Ivins City
Request for Proposals for
Engineering/Financial Services to prepare the Transportation Impact Fee Analysis

Ivins City, Utah is soliciting competitive sealed proposals from qualified engineering/financial firms to provide services as outlined in the **SCOPE OF SERVICES SECTION** of this request.

I. Background:

Ivins City's is currently finalizing an update to their Transportation Master Plan, prepared by Horrocks Engineers. The master plan also includes an impact fee facilities plan. Once the master plan and impact fee facilities plans have been completed, Ivins City is seeking professional engineering services to prepare an Impact Fee Analysis based on recommendations from the master plan and impact fee facilities plan.

The following information will be provided by the City:

- GIS Database including the following feature classes:
  - Land Use Plan
  - Zoning Map
  - Planning Points (Identifies each existing property with a point feature, identifies the number of ERU's and identifies current use and anticipated future use based on the land use plan)
- 2015 Transportation Master Plan and Impact Fee Facilities Plan
- March 2014 Aerial Photography by Pictometry, 3-inch pixels

II. Scope of Services:

The following is the scope of services that should be considered during the preparation of the fee proposal:

IMPACT FEE ANALYSIS

A. Incorporate 2013 land use/population analysis prepared by City.
B. Prepare an impact fee analysis meeting the requirements of State Laws, which may include the following:
   i. Identify the anticipated impact on or consumption of existing transportation facilities by anticipated development activity.
   ii. Identify the anticipated impact on facility improvements required by the anticipated development activity to maintain the established level of service for transportation facilities.
   iii. Demonstrate how these anticipated impacts are reasonably related to the anticipated development activity.

iv. Estimate the proportionate share of the following:
    i. Cost for existing capacity that will be recouped,
    ii. Cost of impacts on system improvements that are reasonably related to the new development activity.
v. Calculate impact fees and identify how the impact fee was calculated based on the information identified in these previous sections.
vi. Ensure that when analyzing whether or not the proportionate share of the costs of the transportation facilities are reasonably related to the new development activity, that items in Section 11-36a-304 (2) of the State Code have been identified as applicable.

III. Compensation for Services:

Ivins City intends to enter into a professional services contract with the successful engineering/financial firm. Compensation for the services rendered, is to be based upon a time-expended basis with an agreed maximum not to exceed value. **The selection of the firm will not be based solely on the fee.**

Attached to this RFP is the City's template contract for professional services. By submitting a proposal for this RFP you are agreeing with the standard terms and conditions of the contract.

IV. Evaluation Criteria and Selection Process:

A selection committee will review each submittal. Selection criteria to be used by the selection team include the following:

A. Level of training, experience, expertise, and availability of key project personnel.
B. References regarding past performance on similar projects for other owners and the City.
C. Quality, clarity, and completeness of previous projects and of the example report.
D. Professional services fee proposal.

V. Proposal Format and Content:

Proposals are to follow the format and are to contain information listed in this section. In order to be considered, proposals must address all the items listed in this section and adhere to page limitations.

A. Letter of transmittal introducing firm and nature of proposal.
B. Project Team and Approach (Two pages maximum)
C. Firm Experience and References (Two pages maximum)
    i. Provide a listing of previous experience the firm has had with projects of similar size and complexity. (Two projects minimum).
    ii. For each project, provide the name of a contact person and his/her phone number.
D. Fee Proposal (Two pages maximum)

i. Provide proposed fee for meeting the requirements of the Scope of Services in Section II. Fees shall be reasonably itemized based on Scope of Services.
ii. Identify billing rates of each member of project team and number of hours required for project tasks as well as estimated direct charges.

E. Appendices
i. Resumes (1 or ½ page per person) – Include principal-in-charge and key technical/professional personnel to be assigned to the project. Identify the role assigned for each person.
ii. Provide copy of report from a previous project that is most similar to this project.

VI. Submittal Requirements:

Proposals are due on Tuesday, December 8th at 5:00 p.m.

The proposal should be submitted electronically in a PDF format to jchapman@ivins.com. Large files may be transmitted by including a link to an FTP site on the email. Hard copies will not be accepted.

Inquiries regarding the RFP should be directed to Chuck Gillette, P.E., Public Works Director or Tom Jorgensen, P.E., Assistant Public Works Director at (435) 634-0689, or by inquiry to the address above. The City reserves the right to award the contract to the firm chosen by the selection committee without further consideration or discussion. **The City reserves the right to reject any and all proposals received.** The City also reserves the right to waive any irregularity, informality, or technicality in the proposals in its best interest, and is not obligated to award a contract based upon the lowest price submission. If terms cannot be mutually agreed upon, the City will enter into negotiations with the secondary firm.

This RFP is due concurrent with the following RFPs:

A. Irrigation Master Plan, IFFP, IFA, & Implementation Plan
B. Wastewater Master Plan, IFFP, & IFA
C. Transportation IFA
D. Combined User Rate Plan

The professional services firm may choose to offer discounts if they are chosen for more than one of the proposed projects. Please identify what those discounts might be.



DECEMBER 2015

Proposal for

ENGINEERING/FINANCIAL SERVICES TO PREPARE

TRANSPORTATION IMPACT FEE ANALYSIS

HORROCKS
ENGINEERS

HORROCKS
ENGINEERS

555 South Bluff Street, Suite #101
St. George, Utah 84770
www.horrocks.com

St. George Office
Tel: 435.986.7888
Fax: 435.986.7889

December 8, 2015

City of Ivins
Public Works Department
55 N Main
Ivins, UT 84738

Subject: Proposal for Engineering/Financial Services to prepare the Transportation Impact Fee Analysis

Dear Selection Committee:

Horrocks Engineers is pleased to submit our proposal to prepare the Transportation Impact Analysis for the City of Ivins. We have addressed all elements of the RFP and acknowledge the following addenda: Addendum #1 dated 12/3/15.

As a full-service engineering firm, we have spent the past 47+ years assisting many rural communities with planning, designing and constructing all facets of their infrastructure. We have decades of experience creating Capital Facility Plans and Impact Fee Facilities Plans for many communities, as well as performing feasibility studies, user rate studies and Impact Fee Analyses. We have most recently provided similar planning services for Washington City and are completing an IFA for Hurricane City. We are familiar with Ivins City's staff, policies and procedures.

The Horrocks team is a great fit for this project because it offers Ivins the following advantages:

- **Horrocks recently finalized the most recent update to the Ivins City Transportation Master Plan.** We are intimately familiar with the master plan and will require less time and effort to get up to speed on how to proceed with the update process. We undertstand that the City would like this analysis completed as quickly as possible and there is no other firm that can accomplish this as quickly as we can.
- **A truly local team** whose core members all work and reside in Washington County, are actively involved in solving local transportation issues on a daily basis, and are immediately available to respond to project issues.
- Our portfolio of **recent experience in performing impact fee analyses** for surrounding communities within Washington County.

We appreciate the opportunity to submit this proposal for your consideration. We enjoyed working with Ivins City staff and we are looking forward to this opportunity once again. We are committed to mobilizing our resources to complete the project and are immediately available to begin working on the project. Please feel free to call me at 435-986-7888 with any questions.

Sincerely,
HORROCKS ENGINEERS



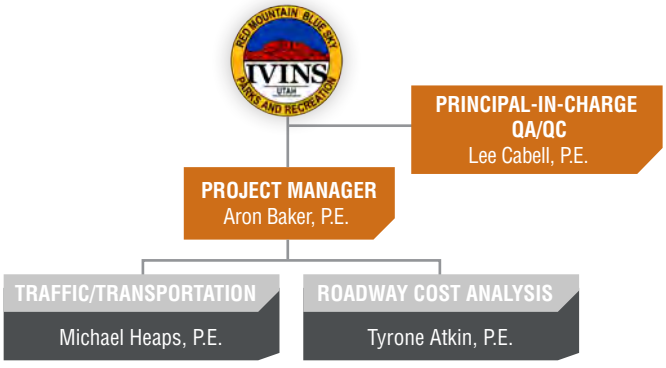
Lee Cabell, P.E.
Principal

Horrocks Engineers is a multi-disciplinary engineering firm established in 1968 to serve the engineering needs of rural communities with planning, design and construction of municipal infrastructure. Since that time, we have grown, learned and applied our expertise in many different areas of Utah and the surrounding states. Our goal has always been to provide excellent quality engineering services. The amount of repeat work that we do for clients attests to the fact that we are reaching that goal. We enjoy a reputation for high quality engineering and look forward to applying our skills on this project.

Our team is highly qualified to prepare this IFA for transportation services. Having just completed the Transportation Master Plan (TMP) and IFFP, we have accomplished a large percentage of the process and are prepared to continue the momentum into this last phase. We propose a work plan for each element that includes utilizing City resources to provide all of the necessary data, while our team analyzes the data, prepares future projections and coordinates with City staff to create an updated impact fee schedule. More precisely, our work plan for this project includes discussing the use of the recently-refined demographics socio-economic conditions to provide a solid base for this study. Horrocks has worked together with City staff to refine the demographic information and traffic growth data needed for the study, so this work will not be duplicated in this effort.

PROJECT TEAM

The Horrocks Team is comprised of experts hand-selected from specialists in the St. George office that will best meet the needs of the City's IFA. Our qualified professionals will utilize their education, experience, and background to the benefit of the City, ensuring top-quality results. Additionally, we have the ability to draw on resources within the firm to support our local staff efforts so the City can be assured the latest approaches being used throughout the state are applied in Ivins. We propose the following team:





LEE CABELL, P.E.
PRINCIPAL-IN-CHARGE / QA/QC

Lee is a Principal of Horrocks Engineers, a registered engineer, has an M.S. and B.S. degree in Civil Engineering, and has 22 years of experience as a project manager and roadway, safety, traffic, and signal/lighting designer. His projects have included roadway design, roundabout design, traffic signal design, highway lighting design, striping and signing design, safety analysis, intersection design and operations analysis, and traffic control design. His general experience also includes impact fee analyses, transportation master planning, corridor studies, access management studies and design, traffic impact studies, environmental documentation, and public involvement.



ARON BAKER, P.E.
PROJECT MANAGER

Aron is an Associate at Horrocks, is a Registered Professional Engineer, and has a B.S. in Civil Engineering. He has 24 years of municipal engineering experience, with 14 of those years spent working for the City of St. George. His duties at St. George as the City Traffic Engineer involved master planning roads and developing and implementing the Streets Capital Facility Plan and Impact Fee Program as development evolved and capital improvements were constructed. While at Horrocks, he has managed several master planning and impact fee studies for the communities of St. George, Washington, Ivins and Hurricane. Aron also was the project manager for several critical roadway systems in the area including Snow Canyon Parkway, Riverside Drive, the roundabout at Snow Canyon Drive and Center Street in Ivins and the Dixie Drive Bridge over the Santa Clara River. He has also been integrally involved in the creation of the award-winning Dixie Traffic Control Center which is a communication hub for all of the traffic signals, highway weather stations, and traffic CCTV's in Dixie.



MICHAEL HEAPS, P.E.
TRAFFIC/TRANSPORTATION ENGINEER

Michael has 11 years of experience in traffic, signing, lighting, ATMS, and signal design. He is experienced in traffic engineering and transportation planning focusing on travel demand modeling and traffic operations analysis. He has been integral in the planning and production of recent traffic studies including the EWCRPO Corridors Study; River Road Capacity Study; I-15 Environmental Assessment; Washington Parkway Cost/Benefit Study; Washington City Transportation Master Plan; Hurricane City Transportation Master Plan; Dixie State College Traffic, Pedestrian, and Parking Study Master Plan Study; Dixie Drive Interchange Access Justification Report; Southern Parkway, Segment III Transportation Study; and the lighting and ATMS design for the Hurricane State Street reconstruction project. Over the past 5 years Michael has worked extensively with the Dixie MPO CUBE and QRS II Travel Demand Models (TDM) and provided much of the data used in calculating the latest St. George City and Washington City transportation impact fees.



TYRONE ATKIN, P.E.
ROADWAY COST ESTIMATING

Tyrone has 5 years of experience as a transportation engineer and is familiar with AASHTO, DOT and city standards, and their application in roadway design. His design experience includes geometric design of divided highways, interchange ramps, arterial/collector/local roads, roundabouts, and shared-use paths. Additionally, Tyrone is experienced with developing concept reports, specifications, and estimates for projects ranging from the concept/feasibility and scoping level to advertising construction ready documents.

PROJECT APPROACH

Following the completion of the Ivins TMP and IFFP prepared by Horrocks Engineers, a new IFA is critical to the advancement of improving the City's roadway system. This will help prioritize future projects such that they will provide the greatest benefit to the City and its residents, and provide a framework for funding the projects. It will help to maintain traffic at acceptable levels of service and a quality of life to which Ivins is accustomed.

Our experience preparing the Transportation Master Plan (TMP) and IFFP has provided us with the knowledge to recommend a sound work plan for the creation of the Ivins City IFA. We propose the following scope of services to successfully complete this project. The process includes the prioritization of needs, input and review by city staff, and adoption of an impact fee by the City Council.

