



CITY OF ST. GEORGE

Traffic Impact Fee Facilities Plan

October 2020

HORROCKS
ENGINEERS

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Executive Summary

The purpose of an Impact Fee Facilities Plan (IFFP) is to identify public facilities that are needed to accommodate development and to determine which projects may be funded with impact fees. Utah law requires communities to prepare an IFFP prior to preparing an impact fee analysis and establishing an impact fee. According to Title 11, Chapter 36a-302 of the Utah Code, the IFFP is required to identify the following:

- ❖ *The existing level of service*
- ❖ *A proposed level of service*
- ❖ *Any excess capacity to accommodate future growth at the proposed level of service*
- ❖ *The demands placed on existing public facilities by new development*
- ❖ *A proposed means by which the local political subdivision will meet those demands*
- ❖ *A general consideration of all potential revenue sources to finance the impacts on system improvements*

Level of Service is defined as “the defined performance standard or unit of demand for each capital component of a public facility within a service area.” The LOS of a roadway segment or intersection is used to determine if capacity improvements are necessary. The proposed level of service provides a standard for future roadway conditions to be evaluated against. This standard will determine whether or not a roadway will need improvements or not.

There are many ways to quantify the impact of new growth on the transportation system in the City of St. George. The method used in this study to assess the impact is to consider all the needed transportation improvements identified in the Transportation Improvement Plan (TIP) and then eliminate the cost of those improvements that are necessary to correct existing deficiencies. This study used a history of building permits and projected the number of Single Family Equivalent (SFE) permits to be expected in the next six years to determine what pressures will be placed on the transportation system due to development. Based upon the methodology described in this study it is projected that St. George City will experience approximately 14,030 SFE units of growth over the next six years, as shown in [Table 4](#).

The projects required to maintain the desired level of service for the roadway network in 2050 were derived in the Master Traffic and Transportation Plan (MTP) and outlined in the TIP. These projects will need to be constructed at various times from the present through 2050. However, for the purposes of this IFFP, only projects that will be completed within the next six years will be considered. [Table 3](#) shows the projects that are forecasted to be needed in the next six years. This table includes all of the projects regardless of their eligibility for impact fee expenditure. The portion of the project, which is impact fee eligible is indicated in the [% Impact Fee](#) and [Impact Fee Total](#) columns. Level Of Service capacity of roadways and intersections has been calculated in the TMP and have indicated where capacity is needed in the future. By projecting the trips that will be generated by new development and dividing these trips by the impact fee eligible costs, the fee per trip can be calculated and is shown in the IFA. All possible revenue sources have been considered as a means of financing transportation capital improvements

needed as a result of new growth. Potential revenue sources that could be used to fund transportation needs as a result of new development is discussed.

Introduction

The purpose of an Impact Fee Facilities Plan (IFFP) is to identify public facilities that are needed to accommodate development and to determine which projects may be funded with impact fees. Utah law requires communities to prepare an IFFP prior to preparing an impact fee analysis and establishing an impact fee. According to Title 11, Chapter 36a-302 of the Utah Code, the IFFP is required to identify the following:

- ❖ *The existing level of service*
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- ❖ *A proposed means by which the local political subdivision will meet those demands*
- ❖ *A general consideration of all potential revenue sources to finance the impacts on system improvements*

This analysis incorporates the information provided in the Transportation Master Plan (TMP) regarding the upcoming demands on the existing infrastructure facilities that will require improvements to accommodate future growth and provide an acceptable LOS. Reference should be made to the TMP for additional information on the evaluation methodology and how the projections were made.

This section focuses on the improvements that are projected to be needed over the next ten years. Utah law requires that any impact fees collected for those improvements be spent within six years of being collected. Only capital improvements are included in this plan; all other maintenance and operation costs are assumed to be covered through the City's General Fund as tax revenues increase as a result of additional development.

Existing Level of Service (11-36a-302.1.a.i)

According to the Impact Fee Act, level of service is defined as "the defined performance standard or unit of demand for each capital component of a public facility within a service area." The LOS of a roadway segment or intersection is used to determine if capacity improvements are necessary. LOS is measured on a roadway segment using its daily traffic volume and at an intersection based on the average delay per vehicle. A standard of LOS C for roadways is the acceptable LOS for St. George City. This allows for speeds at or near free-flow speeds, but with less freedom to maneuver. [Table 2](#), below, compares LOS with volume-to-capacity ratios (v/c), which is how the TMP reports LOS. At intersections, LOS C means that vehicles should not have to wait more than one cycle to proceed through the intersection and experience delays less than 35 seconds, according to the Highway Capacity Manual 2010. [Table 2](#) below summarizes the maximum capacities used by St. George City.

Table 1: LOS C Capacity Criteria in Vehicles per Day**CMP Level of Service Criteria for Arterials^a Based on Volume-to-Capacity Ratios**

Level of Service	Description	V/C ^b
A	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersection is minimal.	0.00 to 0.60
B	Reasonably unimpeded operations with slightly restricted maneuverability. Stopped delays are not bothersome.	0.61 to 0.70
C	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving.	0.71 to 0.80
D	Approaching unstable operations where small increases in volume produce substantial increases in delay and decreases in speed.	0.81 to 0.90
E	Operations with significant intersection approach delays and low average speeds.	0.91 to 1.00
F	Operations with extremely low speeds caused by intersection congestion, high delay, and adverse signal progression.	Greater Than 1.00

^a For arterials that are multilane divided or undivided with some parking, a signalized intersection density of four to eight per mile, and moderate roadside development.

