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| AGENDA ITEM #:                 | _____ |
| FINAL ACTION:                  | _____ |

## PLANNING COMMISSION STAFF REPORT

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**TO:** Planning Commission

**FROM:** Jon Holan, Community Development Director

**MEETING DATE:** January 17, 2017

**PROJECT TEAM:** Rob Foster, Public Works Director; Richard Blackmun, Special Projects Engineer; Dan Riordan, Senior Planner

**SUBJECT TITLE:** Westside Planning Infrastructure and Funding Approach

**ACTION REQUESTED:**  Ordinance  Motion  Informational

*X all that apply*

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**ISSUE STATEMENT:** The next major step in developing the Westside Plan is to identify the infrastructure (major roads, sanitary sewer, stormwater/drainage, water system, and parks) needed to support development and develop an approach to pay for it. The purpose of this work session is to review two documents prepared by the consultants on these two matters, take in public input and provide any direction as found appropriate by the Commission. Also included is the Transportation analysis provided by the consultants and is included here for information. Its findings will be addressed as part of addressing the Transportation Planning Rule requirements through the Plan adoption process.

**BACKGROUND:** The last Planning Commission work session was held on July 7, 2015 to provide direction on a potential land use direction for the Westside Planning area. The primary purpose of this action was to provide direction on planning for infrastructure needs. Once those needs were identified, a funding approach was developed. Attached are the Infrastructure Memo dated June 24, 2016 (Attachment A) and Westside Planning Area Funding Approach dated December, 2016 (Attachment B) for your review.

It should be noted that there are some differences in the infrastructure needs between the two documents. First, developing these two documents has been an iterative process as needs continued to be refined after the June 24<sup>th</sup> memo was prepared. Second, City Engineering staff conducted a greater study on the reservoir needs for the Westside Planning area, David Hill Urban Reserve and citywide as part of developing the funding approach document.

### **ANALYSIS:**

#### **INFRASTRUCTURE**

Infrastructure needs were developed by the consultants after assistance by staff and the Technical Advisory Committee, in particular Clean Water Services related to sewer and storm drainage. The

analysis focused on the skeleton system needed to accommodate future growth for transportation, sewer, water and stormwater (Park facilities were added later to the Funding analysis once the Parks Master Plan was well through the process).

The needs are based on a slightly higher number of planned units than the unit yield for the Planning Commission land use direction (2054 units vs. 1950 units). The purpose of this is to allow the Commission and City Council some flexibility in adjusting land uses through the public hearing process.

The following is a summary for each:

*Transportation:*

The purpose of the transportation infrastructure analysis was to identify the needed “grid” system for major roadways for the Westside area. These major roadway systems are composed of the collector network needed for traffic circulation for both the David Hill and Purdin Road areas. Identification of the collector street network is necessary to establish the policy basis for requiring dedication of right-of-way through the development review process. This approach is further needed to amend the Transportation System Plan (TSP) to comply with the Regional Transportation Plan (RTP). Section 3.08.110 B of the RTP Functional Plan requires:

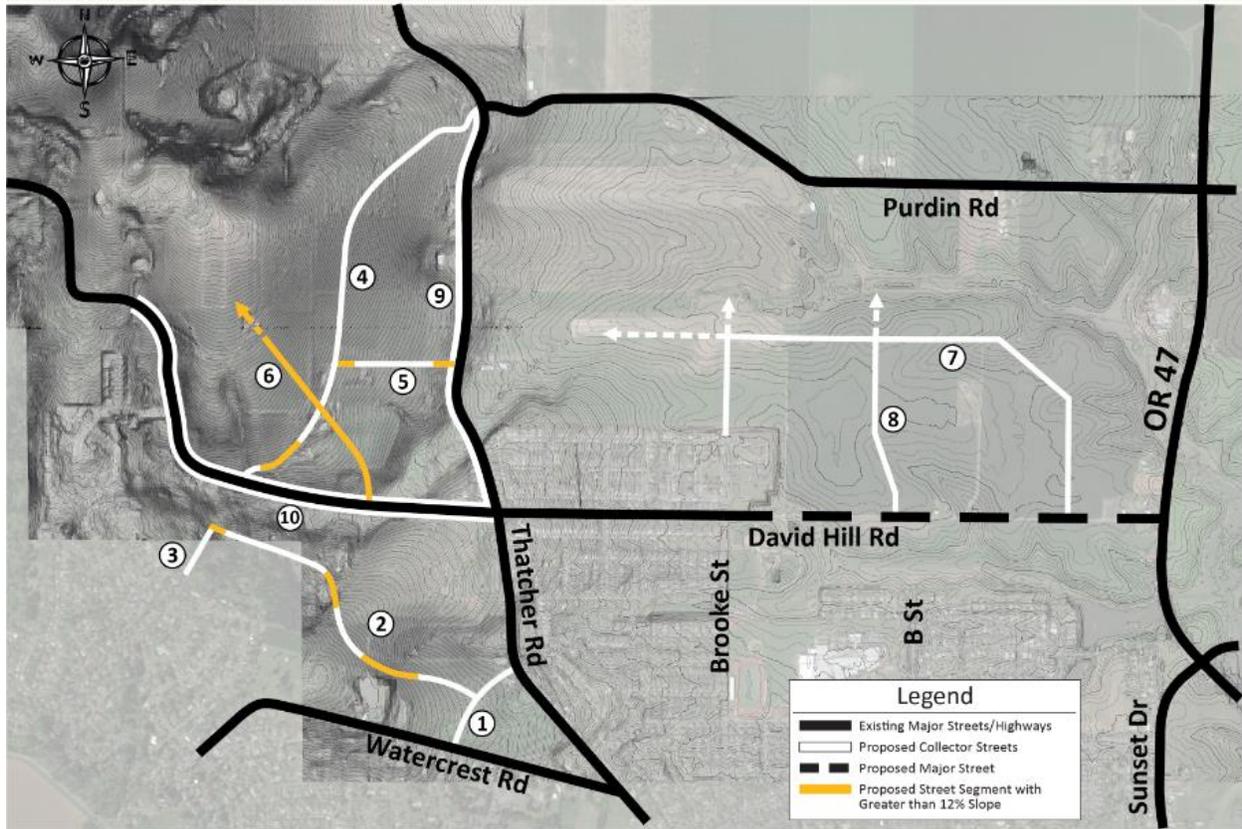
“To improve connectivity of the region’s arterial system, each city and county shall incorporate into its TSP a network of four-lane major arterial streets at one-mile spacing and two-lane minor arterial streets or collector streets at half-mile spacing to the extent practicable considering the following:

1. Existing topography;
2. Rail lines;
3. Freeways;
4. Pre-existing development;
5. Leases, easements or covenants in place prior to May 1, 1995; and
6. The requirements of Titles 3 and 13 of the Urban Growth Management Functional Plan (UGMFP).”

The City currently does not meet this standard due to the lack of planned roads in the David Hill area. Also, proper road planning for the Purdin Road area is necessary to meet this requirement. Metro has granted the City of Forest Grove a deferral to meet the road system requirements in the RTP until completion of the Westside Planning effort.