Assumptions:

1. It is assumed that the projects listed in the six-year plan in the TMP will not change.
2. Data such as current impact fee resolutions, past studies, current impact fee goals, etc. will be provided by the City that will be necessary for the analysis.

Task 1: Impact Fee Analysis

- Project Administration – This task includes all administrative tasks to complete the transportation portion of this project including accounting, scheduling, coordination amongst team members, and contract administration.
- Identify Existing Deficiencies – We will utilize the existing traffic model and the updated master plan to identify projects that must be completed to bring the current system either up to standards or the existing level of service.
- Identify Proposed Improvements – Using the existing model, we will identify all of the projects that must be completed in order to construct the proposed system to meet the demands of future growth for Ivins City.
- Calculate Impact Fee – Roadway/transportation impact fees will be calculated based on the service levels (LOS) identified in the IFFP, based on a standard ranking system such as A, B, C, D and F. Our approach will use historic costs for any excess ("buy-in") capacity, and updated costs for additional construction needed in order to meet the demands of new development. We have generally calculated roadway impact fees on a per unit basis for residential development and on a building square foot basis for commercial/institutional development.
- Prepare Impact Fee Analysis – Our team will prepare an IFA as required by the current Impact Fee Act. We will ensure that the analysis covers those projects required in the next six years using an accurate and economic method of preparing a fair and defensible impact fee analysis.

Task 2: Final Fee Approval

Prior to submitting our final impact fee recommendation, Lee Cabell will perform a final QC check, incorporating all City comments. After the staff and City review is complete, we wil present the IFA to the City Council for approval.

Upon Council approval, we will finalize the documents to a format that is acceptable to the City and submit both electronic and hard copies.

SCHEDULE

We understand that this project is a priority for Ivins City. These documents will be used by the City to plan future projects and to implement transportation strategies. Therefore we are prepared to complete the project in approximately two months. Due to our recent project preparing the 2015 Ivins City TMP and IFFP, and our intimate knowledge of those plans, we are uniquely positioned to complete this project in the most timely manner available to the City. Additionally, we are aware that the approval process is based upon City Council schedules and recommendations.

Horrocks has extensive experience in preparing CFPs, IFFPs and IFAs during this highly volatile economic time. Our experience has been useful to many communities in helping them navigate the process of planning for future development as the economy recovers. Four very similar projects that we have recently performed for comparably sized communities include Washington City IFA, Bluffdale City CFP and IFFP, Eagle Mountain CFP and Impact Fee Plan, and Enoch City CFP. Additionally, we are also in the process of performing an IFA for Hurricane City.

These facilities plans can be a great tool for every community if they are used and updated properly. One of the greatest benefits we provide our clients is assistance in preparing bid packages for capital facilities projects, providing support by updating models as development occurs and as policies change, and in updating elements of the plan as needed. Updates are necessary to periodically reassess growth patterns, identify new needs and update construction costs. These updates also provide an opportunity to review policy and implement new direction as deemed necessary.

We are acutely aware of the need for staff, administrative, and public input in the creation of a planning document such as this. Our experience has shown that good coordination during the planning process builds consensus between stakeholders and minimizes future conflict. As the need arises and as the City desires, our public involvement specialist can assist in facilitating public meetings and working with stakeholders to achieve win-win solutions.

Horrocks' experience with IFAs is extensive and will be a great benefit to Ivins. Many of the systems we have master planned over the years are fully constructed and operational systems today. As facilities plans are updated and implemented, these systems will serve their users well for many years. Following is a list of some of our most recent experience.

- Hurricane Master Transportation Plan and IFFP/IFA
- St. George Master Transportation Plan and IFFP/IFA
- Ivins Master Transportation Plan
- Washington City Master Transportation Plan and IFFP/IFA
- 2014 Payson City Master Plan and Impact Fee Study
- 2014 Woodland Hills Water Impact Fee Study
- 2014 Bluffdale City CFP and Impact Fee Update
- 2013 Grand County Capital Facilities Plan and Impact Fee Study
- 2012 Moab City Water Storage and Wasterwater Treatment Impact Fee Facilities Plan
- 2011 Bluffdale Impact Fee Facilities Plan
- 2011 Salem City Impact Fee Facilities Plans
- Eagle Mountain Capital Facilities Plan
- Enoch Capital Facilities Plan
- Pole Canyon Capital Facilities Plan
- Eagle Mountain Water Master Plan
- Bluffdale City Capital Facilities Plan
- Herriman Water Master Plan & Impact Fee Analysis
- Pleasant Grove Water, Sewer, Storm Drain, Streets Master plans
- Alpine Water, Sewer, Storm Drain, Secondary Water, Parks Master Plans
- Roosevelt City Capital Facilities & Impact Fee Study
- Salem City Streets and Storm Drain Impact Fee Study
- Spanish Fork Transportation Master Plan
- American Fork General Plan
- Kamas General Plan
- Heber City General Plan
- Alpine City General Plan
- Farmington General Plan
- Kaysville Streets Capital Facilities Plan

CASE STUDIES

The following case studies have been selected to showcase our experience with projects of similar size and complexity to Ivins City IFA.



Mike Shaw
Washington City
435.656.6317

WASHINGTON CITY TRAFFIC IMPACT FEE ANALYSIS, WASHINGTON, UT

With the adoption of the Washington City Transportation Master Plan, Horrocks Engineers prepared an IFFP and IFA based on the prioritized CFP. Budgetary cost estimates were refined and funding opportunities were established so development impacts could be ascertained for the IFA. A final analysis was completed that will provide great benefits to the City by developing and maintaining the roadway infrastructure at acceptable levels of service and maintain the quality of life that Washington City desires for its residents.

Included Elements: Transportation (model), road master planning, project estimating, administrative services, CFP, IFFP, IFFA, and document preparation.

Cameron Cutler
St. George City
435.627.4006

ST. GEORGE TRAFFIC AND TRANSPORTATION PLAN UPDATE ST. GEORGE, UT

The City of St. George Master Traffic & Transportation Plan is a vision document that defines the short- and long-term transportation system that the City needs in the future. The plan also provides policy direction for how decisions regarding the implementation of the transportation system should occur. The plan provides priorities for implementing projects to meet short-term deficiencies while working toward the ultimate transportation system the City is trying to achieve. As with past Transportation Plans with the City of St. George, millions of dollars will be realized for transportation projects due to the plan's implementation. A current plan will assure the continuous flow of funding into the City's transportation system.

Included Elements: Transportation (model), road master planning, project estimating, administrative services, CFP, and document preparation.

Rob Dotson
Enoch City
435.586.1119

ENOCH CITY CAPITAL FACILITIES PLAN, ENCOH, UT

In 2010, the City of Enoch hired Horrocks engineers to complete its first CFP. The city had been growing at a fast rate for several years, was now over 5,000 residents, and there was concern about continuing to provide future public services and facilities. An action plan was needed to assist community leaders in predicting and preparing for future growth including the required financing to provide safe and reliable public services and facilities. This was to be the guiding document for several years of future decision making, financial assistance, and growth. As no past reports were available, modeling of the various systems was performed and data was gathered from original sources, compiled, and then analyzed from scratch. As part of this ground roots effort, Horrocks worked closely with Enoch City staff and City Council members to ensure that their objectives and goals were included in the plan. A website for community input was set up and open houses were conducted to inform and receive local citizen suggestions, comments, and concerns. Existing deficiencies and required future improvements were identified. Recommended capital projects for each of the systems noted below were documented with estimates of probable cost in sequence of need as required for safety and/or growth. Estimated costs were evaluated to determine the percentage covered by impact fees versus City funds.

Included Elements: Transportation (model), culinary water (model), secondary water (model), wastewater (model), storm drainage (model), public safety, parks and recreation, and administrative services.

Mark Reid
City of Bluffdale
801.254.2200

2008 BLUFFDALE CAPITAL FACILITIES PLAN & 2011 AND 2014 IMPACT FEE FACILITIES PLAN, BLUFFDALE, UT

The elements in the Bluffdale City Capital Facilities Plan project are similar to Ivin's needs. Bluffdale was a city of approximately 8,700 people that was beginning to grow rapidly. The City recognized the need to plan before development occurred and therefore, prepared a CFP that met the needs of Title 11-36 at that time. However, the down turn in the economy in 2009, its subsequent improvement and the new provisions in the Impact Fee Act, Bluffdale City felt that updating its impact fee analysis at each one of these junctures was critical to meeting its future needs as well as the new state statutes.

The original project had several unique challenges. First, Bluffdale's populous is currently divided on whether to encourage or discourage growth and development. Second, several developers were giving publicized drafts of the CFP to their legal counsel in an effort to derail the plan before it was finished. Third, major policy changes in transportation and land use plans were debated and implemented during the project that changed significant portions of the document. Horrocks successfully met these challenges by preparing for and attending public and private meetings with residents, developers and city staff to pre-pare a plan that all parties supported. We also adjusted plans midstream and maintained project budget. Engineering for the project was completed in approximately five to six months. However policy changes in the City delayed project completion and approval of the final document for nearly seven more months.

Included Elements: Culinary water (model), secondary water (model), transportation (model), storm drain, parks and recreation, public safety and public facilities.

Chris Trusty
Eagle Mountain City
801.789.6670

EAGLE MOUNTAIN CAPITAL FACILITIES PLAN & IMPACT FEE PLAN, EAGLE MOUNTAIN, UT

Eagle Mountain City had previously prepared a capital facilities plan and impact fee analysis. The new plan creates master plans for the noted elements and summarizes, estimates and prioritizes projects identified in the master plans. It meets the requirements for and is conducive to impact fee calculations at any future time.

Horrocks performed a separate CFP for Pole Canyon (a neighboring development that was seeking annexation into Eagle Mountain). Pole Canyon is projected to build out at nearly 35,000 residents. Horrocks successfully coordinated with the developer and incorporated the impacts of this neighboring community into Eagle Mountain's system. The engineering for the project was completed in approximately 6 months, while City reviews, comments and coordination with developers have taken an additional four months.

Included Elements: Wastewater (model), secondary water (model), culinary water (model), transportation (model), storm drain (model), public safety, parks and recreational facilities, power, and natural gas.

COST

The following fee proposal is based upon the scope of work requested in the RFP and outlined in our proposal. The not-to-exceed cost of the study and analysis will be $9,746.00.

CITY OF IVINS TRANSPORTATION IMPACT FEE ANALYSIS
FEE PROPOSAL

TASK & DESCRIPTION	TOTAL COST	TOTAL HOURS	PRINCIPAL ENGINEER LEE	SENIOR TRANS. ENGINEER ARON	ASSOCIATE ENGINEER MIKE	ENGINEER P.E. TYRONE
Billing Rate			$166	$143	$126	$101
TASK 1 - Impact Fee Analysis						
Project Administration	$738	5	1	4		
Identify Existing Deficiencies	$1,648	12		8	4	
Identify Proposed Improvements	$990	7	1	4	2	
Calculate Impact Fee	$1,380	12		4		8
Prepare Draft Impact Fee Analysis	$1,648	12		8	4	
TASK 1 - Impact Fee Facilities Plan & Impact Fee Analysis						
Quality Control Review	$736	6	2			4
Finalize Impact Fee Analysis	$858	6		6		
City Council Presentation	$429	3		3		
Submit Final Impact Fee Analysis	$429	3		3		
TOTAL LABOR	**$8,856**	**66**	**4**	**40**	**10**	**12**
Direct Costs: (10%)	$890					
PROJECT TOTAL	**$9,746**					

APPENDIX

RESUMES

PREVIOUS PROJECT REPORT



LEE CABELL, P.E.
PRINCIPAL-IN-CHARGE / QA/QC MANAGER

EDUCATION
B.S. Civil Engineering, Brigham Young University
M.S. Civil Engineering, Brigham Young University

PROFESSIONAL REGISTRATION
Utah No. 188020

Lee is a Principal of Horrocks Engineers, has M.S. and B.S. degrees in Civil Engineering, and 21 years of experience as a project manager and design engineer for roadway projects. His projects have included master plans, corridor studies, traffic signal design, highway lighting design, roadway design - including various alternative intersections, striping and signing design, safety analysis, intersection design and operations analysis, traffic impact studies, traffic control design, and environmental studies and documentation.

Lee's master planning experience includes the management and preparation of several local traffic and transportation master plans for communities of various sizes. His responsibilities for this project include reviewing and QA/QC of transportation plans, executing contractual matters, and ensuring Aron has the necessary resources to complete this plan within time and budget.

