IVINS CITY
RED MOUNTAIN BLUE SKY
UTAH
PARKS AND RECREATION

APRIL 2016

TRANSPORTATION IMPACT FEE ANALYSIS



HORROCKS ENGINEERS

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

INTRODUCTION 3

PROJECTED FUTURE GROWTH 3

ROADWAY IMPROVEMENT PROJECTS 4

PROPOSED IMPACT FEE POLICY 8

COMPARISON OF CURRENT FEE TO PROPOSED FEES 8

EXAMPLE CALCULATION 8

CONCLUSION 9

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 Ivins City Transportation Master Plan (TMP) that can be attributed to projected future development over the next six years. The projected future development growth was determined by evaluating issued residential and commercial building permits. 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 3 for further details). For purposes of this study it was assumed that Ivins will continue to experience similar type growth over the next six years as development continues.

The SFE impact fee was calculated by dividing the city responsible roadway improvement costs by the projected future SFE development units over the next six 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	$1,548
	Condominium/Townhome	Dwelling Units	230	0.52	$805
	Assisted Living Center	Beds	254	0.22	$341
	Apartment	Dwelling Units	220	0.62	$960
Office	Office Building	1,000 sq. ft.	710	1.56	$2,422
	Medical Office Building	1,000 sq. ft.	720	3.57	$5,526
Retail	Less Intensive Retail	1,000 sq. ft.	890	0.22	$344
	Intensive Retail	1,000 sq. ft.	820	2.57	$3,980
Services	Quality Restaurant	1,000 sq. ft.	931	4.40	$6,818
	Fast Food	1,000 sq. ft.	934	17.77	$27,502
	Convenience Market w/ Gas Pumps	Pump Stations	945	6.24	$9,662
	Pharmacy with Drive-Through Window	1,000 sq. ft.	881	4.43	$6,865
	Bank	1,000 sq. ft.	912	12.88	$19,937
Industrial	Industrial	1,000 sq. ft.	110	1.46	$2,252
	Mini-Warehouse	1,000 sq. ft.	151	0.39	$604
	Warehousing	1,000 sq. ft.	150	0.48	$743
Institutional	Elementary School	Students	520	0.28	$433
	Middle/Junior High School	Students	522	0.30	$464
	High School	Students	530	0.28	$433
	Private School (K-8)	Students	534	0.61	$944
	Private School (K-12)	Students	536	0.55	$851
	Day Care	1,000 sq. ft.	565	13.18	$20,403
	Junior/Community College	1,000 sq. ft.	540	2.44	$3,777
	Library	1,000 sq. ft.	590	7.09	$10,975
	Church	1,000 sq. ft.	560	0.66	$1,022
	Live Theater	1,000 sq. ft.	441	0.02	$31
Ldg	Hotel/Motel	rooms	310/320	0.63	$975

The recommended single family detached housing impact fee of $1,548 represents a 46% decrease from the current impact fee of $2,883.

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 Ivins 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.

Ivins 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 then assigned as a base factor for the other types of development. During the average PM peak hour it will account for approximately one trip on the roadway network.

PROJECTED FUTURE GROWTH

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

- Obtain the record of permits issued for various developments from January 2013 to December 2015. Impact fee studies will often establish a future growth trend based on the recent history of issued building permits. The past 3 years, the City has experienced a typical trend of building that has been primarily residential growth with sparse, varied commercial growth activity such as a theater, a gift shop, self-storage facilities, and art studios. The Tuacahn planning area is seeing an increase in development with a hotel and private villas that will add to the traffic on Center Street at Snow Canyon Drive. Building permit information is shown in Table 3.

- Determine the PM peak hour trip generation rate for each land-use type using the ITE TRIP GENERATION MANUAL 9th 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 Transportation Research Board's Highway Capacity Manual) and

primary trips. The primary trip adjustment eliminates trips to various land-uses that are pass-by trips or diverted trips. A typical trip that is not adjusted with an adjustment factor assumes that a trip is made from one destination to another, with the intent that the destination is the reason for the trip. In an adjusted trip, an intermediate stop is made before the final destination is reached, such as a bank, post office, fast food, gasoline, etc. These adjustments are called by-pass trip adjustments and are represented in the primary trip adjustment. The primary trip adjustment also contains internal capture adjustments. Primary trip percentages were taken from the Institute of Transportation Engineers' Trip Generation Handbook.

- To compare how vehicle trips from each land use impact the roadway system, each land use is measured next to a single family home to determine how many effective single family homes equate to a given type of land use. For instance, the trips generated by a 5,000 sq. ft. medical building is equivalent to the trips generated by 18 single family homes. Therefore, we 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, which is 1.01 per single family home, according to the Trip Generation Handbook, cited above. This produces the Single Family Equivalent unit, or SFE unit.

- 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 six to determine the projected number of SFE units expected over the next six years in Ivins City when calculating the cost for six years of projects.

- The City Council considered the standard ITE rates and instructed staff to reduce the primary trip adjustments for those retail uses whose trips are regularly combined with existing trips in the community, such as retail, fast food, and convenience markets. In addition, these land uses are responsible for collecting commercial tax revenues that contribute to general fund participation to transportation projects. The fee calculated using these local primary trip adjustments produce the recommended fee.

