TRANSPORTATION IMPACT FEE RATE STUDY

CITY OF REDMOND

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Introduction

The City of Redmond has an adopted transportation impact fee (TIF) program that has been in place since 2014. While the existing program has worked well to implement new transportation infrastructure, the project list needs to be updated to reflect the City's new Transportation Master Plan to ensure that developments can fund and receive credit for implementing new system improvements identified by Redmond. With the updated project list, the TIF will support the implementation of multimodal transportation capacity, including intersection enhancements, new roads, and stand-alone pedestrian/bicycle projects that will facilitate the growth anticipated by the Comprehensive Plan. New state legislation also has changed impact fee requirements since 2014, which are incorporated into this program update. The most significant changes in this TIF update are: the project list, new trip generation data, and an updated methodology to account for lower per-capita vehicle trip generation across Redmond's three growth centers (Downtown, Overlake, and Marymoor).

The updated multimodal TIF program includes 59 projects with an estimated capital value of $689 million (2023 dollars). Based on the methodology explained in the following chapters, the maximum allowable TIF rate would be $8,223 per PM peak hour person trip (2023 dollars). Redmond City Council will be adopting a TIF rate of $6,200, which aligns with the revenue projections in their Transportation Facilities Plan (TFP). While higher than the City's prior TIF rate ($3,853 per person-mile-traveled), the new TIF rate is similar to rates in other Western Washington jurisdictions.

The remaining sections of the report describe the impact fee program methodology, the analyses performed, and the resulting recommendations.

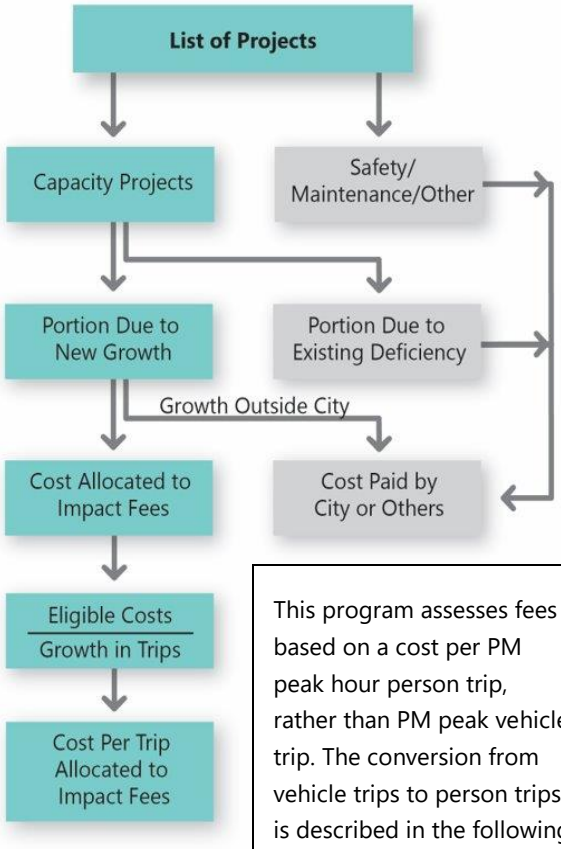
Methodology

The multimodal transportation impact fee structure for the City of Redmond was designed to determine the fair share of multimodal transportation improvement costs that may be charged to new development. Growth in residents, workers, and visitors related to new development will increase travel demand on public facilities. Therefore, the City of Redmond must expand its multimodal transportation network as the city grows. The basis for calculating a proportionate share of building new transportation facilities is the existing value of the City's transportation network. Specifically, this new TIF program calculates the *existing system value* per person-trip generated by existing land uses in the city and sets that value per trip as the maximum rate that can be paid by new development. The existing system value considers depreciation of the system so that existing deficiencies are excluded from the impact fee rate. In short, new development is being asked to contribute to fund the transportation system to ensure that the overall level of investment remains consistent into the future.

The following key points summarize the City's impact fee structure (see *Figure 1*).

- A single TIF project list was developed from the Transportation Facilities Plan.
- These projects were evaluated for impact fee eligibility; impact fees can only fund new capacity projects. Non-capacity investments, primarily maintenance and safety improvement projects, were eliminated.
- Of the remaining eligible projects, the portion of those projects carrying non-city growth were subtracted from eligible costs to determine the total eligible impact fee program cost.
- The existing level of investment was determined by dividing the existing roadway infrastructure valuation by the existing PM peak hour person trips. The result becomes the maximum allowable impact fee.

Figure 1: Impact Fee Structure



This program assesses fees based on a cost per PM peak hour person trip, rather than PM peak vehicle trip. The conversion from vehicle trips to person trips is described in the following sections.

After determining the allowable cost per PM peak hour person trip, a land use-based fee schedule was developed for the entire city. Person trip rates for multiple land use categories were estimated using vehicle trip generation rates from the Institute of Transportation Engineers (ITE) and the ratio of person trips to vehicle trips based on the PSRC Household Travel Survey.

TIP Project List

Washington State law (RCW 82.02.050) specifies that transportation impact fees are to be spent on "transportation system improvements." Transportation system improvements include "public streets, roads, and bicycle and pedestrian facilities that were designed with multimodal commuting as an intended use" and can include physical or operational changes to existing transportation facilities, as well as new transportation connections that are built in one location to benefit projected needs at another location. Projects on the TIF list must add new multimodal capacity (new streets, additional lanes, sidewalks, bike lanes, low-stress bike routes, signalization, roundabouts, etc.). Transportation projects that cannot be included in the TIF program include facilities that only benefit a single development or property owner (typically local streets that are necessary to connect to the larger network), improvements that correct an existing deficiency (e.g., maintenance projects), or other projects that do not expand the capacity of the transportation system (e.g., a project to address a safety concern).

The 2023 TIF project list was based on the City's Transportation Facilities Plan and identified multimodal transportation projects needed to accommodate growth, meet the adopted multimodal policies, and ensure that adequate facilities are provided for all travel modes.

Fehr & Peers worked with the City to develop the TIF project list by removing projects that were not eligible for TIF funding. The resulting project list is shown in **Appendix A** and has a total capital cost of $689 million.

Person Trip Growth

Determining the existing travel demand, as well as growth in travel demand caused by new development is a key requirement for a TIF program. Trip generation rates by land use category are the most commonly used approach to quantifying travel demand. In short, trip generation represents the desire for mobility by residents and workers to access homes, jobs, shopping, recreation, and other activities. For the purposes of the analysis, trip generation represents the movement by one person on a typical weekday from one activity to another regardless of travel mode (driving, riding transit, biking, or walking).

Fehr & Peers developed a method to calculate growth in PM peak hour person trips using data from Redmond's 2050 Comprehensive Plan and the City's 2018 travel demand model,[1] trip rates from the Institute of Transportation Engineers (ITE), and household survey data from the Puget Sound Regional Council (PSRC). Person trips are defined as travel between an origin and a destination. Each person trip has two trip ends, one each at the origin and destination. The specific steps to calculate person trips from the Comprehensive Plan land use growth assumptions are listed below:

1. Translate the land use data in the Redmond Comprehensive Plan into a format used for impact fees:
    a. Total household dwelling units were converted to single-family and multi-family units based on Redmond housing statistics:
        i. Currently, 60% of all housing units in Redmond are multi-family
        ii. In 2050, 78% of all housing units in Redmond will be multi-family
    b. Next, employees were converted by different land use sectors into square footage using standard estimates of square feet per employee, listed below:
        i. 400 square feet per retail employee
        ii. 300 square feet per office/government service employee
        iii. 500 square feet per manufacturing/warehouse employee
        iv. 300 square feet per all other employees

Table 1 shows the resulting calculations for each land use:

[1] At the time the project was started, the calibrated base year for the Redmond version of the regional Bellevue-Kirkland-Redmond Model was 2018. Base years are only recalibrated every few years, so they typically lag behind the actual current year.

