

JUNE 2013

Tolling Traffic and Revenue Study Highway 156 Corridor

Prepared For:
Transportation Agency
for Monterey County,
Association of
Monterey Bay Area
Governments
& Caltrans



This Page Intentionally
Left Blank



Table of Contents

Project Background: 1

Why is an improved Highway 156 needed?..... 3

Under traditional funding, what are the current funding gaps? 4

What implications does tolling have to the project schedule and budget? 5

Why is toll financing being considered for construction?..... 6

What portion of the project is financially feasible? 7

How long will the tolls be in effect? 7

What are some strategies to fund Phase 2 construction? 8

Why can't we improve the interchange of Highway 101 and Highway 156 first?..... 9

How much diversion traffic will occur as a result of the toll road project? 10

What amount will an individual be tolled?..... 11

How will tolls be collected?..... 11

What are the next steps?..... 12

List of Appendices

- Appendix A: Project Background Materials***
- Appendix B: Traffic and Revenue Forecasts Analysis***
- Appendix C: Financial Feasibility Analysis***

The preparation of the report was financed in part through grants from the United States Department of Transportation (DOT) and facilitated by the Metropolitan Planning Organization, the Association of Monterey Bay Area Governments. Additional financial assistance was provided by the California State Department of Transportation.

This Page Intentionally
Left Blank



Highway 156 Corridor Tolling Traffic and Revenue Study

Project Background:

The goal of the Tolling Traffic and Revenue Study Highway 156 Corridor is to provide a “sketch-level” analysis, a high-level investigation into revenue potential, to determine if a new funding source, specifically tolling, could generate sufficient revenue to construct a new alignment Highway 156 from Castroville to Prunedale in north Monterey County. The project will construct a new alignment four-lane freeway, parallel to existing Highway 156, a 4-mile long, two-lane roadway.

Highway 156 corridor improvements were established as part of the Route 156 West Corridor project being performed by California Department of Transportation (Caltrans). The Route 156 West Corridor Environmental Impact Report / Environmental Assessment with Finding of No Significant impact prepared by Caltrans dated January 2013 identifies the following as the project’s purpose and need¹:

- Improve safety and operations
- Improve local road access to State Route 156
- Improve interregional traffic flow along State Route 156
- Relieve existing congestion and provide capacity for future increases in traffic volume

Highway 156 from Castroville to Prunedale in Monterey County experiences heavy congestion, during weekday commute rush hours and on weekends, especially during the summer peak travel season, as tourists visit the Monterey Bay area. Heavy delays occur at the unsignalized intersections on Highway 156, that local resident communities, Oak Hills and Monte del Lago mobile home park, use to travel to and from home, work and recreational activities. In addition, recent collision data has demonstrated that Highway 156 experiences a collision rate of approximately 21% higher than the state average ¹, resulting in safety concerns and congestion related to collisions.

Caltrans and the Transportation Agency for Monterey County (TAMC) have collaborated to determine a preferred alternative to improve safety and relieve congestion. The preferred alternative to improve Highway 156 from Castroville Boulevard to Highway 101 costs approximately \$268 million and consists of the following two phases:

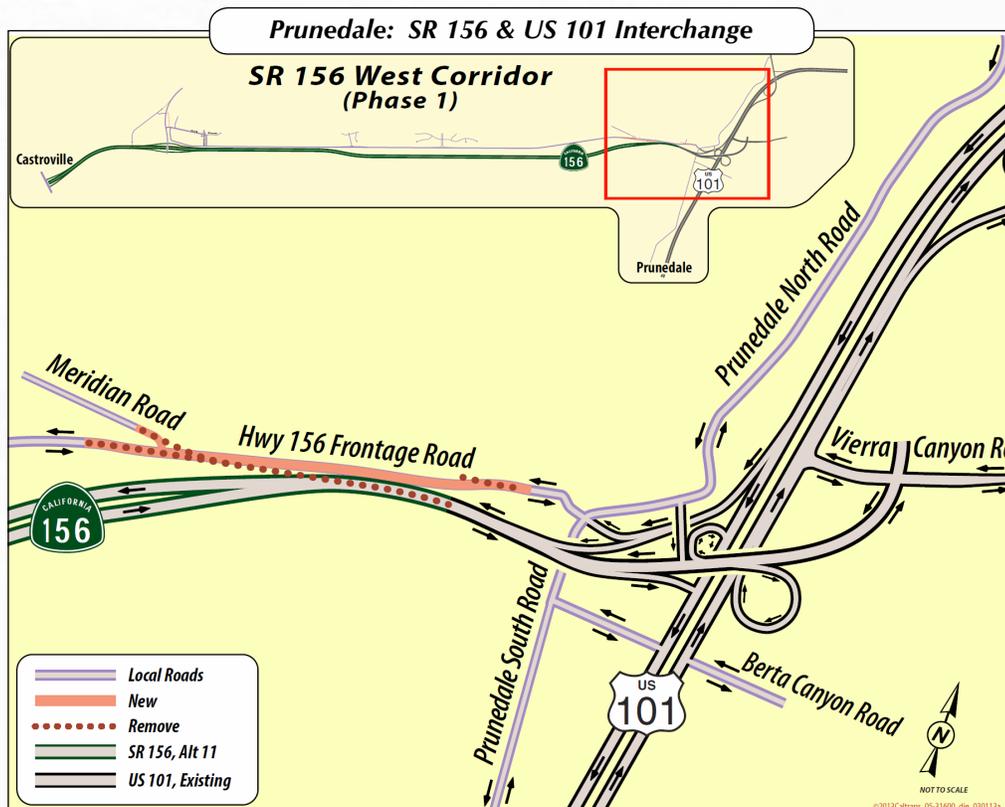
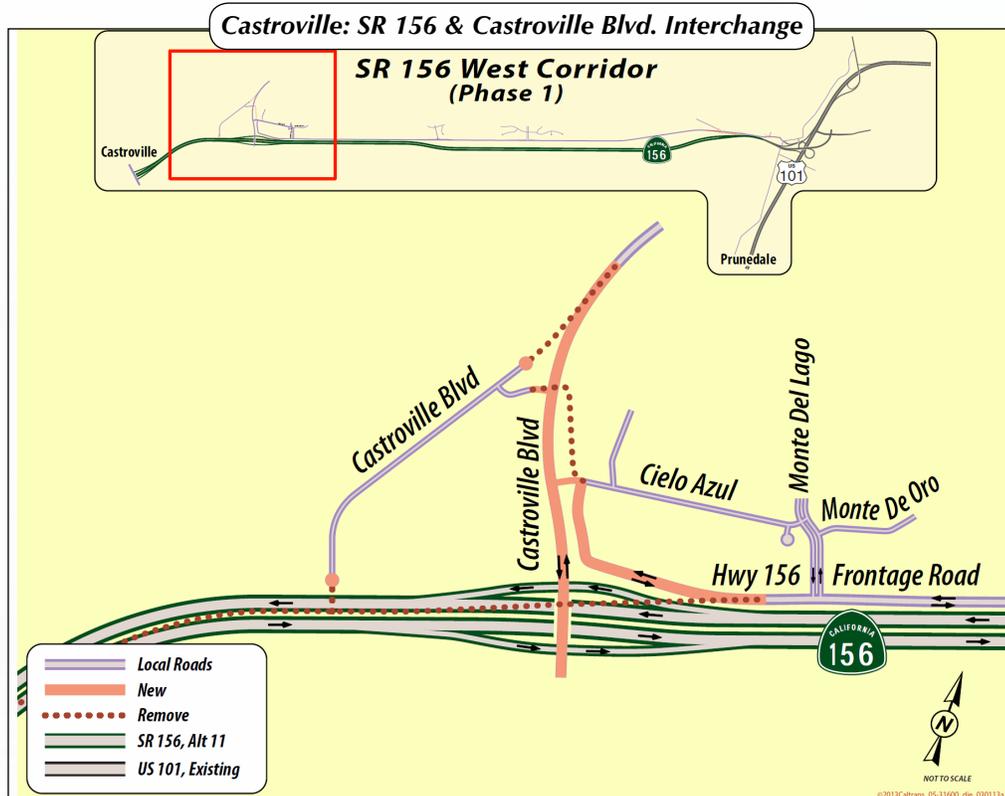
- **Phase 1** – Widen Highway 156 to a four-lane divide expressway from Castroville Boulevard to Meridian Road. Construct an interchange at Highway 156 and Castroville Boulevard.
- **Phase 2** – Construct new interchange to replace existing Highway 101 and Highway 156 interchange.

Existing Highway 156 will remain as a two-lane, frontage road from Castroville Boulevard to Prunedale Road, providing access to the local communities, including Oak Hills (via Oak Hills Drive and Cathedral Oak Road) and the Monte Del Lago mobile home community, and others. **Figure 1, Route 156 West Corridor Proposed Improvements (Phase 1 Only)**, demonstrates the recommended improvements included as part of the Highway 156 Phase 1 construction.

¹ State of California Department of Transportation, “Route 156 West Corridor Environmental Impact Report / Environmental Assessment with Finding of No Significant Impact” (January 2013)



Figure 1: Route 156 West Corridor Proposed Improvements (Phase 1 Only)



Source: California Department of Transportation



Historic scheduling of these improvements has been constrained by the amount of annual federal and state funding available within a given year. Approximately \$44 million of state and federal funding have been allocated to Highway 156. Even with state and federal funding a significant funding gap to complete the Route 156 West Corridor is anticipated, up to \$225 million (in year-of-expenditure dollars, according to the Caltrans Project Fact Sheet). Dependant on development, approximately \$30 million of local traffic impact fees, including Fort Ord Reuse Authority (FORA) is allocated to the Highway 156 improvements. Subsequently, the need has been identified to determine if tolling Highway 156 is a feasible alternative funding mechanism.

The Tolling Traffic and Revenue Study Highway 156 Corridor Study demonstrates the following results:

- Toll revenues will be sufficient to finance capital costs of Route 156 West Corridor, Phase 1, a new alignment, four-lane Highway 156 and a new interchange at Highway 156 and Castroville Boulevard.
- Toll revenue generated by the opening of Phase 1 can, at some point in time, provide sufficient funding to construct Phase 2. Scheduling of Phase 2 improvements will be further investigated and refined in the next phase of this project.
- With the additional travel benefits associated with Phase 2, it is anticipated that Phase 2 (together with excess revenue from Phase 1) would generate approximately \$85 million of additional funding in the year 2025 after paying for Phase 1 construction; however this additional funding falls short of the Phase 2 funding requirements, approximately \$160 M.

Why is an improved Highway 156 needed?

The Route 156 West Corridor Environmental Impact Report / Environmental Assessment with Finding of No Significant Impact prepared by Caltrans dated January 2013 identifies the following as the project's purpose and need²:

- Improve safety and operations
- Improve local road access to State Route 156
- Improve interregional traffic flow along State Route 156
- Relieve existing congestion and provide capacity for future increases in traffic volume

Highway 156 accommodates local and regional traffic. Locally, Highway 156 provides access for Prunedale, Castroville and northern Monterey County residents and businesses. Regionally, it connects traffic to Hollister, the Central Valley and the San Francisco Bay area. In addition, Highway 156 is frequently used by the local agricultural and farming communities to transport goods and equipment.

² State of California Department of Transportation, "Route 156 West Corridor Environmental Impact Report / Environmental Assessment with Finding of No Significant" (January 2013)



Monterey Bay area is a prime recreational destination, resulting in Highway 156 experiencing high visitor traffic. During the peak visitor season, summer weekends, traffic volumes more than doubles, compared to a typical winter weekday. In addition, to travelers experiencing heavy traffic volumes approximately 8% of the traffic is trucks.

Highway 1 and Highway 101 are both four-lane facilities to the west and east of Highway 156, respectively. The approximately 4-mile long section of Highway 156 between these two, four-lane facilities is a two-lane facility. When higher traffic volumes are present, congestion occurs at several pinch points along the route. In the eastbound direction, congestion occurs where Highway 156 narrows from two lanes to one lane, east of Castroville Boulevard and at the Highway 156 eastbound to Highway 101 northbound loop ramp. Highway 156 congestion occurs, especially when traffic volumes on Highway 101 are high. In the westbound direction, congestion occurs where Highway 101 southbound to Highway 156 westbound intersects Highway 156. Congestion occurs in both directions at the unsignalized intersections on the north side of Highway 156 that provide access to the local residential communities.

In addition, Highway 156 experiences a collision rate of approximately 21% greater than the state average with 182 collisions occurring on Highway 156 between July 1, 2007 and June 30, 2010.³

Under traditional funding, what are the current funding gaps?

Caltrans has developed a project fact sheet with estimated construction capital costs. **Table 1, Route 156 West Corridor Capital Costs** provides the anticipated cost for the project phases:

Table 1 Highway 156 West Corridor Capital Costs				
	Phase 1	Phase 2	Funding Secured	Funding Gap
Project Approval and Environmental Document (PA & ED)	\$10 M		--	--
Plans Specifications and Estimates (PS&E)	\$12 M		--	--
Right-of-Way (ROW) Acquisition	\$33 M	\$50 M	--	--
Construction	\$60 M	\$103 M	--	--
Total	\$109 M	\$159 M	\$44 M	\$ 224 M

**Excludes \$30 M of local traffic impact fees.*

³ State of California Department of Transportation, "Route 156 West Corridor Environmental Impact Report / Environmental Assessment with Finding of No Significant" (January 2013)



The Route 156 West Corridor Project Approval and Environmental Document (PA&ED) was completed by Caltrans at the end of January 2013. Approximately \$44 million (year-of-accrual) of state and federal funding is allocated to this project at this time, including the costs for the completed PA&ED. There is a significant funding gap to complete the Route 156 West Corridor Project up to \$225 million (in year-of-expenditure dollars, for Phase 1 and 2).

What implications does tolling have to the project schedule and budget?

The current Route 156 West Corridor Phase 1 project schedule assumes that Plans Specifications and Estimates (PS&E) will begin in the beginning of year 2013, resulting in a bid package being completed by December 2015. If funded, construction would be performed from the middle of year 2016 through year 2019. However, with a Route 156 West Corridor Phase 1 funding gap of up to \$65 million, it is unknown when the Highway 156 improvements would actually be constructed.

This "sketch-level" analysis, a high-level investigation into the revenue potential, is the first step to determine if the Highway 156 toll road project is financially feasible. The implementation of a toll road would require additional analysis and studies to be completed including a Supplemental Environmental Document, as well as an Investment Grade Traffic and Revenue Study. Public involvement/outreach will be an integral part of the study process and would be used to keep the public informed and measure local support. The additional studies and public involvement are anticipated to have some impacts to the overall project schedule. **Table 2, Modified Route 156 West Corridor Schedule (Phase 1 Only)** demonstrates the modifications to the project schedule as a consequence of advancing Highway 156 as a toll facility.

The modified schedule demonstrates that PS&E will begin in the beginning of year 2015, resulting in a bid package being completed by December 2017. Construction would be performed from the middle of year 2018 to the end of year 2020.

The project capital costs must be adjusted based on the modified schedule to determine how much capital cost is required to be paid for by tolls. Assuming the standard Caltrans inflation rates of 3.5% and 5% for construction and right of way, respectively, the construction cost for Route 156 West Corridor Phase 1 is anticipated to be \$70M in year-of-expenditure dollars.



**Table 2
Modified Route 156 Corridor Schedule (Phase 1 Only)**

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Project Approval & Environmental Document	Active								
Supplemental Environmental Document		Active							
Public Involvement			Active						
Investment Grade Traffic and Revenue Study			Active						
Plans, Specifications, and Estimates				Active					
Right-of-Way					Active				
Advertise and Award							Active		
Construction								Active	

Why is toll financing being considered for construction?

Toll revenues are first used to pay expected operating and maintenance (O&M) costs for the facility; the remaining revenues are net toll revenues. Net toll revenues are the source of repayment for any borrowing used to construct the toll road. There are two forms of borrowing currently considered in the preliminary financial analysis: (1) toll revenue bonds, and (2) a federal loan.

Toll revenue bonds would be publicly sold to investors on a tax-exempt basis. The investor's only source of repayment would be net toll revenues; they would not have access to other County or regional funds. Interest on toll revenue bonds is due upon issuance (e.g., in 2018) and the interest that accrues during the time between bond issuance and the toll road opening must be borrowed or "capitalized." Capitalized interest can amount from \$7 million to \$10 million or more, depending on the size of the bond issue and the time between issuance and the road opening. The credit quality of a toll road revenue bond is considered to be in the "BBB" category. This is on the low end of investment-grade and will cost more to issue than an "AA" rated bond.

The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides Federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. A direct loan would



be sought to support the construction of Highway 156. A TIFIA loan provides flexible repayment terms, and lower interest rates compared to toll revenue bonds. For example, while interest costs accrue immediately on a TIFIA loan, their payment can be deferred thereby eliminating the cost of capitalized interest. The rate on a TIFIA loan is tied to the 30-year U.S. Treasury rate which has ranged between 2.45% and 4.85% since 2008; substantially lower than a publicly sold, tax-exempt toll revenue bond. Under current legislation, a project may receive a TIFIA loan for up to 49% of eligible project costs. The plan currently assumes a loan for Highway 156 for approximately 33% of total eligible costs. Eligible costs are defined to include development phase activities, construction and right-of-way acquisition, capitalized interest, reserve funds and cost of issuance expenses.

What portion of the project is financially feasible?

This study demonstrates that Route 156 West Corridor Phase 1, including construction of a new alignment, four-lane, Highway 156, and a new interchange at Highway 156 and Castroville Boulevard, is financially feasible. That is, in addition to the expected federal, state and local funds, the net toll revenues would be sufficient to support and repay toll revenue bonds and a TIFIA loan to finance a total of approximately \$70 million in un-funded project costs for Phase 1 and associated operations and maintenance costs.

Improving operations and safety at the Highway 101 and Highway 156 interchange is important; however Phase 2 capital costs more than double the project costs, from \$109 million to \$268 million, as demonstrated in **Table 1**. With the additional travel benefits associated with Phase 2, it is anticipated that Phase 2 (together with excess revenue from Phase 1) would generate approximately \$85 million of additional funding, through toll revenue bonds, in the year 2025 after paying for Phase 1 construction; however this additional funding falls short of the Phase 2 funding requirements which are, approximately \$160 million.

How long will the tolls be in effect?

Similar to a home owner paying a 30 year mortgage, a new alignment Highway 156 will be paid for over the duration of the bond or loan. Once the loan is repaid the tolls can be removed. A bond repayment date will vary based on loan type, loan duration and the opening date of the toll facility.

The traditional bond financing structure assumes a 30 to 32 year final maturity. Bonds issued for Phase 1 would mature in 2048. Bonds subsequently issued for Phase 2 are estimated to have a final maturity date of 2054. A federal TIFIA loan must be repaid within 35 years of the project substantial completion date, in this case opening day. A TIFIA Loan for Phase 1, with an expected opening date of 2021, would have a final repayment date of 2056.



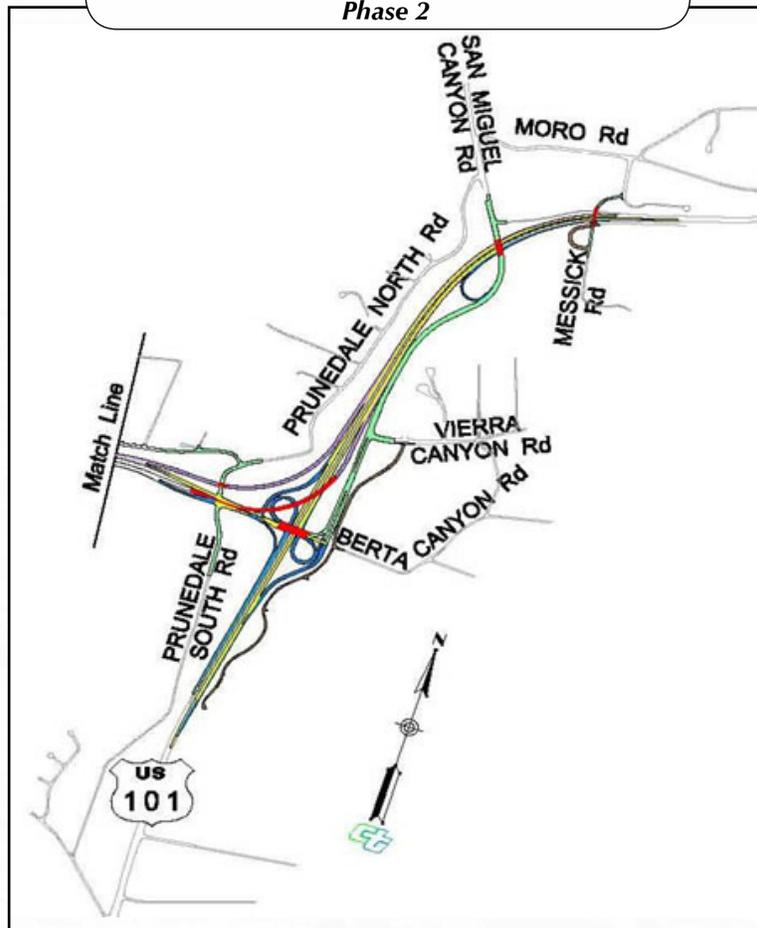
What are some strategies to fund Phase 2 construction?

Route 156 West Corridor Phase 2 consist of constructing a new interchange at Highway 101 and Highway 156. The results of this “sketch-level” analysis demonstrate that approximately \$85 million of additional funding, through toll revenue bonds in the year 2025 after paying for Phase 1 construction, would be available for Phase 2. Although the additional funding falls short of the Phase 2 funding requirements of approximately \$160 million, a potential solution to providing improvements at the interchange of Highway 101 and Highway 156, could be to develop an interim project that improves safety and traffic operation, but costs do not exceed the additional funding available, approximately \$85 million.

In addition, an additional funding source could be investigated. One potential funding source is developing a public-private partnership (PPP), a project that is funded and operated through both government and the private sector. A PPP has the ability to potentially finance, design, construct, operate and / or maintain a state facility.

There are advantages and disadvantages with each alternative Phase 2 delivery methodology, therefore strategies to determine a financially feasible solution to constructing Phase 2 will be further studied and refined in the next phase of this project.

**Route 156 West Corridor Proposed Improvements
Phase 2**





Why can't we improve the interchange of Highway 101 and Highway 156 first?

The highest amount of toll revenue will be generated by encouraging motorists to travel on Highway 156 by improving traffic operations, such as adding travel lanes or reducing congestion at an intersection or interchange. Reduced congestion results in reduced travel times, encouraging motorists to pay a toll to arrive at their destination faster.

Financial analysis takes into account the cost of a project versus the amount of revenue a improvement can generate to determine whether or not it is financially feasible to construct and maintain a toll facility. **Table 3, Route 156 West Corridor Capital Cost and Revenue Generated Percentages by Phase**, demonstrates the relationship between the percentage of capital cost and revenue generated by each phase of the Route 156 West Corridor project.

Table 3 Route 156 West Corridor Capital Cost and Revenue Generated Percentages by Phase		
Phase	Capital Cost (%)	Revenue Generated (%)
Phase 1	40%	80%
Phase 2	60%	20%

Given that Phase I improvement costs comprise less than half of the total capital costs, but generate 80% of the toll revenue; constructing Phase 1 first provides the following benefits:

- Toll revenues will be sufficient to finance capital costs of Phase 1
- Toll revenue generated by the opening of Phase 1 can, at some point in time, provide sufficient funding to construct Phase 2. Scheduling of Phase 1 improvements will be further investigated and refined in the next phase of this project.



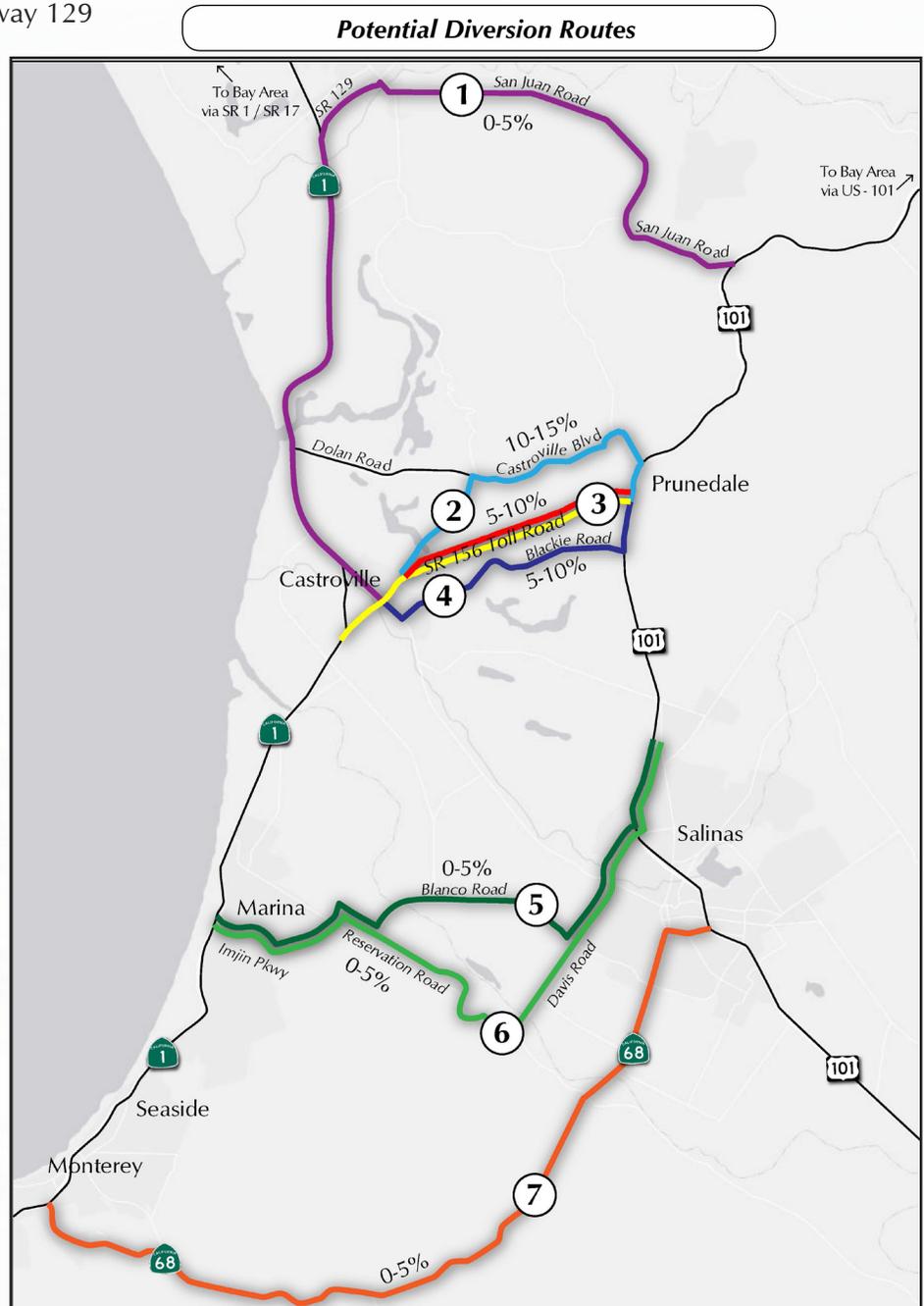
How much diversion traffic will occur as a result of the toll road project?

