

WASHINGTON PARKWAY IMPACT FEE STUDY



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EXECUTIVE SUMMARY

A development impact fee is a one-time charge on new development that covers the cost for new or expanded public facilities due to the development's impact. The role of impact fees in infrastructure financing in high growth communities is to control, regulate, and manage new development. Those responsible for developing impact fees realize that the fee must be fair and equitable, be reasonably estimated, and provide reasonable benefit to those who pay. Washington City has developed this impact fee to cover the additional cost for the improvements to Washington Parkway. It will be assessed to those properties that are directly affected by the improvements.

The impact fee for Washington Parkway was developed and will be calculated on a per trip dollar amount. The formula that will be used to calculate the fee is as follows:

$$\text{TPD} \times \text{Cost per trip} = \text{Impact Fee}$$

Where

TPD = Trips per day on a typical weekday from the Institute of Transportation Engineers (ITE) Trip Generation Manual

Cost per trip = Total road improvement costs/Total number of daily trips by proposed development = \$4.77.

Actual costs to construct the additional 2 travel lanes were generated. These costs included the roadway, earthwork, drainage, and signal features. The total cost to build the additional improvements is estimated at \$1,278,263. The total estimated trips that will be generated by traffic for the adjacent developments in a day on a typical weekday are 267,861 or approximately 27,000 trips in the peak hour. Dividing \$1,278,263 by 267,861 trips gives a cost per trip of \$4.77. This \$4.77 per trip impact fee is in addition to the existing citywide impact fees. All new development in the planning area will be responsible for the impact fees adopted by ordinance last year as well as this additional impact fee.

Using this new formula, the additional impact fee for a single-family residential unit would be \$46. Alternatively, the additional impact fee for a 5,000 square foot high turnover sit down restaurant impact fee would be \$607.

INTRODUCTION

There are two philosophies to follow with regard to impact fee development. They are “facility-based” and “consumption-based” methods for determining impact fees for development.

The facility-based or plan based method is derived by specifying a planning horizon year and determining what facilities would be required in that year to meet established standards. Once the future requirements are defined, the total cost to build the needed facilities is then estimated. Trips that are to be generated by the new development expected during the planning period are then estimated and divided into the total construction cost to establish a cost per trip. The new development is then charged an impact fee based on the estimated trips for the development times the established cost per trip.

The consumption-based method is derived by determining the cost to replace a system used by development travel and subtracting credits given for traffic generated by other development traffic. The theory behind the consumption-based fee is that new development is charged based on the value of the system that it will consume and does not include a share of the system that needs to be constructed for other reasons. Road improvement projects to be constructed in the future are used to determine the value of the existing system being consumed by new development.

The rationale for impact fees is based on the critical assumption that if no new development is allowed around Washington Parkway, the existing street system would adequately serve the existing level of development in the vicinity of Washington Parkway. In other words, if no new building permits of any kind were issued, the road system for Washington Parkway that is in place today would adequately serve the existing traffic volumes into the future. Therefore, the recommended roadway improvements outlined in this study and used in the development of the impact fees are growth related and are needed in order to accommodate the projected growth and still maintain the level of service that presently exists on this roadway.

The impact fee for Washington Parkway will build the additional width of the roadway that will be required once all the development is in place. All of the property adjacent to and east of Washington Parkway that is being developed by School and Institutional Trust Lands Administration (SITLA) and another developer was considered in the impact fee. This property totaled 810 acres. There was also another piece of property on the west side of Washington Parkway that was considered in the impact fee, which was 76 acres. All developments included in the impact fee covered a total area of 886 acres.

Current City Wide Policy

The current transportation impact fee policy of Washington City is a facility-based method and this study's impact fee will use the same method. The formula to calculate the Washington Parkway impact fee has been changed slightly from the formula used for the citywide impact fee. No trip reduction factors will be used in this impact fee because most of the trips using this roadway are internal to Washington and do not typically travel to destinations outside the city. The other modification to the formula is this impact fee is based on a per day trip rate instead of a peak hour rate.

PROJECTED GROWTH

A planning area was developed for inclusion in the Washington Parkway Impact Fee. This area includes all the properties in and around Washington Parkway that will benefit from its use. A figure showing the planning area is included in the appendix.