Table 1: Estimating Growth in Dwelling Units and Square Footage

2018 Redmond Totals (Dwelling Units and Employees)		Conversion to SF	Totals in DU/KSF	2050 Redmond Totals		Conversion to SF	Totals in DU/KSF		=Total New Growth In DU/KSF
Households	28,680	--	28,680	Dwelling Units	58,399	--	58,399		29,719
Retail	8,168	400	3,267	Retail	12,427	400	4,971		1,704
Office	65,756	300	19,727	Office	90,147	300	27,044	2050 Total minus 2018 Total	7,317
Education	419	300	126	Education	688	300	206		81
Light Industrial	11,485	500	5,743	Light Industrial	15,254	500	7,627		1,885
University	0	--	0	University	0	--	0		0

DU = dwelling unit; SF = square feet
Source: Fehr & Peers, 2024

2. Estimating the trip ends associated with the land use using a ratio of the person trip rate to vehicle trip rates from the PSRC Household Travel Survey and vehicle trip rates from the ITE. This approach of using ITE vehicle trip generation rates and then converting them to person trip rates is the most defensible approach as of the time this rate study was prepared. While ITE and other sources are beginning to calculate person trip generation rates directly, the person trip generation dataset is not nearly as robust as the vehicle trip generation dataset. PSRC has strong travel survey data on how many person trips and vehicle trips are generated for different trip purposes and this information is combined with the ITE vehicle trip generation rate to create a more detailed depiction of person trip generation rates than any other source available.
    a. PM peak hour vehicle trip rates for each land use category were taken from the ITE Trip Generation Manual, 11th Edition. The major categories used include:
        i. Single family dwelling unit
        ii. Multi-family dwelling unit
        iii. Retail
        iv. Office (finance, insurance, real estate, other services)
        v. Educational employment/school enrollment
        vi. Manufacturing/warehousing
    b. Apply the vehicle-to-person trip generation rate factors from the PSRC household travel survey.

Table 2: Vehicle Trip to Person Trip Ratios

Generalized Land Use Category	ITE Vehicle Trip Rate[1]		Vehicle-to-Person Trip Ratio		Person Trip Rate[2]
Single Family	0.94		1.45		1.36
Multi-Family	0.45		1.45		0.65
Office	1.72		1.22		2.10
Government	1.71	**X**	1.25	**=**	2.14
Primary Education	0.16		1.25		0.20
Industrial/Warehousing	0.34		1.08		0.37
Retail/Recreation/ Restaurant	3.40		1.25		4.25
University	0.15		1.25		0.19

1. PM peak hour vehicle trip rate from ITE Trip Generation Manual, 11th Edition
2. Vehicle-to-person trip generation rate factors from the PSRC household travel survey
Source: Fehr & Peers, 2024

3. Total PM peak hour person trips within the city were ultimately calculated by multiplying the PM peak person trip rate by the total growth in dwelling units and non-residential square footage, depending on the land use. This calculation also includes a pass-by adjustment to account for these types of trips.[2]

[2] A pass-by trip is any person trip that may go to a land use, but is part of a larger overall "trip tour." The defining feature of the pass-by trip is that it is an interim stop that did not initiate the overall need to travel. Typical examples are people stopping on their way to work to get coffee on the route they were already traveling on or someone buying gas on their trip between home and a store along the route they were already traveling on.

Table 3: Existing Person Trips

Generalized Land Use Category	Pass-by Adjustment		Person Trip Rate		2018 Land Use in Square Feet or Dwelling Units		Existing Person Trips
Single Family	--		1.36		11,379		15,510
Multi-Family	--		0.65		17,301		11,289
Office/Government	0.9	**X**	2.10	**X**	19,727	**=**	37,255
Primary Education	0.9		0.20		126		22
Industrial/Warehousing	--		0.37		5,743		2,109
Retail/Recreation/ Restaurant	0.6		4.25		3,267		8,331
University	0.9		0.19		0		0
					Total Existing Person Trips		**74,516**

Source: Fehr & Peers, 2024

Table 4: Growth in Person Trips

Generalized Land Use Category	Pass-by Adjustment		Person Trip Rate		Total Growth in Square Feet or Dwelling Units		Growth in Person Trips
Single Family	--		1.36		1,404		1,914
Multi-Family	--		0.65		28,315		18,476
Office/Government	0.9	**X**	2.10	**X**	7,317	**=**	13,819
Primary Education	0.9		0.20		81		14
Industrial/Warehousing	--		0.37		1,885		692
Retail/Recreation/ Restaurant	0.6		4.25		1,704		4,344
University	0.9		0.19		0		--
					Total Growth in Person Trips		**39,259**

Source: Fehr & Peers, 2024

These total PM peak hour person trip estimates will be used in the calculation of transportation impact fees rate.

Impact Fee Eligible Costs

To meet GMA requirements, the TIF methodology must separate the share of project costs that address existing deficiencies from the share of project costs that add multimodal capacity and serve new growth. The resulting growth-related improvement costs are then further separated to identify the share of growth related to land development in Redmond versus growth from outside of the city. New development in Redmond cannot be charged a fee to pay for the capacity needs generated by development outside of the City. **Figure 2** shows the calculation steps for determining the total impact fee eligible cost.

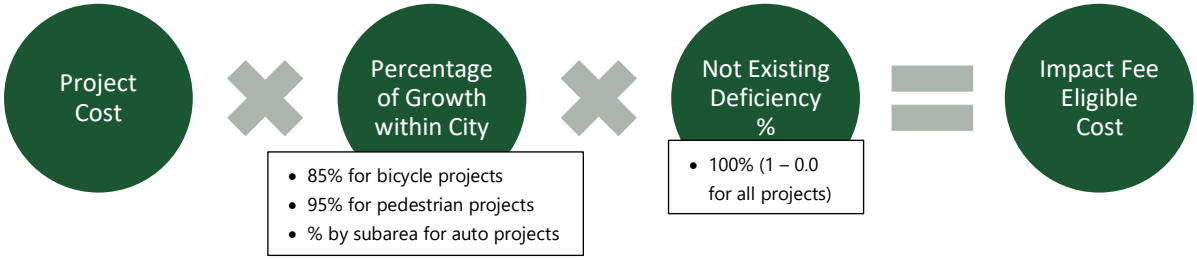


Figure 2: Impact Fee Eligible Cost Equation

Percent of Growth in Redmond

Neighboring jurisdictions' growth may also use the new multimodal capacity that Redmond has committed to building. Redmond does not have the authority to charge growth in neighboring jurisdictions for their share of building new transportation infrastructure. To account for this statutory limitation, adjustments were made for trips that pass-through Redmond or only have one end of the trip starting or ending in Redmond. The current tools to calculate the share of growth in trips that can be attributed to Redmond are limited to vehicle trips. Therefore, the percentage of non-motorized trips attributed to city growth are defined based on engineering judgement. For this program, we assumed an internal-trip generation proportion of 85% for bicycle projects, and 95% for pedestrian projects; both percentages are best practices used by other communities in the Puget Sound.

For motorized projects, Fehr & Peers analyzed traffic forecasts generated by Redmond's travel model in four different areas of the city where TIF projects are located. Using model data, we were able to calculate the portion of trips related to growth outside of the city. As is common practice, within each area, trips that have both ends within the city have a weight of 100%; trips with one end in the city and the other end outside of the city are assigned a weight of 50%; and trips

where there are neither end within the city have a weight of 0%. Considering the total trips and weights, each area has a different share of growth that can be related to the City of Redmond:

- Overlake = 53%
- Downtown/Marymoor = 77%
- Willows = 48%
- North Redmond = 36%

After applying these percentages to the TIF project list, the total eligible impact fee program cost is $447,570,000.

Existing Deficiencies

Redmond has a surface transportation network that provides rights-of-way (streets, sidewalks, and off-street bicycle and pedestrian paths) for nearly all types of travel within the city (excluding State Route 520). The City is responsible for maintaining, improving, and expanding this infrastructure to support transportation services for people traveling by all modes, including walking, biking, transit, and private vehicles.

As described in the Methodology section, this impact fee program is based on the existing system value, which ensures that new development does not pay a higher rate than existing residents and developments have paid into the City's current transportation system. This methodology sets the maximum allowable impact fee rate at the existing level of investment per existing person trips.

In Redmond's 2023 Pavement Conditions Report, the City determined the average replacement cost for a typical roadway at about $2.5 million per lane-mile, not including the value of the land. The City maintains about 365 centerline miles of roadway; therefore, the existing level of investment is $612.7 million for the paved roadway network. This includes depreciation of the existing system based on the Pavement Condition Index across the city.

This existing system value is then divided by the existing person trips to determine the existing level of investment per person trip. Dividing the existing system value by the existing person trips results in the maximum legal amount that new development could be required to contribute to maintain the existing level of investment, or **maximum allowable impact fee rate, of $8,223 per person trip**.

$$Maximum\ Allowable\ Cost\ per\ PM\ Peak\ Hour\ Person\ Trip = \frac{Existing\ System\ Value}{Existing\ Person\ Trips}$$

Table 5 summarizes the impact fee eligible costs, and maximum allowable cost per person trip.