This study estimates that tolling Highway 156 would divert approximately 20 to 35% of traffic to alternate routes, depending on the tolling plan and travel period. The figure depicts the diversion routes and the approximate amount of diverted traffic. The alternate routes include the following.

1. San Juan Road / Highway 129
2. Castroville Boulevard
3. Existing Highway 156 (Frontage Road)
4. Blackie Road
5. Blanco Road / Reservation Road
6. Davis Road / Reservation Road
7. Highway 68

The diversion routes will be further investigated and refined in the next phase of this project.

Toll diversion is a balance between toll rates and travel time savings on a roadway facility. It is anticipated that it will take approximately 4 minutes for a person to travel new alignment Highway 156, which results in a time savings of approximately 7 minutes compared to a motorist traveling on the Blackie Road alternative route. Based on population and socioeconomic regional data, it is assumed that approximately 5 to 10% will choose to not pay a toll and travel on Blackie Road. The lower the cost of the toll, the more likely they are to travel on Highway 156 and enjoy the shorter commute time.





What amount will an individual be tolled?

Determining a preferred toll rate consisted of balancing between revenue generated by tolling and the amount of traffic that diverts onto other roadways. A Survey of Acceptability of a Toll Road performed by the Monterey Bay Aquarium reported that opinions for tolling Highway 156 ranged from users against tolling to users willing to pay up to \$2.50 per direction. Based on these findings, this study examined a range of toll rates from \$0.50 to \$2.50 per direction. For purposes of this study, a directional toll rate on weekdays of \$1.60 for passenger vehicles and \$2.50 for trucks and on weekends \$2.50 for all vehicles was selected. In addition, this study's results assume Castroville and Prunedale residents will not pay a toll.

Concerns have been raised about Highway 156 users living in close proximity to Highway 156 paying a toll. Over 50% of traffic that travels on Highway 156 has origins and destinations within the County. Discounting 50% of the Highway 156 traffic would have a significant impact on toll revenue. An investigation was performed into discounting only Prunedale and Castroville residents, local communities located on either end of Highway 156 with a total population of approximately 24,000⁴. It was determined that allowing Prunedale and Castroville residents, approximately 12% of Highway 156 traffic, to travel toll free on an improved Highway 156 is feasible; however this would result in less toll revenue for Phase 2.

Determining the toll rates and which users, if any, will be discounted will be further studied and refined in the next phase of this project.

How will tolls be collected?

Electric tolling, allowing for non-stop, reliable and safe travel, was considered for this study. Electronic tolling allows drivers to pay tolls without stopping at toll plazas and to do so at prevailing traffic speeds. Electronic toll collection is typically performed through the use of tag readers and cameras mounted on overhead gantries.

Discounts based on whether or not a traveler lives in Prunedale or Castroville were investigated as part of this study; however additional discount plans could be investigated and further refined in the next phase of this project, such as, vehicle occupancy, frequency of use, duration of use, and emission standards.



What are the next steps?

The Tolling Traffic and Revenue Study Highway 156 Corridor Study demonstrates the following results:

- Toll revenues will be sufficient to finance capital costs of *Route 156 West Corridor, Phase 1*, a new alignment, four-lane Highway 156 and a new interchange at Highway 156 and Castroville Boulevard.
- Toll revenue generated by the opening of Phase 1 can, at some point in time, provide sufficient funding to construct Phase 2. Scheduling of Phase 2 improvements will be further investigated and refined in the next phase of this project.
- With the additional travel benefits associated with Phase 2, it is anticipated that Phase 2 (together with excess revenue from Phase 1) would generate approximately \$85 million of additional funding in the year 2025 after paying for Phase 1 construction; however this additional funding falls short of the Phase 2 funding requirements, approximately \$160 M.

To continue to determine if a new funding source, specifically tolling, could generate sufficient revenue to construct a new alignment Highway 156 from Castroville to Prunedale in north Monterey County, the following next steps must be performed:

- Supplemental Environmental Document
- Investment Grade Traffic and Revenue Study
- Public Outreach / Involvement
- Financial Analysis and Models
- Concept of Operations

Refinement to the traffic and revenue as part of the above analyses will provide a more detailed and robust set of financial results.

This Page Intentionally
Left Blank

APPENDIX A

Project Background Materials

This Page Intentionally
Left Blank



ALTERNATIVE 11

Sponsors: Caltrans & Transportation Agency of Monterey County (TAMC)

Route 156 West Corridor

EA: 05-316000 PPNO: 0057C

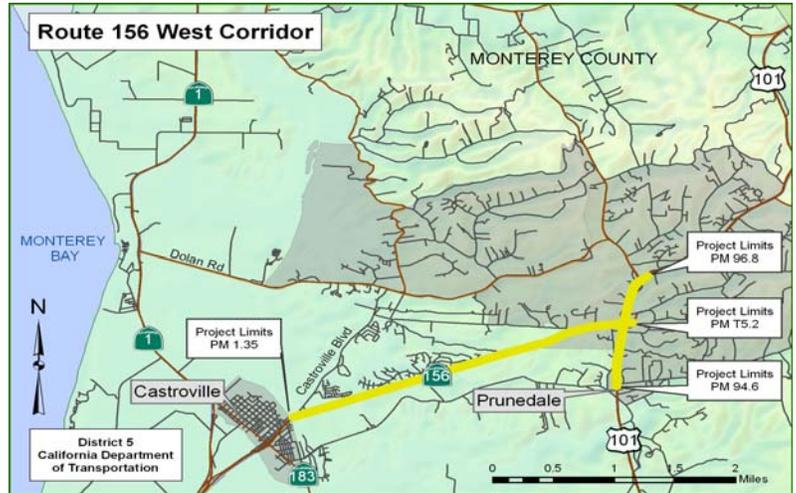
Project Description: Widen Highway 156 West to a 4-lane divided freeway and build two new interchanges.

District Contact: David Silberberger, PM
Phone: (805) 549-3798

Project Proposal

Route 156 is a Focus Route and gateway for tourists traveling from the Bay Area to the Monterey Peninsula. On the weekends, 156 is heavily congested and has safety concerns. This project proposes to improve safety, improve operations and provide congestion relief by converting the narrow two-lane conventional highway to a four-lane freeway.

The cost to improve the entire corridor is estimated at \$250 million (see estimate below). The project team has determined that phasing the project would be the best approach for obtaining funding.



The Transportation Agency for Monterey County has worked with Caltrans for many years and determined that Alternative 11 was the selected alternative that provides the most improvement for improving safety, improving operations and relieving traffic congestion with the least impacts to the surrounding community.

Phase 1

Phase 1 proposes to widen Highway 156 West to a four-lane divided expressway from just west of Castroville Boulevard to approximately Meridian Road, and construct an interchange at Castroville Boulevard. This phase would provide significant local access improvements and would improve the safety and operations in that section of the corridor. It would also provide significant operational improvement for interregional travelers.

Phase 2

The second phase of the project would construct interchange improvements at US 101 and Highway 156 to improve traffic flow in the area. Construction of this phase would eliminate severe operational limitations at the current interchange. These limitations include poor ramp volumes and inefficient exchange of interregional and local traffic.

Current Project Status: PA&ED is 98 percent complete

Alternative 11 Schedule/Cost

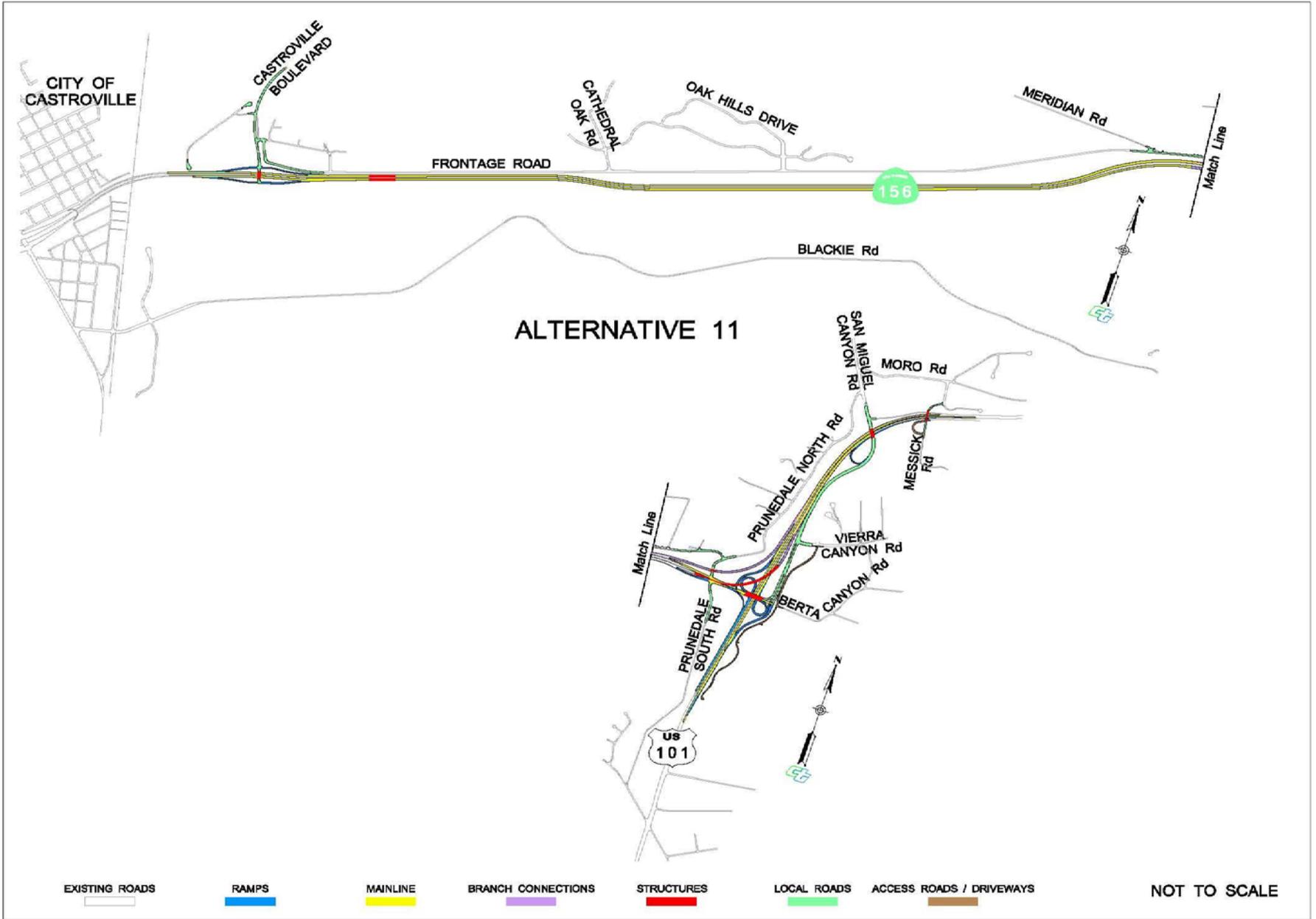
(Includes both Phase 1 and Phase 2 in the same project)

Cost (in \$1,000's, Escalated)							
Fund	Con	RW	PA&ED	PS&E	RW Sup	Con Sup	Total
RIP							
IIP			\$7,700				\$7,700
Other	\$134,000	\$77,000	\$431	\$10,500	\$6,000	\$25,000	\$252,931
Demo			\$2,063	\$1,500			\$3,563
Total	\$134,000	\$77,000	\$10,194	\$12,000	\$6,000	\$25,000	\$264,194

Note: Yellow highlight identifies component that is currently funded.

Schedule	
MILESTONE	Date
PA & ED	12/1/2012
Start PS&E	Dec. 2012
R/W Cert	Dec. 2016
RTL	Jan. 2017
Begin Constr.	Aug. 2017
End Constr.	Oct. 2021

Updated 10-1-12





PHASE 1 OF ALTERNATIVE 11

Route 156 West Corridor
EA: 05-316000 PPNO: 0057C

Sponsors: Caltrans & Transportation Agency of Monterey County (TAMC)

Project Description: Widen Highway 156 West to a 4-lane divided freeway and build an interchange.

District Contact: David Silberberger, PM
Phone: (805) 549-3798

Project Proposal

Route 156 is a Focus Route and gateway for tourists traveling from the Bay Area to the Monterey Peninsula. On the weekends, Highway 156 is heavily congested and has safety concerns. This project proposes to improve safety, operations and congestion relief by converting the narrow two-lane conventional highway to a four-lane freeway.



The cost to improve the entire corridor including construction of a new interchange at 101/156 is estimated at \$250 million. The project team has determined that phasing the project would be the best approach for obtaining funding.

Project Description

Phase 1 proposes to do the following:

- Construct four new lanes on a separate alignment from just west of Castroville Blvd to approx. Meridian Road.
- Construct a new interchange at Castroville Boulevard and Route 156.
- Convert the existing Route 156 to frontage road.
- Connect the new frontage road (the existing Route 156) to Castroville Blvd to the West and Prunedale North Rd to the East.

Project Benefits

- Will improve traffic safety along the existing Route 156 corridor from Castroville to Prunedale.
- Will provide 2 lanes of free flow for Westbound traffic from Southbound 101, along the new Route 156 lanes, onto Route 1 and ultimately to the Monterey Peninsula.
- Will solve the local community access issues by providing a new frontage road system.
- Will provide some improvement for traffic flow for eastbound traffic on Route 156. However, there will still be some traffic queuing where the new two lanes reduce down to 1 lane at the 101/156 interchange.

Current Project Status: PA&ED is 98 percent complete

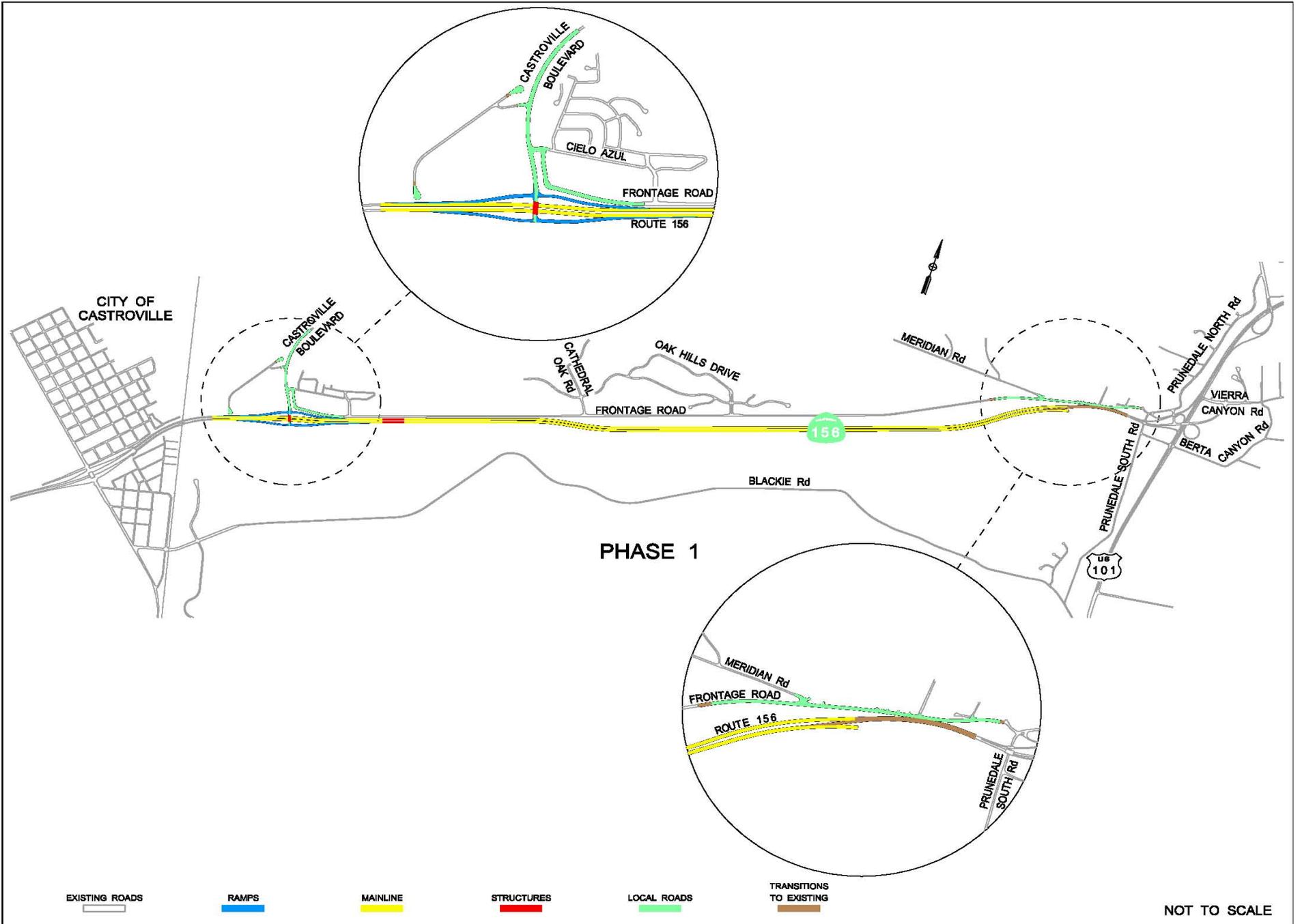
Schedule/Cost – (Constr. Cap. Escalated 3.5% & R/W Cap. Escalated 5%)

Cost (in \$1,000's, Escalated)							
Fund	Con	RW	PA&ED	PS&E	RW Sup	Con Sup	Total
RIP		\$31,000		\$4,500	\$2,000		\$37,500
IIP			\$7,700				\$7,700
Other	\$52,000		\$431			\$8,000	\$60,431
Demo			\$2,063	\$1,500			\$3,563
Total	\$52,000	\$31,000	\$10,194	\$6,000	\$2,000	\$8,000	\$109,194

Notes: Yellow highlight identifies component that is currently funded. Blue highlight identifies Right of Way components funded in the 16-17 year. Right of Way Capital underfunded by \$5,000,000. Green highlight identifies PS&E component funded in the 14-15 year.

Schedule	
MILESTONE	Date
PA & ED	12/1/2012
Start PS&E	Dec. 2012
Env. Permits	Oct. 2015
R/W Cert	Oct. 2015
RTL	Dec. 2015
Begin Constr.	July 2016
End Constr.	Sept. 2019

Updated 10-1-12



EXISTING ROADS

RAMPS

MAINLINE

STRUCTURES

LOCAL ROADS

TRANSITIONS TO EXISTING

NOT TO SCALE

This Page Intentionally
Left Blank

APPENDIX B

Traffic and Revenue Forecasts Analysis

This Page Intentionally
Left Blank



MEMORANDUM

Date: May 10, 2013 JN 70-100455

To: Transportation Agency for Monterey County

From: William Thomas, RBF / Baker
Regan Miller, P.E., RBF / Baker

Subject: Tolling Traffic and Revenue Study Highway 156 Corridor – Traffic and Revenue Forecasts Analysis

The Tolling Traffic and Revenue Study Highway 156 Corridor consists of a “sketch-level” analysis, a high-level investigation into revenue potential, to determine if a new funding source, specifically tolling, could generate sufficient revenue to construct a new alignment Highway 156 from Castroville to Prunedale in north Monterey County. This section of the study utilizes the Association of Monterey Bay Area Governments (AMBAG) Regional Travel Demand Model (RTDM) (version 1.5), including population and socioeconomic data, existing traffic volumes and travel time observations to estimate traveler’s sensitivity to tolls and, in turn, the potential revenue generated by tolling.

Toll revenue is a function of travel demand and how it changes with respect to the opening of a new alignment Highway 156, and the response of travelers to specific tolls. This study investigated tolling plans and toll rates to determine values that balance financial feasibility (toll revenues) with the economic feasibility of using new alignment Highway 156 – providing the most toll revenue while minimizing toll induced diversion and impact on other roadways in the corridor.

REGIONAL TRAVEL DEMAND MODEL

The AMBAG RTDM includes population, economic and transportation characteristics of not only the three counties in AMBAG's region, Monterey, Santa Benito and Santa Cruz counties but Santa Clara County as well. The AMBAG RTDM contributed to several aspects of this study including estimation of traffic growth and travel time savings, as well as determining the characteristics of the travel market that travel on Highway 156.

Roadway Network

The AMBAG RTDM provided forecasts of travel demand growth on Highway 156, under three (3) scenarios, including the following:

- Base Year 2005
- Intermediate Year 2019 – Determined based on the original project schedule opening year for *Route 156 West Corridor Phase 1*
- Horizon Year 2035

Data sets necessary to estimate Base Year and Horizon Year traffic were readily available and were supplied with the AMBAG RTDM. This data included the transportation network and variables such as recorded traffic volumes, population, employment, households, dwelling units, trip rates and transit ridership.

The road network for the Intermediate Year 2019 was determined through coordination with the Transportation Agency for Monterey County (TAMC). Only projects included in the 2010 Monterey Regional Transportation Plan (RTP) with funding by the year 2019 were included. Through coordination with TAMC, the following programmed roadway improvements were included in the Intermediate Year 2019 roadway network:

- Highway 101 – San Juan Road Interchange
- Highway 101 – Prunedale Improvement Project

Land use data for Intermediate Year 2019 was developed by interpolating population and socioeconomic data between year 2005 and year 2035 values supplied with the AMBAG RTDM.

The transportation network for Horizon Year 2035 was created by adding attributes for appropriate capacity increasing projects from the Metropolitan Transportation Plan (MTP) to the Base Year 2005.¹ In addition, the Horizon Year 2035 transportation network includes projects from the regions' General Plans and Specific Plans. The transit network associated

¹ p.9; "AMBAG Regional Travel Demand Model, Model Development Report, 2005 Base Year Model"; Association of Monterey Area Governments; March 2011.

with the AMBAG RTDM was also updated to reflect roadway network changes, but assumed no change in programmed future service.

Route 156 West Corridor Phase 1 and 2 improvements were evaluated under Intermediate Year 2019 and Horizon Year 2035 conditions. The preferred alternative to improve Highway 156 from Castroville Boulevard to Highway 101 consists of the following two phases:

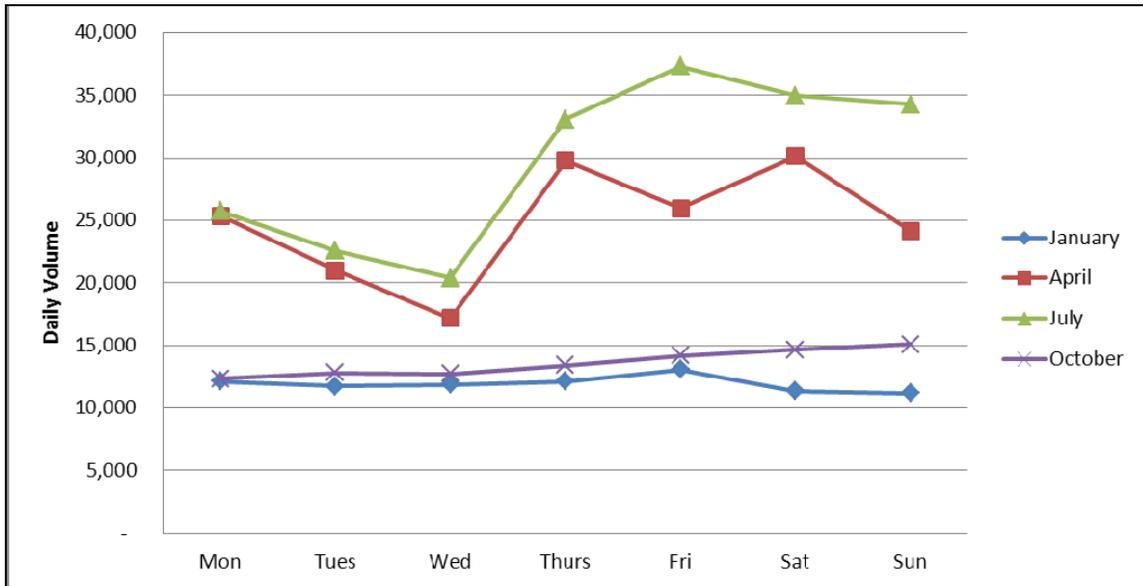
- Phase 1 – Widen Highway 156 to a four-lane divide expressway from Castroville Boulevard to Meridian Road. Construct an interchange at Highway 156 and Castroville Boulevard.
- Phase 2 – Construct new interchange to replace existing Highway 101 and Highway 156 interchange.

Traffic Volumes

The AMBAG RTDM contains observed annual average daily volumes that were used in this study to validate the performance of the RTDM in the study area and serve as input to traffic growth analysis. In addition, existing traffic volumes were provided on Highway 156 and the study area by Caltrans, TAMC, and AMBAG.

Traffic counts were obtained on Highway 156 to determine seasonal variation in traffic volumes. **Figure 1, Highway 156 Observed Volumes** demonstrates the variation on eastbound Highway 156 at MP 5.19 just west of the Highway 101 and Highway 156 interchange. During January and October (off-peak) average daily traffic volumes are about half of those observed in April and July (peak). Also, as demonstrated in Figure 1, there is a pronounced increase in traffic volumes Thursday through Sunday during the peak season. These observations demonstrate the role Highway 156 plays in accommodating recreational and tourist travel demand.