^b Volume-to-capacity ratio.

≥ greater than or equal to.

< less than.

Source: Transportation Research Board, *Highway Capacity Manual, Special Report 209* (Washington, D.C., 1994).

Table 2: LOS C Capacity Criteria in Vehicles per Day

Lanes	Arterial	Collector
2	NA	5,000
3	11,500	10,000
5	26,500	NA
7	40,000	NA

Intersection Standards

The performance of intersections has a large effect on the Level of Service of the roadway network. In St. George, intersections can have no control, be stop controlled, roundabouts, traffic signals, or be controlled in another way. The level of service for each type of intersection is calculated in a different way. Intersection improvements will be necessary in order to maintain the desired level of service. Planning ahead, by coordinating the placement of intersection features, such as reserving rights-of-way for roundabouts, with roadway construction before the placement of the actual roundabout and other

elements, is a way to mitigate the costs of these intersection improvements. The costs of these intersection improvements has been included in the roadway network cost estimates included in [Table 3](#).

The total costs for the full installation of these intersection improvements may be postponed depending on the specific needs of the intersections in the future based on on-going analysis.

Trips

The unit of demand for transportation impact is the pm peak hour trip. A pm peak hour trip is defined by the Institute of Transportation Engineers (ITE) as a single or one-directional vehicle movement to or from a site between the hours of 4pm and 6pm. The total traffic impact of a new development can be determined by the sum of the total number of trips generated by a development during the pm peak hour. This trip generation number or impact can be estimated for an individual development using the ITE Trip Generation Manual (currently 10th edition). This publication uses national data studied over decades to assist traffic engineering professionals to determine the likely impact of new development on transportation infrastructure.

There is a minor discrepancy in the way ITE calculates trips and the way trips or roadway volumes are calculated in the travel demand modelling used in the St. George MTP. This discrepancy is explained by the model roadway volumes and capacities being calculated using daily traffic volumes rather than trips on the roadway. Essentially this means that a travel demand model “trip” or unit of volume is counted once as a vehicle leaves home, travels on the road network and then arrives at work. This vehicle will only be counted as it travels on the roadway network. The ITE Trip Generation method uses driveway counts as its measure of a trip. Therefore a vehicle making the same journey will be counted once as it leaves home and once again as it arrives at work for a total of 2 trips. This can be rectified simply by adjusting the ITE Trip Generation rates by one half.

Table 3: 0 to 6-Year Roadway Project Cost Estimates

Project No.	Recommended Improvement	Estimated Construction Cost (2020)	% Impact Fee	Impact Fee Total
Phase I (0 to 6 years)				
5	3000 East	\$ 2,034,000	20%	\$ 406,800
14	Quarry Ridge Drive, Phase 1	\$ 2,180,000	30%	\$ 654,000
20	Commerce Drive	\$ 3,321,000	30%	\$ 996,300
22	Temple Trail Drive Phase 1	\$ 1,147,000	10%	\$ 114,700
3	3000 East	\$ 3,045,000	50%	\$ 1,552,950
1	700 South	\$ 95,000	50%	\$ 48,450
2	100 South	\$ 127,000	50%	\$ 64,770
9	Washington Parkway - environmental study	\$ 500,000	10%	\$ 51,000
13	Southern Hills Parkway Phase 1	\$ 3,327,000	30%	\$ 1,018,062
15	1450 South Extension over the Virgin River to Dixie Drive, environmental study	\$ 400,000	20%	\$ 81,600
24	White Dome Frontage Road	\$ 3,624,000	10%	\$ 369,648
25	1450 South	\$ 1,462,000	10%	\$ 149,124
35	Southern Parkway Frontage Road	\$ 7,693,000	30%	\$ 2,354,058
4	Airport Road	\$ 2,692,000	10%	\$ 274,584
11	Little Valley Road	\$ 1,007,000	30%	\$ 314,184
12	Plantations Drive, Phase I	\$ 6,166,000	30%	\$ 1,960,788
16	Wal-Mart / Home Depot	\$ 2,487,000	10%	\$ 263,622
10	Sunset Boulevard	\$ 52,000	80%	\$ 44,928
12.1	Plantations Drive, Phase III - construct new road thru Burgess Property to Dixie Drive	\$ 3,016,000	30%	\$ 977,184
21	I-15 - widen to 6 lanes between MP 6 & MP 8	\$ 40,080,000	0%	\$ -
23	Washington Parkway	\$ 19,632,000	5%	\$ 1,079,760
30	1450 South Extension over the Virgin River	\$ 26,636,000	5%	\$ 1,464,980
19	Plantations Drive, Phase II	\$ 1,046,000	10%	\$ 117,152
34	Crimson Ridge Road	\$ 5,091,000	20%	\$ 1,140,384
	Corridor Studies	\$ 200,000	100%	\$ 200,000
	Corridor Preservation/ROW Acquisition	\$ 4,800,000	100%	\$ 4,800,000
	Traffic Signals, Roundabouts & Intersection Improvements	\$ 6,000,000	100%	\$ 6,000,000
	Development Matching Projects	\$ 1,200,000	100%	\$ 1,200,000
	Traffic Control Center Upgrades	\$ 600,000	100%	\$ 600,000
	Access Management	\$ 1,200,000	100%	\$ 1,200,000
	Bike Lanes	\$ 1,200,000	100%	\$ 1,200,000
Phase I (0 to 6 years) Subtotal:		\$ 152,060,000		\$ 30,699,028