Table 5: Existing System Value per Person Trip	
Existing System Value	$612,700,000
Existing Person Trip Ends	74,516
Maximum Allowable Cost per Person Trip	**$8,223**

It is important to note that the $8,223 cost per PM Peak Hour Person Trip represents the *maximum* TIF amount that can be charged based on legal and technical requirements. As a check to ensure that new development is not paying more than their fair share into the City's

transportation system, the total eligible impact fee program cost (the cost after removing growth not attributable to the city) was divided by the growth in person trips (shown in **Table 6**). This calculation results in a cost per person trip of $11,387.

Table 6: Impact Fee Cost Per Person Trip	
Total Eligible Impact Fee Program Cost	$447,057,000
Growth in Person Trip Ends (2018 – 2050)	39,260
Cost per Person Trip	**$11,387**

This value is greater than the maximum allowable cost per trip of $8,223, but developers will not be charged an amount higher than $8,223. Because of this, the multimodal TIF program would only contribute a portion of the total $689 million capital cost of the improvement projects, so city matching funds, new grants, and other sources would need to cover the remainder of total project costs. The TIF rate can be set lower than the maximum allowable rate for many reasons:

- **Larger Share of External Funding:** If Redmond is more successful at securing external funding, the TIF can be reduced.
- **Implementation of Fewer Projects:** The project list is based on the City's vision for the transportation system that matches the growth forecast in the Comprehensive Plan. Depending on growth pressures, changing travel preferences, funding availability, and many other reasons, the City may choose to implement fewer system expansion projects, which would lower the TIF rate.
- **Balancing the Cost to Developers:** While Redmond seeks to have "growth pay for growth," there are economic realities that must be considered when setting the TIF rate including what costs can reasonably be borne by developers. With this in mind, many cities elect to adopt a lower rate than the legal maximum to ensure TIF rates are in-line with market conditions while continuing to have developers pay a reasonable share of expanding the transportation system.

Redmond City Council has decided they will set the transportation impact fee rate at $6,200, which is similar to other Western Washington jurisdictions.

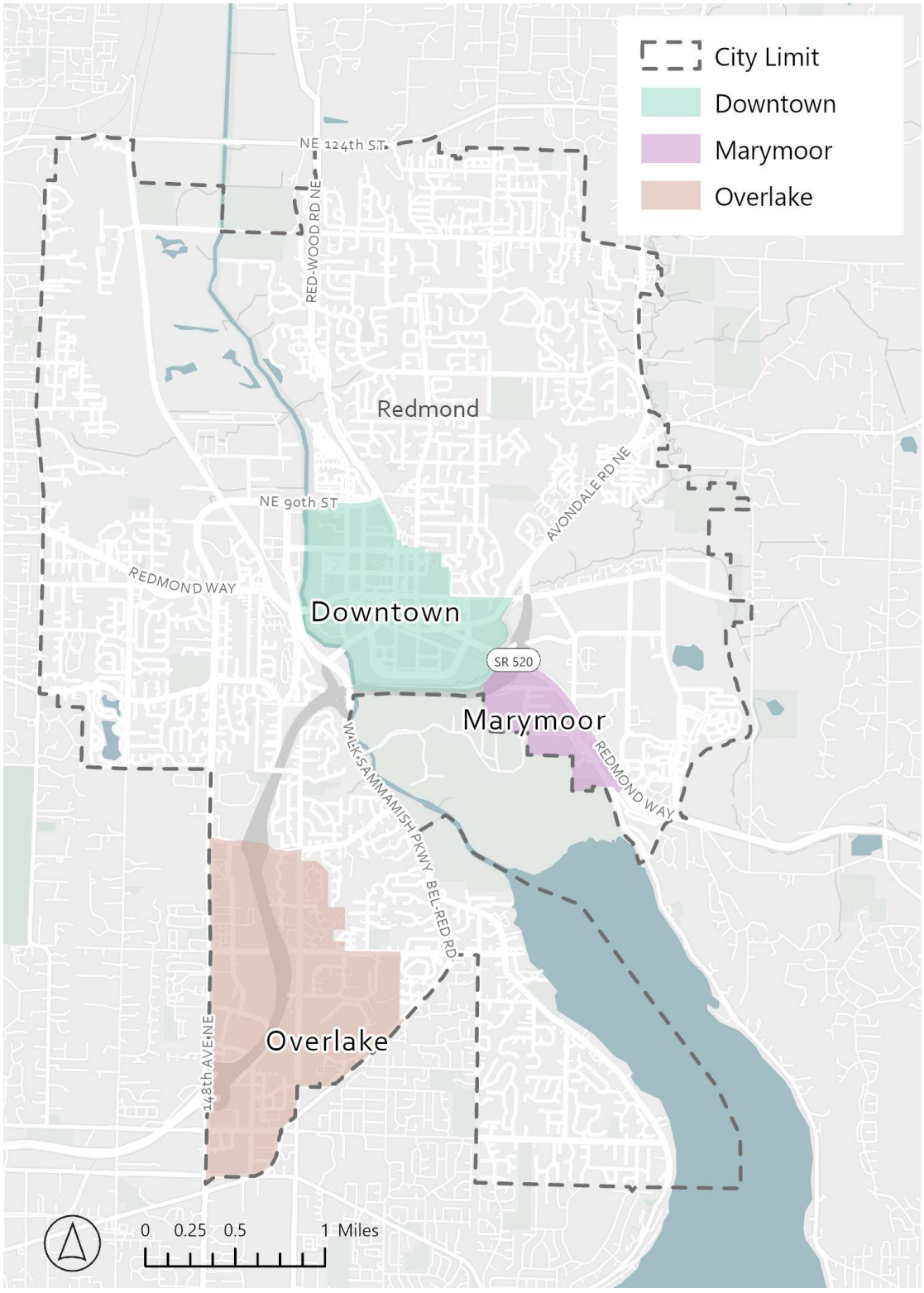
Urban Center TIF Adjustments

The City of Redmond's current TIF ordinance includes impact fee adjustments for the Downtown and Overlake subareas of 18% and 15%, respectively. These areas are currently Redmond's two regionally designated Urban Growth Centers. The impact fee adjustments within the Downtown and Overlake Urban Centers are based on denser development patterns, including mixed-use and transit-oriented development in the subareas. Because these subareas have greater density than the rest of the city and more transportation options, the number of vehicle trips generated from a development within the subarea is lower than development in areas outside of the identified subareas. Since building capacity for the vehicle mode takes the most amount of space and the greatest number of resources to move a person trip, areas that generate a lower share of vehicle trips have a lower impact fee per person trip generated.

The new TIF proposes to continue the concept of an impact fee adjustment for Redmond's densest neighborhoods near light rail. In addition to Downtown and Overlake, the new TIF adds the Marymoor area, which is proposed as a new Countywide Center. Marymoor is anchored by the new Southeast Redmond Link light rail station. All the centers are shown in **Figure 3**.

As part of the new TIF, the urban center adjustment is updated to a new methodology and calculated with updated data. The following sections describe how the new TIF program accounts for the differential impact of modal trips on the transportation system, and provides details on how the urban center adjustment is calculated.

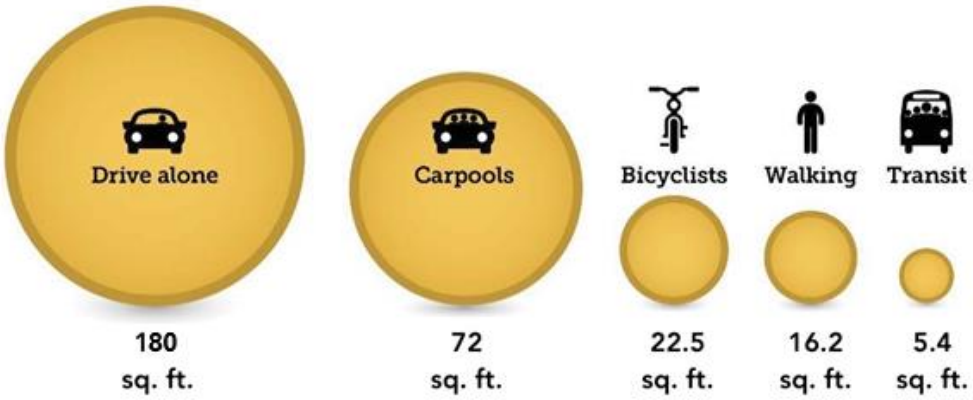
Figure 3: Redmond Transportation Impact Fee Urban Center Adjustment Areas



Person Trip Impacts

Not all person trips have the same impact - different modes have varying footprints on the City's transportation system, as described below and illustrated in **Figure 4**.