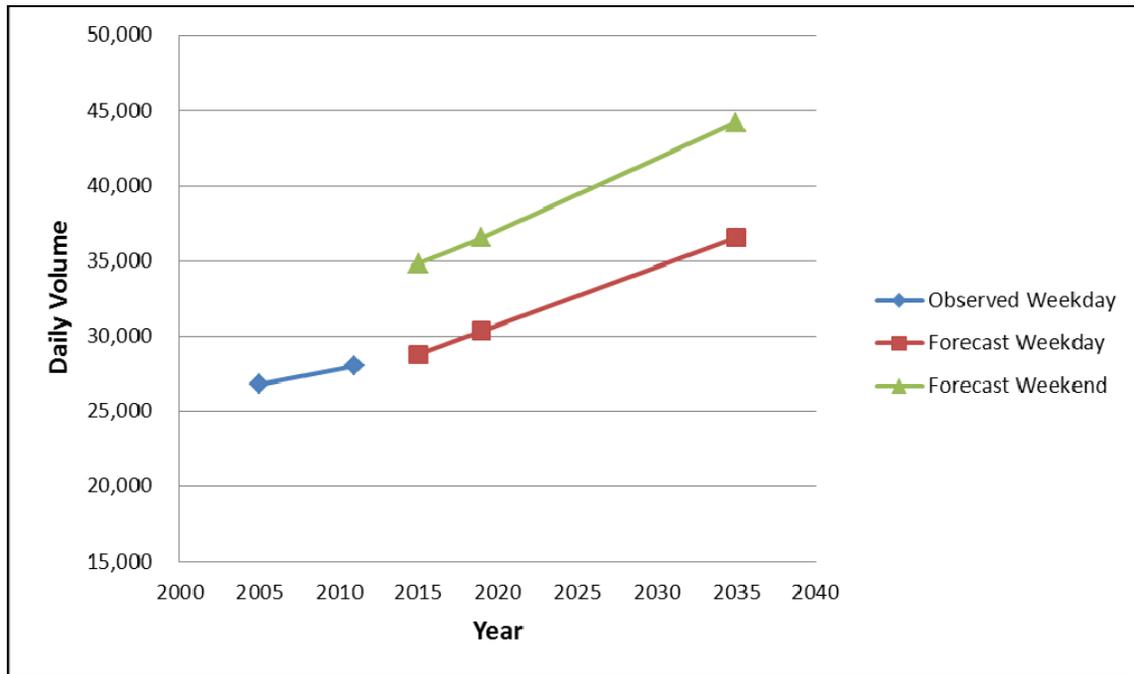
Figure 1: Highway 156 Observed Volumes



Traffic growth was estimated by comparing demand estimates for years 2005, 2019, and 2035. Traffic forecasts were developed by applying RTDM estimated growth to observed traffic volumes.² **Figure 2, Highway 156 (without Tolls) Forecasted Two-way Daily Volumes** demonstrates forecasted two-way traffic growth on Highway 156 just west of the Highway 101 and Highway 156 interchange (MP 5.19).

² In accordance with methods described in “NCHRP Report 255: Highway Traffic Data for Urbanized Project Planning and Design”; Transportation Research Board; 1982

Figure 2: Highway 156 (without Tolls) Forecasted Two-Way Daily Volumes



Travel Time Data

Travel time data on each ramp at the interchange was collected to determine the impacts of existing and anticipated future queues to the Route 156 West Corridor improvements, including No Build, Phase 1 only and Phase 1 and Phase 2 scenarios. The observed travel times were compared to the RTDM’s estimated travel times to yield more travel time projections. **Table 1, Validation of Observed Travel Times at the Highway 101 and Highway 156 Interchange** compares the observed travel times to the RTDM estimated travel times. Based upon a comparison between the observed and model travel times, summer peak period travel times were estimated.

Table 1: AMBAG RTDM Validation of Observed Travel Times at the Highway 101 and Highway 156 Interchange

Movements	AM Peak Period			PM Peak Period		
	Observed (1/2013)	2013 Model	Model/ Obs	Observed (1/2013)	2013 Model	Model/ Obs
Highway 101 SB – SR 156 WB	74.2	70.6	95%	67.0	73.2	109%
SR 156 EB – Highway 101 NB	94.5	81.0	86%	116.0	91.7	79%

SR 156 Travel Demand Market

Select link analysis was performed, using the AMBAG RTDM classified travel, according to the geographic orientation and trip purpose of the Highway 156 travel market. The AMBAG RTDM forecasts annual average weekday travel only and does not support weekend and tourism travel estimation.³ The AMBAG RTDM estimates travelers from the AMBAG region including, Monterey, Santa Benito, and San Cruz counties and travelers from Santa Clara. For the average weekday analysis, the analysis assumed zero Highway 156 travelers were external to the AMBAG RTDM region.

Observed traffic volume data indicates that seasonal travel on Highway 156, during the weekend is pronounced. The magnitude of the weekend travel market in relation to the weekday travel market on Highway 156 was derived based on traffic count data obtained from Caltrans. A significant portion of this demand is due to people from outside the region visiting Monterey County; some quantification and characterization of the weekend travel market, including travelers from outside the four (4) counties, is necessary to provide an accurate revenue forecast for a tolled Highway 156. A travel purpose profile was developed for weekend travel on Highway 156 based on an analysis of 2001 National Highway Travel Survey data relating weekend to weekday travel market composition for people 16 years and older.⁴ **Figure 3, Highway 156 Travel Market Composition - Weekday** and **Figure 4, Highway 156 Travel Market Composition – Weekend** demonstrate the annual average weekday and weekend market composition assumed by this study for travelers using Highway 156.

³ p. 31; “AMBAG Regional Travel Demand Model, Model Development Report, 2005 Base Year Model”; Association of Monterey Area Governments; March 2011.

⁴ “The Journey-to-Work in the Context of Daily Travel”; prepared for the Census Data for Transportation Planning Conference; McGuckin and Srinivasan.

Figure 3: Highway 156 Travel Market Composition - Weekday

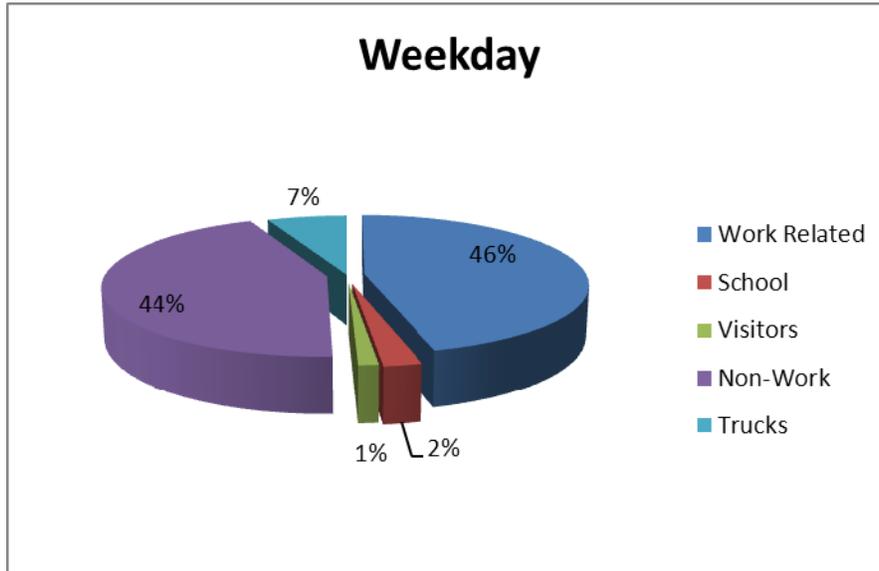


Figure 4: Highway 156 Travel Market Composition - Weekend

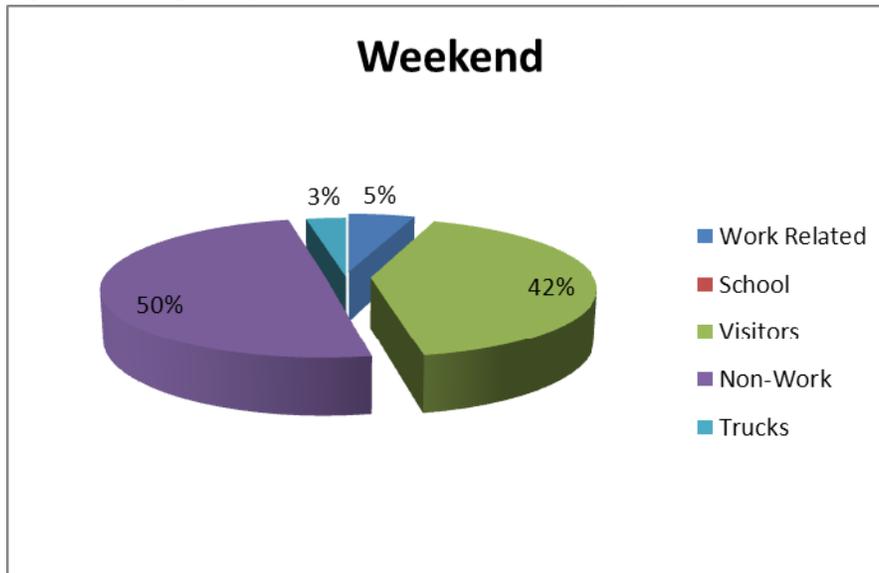


Table 2, Highway 156 Eastbound County-to-County Movements and **Table3, Highway 156 Westbound County-to-County Movements** demonstrate the geographic orientation of the Highway 156 travel market for eastbound and westbound travel for the average weekday. Note that approximately 50% of travelers using Highway 156 start and end their trip in Monterey County.

Table 2: Highway 156 Eastbound County-to-County Movements

From/To	Monterey	San Benito	Santa Clara	Santa Cruz	Externals	Total
Monterey	56%	13%	19%	-	7%	95%
San Benito	-	-	-	-	-	-
Santa Clara	-	-	-	-	-	-
Santa Cruz	5%	-	-	-	-	5%
Externals	-	-	-	-	-	-
Total	61%	13%	19%	-	7%	100%

Table 3: Highway 156 Westbound County-to-County Movements

From/To	Monterey	San Benito	Santa Clara	Santa Cruz	Externals	Total
Monterey	53%	-	-	-	3%	56%
San Benito	15%	-	-	-	-	15%
Santa Clara	22%	-	-	-	-	22%
Santa Cruz	-	-	-	-	-	-
Externals	7%	-	-	-	-	7%
Total	97%	-	-	3%	-	100%

TRAVEL TIME SAVINGS DUE TO HIGHWAY 156 IMPROVEMENTS

To determine how traffic will respond to paying a toll to travel on improved Highway 156, alternative routes going from the same origin and destination as Highway 156 must be identified. A relationship between the travel time savings for motorist choosing to travel on Highway 156, opposed to other alternative routes, and the cost of paying a toll was investigated.

Traveler Value-of-Time

A key parameter, when evaluating potential diversion due to toll, is the value of travel time savings, or value of time associated with any given traveler. The value of time is defined as a user's willingness to pay to avoid delay, measured in dollars per hour. The value of time is a function of several factors such as trip purpose (type), length of the trip, available alternative routes, total time savings, reliability, congestion, traveler income levels, time of day and other factors such as location of the toll road. Research shows that value of time is closely related to income levels or average wage rates. Values-of-time used in this study rely on the average wage rates of workers inside and outside the study area, as well as trip purpose. There is a substantial body of research showing that these relationships are relatively constant across geographies, particularly when corrected for local wage variations and cost of living. Research also shows that the value of time varies by income levels, trip purpose and the trip distance. Value of time for truck purpose does not change as a function of distance. Among others, the USDOT has issued guidance on valuing travel time with such a recommendation. Estimates for values of time for passenger cars were based on these recommendations and available wage data.

This study derived values-of-time for travelers' based on wage rates compiled from the American Community Survey for Monterey, San Benito, Santa Cruz and Santa Clara counties. Specifically the valuation of time savings as a function wage rates was conducted in accordance with USDOT's "Departmental Guidance for the Valuation of Travel Time in Economic Analysis", originally issued in 1997 and updated in 2003. **Table 4: Traveler Values-of-Time Savings** includes values-of-time (2012 US dollars) used in this study for each of the previously identified market segments.

Table 4: Traveler Values-of-Time Savings

Trip Purpose	Value of Time Savings (2012\$/hr.)	Notes
Home-to-Work (Income < \$25k)	\$3.62	
Home-to-Work (Income \$25k - \$50k)	\$8.07	Home-based work trips by income quartile from AMBAG RTDM. Wage rates by ACS income quartile for workers averaged for 4-county area. Valuation of time savings as per 40% of average worker wage
Home-to-Work (Income \$50k-\$75k)	\$13.28	
Home-to-Work (Income > \$75k)	\$24.36	
Home-to-School	\$18.09	
Work-to-Other	\$36.17	Work-based other trips from AMBAG RTDM. Wage rate average weighted 4-county for workers. Valuation of time savings as per USDOT guidance for business travel
Visitors	\$25.32	Internal visitor trips from AMBAG RTDM. Wage rate average weighted 4-county for workers. Valuation of time savings as per USDOT guidance for intercity personal travel
Non-Work	\$9.04	Home-based discretionary, home-based maintenance, home-to-university, and other-based other trips from the AMBAG RTDM. Wage rate average weighted 4-county for workers. Valuation of time savings as per 25% of average worker wage rate.
Trucks	\$32.54	Truck trips from the AMBAG RTDM. Valuation of time based on California stated preference data for truck operators. ⁵

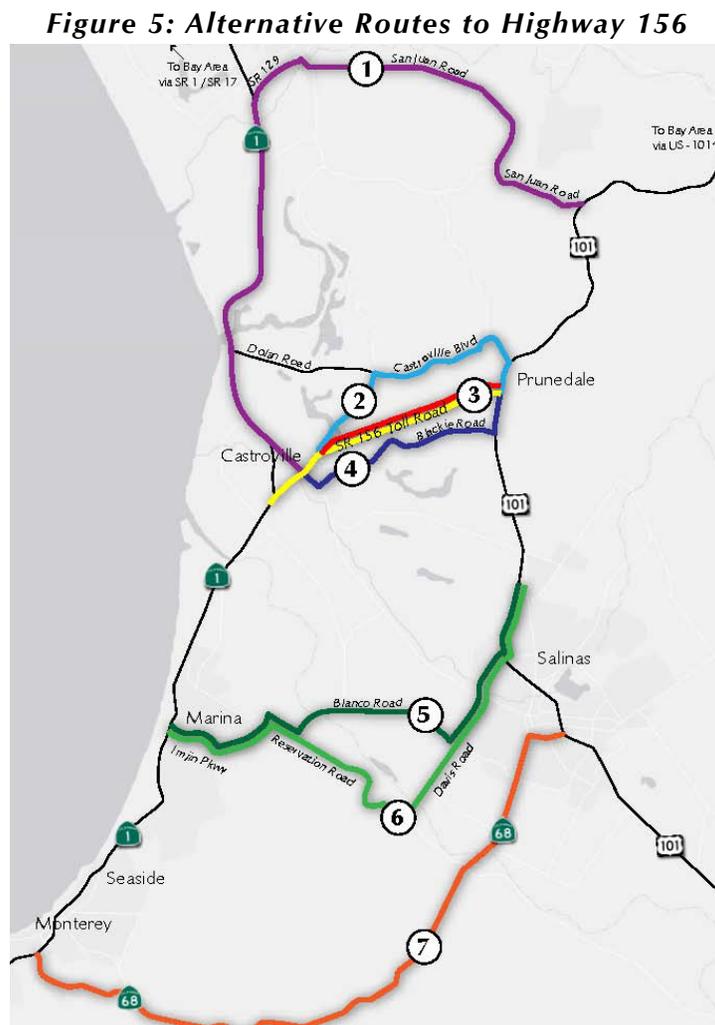
⁵ "Perceived Value of Time for Truck Operators", Transportation Research Record 1725, Paper No.00-0711

Alternative Routes

The AMBAG RTDM and local knowledge was used to determine the most likely alternative routes. The AMBAG RTDM was also used to determine travel times on these routes as opposed to using an improved Highway 156. The anticipated alternate routes include the following:

1. San Juan Road / Highway 129
2. Castroville Boulevard
3. Existing Highway 156
4. Blackie Road
5. Blanco Road / Reservation Road
6. Davis Road / Reservation Road
7. Highway 68

Figure 5, Alternative Routes to Highway 156 displays the alternative routes to an improved Highway 156.



Point-to-point travel time savings associated with using an improved Highway 156 were calculated for each diversion route and weighted in accordance with how much traffic diverts to the route if Highway 156 was not available. This yielded an average travel time savings for using an improved Highway 156 over all alternative routes. **Table 5, Travel Time Savings Using an Improved Highway 156** demonstrates the average travel time savings as a result of improved Highway 156.

Table 5: Travel Time Savings Using an Improved Highway 156

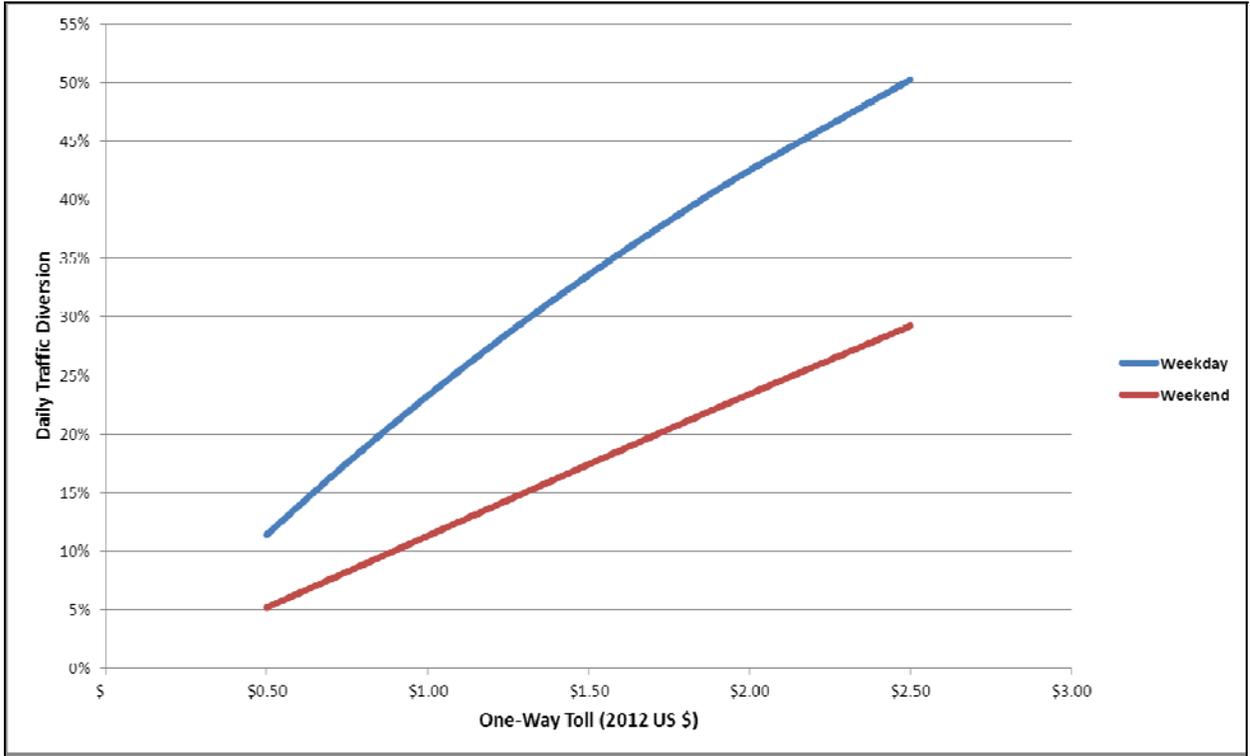
Alternative Route	Route Weight		Highway 156 Time Savings (min.)		Weighted Time Savings (min.)	
	EB	WB	EB	WB	EB	WB
San Juan Rd.	11%	12%	4.6	2.3	0.5	0.3
Castroville Blvd.	39%	40%	4.6	5.0	1.8	2.0
156 Frontage Rd.	11%	22%	7.7	5.1	0.8	1.1
Blackie Rd.	19%	14%	8.7	6.1	1.7	0.9
Blanco Rd.	2%	11%	3.1	3.5	0.1	0.4
Reservation Rd.	18%	1%	16.6	16.5	3.0	0.2
Total					7.9	4.8

Toll Diversion

This analysis considered toll diversion traffic or the projected traffic on Highway 156 that would be diverted to untolled alternative routes as a result of implementing toll project. This study used an “off-model” process to determine the percentage of travelers that will choose to pay a toll on the improved Highway 156 as a function of a traveler’s value-of-time and the travel time savings realized by using an improved Highway 156. This process utilized a binary logit model whose parameters were adjusted to reflect traveler value of time by market segment. Application of this process yielded traffic volumes for toll paying and non-paying travelers using the study corridor and took advantage of how the AMBAG RTDM differentiates commuters, visitors, and other discretionary travel.

Figure 6, Traveler Toll Sensitivity demonstrates daily traffic diversion over different toll rates as a result of the diversion computation process. Note that the behavior of weekend travelers is different due to a different market composition. The weekend travel market contains a much larger proportion of visitors who have a higher value-of-time compared with other travelers; and are less sensitive to paying a toll.

Figure 6: Traveler Toll Sensitivity



TRAFFIC AND REVENUE FORECASTS

The sketch traffic and revenue forecasts will serve as one component of the initial assessment of the feasibility. Although this assessment will not be used to secure project financing, it is intended to develop a foundation for further, more detailed analysis while initiating consideration of the relative merits of Highway 156 being a tolled facility.

This study developed forecasts for four (4) tolling plans:

- Tolling Plan “A”
 - Phase 1 improvements only
 - \$1.00 – All passenger vehicles each way
 - \$2.50 – All trucks each way
- Tolling Plan “B”
 - Phase 1 and 2 improvements
 - \$1.00 – All passenger vehicles each way
 - \$2.50 – All trucks each way
- Tolling Plan “C”
 - Phase 1 improvements only
 - No toll – Prunedale and Castroville resident passenger cars each way
 - \$1.60 – Weekday passenger cars each way
 - \$2.50 – All trucks & weekend passenger cars each way
- Tolling Plan “D”
 - Phase 1 and 2 improvements
 - No toll – Prunedale and Castroville resident passenger cars each way
 - \$1.60 – Weekday passenger cars each way
 - \$2.50 – All trucks & weekend passenger cars each way

All tolling plans assume electronic toll collection, using "open road" tolling technology, at a location on the improved Highway 156 just west of the Highway 101 and Highway 156 interchange. Traffic that uses the Highway 156 frontage road will not have to pay a toll. Demand estimates generated reflect all land use assumptions associated with the Year 2035 Regional Transportation Plan.

Traffic

Traffic forecasts for Highway 156 at the location of toll collection proceeded as follows:

1. Traffic growth on Highway 156 implied by the AMBAG RTDM was applied to observed demand to yield future year forecasts for years 2021 and 2035.
2. Highway 156 forecasts were reduced by 15% for tolling plans where only Phase 1 of Highway 156 improvements were realized due to observed queuing delays at the Highway 101 and Highway 156 interchange. Even though the AMBAG RTDM demonstrated a fair ability to estimate travel times associated with movements at the interchange during the off-peak travel season, it is believed that during the peak travel season the RTDM would likely substantially underestimate delay associated with movements at the interchange that have a direct bearing on Highway 156 demand at the location of toll collection. Sensitivity tests using the AMBAG RTDM while increasing delay on these movements suggest that a 15% reduction in demand to be a reasonable, conservative assumption.
3. For Tolling Plan “C” and “D” the AMBAG RTDM was used to determine the percentage of travelers on Highway 156 that are Prunedale and Castroville residents (12%) so that they may be discounted from travelers subject to toll payment.
4. The resulting forecasts were adjusted to account for diversion due to tolling.

Table 6, Traffic Forecasts includes forecasts for each Highway 156 tolling.

Table 6: Traffic Forecasts

Tolling Plan	Toll Diversion		Average Daily Traffic			
	Weekday	Weekend	Weekday		Weekend	
			Year 2021	Year 2035	Year 2021	Year 2035
Plan “A”	25%	20%	19,800	23,300	25,600	30,100
Plan “B”	25%	20%	20,500	28,900	26,500	37,200
Plan “C”	35%	35%	18,900	22,100	22,900	26,700
Plan “D”	35%	35%	19,400	27,400	23,500	33,100

Revenue Schedules

Financial feasibility analysis required a toll revenue schedule for a 40-year period. Calculation of the revenue schedule requires traffic forecasts on Highway 156 for the opening year for both Phase 1 (2021) and the horizon year (2035) conditions. The conversion from traffic forecasts to a revenue schedule was dependent on a number of elements including the revenue schedule start year, the inflation rate, annualization factor, and a “ramp-up” factor.

Start Year

Toll revenues are not collected until the construction of *Route 156 West Corridor Phase 1* has been completed and the roadway improvements are opened to traffic. Thus, the opening year is the first year following the end of the construction schedule. This study assumed the opening year of Phase 1 to be 2021.

Creation of Full Schedule

The forecasting process provided average annual weekday and weekend day traffic and toll revenue for years 2021 and 2035. The financial analysis required toll revenue forecasts for all years from project opening in 2021 to the end of the bond repayment period in 2061. Forecasts of revenue for years from 2022 to 2034 were derived by linear interpolation of the 2021 and 2035 forecasts.

The plan to use all-electronic, open road toll (ORT) collection requires special consideration in the revenue analysis. Implementation of ORT would likely have two major impacts on gross toll revenue. First, because of its cashless nature and the associated privacy issues perceived by some, a minority of travelers will chose not to use an ORT system. Second, complete ORT systems incur unreadable video images and have higher occurrences of uncollectible accounts. This study accounts for these effect and assumed a 5% reduction in toll facility traffic to reflect the privacy issue, and an additional 5% reduction in gross revenue to account for unreadable video images and uncollectible accounts.

Inflation Rate

All monetary elements (travel costs, and value of time) of the forecasts use year 2012 dollars, but the financial model needs revenues in the year of accrual. Year 2012 dollars were inflated at a rate of 2.5% to yield year of accrual dollars.

Toll Increases

This study assumes that tolls increase annually with inflation, assuming a traditional public sector financing, and is appropriate for a sketch analysis. Also, since toll collection will be implemented completely using ORT, frequent toll rate adjustments are practical. Accordingly toll rates were converted to year of accrual by applying a toll inflation rate of 2.5% annually.

Heavy Vehicle Revenue

Heavy vehicles were assumed to comprise 6-7% of all vehicles traveling on Highway 156 on weekdays and 3% of all vehicles on weekend days for all analysis years. This estimate was based on the AMBAG RTDM forecasts of trucks.