System Improvements and Project Improvements

As described in the TMP, there are four primary classifications of roads, including local streets, collectors, arterials, and expressways such as the future Northern Beltway. St. George City classifies street facilities based on the relative amounts of through and land-access service they provide. Local streets primarily serve land-access functions, while expressways are primarily meant for mobility. Each classification may have a variable amount of lanes, which is a function of the expected traffic volume and serves as the greatest measure of roadway capacity.

Improvements to collectors and arterials are considered “system improvements” according to the Utah Impact Fee Law, as these streets serve users from multiple developments. System improvements include anything from back of curb to back of curb, including curb and gutter, asphalt, road base, and sub-surface storm water drain utilities, as well as lighting, signing, and noise walls for collectors and arterials. These projects are eligible to be funded with impact fees and are included in this IFFP.

Proposed Level of Service (11-36a-302.1.a.ii)

The proposed level of service provides a standard for future roadway conditions to be evaluated against. This standard will determine whether or not a roadway will need improvements or not. According to the Utah Impact Fee Law, the proposed level of service may:

1. Diminish or equal the existing level of service
2. Exceed the existing level of service if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service; or
3. Establish a new public facility if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service.

This IFFP will not make any changes to the existing level of service, and LOS C will be the standard by which future growth will be evaluated.

Existing Capacity to Accommodate Future Growth (11-36a-302.1.a.iii)

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

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

- Obtain the record of permits issued for various developments from January 2017 to December 2019. 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 strong trend of building that has consisted of both residential and commercial growth activity such as retail, office space, and manufacturing. Much has been done in the downtown Main Street plaza with high density residential and commercial space. Building permit information is shown in [Table 4](#).

- Determine the PM peak hour trip generation rate for each land-use type using the ITE TRIP GENERATION MANUAL 10th 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 pass-by trip adjustments and are represented in the primary trip adjustment. The primary trip adjustment also contains internal capture adjustments. When primary trip percentages are taken, they are generally derived 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 1.0 per single family home, according to the Trip Generation Handbook, cited above. This produces the Single Family Equivalent unit, or SFE unit. See [Table 4](#).
- 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 St. George City when calculating the cost for six years of projects, shown in [Table 4](#).

Based upon the methodology used above it is projected that St. George City will experience approximately 14,030 SFE units of growth over the next six years.

Table 4: Future Growth in St. George City

ITE CODE	LAND USE	UNITS	DEMAND INDEX (single family equivalent)*	# OF UNITS FOR PERMITS ISSUED FOR PAST 3 YEARS**	AVERAGE # OF UNITS/YEAR	AVERAGE # OF SFE UNITS/YEAR
PORT & TERMINAL (Land Uses 000-099)						
030	Truck Terminal	Acres	1.87	0	0	0
INDUSTRIAL (Land Uses 100-199)						
110	General Light Industrial	TSF Gross	0.63	67	21	13
130	Industrial Park	TSF Gross	0.4	5	2	1
140	Manufacturing	TSF Gross	0.67	140	44	30
150	Warehousing	TSF Gross	0.19	678	214	41
151	Mini Warehouse	TSF Gross	0.17	360	114	19
160	Data Center	TSF Gross	0.09	0	0	0
170	Utility	TSF Gross	2.27	0	0	0
RESIDENTIAL (Land Uses 200-299)						
210	Single Family Homes	DU	1	3042	960	960
220	Multifamily Housing (Low-Rise)	DU	0.56	134	42	24
221	Multifamily Housing (Mid-Rise)	DU	0.44	0	0	0
225	Off-Campus Student Apartment	Bedrooms	0.25	0	0	0
231	Mid-Rise Residential 1st-Floor Commercial	DU	0.36	0	0	0
240	Mobile Home Park	DU	0.46	13	4	2
251	Senior Adult Housing-Detached	DU	0.3	0	0	0
252	Senior Adult Housing-Attached	DU	0.26	0	0	0
253	Congregate Care	DU	0.18	0	0	0
254	Assisted Living	Beds	0.26	303	96	25
260	Recreational Homes	DU	0.28	0	0	0
265	Timeshare	DU	0.63	0	0	0
270	Residential PUD	DU	0.69	684	216	149
LODGING (Land Uses 300-399)						
310	Hotel	Rooms	0.6	342	108	65
311	All Suites Hotel	Rooms	0.36	0	0	0
312	Business Hotel	Rooms	0.32	0	0	0
320	Motel	Rooms	0.38	0	0	0
330	Resort Hotel	Rooms	0.41	0	0	0
RECREATIONAL (Land Uses 400-499)						
416	Campground/RV Park	Camp Sites	0.21	132	42	9
430	Golf Course	Holes	2.91	0	0	0
437	Bowling Alley	Lanes	1.3	0	0	0
445	Multiplex Movie Theater	TSF Gross	4.91	0	0	0
490	Tennis Courts	Courts	4.21	0	0	0
492	Health/Fitness Club	TSF Gross	3.45	21	6	22
495	Recreational Community Center	TSF Gross	2.31	26	8	19