The proposed collector road system for the Westside Planning area is intended to address the RTP requirements and is depicted on the following map:

**Figure 1 – Proposed Collector Street System**

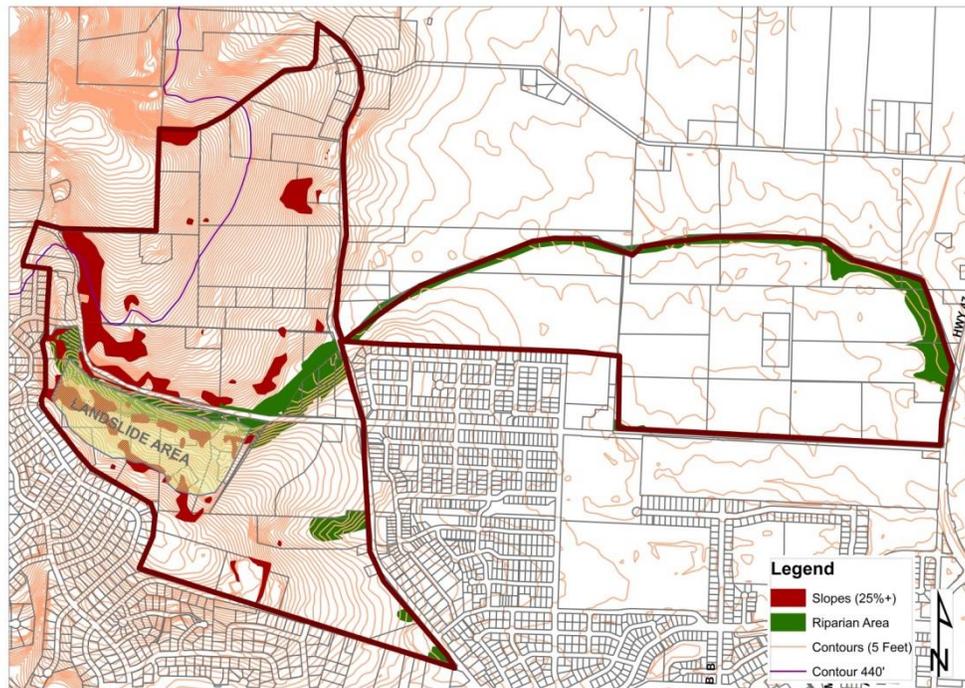


The map identifies conceptual locations rather than specific alignments. Alignments will be predicated on development applications taking into account engineering considerations. Road 6 is intended to remain a cul-de-sac until development in the David Hill Urban Reserve area occurs. Road 7 could be extended to Thatcher Road if the intervening area is removed from Rural Reserve in the future. Road 8 (extension of Road 8) and the extension of Brooke Street (part of Road 7) could also be extended to Purdin Road if the Rural Reserve designation is removed.

The main road issue with the David Hill area is topographic constraints. Figure 2 below illustrates the slopes for the area.

Figure 2 - Slope Map

## Westside Planning Project



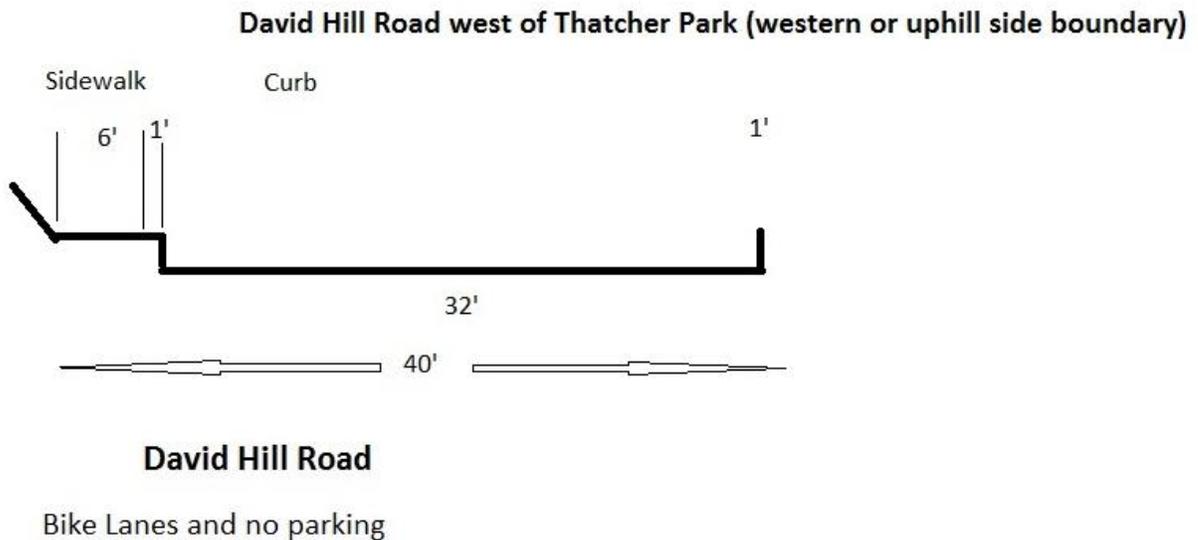
As can be seen from the map, the entire David Hill area has substantial slopes with the most challenging matter being the steep slopes (over 25%) along David Hill Road. In further analysis, there are four particular issues with roads and slopes in the David Hill area:

1. Getting access off of David Hill Road – To establish a roadway to serve as a backbone to the David Hill area, a collector connecting David Hill Road to Thatcher Road in the vicinity of Purdin Road is important. As can be seen from Figure 2, the uphill slopes along David Hill Road are greater than 25%. However, the placement of the road where shown in Figure 1 appears feasible based on development pre-applications staff has held on properties in the area.
2. Getting access off of Thatcher Road in the vicinity of Purdin Road – Although not over 25% slope, it appears that connecting a road from the area to Thatcher Road in this area will require some analysis as part of any further work (e.g. development application, road studies, etc.) due to slopes.
3. City road standards for slopes – Development Code Section 10.8.610 M. specifies that collectors not exceed 12% slope (Figure 1 shows the location of street segments exceeding that standard). However, the Development Code provides for some flexibility in strict adherence to street standards considering unacceptable adverse impacts to natural features including steep slopes (Section 10.8.610(6)) and the City has approved collectors up to 15% for a distance not exceeding 150 feet (portions of Forest Gale Drive). The Infrastructure analysis indicates that Roads 2, 4, 5, and 6 on Figure 1 would exceed the 12% with slopes

up to 15%. For Road 2, the length is estimated to be 1250 feet total in three segments. Road 4 would be 15% for about a 600 foot portion. Road 5 would have slopes ranging from 12% to 15%. Road 6 is assumed to be 15%. To achieve 12%, about 240,000 cubic yards of added cut and fill would be required.

As shown for Road 6, to achieve a 12% slope for any of these roadways, additional cut and fill would be required at a higher cost. Staff will be recommending an amendment to the City road standards to accommodate this situation. Further, the City Engineer indicates that any section above 12% and exceeding 250 foot distance should be constructed of concrete. Asphalt has a tendency to slide on that steep of slopes over that distance. The cost for concrete has been incorporated in the cost estimates.