Information obtained from the State Institutional Trust Lands Administration (SITLA) and Quality Development L.L.C. was used to generate the anticipated trips that the new development will generate in a day. There will be a total of 2216 new residential dwelling units built in the planning area boundaries. The planning area also includes 8.5 million square feet of commercial buildings and 0.84 million square feet of mixed-use commercial development. These types of land uses generate 429,329 trips in a day on a typical weekday based on ITE's Trip Generation Manual. Assuming that 25% of the commercial trips are internal to the site and 15% of the commercial trips are pass-by traffic, equates in a reduction of 161,468 trips. The total adjusted trips for the impact fee area are 267,861. This is the total number of trips that will be generated by the development in a day on a typical weekday. The calculations are included in the Appendix.

ROADWAY IMPROVEMENT COSTS

We have estimated the cost to construct the additional 2 travel lanes on Washington Parkway to be \$1,278,263. These numbers were generated from the actual costs when building the parkway. The total dollar amount to build the full 5-lane section on Washington Parkway was generated and totaled \$1,883,156. This number was divided by 2/5 to only include the cost for the additional 2 travel lanes, which was \$753,263. Three new traffic signals are anticipated on Washington Parkway and were added into this cost at \$175,000 each. This gave us a total cost of \$1,278,263 to be included in the impact fee. The calculations are included in the Appendix.

PROPOSED IMPACT FEE POLICY

The City of Washington has recently completed most of the Washington Parkway infrastructure. In order to fully fund the additional improvements to this roadway there was a need to assess an impact fee to help pay for the additional improvements.

The calculation of the Washington Parkway impact fee basically consists of dividing the estimated total number of new daily vehicular trips for a typical weekday at build out into the total cost of the recommended improvements. This yields a cost per trip of \$4.77. Each new development will be assessed an additional impact fee based on the cost per trip and the number of trips generated by that development in a day on a typical weekday. The trip generation for a new development is calculated using the latest edition of the ITE publication Trip Generation. The following formula is recommended to the city for calculating the impact fees for properties inside the planning area adjacent to Washington Parkway:

$$\text{TPD} \times \text{Cost per trip} = \text{Impact Fee}$$

Where

TPD = Trips per day on a typical weekday from the Institute of Transportation Engineers (ITE) Trip Generation Manual

Cost per trip = Total road improvement costs/Total number of daily trips by proposed development = \$4.77.

This assumes the trips are calculated on a **daily** basis and not on the peak hour of generation. **No trip reduction factors will be used as part of this impact fee.**

CONCLUSIONS AND RECOMMENDATIONS

The impact fee for Washington Parkway will build the additional 2 lanes of the roadway that will be required once all the development is in place. All of the properties adjacent to and east of Washington Parkway that is being developed by School and Institutional Trust Lands Administration (SITLA) and another developer and the property west of Washington Parkway adjacent to the freeway were considered in the impact fee, totaling 886 acres. The total adjusted trips for the impact fee area based on a typical weekday are 267,861. We have estimated the cost to construct the additional improvements on Washington Parkway to be \$1,278,263. These numbers were generated from the actual costs when building the parkway and adding in the cost for 3 new proposed signals on the parkway. This impact fee study has found that the new recommended policy for impact fees in the Washington Parkway planning area should be based upon the following formula:

$$\text{TPD} \times \text{Cost per trip } (\$4.77) = \text{Impact Fee}$$

The additional impact fees are calculated for each new development based on the total daily trips for a typical weekday generated by the development times the \$4.77 per trip fee. This \$4.77 per trip impact fee is in addition to the existing citywide impact fees. All new development in the planning area will be responsible for the impact fees adopted by ordinance last year as well as this additional impact fee. The attached documentation can support the recommendations in this study.