Table 4: Future Growth in St. George City (con't)

INSTITUTIONAL (Land Uses 500-599)					
520	Elementary School	Students	0.17	0	0
522	Middle/Junior High School	Students	0.17	0	0
530	High School	Students	0.14	0	0
534	Private School (K-8)	Students	0.26	0	0
536	Private School (K-12)	Students	0.17	0	0
537	Charter Elementary School	Students	0.14	0	0
560	Church	TSF Gross	0.49	107	34
565	Daycare Center	TSF Gross	11.12	0	0
MEDICAL (Land Uses 600-699)					
610	Hospital	TSF	0.97	109	35
620	Nursing Home	Beds	0.22	0	0
630	Clinic	TSF	3.28	0	0
OFFICE (Land Uses 700-799)					
710	General Office	TSF Gross	1.15	200	63
712	Small Office Building	TSF Gross	2.45	0	0
715	Single Tenant Office Building	TSF Gross	1.71	130	41
720	Medical/Dental Office	TSF Gross	3.46	132	42
730	Government Office Building	TSF Gross	1.71	0	0
732	Post Office	TSF Gross	11.21	0	0
750	Office Park	TSF Gross	1.07	0	0
770	Business Park	TSF Gross	0.21	0	0
RETAIL (LAND USES 800-899)					
812	Building Materials/Lumber	TSF Gross	1.75	6	2
813	Free Standing Discount Superstore	TSF Gross	3.12	0	0
814	Variety Store	TSF Gross	5.81	56	18
816	Hardware/Paint Store	TSF Gross	1.98	15	5
817	Nursery (Garden Center)	TSF Gross	5.90	0	0
820	Shopping Center (Rate)	TSF Gross	2.51	6	2
823	Factory Outlet Center	TSF Gross	2.06	0	0
840	New Car Sales	TSF Gross	2.43	19	6
841	Used Car Sales	TSF Gross	3.75	0	0
842	RV Sales	TSF Gross	0.77	0	0
843	Auto Parts Sales	TSF Gross	2.80	1	0
848	Tire Store	Service Bays	2.46	0	0
850	Supermarket (stand alone stores)	TSF Gross	5.91	3	1
851	Convenience Mkt. (Open 24 hrs)	TSF Gross	19.15	0	0
853	Convenience Mkt w/ Gas Pumps	TSF Gross	16.76	31	10
857	Discount Club	TSF Gross	3.76	0	0
862	Home Improvement Superstore	TSF Gross	1.21	0	0
863	Electronics Super Store	TSF Gross	2.56	0	0
867	Office Supply Superstore	TSF Gross	2.49	0	0
876	Apparel Store	TSF Gross	3.50	0	0
881	Pharmacy/Drugstore w/ Drive-thru	TSF Gross	5.25	2	1
882	Marijuana Dispensary	TSF Gross	21.83	0	0
890	Furniture Store	TSF Gross	0.24	52	16
899	Liquor Store	TSF Gross	14.73	0	0
SERVICES (LAND USES 900-999)					
911	Walk-in Bank	TSF Gross	9.10	0	0
912	Drive-in Bank	TSF Gross	10.84	9	3
931	Quality Restaurant (not national chain)	TSF Gross	4.37	10	3
932	High Turnover/Sit Down Rest	TSF Gross	5.57	15	5
933	Fast Food w/o Drive Thru	TSF Gross	17.00	0	0
934	Fast Food with Drive Thru	TSF Gross	16.34	31	10
936	Coffee/Donut Shop w/o Drive Thru	TSF Gross	21.79	0	0
936	Coffee/Donut Shop with Drive Thru	TSF Gross	21.69	0	0
941	Quick Lubrication Vehicle Shop	Service Bays	3.64	0	0
942	Auto Care Center	Service Bays	2.17	4	1
944	Service Station	Fuel Position	8.14	8	3
945	Serv. Station w/ Conven.Mkt	Fuel Position	6.16	12	4
947	Self Serve Car Wash	Wash Bays	4.43	0	0
948	Automated Car Wash	Wash Bays	54.25	2	1
Total # of Single Family Equivalent Units/Year					2,338
Total # of Single Family Equivalent Units Over the Next 6 Years					14,030