SIMILAR EXPERIENCE
- 2015 Ivins City Master Transportation Plan & IFFP, Ivins, UT
- Hurricane City Impact Fee Analysis, Hurricane, UT
- Washington City Impact Fee Update, St. George, UT
- Dixie MPO Regional Travel Demand Model Update, Washington County, UT
- Washington City Master Transportation Plan, Washington, UT
- Hurricane City Master Transportation Plan, Hurricane, UT
- Ivins City Master Transportation Plan, Ivins, UT
- St. George Master Transportation Plan, St. George, UT
- Bluff Street Corridor Study, St. George, UT
- Bloomington Roundabout Interchange Study, St. George, UT
- Draper City Master Transportation Plan, Draper, UT
- West Jordan City Master Transportation Plan, West Jordan, UT
- Riverton City Master Transportation Plan, Riverton, UT
- Sandy City Master Transportation Plan, Sandy, UT
- Pleasant Grove City Master Transportation Plan, Pleasant Grove, UT



ARON BAKER, P.E.
PROJECT MANAGER

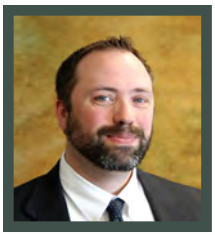
EDUCATION
B.S. Civil Engineering, Brigham Young University

PROFESSIONAL REGISTRATION
Utah No. 181351

Aron is an Associate at Horrocks and has a B.S. in Civil Engineering. He has 23 years of municipal engineering experience, with 14 of those years spent working for the City of St. George. His duties at St. George as the City Traffic Engineer involved master planning roads and developing and implementing the Streets Capital Facility Plan and Impact Fee Program as development evolved and capital improvements were constructed. Aron has been with Horrocks for 6 years and has managed several master planning and impact fee studies for the communities of St. George, Washington, Ivins and Hurricane. He conducted and managed the production of the Dixie State College Traffic, Pedestrian, and Parking Study to produce a future plan for transportation growth on the campus. Aron also was the project manager for several critical roadway systems in the area including Snow Canyon Parkway, Riverside Drive, the roundabout at Snow Canyon Drive and Center Street in Ivins and the Dixie Drive Bridge over the Santa Clara River. He has also been integrally involved in the creation of the award-winning Dixie Traffic Control Center which is a communication hub for all of the traffic signals, highway weather stations, and traffic CCTV's in Dixie.

As the Project Manager, Aron will be responsible for the direct coordination of the project with Ivins City staff, directing the work efforts of the Horrocks staff, managing the project's schedule and budget, and ensuring the work is performed in accordance with local laws and regulations.

SIMILAR EXPERIENCE
- 2015 Ivins City Master Transportation Plan & IFFP, Ivins, UT
- Hurricane City Impact Fee Analysis, Hurricane, UT
- Hurricane City Master Transportation Plan, Hurricane, UT
- Washington City Impact Fee Update, Washington, UT
- Washington City Master Transportation Plan, Washington, UT
- Ivins City Master Transportation Plan, Ivins, UT
- St. George Master Transportation Plan, St. George, UT
- Dixie MPO Regional ITS Architecture Study
- Snow Canyon Roundabout, Ivins, UT
- River Road Capacity Study, St. George, UT



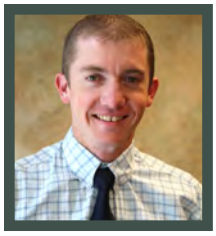
MICHAEL HEAPS, P.E.
TRAFFIC/TRANSPORTATION ENGINEER

EDUCATION
B.S. Civil Engineering, University of Utah

PROFESSIONAL REGISTRATION
Utah No. 5252497

Mike has 11 years of experience in traffic, signing, lighting, ATMS, and signal design. He is experienced in traffic engineering and transportation planning, focusing on travel demand modeling and traffic operations analysis. He has been integral in the planning and production of many recent traffic studies. Over the past 5 years Mike has worked extensively with the Dixie MPO CUBE and QRS II Travel Demand Models (TDM) and provided much of the data used in calculating the latest St. George City and Washington City transportation impact fees.

SIMILAR EXPERIENCE
- EWCRPO Corridors Study, Washington County, UT
- River Road Capacity Study, St. George, UT
- I-15 Environmental Assessment, St. George, UT
- Washington Parkway Cost/Benefit Study, Washington, UT
- Washington City Transportation Master Plan, Washington, UT
- Hurricane City Transportation Master Plan, Hurricane, UT
- Dixie State College Traffic, Pedestrian, and Parking Master Plan Study, St. George, UT
- St. George City Transportation Master Plan, St. George, UT
- Dixie Drive Interchange Access Justification Report, St. George, UT
- Southern Parkway, Segment III Transportation Study, St. George, UT
- Lighting and ATMS design for the Hurricane State Street Reconstruction, Hurricane, UT
- Lehi Technology Corridor Study, Lehi, UT
- I-15 The Point Project, Salt Lake County, UT



TYRONE ATKIN, P.E.
TRANSPORTATION ENGINEER

EDUCATION
M.S. in Civil Engineering, Utah State University
B.S. in Civil Engineering, Utah State University

PROFESSIONAL REGISTRATION
Utah No. 8689113

Tyrone has 5 years of experience as a transportation engineer and is familiar with AASHTO, DOT and city standards, and their application in roadway design. His design experience includes geometric design of divided highways, interchange ramps, arterial/collector/local roads, roundabouts, and shared-use paths. Additionally, Tyrone is experienced with developing concept reports, specifications, and estimates for projects ranging from the concept/feasibility and scoping level to advertising construction ready documents.

SIMILAR EXPERIENCE
- I-15 MP 8-10 Widening and Underpass, St. Geroge, UT
- SR-89 State Street, 6400 S to 9000 S Environmental Assessment, Midvale, UT
- SR-89 State Street, 6400 S to 8000 S, Midvale, UT
- I-15: West Mesquite Interchange Design-Build, Mesquite, NV
- Moab Lions Park Trail and Transit Hub, Moab, UT
- I-80; Mouth of Parley's Canyon to Summit Feasibility Study, Salt Lake City, UT
- SH-44 Linder to Ballantyne Lane, Eagle, ID
- I-84; Broadway Avenue Interchange and Gowen RR Bridge, Boise, ID
- American Fork Street Improvements, American Fork, UT
- SR-303L; US 60 to Happy Valley Parkway Design-Build, Surprise, AZ

WASHINGTON CITY
TRANSPORTATION IMPACT FEE

JULY 2014

HORROCKS ENGINEERS



Washington City
Where Dixie Begins



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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 to 20 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 Washington will continue to experience similar type growth over the next 10 to 20 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 10 to 20 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	$3,435
	Condominium/Townhome	Dwelling Units	230	0.52	$1,786
	Apartment	Dwelling Units	220	0.62	$2,130
Office	Office Building	1,000 sq. ft.	710	1.56	$5,359
	Medical Office Building	1,000 sq. ft.	720	3.57	$12,263
Retail	Less Intensive Retail	1,000 sq. ft.	890	0.24	$824
	Intensive Retail	1,000 sq. ft.	820	1.95	$6,698
Services	Quality Restaurant	1,000 sq. ft.	931	2.36	$8,107
	Fast Food	1,000 sq. ft.	934	7.11	$24,423
	Convenience Market w/ Gas Pumps	Pump Stations	945	2.13	$7,317
	Bank	1,000 sq. ft.	912	6.08	$20,885
Industrial	Industrial	1,000 sq. ft.	110	1.46	$5,015
	Manufacturing	1,000 sq. ft.	140	1.1	$3,779
	Warehousing	1,000 sq. ft.	150	0.48	$1,649
Institutional	Elementary School	Students	520	0.28	$962
	Middle/Junior High School	Students	522	0.3	$1,031
	High School	Students	530	0.28	$962
	Private School (K-8)	Students	534	0.6	$2,061
	Private School (K-12)	Students	536	0.55	$1,889
	Day Care	1,000 sq. ft.	565	2.61	$8,965
	Library	1,000 sq. ft.	590	3.51	$12,057
	Church	1,000 sq. ft.	560	0.66	$2,267
Ldg	Hotel/Motel	rooms	310/320	0.63	$2,164

The recommended single family detached housing impact fee of $3,435 represents a 29% increase from the recommended impact fee from the 2010 Washington City Impact Fee Study.

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 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 Washington City over the next 10 to 20 years the following steps were followed:

- Obtain the record of permits issued for various developments from January 2011 to December 2013. Impact fee studies will often establish a future growth trend based on the recent history of issued building permits. As the City has experienced an abnormal past 3 years of building that has been primarily residential growth with almost no commercial growth activity, an average commercial trend will be based on prior years, such as from 2005 to 2006. The available commercially-zoned land combined with the gaining growth trends in the surrounding communities indicate that there will be strong commercial growth that would be similar to these prior years. This 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. Retail trips in Washington City have a significant number of internally captured trips, which are trips that are made at the same central location such as Home Depot, then going to the bank, going shopping at Wal-Mart, and stopping at a specialty retail store all in the same shopping center complex. 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 10 to determine the projected number of SFE units expected over the next 10 years in Washington City when calculating the cost for 10 years of projects. The same is done when calculating for 20 years of projects. The SFE units expected per year is multiplied by 20 years when considering all projects for impact fees.

Based upon the methodology used above it is projected that Washington City will experience approximately 8,610 SFE units of growth over the next 10 years, and 17,220 SFE units of growth over the next 20 years.

ROADWAY IMPROVEMENT PROJECTS

A list of roadway improvement projects were taken from the Washington City Transportation Master Plan completed in May 2014. Recommended improvements are separated into 0 to 5 year improvements and 6 to 20 year improvements. A detailed cost estimate for each project was performed and can be found in the appendix of the Transportation Master Plan. In this study, these projects were subdivided into which projects would likely be constructed in the 6 to 10 year time frame so projects are divided up into 0 to 5 year projects, 6 to 10 year projects, and 11 to 20 year projects. This allows the City greater flexibility when calculating impact fee alternatives to consider. In addition, each project was evaluated to determine 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	1.00	0%	1	1.00	1.00	1
	Condominium/Townhome	Dwelling Units	230	0.52	0%	1	1.00	0.52	0.52
	Apartment	Dwelling Units	220	0.62	0%	1	1.00	0.62	0.62
Office	Office Building	1,000 sq. ft.	710	1.49	5%	1.05	1.00	1.56	1.56
	Medical Office Building	1,000 sq. ft.	720	3.57	0%	1	1.00	3.57	3.57
Retail	Less Intensive Retail	1,000 sq. ft.	890	0.45	5%	1.05	0.50	0.24	0.24
	Intensive Retail	1,000 sq. ft.	820	3.71	5%	1.05	0.50	1.95	1.95
Services	Quality Restaurant	1,000 sq. ft.	931	7.49	5%	1.05	0.30	2.36	2.36
	Fast Food	1,000 sq. ft.	934	33.84	5%	1.05	0.20	7.11	7.11
	Convenience Market w/ Gas Pumps	Pump Stations	945	13.51	5%	1.05	0.15	2.13	2.13
	Bank	1,000 sq. ft.	912	24.30	0%	1	0.25	6.08	6.08
Industrial	Industrial	1,000 sq. ft.	110	0.97	50%	1.5	1.00	1.46	1.46
	Manufacturing	1,000 sq. ft.	140	0.73	50%	1.5	1.00	1.10	1.10
	Warehousing	1,000 sq. ft.	150	0.32	50%	1.5	1.00	0.48	0.48
Institutional	Elementary School	Students	520	0.28	0%	1	1.00	0.28	0.28
	Middle/Junior School	Students	522	0.3	0%	1	1.00	0.30	0.30
	High School	Students	530	0.28	0%	1	1.00	0.28	0.28
	Private School (K-8)	Students	534	0.61	0%	1	1.00	0.61	0.60
	Private School (K-12)	Students	536	0.55	0%	1	1.00	0.55	0.55
	Day Care	1,000 sq. ft.	565	13.18	0%	1	0.20	2.64	2.61
	Library	1,000 sq. ft.	590	7.09	0%	1	0.50	3.55	3.51
	Church	1,000 sq. ft.	560	0.66	0%	1	1.00	0.66	0.66
Ldg	Hotel/Motel	rooms	310/320	0.60	5%	1.05	1.00	0.63	0.63

It was assumed, based on City practices, that developers will typically pay for improvements on the outside 25 ft 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 20 years is $174,748,197 with $61,494,506 (35%) being eligible for impact fees. The 20 year model produces 20 years of projects, but the alternatives listed in Table 4 also look at projects that are likely to be built in the next 10 years.

Table 3: FUTURE GROWTH IN WASHINGTON 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	1.00	1349	450	450
	Condominium/Townhome	Dwelling Units	0.52	0	0	0
	Apartment	Dwelling Units	0.62	0	0	0
Office	Office Building	1,000 sq. ft.	1.56	0	0	0
	Medical Office Building	1,000 sq. ft.	3.57	0	0	0
Retail	Less Intensive Retail	1,000 sq. ft.	0.24	0	0	0
	Intensive Retail	1,000 sq. ft.	1.95	214	169	330
Services	Quality Restaurant	1,000 sq. ft.	2.36	0	0	0
	Fast Food	1,000 sq. ft.	7.11	5	4	28
	Convenience Market w/ Gas Pumps	Pump Stations	2.13	0	0	0
	Bank	1,000 sq. ft.	6.08	5	4	24
Industrial	Industrial	1,000 sq. ft.	1.46	0	0	0
	Manufacturing	1,000 sq. ft.	1.10	8	6	7
	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	0.60	0	0	0
	Private School (K-12)	Students	0.55	0	0	0
	Day Care	1,000 sq. ft.	2.61	0	0	0
	Library	1,000 sq. ft.	3.51	0	0	0
	Church	1,000 sq. ft.	0.66	42	33	22
Lodge	Hotel/Motel	rooms	0.63	0	0	0
Total # of Single Family Equivalent Units/Year						861
Total # of Single Family Equivalent Units Over the Next 10 Years						8,610

* Residential permits from January 2011 to December 2013
Commercial permits from January 2005 to July 2006

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.

