax revenue can be spent on the same types of projects as the state's fuel tax revenue: "exclusively for the construction, reconstruction, improvement, repair, maintenance, operation and use of public highways, roads, streets and roadside rest areas" (Oregon Constitution, Article IX, Section 3a).

### **Key considerations**

Local fuel taxes in Oregon range from one cent to five cents per gallon, averaging 2.6 cents (not including the City of Portland's new 10 cent fuel tax). Only three cities, Warrenton, Woodburn, and Portland have fuel taxes over three cents. Increasing Hood River's fuel tax would make it one of the highest in the state. Because the City already has a local fuel tax, it would be relatively easy to administer citywide. However, passing a citywide fuel tax would be politically challenging if revenues were only spent on one area in the City. To pass, revenue would likely need to be spent on projects throughout the City, decreasing the revenue available for infrastructure in the study area.

## **Transient Room Tax**

### **How it works**

A transient lodging tax is a fee charged to customers for overnight lodging, generally for periods of less than 30 consecutive days. The fee is a percentage of lodging charges incurred by the customer, though some jurisdictions levy a fee per room night. Typical tax rates range between 3% and 9%. These local tax rates are in addition to the State transient lodging tax of 1%. The City of Hood River's Transient Room Tax is currently 8%.

### **What it can be used for**

Although local jurisdictions use transient lodging tax revenues to fund a wide variety of programs, the State enacted new legislation in 2003 that requires new or increased local transient lodging taxes to dedicate at least 70% of net revenue to fund tourism promotion or tourism-related activities. This significantly limits the amount of revenue that could be used for infrastructure from a transient lodging tax.



### Key considerations

This tool requires a more detailed cost-benefit analysis. Because Hood River already has a transient lodging tax, an increased tax would be easy to administer. Revenue generation would likely be high, as Hood River's has a large tourist economy. However, limited funding could be used for infrastructure in the study area. Additionally, it may be politically challenging to implement, as the tax is currently relatively high.

### Local Improvement District (LID)

#### How it works

An LID is a special assessment district where property owners are assessed a fee to pay for capital improvements, such as streetscape enhancements, underground utilities, or shared open space. LIDs must be supported by a majority of affected property owners.

#### What it can be used for

City Code states that "street, water, sewer, sidewalk, stormwater, or other local improvement" LIDs are permitted.

### Key considerations

The City of Hood River has municipal code that guides use of LIDs, and has used LIDs in the past. LIDs are often used for greenfield developments with relatively few property owners who can pay in proportion to their benefit.

An LID is a good mechanism for gathering contributions from key willing property owners who must have infrastructure for development to occur and will therefore benefit from their own investment.

### Property Tax: Bonds

#### How it works

There are two major types of bonds: General Obligation (GO) Bonds and revenue bonds. In Oregon, both are commonly levied against municipal property taxes, though revenue bonds can be levied against any steady stream of public tax revenue. The funding source is therefore the property tax.

- GO bonds: Local property taxes are committed to pay debt service on a city-issued GO Bond. GO bond levies typically last for 15 to 30 years for capital projects, and must be approved by a public vote. The effective property tax levied to support GO bond obligations can vary over time, based on the total assessed value of property within the jurisdiction that issued the bonds and the scheduled GO bond payment obligations.
- Revenue bonds: City-issued revenue bonds are used to finance revenue-generating projects. Income from the projects pay debt service on the revenue bonds. The City of Hood River currently has various mechanisms to share costs for infrastructure improvements with affected property owners. Municipal Code Chapter 3.16 established

a special revolving fund to pay for improvements and established procedures for alternate financing and loans.

### What it can be used for

GO and revenue bonds can be used for all types of infrastructure in this analysis.

### Key considerations

GO bonds require a public vote. Therefore, they are typically only used for projects that benefit all voters in a community. For this reason, revenue bonds may be more appropriate for infrastructure in the study area.

## Utility Fee

### How it works

A utility fee is a fee assessed to all businesses and households in the jurisdiction for use of specified types of infrastructure or public utilities, based on the amount of use (either measured or estimated). A utility fee can be applied citywide or in a smaller area within a city. The City of Hood River currently has a monthly stormwater utility fee, for maintenance and repair of the stormwater system.