Figure 4: Physical Space By Modes



- **Drive Alone (or single occupancy vehicles, SOVs)** trips take up 180 square feet on average, based on the size of a typical passenger vehicle. Compared to a drive alone trip:
    - **Carpools (or high occupancy vehicles, HOVs)** take up 60% less space than driving alone per person trip. This was estimated using the PSRC regional travel model estimate that the average carpool carries 2.2 people.
    - **Bicyclists** use 87.5% less space per person trip. This estimate was developed using a conservative assumption that bicycles are roughly a quarter the size of a car and no more than half of cyclists (and more likely fewer than 20 percent) are using arterial travel lanes (the remaining cyclists are using existing exclusive facilities, which include trails and bike lanes).
    - **Walking** takes virtually no space from vehicles in built-out areas with sidewalks (which is one major reason that filling sidewalk gaps on major streets is an important focus in Redmond's TMP). However, for the purposes of this program, it is assumed that pedestrians consume 91% less of the roadway space than drive alone travel. This percentage was based on the fact that pedestrians crossing the street reduce vehicle capacity slightly and that bulb-outs, crossing islands, and other pedestrian crossing treatments can consume roadway space.
    - **Transit** requires roughly 97% less space per person trip than driving alone. This was based on each full bus requiring 5 square feet of space per passenger.

This TIF program considers how mode split differs throughout the City and provides reductions for those areas where more space efficient modes, like walking, biking, and transit are more prevalent. This approach is modeled after a similar approach developed and adopted by the City of Kent, Bellingham, and Portland.

Using the above data, a TIF reduction in Downtown, Overlake, and Marymoor is justifiable given that new growth in these areas will generate a smaller portion of drive alone trips compared to the rest of the city.

Person Trip Factors

The 2017-2019 PSRC Household Travel Survey was used to calculate the difference in mode shares between the urban centers and the rest of Redmond. Because of sample size limitations, data from King County was used. The King County Regional Growth Centers (RGCs) with Link Light Rail stations were used to represent the Redmond subareas, while King County outside of the RGCs was used to represent the rest of Redmond. The survey data looked at all trips to/from these geographies, and calculated the split of SOV, HOV, walk, bike, and transit trips.

The mode share percentages were multiplied by the weighted space usage of each mode. The percentage difference in weighted space per person trip is then used as the impact fee rate discount for the subareas. The analysis results are presented in **Table 7** below.

Table 7: Mode Share & Physical Space Calculations

	SOV	HOV	Bike	Walk	Transit	Total	Avg. Weighted Space Usage / Person Trip in Square Feet	Basic Rate Discount
Square Feet Per Person Trip	***180***	***72***	***22.5***	***16.2***	***5.4***	***--***		
Location								
Rest of Redmond	42%	30%	2%	23%	3%	100%	100.9	--
Urban Centers	31%	20%	2%	34%	13%	100%	76.6	-24.1%

Impact Fee Schedule

The City of Redmond has chosen to set the base impact fee rate at $6,200. However, because of the urban center impact fee adjustment, the City can adjust the impact fee rate higher to ensure that total revenue collection would be consistent with the expected revenue at the $6,200 rate. After accounting for the 24% subarea reduction, the new base rate for the City of Redmond becomes $7,353.

Table 8 shows the proposed impact fee schedule at a rate of $7,353. This rate schedule includes components such as: vehicle trip generation rates, person trip rates, and new trip percentages. To develop the proposed impact fee schedule, Fehr & Peers started with Redmond's current fee schedule, and made the following adjustments:

- Based rates off the adopted rate of $7,353 per PM peak hour person trip
- Removed land use categories that are no longer in the ITE Trip Generation Manual, 11th Edition
- Updated PM peak vehicle trip rates to be consistent with the ITE Trip Generation Manual, 11th Edition
- Updated the pass-by trip percentages to reflect best practices

In the fee schedule, fees are shown as dollars per unit of development for various land use categories. The impact fee program is flexible in that if a land use does not fit into one of the ITE land use categories, an impact fee can be calculated based on the development's projected PM peak hour person trip generation and multiplied by the cost per PM peak hour person trip. In addition to land uses that are not listed in the impact fee schedule, detailed trip generation studies are also generally used for mixed-use developments where some of the person trips would be expected to stay on-site. ITE, the Transportation Research Board (TRB), and the United States Environmental Protection Agency (US EPA) all have recommended methods to calculate the number of internal project trips associated with mixed use development.

Definitions of the TIF land uses are included in **Appendix B.**

Table 8: City of Redmond Impact Fee Rate Table ($7,353 Rate)

ITE Land Use Code	Land Use Code[4]	Units[3]	Vehicle PM Peak Trips/Unit[1]	Pass-by Percentage[2]	Vehicle-to-Person Trip Ratio[3]	PM Peak Person Trip Rate	Impact Fee Per Development Unit	Impact Fee Per Development Unit in Urban Centers
Single Family - Detached	210	per DU	0.94	0%	1.45	1.36	$10,022.14	$7,604.20
Accessory Dwelling Unit (ADU)[4]	220	per DU	0.51	0%		0.74	$5,011.07	$3,802.10
Middle Housing[5]	215, 220	per DU	0.54	0%		0.78	$5,757.40	$4,368.37
4+ Story Multi/Townhome/Condo	221	per DU	0.39	0%		0.57	$4,158.12	$3,154.93
10+ Story Multi/Townhome/Condo	222	per DU	0.32	0%		0.46	$3,411.79	$2,588.66
Single Room Occupancy	225/226	per DU	0.21	0%		0.30	$2,238.99	$1,698.81
Retirement Community	251	per DU	0.3	0%		0.44	$3,198.56	$2,426.87
Congregate Care/Asst Living	253	per DU	0.18	0%		0.26	$1,919.13	$1,456.12
Elementary School	520	students	0.16	20%	1.26	0.16	$1,185.89	$899.78
Middle/JR High School	522	students	0.15	20%		0.15	$1,111.77	$843.55
High School	525	students	0.14	20%		0.14	$1,037.66	$787.31
Day Care Center[6]	565	per KSF	11.12	90%		1.40	$10,302.44	$7,816.87
Church	560	per KSF	0.49	0%		0.62	$4,539.74	$3,444.48
Nursing Home	620	per bed	0.14	0%		0.18	$1,056.69	$801.75
Light Industrial/Manufacturing	110, 140	per KSF	0.695	0%	1.08	0.75	$5,519.16	$4,187.61
Industrial Park	130	per KSF	0.34	0%		0.37	$2,700.02	$2,048.61
Mini-Warehouse/Storage	151	per KSF	0.15	0%		0.16	$1,191.19	$903.80
Warehousing	150	per KSF	0.18	0%		0.19	$1,429.42	$1,084.56

ITE Land Use Code	Land Use Code[4]	Units[3]	Vehicle PM Peak Trips/Unit[1]	Pass-by Percentage[2]	Vehicle-to-Person Trip Ratio[3]	PM Peak Person Trip Rate	Impact Fee Per Development Unit	Impact Fee Per Development Unit in Urban Centers
Hospital	610	per KSF	0.86	0%	1.26	1.08	$7,967.71	$6,045.42
Medical/Dental Office	720	per KSF	3.93	0%	1.22	4.79	$35,254.69	$26,749.15
General Office (10-100k)	710	per KSF	1.99	0%		2.43	$17,851.61	$13,544.73
General Office (100k-200k)	710	per KSF	1.75	0%		2.14	$15,698.66	$11,911.20
General Office (200k-300k)	710	per KSF	1.44	0%		1.76	$12,917.75	$9,801.21
General Office (300k)	710	per KSF	1.22	0%		1.49	$10,944.21	$8,303.81
Single Tenant Office	715	per KSF	1.76	0%		2.15	$15,788.36	$11,979.26
Golf Course	430	per number of holes	2.91	25%	1.25	2.73	$20,059.90	$15,220.25
Bowling Alley	437	per KSF	1.16	25%		1.09	$7,996.39	$6,067.18
Movie Theater	445	per KSF	4.8	15%		5.10	$37,500.30	$28,452.98
Health Fitness Club	492	per KSF	3.45	25%		3.23	$23,782.36	$18,044.63
Recreational Community Center	495	per KSF	2.5	25%		2.34	$17,233.59	$13,075.82
Gasoline/Service Station	944	per VSP	13.91	62%	1.25	6.61	$48,583.11	$36,861.95
Gas Station w/Convenience Market	945	per VSP	18.42	62%		8.75	$64,335.07	$48,813.59
Self-Serve Car Wash	947	per stall	5.54	35%		4.50	$33,097.69	$25,112.54
Auto Sales (New/Used)	840, 841	per KSF	3.09	20%		3.09	$22,684.01	$17,211.26
Variety Store	814	per KSF	6.7	50%	1.25	4.19	$30,790.69	$23,362.13
Freestanding Discount Store	815	per KSF	4.86	27%		4.43	$32,608.72	$24,741.54
Supermarket	850	per KSF	8.95	38%		6.94	$51,002.25	$38,697.44