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 twenty years.

Table 4: 0 to 20 Year Roadway Projects Cost Estimate

Location	Current Cost	% City Responsibility	Eligible for Impact Fees
1-5 Year Improvements			
1a. Washington Parkway Bond	$2,579,810	100%	$2,579,810
1b. Buena Vista Bond	$3,914,043	100%	$3,914,043
2. Washington Fields Road from Lost Ridge Drive to 3650 South, Phase 4A	$502,320	100%	$502,320
3. Washington Fields Road from Lost Ridge Drive to 3650 South, Phase 4B	$3,074,526	41%	$1,256,164
4. Milepost 10 Concept Study	$60,000	100%	$60,000
5. 3650 South from Western City Limit to Southern Parkway	$7,610,694	38%	$2,894,892
6. Southern Parkway	$17,000,000	0%	$0
7. Merrill Road	$2,432,976	30%	$720,174
8. Milepost 11 Concept Study	$60,000	100%	$60,000
9. Wal-Mart / Home Depot Connection to St. George	$800,982	100%	$800,982
1-5 Year Improvement Totals	**$38,035,351**	**34%**	**$12,788,385**
6-10 Year Improvements			
1. 4750 South from Western City Limit to Washington Fields Road	$3,135,530	40%	$1,255,721
2. Washington Fields Road from 3650 South to Stucki Farms, Phase 5B	$2,268,448	59%	$1,337,518
3. Washington Fields Road from Stucki Farms to Warner Valley Road, Phase 6B	$3,067,610	47%	$1,446,900
4. Washington Fields Road from Warner Valley Road to the Southern City Limit, Phase 7	$4,004,978	41%	1,636,169
5. 240 West from Merrill Road to Southern City Limit	$2,442,076	68%	$1,650,403
6. 20 East from Merrill Road to Southern City Limit	$3,991,624	70%	$2,809,534
7. 300 East from Merrill Road to 3650 South	$1,927,562	42%	$816,360
8. 4200 South from Western City Limit to Washington Fields Road	$2,636,316	36%	$953,680
9. 840 South from 660 North (St. George) to 300 East	$1,613,248	38%	$608,426
10. South Frontage Road from Washington Parkway to 300 East	$2,224,040	55%	$1,228,500
11. Warner Valley Road from Southern Parkway to the Road through Warner Valley	$5,876,700	37%	$2,171,442
12. Extend Main Street to 100 East, south of 400 South	$1,924,650	45%	$868,140
6-10 Year Improvement Totals	**$35,112,782**	**48%**	**$16,782,793**
11-20 Year Improvements			
13. Main Street from I-15 Frontage Road to Washington Parkway	$1,998,542	39%	$779,870
14. Bulloch Street from 300 East to Milepost 13 Connector Road	$1,358,266	36%	$490,126
15. Long Valley Road	$10,860,686	36%	$3,916,146
16. Roadway through Warner Valley from Warner Valley Road to Southern Parkway	$18,204,550	44%	$8,077,160
17. Purgatory Road	$5,924,350	37%	$2,180,196
18. Harvest Lane from Merrill Road to Southern City Limit	$3,103,828	40%	$1,226,316
19. Washington Parkway from Milepost 13 Interchange to Western City Limit, Phase 1	$15,895,750	28%	$4,449,172
20. Washington Parkway from Milepost 13 Interchange to Western City Limit, Phase 2	$2,418,780	100%	$2,418,780
21. Washington Parkway from Milepost 13 Interchange to Western City Limit, Phase 3	$4,392,570	57%	$2,488,850
22. West Airport Road from Western City Limit to Washington Fields Road	$3,135,530	34%	$1,061,970
23. Tortoise Rock Road from Buena Vista Blvd. to Washington Parkway	$1,063,608	38%	$405,678
24. I-15 Milepost 11 Interchange	$30,000,000	10%	$3,000,000
25. Washington Dam Road from 1900 East to East City Limit	$3,243,604	44%	$1,429,064
11-20 Year Improvement Totals	**$101,600,064**	**31%**	**$31,923,328**
Roadway Total Costs	**$174,748,197**	**35%**	**$61,494,506**

PROPOSED IMPACT FEE POLICY

In calculating the SFE impact fee the following three alternatives where considered:

1. All impact fee eligible roadway cost over the next 20 years divided by the projected SFE units over the next 20 years.
2. All 0 to 5 year impact fee eligible roadway costs in addition to all 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 divided by the projected SFE units over the next 10 years.

Table 5 summarizes the results of the three alternatives:

Table 5: Impact Fee Cost Alternatives

#	Impact Fee Alternatives	City Responsibility	Impact Fee
1	All Projects (0 to 20 year projects)	$61,494,506	$3,571
2	All 0 to 5 year Projects and all 6 to 10 year projects	$29,571,178	$3,435
3	All 0 to 5 year Projects and 50% of the 6 to 10 year projects	$21,179,781	$2,460

Out of all the alternatives, Alternative #1 represents the maximum SFE impact fee that can be charged at $3,571. 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 at $3,435.

COMPARISON OF OLD FEES TO PROPOSED FEES

The October 2007 Washington Transportation Impact Fee Study recommended an impact fee of $2,983 per single family residential unit. The April 2010 Impact Fee Study proposed a traffic impact fee of $2,670 which represented a decrease of 10% from the recommended fee from 2007. This study proposes $3,435, an increase of 29% above the recommended fee from 2010.

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 * $5,359 = $20,847

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 $3,435 in Alternate #2 is short of the projected SFE fee of $3,571 required to 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.

APPENDIX

Washington City

2014 Capital Facilities Plan Update

2. Washington Fields Road from Lost Ridge Drive to 3650 South, Phase 4A — Major Arterial — (0.90 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	2,450	$196,000.00	2,450	$196,000.00
Base Course (8.0 inches)	cu yd	$35.00	1,500	$52,500.00	1,500	$52,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	1,100	$27,500.00	1,100	$27,500.00
6' Wide Sidewalk	sq ft	$5.00	-	$0.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	-	$0.00	0	$0.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	0	$0.00
			SUBTOTAL	**$276,000.00**	**IMPACT FEE SUBTOTAL**	**$276,000.00**

	SUBTOTAL	**$276,000.00**	**IMPACT FEE SUBTOTAL**	**$276,000.00**
	Drainage (10%)	$27,600.00	**Drainage (10%)**	$27,600.00
	Mobilization (10%)	$27,600.00	**Mobilization (10%)**	$27,600.00
Existing Conditions	**Traffic Control (10%)**	$27,600.00	**Traffic Control (10%)**	$27,600.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$358,800.00**	**Subtotal**	**$358,800.00**
2,403 tons of Roadway Asphalt	**Construction Contingency (20%)**	$71,760.00	**Construction Contingency (20%)**	$71,760.00
2,070 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
2,070 ft Sidewalk Length	**Subtotal**	$430,560.00	**Subtotal**	$430,560.00
	Engineering (20%)	$71,760.00	**Engineering (20%)**	$71,760.00
	GRAND TOTAL	$502,320.00	**IMPACT FEE TOTAL**	$502,320.00

Assumptions

3.00 inch Thick Asphalt	3-Lane Road
Pavement Width of 38.00 ft	No R/W in this project
Ultimate Right-Of-Way of 0.00 ft	~170' North of Lost Ridge Rd (300' of 1-Lane & Shoulder)
8.00 inch Thick Base Course	~170' South of Lost Ridge Rd (300' of 1-Lane & Shoulder)
6.00 inch Thick Granular Borrow	3090 South to 3650 South (2650' of 1-Lane & Shoulder)

IMPACT FEE % of GRAND TOTAL **100%**

Washington City

2014 Capital Facilities Plan Update

3. Washington Fields Road from Lost Ridge Drive to 3650 South, Phase 4B — Major Arterial — (0.90 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	10,300	$824,000.00	5,800	$464,000.00
Base Course (8.0 inches)	cu yd	$35.00	3,200	$112,000.00	0	$0.00
Granular Borrow (6.0 inches)	cu yd	$25.00	2,400	$60,000.00	0	$0.00
6' Wide Sidewalk	sq ft	$5.00	18,300	$91,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	7,500	$150,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	7.53	$451,800.00	3.77	$226,200.00
			SUBTOTAL	**$1,689,300.00**	**IMPACT FEE SUBTOTAL**	**$690,200.00**

	SUBTOTAL	**$1,689,300.00**	**IMPACT FEE SUBTOTAL**	**$690,200.00**
	Drainage (10%)	$168,930.00	**Drainage (10%)**	$69,020.00
	Mobilization (10%)	$168,930.00	**Mobilization (10%)**	$69,020.00
Existing Conditions	**Traffic Control (10%)**	$168,930.00	**Traffic Control (10%)**	$69,020.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$2,196,090.00**	**Subtotal**	**$897,260.00**
3,512 tons of Roadway Asphalt	**Construction Contingency (20%)**	$439,218.00	**Construction Contingency (20%)**	$179,452.00
2,070 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
2,070 ft Sidewalk Length	**Subtotal**	$2,635,308.00	**Subtotal**	$1,076,712.00
	Engineering (20%)	$439,218.00	**Engineering (20%)**	$179,452.00
	GRAND TOTAL	$3,074,526.00	**IMPACT FEE TOTAL**	$1,256,164.00

Assumptions

3.00 inch Thick Asphalt — Additional 3 inches of asphalt added to entire surface

Pavement Width of 65.00 ft — 3-Lane to 5-Lane w/ C & G, and Sidewalk

Right-Of-Way of 50.00 ft

8.00 inch Thick Base Course

6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **41%**

Washington City

2014 Capital Facilities Plan Update

5. 3650 South from Western City Limit to Southern Parkway — Minor Arterial — (2.42 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	16,100	$1,288,000.00	7,800	$624,000.00
Base Course (8.0 inches)	cu yd	$35.00	20,600	$721,000.00	9,500	$332,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	15,400	$385,000.00	14,300	$357,500.00
6' Wide Sidewalk	sq ft	$5.00	76,700	$383,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	25,600	$512,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	14.87	$892,200.00	4.61	$276,600.00
			SUBTOTAL	**$4,181,700.00**	**IMPACT FEE SUBTOTAL**	**$1,590,600.00**

	SUBTOTAL	**$4,181,700.00**	**IMPACT FEE SUBTOTAL**	**$1,590,600.00**
	Drainage (10%)	$418,170.00	**Drainage (10%)**	$159,060.00
	Mobilization (10%)	$418,170.00	**Mobilization (10%)**	$159,060.00
Existing Conditions	**Traffic Control (10%)**	$418,170.00	**Traffic Control (10%)**	$159,060.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$5,436,210.00**	**Subtotal**	**$2,067,780.00**
4,165 tons of Roadway Asphalt	**Construction Contingency (20%)**	$1,087,242.00	**Construction Contingency (20%)**	$413,556.00
2,988 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
2,985 ft Sidewalk Length	**Subtotal**	$6,523,452.00	**Subtotal**	$2,481,336.00
	Engineering (20%)	$1,087,242.00	**Engineering (20%)**	$413,556.00
	GRAND TOTAL	$7,610,694.00	**IMPACT FEE TOTAL**	$2,894,892.00

Assumptions

3.00 inch Thick Asphalt — 2 Lanes to 5 Lanes w/ C & G and Sidewalk

Pavement Width of 65.00 ft

Right-Of-Way of 50.00 ft

8.00 inch Thick Base Course

6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **38%**

Assumed to have 50' of ROW width for 1.66 Miles, Contains 4,000 feet of new road, 50' wide

Washington City

2014 Capital Facilities Plan Update

6. Southern Parkway — none — (1.74 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (6.0 inches)	ton	$80.00	-	$0.00	0	$0.00
Base Course (8.0 inches)	cu yd	$35.00	-	$0.00	0	$0.00
Granular Borrow (12.0 inches)	cu yd	$25.00	-	$0.00	0	$0.00
6' Wide Sidewalk	sq ft	$5.00	-	$0.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	-	$0.00	0	$0.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	0.00	$0.00
			SUBTOTAL	**$0.00**	**IMPACT FEE SUBTOTAL**	**$0.00**