Based upon the methodology used above it is projected that Ivins City will experience approximately 1,741 SFE units of growth over the next six years.

ROADWAY IMPROVEMENT PROJECTS

A list of roadway improvement projects were taken from the Ivins City Transportation Master Plan / Impact Fee Facilities Plan completed in December 2015. Recommended improvements are separated into 0 to 5 year improvements, 6 to 10 year improvements and 11 to 20 year improvements. A detailed cost estimate for each project was performed and can be found in the appendix of the Plan, along with a determination of what portion or percentage would be eligible for impact fees.

Table 2: SINGLE FAMILY EQUIVALENT (SFE) DEMAND INDEX

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)
Residential	Single Family Detached	Dwelling Units	210	1	0%	1	1	1.00	1.00
	Condominium/Townhome	Dwelling Units	230	0.52	0%	1	1	0.52	0.52
	Assisted Living Center	Beds	254	0.22	0%	1	1	0.22	0.22
	Apartment	Dwelling Units	220	0.62	0%	1	1	0.62	0.62
Office	Office Building	1,000 sq. ft.	710	1.49	5%	1.05	1	1.56	1.56
	Medical Office Building	1,000 sq. ft.	720	3.57	0%	1	1	3.57	3.57
Retail	Less Intensive Retail	1,000 sq. ft.	890	0.45	5%	1.05	0.34	0.16	0.16
	Intensive Retail	1,000 sq. ft.	820	3.71	5%	1.05	0.5	1.95	1.95
Services	Quality Restaurant	1,000 sq. ft.	931	7.49	5%	1.05	0.3	2.36	2.36
	Fast Food	1,000 sq. ft.	934	33.84	5%	1.05	0.2	7.11	7.11
	Convenience Market w/ Gas Pumps	Pump Stations	945	13.51	5%	1.05	0.15	2.13	2.13
	Pharmacy with Drive-Through Window	1,000 sq. ft.	881	8.62	5%	1.05	0.32	2.90	2.90
	Bank	1,000 sq. ft.	912	24.3	0%	1	0.53	12.88	12.88
Industrial	Industrial	1,000 sq. ft.	110	0.97	50%	1.5	1	1.46	1.46
	Mini-Warehouse	1,000 sq. ft.	151	0.26	50%	1.5	1	0.39	0.39
	Warehousing	1,000 sq. ft.	150	0.32	50%	1.5	1	0.48	0.48
Institutional	Elementary School	Students	520	0.28	0%	1	1	0.28	0.28
	Middle/Junior School	Students	522	0.3	0%	1	1	0.30	0.30
	High School	Students	530	0.28	0%	1	1	0.28	0.28
	Private School (K-8)	Students	534	0.61	0%	1	1	0.61	0.61
	Private School (K-12)	Students	536	0.55	0%	1	1	0.55	0.55
	Day Care	1,000 sq. ft.	565	13.18	0%	1	0.2	2.64	2.64
	Junior/Community College	1,000 sq. ft.	540	2.44	0%	1	1	2.44	2.44
	Library	1,000 sq. ft.	590	7.09	0%	1	1	7.09	7.09
	Church	1,000 sq. ft.	560	0.66	0%	1	1	0.66	0.66
	Live Theater	1,000 sq. ft.	441	0.02	5%	1	1	0.02	0.02
Lodge	Hotel/Motel	rooms	310/320	0.6	5%	1.05	1	0.63	0.63

It was assumed, based on City practices, that developers will typically pay for improvements on the outside twenty-six feet of right-of-way on each side of the road (one lane of asphalt plus curb, gutter, and sidewalk) 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 six years is $4,665,273 with $2,695,421 (58%) being eligible for impact fees. The current State impact fee law only allows the collection of impact fees for the projects that are anticipated to be built during the next six years, so these eligible costs will be spread among the SFE's that are projected for the next six years.