ITE Land Use Code	Land Use Code[4]	Units[3]	Vehicle PM Peak Trips/Unit[1]	Pass-by Percentage[2]	Vehicle-to-Person Trip Ratio[3]	PM Peak Person Trip Rate	Impact Fee Per Development Unit	Impact Fee Per Development Unit in Urban Centers
Shopping Center (>150k)	820	per KSF	3.4	29%		3.02	$22,187.68	$16,834.68
Shopping Plaza (40 - 150k)	821	per KSF	9.03	40%		6.77	$49,798.19	$37,783.88
Strip Retail Plaza (<40k)	822	per KSF	6.59	34%		5.44	$39,976.42	$30,331.71
Library	590	per KSF	8.16	25%		7.65	$56,250.45	$42,679.47
Hardware/Paint Store	816	per KSF	2.98	60%		1.49	$10,955.97	$8,312.73
Convenience Market	851	per KSF	49.11	61%		23.94	$176,039.09	$133,567.90
Pharmacy/Drug Store w/o Drive-Thru	880	per KSF	8.51	53%		5.00	$36,762.24	$27,892.98
Pharmacy/Drug Store w/Drive-Thru	881	per KSF	10.25	49%		6.53	$48,047.26	$36,455.38
Furniture Store	890	per KSF	0.52	40%		0.39	$2,867.67	$2,175.82
Drive-In Bank	912	per KSF	21.01	35%		17.07	$125,520.31	$95,237.27
Walk-In Bank	911	per KSF	12.13	47%		8.04	$59,089.63	$44,833.66
Fine Dining Restaurant	931	per KSF	7.8	44%		5.46	$40,147.38	$30,461.42
High Turnover Restaurant	932	per KSF	9.05	43%		6.45	$47,413.06	$35,974.19
Fast Food w/o Drive-Thru	933	per KSF	33.21	49%		21.17	$155,673.12	$118,115.42
Fast Food w/Drive-Thru	934	per KSF	33.03	55%		18.58	$136,614.14	$103,654.61
Coffee/Donut Shop w/o Drive-Thru	936	per KSF	32.29	49%		20.58	$151,360.59	$114,843.33
U.S. Post Office	732	per KSF	11.21	25%		10.51	$77,275.43	$58,631.96
Hotel	310	per room	0.59	0%	1.45	0.86	$6,290.49	$4,772.85
Motel	320	per room	0.36	0%		0.52	$3,838.27	$2,912.25

ITE Land Use Code	Land Use Code[4]	Units[3]	Vehicle PM Peak Trips/Unit[1]	Pass-by Percentage[2]	Vehicle-to-Person Trip Ratio[3]	PM Peak Person Trip Rate	Impact Fee Per Development Unit	Impact Fee Per Development Unit in Urban Centers

1. Source: ITE Trip Generation Manual, 11th Edition. Vehicle trip rates for weekday, peak hour of adjacent street traffic (4-6pm).
2. A pass-by trip is any trip that may go to a land use but is part of a larger overall "trip tour." The defining feature of the pass-by trip is that it is an interim stop that did not initiate the overall need to travel.
3. Vehicle-to-person trip generation rate factors were developed from the 2017-2019 Puget Sound Regional Council Household Travel Survey.
4. Per House Bill 1337, impact fees for ADUs are limited to no more than 50% of the single-family rate.
5. Middle housing land use category is an average of ITE code #215 (single family attached/duplex) and #220 (1-3 Story Multi-Family/Townhome/ADU). This category includes all forms of multi-family housing not otherwise listed in the table above.
6. Per RCW 82.02.060 (4)(b), Redmond may exempt qualifying Day Care Centers and other "early learning facilities" as defined by state law, from transportation impact fees.
7. *This table is a representative list of common land uses in Redmond. City staff may choose a different land use code from the ITE Trip Generation Manual 11th Edition, or other site-specific trip generation data if the applicant's proposed land use does not fit within this list.*

Appendix A – Impact Fee Eligible Project List

TFP ID	Roadway	Extents	Project Description	Total Eligible Cost
49	152nd Avenue NE Main Street South of 24th Street	NE 24th Street to NE 20th Street	Implement a multi-modal pedestrian corridor concept on 152nd Avenue NE from NE 24th Street to NE 20th Street, creating a lively, active signature street in Overlake Village consistent with the Overlake Village Street Design Guidelines. Improvements include one lane in each direction, turn lanes as needed, on-street parking, and pedestrian and bicycle facilities. Other improvements include storm drainage, LID, street lighting, pedestrian and transit amenities, right-of-way, easements, and utilities.	$20,663,000
172	150th Avenue NE Bicycle Lane Completion	NE 51st Street to NE 40th Street	Fill in gaps in bicycle facility network on 150th Avenue NE from NE 51st Street to NE 40th Street in both directions. Improve curve radius to allow for truck movements through existing chokepoint. Widen roadway to west and build retaining walls.	$14,096,000
502	24th Street Multimodal Improvements	148th Avenue NE to Bel-Red Road	Add new cycle tracks and sidewalks to 24th Street between 148th Avenue and Bel-Red Road, as per Overlake South Plan.	$7,367,000
378	173rd Avenue NE Connection	NE 67th Street to NE 70th Street	Construct a new collector arterial.	$17,980,000
396	176th Avenue Access Improvements	NE 70th Street to Redmond Way	Construct connector street with right-in, right-out access at Redmond Way to function as a third entrance to the subarea.	$7,423,000
406	176th Avenue NE Retrofit-North Segment	NE 70th Street	Widen the roadway to add multimodal capacity.	$4,327,000

371	Redmond Way Widening	168th Avenue NE to 164th Avenue NE	Add a second westbound lane and parking on the north side of Redmond Way between 168th Avenue and 166th Avenue. The project would include one travel lane, on-street parking, sidewalk, right-of-way, utilities, and streetscape improvements.	$9,298,000
370	NE 116th Street Widening Segment I, Phase II	Red-Wood Road to 167th Place NE	Complete NE 116th Street from Red-Wood Road to 167th Place NE. Improvements include one through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, equestrian trail, streetlights, storm drainage, underground power, right-of-way, and easement acquisition. Improvements will be coordinated with the construction of a roundabout at NE 116th Street and 162nd Avenue NE.	$2,218,000
710	Avondale Road School Bus Pullouts	Avondale Road	Install school bus pullouts along Avondale Road, including at Novelty Hill Road, NE 95th Street, 188th Avenue NE/182nd Avenue NE, 180th Avenue NE, and NE 90th Street.	$2,031,000
47	152nd Avenue NE Main Street	2600 Block to NE 31st Street	Implement a multi-modal pedestrian corridor concept on 152nd Avenue NE from NE 31st Street to NE 2600 Block crossing, creating a lively, active signature street in Overlake Village consistent with the Overlake Village Street Design Guidelines. Improvements include one lane in each direction, turn lanes as needed, on-street parking, and pedestrian and bicycle facilities. Other improvements include storm drainage, LID, street lighting, pedestrian and transit amenities, right-of-way, easements, and utilities.	$3,746,000
75	NE 116th Street Widening Segment II	167th Place to 179th Place	Widen NE 116th Street from 167th Place to 179th Place. Improvements include one through lane in each direction, left turn lanes, bike lanes,	$3,450,000

			curb, gutter, sidewalks, equestrian trail, streetlights, storm drainage, underground power, right-of-way, and easement acquisition.	
113	192nd Avenue NE Extension	NE 68th Street to Union Hill Road	Construct new 192nd Avenue NE from NE 68th Street to Union Hill Road. Improvements include one through lane in each direction, left turn lanes, bike lanes, sidewalks, streetlights, traffic control, storm drainage, right-of-way, and easement acquisition.	$29,479,000
77	NE 116th Street Segment III	179th Place to Avondale Road	Widen remaining sections of NE 116th Street from 179th Avenue to Avondale Road. Improvements include one through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, equestrian trail, streetlights, storm drainage, underground power, right-of-way, and easement acquisition.	$7,383,000
90	NE 76th Street Widening	178th Place NE to 185th Avenue NE	Widen roadway to include a 12-foot center turn lane, two 12-foot travel lanes, two 5.5-foot bike lanes, and 6-foot sidewalks on both sides of roadway.	$2,439,000
88	NE 76th Street Widening	Eastbound SR 520 Ramp to 178th Place NE	Widen the roadway to include three 12-foot travel lanes, two bike lanes, and 6-foot sidewalks. Add a crosswalk to the west leg at the signalized intersection of Fred Meyer and Target. Realign existing eastbound right turn lane to account for roadway widening. Add a crosswalk enabling pedestrian and bicycle crossing at the intersection of NE 76th Street and the eastbound SR 520. Improve transit amenities.	$4,316,000
119	Avondale Way Extension	Redmond Way to NE 76th Street	Construct a new north/south connection between Redmond Way and NE 76th Street. Improvements include one lane in each direction, sidewalks, bicycle lanes, utilities, streetlights, trees, signs, and stormwater treatments.	$28,217,000