	SUBTOTAL	**$0.00**	**IMPACT FEE SUBTOTAL**	**$0.00**
	Drainage (10%)	$0.00	**Drainage (10%)**	$0.00
	Mobilization (10%)	$0.00	**Mobilization (10%)**	$0.00
Existing Conditions	**Traffic Control (10%)**	$0.00	**Traffic Control (10%)**	$0.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$0.00**	**Subtotal**	**$0.00**
3,512 tons of Roadway Asphalt	**Construction Contingency (20%)**	$0.00	**Construction Contingency (20%)**	$0.00
2,070 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
2,070 ft Sidewalk Length	**Subtotal**	$0.00	**Subtotal**	$0.00
	Engineering (20%)	$0.00	**Engineering (20%)**	$0.00
	GRAND TOTAL	$0.00	**IMPACT FEE TOTAL**	$0.00

Assumptions

BASED UPON PROJECT ESTIMATE **Grand Total $17,000,000.00**

Washington City

2014 Capital Facilities Plan Update

7. Merrill Road — Minor Arterial — (1.29 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	2,700	$216,000.00	2,000	$160,000.00
Base Course (8.0 inches)	cu yd	$35.00	3,400	$119,000.00	2,800	$98,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	2,600	$65,000.00	2,100	$52,500.00
6' Wide Sidewalk	sq ft	$5.00	40,800	$204,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	13,600	$272,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	7.68	$460,800.00	1.42	$85,200.00
			SUBTOTAL	**$1,336,800.00**	**IMPACT FEE SUBTOTAL**	**$395,700.00**

	SUBTOTAL	**$1,336,800.00**	**IMPACT FEE SUBTOTAL**	**$395,700.00**
	Drainage (10%)	$133,680.00	**Drainage (10%)**	$39,570.00
	Mobilization (10%)	$133,680.00	**Mobilization (10%)**	$39,570.00
Existing Conditions	**Traffic Control (10%)**	$133,680.00	**Traffic Control (10%)**	$39,570.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$1,737,840.00**	**Subtotal**	**$514,410.00**
2,323 tons of Roadway Asphalt	**Construction Contingency (20%)**	$347,568.00	**Construction Contingency (20%)**	$102,882.00
4,000 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
4,000 ft Sidewalk Length	**Subtotal**	$2,085,408.00	**Subtotal**	$617,292.00
	Engineering (20%)	$347,568.00	**Engineering (20%)**	$102,882.00
	GRAND TOTAL	$2,432,976.00	**IMPACT FEE TOTAL**	$720,174.00

Assumptions

3.00 inch Thick Asphalt	2 Lanes to 5 Lanes w/ C & G and Sidewalk
Pavement Width of 20.00 ft	45' width existing
Right-Of-Way of 12.00 ft	South side needs: C&G, Sidewalk and 20' asphalt roadway.
8.00 inch Thick Base Course	0.54 Mile of new road
6.00 inch Thick Granular Borrow	0.50 Mile of widening

IMPACT FEE % of GRAND TOTAL **30%**

Washington City

2014 Capital Facilities Plan Update

9. Wal-Mart / Home Depot Connection to St. George — Major Collector — (0.22 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	70	$5,600.00	70	$5,600.00
Base Course (8.0 inches)	cu yd	$35.00	100	$3,500.00	100	$3,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	60	$1,500.00	60	$1,500.00
5' Wide Sidewalk	sq ft	$5.00	5,900	$29,500.00	5,900	$29,500.00
30" High Back Curb & Gutter	ft	$20.00	2,400	$48,000.00	2,400	$48,000.00
Right - of - Way	acre	$200,000.00	1.76	$352,000.00	1.76	$352,000.00
			SUBTOTAL	**$440,100.00**	**IMPACT FEE SUBTOTAL**	**$440,100.00**

	SUBTOTAL	**$440,100.00**	**IMPACT FEE SUBTOTAL**	**$440,100.00**
	Drainage (10%)	$44,010.00	**Drainage (10%)**	$44,010.00
	Mobilization (10%)	$44,010.00	**Mobilization (10%)**	$44,010.00
Existing Conditions	**Traffic Control (10%)**	$44,010.00	**Traffic Control (10%)**	$44,010.00
Assume 5 inch Thick of Existing Asphalt	**Subtotal**	**$572,130.00**	**Subtotal**	**$572,130.00**
2,326 tons of Roadway Asphalt	**Construction Contingency (20%)**	$114,426.00	**Construction Contingency (20%)**	$114,426.00
190 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
190 ft Sidewalk Length	**Subtotal**	$686,556.00	**Subtotal**	$686,556.00
	Engineering (20%)	$114,426.00	**Engineering (20%)**	$114,426.00
	GRAND TOTAL	$800,982.00	**IMPACT FEE TOTAL**	$800,982.00

Assumptions

3.00 inch Thick Asphalt

Pavement Width of 1.00 ft — 3 Lane Road w/ C & G and Sidewalk — **IMPACT FEE % of GRAND TOTAL** **100%**

Right-Of-Way of 66.00 ft

8.00 inch Thick Base Course

6.00 inch Thick Granular Borrow

St. George City will need to complete road so it connects to 3050 East.

Washington City

2014 Capital Facilities Plan Update

1. 4750 South from Western City Limit to Washington Fields Road — Minor Arterial — (0.87 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	5,800	$464,000.00	2,700	$216,000.00
Base Course (8.0 inches)	cu yd	$35.00	7,400	$259,000.00	3,500	$122,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	5,600	$140,000.00	5,200	$130,000.00
6' Wide Sidewalk	sq ft	$5.00	27,600	$138,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	9,200	$184,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	8.96	$537,818.18	3.69	$221,454.55
			SUBTOTAL	**$1,722,818.18**	**IMPACT FEE SUBTOTAL**	**$689,954.55**

	SUBTOTAL	**$1,722,818.18**	**IMPACT FEE SUBTOTAL**	**$689,954.55**
	Drainage (10%)	$172,282.00	**Drainage (10%)**	$68,996.00
	Mobilization (10%)	$172,282.00	**Mobilization (10%)**	$68,996.00
Existing Conditions	**Traffic Control (10%)**	$172,282.00	**Traffic Control (10%)**	$68,996.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$2,239,664.18**	**Subtotal**	**$896,942.55**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$447,933.00	**Construction Contingency (20%)**	$179,389.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$2,687,597.18	**Subtotal**	$1,076,331.55
	Engineering (20%)	$447,933.00	**Engineering (20%)**	$179,389.00
	GRAND TOTAL	$3,135,530.18	**IMPACT FEE TOTAL**	$1,255,720.55

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

5 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **40%**

Washington City

2014 Capital Facilities Plan Update

2. Washington Fields Road from 3650 South to Stucki Farms, Phase 5B — Major Arterial — (0.80 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	7,000	$560,000.00	5,100	$408,000.00
Base Course (8.0 inches)	cu yd	$35.00	3,600	$126,000.00	3,100	$108,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	2,700	$67,500.00	600	$15,000.00
6' Wide Sidewalk	sq ft	$5.00	24,700	$123,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	8,300	$166,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	3.39	$203,400.00	3.39	$203,400.00
			SUBTOTAL	**$1,246,400.00**	**IMPACT FEE SUBTOTAL**	**$734,900.00**

	SUBTOTAL	**$1,246,400.00**	**IMPACT FEE SUBTOTAL**	**$734,900.00**
	Drainage (10%)	$124,640.00	**Drainage (10%)**	$73,490.00
	Mobilization (10%)	$124,640.00	**Mobilization (10%)**	$73,490.00
Existing Conditions	**Traffic Control (10%)**	$124,640.00	**Traffic Control (10%)**	$73,490.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$1,620,320.00**	**Subtotal**	**$955,370.00**
2,046 tons of Roadway Asphalt	**Construction Contingency (20%)**	$324,064.00	**Construction Contingency (20%)**	$191,074.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$1,944,384.00	**Subtotal**	$1,146,444.00
	Engineering (20%)	$324,064.00	**Engineering (20%)**	$191,074.00
	GRAND TOTAL	$2,268,448.00	**IMPACT FEE TOTAL**	$1,337,518.00

Assumptions

3.00 inch Thick Asphalt	Additional 3 inches of asphalt added to entire surface
Pavement Width of 35.00 ft	From 2-Lanes to 5-Lanes w/ C & G and Sidewalk
Right-Of-Way of 0.00 ft	City is responsible for 1 lane of asphalt
8.00 inch Thick Base Course	
6.00 inch Thick Granular Borrow	

IMPACT FEE % of GRAND TOTAL **59%**

Washington City

2014 Capital Facilities Plan Update

3. Washington Fields Road from Stucki Farms to Warner Valley Road, Phase 6B — Major Arterial — (1.07 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	10,300	$824,000.00	7,000	$560,000.00
Base Course (8.0 inches)	cu yd	$35.00	4,200	$147,000.00	0	$0.00
Granular Borrow (6.0 inches)	cu yd	$25.00	6,600	$165,000.00	3,000	$75,000.00
6' Wide Sidewalk	sq ft	$5.00	33,900	$169,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	19,000	$380,000.00	8,000	$160,000.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	0.00	$0.00
			SUBTOTAL	**$1,685,500.00**	**IMPACT FEE SUBTOTAL**	**$795,000.00**

	SUBTOTAL	**$1,685,500.00**	**IMPACT FEE SUBTOTAL**	**$795,000.00**
	Drainage (10%)	$168,550.00	**Drainage (10%)**	$79,500.00
	Mobilization (10%)	$168,550.00	**Mobilization (10%)**	$79,500.00
Existing Conditions	**Traffic Control (10%)**	$168,550.00	**Traffic Control (10%)**	$79,500.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$2,191,150.00**	**Subtotal**	**$1,033,500.00**
3,284 tons of Roadway Asphalt	**Construction Contingency (20%)**	$438,230.00	**Construction Contingency (20%)**	$206,700.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$2,629,380.00	**Subtotal**	$1,240,200.00
	Engineering (20%)	$438,230.00	**Engineering (20%)**	$206,700.00
	GRAND TOTAL	$3,067,610.00	**IMPACT FEE TOTAL**	$1,446,900.00

Assumptions

3.00 inch Thick Asphalt	Additional 3 inches of asphalt added to entire surface
Pavement Width of 30.00 ft	2 Lanes to 4 Lanes w/ Median w/ C & G and Sidewalk
Right-Of-Way of 0.00 ft	City portion includes median with median curb
8.00 inch Thick Base Course	
6.00 inch Thick Granular Borrow	

IMPACT FEE % of GRAND TOTAL **47%**

Washington City

2014 Capital Facilities Plan Update

4. Washington Fields Rd from Warner Valley Rd to Southern City Limit, Phase 7 — Major Arterial — (1.03 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	6,900	$552,000.00	3,200	$256,000.00
Base Course (8.0 inches)	cu yd	$35.00	8,800	$308,000.00	4,100	$143,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	6,600	$165,000.00	3,200	$80,000.00
6' Wide Sidewalk	sq ft	$5.00	32,700	$163,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	10,900	$218,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	13.23	$794,036.36	6.99	$419,490.91
			SUBTOTAL	**$2,200,536.36**	**IMPACT FEE SUBTOTAL**	**$898,990.91**

	SUBTOTAL	**$2,200,536.36**	**IMPACT FEE SUBTOTAL**	**$898,990.91**
	Drainage (10%)	$220,054.00	**Drainage (10%)**	$89,900.00
	Mobilization (10%)	$220,054.00	**Mobilization (10%)**	$89,900.00
Existing Conditions	**Traffic Control (10%)**	$220,054.00	**Traffic Control (10%)**	$89,900.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$2,860,698.36**	**Subtotal**	**$1,168,690.91**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$572,140.00	**Construction Contingency (20%)**	$233,739.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$3,432,838.36	**Subtotal**	$1,402,429.91
	Engineering (20%)	$572,140.00	**Engineering (20%)**	$233,739.00
	GRAND TOTAL	$4,004,978.36	**IMPACT FEE TOTAL**	$1,636,168.91

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft — 5 Lane Road w/ C & G and Sidewalk
Right-Of-Way of 106.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **41%**

Washington City

2014 Capital Facilities Plan Update

5. 240 West from Merrill Road to Southern City limit Residential Collector (1.26 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	5,500	$440,000.00	5,500	$440,000.00
Base Course (8.0 inches)	cu yd	$35.00	7,000	$245,000.00	7,000	$245,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	5,200	$130,000.00	5,200	$130,000.00
5' Wide Sidewalk	sq ft	$5.00	33,400	$167,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	13,400	$268,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	1.53	$91,800.00	1.53	$91,812.61
			SUBTOTAL	**$1,341,800.00**	**IMPACT FEE SUBTOTAL**	**$906,812.61**