### What it can be used for

Utility fees are common practice for a wide-range of services, including garbage, water, electricity, and other traditional utilities. In recent years, municipalities have become more creative in defining “utilities” to include other types of infrastructure like street lighting, transportation maintenance, and emergency services (both capital projects and operations and maintenance). Several other Oregon Communities have used utility fees to fund infrastructure and public works investments. Oregon City, for example, used a temporary monthly utility fee to fund a new public safety building, and Lake Oswego has a street maintenance utility fee.

### Key considerations

Utility fees are increasingly used to fund infrastructure projects.

Often, utility fee methodologies involve tradeoffs between fairness and simplicity, where the simplest fee structures may not do a great job of fairly allocating costs, and improving the fairness of the methodology may increase the complexity, making it more difficult to administer and understand.

## Partnerships: Cost-Sharing

### How it works

The City of Hood River currently uses cost-sharing agreements to leverage funding from various public and private partners. A recent example is the cost-sharing for the traffic signal improvement at the intersection of Cascade Avenue and Rand Road, between the City and private developers. The agreement requires developers to pay their proportionate share of the improvements, based on number of PM peak-hour trips generated.

Other examples of cost-sharing include public private development deals (cost sharing with private developers), local improvement districts (cost sharing with property owners), and any number of possible configurations of intergovernmental agreements (cost sharing with other government entities).

#### What it can be used for

Cost sharing can be used for all types of infrastructure in this analysis, provided that there is a willing partner who also benefits from the infrastructure investments.

#### Key considerations

Cost sharing mechanisms require partnerships. There must be a willing partner, who also benefits from improvements to infrastructure, to begin to discuss cost sharing approaches. Typically, these are negotiated on an ad-hoc basis and are specific to a particular infrastructure investment.

The City has existing cost-sharing agreements in place with the Oregon Department of Transportation (ODOT) and other developers for some intersections in the Westside Area Concept Plan area. When infrastructure costs are determined in future phases, the Westside Area Concept Plan should consider changes to existing cost sharing methodologies to fill the funding gap.

### Potential New Funding Tools for the Westside Area Concept Plan Area

The City may need to explore additional tools, beyond those that are already available, to fill gaps in the Westside Area Concept Plan Area. This subsection describes sole source SDCs, supplemental SDCs, urban renewal, utility fees, and special service districts as tools that could be considered. Some of these tools (like urban renewal) are in use in other parts of the City of Hood River, but would require additional policy action to be used in the Westside Area Concept Plan Area.

#### Sole Source SDC

##### How it works

SDC's are one-time fees based on proposed new use or increase in use of a property. Sole Source SDCs retains SDCs paid by developers within the limited geographic area that directly benefits from new development.

##### What it can be used for

Sole Source SDCs can only be spent on new development in the geographic area in which it is collected. The revenue is allocated separately from Citywide SDCs.

##### Key considerations

Sole Source SDCs can be administratively challenging to implement and manage, but they do ensure that revenues collected in an area are used in that area, and for that reason can sometimes be more acceptable to engaged property owners and developers.

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## Supplemental SDC

### How it works

Supplemental SDCs are additional SDCs charged on a specific sub-area of a city and are supplemental to the city's existing SDC. Sometimes, supplemental SDCs are charged only in certain geographies (supplemental SDCs charged in a sole source SDC area).

### What it can be used for

Supplemental SDCs can only be spent on new development in the geographic area in which it is collected. They are allocated separately from Citywide SDCs.

### Key considerations

Supplemental SDCs can be administratively challenging to implement and manage, but can they do ensure that property owners pay in proportion to their benefit.

## Urban Renewal

### How it works

Tax increment finance revenues are generated by the increase in total assessed value in an urban renewal district from the time the district is first established. The governing body, usually acting on the recommendation of Technical and Advisory Committees, creates an urban renewal district with specific boundaries and identities improvements to be funded within the district. Bonds may be issued to fund improvements. As property values increase in the district, the increase in total property taxes (e.g., city, county, school portions) is used to pay off the bonds. When the bonds are paid off, the entire valuation is returned to the general property tax rolls.