* Demand Index obtained from ITE Trip Generation Manual, 10th Edition, 2020

** From Residential and Commercial permits from January 2017 to February 2020

TSF Gross = Thousand Square Feet

DU = Dwelling Unit

Table 5: Single Family Equivalent (SFE) Demand Index

APPLICABLE ITE CODE	LAND USE	UNITS	ITE TRIPS ENDS PER UNIT (PM peak hour)	PASS-BY TRIPS %	PASS-BY TRIP ADJUSTMENT	PRIMARY TRIP ADJUSTMENT	EFFECTIVE TRIP ENDS PER UNIT	DEMAND INDEX (single family equivalent)	APPLICABLE ITE CODE	LAND USE	UNITS	ITE TRIPS ENDS PER UNIT (PM peak hour)	PASS-BY TRIPS %	PASS-BY TRIP ADJUSTMENT	PRIMARY TRIP ADJUSTMENT	EFFECTIVE TRIP ENDS PER UNIT	DEMAND INDEX (single family equivalent)
PORT & TERMINAL (Land Uses 000-099)									MEDICAL (Land Uses 600-699)								
030	Truck Terminal	Acres	1.87	0%	1.00	1.00	1.87	1.87	610	Hospital	TSF	0.97	0%	1.00	1.00	0.97	0.97
INDUSTRIAL (Land Uses 100-199)									620	Nursing Home	Beds	0.22	0%	1.00	1.00	0.22	0.22
110	General Light Industrial	TSF Gross	0.63	0%	1.00	1.00	0.63	0.63	630	Clinic	TSF	3.28	0%	1.00	1.00	3.28	3.28
130	Industrial Park	TSF Gross	0.4	0%	1.00	1.00	0.40	0.40	OFFICE (Land Uses 700-799)								
140	Manufacturing	TSF Gross	0.67	0%	1.00	1.00	0.67	0.67	710	General Office	TSF Gross	1.15	0%	1.00	1.00	1.15	1.15
150	Warehousing	TSF Gross	0.19	0%	1.00	1.00	0.19	0.19	712	Small Office Building	TSF Gross	2.45	0%	1.00	1.00	2.45	2.45
151	Mini Warehouse	TSF Gross	0.17	0%	1.00	1.00	0.17	0.17	715	Single Tenant Office Building	TSF Gross	1.71	0%	1.00	1.00	1.71	1.71
160	Data Center	TSF Gross	0.09	0%	1.00	1.00	0.09	0.09	720	Medical/Dental Office	TSF Gross	3.46	0%	1.00	1.00	3.46	3.46
170	Utility	TSF Gross	2.27	0%	1.00	1.00	2.27	2.27	730	Government Office Building	TSF Gross	1.71	0%	1.00	1.00	1.71	1.71
RESIDENTIAL (Land Uses 200-299)									732	Post Office	TSF Gross	11.21	0%	1.00	1.00	11.21	11.21
210	Single Family Homes	DU	1	0%	1.00	1.00	1.00	1.00	750	Office Park	TSF Gross	1.07	0%	1.00	1.00	1.07	1.07
220	Multifamily Housing (Low-Rise)	DU	0.56	0%	1.00	1.00	0.56	0.56	770	Business Park	TSF Gross	0.42	50%	50%	1.00	0.21	0.21
221	Multifamily Housing (Mid-Rise)	DU	0.44	0%	1.00	1.00	0.44	0.44	RETAIL (LAND USES 800-899)								
225	Off-Campus Student Apartment	Bedrooms	0.25	0%	1.00	1.00	0.25	0.25	812	Building Materials/Lumber	TSF Gross	2.06	15%	0.85	1.00	1.75	1.75
231	Mid-Rise Residential 1st-Floor Commercial	DU	0.36	0%	1.00	1.00	0.36	0.36	813	Free Standing Discount Superstore	TSF Gross	4.33	28%	0.72	1.00	3.12	3.12
240	Mobile Home Park	DU	0.46	0%	1.00	1.00	0.46	0.46	814	Variety Store	TSF Gross	6.84	15%	0.85	1.00	5.81	5.81
251	Senior Adult Housing-Detached	DU	0.3	0%	1.00	1.00	0.30	0.30	816	Hardware/Paint Store	TSF Gross	2.68	26%	0.74	1.00	1.98	1.98
252	Senior Adult Housing-Attached	DU	0.26	0%	1.00	1.00	0.26	0.26	817	Nursery (Garden Center)	TSF Gross	6.94	15%	0.85	1.00	5.90	5.90
253	Congregate Care	DU	0.18	0%	1.00	1.00	0.18	0.18	820	Shopping Center (Rate)	TSF Gross	3.81	34%	0.66	1.00	2.51	2.51
254	Assisted Living	Beds	0.26	0%	1.00	1.00	0.26	0.26	823	Factory Outlet Center	TSF Gross	2.29	10%	0.90	1.00	2.06	2.06
260	Recreational Homes	DU	0.28	0%	1.00	1.00	0.28	0.28	840	New Car Sales	TSF Gross	2.43	0%	1.00	1.00	2.43	2.43
265	Timeshare	DU	0.63	0%	1.00	1.00	0.63	0.63	841	Used Car Sales	TSF Gross	3.75	0%	1.00	1.00	3.75	3.75