Appendices

1. Washington Parkway Cost Estimates
2. Washington Parkway Trip Generation
3. Washington Parkway Planning Area

Appendix 1
Washington Parkway Cost
Estimates

WASHINGTON PARKWAY IMPACT FEE
WASHINGTON CITY
Roundabout to Telegraph

<u>Category</u>	<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>	<u>Total Cost</u>
EARTHWORK						
	Mobilization	1	lump sum	\$48,000.00	\$48,000.00	
	Traffic Control	1	lump sum	\$3,800.00	\$3,800.00	
	Top Soil Stripping and Storage	1	lump sum	\$19,800.00	\$19,800.00	
	Excavation Borrow (Cut)	1	lump sum	\$58,000.00	\$58,000.00	
	Off Site Borrow (Cut)	1	lump sum	\$35,000.00	\$35,000.00	
	Embankment (Fill)	1	lump sum	\$47,500.00	\$47,500.00	
	10" Sub-base	529458	sq. feet	\$0.35	\$185,310.30	
	7" Road Base	529458	sq. feet	\$0.32	\$169,426.56	
	Gravel Shoulder	56875	sq. feet	\$0.40	\$22,750.00	
	Roadway Slope Grading	41280	sq. yard	\$0.20	\$8,256.00	
	Roadway Slope Hydro-seeding	41280	sq. yard	\$0.40	\$16,512.00	
	Straw Bales	2700	linear feet	\$2.00	\$5,400.00	
	Silt Fence	6300	linear feet	\$1.00	\$6,300.00	
	Fencing Disturbed Areas	11570	linear feet	\$0.70	\$8,099.00	
	Road Ditch, Filter Fabric, Rip-Rap	9100	linear feet	\$8.60	\$78,260.00	
	Rip-Rap Energy Disipator	1	lump sum	\$1,000.00	\$1,000.00	
	Channel Improvements	100	linear feet	\$52.00	\$5,200.00	
					Subtotal	\$718,614
ROADWAY						
	Standard Curb and Gutter	12463	linear feet	\$8.00	\$99,704.00	
	RU30 Curb and Gutter	503	linear feet	\$8.30	\$4,174.90	
	Stamped Concrete	4534	sq. feet	\$6.50	\$29,471.00	
	Pedestrian Access Ramp	4	each	\$260.00	\$1,040.00	
	6" Asphalt	390962	sq. feet	\$1.25	\$488,702.50	
	8" PVC Utility Sleeve	1222	linear feet	\$8.85	\$10,814.70	
	6" PVC Utility Sleeve	3210	linear feet	\$3.85	\$12,358.50	
	4" PVC Utility Sleeve	3442	linear feet	\$2.65	\$9,121.30	
	3" PVC Utility Sleeve	7326	linear feet	\$1.25	\$9,157.50	
	2" PVC Utility Sleeve	7326	linear feet	\$0.85	\$6,227.10	
	Survey Monument, Box and Cover	4	each	\$155.00	\$620.00	
	Underpass Headwall	2	each	\$29,160.00	\$58,320.00	
	6' Chain Link Fence	175	linear feet	\$15.00	\$2,625.00	
	Sign and Plaque and Post	66	each	\$140.00	\$9,240.00	
	Pavement Markings	1	lump sum	\$2,700.00	\$2,700.00	
					Subtotal	\$744,277
DRAINAGE						
	12" Storm Drain Pipe	1497	linear feet	\$21.00	\$31,437.00	
	15" Storm Drain Pipe	196	linear feet	\$22.00	\$4,312.00	
	18" Storm Drain Pipe	348	linear feet	\$23.00	\$8,004.00	
	24" Storm Drain Pipe	1790	linear feet	\$26.00	\$46,540.00	
	30" Storm Drain Pipe	371	linear feet	\$33.00	\$12,243.00	
	12" Storm Drain Pipe, Flared End	5	each	\$520.00	\$2,600.00	
	18" Storm Drain Pipe, Flared End	4	each	\$590.00	\$2,360.00	
	24" Storm Drain Pipe, Flared End	2	each	\$630.00	\$1,260.00	
	3' x 3' Catch Basin	25	each	\$1,300.00	\$32,500.00	
	4' x 4' Catch Basin	2	each	\$1,900.00	\$3,800.00	
	Storm Drain Rip-Rap Filter Fabric	4	each	\$20.00	\$80.00	