### What it can be used for

Urban renewal funds can be invested in the form of low-interest loans and/or grants for a variety of capital investments in blighted areas: redevelopment projects, economic development strategies, streetscape improvements, land assembly, transportation enhancements, historic preservation projects, and parks and open spaces.

### Key considerations

The City of Hood River already has three urban renewal areas (none of which overlap the study area), and therefore may be approaching statutory limits on the amount of area that can be in a URA at any given time. This would require investigation. Further, URAs can be politically challenging to implement, as they divert revenues that would otherwise flow to overlapping service providers who must nonetheless serve new development inside the URA boundary. However, they are powerful funding / financing mechanisms that are designed to support investments in infrastructure that are needed to allow redevelopment to occur.

## Special Service District

### How it works

A special service district can take several forms in Oregon, but in general, they use property taxes, service fees, or a combination of the two to finance infrastructure or other investments. Parks districts, fire districts, and county service districts are examples. A boundary for a potential special service district would need to be evaluated. Hood River Valley Parks and Recreation District is a special service district. Another example is in the North Bethany area of Washington County, where a new County Service District was put in place to fund infrastructure investments to support development.

### What it can be used for

Except in limited circumstances, special service districts are typically used to fund specific types of infrastructure (such as schools, or parks) rather than multiple types. They are also typically used for entire cities or larger geographic areas, rather than subareas.

### Key considerations

Implementing a special service district would require more analysis to determine (1) which segment of infrastructure should be funded with a special service district, and (2) the impact on the overall property tax rate.

A special service district would be politically challenging to implement in a subarea of the City.

### Infrequently used or challenging tools

The following tools are technically possible but are problematic and/or rarely used for a variety of reasons.

- **Income Tax.** An income tax is a tax on income, typically calculated as a surcharge on state income tax. Could apply to people, corporations, or both. Relatively low rates (1-3%) have potential to generate substantial levels of revenue. Local income taxes are politically challenging to implement and difficult to administer, while possible, are very rarely used.
- **Sales Tax.** A tax on retail sales, typically added to the price at the point of sale. Sales taxes are generally considered regressive because low-income people pay a higher percentage of their income than high-income people. There is no state sales tax in Oregon, but local governments could adopt a local sales tax. Essential goods like food, medicine, and housing are typically exempt from a sales tax. There is low likelihood of political acceptability for adopting a sales tax to fund growth.
- **Payroll tax.** A tax on wages and salaries paid by employers or by employees as a payroll deduction. A payroll tax generates revenue from people who work inside, but live outside of the area in which the tax is applied. Low rates (<1%) have potential to generate substantial levels of revenue. A local payroll tax can be administratively

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challenging. The City of Hood River does not currently have the facilities or infrastructure to implement it.

- **Income Tax Sequestration.** A variation on a local income tax is income tax sequestration. This concept identifies some group of income tax payers and diverts some or all state income tax revenues to a specific project. There is currently no State-sanctioned program in Oregon that would allow income tax sequestration, so a new program would need to be created.
- **Construction Excise Tax.** A tax levied on the value of new construction. Only school district and affordable housing related projects can be funded from Construction Excise Tax revenue. Hood River County School District currently implements a construction excise tax paid in association with building permits. Hood River County is also leading a discussion of implementing a construction tax for affordable housing.
- **Permit/Record Surcharge.** A fee charged to property owners for new construction, additions, or remodeling property. The amount of the building permit fee typically depends on the value of the construction. This source typically generates very limited amounts of funding.
- **Business License Fee.** A fee charged on businesses. There are a variety of ways that jurisdictions could choose to charge fees on businesses, including a one-time fee, to an annual fee based on sales, number of employees, size of building, amount of parking, or other factors. License fees can apply to all businesses or only certain businesses such as automobile dealers or service stations. A business license fee would generate limited amounts of funding. Additionally, a Citywide business license fee has no direct connection to the benefits received by infrastructure in the study area.



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