4. David Hill Road Cross-Section – Due to the steep terrain, it is proposed that David Hill Road west of Thatcher Road have its own cross-section standard adopted in the Transportation System Plan (TSP). This cross-section would maintain a 32 foot wide street with no parking on both sides and a sidewalk on one side of the street. This would be accommodated on a 40 foot wide right-of-way. The intent would be to minimize grading in these steep slope areas. The current right-of-width for David Hill Road west of Thatcher Road within the UGB is 60 feet. Additional right-of-way may be needed for slope easements due to grading. This would be determined as part of specific development proceeds. The smaller David Hill Road cross-section could potentially be used for other collector roads with similar slope constraints.

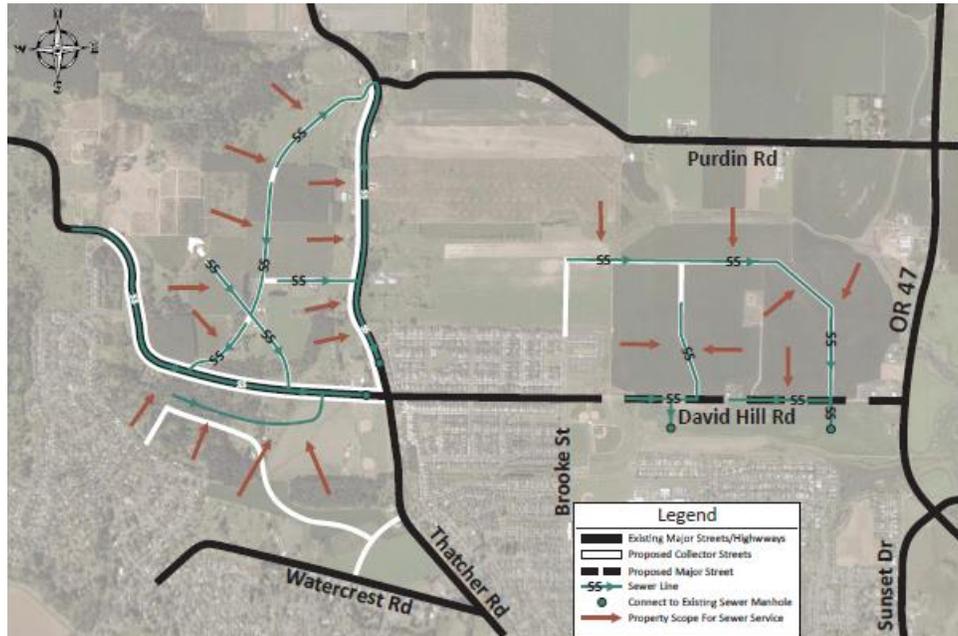


**Sewer:**

Currently, all sewer lines less than 21 inches in diameter are the responsibility of the City of Forest Grove while those lines that are larger are maintained by Clean Water Services (CWS). Anticipated revised agreements lower that division to lines 12 inches or less are the City's responsibility while larger lines (greater than 12 inches) are CWS responsibility. For the Westside

Planning area, all proposed sewer lines are 12 inch diameter or less. This makes these lines the responsibility of Forest Grove regardless of the agreement.

**Figure 3 - Proposed Sewer System Improvements**



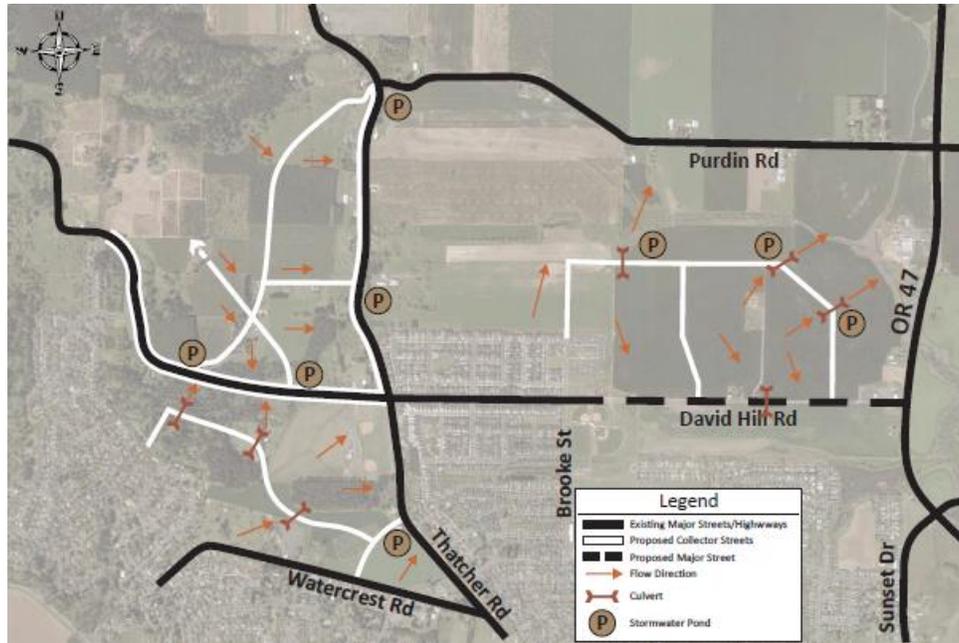
Overall, the sewer layout follows the proposed roadways. It is designed to capture sewer flows from development on a gravity basis.

One aspect of the sewer lines is how it connects to major sewer trunk lines at Council Creek. For the northern portions of the David Hill area, the conveyance of the sewer could be achieved in two different ways. One option considered was to install a sewer trunk line in the Rural Reserve parallel and south of Purdin Road to provide a direct connection to major line at Council Creek. The other option was to install a sewer line along Thatcher Road to connect to the existing sewer line at David Hill. This option was selected because it could utilize existing sewer lines at David Hill Road which have adequate capacity. This avoids constructing redundant sewer lines through Rural Reserve areas. To implement this option, Thatcher Road will have to be slightly elevated (for a distance of 800 feet) to allow the sewer line to span the creek where Thatcher Road crosses the creek north of David Hill Road. Cost estimates include this improvement.

### *Stormwater*

Stormwater facilities are for the proposed collector street system discussed above and illustrated in Figure 4 below. As a result, the facilities are located adjacent to the street system. Stormwater facilities for development will require additional facilities. The facilities are intended to meet anticipated future CWS requirements and will require careful design in the David Hill area due to slopes.