270	Residential PUD	DU	0.69	0%	1.00	1.00	0.69	0.69	842	RV Sales	TSF Gross	0.77	0%	1.00	1.00	0.77	0.77
LODGING (Land Uses 300-399)									843	Auto Parts Sales	TSF Gross	4.91	43%	57%	1.00	2.80	2.80
310	Hotel	Rooms	0.6	0%	1.00	1.00	0.60	0.60	848	Tire Store	Service Bays	3.42	28%	72%	1.00	2.46	2.46
311	All Suites Hotel	Rooms	0.36	0%	1.00	1.00	0.36	0.36	850	Supermarket (stand alone stores)	TSF Gross	9.24	36%	64%	1.00	5.91	5.91
312	Business Hotel	Rooms	0.32	0%	1.00	1.00	0.32	0.32	851	Convenience Mkt. (Open 24 hrs)	TSF Gross	49.11	61%	39%	1.00	19.15	19.15
320	Motel	Rooms	0.38	0%	1.00	1.00	0.38	0.38	853	Convenience Mkt. w/ Gas Pumps	TSF Gross	49.29	66%	34%	1.00	16.76	16.76
330	Resort Hotel	Rooms	0.41	0%	1.00	1.00	0.41	0.41	857	Discount Club	TSF Gross	4.18	10%	90%	1.00	3.76	3.76
RECREATIONAL (Land Uses 400-499)									862	Home Improvement Superstore	TSF Gross	2.33	48%	52%	1.00	1.21	1.21
416	Campground/RV Park	Camp Sites	0.21	0%	1.00	1.00	0.21	0.21	863	Electronics Super Store	TSF Gross	4.26	40%	60%	1.00	2.56	2.56
430	Golf Course	Holes	2.91	0%	1.00	1.00	2.91	2.91	867	Office Supply Superstore	TSF Gross	2.77	10%	90%	1.00	2.49	2.49
437	Bowling Alley	Lanes	1.3	0%	1.00	1.00	1.30	1.30	876	Apparel Store	TSF Gross	4.12	15%	85%	1.00	3.50	3.50
445	Multiplex Movie Theater	TSF Gross	4.91	0%	1.00	1.00	4.91	4.91	881	Pharmacy/Drugstore w/ Drive-thru	TSF Gross	10.29	49%	51%	1.00	5.25	5.25
490	Tennis Courts	Courts	4.21	0%	1.00	1.00	4.21	4.21	882	Marijuana Dispensary	TSF Gross	21.83	0%	100%	1.00	21.83	21.83
492	Health/Fitness Club	TSF Gross	3.45	0%	1.00	1.00	3.45	3.45	890	Furniture Store	TSF Gross	0.52	53%	47%	1.00	0.24	0.24
495	Recreational Community Center	TSF Gross	2.31	0%	1.00	1.00	2.31	2.31	899	Liquor Store	TSF Gross	16.37	10%	90%	1.00	14.73	14.73
INSTITUTIONAL (Land Uses 500-599)									SERVICES (LAND USES 900-999)								
520	Elementary School	Students	0.17	0%	1.00	1.00	0.17	0.17	911	Walk-in Bank	TSF Gross	12.13	25%	75%	1.00	9.10	9.10
522	Middle/Junior High School	Students	0.17	0%	1.00	1.00	0.17	0.17	912	Drive-in Bank	TSF Gross	20.45	47%	53%	1.00	10.84	10.84
530	High School	Students	0.14	0%	1.00	1.00	0.14	0.14	931	Quality Restaurant (not national chain)	TSF Gross	7.8	44%	56%	1.00	4.37	4.37
534	Private School (K-8)	Students	0.26	0%	1.00	1.00	0.26	0.26	932	High Turnover/Sit Down Rest	TSF Gross	9.77	43%	57%	1.00	5.57	5.57
536	Private School (K-12)	Students	0.17	0%	1.00	1.00	0.17	0.17	933	Fast Food w/o Drive Thru	TSF Gross	28.34	40%	60%	1.00	17.00	17.00
537	Charter Elementary School	Students	0.14	0%	1.00	1.00	0.14	0.14	934	Fast Food with Drive Thru	TSF Gross	32.67	50%	50%	1.00	16.34	16.34
560	Church	TSF Gross	0.49	0%	1.00	1.00	0.49	0.49	936	Coffee/Donut Shop w/o Drive Thru	TSF Gross	36.31	40%	60%	1.00	21.79	21.79
565	Daycare Center	TSF Gross	11.12	0%	1.00	1.00	11.12	11.12	936	Coffee/Donut Shop with Drive Thru	TSF Gross	43.38	50%	50%	1.00	21.69	21.69
									941	Quick Lubrication Vehicle Shop	Service Bays	4.85	25%	75%	1.00	3.64	3.64
									942	Auto Care Center	Service Bays	2.17	0%	100%	1.00	2.17	2.17
									944	Service Station	Fuel Position	14.03	42%	58%	1.00	8.14	8.14
									945	Serv.Station w/ Conven.Mkt	Fuel Position	13.99	56%	44%	1.00	6.16	6.16
									947	Self Serve Car Wash	Wash Bays	5.54	20%	80%	1.00	4.43	4.43
									948	Automated Car Wash	Wash Bays	77.5	30%	70%	1.00	54.25	54.25