156	Willows Road Widening	NE 116th Street to NE 124th Street	Widen Willows Road from NE 116th Street to NE 124th Street. Improvements include two through lanes in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, transit amenities, streetlights, storm drainage, underground power, right-of-way, and easement acquisition.	$10,553,000
170	158th Avenue NE Extension	Redmond Way to NE 83rd Street	Construct new street: 159th Avenue NE from Redmond Way to NE 83rd Street. Improvements include one through lane in each direction, parking, sidewalks, streetlights, pedestrian amenities, transit stop amenities, storm drainage, right-of-way, and easement acquisition.	$8,106,000
382	176th Avenue NE Retrofit	NE 70th Street to NE 65th Street	Widen the roadway to add multimodal capacity.	$3,394,000
364	NE 76th Street Extension (Segment II)	188th Avenue NE to 192nd Avenue NE	Construct new street: NE 76th Street from 188th Avenue NE to 192nd Avenue NE. Improvements include one through lane in each direction, left turn lanes or medians to create a three-lane section, bike lanes, sidewalks, streetlights, traffic control, storm drainage, right-of-way, and easements. Consider roundabout at 185th Avenue and 76th Street.	$12,604,000
362	172nd Avenue NE Extension	NE 124th Street to NE 128th Street	Open the 172nd Avenue NE gate at NE 124th Street and complete associated improvements.	$478,000
290	NE 22nd Street, East	152nd Avenue NE to Bel-Red Road	Construct new street: NE 22nd Street from 152nd Avenue NE to Bel-Red Road. Design the street as a local access street using pedestrian supportive design with on-street parking and one through lane in each direction. Major street connections would be signalized. Coordinate with the Overlake South Plan.	$3,957,000
289	NE 22nd Street, West	148th Avenue NE to 152nd Avenue NE	Construct new street: NE 22nd Street from 148th Avenue NE to 152nd Avenue NE. Design the street as a	$10,023,000

			local access street using pedestrian supportive design with on-street parking and one through lane in each direction. Major street connections would be signalized. Coordinate with the Overlake South Plan.	
288	151st Avenue NE South-DaVinci	NE 20th Street to NE 24th Street	Construct new street: 151st Avenue NE between NE 20th Street and NE 24th Street. Refer to the Overlake Neighborhood Plan for more details. Coordinate with the Overlake Village South Study.	$4,748,000
313	Hopper Street	152nd Avenue NE to DaVinci	Construct Hopper Street Access Street from DaVinci to 152nd Ave in accordance with Overlake Design Standards, including one travel lane, a parking lane, and sidewalk in each direction.	$9,446,000
312	DaVinci Street	NE 24th Street to Hopper Street	Construct DaVinci neighborhood street from NE 24th Street to Hopper Street in accordance with the Overlake Village Design Standards, including one travel lane, a parking lane, cycle track, and sidewalk in each direction as well as an urban pathway trail.	$10,758,000
311	DaVinci Street	Hopper Street to Shen Street	Construct DaVinci neighborhood street from Turing Street to Shen Street in accordance with the Overlake Village Design Standards, including one travel lane, a parking lane, cycle track, and sidewalk in each direction.	$4,678,000
310	Lumiere Access Street	NE 24th Street to Hopper Street	Construct Lumiere Access Street from 24th Street to Hopper Street in accordance with the Overlake Village Design Standards, including one travel lane, a parking lane, and sidewalk in each direction.	$6,382,000
405	176th Avenue NE Retrofit-Middle Segment	NE 65th Street to NE 70th Street	Widen the roadway to add multimodal capacity.	$3,131,000

360	NE 70th Street Extension Phase 2 Construction	Redmond Way to 180th Avenue NE	Construct a new street connection up to City standards on NE 70th Street between 180th Avenue NE and Redmond Way.	$1,936,000
404	176th Avenue NE Retrofit-67th Segment	Mid Segment to LW Segment	Widen the roadway to add multimodal capacity.	$4,125,000
384	NE 65th Street Retrofit	Marymoor Park boundary to East Lake Sammamish Parkway	Retrofit as a collector arterial.	$17,540,000
386	NE 67th Street Retrofit	173rd Avenue NE to 176th Avenue NE	Retrofit as a collector arterial.	$18,349,000
392	NE 70th Street Retrofit	173rd Avenue NE to Redmond Way	Construct a new collector arterial. The north half of street will be completed as part of the Downtown Redmond Link Extension.	$9,242,000
1150	Lumiere Avenue	NE 20th Street to NE 24th Street	Construct new street: Lumiere Ave from NE 20th Street to NE 24th Street.	$15,037,000
1151	NE Koll Drive	152nd Avenue NE to DaVinci	Construct new multimodal connection: NE Koll Drive (2100 block) from Da Vinci Avenue to 152nd Avenue.	$1,685,000
1166	70th Street Cycle Track	SR 202 to 180th Avenue	A one-way cycle track built by shifting the curb line south. Part of a comfortable bike system connecting Marymoor Station to southeast Redmond.	$2,629,000
47.01	152nd Avenue NE Main Street North	24th Street to 31st Street	Implement the 152nd Avenue NE Main Street from 2600 Crossing to Plaza Street/DaVinci to create a lively and active signature street in Overlake Village. The cross-section for the improvements would include one through lane in each direction, turn lanes as necessary, on-street parking, and pedestrian and bicycle facilities. Other improvements include storm drainage, LID, street lighting, pedestrian amenities, transit amenities, right-of-way, easements, and utilities.	$8,298,000
51.01	156th Avenue NE Shared Use Path	NE 40th Street to NE 51st Street	Construct a shared-use path on the east side of 156th Avenue from 40th Street to 51st Street.	$7,910,000

56.01	NE 40th Street Shared Use Path - West	148th Avenue NE to SR 520	Construct a shared-use path on the south side of 40th Street from 148th Avenue to the 520 Trail.	$8,061,000
62.01	NE 40th Street Improvements	163rd Avenue NE to West Lake Sammamish Parkway	Add a paved trail on south side of 40th Street from 163rd Avenue to West Lake Sammamish Parkway.	$4,421,000
66.01	51st Street Shared Use Path	148th Avenue to SR 520	Provide a multi-use path on the north side of NE 51st Street between 148th Avenue NE and SR 520.	$2,325,000
1182	Willows North Bus Lane	90th Street to 124th Street	Add a northbound bus-only or HOV-only lane. Replace one general-purpose lane south of the 9900 Block and replace bike lanes from the 9900 Block to 124th Street. Bike lanes cannot be removed until the Redmond Central Connector is complete, providing a new, more comfortable bike facility.	$673,000
1192	40th Street Shared Path, East	163rd Avenue to West Lake Sammamish Parkway	Construct a shared-use path on the south side of 40th Street with segments of cycle track where appropriate.	$6,041,000
361.01	Sammamish River Trail Extension	51st Street to Bel-Red Road	Extend Sammamish River Trail on the east side of West Lake Sammamish Parkway from 51st Street to Bel-Red Road.	$16,834,000
366.01	156th Avenue NE Two-Way Cycle Track	Bel-Red Road to NE 40th Street	Construct a two-way cycle track on the east side of 156th Avenue from 28th Street to 40th Street.	$6,541,000
387.01	148th Corridor	Bel-Red Road to EB SR 520 on-ramp	Add a northbound through lane on 148th Avenue NE between Bel-Red Road and the eastbound SR 520 on-ramp.	$7,582,000
314	Turing Street	NE 27th Street to 152nd Avenue NE	Construct an access Street in accordance with Overlake Village Design Standards, including one travel lane, a parking lane, and a sidewalk in each direction.	$16,667,000
315	Shen Street	Hopper Street to 152nd Avenue NE	Construct new street: Shen Street from Hooper Street to 152nd Avenue NE.	$15,298,000
31	148th Avenue NE and NE 51st Street Right Turn Lanes	520 Trail to 148th Avenue NE	Add a second right-turn lane from westbound NE 51st Street to northbound 148th Avenue NE.	$1,427,000