Table 3: FUTURE GROWTH IN IVINS CITY

Category	Land Use	Unit	Demand Index (single family equivalent)	# of Units for Permits Issued *	Average # of Units/Year	Average # of SFE Units/Year
Residential	Single Family Detached	Dwelling Units	1	300	100	100
	Condominium/Townhome	Dwelling Units	0.52	5	2	1
	Assisted Living Center	Beds	0.22	74	25	5
	Apartment	Dwelling Units	0.62	100	33	21
Office	Office Building	1,000 sq. ft.	1.56	1.88	1	1
	Medical Office Building	1,000 sq. ft.	3.57	0	0	0
Retail	Less Intensive Retail	1,000 sq. ft.	0.16	1.58	1	0
	Intensive Retail	1,000 sq. ft.	1.95	27.54	9	18
Services	Quality Restaurant	1,000 sq. ft.	2.36	0	0	0
	Fast Food	1,000 sq. ft.	7.11	3	1	7
	Convenience Market w/ Gas Pumps	Pump Stations	2.13	0	0	0
	Pharmacy with Drive-Through Window	1,000 sq. ft.	2.90	10	3	10
	Bank	1,000 sq. ft.	12.88	0	0	0
Industrial	Industrial	1,000 sq. ft.	1.46	0	0	0
	Mini-Warehouse	1,000 sq. ft.	0.39	22.67	8	3
	Warehousing	1,000 sq. ft.	0.48	0	0	0
Institutional	Elementary School	Students	0.28	0	0	0
	Middle/Junior School	Students	0.30	0	0	0
	High School	Students	0.28	0	0	0
	Private School (K-8)	Students	0.61	0	0	0
	Private School (K-12)	Students	0.55	0	0	0
	Day Care	1,000 sq. ft.	2.64	0	0	0
	Junior/Community College	1,000 sq. ft.	2.44	126	42	102
	Library	1,000 sq. ft.	7.09	0	0	0
	Church	1,000 sq. ft.	0.66	0	0	0
	Live Theater	1,000 sq. ft.	0.02	10.8	4	0
Lodge	Hotel/Motel	rooms	0.63	105	35.00	22
Total # of Single Family Equivalent Units/Year						290
Total # of Single Family Equivalent Units Over the Next 6 Years						1,741

***** Residential and commercial permits from January 2013 to December 2015

Table 4: 0 to 20 Year Roadway Projects Cost Estimate

Location	Current Cost	% Impact Fee	Eligible for Impact Fees
1-5 Year Improvements			
5E. Puerto Drive	$178,360	30%	$53,508
5B. Old Highway 91 - Kayenta Parkway to 200 East, Phase I	$1,600,000	30%	$480,000
5C. Old Highway 91 - Kayenta Parkway to 200 East, Phase II	$500,000	30%	$150,000
5A. 400 East - 200 North to Center Street	$350,000	100%	$350,000
5D. Center Street Streetscape Improvement, Snow Canyon Drive to 200 East	$636,913	100%	$636,913
5F. Other Signals and Roundabouts	$800,000	100%	$800,000
5G. Street Lighting Replacement Program	$300,000	0%	$0
5H. Miscellaneous Projets for Safety, Road Gap Filling, or Streetscape	$300,000	75%	$225,000
1-5 Year Improvement Totals	**$4,665,273**	**58%**	**$2,695,421**
6-10 Year Improvements			
10A. Western Corridor - 200 East to 400 East	$1,200,000	100%	$1,200,000
10B. Highway 91 - Kayenta Parkway to 200 East - 3 lanes	$5,900,000	30%	$1,770,000
10C. Other Signals and Roundabouts	$1,000,000	100%	$1,000,000
10D. Street Lighting Replacement Program	$730,000	0%	$0
10E. Miscellaneous Projets for Safety, Road Gap Filling, or Streetscape	$500,000	75%	$375,000
6-10 Year Improvement Totals	**$9,330,000**	**47%**	**$4,345,000**
11-20 Year Improvements			
20A. Old Highway 91 - Kayenta Parkway to Pioneer Parkway - 5 lanes	$2,601,760	30%	$780,528
20B. Western Corridor - Old Highway 91 to I-15 (Local Match)	$2,400,000	100%	$2,400,000
20C. Western Corridor - Old Highway 91 to Snow Canyon Parkway	$1,515,255	100%	$1,515,255
20D. Kwavasa Drive	$1,041,936	100%	$1,041,936
20E. 400 South Streetscape Improvements	$825,300	100%	$825,300
20F. 200 EastStreet Improvements	$1,710,000	100%	$1,710,000
20G. Other Signals and Roundabouts	$1,000,000	100%	$1,000,000
20H. Miscellaneous Projets for Safety, Road Gap Filling, or Streetscape	$500,000	75%	$375,000
11-20 Year Improvement Totals	**$11,594,251**	**83%**	**$9,648,019**
Roadway Total Costs	**$25,589,524**	**65%**	**$16,688,440**

PROPOSED IMPACT FEE POLICY

In calculating the SFE impact fee, all 0 to 5 year impact fee eligible roadway costs are divided by the projected SFE units over the next six years. The fee is derived by using SFE's calculated by ITE rates and primary trip adjustments as stated in the ITE Trip Generation Manual, and then applying some differing primary trip adjustments suggested by City Council with the goal to lower some of the higher commercial land uses in an effort to attract development.

Table 5 summarizes the result of this calculation:

Table 5: Recommended Impact Fee Cost

Impact Fee Alternatives	Impact Fee Eligible Amount	SFE's	Impact Fee
All Projects in the 0 to 5 year timeframe, divided by adjusted SFE rates	$2,695,421	1,741	$1,548

This fee 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.

COMPARISON OF OLD FEES TO PROPOSED FEES

The prior Ivins City Traffic Impact Fee Study recommended an impact fee of $2,883 per single family residential unit. This study proposes $1,548, a decrease of 46% of the current fee.

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 3,890 sq. ft. office building would be calculated in the following way:

3.890 * $2,422 = $9,422

CONCLUSION

Ivins 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 $1,548 will fully fund the City portion of roadway projects attributed to growth. However, it is appropriate to charge impact fees to correspond to what is decided to be funded.