* TSF: Thousand Square Feet

* DU: Dwelling Unit

Demands Placed on Facilities by New Development (11-36a-302.1.a.iv)

To meet the requirements of the Utah Impact Fee law to “identify demands placed upon existing public facilities by new development activity at the proposed level of service” and “identify the means by which the political subdivision or private entity will meet those growth demands”, the following steps were completed:

1. **Existing Demand-** The traffic demand at the present time was estimated using traffic counts and population data.
2. **Existing Capacity-** The capacity of the current roadway network was estimated using the calculated LOS using volume to capacity ratios (v/c).
3. **Existing Deficiencies-** The deficiencies in the current network were identified by comparing the LOS of the roadways to the LOS standard.
4. **Future Demand-** The future demand on the network was estimated using development projections.
5. **Future Deficiencies-** The deficiencies in the future network were identified by comparing the calculated future LOS with the LOS standard through capacity maps.
6. **Recommended Improvements-** Recommendations that will help meet future demands were made.

These steps were the basis for the TIP and are detailed in the report.

Conversions of Growth and Development Projections to Trip Generations

The basis of the future travel demand was projected using the City of St. George’s Water Department projections. The inputs to the model consist of socio-economic and land use data provided by the DMPO and the City. The outputs from the model include peak hour trips and daily traffic volumes on each of the roadways in the network.

Infrastructure Required to Meet Demands of New Development (11-36a-302.1.a.v)

6-Year Improvement Plan

The projects required to maintain the desired level of service for the roadway network in 2050 were outlined in the TMP. These projects will need to be constructed at various times from the present through 2050. However, for the purposes of this IFFP, only projects that will be completed within the next six years will be considered. **Table 3** shows the projects that are forecasted to be needed in the next six years. This table includes all of the projects regardless of their eligibility for impact fee expenditure. The portion of the project, which is impact fee eligible is indicated in the **% Impact Fee** and **Impact Fee Total** columns.

Project Cost Attributable to Future Growth

Table 3 shows the project costs attributable to new growth as a percentage of the total project costs as defined in the previous section. Each project in **Table 3** exists due to future growth but the cost that should be shared by new development through the assessment of impact fees varies depending on the owner of the road, the funding available, and the roadway classification. Where the project is likely to be completed using MPO funding, the St. George City impact fee eligible portion of the project is only the amount of money the City will need to find as their required “matching funds”. Road widening projects are considered 100% impact fee eligible as any work on these roads will only be needed as

only be needed as volumes increase as a result of new development. Cost participation for city-owned roads are variable depending on the road classification and development yet to occur. The cost attributable to new growth and potentially impact fee eligible is defined as the portion of the roadway cross section in excess of the standards for a local road. This is based on the premise that a local road cross section serves the needs of the localized development which directly access the new road. 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. This portion will be paid for by the individual development, which accesses the new road. Any improvements beyond the local street cross section would be considered a capacity improvement for the entire city as a whole and is therefore impact fee eligible. The City responsibility cost for each new road is determined as the percentage of the total project cost beyond a local street classification.

Project Cost Attributable to 6-Year Growth

Using the travel demand model mentioned previously it is possible to estimate the number of PM trips originating or terminating in St. George for the existing and future conditions. The difference between the future PM trips and the existing PM trips (the number of new trips in the City) becomes the denominator in the equation used to calculate the impact fee cost per PM peak hour trip for new development.

Level Of Service capacity of roadways and intersections has been calculated in the TMP and have indicated where capacity is needed in the future. By projecting the trips that will be generated by new development and dividing these trips by the impact fee eligible costs, the fee per trip can be calculated.

Proposed Means to Meet Demands of New Development (11-36a-302.2)

All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. This section discusses the potential revenue sources that could be used to fund transportation needs as a result of new development.

Transportation routes often span multiple jurisdictions and provide regional significance to the transportation network. As a result, other government jurisdictions or agencies often help pay for such regional benefits. Those jurisdictions and agencies could include the Federal Government, the State Government or UDOT, or DMPO. The City will need to continue to partner and work with these other jurisdictions to ensure the adequate funds are available for the specific improvements necessary to maintain an acceptable LOS. The City will also need to partner with adjacent communities to ensure corridor continuity across jurisdictional boundaries (i.e., arterials connect with arterials; collectors connect with collectors, etc.).

Funding sources for transportation are essential if St. George City recommended improvements are to be built. The following paragraphs further describe the various transportation funding sources available to the City.

Federal Funding

Federal monies are available to cities and counties through the federal-aid program. UDOT administers the funds. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) funds projects for any roadway with a functional classification of a collector street or higher as established on the Functional Classification Map. STP funds can be used for both rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the state in urban areas. Another portion of the STP funds can be used for projects in any area of the state at the discretion of the State Transportation Commission. Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews the applications and then a portion of the application is passed to the State Transportation Commission. Transportation enhancements include 12 categories ranging from historic preservation, bicycle and pedestrian facilities and water runoff mitigation. Other federal and state trail funds are available from the Utah State Parks and Recreation Program.

The DMPO accepts applications for federal funds every November through local and regional government jurisdictions. The DMPO Technical Advisory Committee and Transportation Executive Committee select projects for funding annually. The selected projects form the Transportation Improvement Program (TIP). In order to receive funding, projects should include one or more of the following aspects:

- ❖ *Congestion Relief – spot improvement projects intended to improve Levels of Service and/or reduce average delay along those corridors identified in the Regional Transportation Plan as high congestion areas*
- ❖ *Mode Choice – projects improving the diversity and/or usefulness of travel modes other than single occupant vehicles*
- ❖ *Safety – improvements to vehicular, pedestrian, and bicyclist safety*

State/County Funding

The distribution of State Class B and C Program monies is established by State Legislation and is administered by the State Department of Transportation. Revenues for the program are derived from State fuel taxes, registration fees, drivers license fees, inspection fees, and transportation permits. Seventy-five percent of these funds are kept by UDOT for their construction and maintenance programs. The rest is made available to counties and cities.