Conversion from Daily Revenue to Annual Revenue

The forecasts reflect weekday and weekend day travel demand and revenue, but the financial analysis requires annual toll revenue. Separate annualization factors respectively convert representative weekday and weekend forecasts to annual revenue. Since forecasts reflect annual average weekday and weekend day traffic and revenue, factors are '260' and '105' respectively.

Revenue Ramp-Up

It is common for toll facilities to experience a "ramp-up" period after project opening to allow travelers to adjust their trip pattern, gain familiarity with the facility, and the surrounding development to reach the steady state conditions forecasted by the RTDM. During this ramp-up period, toll revenues are typically lower than predicted by the forecasting model. This study assumes a revenue discount for the first three years of operation of 20%, 10%, and 5% respectively.

Attached are revenue schedules for the four (4) tolling plans studied.

Revenue Schedule - Tolling Plan "A"

Year	Total Annual Inflated Revenue (current \$)	Weekday Annual Inflated Revenue (current \$)	Weekend Annual Inflated Revenue (current \$)	Revised 02/10/13
2021	7,603,265	5,069,767	2,533,498	
2022	8,876,611	5,918,821	2,957,790	
2023	9,722,036	6,482,542	3,239,494	
2024	10,616,920	7,079,241	3,537,678	
2025	11,012,881	7,343,266	3,669,616	
2026	11,422,005	7,616,066	3,805,939	
2027	11,844,702	7,897,918	3,946,785	
2028	12,281,396	8,189,102	4,092,294	
2029	12,732,521	8,489,908	4,242,612	
2030	13,198,526	8,800,637	4,397,888	
2031	13,679,874	9,121,597	4,558,277	
2032	14,177,040	9,453,104	4,723,936	
2033	14,690,514	9,795,485	4,895,029	
2034	15,220,802	10,149,077	5,071,725	
2035	15,768,422	10,514,226	5,254,196	
2036	16,333,910	10,891,290	5,442,620	
2037	16,917,818	11,280,636	5,637,182	
2038	17,520,712	11,682,641	5,838,071	
2039	18,143,177	12,097,697	6,045,480	
2040	18,785,815	12,526,204	6,259,611	
2041	19,449,246	12,968,575	6,480,671	
2042	20,134,107	13,425,236	6,708,871	
2043	20,841,055	13,896,624	6,944,431	
2044	21,570,766	14,383,191	7,187,575	
2045	22,323,938	14,885,401	7,438,537	
2046	23,101,287	15,403,732	7,697,554	
2047	23,903,550	15,938,677	7,964,873	
2048	24,731,488	16,490,741	8,240,748	
2049	25,585,884	17,060,446	8,525,438	
2050	26,467,542	17,648,331	8,819,211	
2051	27,377,292	18,254,946	9,122,346	
2052	28,315,987	18,880,863	9,435,125	
2053	29,284,506	19,526,665	9,757,841	
2054	30,283,754	20,192,958	10,090,796	
2055	31,314,661	20,880,360	10,434,300	
2056	32,378,186	21,589,513	10,788,673	

Notes: 1. Reflects 5% transaction and 5% revenue leakage associated with ORT collection

Revenue Schedule - Tolling Plan "B"

Year	Total Annual Inflated Revenue (current \$)	Weekday Annual Inflated Revenue (current \$)	Weekend Annual Inflated Revenue (current \$)	Revised 02/13/13
2021	7,869,742	5,247,461	2,622,281	
2022	9,337,532	6,226,175	3,111,358	
2023	10,386,958	6,925,928	3,461,030	
2024	11,513,689	7,677,230	3,836,460	
2025	12,115,907	8,078,791	4,037,117	
2026	12,741,041	8,495,632	4,245,409	
2027	13,389,858	8,928,266	4,461,592	
2028	14,063,153	9,377,222	4,685,931	
2029	14,761,745	9,843,046	4,918,699	
2030	15,486,476	10,326,300	5,160,176	
2031	16,238,218	10,827,565	5,410,653	
2032	17,017,868	11,347,439	5,670,429	
2033	17,826,351	11,886,539	5,939,812	
2034	18,664,623	12,445,503	6,219,120	
2035	19,533,666	13,024,985	6,508,681	
2036	20,434,497	13,625,663	6,808,833	
2037	21,368,160	14,248,235	7,119,925	
2038	22,335,735	14,893,419	7,442,316	
2039	23,338,334	15,561,957	7,776,377	
2040	24,377,103	16,254,614	8,122,489	
2041	25,453,223	16,972,177	8,481,046	
2042	26,567,915	17,715,459	8,852,455	
2043	27,722,432	18,485,298	9,237,134	
2044	28,918,070	19,282,557	9,635,514	
2045	30,156,164	20,108,125	10,048,039	
2046	31,438,088	20,962,920	10,475,169	
2047	32,765,262	21,847,887	10,917,375	
2048	34,139,145	22,764,001	11,375,144	
2049	35,561,244	23,712,265	11,848,979	
2050	37,033,111	24,693,715	12,339,395	
2051	38,556,345	25,709,418	12,846,927	
2052	40,132,596	26,760,472	13,372,124	
2053	41,763,561	27,848,010	13,915,551	
2054	43,450,992	28,973,200	14,477,791	
2055	45,196,692	30,137,245	15,059,447	
2056	47,002,520	31,341,383	15,661,137	

Notes: 1. Reflects 5% transaction and 5% revenue leakage associated with ORT collection

Revenue Schedule - Tolling Plan "C"

Year	Total Annual Inflated Revenue (current \$)	Weekday Annual Inflated Revenue (current \$)	Weekend Annual Inflated Revenue (current \$)	Revised 02/28/13
2021	9,503,831	5,466,419	4,037,412	
2022	11,101,960	6,385,626	4,716,334	
2023	12,166,264	6,997,786	5,168,479	
2024	13,293,521	7,646,154	5,647,368	
2025	13,796,791	7,935,616	5,861,175	
2026	14,316,916	8,234,774	6,082,143	
2027	14,854,424	8,543,929	6,310,495	
2028	15,409,860	8,863,395	6,546,465	
2029	15,983,783	9,193,495	6,790,288	
2030	16,576,772	9,534,560	7,042,211	
2031	17,189,419	9,886,933	7,302,487	
2032	17,822,339	10,250,965	7,571,375	
2033	18,476,161	10,627,019	7,849,143	
2034	19,151,536	11,015,469	8,136,067	
2035	19,849,132	11,416,699	8,432,432	
2036	20,569,637	11,831,107	8,738,530	
2037	21,313,762	12,259,099	9,054,663	
2038	22,082,238	12,701,097	9,381,141	
2039	22,875,816	13,157,533	9,718,283	
2040	23,695,272	13,628,852	10,066,420	
2041	24,541,403	14,115,514	10,425,889	
2042	25,415,031	14,617,990	10,797,041	
2043	26,317,002	15,136,769	11,180,233	
2044	27,248,187	15,672,350	11,575,838	
2045	28,209,484	16,225,249	11,984,234	
2046	29,201,815	16,795,999	12,405,816	
2047	30,226,132	17,385,145	12,840,987	
2048	31,283,413	17,993,251	13,290,162	
2049	32,374,667	18,620,896	13,753,771	
2050	33,500,932	19,268,678	14,232,254	
2051	34,663,276	19,937,211	14,726,065	
2052	35,862,799	20,627,128	15,235,671	
2053	37,100,633	21,339,080	15,761,554	
2054	38,377,945	22,073,737	16,304,208	
2055	39,695,935	22,831,790	16,864,145	
2056	41,055,838	23,613,950	17,441,888	

Notes: 1. Reflects 5% transaction and 5% revenue leakage associated with ORT collection

Revenue Schedule - Tolling Plan "D"

Year	Total Annual Inflated Revenue (current \$)	Weekday Annual Inflated Revenue (current \$)	Weekend Annual Inflated Revenue (current \$)	Revised 02/28/13
2021	9,751,756	5,609,017	4,142,739	
2022	11,530,793	6,632,276	4,898,518	
2023	12,784,896	7,353,601	5,431,295	
2024	14,127,861	8,126,036	6,001,824	
2025	14,823,029	8,525,872	6,297,156	
2026	15,544,125	8,940,621	6,603,504	
2027	16,292,012	9,370,779	6,921,233	
2028	17,067,578	9,816,857	7,250,721	
2029	17,871,740	10,279,382	7,592,358	
2030	18,705,443	10,758,897	7,946,545	
2031	19,569,661	11,255,964	8,313,696	
2032	20,465,399	11,771,160	8,694,239	
2033	21,393,692	12,305,081	9,088,612	
2034	22,355,610	12,858,340	9,497,270	
2035	23,352,253	13,431,572	9,920,680	
2036	24,384,755	14,025,429	10,359,326	
2037	25,454,287	14,640,585	10,813,703	
2038	26,562,056	15,277,732	11,284,324	
2039	27,709,304	15,937,586	11,771,718	
2040	28,897,313	16,620,884	12,276,429	
2041	30,127,404	17,328,386	12,799,018	
2042	31,400,939	18,060,876	13,340,064	
2043	32,719,322	18,819,159	13,900,163	
2044	34,083,997	19,604,069	14,479,929	
2045	35,496,457	20,416,462	15,079,996	
2046	36,958,237	21,257,222	15,701,016	
2047	38,470,922	22,127,260	16,343,662	
2048	40,036,141	23,027,514	17,008,627	
2049	41,655,577	23,958,951	17,696,626	
2050	43,330,962	24,922,568	18,408,394	
2051	45,064,082	25,919,391	19,144,691	
2052	46,856,776	26,950,479	19,906,297	
2053	48,710,940	28,016,922	20,694,018	
2054	50,628,526	29,119,843	21,508,683	
2055	52,611,547	30,260,399	22,351,148	
2056	54,662,077	31,439,783	23,222,294	

Notes: 1. Reflects 5% transaction and 5% revenue leakage associated with ORT collection

This Page Intentionally
Left Blank

APPENDIX C

Financial Feasibility Analysis

This Page Intentionally
Left Blank



The PFM Group

Public Financial Management, Inc.
PFM Asset Management LLC
PFM Advisors

50 California Street
Suite 2300
San Francisco, CA
94111

415 982-5544
415 982-4513 fax
www.pfm.com

May 10, 2013

Memorandum

To: Transportation Agency for Monterey County (TAMC)
From: Peter Shellenberger, Managing Director, Public Financial Management, Inc.
Re: Tolling Traffic and Revenue Study Highway 156 Corridor – Financial Feasibility Analysis

Introduction

Public Financial Management, Inc. (“PFM”), in collaboration with RBF Consulting, has prepared the following financial feasibility analysis as part of the larger Tolling, Traffic and Revenue Study for the Highway 156 Corridor. PFM has relied upon the traffic and revenue forecasts prepared by RBF Consulting to conduct our financial feasibility analysis. In collaboration with RBF Consulting and TAMC staff, we have also examined the annual project cost requirements and the expected federal, state and local project funding sources to determine when funding shortfalls occur, and in what amount. The objective of this financial feasibility analysis is to determine whether estimated toll revenues are sufficient to cover operating and maintenance costs and support the necessary borrowing during the construction years to meet project funding needs and satisfy credit requirements from the investor and broader financial market community.

To summarize the results, this preliminary analysis demonstrates that Route 156 West Corridor Phase 1, including construction of a new alignment, four-lane, Highway 156, and a new interchange at Highway 156 and Castroville Boulevard, is financially feasible. That is, in addition to the expected federal, state and local funds, the toll revenues would be sufficient to support and repay toll revenue bonds and a TIFIA loan to finance a total of approximately \$70 million in un-funded project costs for Phase 1 and pay the operations and maintenance costs.

Further, with the additional travel benefits associated with Phase 2, it is anticipated that Phase 2 (together with excess revenue from Phase 1) would generate between \$66 million and \$95 million in net toll revenue bond proceeds for construction in 2025, depending on the tolling plan that is used. However, this additional funding falls short of the Phase 2 funding requirements which are, approximately \$155 million.

Project Overview and Funding Needs

Caltrans and the Transportation Agency for Monterey County (TAMC) have collaborated to determine a preferred alternative to improve safety and relieve congestion. The preferred alternative to improve Highway 156 from Castroville Boulevard to Highway 101 costs approximately \$264 million and consists of the following two phases:



- Phase 1 – Widen Highway 156 to a four-lane divide expressway from Castroville Boulevard to Meridian Road. Construct an interchange at Highway 156 and Castroville Boulevard.
- Phase 2 – Construct improvements at the Highway 101 and Highway 156 interchange.

Approximately \$49.1 million in federal, state and local funds have been allocated to Highway 156, Phase 1. These funds are sufficient to meet pre-construction costs through 2017, as detailed below. (While the table shows \$5.9 million in excess funds through 2017, these are not applied to construction costs in order to maintain conservative assumptions for this analysis).

Funding Sources & Uses for Phase 1 - Prior to Toll Funding						
Pre-Construction Period:	2013	2014	2015	2016	2017	Total
FUNDING USES						
Construction, Utilities, Tolling Infrastructure	-	-	-	-	-	-
Plans, Specifications & Engineering	-	-	1,800,000	2,484,000	1,928,205	6,212,205
Right-of-Way Acquisition	-	-	-	17,325,000	18,191,250	35,516,250
<u>Studies</u>	700,133	724,638	-	-	-	1,424,771
Subtotal Pre-Construction Uses	700,133	724,638	1,800,000	19,809,000	20,119,455	43,153,226
FUNDING SOURCES						
2012 STIP - Regional Share (RIP)	-	4,500,000	-	28,000,000	-	32,500,000
FORA Obligation	317,500	1,266,335	1,046,415	104,017	6,895,982	9,630,249
<u>Regional Fees</u>	-	-	-	-	21,003,008	21,003,008
Subtotal Pre-Construction Sources	317,500	5,766,335	1,046,415	28,104,017	13,896,985	49,131,252
Pre-Construction Shortfall	382,633	(5,041,697)	753,585	(8,295,017)	6,222,470	(5,978,026)
Construction Period:	2018	2019	2020	Total		
FUNDING USES						
Construction, Utilities, Tolling Infrastructure	13,400,186	27,738,385	28,709,228	69,847,799		
Plans, Specifications & Engineering	-	-	-	-		
Right-of-Way Acquisition	-	-	-	-		
<u>Studies</u>	-	-	-	-		
Subtotal Construction Uses	13,400,186	27,738,385	28,709,228	69,847,799		
Construction Shortfall	13,400,186	27,738,385	28,709,228	69,847,799		
TOTAL USES						113,001,025
TOTAL SOURCES						49,131,252
TOTAL SHORTFALL						63,869,773

*Assume funding will be allocated to all activities prior to construction; therefore funding gaps are construction costs from year 2018 to 2020.

As project construction begins in 2018, a funding gap begins in the amount of \$13.4 million and grows to a total of \$69.8 million of unfunded costs through the construction period. The toll financing strategy must fund this gap to make Phase 1 financially feasible. Phase 2 has additional funding requirements of approximately \$155 million, with no specified funding sources at this time. In addition to examining the financial feasibility of Phase 1, we also examine how much additional



funding may be available through toll revenues for Phase 2, and when those funds would be available.

Current Market Conditions

Despite a rise in interest rates these last couple of months, interest rates have been lower than current levels less than 4% of the time over the past decade. The yield curve has flattened compared to last year; rates are lower by up to 38 basis points in later maturities, but higher by up to 9 basis points in the earlier maturities. Also, credit spreads for “BBB” rated entities are considerably tighter, as they fell by 40 basis points compared to one year ago.

Supply continues to remain at healthy levels as issuers take advantage of opportunities in the low interest rate environment. Similarly, municipal market demand remains strong. There continues to be interest in well structured toll revenue projects such as Highway 156.

A number of the assumptions within this plan are based on recent market conditions. These assumptions, as described herein, are critical to the viability of the financing plan. It is important to note that, if municipal and general market conditions worsen, the financial feasibility of the project will need to be re-examined.

Plan of Finance – General Assumptions

There are many important inputs and assumptions to the financial feasibility analysis. The analysis is based upon “sketch-level” toll revenue projections provided by RBF Consulting. The four tolling plans examined by RBF Consulting are described in the next section. For this “sketch-level” analysis, annual operating and maintenance (O&M) costs are calculated at 15% of gross revenues each year. The cost estimates do not include long-term replacement & renewal (R&R) costs for the toll facility. The next phase of this study should include R&R costs to capture the full life-cycle costs of the facility in examining financial feasibility.

Toll revenues are first used to pay expected operating and maintenance (O&M) costs for the facility; the remaining revenues are net toll revenues. Net toll revenues are the source of repayment for any borrowing used to construct the toll road. There are two forms of borrowing currently considered in the financial feasibility analysis: (1) toll revenue bonds, and (2) a federal loan.

Toll revenue bonds are assumed to be sold on a tax exempt basis, with investors receiving a senior lien on net toll revenues: they would not have access to other county or regional funds. PFM has assumed interest rates reflective of “BBB” underlying credit ratings without bond insurance for the toll revenue bonds. The borrowing structure includes a debt service reserve fund (DSRF) sized to 10% of the part amount of bonds. Interest on the bonds is capitalized during the construction period; i.e., interest payments that are due through 2021 are included in the size of the initial borrowing. Repayment of debt service on the toll revenue bonds is structured to increase over time, commensurate with growing toll revenues, with the objective of maintaining senior lien annual bond coverage of at least 2.0x (i.e., annual net revenues divided by annual debt service is at least equal to 2.0). That coverage target is stressed at times when future borrowing capacity for Phase 2 is examined.



In addition to senior lien toll revenue bonds, the financing structure assumes the use of a federal loan. The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides Federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects. A direct loan would be sought to support the construction of Highway 156. The US DOT (TIFIA) loan amount is sized within the limits of the TIFIA guidelines. The TIFIA loan is a relatively low-cost borrowing through US DOT and is to be repaid subordinate to the toll revenue bonds. While TIFIA loans are an excellent financing alternative to be pursued, **TAMC may not expect that every project will receive approval for a TIFIA loan.** In such cases, a State or market alternative would be required.

TIFIA guidelines allow funding up to 49% of “eligible costs.” Eligible costs are defined to include development phase activities, construction and Right of Way acquisition, capitalized interest, reserve funds and cost of issuance expenses. The construction costs being funded in Phase 1 are approximately \$69.8 million; however, additional pre-development costs total \$43.2 million for a total of \$113 million of eligible costs. The Plan of Finance assumes more conservative funding percentage of 33% of eligible costs. The TIFIA loan allows for a flexible repayment structure, and as such this plan of finance has assumed a cash sweep approach, where annual repayment amounts are based on a percentage of available revenues after senior lien debt service. This provides for flexibility to deal with potential toll revenue uncertainties.

PFM has developed a model to calculate and analyze TAMC’s available funding, specifically looking at tax-exempt senior lien toll revenue current interest bonds (TE CIBS) and a subordinate TIFIA loan. We assume a 30-year financing horizon for the toll revenue bonds, with the first issuance for Phase 1 taking place in FY 2018. Two scenarios (B and D) assume a second issuance of bonds for Phase 2 and this second issuance would take place in FY 2025. We assume a 35 year average life of repayment for the TIFIA loan, which is based on TIFIA requirements.

The interest rates used for this analysis are, of course, subject to economic conditions and will change in the future. Any adverse assumption changes in credit and/or market conditions that materially increase borrowing costs will also have an adverse impact on the financial plan and would require additional modifications.

Tolling Plans and Financing Scenarios

The underlying assumptions regarding the estimated traffic, toll rates and annual toll revenue are important drivers in our analysis. RBF has prepared four separate traffic and revenue (T&R) forecasts, based upon the following tolling plans:

- Tolling Plan “A”
 - Phase 1 improvements only
 - \$1.00 – All passenger vehicles each way
 - \$2.50 – All trucks each way

- Tolling Plan “B”
 - Phase 1 and 2 improvements
 - \$1.00 – All passenger vehicles each way
 - \$2.50 – All trucks each way



- Tolling Plan “C”
 - Phase 1 improvements only
 - No toll - Prunedale and Castroville resident passenger cars each way
 - \$1.60 – Weekday passenger cars each way
 - \$2.50 - All trucks & weekend passenger cars each way

- Tolling Plan “D”
 - Phase 1 and 2 improvements
 - No toll - Prunedale and Castroville resident passenger cars each way
 - \$1.60 – Weekday passenger cars each way
 - \$2.50 - All trucks & weekend passenger cars each way

Tolling Plan A contemplates only the opening of phase 1 in 2021 and charges a toll for all facility users. Tolling Plan C contemplates the opening of phase 1, in 2021, but does not charge a toll for Prunedale and Castroville resident passenger cars. Tolling Plan C assumes a higher toll rate per passenger car at \$1.60 vs. \$1.00.

Tolling Plan B assumes a similar tolling structure as does Plan A, but it assumes that Phase 2 of the Highway 156 project is open in 2025. The opening of Phase 2 allows for more traffic and more revenue when compared to Tolling Plan A. Similarly, Tolling Plan D assumes a similar tolling structure to Plan C, but also assumes that Phase 2 of the Highway 156 project is open in 2025. A summary table of annual gross toll revenues for each plan is presented below. As noted, O&M costs are assumed to be 15% of gross revenues, so net toll revenues are equal to 85% of the annual revenue numbers presented below.



Estimated Gross Toll Revenues				
Total Annual Inflated Revenue (current \$)				
Year	Scenario			
	A	B	C	D
2021	7,603,265	7,869,742	9,503,831	9,751,756
2022	8,876,611	9,337,532	11,101,960	11,530,793
2023	9,722,036	10,386,958	12,166,264	12,784,896
2024	10,616,920	11,513,689	13,293,521	14,127,861
2025	11,012,881	12,115,907	13,796,791	14,823,029
2026	11,422,005	12,741,041	14,316,916	15,544,125
2027	11,844,702	13,389,858	14,854,424	16,292,012
2028	12,281,396	14,063,153	15,409,860	17,067,578
2029	12,732,521	14,761,745	15,983,783	17,871,740
2030	13,198,526	15,486,476	16,576,772	18,705,443
2031	13,679,874	16,238,218	17,189,419	19,569,661
2032	14,177,040	17,017,868	17,822,339	20,465,399
2033	14,690,514	17,826,351	18,476,161	21,393,692
2034	15,220,802	18,664,623	19,151,536	22,355,610
2035	15,768,422	19,533,666	19,849,132	23,352,253
2036	16,333,910	20,434,497	20,569,637	24,384,755
2037	16,917,818	21,368,160	21,313,762	25,454,287
2038	17,520,712	22,335,735	22,082,238	26,562,056
2039	18,143,177	23,338,334	22,875,816	27,709,304
2040	18,785,815	24,377,103	23,695,272	28,897,313
2041	19,449,246	25,453,223	24,541,403	30,127,404
2042	20,134,107	26,567,915	25,415,031	31,400,939
2043	20,841,055	27,722,432	26,317,002	32,719,322
2044	21,570,766	28,918,070	27,248,187	34,083,997
2045	22,323,938	30,156,164	28,209,484	35,496,457
2046	23,101,287	31,438,088	29,201,815	36,958,237
2047	23,903,550	32,765,262	30,226,132	38,470,922
2048	24,731,488	34,139,145	31,283,413	40,036,141
2049	25,585,884	35,561,244	32,374,667	41,655,577
2050	26,467,542	37,033,111	33,500,932	43,330,962
2051	27,377,292	38,556,345	34,663,276	45,064,082
2052	28,315,987	40,132,596	35,862,799	46,856,776
2053	29,284,506	41,763,561	37,100,633	48,710,940
2054	30,283,754	43,450,992	38,377,945	50,628,526
2055	31,314,661	45,196,692	39,695,935	52,611,547
2056	32,378,186	47,002,520	41,055,838	54,662,077
Total	677,612,194	888,658,014	855,103,928	1,051,457,468

Each of the four tolling plans requires its own financing scenario to examine financial feasibility. Tolling Plans A and C only contemplate Phase 1, opening in 2021. So, the financing scenarios for Plans A and C only attempt to fund Phase 1 construction costs. Plans B and D contemplate a Phase 2 opening in 2025. Consistent with those assumptions, Phase 1 construction costs are first funded and additional capacity is then applied towards Phase 2 in 2025. Without a specific cost schedule or identification of other funding sources, we seek to identify the amount of available borrowing



capacity in 2025 that would be available for Phase 2. Costs associated with Phase 1 are funded according to the construction draw schedule presented above.

Results

The results presented here, based upon “sketch-level” traffic and revenue forecasts, should be viewed as “sketch-level” financial feasibility results for the purposes of determining whether or not initial results for Highway 156 demonstrate financial feasibility and should be studied in greater detail at the next stage.

Presented below is a summary of funding sources and uses for the four scenarios. The total amount of borrowing required to fund Phase 1 is approximately \$86 million for each scenario. \$69.8 million goes towards project construction, with approximately \$6.7 million going into bond and TIFIA debt service reserve funds and approximately \$7.5 million used to pay interest costs during the construction period (i.e., capitalized interest). The remainder is used for transaction costs.

Summary of Funding Sources & Uses				
	Scenario A Phase 1 only	Scenario B Phase 1&2	Scenario C Phase 1 only	Scenario D Phase 1&2
Sources				
Revenue Bonds - Phase 1	47,110,000	46,800,000	46,510,000	47,325,000
TIFIA Loan (33% of eligible costs)	39,339,638	39,330,068	39,320,003	39,347,228
Total Borrowing - Phase 1	86,449,638	86,130,068	85,830,003	86,672,228
Construction Fund Interest Earnings	107,207	107,236	107,274	107,176
2025 Bond Capacity - Phase 2	-	95,555,000	-	119,130,000
Total Sources	86,556,845	181,792,305	85,937,278	205,909,405
Uses				
Phase 1 Construction Costs	69,847,804	69,847,797	69,847,802	69,847,798
Debt Service Reserve Fund	6,677,982	6,646,503	6,617,000	6,699,861
Capitalized Interest Fund	7,592,851	7,503,464	7,499,812	7,579,029
Underwriters' Discount	282,660	280,800	279,060	283,950
Other Cost of Issuance	2,155,548	1,958,739	1,693,604	2,368,766
Phase 2 - Additional Bond Capacity	-	95,555,000	-	119,130,000
Total Uses	86,556,845	181,792,305	85,937,278	205,909,405

Scenarios B and D identify the amount of additional bond proceeds that are available in 2025 for Phase 2 funding needs. Under Scenario B, there is estimated to be approximately \$95.5 million in bond proceeds available in 2025. Under Scenario D, there is estimated to be approximately \$119 million in bond proceeds available in 2025. These estimates are gross bond proceeds: the cost of capitalized interest, debt service reserve funds, costs of issuance, etc., needs to be netted from this gross number to determine dollars available for construction. These amounts can add up to 20% to 30% of the par amount, depending on structure, construction schedule and other factors. As such, net bond proceeds for construction can range from \$67 million to \$76 million for Scenario B, to \$83 million to \$95 million for Scenario D.