5' Drainage Channel Filter Fabric,	1643	linear feet	\$5.00	\$8,215.00
84" RCP Culvert	488	linear feet	\$220.00	\$107,360.00
Reinforced Concrete Junction Box	1	each	\$19,200.00	\$19,200.00
Reinforced Concrete Junction Box	1	each	\$15,000.00	\$15,000.00
Reinforced Concrete Junction Box	1	each	\$9,800.00	\$9,800.00
Concrete Apron w/Cut-Off	9	cb. yard	\$395.00	\$3,555.00
Multi-plate Underpass Culvert	160	linear feet	\$700.00	\$112,000.00
				Subtotal

\$420,266

Total Cost **\$1,883,156**

2/5 of Total Cost to Include in Washington Parkway Impact Fee **\$753,263**

Miscellaneous Traffic Signals at Intersections 3 Each \$175,000.00 **\$525,000**

Total Cost to Include in Washington Parkway Impact Fee **\$1,278,263**

Total Trips to Include in Washington Parkway Impact Fee **267,861**

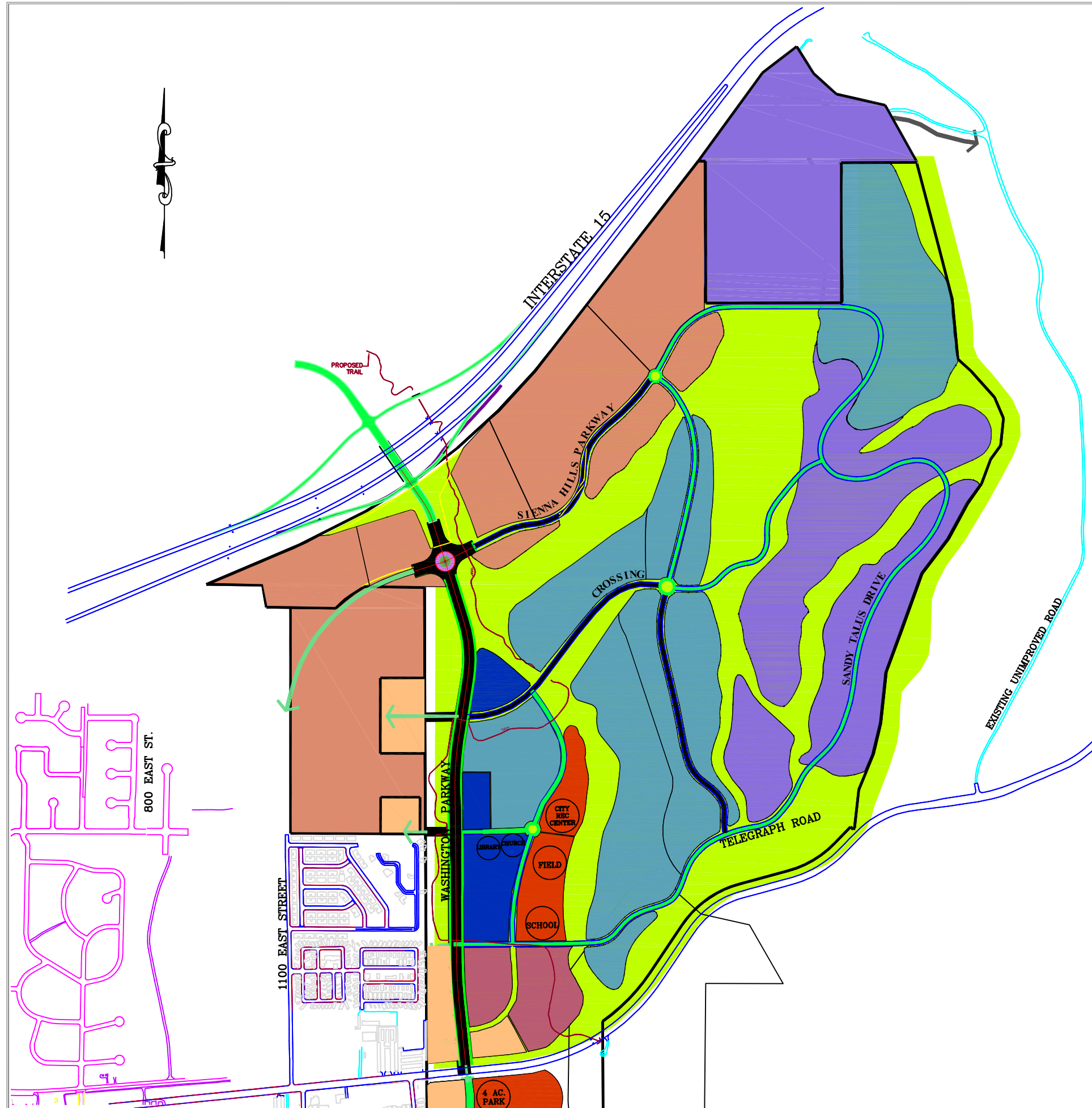
Washington Parkway Impact Fee per Trip **\$4.77**