72	140th Avenue NE and Redmond Way Turn Lanes	NE 80th Street to Redmond Way	Add a second northbound left-turn lane and extend bicycle lanes from 80th Street through the intersection of 140th Avenue and Redmond Way.	$173,000
10	SR 520 Trail Grade Separation at NE 51st Street	520 Trail	Grade separate the 520 Trail at NE 51st Street.	$6,489,000
111	124th Street and 162nd Place Intersection Improvements	162nd Place NE/124th Street	Construct a new traffic signal at 124th Avenue NE and 162nd Place NE. Includes the addition of turn lanes on NE 124th Street and modifications on 162nd Place for sight distance. Expected to meet signal warrant with pending development. Alternatively, build a roundabout (just outside city limits).	$1,601,000
89	76th Street & 178th Place Intersection Improvements	178th Place NE /76th Street	Improve the intersection by accommodating WB-67 trucks for all movements, adding northbound and southbound right-turn-only lanes, completing bike lanes, widening sidewalks to 6 feet, and improving sightlines.	$5,233,000
389	West Lake Sammamish Parkway Roundabout	West Lake Sammamish Parkway/Bel-Red Road	Construct a roundabout at West Lake Sammamish Parkway and Bel-Red Road.	$4,601,000
46	150th Avenue NE & NE 51st Street Signal	NE 51st Street/150th Avenue NE	Add a north leg to the intersection of 150th Avenue and 51st Street and signalize this intersection.	$1,290,000
50	156th Avenue NE & Bel-Red Road Turn Lane	156th Avenue NE /Bel-Red Road	Add a southbound right-turn lane.	$1,266,000
339	NE 95 Street Bridge Replacement	NE 95th Street	Replace NE 95th Street Bridge.	$684,000
1063	Red-Wood Road and NE 109th Street Improvements	Red-Wood Road/NE 109th Street	North-South Corridors Study	$407,000
			Total Eligible Cost	**$447,057,000**

Appendix B – Land Use Definitions

The following land use definitions are derived from the *ITE Trip Generation Manual* (11th Edition).

RESIDENTIAL

Single Family (Detached): A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision. (ITE # 210)

Accessory Dwelling Unit (ADU): Accessory dwelling unit comes from ITE code # 220 (1-3 Story Multi-Family/Townhome/ADU).

Middle Housing: Middle housing land use category is an average of ITE code #215 (single family attached/duplex) and #220 (1-3 Story Multi-Family/Townhome/ADU). This category includes all forms of multi-family housing not otherwise listed.

4-10 Story Multi/Townhome/Condo: Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways. (ITE # 221)

10+ Story Multi/Townhome/Condo: High-rise multifamily housing includes apartments, townhouses, and condominiums. Each building has more than 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevators, and a set of hallways. (ITE # 222)

Single Room Occupancy: Single room occupancy includes off-campus student apartment complex houses college or university students in structures with two or three floors of living space (low-rise) and four and 10 floors of living space (high-rise). The apartments are typically rented by the bedroom and most contain a common area or shared living space (living room, kitchen, dining area). Each bedroom typically has a private bath. These apartments are sometimes called independent bedroom apartments. The dwelling unit typically ranges in size between a studio apartment and a five-bedroom apartment. It can be rented furnished or unfurnished. It is common for each apartment to have a washer and dryer. The property is typically located near or within walking distance of a college campus and provides student-related amenities such as free high-speed Internet, a study lounge, fitness center, sports court, and swimming pool. An off-campus student apartment complex typically provides security and 24-hour emergency maintenance. (ITE # 225, 226)

Retirement Community: Senior adult housing—single-family sites are independent living developments that are called various names including retirement communities, age-restricted housing, and active adult communities. The development has a specific age restriction for its residents, typically a minimum of 55 years of age for at least one resident of the household. (ITE # 251)

Congregate Care/Assisted Living: A congregate care facility is an independent living development that provides centralized amenities such as dining, housekeeping, communal transportation, and organized social/ recreational activities. Each individual dwelling unit often has a kitchenette. Assistance is typically available for housekeeping or minor household maintenance. Limited medical services (such as nursing and dental) may or may not be provided. The resident may contract additional medical services or personal assistance. (ITE # 253)

EDUCATION/INSTITUTIONS

Elementary School: An elementary school typically serves students attending kindergarten through the fifth or sixth grade. Elementary schools are usually centrally located in residential communities in order to facilitate student access and have no student drivers. This land use consists of schools where bus service is usually provided to students living beyond a specified distance from the school. Both public and private elementary schools are included in this land use. (ITE # 520)

Middle/Junior High School: A middle or junior high school serves students who have completed elementary school and have not yet entered high school. Both public and private middle schools/junior high schools are included in this land use. (ITE # 522)

High School: High schools serve students who have completed middle or junior high school. Both public and private high schools are included in this land use. (ITE # 525)

Day Care Center: A facility for the care of infant and preschool age children during the daytime hours. Generally includes classrooms, offices, eating areas, and a playground. (ITE # 565)

Church: A building providing public worship facilities. Generally houses an assembly hall or sanctuary, meeting rooms, classrooms, and occasionally dining facilities. (ITE # 560)

Nursing Home: A facility whose primary function is to provide chronic or convalescent care for persons who by reason of illness or infirmity are unable to care for themselves. Applies to rest homes, chronic care, and convalescent centers. (ITE # 620)

INDUSTRIAL

Light Industrial/Manufacturing: A light industrial facility is a free-standing facility devoted to a single use. The facility has an emphasis on activities other than manufacturing and typically has minimal office space. Typical light industrial activities include printing, material testing, and assembly of data processing equipment. (ITE # 110, 140)

Industrial Park: An industrial park contains several individual industrial or related facilities. It is characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities. Some parks in the database have a large number of small businesses and others have one or two dominant industries. (ITE # 130)

Mini-Warehouse/Storage: A mini-warehouse is a building in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as "self-storage" facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point. (ITE # 151)

Warehousing: A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas. (ITE # 150)

MEDICAL

Hospital: A building or buildings designed for the medical, surgical diagnosis, treatment, and housing of persons under the care of doctors and nurses. Rest homes, nursing homes, convalescent homes and clinics are not included. (ITE # 610)

OFFICE

Medical/Dental Office: A facility which provides diagnoses and outpatient care on a routine basis, but which is unable to provide prolonged in-house medical/surgical care. A medical office is generally operated by either a single private physician/dentist or a group of doctors and/or dentists. (ITE # 720)

General Office: An administrative office building houses one or more tenants and is the location where affairs of a business, commercial or industrial organization, government, professional person, or firm are conducted. The building or buildings may be limited to one tenant, either the owner or lessee, or contain a mixture of tenants including professional services, insurance companies, investment brokers, and company headquarters. Services such as a bank or savings and loan, a restaurant or cafeteria, miscellaneous retail facilities, and fitness facilities for building tenants may also be included. (ITE # 710)

Single Tenant Office: A single tenant office building generally contains offices, meeting rooms, and space for file storage and data processing of a single business or company and possibly other service functions including a restaurant or cafeteria. (ITE # 715)

RECREATION

Golf Course: A golf course is an expansive landscaped area that includes a series of golf holes, each consisting of a tee, fairway, and putting green. The site may have a driving range, clubhouse with a pro shop, restaurant, lounge, or banquet facility. (ITE # 430)

Bowling Alley: A bowling alley is a recreational facility that includes bowling lanes. A small lounge, restaurant and/or snack bar, video games, and pool tables may also be available. (ITE # 437)

Movie Theater: Consists of audience seating, one or more screens and auditoriums, a lobby, and refreshment stand. Typically includes matinee showings. (ITE # 445)

Health Fitness Club: Privately owned facilities that may include swimming pools and whirlpools, saunas, weightlifting and gymnastics equipment, exercise classes, tennis, racquetball, and handball courts. Features exercise sports, and other active physical conditioning, as well as a broader range of services such as juice bars and meeting rooms. (ITE # 492)

Recreational Community Center: A recreational community center is a stand-alone public facility similar to and including YMCAs. These facilities often include classes and clubs for adults and children, a day care or nursery school, meeting rooms and other social facilities, swimming pools and whirlpools, saunas, tennis, racquetball, handball, pickle ball, basketball and volleyball courts; outdoor athletic fields/courts, exercise classes, weightlifting and gymnastics equipment, locker rooms, and a restaurant or snack bar. Public access is typically allowed and a membership fee may be charged. (ITE # 495)