As noted in the assumptions above, the senior lien toll revenue bond financings have been structured with the goal of maintaining an annual debt service coverage ratio of at least 2.0x. That is to say, on an annual basis, for every dollar of senior lien bond debt service (i.e., principal and interest) that is due, there should be at least two dollars of net revenues available to pay that debt service. This 2.0x coverage ratio is required by investors and rating agencies on toll facilities where revenue generation is uncertain year-to-year. The US DOT is more flexible on coverage ratios and may negotiate a lower annual coverage requirement for a subordinate TIFIA loan.

Presented below are the resulting coverage statistics. For each four scenarios, Phase 1 maintains healthy debt service coverage ratios for the senior lien bonds over and above 2.0x. When the TIFIA loan debt service is factored in, the aggregate debt service coverage is maintained above 1.9x for Phase 1 in each scenario. Based upon these coverage statistics, Phase 1 is deemed financially feasible.

Under Scenarios B and D, when additional bond proceeds are issued for Phase 2 in 2025 and the associated debt service is factored into the pro forma, the coverage ratios drop below 2.0x. As may be seen in the detailed cash flows attached, these low coverage years occur in the first five to seven years of after the bonds are issued. It may be the case that a portion of that debt service will be offset with capitalized interest which will improve the senior lien coverage ratios. Further, perhaps a portion of that capacity may be issued as a TIFIA loan in 2025, which would reduce the senior lien bond requirements and improve coverage. That said, the additional bonding capacity shown for Phase 2 should be viewed as maximum capacity and subject to change based on structure and revised assumptions.

Financing Results						
Debt Service Coverage Statistics						
Scenario:	A	B		C	D	
Phase:	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>
Coverage						
Min. Bond Coverage Ratio	3.28x	3.41x	1.57x	4.15x	4.18x	1.64x
Min. Aggregate Coverage Ratio	1.92x		1.28x	2.41x		1.38x
Avg. Bond Coverage Ratio	4.00x	4.90x	2.06x	5.09x	5.81x	2.10x
Ave. Aggregate Coverage Ratio	2.93x		2.82x	4.38x		2.48x

After O&M costs and debt service on bonds and the TIFIA loan, there are anticipated revenues remaining, based upon the revenue forecasts. At this “sketch-level”, we have not funded an ongoing O&M reserve or a renewal and replacement (R&R) reserve. Also, no R&R costs are included at this time. With subsequent analysis some of the residual revenues may be placed in reserves or used for R&R costs, as appropriate. In that context, remaining revenues after O&M costs and debt service are summarized below.



Estimated Toll Revenues Remaining After O&M and Debt Service				
Cumulative Balance				
Year	Scenario			
	A	B	C	D
2022	\$ 7,925,000	\$ 6,211,000	\$ 10,487,000	\$ 8,721,000
2030	51,385,000	35,539,000	73,623,000	50,345,000
2040	132,025,000	103,642,000	189,328,000	137,223,000
2050	254,902,000	212,543,000	363,000,000	271,902,000

Remaining revenues in 2022 are fairly low, following the Phase 1 opening in 2021. Under Scenarios A and C, remaining revenues after debt service and O&M increase at a higher rate even though the revenue forecasts are lower for those two scenarios. This is because there is no additional borrowing for Phase 2 under Scenarios A and C. With the additional bonds issued in 2025 under Scenarios B and D, there is additional debt service that requires more net revenues over time. Therein is the tradeoff associated with borrowing of any kind: proceeds today for reduced revenues downstream. This is required in order to finance the project that will produce those revenues. While revenues increase by 2050, there is increased uncertainty with those long-dated forecast years, and those dollars are stated in nominal, inflated terms. Their present value will be much lower.

Summary of Findings and Next Steps

This preliminary analysis demonstrates that Route 156 West Corridor Phase 1, including construction of a new alignment, four-lane, Highway 156, and a new interchange at Highway 156 and Castroville Boulevard, is financially feasible. That is, in addition to the expected federal, state and local funds, the net toll revenues would be sufficient to support and repay toll revenue bonds and a TIFIA loan to finance a total of approximately \$70 million in un-funded project costs for Phase 1 and pay the operations and maintenance costs.

Improving operations and safety at the Highway 101 and Highway 156 interchange is important; however Phase 2 capital costs more than double the project costs, from \$109 million to \$264 million, as demonstrated in Table 1. With the additional travel benefits associated with Phase 2, it is anticipated that Phase 2 (together with excess revenue from Phase 1) would generate between \$66 million and \$95 million in net toll revenue bond proceeds for construction in 2025, depending on the tolling plan that is used. However, this additional funding falls short of the Phase 2 funding requirements which are, approximately \$155 million.

As noted throughout this analysis, this is a preliminary and “sketch-level” financial feasibility analysis. Going forward, TAMC in collaboration with Caltrans may wish to refine the traffic and revenue analysis. New results from that analysis will provide a more detailed and robust set of financial results. As new information becomes available, PFM will be pleased to update and refine this feasibility analysis and prepare a plan of finance associated with project delivery.



The following appendices provide the detailed annual schedules for the plan of finance.

Appendix – Result Summary

- I. Scenario A**
- II. Scenario B**
- III. Scenario C**
- IV. Scenario D**

SR 156

Scenario A; April 08, 2013

I. Sources and Uses

Sources	
TE CIB	47,110,000
+Premium/-Discount	-
Total Proceeds	47,110,000
TIFIA Loan (33% of eligible costs)	39,339,638
TIFIA Budget Authority	-
Construction Fund Interest Earnings	107,207
Total Sources	\$86,556,845

Uses	
Net Construction Deposit	30,400,629
TIFIA Construction Deposit	39,339,968
Construction Fund Interest Earnings	107,207
Total Net Construction Costs	69,847,804
Debt Service Reserve Fund	4,711,000
Capitalized Interest Fund	7,592,851
Underwriters' Discount	282,660
Other Cost of Issuance	1,500,000
TIFIA Reserve Fund	1,966,982
(Funding Gap)/Rounding	655,548
Total Uses	\$86,556,845

TIFIA Eligible Costs	Amount \$'s
Project Cost	113,001,025
Project Cost Reimbursement	0
Debt Service Reserve Fund	4,711,000
Capitalized Interest Fund Deposit	0
INS & COI	1,500,000
Total TIFIA Eligible Costs	119,212,025
TIFIA Share 33.00%	Amount \$'s
Project Cost	37,290,338
Project Cost Reimbursement	0
Debt Service Reserve Fund	1,554,630
Capitalized Interest Fund Deposit	0
INS & COI	495,000
Total TIFIA Share	39,339,968

II. Bonds Debt Service

Period	CIB Principal	CIB Interest	CIB Debt Service	Capitalized Interest	DSRF Income	Net DS
7/1/2018		1,263,018	1,263,018	(1,263,018)		
7/1/2019		2,164,950	2,164,950	(2,164,950)		
7/1/2020		2,164,950	2,164,950	(2,164,950)		
7/1/2021		2,164,950	2,164,950	(2,164,950)		
7/1/2022		2,164,950	2,164,950		(28,266)	2,136,684
7/1/2023		2,164,950	2,164,950		(28,266)	2,136,684
7/1/2024		2,164,950	2,164,950		(28,266)	2,136,684
7/1/2025	130,000	2,164,950	2,294,950		(28,266)	2,266,684
7/1/2026	220,000	2,160,582	2,380,582		(28,266)	2,352,316
7/1/2027	315,000	2,152,728	2,467,728		(28,266)	2,439,462
7/1/2028	420,000	2,140,915	2,560,915		(28,266)	2,532,649
7/1/2029	530,000	2,124,661	2,654,661		(28,266)	2,626,395
7/1/2030	650,000	2,103,779	2,753,779		(28,266)	2,725,513
7/1/2031	775,000	2,077,844	2,852,844		(28,266)	2,824,578
7/1/2032	910,000	2,046,534	2,956,534		(28,266)	2,928,268
7/1/2033	1,055,000	2,009,224	3,064,224		(28,266)	3,035,958
7/1/2034	1,210,000	1,965,336	3,175,336		(28,266)	3,147,070
7/1/2035	1,375,000	1,914,274	3,289,274		(28,266)	3,261,008
7/1/2036	1,555,000	1,855,424	3,410,424		(28,266)	3,382,158
7/1/2037	1,745,000	1,787,937	3,532,937		(28,266)	3,504,671
7/1/2038	1,945,000	1,711,267	3,656,267		(28,266)	3,628,001
7/1/2039	2,165,000	1,624,326	3,789,326		(28,266)	3,761,060
7/1/2040	2,395,000	1,526,148	3,921,148		(28,266)	3,892,882
7/1/2041	2,645,000	1,415,739	4,060,739		(28,266)	4,032,473
7/1/2042	2,910,000	1,291,688	4,201,688		(28,266)	4,173,422
7/1/2043	3,195,000	1,153,754	4,348,754		(28,938)	4,319,816
7/1/2044	3,500,000	1,001,992	4,501,992		(29,962)	4,472,030
7/1/2045	3,825,000	835,392	4,660,392		(30,997)	4,629,395
7/1/2046	4,170,000	652,939	4,822,939		(30,997)	4,791,942
7/1/2047	4,540,000	453,613	4,993,613		(30,997)	4,962,616
7/1/2048	4,930,000	236,147	5,166,147		(30,997)	5,135,150
Total	47,110,000	52,659,904	99,769,904	(7,757,866)	(776,473)	91,235,565

III. Debt Service Coverage

Date	Toll Revenue	O&M	Pledged Revenue	CIB Net DS	TIFIA Repayment	CIB Bonds DS Coverage	Aggregate DS Coverage
7/1/2018							
7/1/2019							
7/1/2020							
7/1/2021	3,801,633	570,245	3,231,388				
7/1/2022	8,239,938	1,235,991	7,003,947	2,136,684	1,517,819	3.28	1.92
7/1/2023	9,299,324	1,394,899	7,904,425	2,136,684	1,517,819	3.70	2.16
7/1/2024	10,169,478	1,525,422	8,644,056	2,136,684	1,517,819	4.05	2.37
7/1/2025	10,814,901	1,622,235	9,192,666	2,266,684	1,517,819	4.06	2.43
7/1/2026	11,217,443	1,682,616	9,534,827	2,352,316	1,517,819	4.05	2.46
7/1/2027	11,633,354	1,745,003	9,888,351	2,439,462	1,517,819	4.05	2.50
7/1/2028	12,063,049	1,809,457	10,253,592	2,532,649	1,517,819	4.05	2.53
7/1/2029	12,506,958	1,876,044	10,630,914	2,626,395	1,520,858	4.05	2.56
7/1/2030	12,965,523	1,944,828	11,020,695	2,725,513	1,576,083	4.04	2.56
7/1/2031	13,439,200	2,015,880	11,423,320	2,824,578	1,633,760	4.04	2.56
7/1/2032	13,928,457	2,089,268	11,839,188	2,928,268	1,693,074	4.04	2.56
7/1/2033	14,433,777	2,165,067	12,268,710	3,035,958	1,754,222	4.04	2.56
7/1/2034	14,955,658	2,243,349	12,712,309	3,147,070	1,817,394	4.04	2.56
7/1/2035	15,494,612	2,324,192	13,170,420	3,261,008	1,882,787	4.04	2.56
7/1/2036	16,051,166	2,407,675	13,643,491	3,382,158	1,949,652	4.03	2.56
7/1/2037	16,625,864	2,493,880	14,131,984	3,504,671	2,020,138	4.03	2.56
7/1/2038	17,219,265	2,582,890	14,636,375	3,628,001	2,091,590	4.03	2.56
7/1/2039	17,831,945	2,674,792	15,157,153	3,761,060	2,166,207	4.03	2.56
7/1/2040	18,464,496	2,769,674	15,694,822	3,892,882	2,242,367	4.03	2.56
7/1/2041	19,117,530	2,867,630	16,249,901	4,032,473	2,321,310	4.03	2.56
7/1/2042	19,791,676	2,968,751	16,822,925	4,173,422	2,381,946	4.03	2.57
7/1/2043	20,487,581	3,073,137	17,414,444	4,319,816	2,455,551	4.03	2.57
7/1/2044	21,205,911	3,180,887	18,025,024	4,472,030	2,542,287	4.03	2.57
7/1/2045	21,947,352	3,292,103	18,655,249	4,629,395	2,664,912	4.03	2.56
7/1/2046	22,712,612	3,406,892	19,305,720	4,791,942	2,757,618	4.03	2.56
7/1/2047	23,502,418	3,525,363	19,977,056	4,962,616	2,852,743	4.03	2.56
7/1/2048	24,317,519	3,647,628	20,669,891	5,135,150	2,951,601	4.03	2.56
7/1/2049	25,158,686	3,773,803	21,384,883		4,066,073		5.26
7/1/2050	26,026,713	3,904,007	22,122,706		4,203,314		5.26
7/1/2051	26,922,417	4,038,363	22,884,054		4,347,970		5.26
7/1/2052	27,846,639	4,176,996	23,669,644		4,497,232		5.26
7/1/2053	28,800,247	4,320,037	24,480,210		4,651,240		5.26
Total	568,993,341	85,349,001	483,644,340	91,235,565	75,666,663		

IV. TIFIA Loan Schedule

Date	Loan Draw Amt	Loan Amount Beg. Balance	Interest Due	Payment	Interest Payments	Principal Payments	Current Year	Loan End. Balance	Revenue
							Unpaid Interest		Available for TIFIA Payment
7/1/2018	4,402,597	4,402,597	156,335				156,335	4,558,932	
7/1/2019	12,258,087	16,817,019	597,168				597,168	17,414,187	
7/1/2020	15,941,897	33,356,084	1,184,467				1,184,467	34,540,550	
7/1/2021	6,737,388	41,277,938	1,465,770				1,465,770	42,743,708	3,231,388
7/1/2022		42,743,708	1,517,819	(1,517,819)	(1,517,819)			42,743,708	4,867,264
7/1/2023		42,743,708	1,517,819	(1,517,819)	(1,517,819)			42,743,708	5,767,742
7/1/2024		42,743,709	1,517,819	(1,517,819)	(1,517,819)			42,743,709	6,507,373
7/1/2025		42,743,709	1,517,819	(1,517,819)	(1,517,819)			42,743,709	7,055,982
7/1/2026		42,743,709	1,517,819	(1,517,819)	(1,517,819)			42,743,709	7,182,511
7/1/2027		42,743,709	1,517,819	(1,517,819)	(1,517,819)			42,743,709	7,448,889
7/1/2028		42,743,709	1,517,819	(1,517,819)	(1,517,819)			42,743,709	7,720,943
7/1/2029		42,743,709	1,517,819	(1,520,858)	(1,517,819)	(3,039)		42,740,670	8,004,519
7/1/2030		42,740,670	1,517,711	(1,576,083)	(1,517,711)	(58,372)		42,682,298	8,295,182
7/1/2031		42,682,298	1,515,638	(1,633,760)	(1,515,638)	(118,122)		42,564,176	8,598,742
7/1/2032		42,564,176	1,511,444	(1,693,074)	(1,511,444)	(181,630)		42,382,546	8,910,920
7/1/2033		42,382,546	1,504,994	(1,754,222)	(1,504,994)	(249,228)		42,133,318	9,232,752
7/1/2034		42,133,318	1,496,144	(1,817,394)	(1,496,144)	(321,250)		41,812,068	9,565,239
7/1/2035		41,812,068	1,484,737	(1,882,787)	(1,484,737)	(398,051)		41,414,017	9,909,412
7/1/2036		41,414,017	1,470,602	(1,949,652)	(1,470,602)	(479,050)		40,934,967	10,261,333
7/1/2037		40,934,967	1,453,591	(2,020,138)	(1,453,591)	(566,548)		40,368,420	10,627,313
7/1/2038		40,368,420	1,433,473	(2,091,590)	(1,433,473)	(658,117)		39,710,302	11,008,374
7/1/2039		39,710,302	1,410,103	(2,166,207)	(1,410,103)	(756,103)		38,954,199	11,396,093
7/1/2040		38,954,199	1,383,254	(2,242,367)	(1,383,254)	(859,113)		38,095,086	11,801,940
7/1/2041		38,095,086	1,352,747	(2,321,310)	(1,352,747)	(968,563)		37,126,523	12,217,428
7/1/2042		37,126,523	1,318,354	(2,381,946)	(1,318,354)	(1,063,592)		36,062,931	12,537,564
7/1/2043		36,062,931	1,280,586	(2,455,551)	(1,280,586)	(1,174,965)		34,887,966	12,923,953
7/1/2044		34,887,966	1,238,863	(2,542,287)	(1,238,863)	(1,303,424)		33,584,542	13,380,460
7/1/2045		33,584,542	1,192,579	(2,664,912)	(1,192,579)	(1,472,333)		32,112,209	14,025,855
7/1/2046		32,112,209	1,140,297	(2,757,618)	(1,140,297)	(1,617,321)		30,494,887	14,513,778
7/1/2047		30,494,887	1,082,866	(2,852,743)	(1,082,866)	(1,769,877)		28,725,010	15,014,439
7/1/2048		28,725,010	1,020,018	(2,951,601)	(1,020,018)	(1,931,583)		26,793,427	15,534,741
7/1/2049		26,793,427	951,428	(4,066,073)	(951,428)	(3,114,644)		23,678,783	21,400,382
7/1/2050		23,678,783	840,828	(4,203,314)	(840,828)	(3,362,486)		20,316,297	22,122,706
7/1/2051		20,316,297	721,427	(4,347,970)	(721,427)	(3,626,544)		16,689,753	22,884,054
7/1/2052		16,689,753	592,649	(4,497,232)	(592,649)	(3,904,583)		12,785,170	23,669,644
7/1/2053		12,785,170	453,998	(4,651,240)	(453,998)	(4,197,241)		8,587,929	24,480,210
7/1/2054		8,587,929	304,955	(4,810,137)	(304,955)	(4,505,182)		4,082,747	25,316,510
7/1/2055		4,082,747	144,977	(4,227,724)	(144,977)	(4,082,747)			26,179,326
7/1/2056									27,069,460
Total	39,339,968		45,364,555	(84,704,524)	(41,960,815)	(42,743,709)	3,403,740		

V. TIFIA LLCR and Reserve

Calculation Year	Surplus Pledged Revenues	LL Revenues	PV @ 3.52%	Total: NPV plus Reserve Balances	TIFIA Balance	4.89 LLCR
7/1/2019		417,735,159	199,760,153	201,727,152	17,414,187	11.58
7/1/2020		417,735,159	199,760,153	201,727,152	34,540,550	5.84
7/1/2021	3,231,388	417,735,159	206,791,711	209,152,109	42,743,708	4.89
7/1/2022	4,867,264	414,503,778	210,839,397	213,593,195	42,743,708	5.00
7/1/2023	5,767,742	409,636,520	213,393,686	216,540,883	42,743,708	5.07
7/1/2024	6,507,373	403,868,784	215,137,408	218,678,005	42,743,709	5.12
7/1/2025	6,925,982	397,361,417	216,202,878	220,136,875	42,743,709	5.15
7/1/2026	7,182,511	390,435,441	216,887,243	220,821,240	42,743,709	5.17
7/1/2027	7,448,889	383,252,936	217,339,168	221,273,165	42,743,709	5.18
7/1/2028	7,720,943	375,804,053	217,540,623	221,474,620	42,743,709	5.18
7/1/2029	8,004,519	368,083,116	217,477,117	221,411,113	42,740,670	5.18
7/1/2030	8,295,182	360,078,603	217,127,797	221,061,794	42,682,298	5.18
7/1/2031	8,598,742	351,783,427	216,475,520	220,409,517	42,564,176	5.18
7/1/2032	8,910,920	343,184,691	215,496,722	219,430,719	42,382,546	5.18
7/1/2033	9,232,752	334,273,777	214,171,293	218,105,289	42,133,318	5.18
7/1/2034	9,565,239	325,041,031	212,477,376	216,411,372	41,812,068	5.18
7/1/2035	9,909,412	315,475,798	210,391,346	214,325,343	41,414,017	5.18
7/1/2036	10,261,333	305,566,391	207,887,715	211,821,712	40,934,967	5.17
7/1/2037	10,627,313	295,300,064	204,939,205	208,873,202	40,368,420	5.17
7/1/2038	11,008,374	284,672,757	201,525,757	205,459,754	39,710,302	5.17
7/1/2039	11,396,093	273,659,389	197,606,266	201,540,263	38,954,199	5.17
7/1/2040	11,801,940	262,263,301	193,165,919	197,099,916	38,095,086	5.17
7/1/2041	12,217,428	250,461,368	188,163,425	192,097,422	37,126,523	5.17
7/1/2042	12,649,503	238,243,945	182,569,355	186,503,352	36,062,931	5.17
7/1/2043	13,094,627	225,594,442	176,346,294	180,280,290	34,887,966	5.17
7/1/2044	13,552,994	212,499,815	169,459,056	173,393,053	33,584,542	5.16
7/1/2045	14,025,855	198,946,821	161,871,021	165,805,017	32,112,209	5.16
7/1/2046	14,513,778	184,920,966	153,543,026	157,477,022	30,494,887	5.16
7/1/2047	15,014,439	170,407,188	144,433,962	148,367,959	28,725,010	5.17
7/1/2048	15,534,741	155,392,748	134,503,598	138,437,595	26,793,427	5.17
7/1/2049	21,384,883	139,858,007	123,703,383	123,637,380	23,678,783	5.39
7/1/2050	22,122,706	118,473,124	106,672,859	110,606,856	20,316,297	5.44
7/1/2051	22,884,054	96,350,418	88,305,038	92,239,035	16,689,753	5.53
7/1/2052	23,669,644	73,466,364	68,529,321	72,463,317	12,785,170	5.67
7/1/2053	24,480,210	49,796,720	47,271,909	51,205,906	8,587,929	5.96
7/1/2054	25,316,510	25,316,510	24,455,671	28,389,668	4,082,747	6.95
7/1/2055						
7/1/2056						
Total	417,725,285	9,987,179,188	6,392,222,369	6,525,978,262	1,233,624,650	

TIFIA Reserve

Year	Beginning Balance	Additional Deposit	Ending Balance
7/1/2019	1,966,982		1,966,982
7/1/2020	1,966,982		1,966,982
7/1/2021	1,966,982	393,396	2,360,378
7/1/2022	2,360,378	393,396	2,753,775
7/1/2023	2,753,775	393,396	3,147,171
7/1/2024	3,147,171	393,396	3,540,567
7/1/2025	3,540,567	393,396	3,933,964
7/1/2026	3,933,964		3,933,964
7/1/2027	3,933,964		3,933,964
7/1/2028	3,933,964		3,933,964
7/1/2029	3,933,964		3,933,964
7/1/2030	3,933,964		3,933,964
7/1/2031	3,933,964		3,933,964
7/1/2032	3,933,964		3,933,964
7/1/2033	3,933,964		3,933,964
7/1/2034	3,933,964		3,933,964
7/1/2035	3,933,964		3,933,964
7/1/2036	3,933,964		3,933,964
7/1/2037	3,933,964		3,933,964
7/1/2038	3,933,964		3,933,964
7/1/2039	3,933,964		3,933,964
7/1/2040	3,933,964		3,933,964
7/1/2041	3,933,964		3,933,964
7/1/2042	3,933,964		3,933,964
7/1/2043	3,933,964		3,933,964
7/1/2044	3,933,964		3,933,964
7/1/2045	3,933,964		3,933,964
7/1/2046	3,933,964		3,933,964
7/1/2047	3,933,964		3,933,964
7/1/2048	3,933,964		3,933,964
7/1/2049	3,933,964		3,933,964
7/1/2050	3,933,964		3,933,964
7/1/2051	3,933,964		3,933,964
7/1/2052	3,933,964		3,933,964
7/1/2053	3,933,964		3,933,964
7/1/2054	3,933,964		3,933,964
7/1/2055			
7/1/2056			
Total			