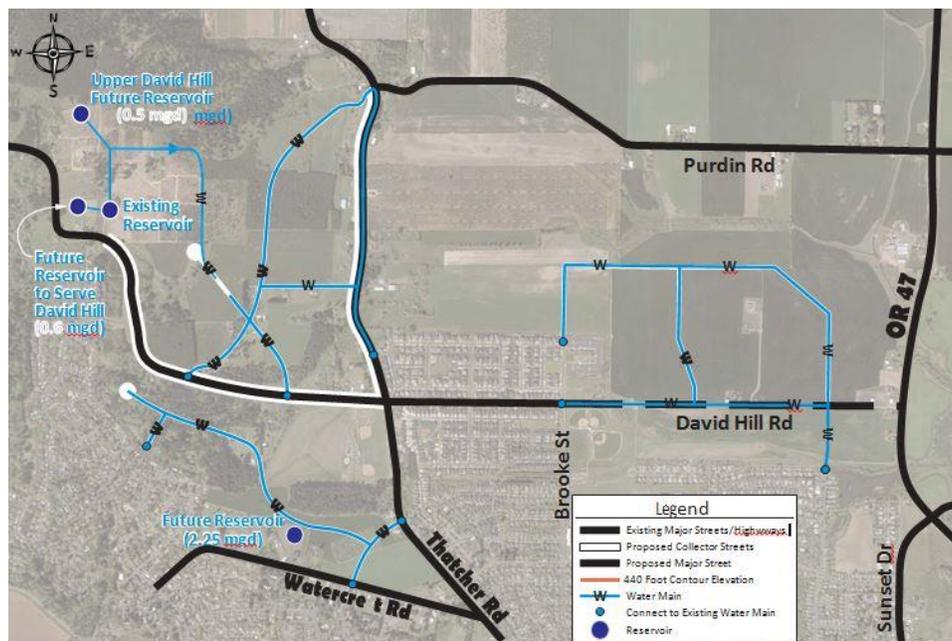
Figure 4 - Proposed Stormwater System



*Water System*

The water system layout and needed reservoirs are depicted in Figure 5 below.

Figure 5 - Proposed Water System



The major issue is the need for reservoirs which has proceeded through an iterative process by the Engineering Division through the development of the funding approach. There were three aspects to the reservoir planning conducted by the Division as follows:

- Needed reservoirs to serve land in the David Hill area at elevations higher than the 440 foot contour in the Urban Growth Boundary (UGB and within the planning area) and the Urban Reserve Area (URA and outside the planning area);
- Needed reservoirs in the intermediate pressure zone (240 foot to 440 foot elevation) to address future demands; and
- Cumulative future city wide needs.

The needs are primarily based on meeting needed fire flows because domestic needs are not as great.

To address the needs described above, the following reservoirs have been identified:

- One 0.5 million gallon (mg) reservoir for the David Hill UGB between 440 to 615 foot elevation;
- One 0.5 mg reservoir for the David Hill URA between 190 to 615 foot elevation;
- Two 0.3 mg reservoirs for the David Hill UGB between 250 to 440 foot elevation (based on current Water Master Plan – if the 0.5 mg reservoir for the UGB was expanded to 0.6 mg, these two 0.3 mg reservoirs would not be necessary); and
- One 2.25 mg reservoir at the Water Treatment plant to serve citywide needs.

These reservoir needs could be further modified when the Water Master Plan is anticipated to be updated in 2018. For example, the construction of a 1.0 mg reservoir to serve both the UGB and URA could be constructed rather than the two 0.5 mg reservoirs. However, other issues such as water turnover need to be evaluated as part of the Master Plan update.

One other note, the Planning Commission gave an initial direction to retain the Suburban Residential District with the caveat of reconsidering the designation depending on the difference in cost for the infrastructure. The alternative land use would be R-10 zoning. The one infrastructure cost which would vary is water supply. (Other infrastructure costs would essentially not change due to the small number of homes under either scenario.) The Engineering Division has determined the per unit cost for the area within the UGB for Suburban Residential and R10 zoning based on the cost for a 1.0 mg reservoir as follows:

- SR (24 units) \$5,000 per unit
- R10 (105 units) \$4,700 per unit

The difference of \$300 per unit is considered minor. The reason for the slight difference is due to the difference in storage needs for the different zone designations. The revenue difference would

be pro-rated through other development either in the UGB below 440 foot elevation or in the URA. Because of the small number of units under both scenarios, neither option would trigger a lower reservoir storage need. Thus, the small difference in cost indicates that there is no basis to select one designation over the other based on differences in infrastructure costs.

### *Parks*

Parks was not assessed in the infrastructure costs since the Parks Master Plan was developed and adopted later in the process. Based on the Parks Plan, there are three projects within the Westside Planning area as follows. These parks, the area of benefit and total costs are as follows:

- |   |                  |             |
|---|------------------|-------------|
| • Improvements to Thatcher Park           | Citywide         | \$3,400,000 |
| • Improvements to the Dog Park            | Citywide         | \$ 200,000  |
| • Development of Purdin Neighborhood Park | Purdin Road Area | \$3,000,000 |

The development costs for the Purdin Neighborhood Park includes property acquisition as well as development costs.

### *Schools*

School costs were also not assessed in the infrastructure analysis. This is because the cost is the responsibility of the Forest Grove School District and is not considered a development cost (i.e. no developer SDC's are charged for new school development although a Construction Excise Tax is collected for each new residential (\$1 per square foot) and non-residential (\$0.50 per square foot) development). The update to the Comprehensive Plan shows a need for a new elementary school over the 20 year planning period for the city. Since the largest future growth in the City is in the Westside Planning area, a site has been designated for an elementary school. If the District determines to accommodate that need in another way, then the City would reevaluate the appropriate land use designation for the site.

## **FUNDING APPROACH**

The funding approach is developed for two purposes. First, it recommends an approach to fund the various area-wide infrastructure improvements. Second, it tests the funding demands to determine if they are financially feasible. These costs are in current dollars and should be considered "worse-case". As funding mechanisms are established, different approaches may reduce some of the costs to be financed.

The assessment evaluated the current costs for needed improvements as developed in the infrastructure analysis (with the exception of the reservoirs) and comparing the costs to adopted System Development Charges (SDC). This revealed where additional funding would be needed to determine true development costs.

One caveat pertains to the use of TDT to these roadways. TDT funds can only be used for those roadways on the County's TDT list of road projects. With the exception of David Hill Road and Thatcher Road, none of these proposed roadways are on this list. The first step in that process is to incorporate them in the City's TSP projects. Then the City will have to propose their incorporation into the TDT project list to be eligible for use of TDT funds.

*Funding Framework (Section II)*

The assessment first reviewed nine different funding tools used in Oregon as follows:

- SDC's
- Transportation Development Tax (TDT) – like an SDC but technically a tax
- Utility Fee
- Local Option Levy for Capital Improvements
- Local Improvement District (LID)
- Reimbursement District
- Urban Renewal District (Tax Increment Financing)
- Debt Financing
- Public Improvement Agreements

*Capital Costs (Section III)*

The analysis then summarized the capital costs for infrastructure improvements for the Westside Planning Area (Figure 5 below). It includes costs broken down into a possible short-term investment and longer term funding.

