

WASHINGTON CITY TRANSPORTATION IMPACT FEE STUDY

FINAL REPORT: OCTOBER 2007

Prepared for:



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EXECUTIVE SUMMARY

The purpose of this report is to present the impact fee calculation methodology for the roadway facilities. The proposed impact fee was calculated based upon the future roadway improvements identified in the Washington City Transportation Master Plan (TMP) that can be attributed to projected future development over the next 10 years. The projected future development growth was determined by evaluating the residential and commercial building permits issued during January of 2005 to July of 2006. The permits for the various developments were converted to a single family equivalent (SFE) in terms of trips generated in the PM peak hour (see Table 2 for further details). For purposes of this study it was assumed that Washington City will continue to experience similar type growth over the next 10 years.

The SFE impact fee was calculated by dividing the city responsible roadway improvement costs by the projected future SFE development units over the next 10 years.

The following table identifies the recommended impact fee schedule for various land-uses:

Table 1: Proposed Land Use Impact Fees

Category	Land Use	Unit	Applicable ITE Code(s)	Demand Index (single family equivalent)	Impact Fee Cost Per Unit
Residential	Single Family Detached	Dwelling Units	210	1	\$2,983
	Condominium/Townhome	Dwelling Units	230	0.51	\$1,536
	Apartment	Dwelling Units	220	0.61	\$1,831
Office	Office Building	1,000 sq. ft.	710	1.55	\$4,620
	Medical Office Building	1,000 sq. ft.	720	3.68	\$10,986
Retail	Less Intensive Retail	1,000 sq. ft.	890	0.24	\$713
	Intensive Retail	1,000 sq. ft.	820	1.95	\$5,814
Services	Quality Restaurant	1,000 sq. ft.	931	3.11	\$9,290
	Fast Food	1,000 sq. ft.	934	10.80	\$32,225
	Convenience Market w/ Gas Pumps	Pump Stations	945	2.09	\$6,224
	Bank	1,000 sq. ft.	912	11.32	\$33,771
Industrial	Industrial	1,000 sq. ft.	110	1.46	\$4,341
	Manufacturing	1,000 sq. ft.	140	1.10	\$3,278
	Warehousing	1,000 sq. ft.	150	0.70	\$2,082
Institutional	Elementary School	Students	520	0.28	\$827
	Middle/Junior School	Students	522	0.30	\$886
	High School	Students	530	0.28	\$827
	Private School (K-8)	Students	534	0.60	\$1,802
	Private School (K-12)	Students	536	0.54	\$1,624
	Day Care	1,000 sq. ft.	565	2.61	\$7,785
	Library	1,000 sq. ft.	590	3.51	\$10,469
	Church	1,000 sq. ft.	560	0.65	\$1,949
Ldg	Hotel/Motel	rooms	310/320	0.55	\$1,644

The recommended single family detached housing impact fee of \$2,983 represents a 77% increase above the recommended impact fee from the November 2003 Washington City Impact Fee Study. The maximum SFE impact fee that can be assessed is \$6,140.

INTRODUCTION

Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements that are needed to serve new growth. The premise behind impact fees is that if no new development was allowed, the existing infrastructure would adequately serve the existing level of development in the city. Therefore, new development should pay for the fraction of improvements that are required because of new growth. Impact fees are assessed for many types of infrastructure and facilities that are provided by a community such as roads, sewer, water, parks and trails.

According to state law, impact fees cannot be used to correct existing deficiencies in a system, only to fund growth related capital improvements.

There are many ways to quantify the impact of new growth on the transportation system in Washington City. The method used in this study to assess the impact is to consider all the needed transportation improvements identified in the Transportation Master Plan (TMP) and then eliminate the cost of those improvements that are necessary to correct existing deficiencies.

Washington City presently assesses transportation impact fees from new development. This allows transportation related costs to be assessed to new development based on the proportional impact of new development.

In calculating the impact fees, the PM peak hour is used as it typically includes larger background/commuter traffic volumes. The typical residential unit is assigned then as a base factor for the other types of development. During the average PM peak hour it will attribute for approximately one trip on the roadway network.

PROJECTED FUTURE GROWTH

To determine the amount of development that will occur in Washington City over the next 10 years the following steps were followed:

- Obtain the record of permits issued for various developments from January 2005 to July 2006 (the most recent information available at the time of the study).
- Determine the PM peak hour trip generation rate for each land-use type using the ITE TRIP GENERATION MANUAL 7th Edition.
- Adjust the trip generation rate in terms of heavy vehicles percentage (it was assumed that 1 heavy vehicle would be equivalent to 2 passenger vehicles based on information obtained from the Highway Capacity Manual) and primary trips. The primary trip adjustment eliminates trips to various land-uses that are pass-by trips or diverted trips. Primary trip percentages were taken from the ITE Trip Generation Handbook.