Appendix 2
Washington Parkway Trip
Generation

Washington Parkway Trip Generation

Total Impact Area	886.2	acres				
LAND USES						
RESIDENTIAL USE	396.2	acres	Density (DU/Acre)	Dwelling Units	Trip Gen. (ITE 7th Ed.)	Projected Trips ADT
Single Family Low Density	106.2	acres	3	317	9.57	3,034
Single Family Medium Density	171.0	acres	5	851	9.57	8,144
Multi-Family Housing	18.0	acres	12	288	6.72	1,935
Townhome	33.1	acres	12	323	5.86	1,893
Sullivan Property	67.9	acres	3	204	9.57	1,952
Total	396.2	acres		<u>1983</u>		<u>16,958</u>
COMMERCIAL						
	120.3	acres	Square footage		Trip Gen. (ITE 7th Ed.)	
Freeway	107.0	acres	4,668,800	ft ²	42.94	200,478
Neighborhood	13.3	acres	578,600	ft ²	42.94	24,845
Total	120.3	acres	<u>5,247,400</u>	<u>ft²</u>		<u>225,323</u>
MIXED USE						
	19.4	acres	Square footage ft ²	Dwelling Units/Rooms	Trip Gen. (ITE 7th Ed.)	
Mixed Use (Commercial)	19.4	acres	842,800		42.94	36,190
Mixed Use (Housing)				233	6.72	1,566
Lodging				800	8.92	7,136
Total	19.4	acres				<u>44,892</u>
OPEN SPACE						
	<u>274.3</u>					
TOTAL	810.2	acres		2216	units	
TOTAL TRIPS						<u>287,173</u>
Quality Development LLC Property						
Total Area	76	acres				
LAND USES						
COMMERCIAL USE			Square footage		Trip Gen. (ITE 7th Ed.)	Projected Trips ADT
Freeway	56.0	acres	2,439,370	ft ²	42.94	104,747
Neighborhood	20.0	acres	871,203	ft ²	42.94	37,409
Total	76.0	acres	<u>3,310,573</u>	<u>ft²</u>		<u>142,156</u>
TOTAL TRIPS						429,329
REDUCTIONS						
Pass-By	15 %					60,550
Internal Capture	25 %					100,917
Total Reductions						<u>161,468</u>
TOTAL ADJUSTED TRIPS						267,861

Appendix 3
Washington Parkway
Planning Area



LAND USE LEGEND:

- FREEWAY RELATED COMMERCIAL
- MAJOR INTERSECTION CONVENIENCE RETAIL
- MIXED USE - COMMERCIAL, RETAIL, OFFICE, AND RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- LOW DENSITY RESIDENTIAL
- OPEN SPACE
(PRESERVE, TRAILS, RECREATION FACILITIES)
- DT "DOWNTOWN"
- S SCHOOL SITE
(PUBLIC AREA)
- CH CHURCH SITE
(PUBLIC AREA)
- CF PARK & COMMUNITY FACILITIES
(PUBLIC AREA)
- TRAIL
- WASHINGTON PARKWAY IMPACT FEE BOUNDARY



PROJECT NO.	DATE
230129	
DRAWN BY	DATE
APPROVED BY	DATE

**WASHINGTON PARKWAY
IMPACT FEE AREA
WASHINGTON CITY**

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