VI. Aggregate Flow of Funds

Period	Gross Toll Revenues	O&M Expenses	Available Revenues	Net Debt Service	Available Revenues	DSRF Deposit	TIFIA/Sub Repayment	TIFIA/Sub Reserve Fund	Available Revenues	R&R Expenses	Residual Revenue Deposit	General Reserve Distribution	General Reserve Balance
7/1/2019													
7/1/2020													
7/1/2021	3,801,633	570,245	3,231,388		3,231,388			393,400	2,837,988		2,837,988		2,837,988
7/1/2022	8,239,938	1,235,991	7,003,947	2,136,684	4,867,264		1,517,806	393,400	2,956,058		2,956,058		5,794,046
7/1/2023	9,299,324	1,394,899	7,904,425	2,136,684	5,767,742		1,517,806	393,400	3,856,536		3,856,536		9,650,582
7/1/2024	10,169,478	1,525,422	8,644,056	2,136,684	6,507,373		1,517,806	393,400	4,596,167		4,596,167		14,246,749
7/1/2025	10,814,901	1,622,235	9,192,666	2,266,684	6,925,982		1,517,806	393,400	5,014,776		5,014,776		19,261,525
7/1/2026	11,217,443	1,682,616	9,534,827	2,352,316	7,182,511		1,517,806		5,664,705		5,664,705		24,926,230
7/1/2027	11,633,354	1,745,003	9,888,351	2,439,462	7,448,889		1,517,806		5,931,083		5,931,083		30,857,313
7/1/2028	12,063,049	1,809,457	10,253,592	2,532,649	7,720,943		1,517,806		6,203,137		6,203,137		37,060,450
7/1/2029	12,506,958	1,876,044	10,630,914	2,626,395	8,004,519		1,520,859		6,483,661		6,483,661		43,544,111
7/1/2030	12,965,523	1,944,828	11,020,695	2,725,513	8,295,182		1,576,085		6,719,097		6,719,097		50,263,208
7/1/2031	13,439,200	2,015,880	11,423,320	2,824,578	8,598,742		1,633,761		6,964,981		6,964,981		57,228,189
7/1/2032	13,928,457	2,089,268	11,839,188	2,928,268	8,910,920		1,693,075		7,217,845		7,217,845		64,446,034
7/1/2033	14,433,777	2,165,067	12,268,710	3,035,958	9,232,752		1,754,223		7,478,529		7,478,529		71,924,563
7/1/2034	14,955,658	2,243,349	12,712,309	3,147,070	9,565,239		1,817,395		7,747,844		7,747,844		79,672,407
7/1/2035	15,494,612	2,324,192	13,170,420	3,261,008	9,909,412		1,882,788		8,026,624		8,026,624		87,699,031
7/1/2036	16,051,166	2,407,675	13,643,491	3,382,158	10,261,333		1,949,653		8,311,680		8,311,680		96,010,711
7/1/2037	16,625,864	2,493,880	14,131,984	3,504,671	10,627,313		2,019,190		8,608,124		8,608,124		104,618,835
7/1/2038	17,219,265	2,582,890	14,636,375	3,628,001	11,008,374		2,091,591		8,916,783		8,916,783		113,535,618
7/1/2039	17,831,945	2,674,792	15,157,153	3,761,060	11,396,093		2,165,258		9,230,836		9,230,836		122,766,453
7/1/2040	18,464,496	2,769,674	15,694,822	3,892,882	11,801,940		2,242,369		9,559,571		9,559,571		132,326,025
7/1/2041	19,117,530	2,867,630	16,249,901	4,032,473	12,217,428		2,321,311		9,896,117		9,896,117		142,222,142
7/1/2042	19,791,676	2,968,751	16,822,925	4,173,422	12,649,503	111,939	2,382,137		10,155,427		10,155,427		152,377,568
7/1/2043	20,487,581	3,073,137	17,414,444	4,319,816	13,094,627	170,674	2,455,551		10,468,402		10,468,402		162,845,970
7/1/2044	21,205,911	3,180,887	18,025,024	4,472,030	13,552,994	172,534	2,542,287		10,838,173		10,838,173		173,684,143
7/1/2045	21,947,352	3,292,103	18,655,249	4,629,395	14,025,855		2,664,912		11,360,942		11,360,942		185,045,086
7/1/2046	22,712,612	3,406,892	19,305,720	4,791,942	14,513,778		2,757,618		11,756,160		11,756,160		196,801,246
7/1/2047	23,502,418	3,525,363	19,977,056	4,962,616	15,014,439		2,852,743		12,161,696		12,161,696		208,962,942
7/1/2048	24,317,519	3,647,628	20,669,891	5,135,150	15,534,741		2,951,601		12,583,140		12,583,140		221,546,082
7/1/2049	25,158,686	3,773,803	21,384,883		21,384,883		4,066,073		17,318,811		17,318,811		238,864,893
7/1/2050	26,026,713	3,904,007	22,122,706		22,122,706		4,203,314		17,919,392		17,919,392		256,784,285
7/1/2051	26,922,417	4,038,363	22,884,054		22,884,054		4,347,970		18,536,084		18,536,084		275,320,369
7/1/2052	27,846,639	4,176,996	23,669,644		23,669,644		4,497,232		19,172,411		19,172,411		294,492,780
7/1/2053	28,800,247	4,320,037	24,480,210		24,480,210		4,651,240		19,828,970		19,828,970		314,321,750
7/1/2054	29,784,130	4,467,619	25,316,510		25,316,510		4,810,137		20,506,373		20,506,373		334,828,123
7/1/2055	30,799,207	4,619,881	26,179,326		26,179,326		4,229,914		21,949,412		21,949,412		356,777,535
7/1/2056	31,846,423	4,776,963	27,069,460		27,069,460				27,069,460		27,069,460		383,846,995
7/1/2057	32,926,751	4,939,013	27,987,738		27,987,738				27,987,738		27,987,738		411,834,733
7/1/2058	34,041,190	5,106,179	28,935,012		28,935,012				28,935,012		28,935,012		440,769,745
7/1/2059	35,190,773	5,278,616	29,912,157		29,912,157				29,912,157		29,912,157		470,681,902
7/1/2060	36,376,559	5,456,484	30,920,075		30,920,075				30,920,075		30,920,075		501,601,977
7/1/2061	37,599,640	5,639,946	31,959,694		31,959,694				31,959,694		31,959,694		533,561,671
7/1/2062													
Total	837,558,015	125,633,702	711,924,312	91,235,565	620,688,747	455,147		1,966,998	533,561,671		533,561,671		

SR 156

Scenario B Phases 1 & 2; April 08, 2013

I. Sources and Uses

Sources	
TE CIB 1	46,800,000
TE CIB 2	95,555,000
+Premium/-Discount	-
Total Proceeds	142,355,000
TIFIA Loan (33% of eligible costs)	39,330,068
TIFIA Budget Authority	-
Construction Fund Interest Earnings	107,236
Total Sources	\$181,792,305

Uses	
Net Construction Deposit	30,410,823
TIFIA Construction Deposit	39,329,738
Construction Fund Interest Earnings	107,236
Total Net Construction Costs	69,847,797
Debt Service Reserve Fund	4,680,000
Capitalized Interest Fund	7,503,464
Underwriters' Discount	280,800
Other Cost of Issuance	1,500,000
TIFIA Reserve Fund	1,966,503
CIB 1 Additional Proceeds	458,739
CIB 2 Additional Capacity	95,555,000
Total Uses	\$181,792,305

TIFIA Eligible Costs	Amount \$'s
Project Cost	113,001,025
Project Cost Reimbursement	0
Debt Service Reserve Fund	4,680,000
Capitalized Interest Fund Deposit	0
INS & COI	1,500,000
Total TIFIA Eligible Costs	119,181,025
TIFIA Share 33.00%	Amount \$'s
Project Cost	37,290,338
Project Cost Reimbursement	0
Debt Service Reserve Fund	1,544,400
Capitalized Interest Fund Deposit	0
INS & COI	495,000
Total TIFIA Share	39,329,738

II. Bonds Debt Service

Period	CIB 1 Principal	CIB 1 Interest	CIB 1 Debt Service	Capitalized Interest	DSRF Income	Phase 1 DS	TIFIA Repayment	CIB 2 Principal	CIB 2 Interest	Net DS
7/1/2018		1,265,915	1,265,915	(1,265,915)						
7/1/2019		2,170,357	2,170,357	(2,170,357)						
7/1/2020		2,170,357	2,170,357	(2,170,357)						
7/1/2021		2,170,357	2,170,357	(2,170,357)						
7/1/2022		2,170,357	2,170,357		(28,080)	2,142,277	1,517,437			2,142,277
7/1/2023		2,170,357	2,170,357		(28,080)	2,142,277	1,517,437			2,142,277
7/1/2024		2,170,357	2,170,357		(28,080)	2,142,277	1,517,437			2,142,277
7/1/2025		2,170,357	2,170,357		(28,080)	2,142,277	1,517,437		2,664,617	4,806,894
7/1/2026		2,170,357	2,170,357		(28,080)	2,142,277	1,517,437		4,568,146	6,710,423
7/1/2027	50,000	2,170,357	2,220,357		(28,080)	2,192,277	1,517,437		4,568,146	6,760,423
7/1/2028	160,000	2,168,482	2,328,482		(28,080)	2,300,402	1,517,437		4,568,146	6,868,548
7/1/2029	285,000	2,162,193	2,447,193		(28,080)	2,419,113	1,517,437		4,568,146	6,987,259
7/1/2030	420,000	2,150,964	2,570,964		(28,080)	2,542,884	1,517,437		4,568,146	7,111,030
7/1/2031	560,000	2,134,206	2,694,206		(28,080)	2,666,126	1,517,437		4,568,146	7,234,272
7/1/2032	715,000	2,111,582	2,826,582		(28,080)	2,798,502	1,529,024		4,568,146	7,366,648
7/1/2033	875,000	2,082,267	2,957,267		(28,080)	2,929,187	1,603,747		4,568,146	7,497,333
7/1/2034	1,055,000	2,045,867	3,100,867		(28,080)	3,072,787	1,678,843		4,568,146	7,640,933
7/1/2035	1,245,000	2,001,346	3,246,346		(28,080)	3,218,266	1,757,161		4,568,146	7,786,412
7/1/2036	1,445,000	1,948,060	3,393,060		(28,080)	3,364,980	1,838,901		4,568,146	7,933,126
7/1/2037	1,665,000	1,885,347	3,550,347		(28,080)	3,522,267	1,922,921	170,000	4,568,146	8,260,413
7/1/2038	1,900,000	1,812,087	3,712,087		(28,080)	3,684,007	2,010,170	390,000	4,560,666	8,634,673
7/1/2039	2,155,000	1,727,157	3,882,157		(28,080)	3,854,077	2,100,249	630,000	4,543,121	9,027,199
7/1/2040	2,425,000	1,629,320	4,054,320		(28,475)	4,025,845	2,176,347	890,000	4,514,519	9,430,364
7/1/2041	2,715,000	1,517,528	4,232,528		(29,493)	4,203,034	2,263,483	1,175,000	4,473,490	9,851,525
7/1/2042	3,030,000	1,390,194	4,420,194		(30,758)	4,389,436	2,363,169	1,475,000	4,418,383	10,282,819
7/1/2043	3,365,000	1,246,572	4,611,572		(32,057)	4,579,515	2,467,028	1,805,000	4,348,468	10,732,983
7/1/2044	3,725,000	1,086,735	4,811,735		(33,412)	4,778,323	2,573,189	2,155,000	4,262,730	11,196,053
7/1/2045	4,110,000	909,425	5,019,425		(34,109)	4,985,316	2,716,367	2,535,000	4,160,152	11,680,468
7/1/2046	4,520,000	713,378	5,233,378		(34,109)	5,199,269	2,832,069	2,940,000	4,039,233	12,178,501
7/1/2047	4,955,000	497,322	5,452,322		(34,109)	5,418,213	2,952,209	3,375,000	3,898,701	12,691,913
7/1/2048	5,425,000	259,858	5,684,858		(34,109)	5,650,748	3,075,789	3,845,000	3,736,919	13,232,667
7/1/2049							4,003,665	9,610,000	3,552,743	13,162,743
7/1/2050							4,169,706	10,615,000	3,092,424	13,707,424
7/1/2051							4,341,550	11,690,000	2,583,966	14,273,966
7/1/2052							4,519,383	12,835,000	2,024,015	14,859,015
7/1/2053							4,703,397	14,060,000	1,409,218	15,469,218
7/1/2054							4,893,790	15,360,000	735,744	16,095,744
7/1/2055							5,088,463			
7/1/2056							1,123,198			
Total	46,800,000	54,279,020	101,079,020	(7,776,986)	(796,072)	92,505,961	85,878,184	95,555,000	117,836,860	305,897,821

III. Debt Service Coverage

Date	Toll Revenue	O&M	Pledged Revenue	CIB 1 Net DS	CIB 2 Net DS	TIFIA Repayment	CIB 1 DS Coverage	CIB 2 DS Coverage	Aggregate DS Coverage
7/1/2018									
7/1/2019									
7/1/2020									
7/1/2021	3,934,871	590,231	3,344,640						
7/1/2022	8,603,637	1,290,546	7,313,091	2,142,277		1,517,424	3.41		2.00
7/1/2023	9,862,245	1,479,337	8,382,908	2,142,277		1,517,424	3.91		2.29
7/1/2024	10,950,323	1,642,549	9,307,775	2,142,277		1,517,424	4.34		2.54
7/1/2025	11,814,798	1,772,220	10,042,579	2,142,277	2,664,617	1,517,424	4.69	2.09	1.59
7/1/2026	12,428,474	1,864,271	10,564,203	2,142,277	4,568,146	1,517,424	4.93	1.57	1.28
7/1/2027	13,065,449	1,959,817	11,105,632	2,192,277	4,568,146	1,517,424	5.07	1.64	1.34
7/1/2028	13,726,506	2,058,976	11,667,530	2,300,402	4,568,146	1,517,424	5.07	1.70	1.39
7/1/2029	14,412,449	2,161,867	12,250,582	2,419,113	4,568,146	1,517,424	5.06	1.75	1.44
7/1/2030	15,124,110	2,268,617	12,855,494	2,542,884	4,568,146	1,517,424	5.06	1.81	1.49
7/1/2031	15,862,347	2,379,352	13,482,995	2,666,126	4,568,146	1,517,424	5.06	1.86	1.54
7/1/2032	16,628,043	2,494,206	14,133,836	2,798,502	4,568,146	1,529,025	5.05	1.92	1.59
7/1/2033	17,422,110	2,613,316	14,808,793	2,929,187	4,568,146	1,603,748	5.06	1.98	1.63
7/1/2034	18,245,487	2,736,823	15,508,664	3,072,787	4,568,146	1,678,844	5.05	2.03	1.66
7/1/2035	19,099,145	2,864,872	16,234,273	3,218,266	4,568,146	1,757,162	5.04	2.08	1.70
7/1/2036	19,984,082	2,997,612	16,986,469	3,364,980	4,568,146	1,838,902	5.05	2.14	1.74
7/1/2037	20,901,329	3,135,199	17,766,129	3,522,267	4,738,146	1,922,922	5.04	2.15	1.74
7/1/2038	21,851,948	3,277,792	18,574,156	3,684,007	4,950,666	2,010,171	5.04	2.15	1.74
7/1/2039	22,837,035	3,425,555	19,411,479	3,854,077	5,173,121	2,100,250	5.04	2.15	1.74
7/1/2040	23,857,718	3,578,658	20,279,061	4,025,845	5,404,519	2,176,482	5.04	2.15	1.75
7/1/2041	24,915,163	3,737,274	21,177,889	4,203,034	5,648,490	2,263,483	5.04	2.15	1.75
7/1/2042	26,010,569	3,901,585	22,108,984	4,389,436	5,893,383	2,363,169	5.04	2.15	1.75
7/1/2043	27,145,173	4,071,776	23,073,397	4,579,515	6,153,468	2,466,353	5.04	2.15	1.75
7/1/2044	28,320,251	4,248,038	24,072,213	4,778,323	6,417,730	2,573,868	5.04	2.15	1.75
7/1/2045	29,537,117	4,430,568	25,106,550	4,985,316	6,695,152	2,716,367	5.04	2.15	1.74
7/1/2046	30,797,126	4,619,569	26,177,557	5,199,269	6,979,233	2,832,069	5.03	2.15	1.74
7/1/2047	32,101,675	4,815,251	27,286,424	5,418,213	7,273,701	2,951,534	5.04	2.15	1.74
7/1/2048	33,452,203	5,017,830	28,434,373	5,650,748	7,581,919	3,075,789	5.03	2.15	1.74
7/1/2049	34,850,194	5,227,529	29,622,665		13,162,743	4,003,665		2.25	1.73
7/1/2050	36,297,177	5,444,577	30,852,601		13,707,424	4,169,706		2.25	1.73
7/1/2051	37,794,728	5,669,209	32,125,519		14,273,966	4,341,550		2.25	1.73
7/1/2052	39,344,470	5,901,671	33,442,800		14,859,015	4,519,383		2.25	1.73
7/1/2053	40,948,078	6,142,212	34,805,867		15,469,218	4,703,397		2.25	1.73
7/1/2054	42,607,276	6,391,091	36,216,185		16,095,744	4,893,790		2.25	1.73
7/1/2055	44,323,842	6,648,576	37,675,265			5,088,463			7.40
7/1/2056	46,099,606	6,914,941	39,184,665			1,123,044			34.89
Total	865,156,754	129,773,513	735,383,241	92,505,961	213,391,860	85,877,373			

IV. TIFIA Loan Schedule

Date	Loan Draw Amt	Loan Amount Beg. Balance	Interest Due	Payment	Interest Payments	Principal Payments	Current Year	Loan End. Balance	Revenue
							Unpaid Interest		Available for TIFIA Payment
7/1/2018	4,401,452	4,401,452	156,294				156,294	4,557,746	
7/1/2019	12,254,899	16,812,646	597,013				597,013	17,409,659	
7/1/2020	15,937,751	33,347,410	1,184,159				1,184,159	34,531,568	
7/1/2021	6,735,636	41,267,204	1,465,389				1,465,389	42,732,593	3,344,640
7/1/2022		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	5,142,728
7/1/2023		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	6,212,545
7/1/2024		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	7,137,412
7/1/2025		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	7,881,642
7/1/2026		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	8,412,693
7/1/2027		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	8,904,122
7/1/2028		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	9,357,894
7/1/2029		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	9,822,235
7/1/2030		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	10,303,376
7/1/2031		42,732,593	1,517,424	(1,517,424)	(1,517,424)			42,732,593	10,807,635
7/1/2032		42,732,593	1,517,424	(1,529,025)	(1,517,424)	(11,600)		42,720,992	11,326,101
7/1/2033		42,720,992	1,517,012	(1,603,748)	(1,517,012)	(86,735)		42,634,257	11,879,606
7/1/2034		42,634,257	1,513,932	(1,678,844)	(1,513,932)	(164,912)		42,469,345	12,435,877
7/1/2035		42,469,345	1,508,076	(1,757,162)	(1,508,076)	(249,085)		42,220,260	13,016,007
7/1/2036		42,220,260	1,499,231	(1,838,902)	(1,499,231)	(339,671)		41,880,589	13,621,489
7/1/2037		41,880,589	1,487,170	(1,922,922)	(1,487,170)	(435,753)		41,444,836	14,243,862
7/1/2038		41,444,836	1,471,696	(2,010,171)	(1,471,696)	(538,475)		40,906,362	14,890,148
7/1/2039		40,906,362	1,452,575	(2,100,250)	(1,452,575)	(647,675)		40,258,687	15,557,402
7/1/2040		40,258,687	1,429,576	(2,176,482)	(1,429,576)	(746,906)		39,511,781	16,121,086
7/1/2041		39,511,781	1,403,054	(2,263,483)	(1,403,054)	(860,429)		38,651,352	16,766,541
7/1/2042		38,651,352	1,372,500	(2,363,169)	(1,372,500)	(990,668)		37,660,683	17,504,953
7/1/2043		37,660,683	1,337,322	(2,466,353)	(1,337,322)	(1,129,031)		36,531,652	18,274,281
7/1/2044		36,531,652	1,297,230	(2,573,868)	(1,297,230)	(1,276,638)		35,255,014	19,060,657
7/1/2045		35,255,014	1,251,897	(2,716,367)	(1,251,897)	(1,464,469)		33,790,545	20,121,234
7/1/2046		33,790,545	1,199,894	(2,832,069)	(1,199,894)	(1,632,175)		32,158,370	20,978,289
7/1/2047		32,158,370	1,141,936	(2,951,534)	(1,141,936)	(1,809,598)		30,348,773	21,868,211
7/1/2048		30,348,773	1,077,678	(3,075,789)	(1,077,678)	(1,998,112)		28,350,661	22,783,624
7/1/2049		28,350,661	1,006,725	(4,003,665)	(1,006,725)	(2,996,939)		25,353,722	29,656,774
7/1/2050		25,353,722	900,305	(4,169,706)	(900,305)	(3,269,401)		22,084,320	30,886,710
7/1/2051		22,084,320	784,209	(4,341,550)	(784,209)	(3,557,341)		18,526,980	32,159,628
7/1/2052		18,526,980	657,889	(4,519,383)	(657,889)	(3,861,494)		14,665,485	33,476,909
7/1/2053		14,665,485	520,768	(4,703,397)	(520,768)	(4,182,629)		10,482,857	34,839,976
7/1/2054		10,482,857	372,244	(4,893,790)	(372,244)	(4,521,546)		5,961,311	36,250,294
7/1/2055		5,961,311	211,685	(5,088,463)	(211,685)	(4,876,778)		1,084,532	37,692,320
7/1/2056		1,084,532	38,511	(1,123,044)	(38,511)	(1,084,532)			39,184,665
Total	39,329,738		46,547,635	(85,877,373)	(43,144,780)	(42,732,593)	3,402,855		

V. TIFIA LLCR and Reserve

Calculation Year	Surplus Pledged Revenues	LL Revenues	PV @ 3.52%	Total: NPV plus Reserve Balances	TIFIA Balance	6.72 LLCR
7/1/2019		603,682,756	274,954,651	276,921,138	17,409,659	15.91
7/1/2020		603,682,756	274,954,651	276,921,138	34,531,568	8.02
7/1/2021	3,344,640	603,682,756	284,633,055	286,992,839	42,732,593	6.72
7/1/2022	5,170,814	600,338,110	291,307,493	294,060,574	42,732,593	6.88
7/1/2023	6,240,631	595,167,289	296,390,696	299,537,075	42,732,593	7.01
7/1/2024	7,165,498	588,926,652	300,583,011	304,122,688	42,732,593	7.12
7/1/2025	7,900,302	581,761,148	303,998,030	307,931,004	42,732,593	7.21
7/1/2026	8,421,926	573,860,841	306,798,453	310,731,427	42,732,593	7.27
7/1/2027	8,913,355	565,438,909	309,175,827	313,108,801	42,732,593	7.33
7/1/2028	9,367,128	556,530,548	311,150,285	315,083,259	42,732,593	7.37
7/1/2029	9,831,468	547,163,414	312,735,642	316,668,615	42,732,593	7.41
7/1/2030	10,312,610	537,331,939	313,912,462	317,845,436	42,732,593	7.44
7/1/2031	10,816,869	527,019,324	314,649,565	318,582,539	42,732,593	7.46
7/1/2032	11,335,334	516,202,449	314,908,356	318,841,329	42,720,992	7.46
7/1/2033	11,879,606	504,867,109	314,657,790	318,590,764	42,634,257	7.47
7/1/2034	12,435,877	492,987,497	313,854,132	317,787,106	42,469,345	7.48
7/1/2035	13,016,007	480,551,615	312,465,915	316,398,889	42,220,260	7.49
7/1/2036	13,621,489	467,535,602	310,448,703	314,381,677	41,880,589	7.51
7/1/2037	14,243,862	453,914,107	307,755,002	311,687,976	41,444,836	7.52
7/1/2038	14,890,148	439,670,239	304,344,111	308,277,084	40,906,362	7.54
7/1/2039	15,557,402	424,780,084	300,166,869	304,099,843	40,258,687	7.55
7/1/2040	16,253,216	409,222,679	295,175,338	299,108,312	39,511,781	7.57
7/1/2041	16,974,854	392,969,464	289,312,294	293,245,268	38,651,352	7.59
7/1/2042	17,719,548	375,994,609	282,521,233	286,454,206	37,660,683	7.61
7/1/2043	18,493,882	358,275,046	274,746,418	278,679,392	36,531,652	7.63
7/1/2044	19,293,890	339,781,149	265,923,595	269,856,569	35,255,014	7.65
7/1/2045	20,121,234	320,487,259	255,990,215	259,923,189	33,790,545	7.69
7/1/2046	20,978,289	300,366,025	244,879,837	248,812,811	32,158,370	7.74
7/1/2047	21,868,211	279,392,737	232,526,149	236,459,122	30,348,773	7.79
7/1/2048	22,783,624	257,524,525	218,842,858	222,775,832	28,350,661	7.86
7/1/2049	29,622,665	234,740,901	203,762,502	207,695,476	25,353,722	8.19
7/1/2050	30,852,601	205,118,236	181,312,277	185,245,251	22,084,320	8.39
7/1/2051	32,125,519	174,265,635	156,841,869	160,774,842	18,526,980	8.68
7/1/2052	33,442,800	142,140,117	130,237,184	134,170,157	14,665,485	9.15
7/1/2053	34,805,867	108,697,317	101,378,733	105,311,707	10,482,857	10.05
7/1/2054	36,216,185	73,891,450	70,141,398	74,074,371	5,961,311	12.43
7/1/2055	37,675,265	37,675,265	36,394,190	40,327,164	1,084,532	37.18
7/1/2056						
Total	603,692,615	15,275,637,559	9,613,830,787	9,751,484,871	1,266,953,113	

TIFIA Reserve

Year	Beginning Balance	Additional Deposit	Ending Balance
7/1/2019	1,966,503		1,966,503
7/1/2020	1,966,503		1,966,503
7/1/2021	1,966,503	393,301	2,359,804
7/1/2022	2,359,804	393,301	2,753,105
7/1/2023	2,753,105	393,301	3,146,405
7/1/2024	3,146,405	393,301	3,539,706
7/1/2025	3,539,706	393,301	3,933,007
7/1/2026	3,933,007		3,933,007
7/1/2027	3,933,007		3,933,007
7/1/2028	3,933,007		3,933,007
7/1/2029	3,933,007		3,933,007
7/1/2030	3,933,007		3,933,007
7/1/2031	3,933,007		3,933,007
7/1/2032	3,933,007		3,933,007
7/1/2033	3,933,007		3,933,007
7/1/2034	3,933,007		3,933,007
7/1/2035	3,933,007		3,933,007
7/1/2036	3,933,007		3,933,007
7/1/2037	3,933,007		3,933,007
7/1/2038	3,933,007		3,933,007
7/1/2039	3,933,007		3,933,007
7/1/2040	3,933,007		3,933,007
7/1/2041	3,933,007		3,933,007
7/1/2042	3,933,007		3,933,007
7/1/2043	3,933,007		3,933,007
7/1/2044	3,933,007		3,933,007
7/1/2045	3,933,007		3,933,007
7/1/2046	3,933,007		3,933,007
7/1/2047	3,933,007		3,933,007
7/1/2048	3,933,007		3,933,007
7/1/2049	3,933,007		3,933,007
7/1/2050	3,933,007		3,933,007
7/1/2051	3,933,007		3,933,007
7/1/2052	3,933,007		3,933,007
7/1/2053	3,933,007		3,933,007
7/1/2054	3,933,007		3,933,007
7/1/2055	3,933,007		3,933,007
7/1/2056	3,933,007		3,933,007
Total			