Class B and C funds are allocated to each city and county by a formula based on population, centerline miles, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. Class B and C funds can be used for maintenance and construction projects; however, thirty percent of those funds must be used for construction or maintenance projects that exceed \$40,000. The remainder of these funds can be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

In 2005 the state senate passed a bill providing for the advance acquisition of right-of-way for highways of regional significance. This bill would enable cities in the county to better plan for future transportation needs by acquiring property to be used as future right-of-way before it is fully developed and becomes extremely difficult to acquire. UDOT holds on account the revenue generated by the local corridor preservation fund but the county is responsible to program and control monies. In order to qualify for preservation funds, the City must comply with the Corridor Preservation Process found at the following link www.udot.utah.gov/public/ucon. Currently, St. George City uses Class C funding for their transportation projects.

City Funding

Some cities utilize general fund revenues for their transportation programs. Another option for transportation funding is the creation of special improvement districts. These districts are organized for the purpose of funding a single specific project that benefits an identifiable group of properties. Another source of funding used by cities includes revenue bonding for projects intended to benefit the entire community.

Private interests often provide resources for transportation improvements. Developers construct the local streets within subdivisions and often dedicate right-of-way and participate in the construction of

collector/arterial streets adjacent to their developments. Developers can also be considered a possible source of funds for projects through the use of impact fees. These fees are assessed as a result of the impacts a particular development will have on the surrounding roadway system, such as the need for traffic signals or street widening.

General fund revenues are typically reserved for operation and maintenance purposes as they relate to transportation. However, general funds could be used if available to fund the expansion or introduction of specific services. Providing a line item in the City budgeted general funds to address roadway improvements, which are not impact fee eligible is a recommended practice to fund transportation projects should other funding options fall short of the needed amount.

General obligation bonds are debt paid for or backed by the City's taxing power. In general, facilities paid for through this revenue stream are in high demand amongst the community. Typically, general obligation bonds are not used to fund facilities that are needed as a result of new growth because existing residents would be paying for the impacts of new growth. As a result, general obligation bonds are not considered a fair means of financing future facilities needed as a result of new growth.

Certain areas might require different needs or methods of funding other than traditional revenue sources. A Special Assessment Area (SAA) can be created for infrastructure needs that benefit or encompass specific areas of the City. Creation of the SAA may be initiated by the municipality by a resolution declaring the public health, convenience, and necessity requiring the creation of a SAA. The boundaries and services provided by the district must be specified and a public hearing held prior to creation of the SAA. Once the SAA is created, funding can be obtained from tax levies, bonds, and fees when approved by the majority of the qualified electors of the SAA. These funding mechanisms allow the costs to be spread out over time. Through the SAA, tax levies and bonding can apply to specific areas in the City needing to benefit from the improvements.

Interfund Loans

Since infrastructure must generally be built ahead of growth, it must sometimes be funded before expected impact fees are collected. Bonds are the solution to this problem in some cases. In other cases, funds from existing user rate revenue will be loaned to the impact fee fund to complete initial construction of the project. As impact fees are received, they will be reimbursed. Consideration of these loans will be included in the impact fee analysis and should be considered in subsequent accounting of impact fee expenditures.

Developer Dedications and Exactions

Developer dedications and exactions can both be credited against the developer's impact fee analysis. If the value of the developer dedications and/or exactions are less than the developer's impact fee liability, the developer will owe the balance of the liability to the city. If the dedications and/or exactions of the developer are greater than the impact fee liability, the city must reimburse the developer the difference.

Developer Impact Fees

Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements resulting from and needed to serve new growth. The premise behind impact fees is that

if no new development occurred, the existing infrastructure would be adequate. Therefore, new developments should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructures and facilities that are provided by a community, such as roadway facilities. According to state law, impact fees can only be used to fund growth related system improvements.

Necessity of Improvements to Maintain Level of Service

According to State statute, impact fees must only be used to fund projects that will serve needs caused by future development. They are not to be used to address present deficiencies. Only projects that address future needs are included in this IFFP. This ensures a fair fee since developers will not be expected to address present deficiencies.

Impact Fee Certification (11-36a-306)

According to state law, this report has been prepared in accordance with Utah Code Title 11 Chapter 36 titled "Impact Fees Act". This report relies upon the planning, engineering, land use and other source data provided by the City and their designees and all results and projections are founded upon this information.

In accordance with Utah Code Annotate, 11-36a-306(1), Horrocks Engineers, certifies that this impact fee facilities plan:

1. Includes only the cost of public facilities that are:
 - a. Allowed under the Impact Fees Act; and
 - b. Actually incurred; or
 - c. Are projected to be incurred or encumbered within six years of the day on which each impact fee is paid;
2. Does not include:
 - a. Costs of operation and maintenance of public facilities
 - b. Cost of qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service supported by existing residents;
 - c. An expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Complies in each and every relevant respect with the Impact Fees Act.

This certification is made with the following limitations:

1. All of the recommendations for implementing this IFFP of IFA are followed in their entirety by the City.
2. If any portion of the IFFP is modified or amended in any way, this certification is no longer valid.

All information presented and used in the creation of this IFFP is assumed to be complete and correct, including any information received from the City of other outside sources.