Table 2: SFE DEMAND INDEX AND FUTURE GROWTH

Category	Land Use	Unit	Applicable ITE Code(s)	ITE Trip Ends per Unit (PM peak Hour)	Heavy Vehicle %	Heavy Vehicle Adjustment*	Primary Trip Adjustment	Effective Trip Ends per Unit	Demand Index (single family equivalent)	# of Units for Permits Issued - Jan 2005 to July 2006	# of Units/Year	# of SFE Units/Year
Residential	Single Family Detached	Dwelling Units	210	1.01	0%	1	1.00	1.01	1	1544	1222	1222
	Condominium/Townhome	Dwelling Units	230	0.52	0%	1	1.00	0.52	0.51	0	0	0
	Apartment	Dwelling Units	220	0.62	0%	1	1.00	0.62	0.61	0	0	0
Office	Office Buiding	1,000 sq. ft.	710	1.49	5%	1.05	1.00	1.56	1.55	0	0	0
	Medical Office Building	1,000 sq. ft.	720	3.72	0%	1	1.00	3.72	3.68	0	0	0
Retail	Less Intensive Retail	1,000 sq. ft.	890	0.46	5%	1.05	0.50	0.24	0.24	0	0	0
	Intensive Retail	1,000 sq. ft.	820	3.75	5%	1.05	0.50	1.97	1.95	214	169	330
Services	Quality Restaurant	1,000 sq. ft.	931	7.49	5%	1.05	0.40	3.15	3.11	0	0	0
	Fast Food	1,000 sq. ft.	934	34.64	5%	1.05	0.30	10.91	10.80	5	4	43
	Convience Market w/ Gas Pumps	Pump Stations	945	13.38	5%	1.05	0.15	2.11	2.09	0	0	0
	Bank	1,000 sq. ft.	912	45.74	0%	1	0.25	11.44	11.32	5	4	45
Industrial	Industrial	1,000 sq. ft.	110	0.98	50%	1.5	1.00	1.47	1.46	0	0	0
	Manufacturing	1,000 sq. ft.	140	0.74	50%	1.5	1.00	1.11	1.10	8	6	7
	Warehousing	1,000 sq. ft.	150	0.47	50%	1.5	1.00	0.71	0.70	0	0	0
Institutional	Elementary School	Students	520	0.28	0%	1	1.00	0.28	0.28	0	0	0
	Middle/Junior School	Students	522	0.3	0%	1	1.00	0.30	0.30	0	0	0
	High School	Students	530	0.28	0%	1	1.00	0.28	0.28	0	0	0
	Private School (K-8)	Students	534	0.61	0%	1	1.00	0.61	0.60	0	0	0
	Private School (K-12)	Students	536	0.55	0%	1	1.00	0.55	0.54	0	0	0
	Day Care	1,000 sq. ft.	565	13.18	0%	1	0.20	2.64	2.61	0	0	0
	Library	1,000 sq. ft.	590	7.09	0%	1	0.50	3.55	3.51	0	0	0
Church	1,000 sq. ft.	560	0.66	0%	1	1.00	0.66	0.65	42	33	22	
Ldg	Hotel/Motel	rooms	310/320	0.53	5%	1.05	1.00	0.56	0.55	0	0	0
Total # of Single Family Equivalent Units/Year												1669
Total # of Single Family Equivalent Units Over the Next 10 Years												16,688

- Calculate a demand index factor for each land use based on the single family unit as the base factor by dividing the effective trip end for the land-use by the single family unit effective trip end.
- Multiply the demand index for each land-use by the number of permits issued on an average year for the land use. The sum of the SFE units for the various land-uses is then multiplied by 10 to determine the projected number of SFE units expected over the next 10 years in Washington City.

Based upon the methodology used above it is projected that Washington City will experience approximately 17,000 SFE units of growth over the next 10 years.

ROADWAY IMPROVEMENT PROJECTS

A list of roadway improvement projects were taken from the Washington City Transportation Master Plan completed in December 2005. Recommended improvements are separated into 0 to 5 year improvements and 6 to 10 year improvements. A detailed cost estimate for each project was performed and can be found in the appendix. In addition, each project was evaluated to determine what portion or percentage would be eligible for impact fees. It was assumed, based on City practices that typically developers would pay for improvements on the outside 25 ft right-of-way on each side while the City would be responsible for the remainder. Based upon the cost estimate it is anticipated that the cost to complete the projected roadway improvements over the next 10 years is \$ \$312,193,000 with \$ \$101,471,450 (33%) being eligible for impact fees.