**Figure 6 - Summary of Infrastructure Costs**

| <b>Westside Planning Area Infrastructure Cost Assumptions</b> |                                |                               |                                 |                           |                           |
|---|--------------------------------|-------------------------------|---------------------------------|---------------------------|---------------------------|
|   | <b>Short Term Public Costs</b> | <b>Long Term Public Costs</b> | <b>Total Local Public Costs</b> | <b>Number of Projects</b> | <b>Avg. Cost per Acre</b> |
| <b>Transportation<sup>1</sup></b>                             | \$1,454,000                    | \$28,776,800                  | \$30,230,800                    | 11                        | \$80,734                  |
| <b>Water</b>  | 875,000                        | 7,658,000                     | 8,533,000                       | 13                        | \$22,788                  |
| <b>Sewer</b>  | 1,128,750                      | 2,506,850                     | 3,635,600                       | 8                         | \$9,709                   |
| <b>Stormwater</b>   | 0                              | 1,575,000                     | 1,575,000                       | 12                        | \$4,206                   |
| <b>Parks<sup>2</sup></b>                                      | 0                              | 3,648,000                     | 3,648,000                       | 3                         | \$9,742                   |
| <b>Total</b>  | <b>\$3,457,750</b>             | <b>\$43,760,650</b>           | <b>\$47,622,400</b>             | <b>47</b>                 | <b>\$127,779</b>          |

**Source:** Revised Final Westside Water, Sewer, and Stormwater Infrastructure Analysis dated June 24, 2016; compiled by FCS GROUP.

<sup>1</sup> Costs for transportation include only the collector road network and do not include local residential streets

<sup>2</sup> Parks costs are for the Westside Planning area only.

The analysis then summarizes the current funding framework which are System Development Charges collected for various facilities. Figure 6 below provides a summary of the charges the analysis used and reflects the City share where divided between the City and CWS. It should be

noted that the TDT rate is blended between single-family detached (\$8,278 per unit) and single family attached (\$4,951 per unit for condominium and townhouses). The share of sewer SDC's reflects an anticipated change in revenue sharing between Forest Grove and CWS.

**Figure 7 - Current SDC's**

| SDCs Charged in Forest Grove per Dwelling         |                     |                    |
|---|---------------------|--------------------|
| Infrastructure Type (with Oversight Jurisdiction) | Total Rate Per Unit | City Share of Rate |
| Transportation (Washington Co)*                   | \$7,914             | \$7,914            |
| Water (City)                                      | \$5,478             | \$5,478            |
| Sewer (CWS)                                       | \$5,300             | \$212              |
| Stormwater (City)                                 | \$510               | \$510              |
| Parks (City)                                      | \$3,000             | \$3,000            |

**Source:** Clean Water Services, Washington County, and City of Forest Grove, compiled by FCS GROUP.

\*Reflects blended rate of TDT which accounts for single family detached (~89% of development) and single family attached (~11% of development).

### *Funding Evaluation (Section IV)*

In this section of the analysis, it first evaluated the various funding tools identified above based on five criteria:

- Equity
- Reliability of Funds
- Market Acceptance
- Ease of Implementation
- Ability to Address Costs

Based on this assessment, four tools were identified to be considered further including:

- Development Agreements
- Utility Agreements (Area Specific)
- SDC's (Area specific)
- Local Improvement Districts

The analysis in Section IV then focused on the various costs for each infrastructure type (transportation, water, sewer, stormwater and parks). Consideration was given to the amount of revenue from current SDC's be used including use of 18, 40 and 100 percent of the SDC's collected. Eighteen percent reflects the Westside Planning Area share of future population growth for the entire city. Forty percent reflects the Westside Planning Area percentage of total citywide housing growth for the next 20 years.

**Figure 8 - Summary of Infrastructure Costs and Deficits**

|              | Cost         | SDC (100%)   | Net (+/(-))    |
|--------------|--------------|--------------|----------------|
| • Collectors | \$30,230,800 | \$16,254,437 | (\$13,976,363) |
| • Sewer      | \$ 3,635,600 | \$435,448    | (\$3,200,152)  |
| • Stormwater | \$ 1,575,000 | \$1,047,540  | (\$527,460)    |
| • Water      | \$ 8,533,000 | \$11,251,812 | \$2,718,812    |
| • Parks      | \$ 3,648,000 | \$ 6,162,000 | \$2,514,000    |

- Note: Cannot commingle SDC's amongst infrastructure types, i.e., cannot use Parks SDC's for Water facilities.
- Assumes 100% of SDC's collected from Westside Planning Area are used in Westside Planning Area.

Figure 7 is based on the use of 100% of the SDC's collected to pay for infrastructure costs. However, the purpose of SDC's is pay for area wide system improvements. Further, some SDC's revenues (i.e. water) collected are used in part to pay for existing system improvements. Thus, the use of 100% of the SDC's received from development in the Westside Planning area may not appropriate for certain improvements. The recommendation to cover costs in the financing program is as follows:

- Transportation (Collectors)
  - Use 40% of SDC's from new development in Westside (\$6,501,775)
  - Establish supplementary SDC as follows:

**Figure 9 - Proposed SDC's by Unit Type**

| Existing and Proposed Transportation Charges in Forest Grove by Dwelling Type | Current TDT | Proposed Area SDC (prelim.) | Total (prelim.) |
|---|-------------|-----------------------------|-----------------|
| Single Family Detached  | \$8,278     | \$12,084                    | \$20,362        |
| Apartment   | \$5,415     | \$7,905                     | \$13,320        |
| Condo/Townhouse   | \$4,951     | \$7,227                     | \$12,178        |

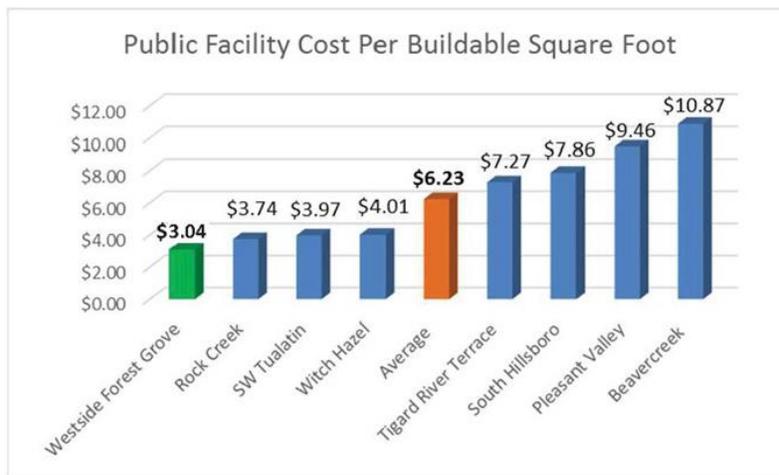
- This set of SDC's is anticipated to generate \$23,729,862 – Total: \$30,231,637
- Sewer System
  - 100% SDC from development in both areas
  - Supplementary SDC of \$1,427 for David Hill
- Stormwater
  - 100% of SDC from development in both areas
  - \$7/month stormwater rate surcharge phased in over 5 years to finance deficit

- City may establish reimbursement district if surcharge is insufficient
- Water System
  - 100% of SDC's
- Parks
  - 100% of SDC's

*Market Considerations (Section V)*

The analysis concludes with an evaluation to determine if the proposed financing scheme is market feasible. The first consideration is the cost of the infrastructure improvements on a buildable square foot basis and comparing those costs with other urbanizing areas in the region, which is shown in Figure 9.