SUBTOTAL	**$1,341,800.00**	**IMPACT FEE SUBTOTAL**	**$906,812.61**
Drainage (10%)	$134,180.00	**Drainage (10%)**	$90,682.00
Mobilization (10%)	$134,180.00	**Mobilization (10%)**	$90,682.00
Traffic Control (10%)	$134,180.00	**Traffic Control (10%)**	$90,682.00
Subtotal	**$1,744,340.00**	**Subtotal**	**$1,178,858.61**
Construction Contingency (20%)	$348,868.00	**Construction Contingency (20%)**	$235,772.00
Bid-Contingency (0%)	$0.00	**Bid-Contingency (0%)**	$0.00
Subtotal	$2,093,208.00	**Subtotal**	$1,414,630.61
Engineering (20%)	$348,868.00	**Engineering (20%)**	$235,772.00
GRAND TOTAL	$2,442,076.00	**IMPACT FEE TOTAL**	$1,650,402.61

Existing Conditions

Assume 3 inch Thick of Existing Asphalt
1,624 tons of Roadway Asphalt
2,830 ft Curb & Gutter Length
2,482 ft Sidewalk Length

Assumptions

3.00 inch Thick Asphalt	Half the overall length		
Pavement Width of 42.00 ft	Half the overall length	2 Lanes to 3 Lanes w/ Median	**IMPACT FEE % of GRAND TOTAL** **68%**
Right-Of-Way of 60.00 ft	Half the overall length	w/ C & G and Sidewalk	
8.00 inch Thick Base Course	Half the overall length		
6.00 inch Thick Granular Borrow	Half the overall length		
Sidewalk and Curb & Gutter	2/3 the overall length		

Washington City

2014 Capital Facilities Plan Update

6. 20 East from Merrill Road to Southern City limit — Major Collector — (1.89 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	8,900	$712,000.00	8,900	$712,000.00
Base Course (8.0 inches)	cu yd	$35.00	11,400	$399,000.00	11,400	$399,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	8,500	$212,500.00	8,500	$212,500.00
5' Wide Sidewalk	sq ft	$5.00	49,900	$249,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	20,000	$400,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	3.67	$220,200.00	3.67	$220,200.00
			SUBTOTAL	**$2,193,200.00**	**IMPACT FEE SUBTOTAL**	**$1,543,700.00**

	SUBTOTAL	**$2,193,200.00**	**IMPACT FEE SUBTOTAL**	**$1,543,700.00**
	Drainage (10%)	$219,320.00	**Drainage (10%)**	$154,370.00
	Mobilization (10%)	$219,320.00	**Mobilization (10%)**	$154,370.00
Existing Conditions	**Traffic Control (10%)**	$219,320.00	**Traffic Control (10%)**	$154,370.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$2,851,160.00**	**Subtotal**	**$2,006,810.00**
4,529 tons of Roadway Asphalt	**Construction Contingency (20%)**	$570,232.00	**Construction Contingency (20%)**	$401,362.00
7,954 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
7,954 ft Sidewalk Length	**Subtotal**	$3,421,392.00	**Subtotal**	$2,408,172.00
	Engineering (20%)	$570,232.00	**Engineering (20%)**	$401,362.00
	GRAND TOTAL	$3,991,624.00	**IMPACT FEE TOTAL**	$2,809,534.00

Assumptions

3.00 inch Thick Asphalt

Pavement Width of 46.00 ft — 2 Lanes to 3 Lanes w/ C & G and Sidewalk

Right-Of-Way of 66.00 ft

8.00 inch Thick Base Course

6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **70%**

Washington City

2014 Capital Facilities Plan Update

7. 300 East from Merrill Road to 3650 South — Residential Collector — (0.89 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	3,900	$312,000.00	2,800	$224,000.00
Base Course (8.0 inches)	cu yd	$35.00	4,900	$171,500.00	3,500	$122,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	3,700	$92,500.00	1,500	$37,500.00
5' Wide Sidewalk	sq ft	$5.00	23,500	$117,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	9,400	$188,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	2.96	$177,600.00	1.08	$64,548.93
			SUBTOTAL	**$1,059,100.00**	**IMPACT FEE SUBTOTAL**	**$448,548.93**

	SUBTOTAL	**$1,059,100.00**	**IMPACT FEE SUBTOTAL**	**$448,548.93**
	Drainage (10%)	$105,910.00	**Drainage (10%)**	$44,855.00
	Mobilization (10%)	$105,910.00	**Mobilization (10%)**	$44,855.00
Existing Conditions	**Traffic Control (10%)**	$105,910.00	**Traffic Control (10%)**	$44,855.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$1,376,830.00**	**Subtotal**	**$583,113.93**
2,041 tons of Roadway Asphalt	**Construction Contingency (20%)**	$275,366.00	**Construction Contingency (20%)**	$116,623.00
2,330 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
2,330 ft Sidewalk Length	**Subtotal**	$1,652,196.00	**Subtotal**	$699,736.93
	Engineering (20%)	$275,366.00	**Engineering (20%)**	$116,623.00
	GRAND TOTAL	$1,927,562.00	**IMPACT FEE TOTAL**	$816,359.93

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 42.00 ft
Right-Of-Way of 60.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow
Includes C & G and Sidewalk

2-lane to 3-lane road
1,600 feet of new road

IMPACT FEE % of GRAND TOTAL **42%**

Washington City

2014 Capital Facilities Plan Update

8. 4200 South from Western City Limit to Washington Fields Road — Minor Arterial — (0.73 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	4,900	$392,000.00	2,300	$184,000.00
Base Course (8.0 inches)	cu yd	$35.00	6,200	$217,000.00	2,900	$101,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	4,650	$116,250.00	2,100	$52,500.00
6' Wide Sidewalk	sq ft	$5.00	23,200	$116,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	7,800	$156,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	7.52	$451,272.73	3.10	$186,000.00
			SUBTOTAL	**$1,448,522.73**	**IMPACT FEE SUBTOTAL**	**$524,000.00**

	SUBTOTAL	**$1,448,522.73**	**IMPACT FEE SUBTOTAL**	**$524,000.00**
	Drainage (10%)	$144,853.00	**Drainage (10%)**	$52,400.00
	Mobilization (10%)	$144,853.00	**Mobilization (10%)**	$52,400.00
Existing Conditions	**Traffic Control (10%)**	$144,853.00	**Traffic Control (10%)**	$52,400.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$1,883,081.73**	**Subtotal**	**$681,200.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$376,617.00	**Construction Contingency (20%)**	$136,240.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$2,259,698.73	**Subtotal**	$817,440.00
	Engineering (20%)	$376,617.00	**Engineering (20%)**	$136,240.00
	GRAND TOTAL	$2,636,315.73	**IMPACT FEE TOTAL**	$953,680.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

New 5 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **36%**

Washington City

2014 Capital Facilities Plan Update

9. 840 South from 660 North (St. George) to 300 East — Major Collector — (0.56 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	2,700	$216,000.00	1,800	$144,000.00
Base Course (8.0 inches)	cu yd	$35.00	3,400	$119,000.00	2,200	$77,000.00
Granular Borrow (12.0 inches)	cu yd	$25.00	2,600	$65,000.00	1,700	$42,500.00
5' Wide Sidewalk	sq ft	$5.00	22,600	$113,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	7,600	$152,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	3.69	$221,400.00	1.18	$70,800.00
			SUBTOTAL	**$886,400.00**	**IMPACT FEE SUBTOTAL**	**$334,300.00**

SUBTOTAL	**$886,400.00**	**IMPACT FEE SUBTOTAL**	**$334,300.00**
Drainage (10%)	$88,640.00	**Drainage (10%)**	$33,430.00
Mobilization (10%)	$88,640.00	**Mobilization (10%)**	$33,430.00
Traffic Control (10%)	$88,640.00	**Traffic Control (10%)**	$33,430.00
Subtotal	**$1,152,320.00**	**Subtotal**	**$434,590.00**
Construction Contingency (20%)	$230,464.00	**Construction Contingency (20%)**	$86,918.00
Bid-Contingency (0%)	$0.00	**Bid-Contingency (0%)**	$0.00
Subtotal	$1,382,784.00	**Subtotal**	$521,508.00
Engineering (20%)	$230,464.00	**Engineering (20%)**	$86,918.00
GRAND TOTAL	$1,613,248.00	**IMPACT FEE TOTAL**	$608,426.00

Existing Conditions
Assume 3 inch Thick of Existing Asphalt
1,145 tons of Roadway Asphalt
600 ft Curb & Gutter Length
350 ft Sidewalk Length

Assumptions
3.00 inch Thick Asphalt
Pavement Width of 46.00 ft
Right-Of-Way of 66.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

3 Lane Road w/ C & G and Sidewalk
Contains 2,600 feet of new road
Contains 1,500 feet of road widening

IMPACT FEE % of GRAND TOTAL **38%**

Washington City

2014 Capital Facilities Plan Update

10. South Frontage Road from Washington Parkway to 300 East — Major Collector — (0.80 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	3,800	$304,000.00	2,900	$232,000.00
Base Course (8.0 inches)	cu yd	$35.00	4,800	$168,000.00	4,000	$140,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	3,600	$90,000.00	3,000	$75,000.00
5' Wide Sidewalk	sq ft	$5.00	21,200	$106,000.00	10,000	$50,000.00
30" High Back Curb & Gutter	ft	$20.00	8,500	$170,000.00	4,250	$85,000.00
Right - of - Way	acre	$60,000.00	6.40	$384,000.00	1.55	$93,000.00
			SUBTOTAL	**$1,222,000.00**	**IMPACT FEE SUBTOTAL**	**$675,000.00**

	SUBTOTAL	**$1,222,000.00**	**IMPACT FEE SUBTOTAL**	**$675,000.00**
	Drainage (10%)	$122,200.00	**Drainage (10%)**	$67,500.00
	Mobilization (10%)	$122,200.00	**Mobilization (10%)**	$67,500.00
Existing Conditions	**Traffic Control (10%)**	$122,200.00	**Traffic Control (10%)**	$67,500.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$1,588,600.00**	**Subtotal**	**$877,500.00**
1,854 tons of Roadway Asphalt	**Construction Contingency (20%)**	$317,720.00	**Construction Contingency (20%)**	$175,500.00
2,356 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
2,356 ft Sidewalk Length	**Subtotal**	$1,906,320.00	**Subtotal**	$1,053,000.00
	Engineering (20%)	$317,720.00	**Engineering (20%)**	$175,500.00
	GRAND TOTAL	$2,224,040.00	**IMPACT FEE TOTAL**	$1,228,500.00

Assumptions

3.00 inch Thick Asphalt

Pavement Width of 46.00 ft — 3 Lane Road w/ C & G and Sidewalk

Right-Of-Way of 66.00 ft

8.00 inch Thick Base Course

6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **55%**

Washington City

2014 Capital Facilities Plan Update

11. Warner Valley Road from Southern Parkway to the Road through Warner Valley — Minor Arterial — (1.51 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	10,100	$808,000.00	4,700	$376,000.00
Base Course (8.0 inches)	cu yd	$35.00	12,800	$448,000.00	6,000	$210,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	19,200	$480,000.00	8,900	$222,500.00
6' Wide Sidewalk	sq ft	$5.00	47,900	$239,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	16,000	$320,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	15.56	$933,454.55	6.41	$384,600.00
			SUBTOTAL	**$3,228,954.55**	**IMPACT FEE SUBTOTAL**	**$1,193,100.00**

	SUBTOTAL	**$3,228,954.55**	**IMPACT FEE SUBTOTAL**	**$1,193,100.00**
	Drainage (10%)	$322,896.00	**Drainage (10%)**	$119,310.00
	Mobilization (10%)	$322,896.00	**Mobilization (10%)**	$119,310.00
Existing Conditions	**Traffic Control (10%)**	$322,896.00	**Traffic Control (10%)**	$119,310.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$4,197,642.55**	**Subtotal**	**$1,551,030.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$839,529.00	**Construction Contingency (20%)**	$310,206.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$5,037,171.55	**Subtotal**	$1,861,236.00
	Engineering (20%)	$839,529.00	**Engineering (20%)**	$310,206.00
	GRAND TOTAL	$5,876,700.55	**IMPACT FEE TOTAL**	$2,171,442.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

New 5 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **37%**

Washington City

2014 Capital Facilities Plan Update

12. Extend Main Street to 100 East, south of 400 South — Major Collector — (0.72 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	3,400	$272,000.00	2,300	$184,000.00
Base Course (8.0 inches)	cu yd	$35.00	4,400	$154,000.00	2,900	$101,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	6,500	$162,500.00	4,300	$107,500.00
5' Wide Sidewalk	sq ft	$5.00	19,000	$95,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	7,600	$152,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	3.70	$222,000.00	1.40	$84,000.00
			SUBTOTAL	**$1,057,500.00**	**IMPACT FEE SUBTOTAL**	**$477,000.00**