POTENTIAL FUNDING SOURCES

Funding sources for transportation are essential if the Washington City recommended projects are to be built. Presently there are three main sources of revenue available to Washington City. These funding sources include: (1) State Funding through Class B and C funds; (2) Local General Funds; and (3) Private and Innovative Sources. The following paragraphs further describe these various transportation funding sources available to the City.

Class B and C Funds

The State of Utah makes funds available for highway construction from several sources. These sources include sales tax, motor fuel and special fuel taxes, vehicle control fees, motor vehicle registration fees, proportional registration, temporary permits, special transportation permits, highway use tax, safety inspections and miscellaneous fees. In the 1998 fiscal year, the gas tax was raised to 24.5 cents per gallon. The special fuel tax and motor registration fees were also raised in 1998. In addition, the State Legislature has programmed state general funds to support UDOT projects. Presently UDOT keeps about 75 percent of these funds and makes the remaining 25 percent available to counties and cities in the State Class B and C Program.

Table 3: 0 to 10 Year Roadway Projects Cost Estimate

Washington City Road Impact Fee Update			
Location	Current Cost	% City Responsibility	Eligible for Impact Fees
1-5 Year Improvements			
1. Frontage Road from Green Springs Road to MP 13	\$7,134,000	15%	\$1,070,100
2. Telegraph Street from 700 West to 300 East	\$9,497,000	75%	\$7,122,750
3. 300 East from Telegraph Street to the Virgin River	\$11,612,000	20%	\$2,322,400
4. Washington Fields Road from the Virgin River to Warner Valley Road Phase I: Washington Fields Road around Nichols Peak	\$1,662,000	5%	\$83,100
4. Washington Fields Road from the Virgin River to Warner Valley Road Phase II: Washington Fields Road from the Virgin River to Washington Dam Road	\$1,604,000	5%	\$80,200
4. Washington Fields Road from the Virgin River to Warner Valley Road Phase III: Washington Fields Road from the Lost Ridge Drive to 2000 South	\$1,984,000	100%	\$1,984,000
4. Washington Fields Road from the Virgin River to Warner Valley Road Phase IV: Washington Fields Road from Nichols Peak to 3650 South	\$3,117,000	45%	\$1,402,650
5. Bulloch Street from 300 East to MP 13	\$3,085,000	30%	\$925,500
6. 2000 South from Washington Fields Road to Western City Limits	\$3,589,000	5%	\$179,450
7. Washington Dam Road from Washington Fields Road to 1900 East	\$4,766,000	30%	\$1,429,800
8. Industrial Area Road from Deseret Drive (St. George) to 300 East	\$1,718,000	75%	\$1,288,500
9. County Stockyard	\$1,000,000	100%	\$1,000,000
Short Range Improvement Totals	\$49,768,000	38%	\$18,888,450
6-10 Year Improvements			
1. Washington Dam Road from 1900 East to Southern Corridor Phase III: Washington Dam Road from 1900 East to Southern Corridor	\$7,612,000	55%	\$4,199,000
2. Western Virgin River Crossing	\$23,001,000	10%	\$2,301,000
3. Northern Belt Route from MP 13 Interchange to Western City Limit	\$16,834,000	55%	\$9,204,000
4. Harvest Lane from Merrill Road to Southern City Limit	\$4,255,000	21%	\$897,000
5. 240 West from Merrill Road to Southern City Limit	\$3,983,000	52%	\$2,065,000
6. 20 East from Merrill Road to Southern City Limit	\$8,624,000	27%	\$2,337,000
7. 300 East from Merrill Road to 3650 South	\$3,738,000	16%	\$589,000
8. Sandia Drive from Merrill Road to Southern City Limits	\$1,538,000	33%	\$508,000
9. 4200 South from Western City Limit to West Airport Road	\$6,386,000	23%	\$1,466,000
10. 840 South from 850 North (St. George) to 300 East	\$10,524,000	29%	\$3,014,000
11. 3650 South from Western City Limit to Southern Corridor	\$8,766,000	49%	\$4,310,000
12. Washington Fields Road from Warner Valley Road to the Southern Corridor and Airport	\$14,613,000	55%	\$8,073,000
13. Warner Valley Road from Washington Fields Road to the Road Through Warner Valley	\$7,728,000	34%	\$2,652,000
14. Roadway through Warner Valley from Warner Valley Road to Southern Corridor	\$24,149,000	34%	\$8,286,000
15. Fairgrounds Road / Eastern Virgin River Crossing	\$35,605,000	37%	\$13,207,000
16. 4750 South from Western City Limit to West Airport Road	\$5,950,000	36%	\$2,153,000
17. Long Valley Road	\$13,028,000	25%	\$3,204,000
19. Extend Main Street to 100 East, South of 400 South	\$1,360,000	66%	\$892,000
20. Main Street from I - 15 Frontage Road to Northern Belt Route	\$3,933,000	61%	\$2,389,000
21. Sandia Farms Road from Western City Limit to West Airport Road	\$2,857,000	31%	\$890,000
22. West Airport Road from Western City Limit to Washington Fields Road	\$12,573,000	34%	\$4,315,000
23. Washington Parkway Extension from Telegraph Road to Washington Dam Road	\$26,039,000	0%	\$0
24. Airport Drive Loop from Washington Fields Road to Washington Fields Road	\$19,329,000	34%	\$6,632,000
Long Range Improvement Totals	\$262,425,000	32%	\$83,583,000
Roadway Total Costs	\$312,193,000	33%	\$102,471,450