VI. Aggregate Flow of Funds

Period	Gross Toll Revenues	O&M Expenses	Available Revenues	CIB 1 Debt Service	Available Revenues	DSRF Deposit	TIFIA/Sub Repayment	TIFIA/Sub Reserve Fund	Available Revenues	CIB 2 Debt Service	Residual Revenue Deposit	General Reserve Distribution	General Reserve Balance
7/1/2019													
7/1/2020													
7/1/2021	3,934,871	590,231	3,344,640		3,344,640			393,297	2,951,343		2,951,343		2,951,343
7/1/2022	8,603,637	1,290,546	7,313,091	2,142,277	5,170,814		1,517,437	393,297	3,260,080		3,260,080		6,211,423
7/1/2023	9,862,245	1,479,337	8,382,908	2,142,277	6,240,631		1,517,437	393,297	4,329,897		4,329,897		10,541,320
7/1/2024	10,950,323	1,642,549	9,307,775	2,142,277	7,165,498		1,517,437	393,297	5,254,764		5,254,764		15,796,084
7/1/2025	11,814,798	1,772,220	10,042,579	2,142,277	7,900,302		1,517,437	393,297	5,989,567	2,664,887	3,324,680		19,120,764
7/1/2026	12,428,474	1,864,271	10,564,203	2,142,277	8,421,926		1,517,437		6,904,489	4,568,146	2,336,343		21,457,107
7/1/2027	13,065,449	1,959,817	11,105,632	2,192,277	8,913,355		1,517,437		7,395,918	4,568,146	2,827,772		24,284,879
7/1/2028	13,726,506	2,058,976	11,667,530	2,300,402	9,367,128		1,517,437		7,849,691	4,568,146	3,281,545		27,566,424
7/1/2029	14,412,449	2,161,867	12,250,582	2,419,113	9,831,468		1,517,437		8,314,032	4,568,146	3,745,886		31,312,310
7/1/2030	15,124,110	2,268,617	12,855,494	2,542,884	10,312,610		1,517,437		8,795,173	4,568,146	4,227,027		35,539,337
7/1/2031	15,862,347	2,379,352	13,482,995	2,666,126	10,816,869		1,517,437		9,299,432	4,568,146	4,731,286		40,270,622
7/1/2032	16,628,043	2,494,206	14,133,836	2,798,502	11,335,334		1,529,024		9,806,311	4,568,146	5,238,165		45,508,787
7/1/2033	17,422,110	2,613,316	14,808,793	2,929,187	11,879,606		1,603,747		10,275,859	4,568,146	5,707,713		51,216,500
7/1/2034	18,245,487	2,736,823	15,508,664	3,072,787	12,435,877		1,678,843		10,757,033	4,568,146	6,188,887		57,405,387
7/1/2035	19,099,145	2,864,872	16,234,273	3,218,266	13,016,007		1,757,161		11,258,846	4,568,146	6,690,700		64,096,087
7/1/2036	19,984,082	2,997,612	16,986,469	3,364,980	13,621,489		1,838,901		11,782,588	4,568,146	7,214,442		71,310,529
7/1/2037	20,901,329	3,135,199	17,766,129	3,522,267	14,243,862		1,922,267		12,320,941	4,738,146	7,582,795		78,893,324
7/1/2038	21,851,948	3,277,792	18,574,156	3,684,007	14,890,148		2,010,170		12,879,978	4,955,666	7,924,312		86,817,636
7/1/2039	22,837,035	3,425,555	19,411,479	3,854,077	15,557,402		2,100,249		13,457,153	5,173,121	8,284,032		95,101,668
7/1/2040	23,857,718	3,578,658	20,279,061	4,025,845	16,253,216	131,735	2,176,347		13,945,134	5,404,519	8,540,615		103,642,283
7/1/2041	24,915,163	3,737,274	21,177,889	4,203,034	16,974,854	207,690	2,263,483		14,503,681	5,648,490	8,855,191		112,497,474
7/1/2042	26,010,569	3,901,585	22,108,984	4,389,436	17,719,548	213,953	2,363,169		15,142,426	5,893,383	9,249,043		121,746,517
7/1/2043	27,145,173	4,071,776	23,073,397	4,579,515	18,493,882	218,944	2,467,028		15,807,910	6,153,468	9,654,442		131,400,960
7/1/2044	28,320,251	4,248,038	24,072,213	4,778,323	19,293,890	232,536	2,573,189		16,488,166	6,417,730	10,070,436		141,471,395
7/1/2045	29,537,117	4,430,568	25,106,550	4,985,316	20,121,234		2,716,367		17,404,867	6,695,152	10,709,715		152,181,110
7/1/2046	30,797,126	4,619,569	26,177,557	5,199,269	20,978,289		2,832,069		18,146,220	6,979,233	11,166,987		163,348,097
7/1/2047	32,101,675	4,815,251	27,286,424	5,418,213	21,868,211		2,952,209		18,916,003	7,278,701	11,637,302		174,985,399
7/1/2048	33,452,203	5,017,830	28,434,373	5,650,748	22,783,624		3,075,789		19,707,835	7,581,919	12,125,917		187,111,316
7/1/2049	34,850,194	5,227,529	29,622,665		29,622,665		4,003,665		25,619,001	13,162,743	12,456,258		199,567,573
7/1/2050	36,297,177	5,444,577	30,852,601		30,852,601		4,169,706		26,682,895	13,707,424	12,975,471		212,543,044
7/1/2051	37,794,728	5,669,209	32,125,519		32,125,519		4,341,550		27,783,969	14,273,966	13,510,003		226,053,048
7/1/2052	39,344,470	5,901,671	33,442,800		33,442,800		4,519,383		28,923,417	14,859,015	14,064,403		240,117,450
7/1/2053	40,948,078	6,142,212	34,805,867		34,805,867		4,703,397		30,102,470	15,469,218	14,633,252		254,750,702
7/1/2054	42,607,276	6,391,091	36,216,185		36,216,185		4,893,790		31,322,395	16,095,744	15,226,651		269,977,353
7/1/2055	44,323,842	6,648,576	37,675,265		37,675,265		5,088,463		32,586,802		32,586,802		302,564,155
7/1/2056	46,099,606	6,914,941	39,184,665		39,184,665		1,123,198		38,061,467		38,061,467		340,625,622
7/1/2057	47,936,456	7,190,468	40,745,987		40,745,987				40,745,987		40,745,987		381,371,609
7/1/2058	49,836,336	7,475,450	42,360,885		42,360,885				42,360,885		42,360,885		423,732,495
7/1/2059	51,801,250	7,770,187	44,031,062		44,031,062				44,031,062		44,031,062		467,763,557
7/1/2060	53,833,261	8,074,989	45,758,272		45,758,272				45,758,272		45,758,272		513,521,829
7/1/2061	55,934,498	8,390,175	47,544,323		47,544,323				47,544,323		47,544,323		561,066,153
Total	1,124,498,555	168,674,783	955,823,772	92,505,961	863,317,810	1,004,858	85,878,184	1,966,487	774,468,282	213,402,130	561,066,153		

SR 156

Scenario C Phase 1; April 08, 2013

I. Sources and Uses

Sources	
TE CIB	46,510,000
+Premium/-Discount	-
Total Proceeds	46,510,000
TIFIA Loan (33% of eligible costs)	39,320,003
TIFIA Budget Authority	-
Construction Fund Interest Earnings	107,274
Total Sources	\$85,937,278

Uses	
Net Construction Deposit	30,420,359
TIFIA Construction Deposit	39,320,168
Construction Fund Interest Earnings	107,274
Total Net Construction Costs	69,847,802
Debt Service Reserve Fund	4,651,000
Capitalized Interest Fund	7,499,812
Underwriters' Discount	279,060
Other Cost of Issuance	1,500,000
TIFIA Reserve Fund	1,966,000
Rounding	193,604
Total Uses	\$85,937,278

TIFIA Eligible Costs	Amount \$'s
Project Cost	113,001,025
Project Cost Reimbursement	0
Debt Service Reserve Fund	4,651,000
Capitalized Interest Fund Deposit	0
INS & COI	1,500,000
Total TIFIA Eligible Costs	119,152,025
TIFIA Share 33.00%	Amount \$'s
Project Cost	37,290,338
Project Cost Reimbursement	0
Debt Service Reserve Fund	1,534,830
Capitalized Interest Fund Deposit	0
INS & COI	495,000
Total TIFIA Share	39,320,168

II. Bonds Debt Service

Period	CIB Principal	CIB Interest	CIB Debt Service	Capitalized Interest	DSRF Income	Net DS
7/1/2018		1,247,480	1,247,480	(1,247,480)		
7/1/2019		2,138,428	2,138,428	(2,138,428)		
7/1/2020		2,138,428	2,138,428	(2,138,428)		
7/1/2021		2,138,428	2,138,428	(2,138,428)		
7/1/2022		2,138,428	2,138,428		(27,906)	2,110,522
7/1/2023		2,138,428	2,138,428		(27,906)	2,110,522
7/1/2024		2,138,428	2,138,428		(27,906)	2,110,522
7/1/2025	115,000	2,138,428	2,253,428		(27,906)	2,225,522
7/1/2026	205,000	2,134,564	2,339,564		(27,906)	2,311,658
7/1/2027	300,000	2,127,245	2,427,245		(27,906)	2,399,339
7/1/2028	405,000	2,115,995	2,520,995		(27,906)	2,493,089
7/1/2029	515,000	2,100,322	2,615,322		(27,906)	2,587,416
7/1/2030	630,000	2,080,031	2,710,031		(27,906)	2,682,125
7/1/2031	755,000	2,054,894	2,809,894		(27,906)	2,781,988
7/1/2032	890,000	2,024,392	2,914,392		(27,906)	2,886,486
7/1/2033	1,035,000	1,987,902	3,022,902		(27,906)	2,994,996
7/1/2034	1,190,000	1,944,846	3,134,846		(27,906)	3,106,940
7/1/2035	1,355,000	1,894,628	3,249,628		(27,906)	3,221,722
7/1/2036	1,530,000	1,836,634	3,366,634		(27,906)	3,338,728
7/1/2037	1,720,000	1,770,232	3,490,232		(27,906)	3,462,326
7/1/2038	1,920,000	1,694,662	3,614,662		(27,906)	3,586,756
7/1/2039	2,135,000	1,608,838	3,743,838		(27,906)	3,715,932
7/1/2040	2,365,000	1,511,909	3,876,909		(27,906)	3,849,003
7/1/2041	2,615,000	1,402,882	4,017,882		(27,906)	3,989,976
7/1/2042	2,880,000	1,280,239	4,160,239		(27,906)	4,132,333
7/1/2043	3,165,000	1,143,727	4,308,727		(28,695)	4,280,032
7/1/2044	3,470,000	993,389	4,463,389		(29,699)	4,433,690
7/1/2045	3,790,000	828,217	4,618,217		(30,745)	4,587,472
7/1/2046	4,135,000	647,434	4,782,434		(30,745)	4,751,689
7/1/2047	4,500,000	449,781	4,949,781		(30,745)	4,919,036
7/1/2048	4,890,000	234,231	5,124,231		(30,745)	5,093,486
Total	46,510,000	52,083,459	98,593,459	(7,662,763)	(767,401)	90,163,296

III. Debt Service Coverage

Date	Toll Revenue	O&M	Pledged Revenue	CIB Net DS	TIFIA Repayment	CIB Bonds DS Coverage	Aggregate DS Coverage
7/1/2018							
7/1/2019							
7/1/2020							
7/1/2021	4,751,916	712,787	4,039,128				
7/1/2022	10,302,895	1,545,434	8,757,461	2,110,522	1,517,055	4.15	2.41
7/1/2023	11,634,112	1,745,117	9,888,995	2,110,522	1,517,055	4.69	2.73
7/1/2024	12,729,893	1,909,484	10,820,409	2,110,522	1,517,055	5.13	2.98
7/1/2025	13,545,156	2,031,773	11,513,383	2,225,522	1,517,055	5.17	3.08
7/1/2026	14,056,854	2,108,528	11,948,326	2,311,658	1,517,055	5.17	3.12
7/1/2027	14,585,670	2,187,851	12,397,820	2,399,339	1,517,055	5.17	3.17
7/1/2028	15,132,142	2,269,821	12,862,321	2,493,089	1,517,055	5.16	3.21
7/1/2029	15,696,822	2,354,523	13,342,298	2,587,416	1,517,055	5.16	3.25
7/1/2030	16,280,277	2,442,042	13,838,236	2,682,125	1,561,855	5.16	3.26
7/1/2031	16,883,095	2,532,464	14,350,631	2,781,988	1,619,610	5.16	3.26
7/1/2032	17,505,879	2,625,882	14,879,997	2,886,486	1,679,091	5.16	3.26
7/1/2033	18,149,250	2,722,388	15,426,863	2,994,996	1,740,461	5.15	3.26
7/1/2034	18,813,849	2,822,077	15,991,771	3,106,940	1,803,876	5.15	3.26
7/1/2035	19,500,334	2,925,050	16,575,284	3,221,722	1,869,498	5.14	3.26
7/1/2036	20,209,384	3,031,408	17,177,977	3,338,728	1,937,494	5.15	3.26
7/1/2037	20,941,700	3,141,255	17,800,445	3,462,326	2,008,036	5.14	3.25
7/1/2038	21,698,000	3,254,700	18,443,300	3,586,756	2,079,916	5.14	3.25
7/1/2039	22,479,027	3,371,854	19,107,173	3,715,932	2,154,773	5.14	3.25
7/1/2040	23,285,544	3,492,832	19,792,712	3,849,003	2,232,119	5.14	3.25
7/1/2041	24,118,337	3,617,751	20,500,587	3,989,976	2,311,485	5.14	3.25
7/1/2042	24,978,217	3,746,733	21,231,484	4,132,333	2,375,410	5.14	3.26
7/1/2043	25,866,017	3,879,902	21,986,114	4,280,032	2,455,423	5.14	3.26
7/1/2044	26,782,595	4,017,389	22,765,205	4,433,690	2,541,989	5.13	3.26
7/1/2045	27,728,836	4,159,325	23,569,510	4,587,472	2,657,485	5.14	3.25
7/1/2046	28,705,649	4,305,847	24,399,802	4,751,689	2,750,736	5.13	3.25
7/1/2047	29,713,973	4,457,096	25,256,877	4,919,036	2,847,298	5.13	3.25
7/1/2048	30,754,772	4,613,216	26,141,556	5,093,486	2,946,730	5.13	3.25
7/1/2049	31,829,040	4,774,356	27,054,684		3,789,808		7.14
7/1/2050	32,937,800	4,940,670	27,997,130		3,919,598		7.14
7/1/2051	34,082,104	5,112,316	28,969,788		4,055,770		7.14
7/1/2052	35,263,037	5,289,456	29,973,582		4,196,301		7.14
7/1/2053	36,481,716	5,472,257	31,009,459		4,341,324		7.14
7/1/2054	37,739,289	5,660,893	32,078,396		4,490,975		7.14
7/1/2055	39,036,940	5,855,541	33,181,399		4,645,396		7.14
7/1/2056	40,375,887	6,056,383	34,319,504		1,962,576		17.49
Total	834,576,009	125,186,401	709,389,608	90,163,296	85,111,476		

IV. TIFIA Loan Schedule

Date	Loan Draw Amt	Loan Amount Beg. Balance	Interest Due	Payment	Interest Payments	Principal Payments	Current Year	Loan End. Balance	Revenue
							Unpaid Interest		Available for TIFIA Payment
7/1/2018	4,400,381	4,400,381	156,256				156,256	4,556,637	
7/1/2019	12,251,917	16,808,555	596,868				596,868	17,405,422	
7/1/2020	15,933,873	33,339,295	1,183,870				1,183,870	34,523,166	
7/1/2021	6,733,997	41,257,163	1,465,032				1,465,032	42,722,195	4,039,128
7/1/2022		42,722,195	1,517,055	(1,517,055)	(1,517,055)			42,722,195	6,646,940
7/1/2023		42,722,195	1,517,055	(1,517,055)	(1,517,055)			42,722,195	7,778,474
7/1/2024		42,722,196	1,517,055	(1,517,055)	(1,517,055)			42,722,196	8,709,887
7/1/2025		42,722,196	1,517,055	(1,517,055)	(1,517,055)			42,722,196	9,402,861
7/1/2026		42,722,196	1,517,055	(1,517,055)	(1,517,055)			42,722,196	9,636,668
7/1/2027		42,722,196	1,517,055	(1,517,055)	(1,517,055)			42,722,196	9,998,481
7/1/2028		42,722,196	1,517,055	(1,517,055)	(1,517,055)			42,722,196	10,369,232
7/1/2029		42,722,196	1,517,055	(1,517,055)	(1,517,055)			42,722,196	10,754,883
7/1/2030		42,722,196	1,517,055	(1,561,855)	(1,517,055)	(44,800)		42,677,396	11,156,111
7/1/2031		42,677,396	1,515,464	(1,619,610)	(1,515,464)	(104,146)		42,573,250	11,568,644
7/1/2032		42,573,250	1,511,766	(1,679,091)	(1,511,766)	(167,325)		42,405,925	11,993,512
7/1/2033		42,405,925	1,505,824	(1,740,461)	(1,505,824)	(234,637)		42,171,288	12,431,867
7/1/2034		42,171,288	1,497,492	(1,803,876)	(1,497,492)	(306,384)		41,864,904	12,884,832
7/1/2035		41,864,904	1,486,613	(1,869,498)	(1,486,613)	(382,886)		41,482,019	13,353,562
7/1/2036		41,482,019	1,473,017	(1,937,494)	(1,473,017)	(464,478)		41,017,541	13,839,249
7/1/2037		41,017,541	1,456,523	(2,008,036)	(1,456,523)	(551,513)		40,466,027	14,338,119
7/1/2038		40,466,027	1,436,939	(2,079,916)	(1,436,939)	(642,977)		39,823,050	14,856,545
7/1/2039		39,823,050	1,414,107	(2,154,773)	(1,414,107)	(740,666)		39,082,384	15,391,241
7/1/2040		39,082,384	1,387,806	(2,232,119)	(1,387,806)	(844,313)		38,238,071	15,943,710
7/1/2041		38,238,071	1,357,825	(2,311,485)	(1,357,825)	(953,660)		37,284,411	16,510,611
7/1/2042		37,284,411	1,323,960	(2,375,410)	(1,323,960)	(1,051,450)		36,232,961	16,967,718
7/1/2043		36,232,961	1,286,624	(2,455,423)	(1,286,624)	(1,168,799)		35,064,162	17,538,735
7/1/2044		35,064,162	1,245,120	(2,541,989)	(1,245,120)	(1,296,869)		33,767,293	18,157,065
7/1/2045		33,767,293	1,199,068	(2,657,485)	(1,199,068)	(1,458,417)		32,308,876	18,982,039
7/1/2046		32,308,876	1,147,280	(2,750,736)	(1,147,280)	(1,603,455)		30,705,420	19,648,113
7/1/2047		30,705,420	1,090,342	(2,847,298)	(1,090,342)	(1,756,956)		28,948,465	20,337,842
7/1/2048		28,948,465	1,027,953	(2,946,730)	(1,027,953)	(1,918,777)		27,029,688	21,048,071
7/1/2049		27,029,688	959,818	(3,789,808)	(959,818)	(2,829,990)		24,199,698	27,070,057
7/1/2050		24,199,698	859,325	(3,919,598)	(859,325)	(3,060,273)		21,139,425	27,997,130
7/1/2051		21,139,425	750,656	(4,055,770)	(750,656)	(3,305,114)		17,834,310	28,969,788
7/1/2052		17,834,310	633,292	(4,196,301)	(633,292)	(3,563,009)		14,271,301	29,973,582
7/1/2053		14,271,301	506,770	(4,341,324)	(506,770)	(3,834,554)		10,436,747	31,009,459
7/1/2054		10,436,747	370,606	(4,490,975)	(370,606)	(4,120,369)		6,316,378	32,078,396
7/1/2055		6,316,378	224,293	(4,645,396)	(224,293)	(4,421,103)		1,895,276	33,181,399
7/1/2056		1,895,276	67,301	(1,962,576)	(67,301)	(1,895,276)			34,319,504
Total	39,320,168		45,791,306	(85,111,476)	(42,389,280)	(42,722,196)	3,402,027		

V. TIFIA LLCR and Reserve

Calculation Year	Surplus Pledged Revenues	LL Revenues	PV @ 3.52%	Total: NPV plus Reserve Balances	TIFIA Balance	6.72 LLCR
7/1/2019		584,911,746	274,902,367	276,868,375	17,405,422	15.91
7/1/2020		584,911,746	274,902,367	276,868,375	34,523,166	8.02
7/1/2021	4,039,128	584,911,746	284,578,930	286,938,140	42,722,195	6.72
7/1/2022	6,646,940	580,872,620	290,556,983	293,309,395	42,722,195	6.87
7/1/2023	7,778,474	574,225,684	294,137,652	297,283,265	42,722,195	6.96
7/1/2024	8,709,887	566,447,213	296,712,827	300,251,642	42,722,196	7.03
7/1/2025	9,287,861	557,737,329	298,447,234	302,379,250	42,722,196	7.08
7/1/2026	9,636,668	548,449,470	299,664,718	303,596,734	42,722,196	7.11
7/1/2027	9,998,481	538,812,805	300,576,250	304,508,267	42,722,196	7.13
7/1/2028	10,369,232	528,814,327	301,158,056	305,090,073	42,722,196	7.14
7/1/2029	10,754,883	518,445,098	301,389,591	305,321,608	42,722,196	7.15
7/1/2030	11,156,111	507,690,218	301,243,625	305,175,641	42,677,396	7.15
7/1/2031	11,568,644	496,534,110	300,691,292	304,623,309	42,573,250	7.16
7/1/2032	11,993,512	484,965,470	299,706,985	303,639,001	42,405,925	7.16
7/1/2033	12,431,867	472,971,961	298,263,161	302,195,178	42,171,288	7.17
7/1/2034	12,884,832	460,540,097	296,330,160	300,262,177	41,864,904	7.17
7/1/2035	13,353,562	447,655,268	293,876,153	297,808,170	41,482,019	7.18
7/1/2036	13,839,249	434,301,708	290,867,034	294,799,051	41,017,541	7.19
7/1/2037	14,338,119	420,457,462	287,261,478	291,193,495	40,466,027	7.20
7/1/2038	14,856,545	406,119,346	283,034,965	286,966,982	39,823,050	7.21
7/1/2039	15,391,241	391,262,804	278,141,254	282,073,271	39,082,384	7.22
7/1/2040	15,943,710	375,871,566	272,540,588	276,472,605	38,238,071	7.23
7/1/2041	16,510,611	359,927,859	266,190,310	270,122,326	37,284,411	7.24
7/1/2042	17,099,152	343,417,251	259,049,601	262,981,618	36,232,961	7.26
7/1/2043	17,706,082	326,318,099	251,068,995	255,001,012	35,064,162	7.27
7/1/2044	18,331,515	308,612,017	242,200,541	246,132,558	33,767,293	7.29
7/1/2045	18,982,039	290,280,502	232,394,485	236,326,502	32,308,876	7.31
7/1/2046	19,648,113	271,298,463	221,592,732	225,524,749	30,705,420	7.34
7/1/2047	20,337,842	251,650,350	209,744,683	213,676,700	28,948,465	7.38
7/1/2048	21,048,071	231,312,509	196,789,855	200,721,871	27,029,688	7.43
7/1/2049	27,054,684	210,264,438	182,668,787	186,600,803	24,199,698	7.71
7/1/2050	27,997,130	183,209,754	162,044,044	165,976,061	21,139,425	7.85
7/1/2051	28,969,788	155,212,624	139,750,864	143,682,881	17,834,310	8.06
7/1/2052	29,973,582	126,242,835	115,700,306	119,632,323	14,271,301	8.38
7/1/2053	31,009,459	96,269,254	89,799,376	93,731,392	10,436,747	8.98
7/1/2054	32,078,396	65,259,795	61,950,855	65,882,872	6,316,378	10.43
7/1/2055	33,181,399	33,181,399	32,053,129	35,985,146	1,895,276	18.99
7/1/2056						
Total	584,906,809	14,319,366,944	9,081,982,231	9,219,602,820	1,245,664,613	

TIFIA Reserve

Year	Beginning Balance	Additional Deposit	Ending Balance
7/1/2019	1,966,000		1,966,000
7/1/2020	1,966,000		1,966,000
7/1/2021	1,966,000	393,200	2,359,200
7/1/2022	2,359,200	393,200	2,752,400
7/1/2023	2,752,400	393,200	3,145,600
7/1/2024	3,145,600	393,200	3,538,800
7/1/2025	3,538,800	393,200	3,932,000
7/1/2026	3,932,000		3,932,000
7/1/2027	3,932,000		3,932,000
7/1/2028	3,932,000		3,932,000
7/1/2029	3,932,000		3,932,000
7/1/2030	3,932,000		3,932,000
7/1/2031	3,932,000		3,932,000
7/1/2032	3,932,000		3,932,000
7/1/2033	3,932,000		3,932,000
7/1/2034	3,932,000		3,932,000
7/1/2035	3,932,000		3,932,000
7/1/2036	3,932,000		3,932,000
7/1/2037	3,932,000		3,932,000
7/1/2038	3,932,000		3,932,000
7/1/2039	3,932,000		3,932,000
7/1/2040	3,932,000		3,932,000
7/1/2041	3,932,000		3,932,000
7/1/2042	3,932,000		3,932,000
7/1/2043	3,932,000		3,932,000
7/1/2044	3,932,000		3,932,000
7/1/2045	3,932,000		3,932,000
7/1/2046	3,932,000		3,932,000
7/1/2047	3,932,000		3,932,000
7/1/2048	3,932,000		3,932,000
7/1/2049	3,932,000		3,932,000
7/1/2050	3,932,000		3,932,000
7/1/2051	3,932,000		3,932,000
7/1/2052	3,932,000		3,932,000
7/1/2053	3,932,000		3,932,000
7/1/2054	3,932,000		3,932,000
7/1/2055	3,932,000		3,932,000
7/1/2056	3,932,000		3,932,000
Total			