**Figure 10 - Comparison of Major Infrastructure Cost per Square Feet of Buildable Land Area**

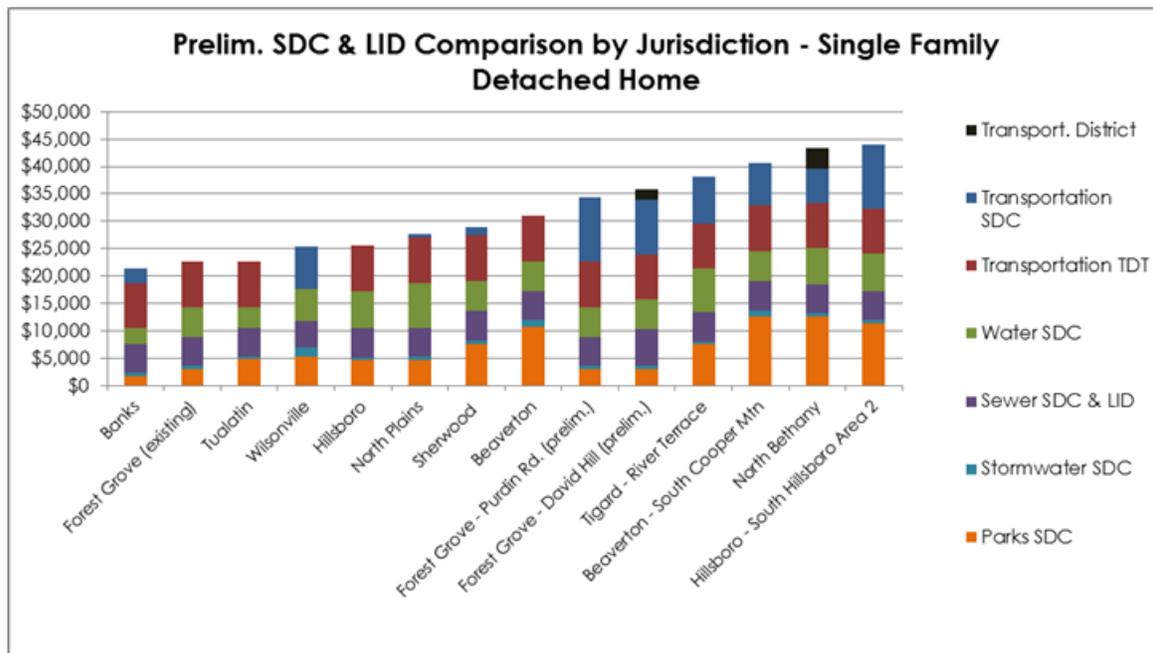


Source: analysis by FCS Group using assumptions contained in adopted concept plans and funding strategies for each area; adjusted to 2016 dollars.

As can be seen from the figure, development costs for the Westside Planning Area compares favorably with other developing areas.

The next focus was to compare existing and proposed SDC's for the Westside Planning Area to SDC's for other areas in the region. Figures 10 and 11 provide a table and graphic on the comparisons.

**Figure 11 - SDC & LID Comparison by Jurisdiction**



Source: analysis by FCS Group as of August 2016.

**Figure 12 - Table of SDC's & LID Costs by Jurisdiction**

| Jurisdiction                        | Parks SDC | Stormwater SDC | Sewer SDC & LID | Water SDC | Transportation TDT | Transportation SDC | Transport District | Total    |
|-------------------------------------|-----------|----------------|-----------------|-----------|--------------------|--------------------|--------------------|----------|
| Banks                               | 1,800     | 510            | 5,300           | 2,825     | 8,278              | 2,704              |                    | 21,417   |
| Forest Grove (existing)             | 3,000     | 510            | 5,300           | 5,478     | 8,278              | -                  |                    | 22,566   |
| Tualatin                            | 4,786     | 510            | 5,300           | 3,754     | 8,278              | -                  |                    | 22,628   |
| Wilsonville                         | 5,374     | 1,628          | 4,849           | 5,842     | -                  | 7,695              |                    | 25,388   |
| Hillsboro                           | 4,647     | 510            | 5,300           | 6,830     | 8,278              | -                  |                    | 25,565   |
| North Plains                        | 4,725     | 510            | 5,300           | 8,169     | 8,278              | 638                |                    | 27,620   |
| Sherwood                            | 7,669     | 621            | 5,295           | 5,592     | 8,278              | 1,506              |                    | 28,961   |
| Beaverton                           | 10,800    | 1,104          | 5,300           | 5,512     | 8,278              | -                  |                    | 30,994   |
| Forest Grove - Purdin Rd. (prelim.) | 3,000     | 510            | 5,300           | 5,478     | 8,278              | 12,084             |                    | 34,650   |
| Forest Grove - David Hill (prelim.) | 3,000     | 510            | 6,727           | 5,478     | 8,278              | 10,084             | 2,000              | 36,077   |
| Tigard - River Terrace              | 7,566     | 510            | 5,300           | 7,917     | 8,278              | 8,489              |                    | 38,060   |
| Beaverton - South Cooper Mtn        | 12,624    | 1,104          | 5,300           | 5,512     | 8,278              | 7,725              |                    | 40,543   |
| North Bethany                       | 12,645    | 510            | 5,300           | 6,687     | 8,278              | 6,113              | 3,750              | 43,283   |
| Hillsboro - South Hillsboro Area 2  | \$11,433  | \$510          | \$5,300         | \$6,830   | \$8,278            | \$11,731           |                    | \$44,082 |

Source: survey conducted by FCS GROUP as of August 2016.

The analysis concludes that if the City implemented the recommended funding approach, the overall SDCs (and LID charges) would increase by approximately \$13,400 per single family dwelling within the Westside Planning Area. The resulting Westside Planning Area SDCs would be similar to the new overlay areas for South Hillsboro, Tigard River Terrace, Beaverton South Cooper Mountain, and North Bethany.

The analysis concludes by comparing the total assessments per single family detached dwelling for Forest Grove, Westside Planning Area, and new developing areas of South Cooper Mountain and

South Hillsboro. This comparison is shown in Figure 12 below and it shows that the proposed total charges for the Westside Planning Area compares favorably with these other developing areas in Washington County.

**Figure 13 - Comparison of SDC for Single Family Detached Dwellings**

| <b>Total SDC &amp; LID assessments per Single Family Detached Dwelling</b> |  |   |  |
|--|--|---|--|
|  | <b>Current/<br/>Proposed SDCs &amp;<br/>LIDs per Sq.Ft. of<br/>Floor Area <sup>1</sup></b> | <b>Expected<br/>Home Sales<br/>Price per<br/>Square Foot<sup>**</sup></b> | <b>SDCs &amp; LIDs<br/>as a % of<br/>Current Sales<br/>Price</b> |
| <b>Forest Grove (existing)</b>   | \$9.03   | \$140.72  | 6.4%   |
| <b>Beaverton - South Cooper Mountain</b>                                   | \$16.22  | \$199.98  | 8.1%   |
| <b>Forest Grove - Westside Planning Area</b>                               | \$14.43  | \$161.83  | 8.9%   |
| <b>Hillsboro - South Hillsboro</b>   | \$17.63  | \$171.76  | 10.3%  |

Note 1: Assumes 2,500 square foot house and assumes 15% price per square foot premium for housing in new master planned areas.