Presently Class B and C funds are allocated on a ratio of population and road miles for counties and municipalities. Type B funds are distributed to the counties and C funds to the cities. These funds are primarily for new construction, maintenance, or preservation at the discretion of the counties and cities.

Local General Funds

Municipalities and the county program a significant amount of local general funds for roadway maintenance and improvement. Future revenues are projected based on current and past general fund spending on roads and highways by the county and municipalities.

Private and Innovative Sources

With local expenditures increasing, municipalities will need to consider other forms of innovative highway funding programs in the future. Transportation impact fees on new developments is one type of innovative funding that many local governments use presently. In addition, developers are a source of funding for major projects that benefit their development. These and other innovative sources will assist in funding local highway projects over the next thirty years.

PROPOSED IMPACT FEE POLICY

. In calculating the SFE impact fee the following three alternatives were considered:

1. All impact fee eligible roadway cost over the next 10 years divided by the projected SFE units over the next 10 years.
2. All 0 to 5 year impact fee eligible roadway costs in addition to projects 1 thru 11 of the 6 to 10 year projects divided by the projected SFE units over the next 10 years.
3. All 0 to 5 year impact fee eligible roadway costs in addition to 50% of the 6 to 10 year impact fee eligible roadway costs.
4. All 0 to 5 year impact eligible roadway costs in addition to 100% of 6 to 10 year projects thru 11 and 50% of projects 12 thru 24.

The following table summarizes the results of the three alternatives:

Table 4: Impact Fee Cost Alternatives

Impact Fee Alternatives	City Responsibility	Impact Fee
All Projects	\$102,471,450	\$6,140.29
All 0 to 5 year Projects and 6 to 10 year project thru #11	\$49,778,450	\$2,982.82
All 0 to 5 year Projects and 50% of the 6 to 10 year projects	\$60,679,950	\$3,636.06
All Projects Thru #11 - 50% Projects 12-24	\$84,522,950	\$5,064.78

\$6,140 represents the maximum SFE Impact fee that can be charged. However, the actual fee assessment may be set at a lower rate, as determined by the city council. In discussion with City staff option #2 seemed to be the most practical.

COMPARISON OF OLD FEE TO PROPOSED FEES

The November 2003 Washington Transportation Impact Fee Study recommended an impact fee of \$1,684 per single family residential unit. The proposed impact fee of \$2,983 would represent an increase of 77% above the recommended fee from 2003.

EXAMPLE CALCULATION

The following equation is to be used in calculating the impact fee:

Number of Land Use Units * Impact Fee Cost per Unit (taken from Table 1: Proposed Land Use Impact Fees) = Assessed Transportation Impact Fee

For example the transportation impact fee for a 5,890 sq. ft medical office building would be calculated in the following way:

$$5.890 * \$10,986 = \$64,707.54$$

CONCLUSION

Washington City presently assesses transportation impact fees from new development. This allows transportation related costs to be assessed to the new development based on the proportional impact. It is important that the assessed impact fees are regularly updated to insure that the required roadway improvement costs attributed to growth and development can be met.

The recommended SFE impact fee of \$2,983 is short of the projected SFE fee of \$6,140 required to fully fund the City portion of roadway projects attributed to growth. However, it still represents a 77% increase above the 2003 recommended impact fee and is more in line with existing constructions costs and future roadway demands.

APPENDIX