	SUBTOTAL	**$1,057,500.00**	**IMPACT FEE SUBTOTAL**	**$477,000.00**
	Drainage (10%)	$105,750.00	**Drainage (10%)**	$47,700.00
	Mobilization (10%)	$105,750.00	**Mobilization (10%)**	$47,700.00
Existing Conditions	**Traffic Control (10%)**	$105,750.00	**Traffic Control (10%)**	$47,700.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$1,374,750.00**	**Subtotal**	**$620,100.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$274,950.00	**Construction Contingency (20%)**	$124,020.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$1,649,700.00	**Subtotal**	$744,120.00
	Engineering (20%)	$274,950.00	**Engineering (20%)**	$124,020.00
	GRAND TOTAL	$1,924,650.00	**IMPACT FEE TOTAL**	$868,140.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 46.00 ft
Right-Of-Way of 66.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

New 3 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **45%**

Washington City

2014 Capital Facilities Plan Update

13. Main Street from I-15 Frontage Road to Washington Parkway — Minor Arterial — (0.59 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	4,000	$320,000.00	1,900	$152,000.00
Base Course (8.0 inches)	cu yd	$35.00	5,000	$175,000.00	2,400	$84,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	3,800	$95,000.00	1,700	$42,500.00
6' Wide Sidewalk	sq ft	$5.00	18,700	$93,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	6,300	$126,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	4.81	$288,600.00	2.50	$150,000.00
			SUBTOTAL	**$1,098,100.00**	**IMPACT FEE SUBTOTAL**	**$428,500.00**

	SUBTOTAL	**$1,098,100.00**	**IMPACT FEE SUBTOTAL**	**$428,500.00**
	Drainage (10%)	$109,810.00	**Drainage (10%)**	$42,850.00
	Mobilization (10%)	$109,810.00	**Mobilization (10%)**	$42,850.00
Existing Conditions	**Traffic Control (10%)**	$109,810.00	**Traffic Control (10%)**	$42,850.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$1,427,530.00**	**Subtotal**	**$557,050.00**
988 tons of Roadway Asphalt	**Construction Contingency (20%)**	$285,506.00	**Construction Contingency (20%)**	$111,410.00
1,200 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
1,200 ft Sidewalk Length	**Subtotal**	$1,713,036.00	**Subtotal**	$668,460.00
	Engineering (20%)	$285,506.00	**Engineering (20%)**	$111,410.00
	GRAND TOTAL	$1,998,542.00	**IMPACT FEE TOTAL**	$779,870.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

New 5 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **39%**

Washington City

2014 Capital Facilities Plan Update

14. Bulloch Street from 300 East to MP 13 Connector Road — Residential Collector — (0.52 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	2,300	$184,000.00	1,600	$128,000.00
Base Course (8.0 inches)	cu yd	$35.00	2,900	$101,500.00	2,100	$73,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	2,200	$55,000.00	1,200	$30,000.00
5' Wide Sidewalk	sq ft	$5.00	13,800	$69,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	5,500	$110,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	3.78	$226,800.00	0.63	$37,800.00
			SUBTOTAL	**$746,300.00**	**IMPACT FEE SUBTOTAL**	**$269,300.00**

	SUBTOTAL	**$746,300.00**	**IMPACT FEE SUBTOTAL**	**$269,300.00**
	Drainage (10%)	$74,630.00	**Drainage (10%)**	$26,930.00
	Mobilization (10%)	$74,630.00	**Mobilization (10%)**	$26,930.00
Existing Conditions	**Traffic Control (10%)**	$74,630.00	**Traffic Control (10%)**	$26,930.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$970,190.00**	**Subtotal**	**$350,090.00**
2,186 tons of Roadway Asphalt	**Construction Contingency (20%)**	$194,038.00	**Construction Contingency (20%)**	$70,018.00
5,760 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
5,760 ft Sidewalk Length	**Subtotal**	$1,164,228.00	**Subtotal**	$420,108.00
	Engineering (20%)	$194,038.00	**Engineering (20%)**	$70,018.00
	GRAND TOTAL	$1,358,266.00	**IMPACT FEE TOTAL**	$490,126.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 42.00 ft
Right-Of-Way of 60.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

2,800 feet of new 3 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **36%**

Washington City

2014 Capital Facilities Plan Update

15. Long Valley Road — Minor Arterial — (3.02 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	20,100	$1,608,000.00	9,300	$744,000.00
Base Course (8.0 inches)	cu yd	$35.00	25,600	$896,000.00	11,900	$416,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	19,200	$480,000.00	8,900	$222,500.00
6' Wide Sidewalk	sq ft	$5.00	95,700	$478,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	31,900	$638,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	31.12	$1,866,909.09	12.81	$768,727.27
			SUBTOTAL	**$5,967,409.09**	**IMPACT FEE SUBTOTAL**	**$2,151,727.27**

	SUBTOTAL	**$5,967,409.09**	**IMPACT FEE SUBTOTAL**	**$2,151,727.27**
	Drainage (10%)	$596,741.00	**Drainage (10%)**	$215,173.00
	Mobilization (10%)	$596,741.00	**Mobilization (10%)**	$215,173.00
Existing Conditions	**Traffic Control (10%)**	$596,741.00	**Traffic Control (10%)**	$215,173.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$7,757,632.09**	**Subtotal**	**$2,797,246.27**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$1,551,527.00	**Construction Contingency (20%)**	$559,450.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$9,309,159.09	**Subtotal**	$3,356,696.27
	Engineering (20%)	$1,551,527.00	**Engineering (20%)**	$559,450.00
	GRAND TOTAL	$10,860,686.09	**IMPACT FEE TOTAL**	$3,916,146.27

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow
2 Lanes in each direction w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **36%**

Washington City

2014 Capital Facilities Plan Update

16. Roadway through Warner Valley from Warner Valley Road to Southern Parkway — Minor Arterial — (5.06 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	33,700	$2,696,000.00	20,000	$1,600,000.00
Base Course (8.0 inches)	cu yd	$35.00	42,900	$1,501,500.00	30,000	$1,050,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	32,200	$805,000.00	20,000	$500,000.00
6' Wide Sidewalk	sq ft	$5.00	160,400	$802,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	53,500	$1,070,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	52.13	$3,128,000.00	21.47	$1,288,000.00
			SUBTOTAL	**$10,002,500.00**	**IMPACT FEE SUBTOTAL**	**$4,438,000.00**

	SUBTOTAL	**$10,002,500.00**	**IMPACT FEE SUBTOTAL**	**$4,438,000.00**
	Drainage (10%)	$1,000,250.00	**Drainage (10%)**	$443,800.00
	Mobilization (10%)	$1,000,250.00	**Mobilization (10%)**	$443,800.00
Existing Conditions	**Traffic Control (10%)**	$1,000,250.00	**Traffic Control (10%)**	$443,800.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$13,003,250.00**	**Subtotal**	**$5,769,400.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$2,600,650.00	**Construction Contingency (20%)**	$1,153,880.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$15,603,900.00	**Subtotal**	$6,923,280.00
	Engineering (20%)	$2,600,650.00	**Engineering (20%)**	$1,153,880.00
	GRAND TOTAL	$18,204,550.00	**IMPACT FEE TOTAL**	$8,077,160.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow
2 Lanes in each direction w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **44%**

Washington City

2014 Capital Facilities Plan Update

17. Purgatory Road — Minor Arterial — (1.52 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	10,200	$816,000.00	4,700	$376,000.00
Base Course (8.0 inches)	cu yd	$35.00	12,900	$451,500.00	6,000	$210,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	19,400	$485,000.00	9,000	$225,000.00
6' Wide Sidewalk	sq ft	$5.00	48,200	$241,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	16,100	$322,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	15.66	$939,636.36	6.45	$386,909.09
			SUBTOTAL	**$3,255,136.36**	**IMPACT FEE SUBTOTAL**	**$1,197,909.09**

	SUBTOTAL	**$3,255,136.36**	**IMPACT FEE SUBTOTAL**	**$1,197,909.09**
	Drainage (10%)	$325,514.00	**Drainage (10%)**	$119,791.00
	Mobilization (10%)	$325,514.00	**Mobilization (10%)**	$119,791.00
Existing Conditions	**Traffic Control (10%)**	$325,514.00	**Traffic Control (10%)**	$119,791.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$4,231,678.36**	**Subtotal**	**$1,557,282.09**
1,003 tons of Roadway Asphalt	**Construction Contingency (20%)**	$846,336.00	**Construction Contingency (20%)**	$311,457.00
3,236 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
3,236 ft Sidewalk Length	**Subtotal**	$5,078,014.36	**Subtotal**	$1,868,739.09
Bridge over the Virgin River	**Engineering (20%)**	$846,336.00	**Engineering (20%)**	$311,457.00
	GRAND TOTAL	$5,924,350.36	**IMPACT FEE TOTAL**	$2,180,196.09

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow
2 Lanes in each direction w/ C & G and Sidewalk

8,050 feet of new 5-lane road

IMPACT FEE % of GRAND TOTAL **37%**

Washington City

2014 Capital Facilities Plan Update

18. Harvest Lane from Merrill Road to Southern City limit — Residential Collector — (1.26 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	5,500	$440,000.00	3,900	$312,000.00
Base Course (8.0 inches)	cu yd	$35.00	7,000	$245,000.00	5,000	$175,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	5,200	$130,000.00	3,800	$95,000.00
5' Wide Sidewalk	sq ft	$5.00	33,400	$167,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	13,400	$268,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	7.59	$455,400.00	1.53	$91,800.00
			SUBTOTAL	**$1,705,400.00**	**IMPACT FEE SUBTOTAL**	**$673,800.00**

	SUBTOTAL	**$1,705,400.00**	**IMPACT FEE SUBTOTAL**	**$673,800.00**
	Drainage (10%)	$170,540.00	**Drainage (10%)**	$67,380.00
	Mobilization (10%)	$170,540.00	**Mobilization (10%)**	$67,380.00
Existing Conditions	**Traffic Control (10%)**	$170,540.00	**Traffic Control (10%)**	$67,380.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$2,217,020.00**	**Subtotal**	**$875,940.00**
1,589 tons of Roadway Asphalt	**Construction Contingency (20%)**	$443,404.00	**Construction Contingency (20%)**	$175,188.00
650 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
650 ft Sidewalk Length	**Subtotal**	$2,660,424.00	**Subtotal**	$1,051,128.00
	Engineering (20%)	$443,404.00	**Engineering (20%)**	$175,188.00
	GRAND TOTAL	$3,103,828.00	**IMPACT FEE TOTAL**	$1,226,316.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 42.00 ft
Right-Of-Way of 60.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

3 Lane Road w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **40%**

Washington City

2014 Capital Facilities Plan Update

19. Washington Parkway from MP 13 to Western City Limit, Phase I — Major Arterial — (2.83 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	-	$0.00	8,700	$696,000.00
Base Course (8.0 inches)	cu yd	$35.00	-	$0.00	11,100	$388,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	-	$0.00	8,300	$207,500.00
6' Wide Sidewalk	sq ft	$5.00	-	$0.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	-	$0.00	0	$0.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	19.21	$1,152,600.00
			SUBTOTAL	**$0.00**	**IMPACT FEE SUBTOTAL**	**$2,444,600.00**

	SUBTOTAL	**$0.00**	**IMPACT FEE SUBTOTAL**	**$2,444,600.00**
	Drainage (10%)	$0.00	**Drainage (10%)**	$244,460.00
	Mobilization (10%)	$0.00	**Mobilization (10%)**	$244,460.00
Existing Conditions	**Traffic Control (10%)**	$0.00	**Traffic Control (10%)**	$244,460.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$0.00**	**Subtotal**	**$3,177,980.00**
1,453 tons of Roadway Asphalt	**Construction Contingency (20%)**	$0.00	**Construction Contingency (20%)**	$635,596.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$0.00	**Subtotal**	$3,813,576.00
	Engineering (20%)	$0.00	**Engineering (20%)**	$635,596.00
	GRAND TOTAL	$0.00	**IMPACT FEE TOTAL**	$4,449,172.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 32.00 ft — 2-Lanes w/ half raised median, w/ C & G and Sidewalk on one side
Right-Of-Way of 106.00 ft — This includes a bridge, $8,190,000
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

Grand Total $15,895,750.00

Estimate done by Horrocks Engineers

Washington City

2014 Capital Facilities Plan Update

20. Washington Parkway from MP 13 to Western City Limit, Phase II — Major Arterial — (2.83 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	7,000	$560,000.00	7,000	$560,000.00
Base Course (8.0 inches)	cu yd	$35.00	8,900	$311,500.00	8,900	$311,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	6,700	$167,500.00	6,700	$167,500.00
6' Wide Sidewalk	sq ft	$5.00	-	$0.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	14,500	$290,000.00	14,500	$290,000.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	0.00	$0.00
			SUBTOTAL	**$1,329,000.00**	**IMPACT FEE SUBTOTAL**	**$1,329,000.00**

	SUBTOTAL	**$1,329,000.00**	**IMPACT FEE SUBTOTAL**	**$1,329,000.00**
	Drainage (10%)	$132,900.00	**Drainage (10%)**	$132,900.00
	Mobilization (10%)	$132,900.00	**Mobilization (10%)**	$132,900.00
Existing Conditions	**Traffic Control (10%)**	$132,900.00	**Traffic Control (10%)**	$132,900.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$1,727,700.00**	**Subtotal**	**$1,727,700.00**
9,255 tons of Roadway Asphalt	**Construction Contingency (20%)**	$345,540.00	**Construction Contingency (20%)**	$345,540.00
14,928 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
14,928 ft Sidewalk Length	**Subtotal**	$2,073,240.00	**Subtotal**	$2,073,240.00
	Engineering (20%)	$345,540.00	**Engineering (20%)**	$345,540.00
	GRAND TOTAL	$2,418,780.00	**IMPACT FEE TOTAL**	$2,418,780.00

Assumptions

3.00 inch Thick Asphalt

Pavement Width of 24.00 ft — Additional 2-Lanes w/ half raised median

Right-Of-Way of 0.00 ft — Curb for half of median will be installed, but no other curb.