Note 2: Reflects sales price for homes built since 2010.

Compiled by FCS GROUP based on Zillow.com data.

*Up-Front Improvements*

The City could consider an option to construct certain improvements in early years. One of the biggest challenges for the David Hill area is to construct initial improvements to facilitate development. Based on interest expressed to date, initial interest in development is up David Hill with about a 700 foot distance to the nearest existing sewer line. Parcel sizes are relative small and not yielding sufficient number of units for any one development project to fund the extension of offsite improvements. There is potentially a similar situation along Thatcher Road although, with the exception of one approved project (Green Grove Co-Op project), staff has not observed any development interests at this time. The following are a proposed and minimum list of possible improvements:

**Figure 14 - Up Front Improvement Costs**

|  |                                 |
|--|---------------------------------|
| <b>Proposed Up Front Improvements</b>    |                                 |
| • Thatcher Road Improvement              | - \$1,454,000                   |
| • 0.5 mg water reservoir (WS fair share) | - \$875,000                     |
|  | (overall cost of \$4,182,500)   |
| • Sewer lines – DH and Thatcher roads -  | <u>\$1,128,750</u>              |
|  | <u>\$3,457,750</u>              |
|  | (overall cost of \$6,765,250)   |
| <b>Minimum Improvements</b>              |                                 |
| • David Hill Road Sewer Line (700 feet)  | \$460,000                       |
|  | (Line costs plus contingencies) |

More discussion on this approach is needed including property owners acceptance, risk to the City, other completing obligations and method to finance if this option is pursued.

### *Costs by Area*

Appendix A if the Funding Strategy breaks down the cost and revenue received for each area of the Westside Planning area. The capital costs are not equal between the David Hill and Purdin Road areas. Figure 14 below summarizes those costs and estimated revenue from existing SDC's for each area. It suggests that the City could consider different approaches for financing improvements for each area. The total infrastructure cost for each area is \$34,932,500 for the David Hill area and \$12,690,000 for the Purdin Road area.

**Figure 15 - Summary of Capital Costs for David Hill and Purdin Road Areas**

| <b>Summary of Capital Infrastructure Costs and Expected Funding Gap Under Status Quo</b> |                        |                         |                       |
|--|------------------------|-------------------------|-----------------------|
| <b>Transportation Element</b>  |                        |                         |                       |
|  | <b>David Hill Area</b> | <b>Purdin Road Area</b> | <b>Combined Areas</b> |
| <b>Total Costs</b>   |                        |                         |                       |
| Total Costs  | \$23,880,900           | \$6,349,900             | \$30,230,800          |
| Net Revenue Based on Current TDT*  | \$6,781,915            | \$9,472,522             | \$16,254,437          |
| Remaining Costs  | \$17,098,985           | -\$3,122,622            | \$13,976,363          |
| <b>Water Element</b>   |                        |                         |                       |
|  | <b>David Hill Area</b> | <b>Purdin Road Area</b> | <b>Combined Areas</b> |
| <b>Total Costs</b>   |                        |                         |                       |
| Total Costs  | \$6,855,500            | \$1,677,600             | \$8,533,100           |
| Net Revenue Based on Current SDC*  | \$4,694,646            | \$6,557,166             | \$11,251,812          |
| Remaining Costs  | \$2,160,854            | -\$4,879,566            | -\$2,718,712          |
| <b>Sanitary Sewer Element</b>  |                        |                         |                       |
|  | <b>David Hill Area</b> | <b>Purdin Road Area</b> | <b>Combined Areas</b> |
| <b>Total Costs</b>   |                        |                         |                       |
| Total Costs  | \$2,480,600            | \$1,155,000             | \$3,635,600           |
| Net Revenue Based on Current SDC*  | \$181,684              | \$253,764               | \$435,448             |
| Remaining Costs  | \$2,298,916            | \$901,236               | \$3,200,152           |
| <b>Stormwater Element</b>  |                        |                         |                       |
|  | <b>David Hill Area</b> | <b>Purdin Road Area</b> | <b>Combined Areas</b> |
| <b>Total Costs</b>   |                        |                         |                       |
| Total Costs  | \$1,067,500            | \$507,500               | \$1,575,000           |
| Net Revenue Based on Current SDC*  | \$436,824              | \$610,716               | \$1,047,540           |
| Remaining Costs  | \$630,676              | -\$103,216              | \$1,533,098           |
| <b>Parks Element</b>   |                        |                         |                       |
|  | <b>David Hill Area</b> | <b>Purdin Road Area</b> | <b>Combined Areas</b> |
| <b>Total Costs</b>   |                        |                         |                       |
| Total Costs  | \$648,000              | \$3,000,000             | \$3,648,000           |
| Net Revenue Based on Current SDC*  | \$2,571,000            | \$3,591,000             | \$6,162,000           |
| Remaining Costs  | -\$1,923,000           | -\$591,000              | -\$2,514,000          |

\* revenues are based on residential development only and conservatively excludes additional long-term SDC revenue from retail, schools and parks.

## **CONCLUSIONS OF INFRASTRUCTURE AND FUNDING APPROACH**

The analysis provided in the Infrastructure Analysis and Funding Approach reveals the following conclusions and questions:

- The conclusions in the two reports are consultant analysis and recommendations. Further discussion of the approach with property owners, developers and the City needs to be made before being implemented. These will be pursued once the Area Plan has been adopted and an overall policy base has been established.
- Infrastructure needed to develop the Westside Planning Area includes collector street system, sewer, water, stormwater, and parks.
- Road improvements identified in this analysis needs to be added to the City's Transportation System Plan (TSP) and the Transportation Development Tax (TDT) projects list to allow use of TDT in the Westside Planning Area.
- Total Infrastructure cost for the Westside Planning Area is \$47,622,500.
  - These costs vary between the David Hill (\$34,932,500) and Purdin Road (\$12,690,000) areas.
- Current SDC revenue could fund water and parks improvements with residual revenues to fund other related improvements in the community.
- Current SDC revenue would be deficient to entirely fund needed road, sewer and stormwater improvements.
- To address deficiencies, the recommendation is to primarily use supplemental SDC's with a monthly fee for stormwater over a 5 year period.
- The overall approach recommended by the consultant is less on a square footage basis than other developing areas in Washington County and is considered feasible.
- Further evaluations needed to be made in establishing a funding program include:
  - Water reservoirs development which would be the focus of the Water Master Plan update in 2018;
  - What percent of existing SDC's should be used to fund improvements?
  - Should up-front improvements be considered?