RETAIL - AUTOMOTIVE

Gasoline/Service Station: This land use includes gasoline/service stations where the primary business is the fueling of motor vehicles. The sites included generally have a small building (less than 2,000 gross square feet) that houses a cashier and limited space for motor vehicle maintenance supplies and general convenience products. A gasoline/service station may also have ancillary facilities for servicing and repairing motor vehicles and may have a car wash. (ITE # 944)

Gas Station w/ Convenience Market: This land use includes gasoline/service stations with convenience markets where the primary business is the fueling of motor vehicles. These service stations may also have ancillary facilities for servicing and repairing motor vehicles and may have

a car wash. Some commonly sold convenience items are newspapers, coffee or other beverages, and snack items that are usually consumed in the car. (ITE # 945)

Self-Serve Car Wash: A self-service car wash allows manual cleaning of vehicles by providing stalls for a motorist to park and wash a vehicle. (ITE # 947)

Auto Sales (New/Used): A new or used automobile sales dealership is typically located along a major arterial street characterized by abundant commercial development. The sale or lease of new or used cars is the primary business at these facilities. Automobile servicing and parts sales may also be available. The dealerships may also provide truck sales and servicing. (ITE # 840, 841)

RETAIL

Variety Store: A variety store is a retail store that sells a broad range of inexpensive items often at a uniform price. A variety store is commonly referred to as a "dollar store." Items typically sold at a variety store include kitchen supplies, cleaning products, home office supplies, food products, household goods, decorations, and toys. The store can be stand-alone or located within a shopping plaza or strip retail plaza. (ITE # 814)

Freestanding Discount Store: A discount store is similar to a free-standing discount superstore with the exception that it does not contain a full-service grocery department. It is also similar to a department store with the exception that it generally offers centralized cashiering and sells products that are advertised at discount prices. Discount stores offer a variety of customer services and typically maintain long store hours 7 days a week. The stores included in this land use are often the only ones on the site but they can also be found in mutual operation with a related or unrelated garden center and/or service station. A free-standing discount store can also be found on a separate parcel within a retail complex, with or without its own dedicated parking. (ITE # 815)

Supermarket: Retail store that sells a complete assortment of food, food preparation and wrapping materials, and household cleaning and servicing items. (ITE # 850)

Shopping Center (>150k): A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has at least 150,000 square feet of gross leasable area (GLA). It often has more than one anchor store. Various names can be assigned to a shopping center within this size range, depending on its specific size and tenants, such as community center, regional center, superregional center, fashion center, and power center. A shopping center of this size typically contains more than retail merchandising facilities. Office space, a movie theater, restaurants, a post office, banks, a health club, and recreational facilities are common tenants. A shopping center of this size can be enclosed or open-air. The vehicle trips generated at a shopping center

are based upon the total GLA of the center. In the case of a smaller center without an enclosed mall or peripheral buildings, the GLA is the same as the gross floor area of the building. The 150,000 square feet GLA threshold value between community/regional shopping center and shopping plaza (Land Use 821) is based on an examination of trip generation data. For a shopping plaza that is smaller than the threshold value, the presence or absence of a supermarket within the plaza has a measurable effect on site trip generation. For a shopping center that is larger than the threshold value, the trips generated by its other major tenants mask any effects of the presence or absence of an on-site supermarket. (ITE # 820)

Shopping Plaza (40 – 150k): A shopping plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has between 40,000 and 150,000 square feet of gross leasable area (GLA). The term "plaza" in the land use name rather than "center" is simply a means of distinction between the different shopping center size ranges. Various other names are commonly used to categorize a shopping plaza within this size range, depending on its specific size and tenants, such as neighborhood center, community center, and fashion center. Its major tenant is often a supermarket but many sites are anchored by home improvement, discount, or other stores. A shopping plaza typically contains more than retail merchandising facilities. Office space, a movie theater, restaurants, a post office, banks, a health club, and recreational facilities are common tenants. A shopping plaza is almost always open-air and the GLA is the same as the gross floor area of the building. The 150,000 square feet GLA threshold value between shopping plaza and shopping center (Land Use 820) is based on an examination of trip generation data. For a shopping plaza that is smaller than the threshold value, the presence or absence of a supermarket within the plaza has a measurable effect on site trip generation. For a shopping center that is larger than the threshold value, the trips generated by its other major tenants mask any effects of the presence or absence of an on-site supermarket. The 40,000 square feet GFA threshold between shopping plaza and strip retail plaza (Land Use 822) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA. (ITE # 821)

Strip Retail Plaza (<40k): A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA. (ITE # 822)

Library: A library can be either a public or private facility that consists of shelved books, reading rooms, or areas, and, sometimes, meeting rooms. (ITE # 590)

Hardware/Paint Store: A hardware/paint store is a free-standing building that sells hardware and paint supplies. (ITE # 816)

Convenience Market: A use that combines retail food sales with fast foods or take-out food service; generally open long hours or 24 hours a day. (ITE # 851)

Pharmacy/Drug Store w/o Drive-Thru: A pharmacy/drugstore is a retail facility that primarily sells prescription and non-prescription drugs. A pharmacy/drugstore also typically sells cosmetics, toiletries, medications, stationery, personal care products, limited food products, and general merchandise. The pharmacy/ drugstores in this category do not contain a drive-through window. (ITE # 880)

Pharmacy/Drug Store w/ Drive-Thru: A pharmacy which sells prescriptions and non-prescription drugs, cosmetics, toiletries, medications, stationery, personal care products, limited food products, and general merchandise. Contain drive-through windows. (ITE # 881)

Furniture Store: Furniture stores specialize in the sale of furniture, and often, carpeting. The stores are generally large and include storage areas. (ITE # 890)

Walk-In Bank: A bank is a financial institution that that can offer a wide variety of financial services. A walk-in bank does not have drive-in lanes but typically has a non-drive-through automatic teller machine (ATM). A walk-in bank can be free-standing with its own parking lot or part of a larger retail complex. (ITE # 911)

Drive-In Bank: A bank is a financial institution that can offer a wide variety of financial services. A drive-in bank provides banking services for a motorist through a teller station. A drive-in bank may also serve patrons who walk into the building. The drive-in lanes may or may not provide an automatic teller machine (ATM). (ITE # 912)

Fine Dining Restaurant: This land use consists of high quality, full-service eating establishments with a typical duration of stay of at least one hour. Quality restaurants generally do not serve breakfast; some do not serve lunch; all serve dinner. This type of restaurant often requests and sometimes requires reservations and is generally not part of a chain. Patrons commonly wait to be seated, are served by a waiter/ waitress, order from menus and pay for meals after they eat. (ITE # 931)

High Turnover Restaurant: This land use consists of sit-down, full-service eating establishments with typical duration of stay of approximately one hour. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain. These restaurants typically do not take reservations. Patrons commonly wait to be seated, are served by a waiter/waitress, order from menus and pay for their meal after they eat. (ITE # 932)

Fast Food w/o Drive-Thru: This land use includes any fast-food restaurant without a drive-through window. This type of restaurant is characterized by a large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in customer is less than 30 minutes. (ITE # 933)

Fast Food w/ Drive-Thru: An eating establishment that offers quick food service and a limited menu of items. Food is generally served in disposable wrappings or containers and may be consumed inside or outside the restaurant building. Restaurants in this category have a drive-up window. (ITE # 934)

Coffee/Donut Shop w/o Drive-Thru: This land use includes any coffee and donut restaurant that does not have a drive-through window. The restaurant sells freshly brewed coffee (along with coffee-related accessories) and a variety of food/drink products such as donuts, bagels, breads, muffins, cakes, sandwiches, wraps, salads, and other hot and cold beverages. The restaurant marketing and sales may emphasize coffee beverages over food (or vice versa). A coffee/donut shop typically holds long store hours (more than 15 hours) with an early morning opening. Limited indoor seating is generally provided for patrons, but table service is not provided. (ITE # 936)

U.S. Post Office: A United States post office is a federal building that contains service windows for mailing packages and letters, post office boxes, offices, sorting and distributing facilities for mail, and vehicle storage areas. (ITE # 732)

HOTEL

Hotel: A place of lodging providing sleeping accommodations. Hotels typically include restaurants, cocktail lounges, meeting and banquet rooms, or convention facilities. (ITE # 310)

Motel: A place of lodging providing sleeping accommodations. Motels generally offer free on-site parking, little or no meeting space, and may have exterior corridors. (ITE # 320)