8.00 inch Thick Base Course

6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **100%**

Washington City

2014 Capital Facilities Plan Update

21. Washington Parkway from MP 13 to Western City Limit, Phase III — Major Arterial — (2.83 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	15,000	$1,200,000.00	15,000	$1,200,000.00
Base Course (8.0 inches)	cu yd	$35.00	3,000	$105,000.00	3,000	$105,000.00
Granular Borrow (6.0 inches)	cu yd	$25.00	2,500	$62,500.00	2,500	$62,500.00
6' Wide Sidewalk	sq ft	$5.00	89,600	$448,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	29,900	$598,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	0.00	$0.00
			SUBTOTAL	**$2,413,500.00**	**IMPACT FEE SUBTOTAL**	**$1,367,500.00**

	SUBTOTAL	**$2,413,500.00**	**IMPACT FEE SUBTOTAL**	**$1,367,500.00**
	Drainage (10%)	$241,350.00	**Drainage (10%)**	$136,750.00
	Mobilization (10%)	$241,350.00	**Mobilization (10%)**	$136,750.00
Existing Conditions	**Traffic Control (10%)**	$241,350.00	**Traffic Control (10%)**	$136,750.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$3,137,550.00**	**Subtotal**	**$1,777,750.00**
16,197 tons of Roadway Asphalt	**Construction Contingency (20%)**	$627,510.00	**Construction Contingency (20%)**	$355,550.00
14,928 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
14,928 ft Sidewalk Length	**Subtotal**	$3,765,060.00	**Subtotal**	$2,133,300.00
	Engineering (20%)	$627,510.00	**Engineering (20%)**	$355,550.00
	GRAND TOTAL	$4,392,570.00	**IMPACT FEE TOTAL**	$2,488,850.00

Assumptions

3.00 inch Thick Asphalt	Additional 3 inches of asphalt added to entire surface
Pavement Width of 24.00 ft	Includes C & G and Sidewalk on remaining side
Right-Of-Way of 0.00 ft	
8.00 inch Thick Base Course	
6.00 inch Thick Granular Borrow	

IMPACT FEE % of GRAND TOTAL **57%**

Washington City

2014 Capital Facilities Plan Update

22. West Airport Road from Western City Limit to Washington Fields Road — Minor Arterial — (0.87 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	5,800	$464,000.00	2,700	$216,000.00
Base Course (8.0 inches)	cu yd	$35.00	7,400	$259,000.00	3,500	$122,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	5,600	$140,000.00	2,600	$65,000.00
6' Wide Sidewalk	sq ft	$5.00	27,600	$138,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	9,200	$184,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	8.96	$537,818.18	3.00	$180,000.00
			SUBTOTAL	**$1,722,818.18**	**IMPACT FEE SUBTOTAL**	**$583,500.00**

	SUBTOTAL	**$1,722,818.18**	**IMPACT FEE SUBTOTAL**	**$583,500.00**
	Drainage (10%)	$172,282.00	**Drainage (10%)**	$58,350.00
	Mobilization (10%)	$172,282.00	**Mobilization (10%)**	$58,350.00
Existing Conditions	**Traffic Control (10%)**	$172,282.00	**Traffic Control (10%)**	$58,350.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$2,239,664.18**	**Subtotal**	**$758,550.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$447,933.00	**Construction Contingency (20%)**	$151,710.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$2,687,597.18	**Subtotal**	$910,260.00
	Engineering (20%)	$447,933.00	**Engineering (20%)**	$151,710.00
	GRAND TOTAL	$3,135,530.18	**IMPACT FEE TOTAL**	$1,061,970.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **34%**

Washington City

2014 Capital Facilities Plan Update

23. Tortoise Rock Road from Buena Vista Blvd. to Washington Parkway — Major Collector — (0.38 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	1,800	$144,000.00	1,200	$96,000.00
Base Course (8.0 inches)	cu yd	$35.00	2,300	$80,500.00	1,500	$52,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	1,800	$45,000.00	1,200	$30,000.00
5' Wide Sidewalk	sq ft	$5.00	10,100	$50,500.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	4,100	$82,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	3.04	$182,400.00	0.74	$44,400.00
			SUBTOTAL	**$584,400.00**	**IMPACT FEE SUBTOTAL**	**$222,900.00**

	SUBTOTAL	**$584,400.00**	**IMPACT FEE SUBTOTAL**	**$222,900.00**
	Drainage (10%)	$58,440.00	**Drainage (10%)**	$22,290.00
	Mobilization (10%)	$58,440.00	**Mobilization (10%)**	$22,290.00
Existing Conditions	**Traffic Control (10%)**	$58,440.00	**Traffic Control (10%)**	$22,290.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$759,720.00**	**Subtotal**	**$289,770.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$151,944.00	**Construction Contingency (20%)**	$57,954.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$911,664.00	**Subtotal**	$347,724.00
	Engineering (20%)	$151,944.00	**Engineering (20%)**	$57,954.00
	GRAND TOTAL	$1,063,608.00	**IMPACT FEE TOTAL**	$405,678.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 46.00 ft — 3 Lane Road w/ C & G and Sidewalk
Right-Of-Way of 66.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL **38%**

Washington City

2014 Capital Facilities Plan Update

24. Milepost 11 Interchange — Major Arterial — (1.09 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	-	$0.00	0	$0.00
Base Course (8.0 inches)	cu yd	$35.00	-	$0.00	0	$0.00
Granular Borrow (12.0 inches)	cu yd	$25.00	-	$0.00	0	$0.00
6' Wide Sidewalk	sq ft	$5.00	-	$0.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	-	$0.00	0	$0.00
Right - of - Way	acre	$60,000.00	0.00	$0.00	0.00	$0.00
			SUBTOTAL	**$0.00**	**IMPACT FEE SUBTOTAL**	**$0.00**

	SUBTOTAL	**$0.00**	**IMPACT FEE SUBTOTAL**	**$0.00**
	Drainage (10%)	$0.00	**Drainage (10%)**	$0.00
	Mobilization (10%)	$0.00	**Mobilization (10%)**	$0.00
Existing Conditions	**Traffic Control (10%)**	$0.00	**Traffic Control (10%)**	$0.00
Assume 0 inch Thick of Existing Asphalt	**Subtotal**	**$0.00**	**Subtotal**	**$0.00**
0 tons of Roadway Asphalt	**Construction Contingency (20%)**	$0.00	**Construction Contingency (20%)**	$0.00
0 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
0 ft Sidewalk Length	**Subtotal**	$0.00	**Subtotal**	$0.00
	Engineering (20%)	$0.00	**Engineering (20%)**	$0.00
	GRAND TOTAL	$0.00	**IMPACT FEE TOTAL**	$0.00

Assumptions

3.00 inch Thick Asphalt

Pavement Width of 65.00 ft

Right-Of-Way of 106.00 ft

8.00 inch Thick Base Course

12.00 inch Thick Granular Borrow

IMPACT FEE % of GRAND TOTAL

Grand Total is in a range of $25 to $40 million

Estimate done by Horrocks Engineers, attached

I-15 MP 11 INTERCHANGE CONCEPT STUDY

CONCEPTUAL COST ESTIMATES

REALIGNED MAIN ST OPTION

Item	Cost Range			Remarks
Construction	$15.0M	-	$18.0M	
Utilities	$.5M	-	$1.5M	
ROW	$1.5M	-	$3.0M	5-10 relocations at ~ $300K per relocation
PE	$1.0M	-	$1.5M	~ 8% of Construction
CE	$1.5M	-	$2.0M	~ 10% of Construction
Contingency	$1.5M	-	$2.0M	~ 10% of Construction
Total	$21.0M	-	$28.0M	

Assumptions/Risks/Challenges

- Interchange to be constructed as part of the I-15 widening project
- Main Street realigned to cross underneath I-15 (No grade change for I-15)
- I-15 Horizontal Alignment to remain unchanged
- Tight Diamond or Diamond with Roundabouts type interchange
- New Structures for I-15 over Main Street
- Minimal Reconstruction of Buena Vista (West Frontage Road)
- No impacts to the Power Sub Station
- ROW acquistions of 5-10 parcels, depending on interchange type and access control
- Does not include construction of new frontage roads
- Utility impacts unknown
- Existing Main St structures may remain as Bike/Ped crossing
- Auxiliary Lanes will be constructed between adjacent interchanges

REALIGNED 300 EAST OPTION

Item	Cost Range			Remarks
Construction	$22.0M	-	$27.0M	Includes reconstruction of I-15
Utilities	$.5M	-	$2.0M	
ROW	$2.5M	-	$4.5M	9-15 relocations at ~ $300K per relocation
PE	$1.5M	-	$2.0M	~ 8% of Construction
CE	$2.0M	-	$2.5M	~ 10% of Construction
Contingency	$2.0M	-	$2.5M	~ 10% of Construction
Total	$30.5M	-	$40.5M	

Assumptions/Risks/Challenges

- Interchange to be constructed as part of the I-15 widening project
- 300 East realigned to cross underneath I-15
- I-15 to be realigned and reconstructed for ~1.0 to 1.5 miles (to accommodate interchange)
- Tight Diamond or Diamond with Roundabouts type interchange
- Geometric & Operational Challenges on North side due to close proximity of Frontage Road & properties
- New Structures for I-15 over 300 East
- Realignment and Reconstruction of approximately 0.5 miles of Buena Vista (West Frontage Road)
- Additional costs if Buena Vista is realigned through or around the existing developments (North side)

- No impacts to the Power Sub Station
- ROW acquistions of 9-15 parcels, depending on interchange type and access control
- Does not include construction of new frontage roads
- Utility impacts unknown
- Existing springs in I-15 median will need to be addressed
- Existing Main St structures to remain
- Auxiliary Lanes will be constructed between adjacent interchanges

Washington City

2014 Capital Facilities Plan Update

25. Washington Dam Road from 1900 East to East City Limits — Minor Arterial — (1.10 Miles)

Description	Unit	Unit Cost	Quantity	Total	Impact Fee Quantity	Impact Fee Total
Asphalt (3.0 inches)	ton	$80.00	7,400	$592,000.00	3,400	$272,000.00
Base Course (8.0 inches)	cu yd	$35.00	9,400	$329,000.00	4,300	$150,500.00
Granular Borrow (6.0 inches)	cu yd	$25.00	7,000	$175,000.00	3,300	$82,500.00
6' Wide Sidewalk	sq ft	$5.00	34,800	$174,000.00	0	$0.00
30" High Back Curb & Gutter	ft	$20.00	11,600	$232,000.00	0	$0.00
Right - of - Way	acre	$60,000.00	4.67	$280,200.00	4.67	$280,200.00
			SUBTOTAL	**$1,782,200.00**	**IMPACT FEE SUBTOTAL**	**$785,200.00**

	SUBTOTAL	**$1,782,200.00**	**IMPACT FEE SUBTOTAL**	**$785,200.00**
	Drainage (10%)	$178,220.00	**Drainage (10%)**	$78,520.00
	Mobilization (10%)	$178,220.00	**Mobilization (10%)**	$78,520.00
Existing Conditions	**Traffic Control (10%)**	$178,220.00	**Traffic Control (10%)**	$78,520.00
Assume 3 inch Thick of Existing Asphalt	**Subtotal**	**$2,316,860.00**	**Subtotal**	**$1,020,760.00**
2,809 tons of Roadway Asphalt	**Construction Contingency (20%)**	$463,372.00	**Construction Contingency (20%)**	$204,152.00
115 ft Curb & Gutter Length	**Bid-Contingency (0%)**	$0.00	**Bid-Contingency (0%)**	$0.00
115 ft Sidewalk Length	**Subtotal**	$2,780,232.00	**Subtotal**	$1,224,912.00
	Engineering (20%)	$463,372.00	**Engineering (20%)**	$204,152.00
	GRAND TOTAL	$3,243,604.00	**IMPACT FEE TOTAL**	$1,429,064.00

Assumptions

3.00 inch Thick Asphalt
Pavement Width of 65.00 ft
Right-Of-Way of 85.00 ft
8.00 inch Thick Base Course
6.00 inch Thick Granular Borrow
2 Lanes in each direction w/ C & G and Sidewalk

IMPACT FEE % of GRAND TOTAL **44%**