## **TRANSPORTATION ANALYSIS**

The consultants also prepared an analysis on the area roadways as a result of full build out of the Westside Planning Area (see Attachment 3). This analysis considered a "worse case" land use scenario including 2,132 dwellings and 126,500 square feet of non-residential space. This compares with 1,950 dwellings and 172,000 square feet of non-residential space under the Planning Commission land use direction. (Both alternatives include 65,000 square feet for an elementary school.) A comparison of the overall Average Daily Trips (ADT) for the two scenarios would be 23,219 for the worse-case scenario and 24,155 for the Planning Commission alternative. The analysis, however, is based on peak hourly trips rather than ADT. This results in a difference of 64 more two way trips for the Planning Commission scenario. This is not a significant, particularly considering that these trips would be distributed over the entire circulation system.

The following table is the current TSP analysis for the area roads. While this analysis includes the David Hill area for development, it does not include the added traffic from the Purdin Road area since the Purdin area was not yet added to the urban growth boundary by the Oregon Legislature. Further, the assessment was based on no traffic circles for the David Hill and Purdin road intersections with Highway 47.

**Figure 16 - 2035 Transportation Impacts from Current TSP**

| No.                               | Intersection                   | Operational Standard | Level of Service (LOS) <sup>1</sup> | Average Delay* (Seconds) | Volume / Capacity (V/C) |
|-----------------------------------|--------------------------------|----------------------|-------------------------------------|--------------------------|-------------------------|
| <i>Unsignalized Intersections</i> |                                |                      |                                     |                          |                         |
| 1                                 | Thatcher Road/Watercrest Road  | LOS E/0.99           | A/C                                 | 17.2 <sup>2</sup>        | 0.09 <sup>2</sup>       |
| 2                                 | Gales Creek Road/Thatcher Road | LOS E/0.99           | A/B                                 | 11.6 <sup>2</sup>        | 0.24 <sup>2</sup>       |
| 3                                 | Highway 47/Verboort & Purdin   | V/C=0.99             | A/F                                 | >200 <sup>2</sup>        | >2.00 <sup>2,3</sup>    |
| 5                                 | Highway 47/Martin Road         | V/C=0.99             | A/F                                 | >200 <sup>2</sup>        | >2.00 <sup>2</sup>      |
| 7                                 | Highway 47/David Hill Road     | V/C=0.99             | -/F                                 | >200 <sup>2</sup>        | 1.54 <sup>2,4</sup>     |
| <i>Signalized Intersections</i>   |                                |                      |                                     |                          |                         |
| 4                                 | Highway 47/Sunset Drive        | V/C=0.99             | B                                   | 16.1                     | 0.50                    |
| 6                                 | Pacific Avenue/Quince Street   | V/C=0.99             | D                                   | 53.4                     | 0.97                    |

\* Minor street average delay reported for unsignalized intersections

- 1 For unsignalized intersections the first value is the free movement; second value is the worst stopped movement. At signalized locations the value is for the entire intersection.
- 2 Worst stopped movement.
- 3 Development of local street connections in Forest Grove may divert added WB traffic to this location requiring improvements. This analysis assumes existing lane configuration and traffic control. Subsequent to TSP preparation, improvement of the intersection as a single lane roundabout was undertaken.
- 4 Assumes stop control for side street traffic. Subsequent to TSP preparation, improvement of the intersection as a single lane roundabout was undertaken.

<sup>1</sup> Oregon Highway Plan, Policy Element, Table 7, Oregon Department of Transportation, 1999.

<sup>2</sup> Washington County 2020 Transportation System Plan, Washington County, 2002.

This compares with the impacts and analysis provided in the document as a result of the Westside Planning Area. Keep in mind that these impacts would occur at full development of both the David Hill and Purdin Road areas and is anticipated by the Year 2035 or about 20 years in the future.

**Figure 17 - 2035 Transportation Impacts including the Westside Planning Area**

| No.                               | Intersection                   | Operational Standard | Level of Service (LOS) <sup>1</sup> | Average Delay* (Seconds) | Volume / Capacity (V/C) |
|-----------------------------------|--------------------------------|----------------------|-------------------------------------|--------------------------|-------------------------|
| <i>Unsignalized Intersections</i> |                                |                      |                                     |                          |                         |
| 1                                 | Thatcher Road/Watercrest Road  | LOS E/0.99           | A/C                                 | 21.8 <sup>2</sup>        | 0.15 <sup>2</sup>       |
| 2                                 | Gales Creek Road/Thatcher Road | LOS E/0.99           | A/B                                 | 10.8 <sup>2</sup>        | 0.21 <sup>2</sup>       |
| 5                                 | Highway 47/Martin Road         | V/C=0.99             | -/F                                 | 158.8 <sup>2</sup>       | 1.21 <sup>2</sup>       |
| <i>Roundabouts</i>                |                                |                      |                                     |                          |                         |
| 3                                 | Highway 47/Verboort & Purdin   | V/C=0.99             | F                                   | 87.4 <sup>2,3</sup>      | 1.34 <sup>2,3</sup>     |
| 7                                 | Highway 47/David Hill Road     | V/C=0.99             | F                                   | 91.4 <sup>2,3</sup>      | 1.33 <sup>2,3</sup>     |
| <i>Signalized Intersections</i>   |                                |                      |                                     |                          |                         |
| 4                                 | Highway 47/Sunset Drive        | V/C=0.99             | C                                   | 33.4                     | 0.60                    |
| 6                                 | Pacific Avenue/Quince Street   | V/C=0.99             | E                                   | 65.5                     | 0.99                    |

\* Minor street average delay reported for unsignalized intersections

1 For unsignalized intersections the first value is the free movement; second value is the worst stopped movement. At signalized locations the value is for the entire intersection.

2 Worst stopped movement.

3 Pending single lane roundabout intersection improvements are assumed here.

This analysis assumes the installation of the roundabouts at the David Hill and Purdin road intersections with Highway 47. As stated the analysis conclusions, the impact on the two roundabouts may require further channelization. Impacts at Martin Road is an issue regardless of the Westside Planning Area and will require further study to develop the appropriate solution.

The Oregon Transportation Planning Rule (TPR) requires coordination between land use plans and transportation plans. Under the TPR, when an amendment to a comprehensive plan is proposed a determination must be made by the local jurisdiction as to whether land uses allowed by the plan will significantly impact an existing transportation facility. Impact is measured at the end of the planning period identified in the adopted TSP. For Forest Grove this is 2035. Further discussion with ODOT is needed to address potential traffic impacts from the land uses in the Purdin Road planning area on the Highway 47 intersections with David Hill Road and Purdin Road since there will be a significant impact. The issue is whether this impact will occur before 2035 and if so how the impact will be mitigated (i.e. adding channelization to the roundabouts).

### **ATTACHMENTS:**

- A. Memo - Final Revised Westside Water, Sewer and Stormwater Infrastructure Analysis dated June 24, 2016
- B. Westside Planning Area Funding Approach dated December, 2016
- C. 2035 PM Peak Hour Traffic Operations Analysis of "Worst Case" Land Use Alternative dated November 2, 2015