VI. Aggregate Flow of Funds

Period	Gross Toll Revenues	O&M Expenses	Available Revenues	Net Debt Service	Available Revenues	DSRF Deposit	TIFIA/Sub Repayment	TIFIA/Sub Reserve Fund	Available Revenues	R&R Expenses	Residual Revenue Deposit	General Reserve Distribution	General Reserve Balance
7/1/2019													
7/1/2020													
7/1/2021	4,751,916	712,787	4,039,128		4,039,128			393,202	3,645,927		3,645,927		3,645,927
7/1/2022	10,302,895	1,545,434	8,757,461	2,110,522	6,646,940		1,517,049	393,202	4,736,689		4,736,689		8,382,616
7/1/2023	11,634,112	1,745,117	9,888,995	2,110,522	7,778,474		1,517,049	393,202	5,868,223		5,868,223		14,250,839
7/1/2024	12,729,893	1,909,484	10,820,409	2,110,522	8,709,887		1,517,049	393,202	6,799,637		6,799,637		21,050,476
7/1/2025	13,545,156	2,031,773	11,513,383	2,225,522	9,287,861		1,517,049	393,202	7,377,611		7,377,611		28,428,088
7/1/2026	14,056,854	2,108,528	11,948,326	2,311,658	9,636,668		1,517,049		8,119,620		8,119,620		36,547,707
7/1/2027	14,585,670	2,187,851	12,397,820	2,399,339	9,998,481		1,517,049		8,481,432		8,481,432		45,029,140
7/1/2028	15,132,142	2,269,821	12,862,321	2,493,089	10,369,232		1,517,049		8,852,183		8,852,183		53,881,323
7/1/2029	15,696,822	2,354,523	13,342,298	2,587,416	10,754,883		1,517,049		9,237,834		9,237,834		63,119,157
7/1/2030	16,280,277	2,442,042	13,838,236	2,682,125	11,156,111		1,561,856		9,594,256		9,594,256		72,713,413
7/1/2031	16,883,095	2,532,464	14,350,631	2,781,988	11,568,644		1,619,610		9,949,034		9,949,034		82,662,447
7/1/2032	17,505,879	2,625,882	14,879,997	2,886,486	11,993,512		1,679,092		10,314,420		10,314,420		92,976,867
7/1/2033	18,149,250	2,722,388	15,426,863	2,994,996	12,431,867		1,740,461		10,691,406		10,691,406		103,668,273
7/1/2034	18,813,849	2,822,077	15,991,771	3,106,940	12,884,832		1,803,876		11,080,955		11,080,955		114,749,228
7/1/2035	19,500,334	2,925,050	16,575,284	3,221,722	13,353,562		1,869,499		11,484,063		11,484,063		126,233,291
7/1/2036	20,209,384	3,031,408	17,177,977	3,338,728	13,839,249		1,937,495		11,901,754		11,901,754		138,135,046
7/1/2037	20,941,700	3,141,255	17,800,445	3,462,326	14,338,119		2,007,337		12,330,783		12,330,783		150,465,828
7/1/2038	21,698,000	3,254,700	18,443,300	3,586,756	14,856,545		2,079,916		12,776,628		12,776,628		163,242,457
7/1/2039	22,479,027	3,371,854	19,107,173	3,715,932	15,391,241		2,154,774		13,236,468		13,236,468		176,478,924
7/1/2040	23,285,544	3,492,832	19,792,712	3,849,003	15,943,710		2,232,119		13,711,590		13,711,590		190,190,515
7/1/2041	24,118,337	3,617,751	20,500,587	3,989,976	16,510,611		2,311,486		14,199,125		14,199,125		204,389,640
7/1/2042	24,978,217	3,746,733	21,231,484	4,132,333	17,099,152	131,434	2,375,481		14,592,237		14,592,237		218,981,878
7/1/2043	25,866,017	3,879,902	21,986,114	4,280,032	17,706,082	167,347	2,455,423		15,083,312		15,083,312		234,065,190
7/1/2044	26,782,595	4,017,389	22,765,205	4,433,690	18,331,515	174,450	2,541,989		15,615,076		15,615,076		249,680,266
7/1/2045	27,728,836	4,159,325	23,569,510	4,587,472	18,982,039		2,657,485		16,324,553		16,324,553		266,004,819
7/1/2046	28,705,649	4,305,847	24,399,802	4,751,689	19,648,113		2,750,736		16,897,377		16,897,377		282,902,196
7/1/2047	29,713,973	4,457,096	25,256,877	4,919,036	20,337,842		2,847,298		17,490,544		17,490,544		300,392,740
7/1/2048	30,754,772	4,613,216	26,141,556	5,093,486	21,048,071		2,946,730		18,101,341		18,101,341		318,494,081
7/1/2049	31,829,040	4,774,356	27,054,684		27,054,684		3,789,808		23,264,876		23,264,876		341,758,957
7/1/2050	32,937,800	4,940,670	27,997,130		27,997,130		3,919,598		24,077,532		24,077,532		365,836,489
7/1/2051	34,082,104	5,112,316	28,969,788		28,969,788		4,055,770		24,914,018		24,914,018		390,750,507
7/1/2052	35,263,037	5,289,456	29,973,582		29,973,582		4,196,301		25,777,280		25,777,280		416,527,787
7/1/2053	36,481,716	5,472,257	31,009,459		31,009,459		4,341,324		26,668,134		26,668,134		443,195,922
7/1/2054	37,739,289	5,660,893	32,078,396		32,078,396		4,490,975		27,587,421		27,587,421		470,783,342
7/1/2055	39,036,940	5,855,541	33,181,399		33,181,399		4,645,396		28,536,003		28,536,003		499,319,345
7/1/2056	40,375,887	6,056,383	34,319,504		34,319,504		1,963,350		32,356,154		32,356,154		531,675,499
7/1/2057	41,757,382	6,263,607	35,493,775		35,493,775				35,493,775		35,493,775		567,169,274
7/1/2058	43,182,718	6,477,408	36,705,310		36,705,310				36,705,310		36,705,310		603,874,584
7/1/2059	44,653,221	6,697,983	37,955,238		37,955,238				37,955,238		37,955,238		641,829,822
7/1/2060	46,170,261	6,925,539	39,244,722		39,244,722				39,244,722		39,244,722		681,074,545
7/1/2061	47,735,245	7,160,287	40,574,958		40,574,958				40,574,958		40,574,958		721,649,503
Total	1,058,074,837	158,711,226	899,363,611	90,163,296	809,200,316	473,231		1,966,008	721,649,503		721,649,503		

VII. Spreads

MMD as of 11/19/2012		AAA Taxable as of 11/9/2012		TE CIB			TE CAB			TE CCAB			Taxable CIB		
Year	Rate	Year	Rate	Spread	Cushion	Rate	Spread	Cushion	Rate	Spread	Cushion	Rate	Spread	Cushion	Rate
2018	0.20	2018	0.30	150	75	2.450%	250	75	3.450%	200	75	2.950%	150	75	2.550%
2019	0.30	2019	0.40	150	75	2.550%	250	75	3.550%	200	75	3.050%	150	75	2.650%
2020	0.42	2020	0.48	150	75	2.670%	250	75	3.670%	200	75	3.170%	150	75	2.730%
2021	0.52	2021	0.68	150	75	2.770%	250	75	3.770%	200	75	3.270%	175	75	3.180%
2022	0.64	2022	0.93	150	75	2.890%	250	75	3.890%	200	75	3.390%	175	75	3.430%
2023	0.76	2023	1.13	150	75	3.010%	250	75	4.010%	200	75	3.510%	175	75	3.630%
2024	0.91	2024	1.33	150	75	3.160%	250	75	4.160%	200	75	3.660%	200	75	4.080%
2025	1.11	2025	1.66	150	75	3.360%	250	75	4.360%	200	75	3.860%	200	75	4.410%
2026	1.32	2026	1.96	150	75	3.570%	250	75	4.570%	200	75	4.070%	200	75	4.710%
2027	1.50	2027	2.26	150	75	3.750%	250	75	4.750%	200	75	4.250%	200	75	5.010%
2028	1.62	2028	2.46	150	75	3.870%	250	75	4.870%	200	75	4.370%	225	75	5.460%
2029	1.69	2029	2.61	150	75	3.940%	250	75	4.940%	200	75	4.440%	225	75	5.610%
2030	1.74	2030	2.76	150	75	3.990%	250	75	4.990%	200	75	4.490%	225	75	5.760%
2031	1.79	2031	2.86	150	75	4.040%	250	75	5.040%	200	75	4.540%	225	75	5.860%
2032	1.85	2032	3.01	150	75	4.100%	250	75	5.100%	200	75	4.600%	225	75	6.010%
2033	1.91	2033	3.16	150	75	4.160%	250	75	5.160%	200	75	4.660%	225	75	6.160%
2034	1.97	2034	3.21	150	75	4.220%	250	75	5.220%	200	75	4.720%	225	75	6.210%
2035	2.03	2035	3.31	150	75	4.280%	250	75	5.280%	200	75	4.780%	225	75	6.310%
2036	2.09	2036	3.37	150	75	4.340%	250	75	5.340%	200	75	4.840%	225	75	6.370%
2037	2.15	2037	3.40	150	75	4.400%	250	75	5.400%	200	75	4.900%	225	75	6.400%
2038	2.22	2038	3.45	150	75	4.470%	250	75	5.470%	200	75	4.970%	225	75	6.450%
2039	2.29	2039	3.47	150	75	4.540%	250	75	5.540%	200	75	5.040%	225	75	6.470%
2040	2.36	2040	3.48	150	75	4.610%	250	75	5.610%	200	75	5.110%	225	75	6.480%
2041	2.44	2041	3.49	150	75	4.690%	250	75	5.690%	200	75	5.190%	225	75	6.490%
2042	2.49	2042		150	75	4.740%	250	75	5.740%	200	75	5.240%	225	75	3.000%
2043	2.50	2043		150	75	4.750%	250	75	5.750%	200	75	5.250%			
2044	2.51	2044		150	75	4.760%	250	75	5.760%	200	75	5.260%			
2045	2.52	2045		150	75	4.770%	250	75	5.770%	200	75	5.270%			
2046	2.53	2046		150	75	4.780%	250	75	5.780%	200	75	5.280%			
2047	2.54	2047		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2048	2.54	2048		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2049	2.54	2049		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2050	2.54	2050		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2051	2.54	2051		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2052	2.54	2052		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2053	2.54	2053		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2054	2.54	2054		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2055	2.54	2055		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2056	2.54	2056		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2057	2.54	2057		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2058	2.54	2058		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2059	2.54	2059		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2060	2.54	2060		150	75	4.790%	250	75	5.790%	200	75	5.290%			
2061	2.54	2061		150	75	4.790%	250	75	5.790%	200	75	5.290%			

SR 156

Scenario D Phases 1 & 2; April 08, 2013

I. Sources and Uses

Sources	
TE CIB 1	47,325,000
TE CIB 2	119,130,000
+Premium/-Discount	-
Total Proceeds	166,455,000
TIFIA Loan (33% of eligible costs)	39,347,228
TIFIA Budget Authority	-
Construction Fund Interest Earnings	107,176
Total Sources	\$205,909,405

Uses	
Net Construction Deposit	30,393,559
TIFIA Construction Deposit	39,347,063
Construction Fund Interest Earnings	107,176
Total Net Construction Costs	69,847,798
Debt Service Reserve Fund	4,732,500
Capitalized Interest Fund	7,579,029
Underwriters' Discount	283,950
Other Cost of Issuance	1,500,000
TIFIA Reserve Fund	1,967,361
CIB 1 Additional Proceeds	868,766
CIB 2 Additional Capacity	119,130,000
Total Uses	\$205,909,405

TIFIA Eligible Costs	Amount \$'s
Project Cost	113,001,025
Project Cost Reimbursement	0
Debt Service Reserve Fund	4,732,500
Capitalized Interest Fund Deposit	0
INS & COI	1,500,000
Total TIFIA Eligible Costs	119,233,525
TIFIA Share 33.00%	Amount \$'s
Project Cost	37,290,338
Project Cost Reimbursement	0
Debt Service Reserve Fund	1,561,725
Capitalized Interest Fund Deposit	0
INS & COI	495,000
Total TIFIA Share	39,347,063

II. Bonds Debt Service

Period	CIB 1 Principal	CIB 1 Interest	CIB 1 Debt Service	Capitalized Interest	DSRF Income	Phase 1 DS	TIFIA Repayment	CIB 2 Principal	CIB 2 Interest	Net DS
7/1/2018		1,278,461	1,278,461	(1,278,461)						
7/1/2019		2,191,744	2,191,744	(2,191,744)						
7/1/2020		2,191,744	2,191,744	(2,191,744)						
7/1/2021		2,191,744	2,191,744	(2,191,744)						
7/1/2022		2,191,744	2,191,744		(28,395)	2,163,349	1,518,099			2,163,349
7/1/2023		2,191,744	2,191,744		(28,395)	2,163,349	1,518,099			2,163,349
7/1/2024		2,191,744	2,191,744		(28,395)	2,163,349	1,518,099			2,163,349
7/1/2025		2,191,744	2,191,744		(28,395)	2,163,349	1,518,099		3,318,213	5,481,562
7/1/2026		2,191,744	2,191,744		(28,395)	2,163,349	1,518,099		5,688,366	7,851,715
7/1/2027	100,000	2,191,744	2,291,744		(28,395)	2,263,349	1,518,099		5,688,366	7,951,715
7/1/2028	210,000	2,187,994	2,397,994		(28,395)	2,369,599	1,518,099		5,688,366	8,057,965
7/1/2029	335,000	2,179,771	2,514,771		(28,395)	2,486,376	1,518,099		5,688,366	8,174,741
7/1/2030	465,000	2,166,572	2,631,572		(28,395)	2,603,177	1,518,099		5,688,366	8,291,542
7/1/2031	605,000	2,148,018	2,753,018		(28,395)	2,724,623	1,518,099		5,688,366	8,412,989
7/1/2032	760,000	2,123,576	2,883,576		(28,395)	2,855,181	1,556,681		5,688,366	8,543,547
7/1/2033	920,000	2,092,416	3,012,416		(28,395)	2,984,021	1,628,670		5,688,366	8,672,387
7/1/2034	1,095,000	2,054,144	3,149,144		(28,395)	3,120,749	1,701,998		5,688,366	8,809,115
7/1/2035	1,280,000	2,007,935	3,287,935		(28,395)	3,259,540	1,778,293	20,000	5,688,366	8,967,906
7/1/2036	1,485,000	1,953,151	3,438,151		(28,395)	3,409,756	1,856,632	270,000	5,687,510	9,367,266
7/1/2037	1,700,000	1,888,702	3,588,702		(28,395)	3,560,307	1,938,341	545,000	5,675,792	9,781,099
7/1/2038	1,930,000	1,813,902	3,743,902		(28,395)	3,715,507	2,023,058	845,000	5,651,812	10,212,319
7/1/2039	2,180,000	1,727,631	3,907,631		(28,395)	3,879,236	2,110,470	1,160,000	5,614,040	10,653,276
7/1/2040	2,445,000	1,628,659	4,073,659		(28,622)	4,045,037	2,193,046	1,505,000	5,561,376	11,111,413
7/1/2041	2,735,000	1,515,945	4,250,945		(29,458)	4,221,487	2,272,679	1,875,000	5,491,996	11,588,482
7/1/2042	3,040,000	1,387,673	4,427,673		(30,678)	4,396,995	2,370,252	2,280,000	5,404,058	12,081,053
7/1/2043	3,375,000	1,243,577	4,618,577		(31,935)	4,586,642	2,469,408	2,710,000	5,295,986	12,592,628
7/1/2044	3,725,000	1,083,265	4,808,265		(33,250)	4,775,015	2,573,132	3,175,000	5,167,261	13,117,276
7/1/2045	4,105,000	905,955	5,010,955		(33,921)	4,977,034	2,705,413	3,670,000	5,016,131	13,663,165
7/1/2046	4,505,000	710,146	5,215,146		(33,921)	5,181,225	2,817,322	4,205,000	4,841,072	14,227,297
7/1/2047	4,935,000	494,807	5,429,807		(33,921)	5,395,886	2,932,766	4,780,000	4,640,073	14,815,959
7/1/2048	5,395,000	258,421	5,653,421		(33,921)	5,619,500	3,052,060	5,390,000	4,411,111	15,420,611
7/1/2049							3,822,819	11,275,000	4,152,930	15,427,930
7/1/2050							3,976,852	12,440,000	3,612,858	16,052,858
7/1/2051							4,136,200	13,675,000	3,016,982	16,691,982
7/1/2052							4,301,031	15,000,000	2,361,949	17,361,949
7/1/2053							4,471,522	16,405,000	1,643,449	18,048,449
7/1/2054							4,647,851	17,905,000	857,650	18,762,650
7/1/2055							4,828,339			
7/1/2056							2,636,022			
Total	47,325,000	54,576,417	101,901,417	(7,853,694)	(800,735)	93,246,988	85,981,848	119,130,000	144,305,901	356,682,889

III. Debt Service Coverage

Date	Toll Revenue	O&M	Pledged Revenue	CIB 1 Net DS	CIB 2 Net DS	TIFIA Repayment	CIB 1 DS Coverage	CIB 2 DS Coverage	Aggregate DS Coverage
7/1/2018									
7/1/2019									
7/1/2020									
7/1/2021	4,875,878	731,382	4,144,496						
7/1/2022	10,641,275	1,596,191	9,045,084	2,163,349		1,518,093	4.18		2.46
7/1/2023	12,157,845	1,823,677	10,334,168	2,163,349		1,518,093	4.78		2.81
7/1/2024	13,456,378	2,018,457	11,437,922	2,163,349		1,518,093	5.29		3.11
7/1/2025	14,475,445	2,171,317	12,304,128	2,163,349	3,318,213	1,518,093	5.69	2.24	1.76
7/1/2026	15,183,577	2,277,537	12,906,040	2,163,349	5,688,366	1,518,093	5.97	1.64	1.38
7/1/2027	15,918,068	2,387,710	13,530,358	2,263,349	5,688,366	1,518,093	5.98	1.70	1.43
7/1/2028	16,679,795	2,501,969	14,177,826	2,369,599	5,688,366	1,518,093	5.98	1.76	1.48
7/1/2029	17,469,659	2,620,449	14,849,210	2,486,376	5,688,366	1,518,093	5.97	1.82	1.53
7/1/2030	18,288,591	2,743,289	15,545,302	2,603,177	5,688,366	1,518,093	5.97	1.87	1.58
7/1/2031	19,137,552	2,870,633	16,266,919	2,724,623	5,688,366	1,518,093	5.97	1.93	1.64
7/1/2032	20,017,530	3,002,629	17,014,900	2,855,181	5,688,366	1,556,681	5.96	1.99	1.68
7/1/2033	20,929,546	3,139,432	17,790,114	2,984,021	5,688,366	1,628,671	5.96	2.05	1.73
7/1/2034	21,874,651	3,281,198	18,593,454	3,120,749	5,688,366	1,701,998	5.96	2.11	1.77
7/1/2035	22,853,931	3,428,090	19,425,842	3,259,540	5,708,366	1,778,294	5.96	2.17	1.81
7/1/2036	23,868,504	3,580,276	20,288,228	3,409,756	5,957,510	1,856,632	5.95	2.17	1.81
7/1/2037	24,919,521	3,737,928	21,181,593	3,560,307	6,220,792	1,938,342	5.95	2.17	1.81
7/1/2038	26,008,172	3,901,226	22,106,946	3,715,507	6,496,812	2,023,059	5.95	2.16	1.81
7/1/2039	27,135,680	4,070,352	23,065,328	3,879,236	6,774,040	2,110,470	5.95	2.17	1.81
7/1/2040	28,303,309	4,245,496	24,057,812	4,045,037	7,066,376	2,193,102	5.95	2.17	1.81
7/1/2041	29,512,359	4,426,854	25,085,505	4,221,487	7,366,996	2,272,679	5.94	2.16	1.81
7/1/2042	30,764,172	4,614,626	26,149,546	4,396,995	7,684,058	2,370,252	5.95	2.16	1.81
7/1/2043	32,060,131	4,809,020	27,251,111	4,586,642	8,005,986	2,469,408	5.94	2.16	1.81
7/1/2044	33,401,659	5,010,249	28,391,411	4,775,015	8,342,261	2,573,132	5.95	2.16	1.81
7/1/2045	34,790,227	5,218,534	29,571,693	4,977,034	8,686,131	2,705,413	5.94	2.16	1.81
7/1/2046	36,227,347	5,434,102	30,793,245	5,181,225	9,046,072	2,817,322	5.94	2.16	1.81
7/1/2047	37,714,580	5,657,187	32,057,393	5,395,886	9,420,073	2,932,766	5.94	2.16	1.81
7/1/2048	39,253,531	5,888,030	33,365,502	5,619,500	9,801,111	3,052,060	5.94	2.16	1.81
7/1/2049	40,845,859	6,126,879	34,718,980		15,427,930	3,822,819		2.25	1.80
7/1/2050	42,493,270	6,373,990	36,119,279		16,052,858	3,976,852		2.25	1.80
7/1/2051	44,197,522	6,629,628	37,567,894		16,691,982	4,136,200		2.25	1.80
7/1/2052	45,960,429	6,894,064	39,066,365		17,361,949	4,301,031		2.25	1.80
7/1/2053	47,783,858	7,167,579	40,616,279		18,048,449	4,471,522		2.25	1.80
7/1/2054	49,669,733	7,450,460	42,219,273		18,762,650	4,647,851		2.25	1.80
7/1/2055	51,620,036	7,743,005	43,877,031			4,828,339			9.09
7/1/2056	53,636,812	8,045,522	45,591,290			2,635,491			17.30
Total	1,024,126,430	153,618,965	870,507,466	93,246,988	263,435,901	85,981,311			

IV. TIFIA Loan Schedule

Date	Loan Draw Amt	Loan Amount Beg. Balance	Interest Due	Payment	Interest Payments	Principal Payments	Current Year	Loan End. Balance	Revenue
							Unpaid Interest		Available for TIFIA Payment
7/1/2018	4,403,391	4,403,391	156,363				156,363	4,559,754	
7/1/2019	12,260,298	16,820,052	597,276				597,276	17,417,328	
7/1/2020	15,944,772	33,362,100	1,184,680				1,184,680	34,546,780	
7/1/2021	6,738,603	41,285,383	1,466,034				1,466,034	42,751,417	4,144,496
7/1/2022		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	6,853,336
7/1/2023		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	8,142,421
7/1/2024		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	9,246,174
7/1/2025		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	10,122,543
7/1/2026		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	10,734,617
7/1/2027		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	11,258,935
7/1/2028		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	11,800,153
7/1/2029		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	12,354,761
7/1/2030		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	12,934,052
7/1/2031		42,751,417	1,518,093	(1,518,093)	(1,518,093)			42,751,417	13,534,222
7/1/2032		42,751,417	1,518,093	(1,556,681)	(1,518,093)	(38,589)		42,712,828	14,151,645
7/1/2033		42,712,828	1,516,722	(1,628,671)	(1,516,722)	(111,948)		42,600,880	14,806,093
7/1/2034		42,600,880	1,512,747	(1,701,998)	(1,512,747)	(189,251)		42,411,629	15,472,705
7/1/2035		42,411,629	1,506,027	(1,778,294)	(1,506,027)	(272,267)		42,139,362	16,166,302
7/1/2036		42,139,362	1,496,359	(1,856,632)	(1,496,359)	(360,274)		41,779,089	16,878,472
7/1/2037		41,779,089	1,483,565	(1,938,342)	(1,483,565)	(454,776)		41,324,312	17,621,286
7/1/2038		41,324,312	1,467,416	(2,023,059)	(1,467,416)	(555,642)		40,768,670	18,391,439
7/1/2039		40,768,670	1,447,686	(2,110,470)	(1,447,686)	(662,785)		40,105,885	19,186,092
7/1/2040		40,105,885	1,424,150	(2,193,102)	(1,424,150)	(768,951)		39,336,934	19,936,784
7/1/2041		39,336,934	1,396,845	(2,272,679)	(1,396,845)	(875,834)		38,461,100	20,660,720
7/1/2042		38,461,100	1,365,744	(2,370,252)	(1,365,744)	(1,004,508)		37,456,592	21,547,747
7/1/2043		37,456,592	1,330,075	(2,469,408)	(1,330,075)	(1,139,333)		36,317,259	22,449,164
7/1/2044		36,317,259	1,289,617	(2,573,132)	(1,289,617)	(1,283,515)		35,033,744	23,392,111
7/1/2045		35,033,744	1,244,040	(2,705,413)	(1,244,040)	(1,461,373)		33,572,371	24,594,659
7/1/2046		33,572,371	1,192,147	(2,817,322)	(1,192,147)	(1,625,175)		31,947,196	25,612,020
7/1/2047		31,947,196	1,134,437	(2,932,766)	(1,134,437)	(1,798,328)		30,148,867	26,661,506
7/1/2048		30,148,867	1,070,579	(3,052,060)	(1,070,579)	(1,981,481)		28,167,386	27,746,002
7/1/2049		28,167,386	1,000,217	(3,822,819)	(1,000,217)	(2,822,602)		25,344,784	34,752,901
7/1/2050		25,344,784	899,987	(3,976,852)	(899,987)	(3,076,865)		22,267,919	36,153,200
7/1/2051		22,267,919	790,728	(4,136,200)	(790,728)	(3,345,471)		18,922,448	37,601,814
7/1/2052		18,922,448	671,932	(4,301,031)	(671,932)	(3,629,100)		15,293,348	39,100,285
7/1/2053		15,293,348	543,063	(4,471,522)	(543,063)	(3,928,459)		11,364,890	40,650,200
7/1/2054		11,364,890	403,564	(4,647,851)	(403,564)	(4,244,287)		7,120,603	42,253,193
7/1/2055		7,120,603	252,851	(4,828,339)	(252,851)	(4,575,488)		2,545,115	43,893,991
7/1/2056		2,545,115	90,376	(2,635,491)	(90,376)	(2,545,115)			45,591,290
Total	39,347,063		46,634,248	(85,981,311)	(43,229,894)	(42,751,417)	3,404,354		

V. TIFIA LLCR and Reserve

Calculation Year	Surplus Pledged Revenues	LL Revenues	PV @ 3.52%	Total: NPV plus Reserve Balances	TIFIA Balance	8.21 LLCR
7/1/2019		731,664,243	336,718,329	338,685,682	17,417,328	19.45
7/1/2020		731,664,243	336,718,329	338,685,682	34,546,780	9.80
7/1/2021	4,144,496	731,664,243	348,570,814	350,931,638	42,751,417	8.21
7/1/2022	6,881,734	727,519,744	356,696,008	359,450,302	42,751,417	8.41
7/1/2023	8,170,819	720,638,007	362,369,970	365,517,735	42,751,417	8.55
7/1/2024	9,274,572	712,467,185	366,954,571	370,495,807	42,751,417	8.67
7/1/2025	10,140,779	703,192,609	370,596,797	374,531,503	42,751,417	8.76
7/1/2026	10,742,691	693,051,828	373,501,022	377,435,729	42,751,417	8.83
7/1/2027	11,267,009	682,309,134	375,905,564	379,840,271	42,751,417	8.88
7/1/2028	11,808,226	671,047,122	377,875,258	381,809,965	42,751,417	8.93
7/1/2029	12,362,835	659,238,892	379,368,238	383,302,945	42,751,417	8.97
7/1/2030	12,942,126	646,876,055	380,359,163	384,293,869	42,751,417	8.99
7/1/2031	13,542,296	633,933,926	380,805,676	384,740,383	42,751,417	9.00
7/1/2032	14,159,719	620,391,627	380,667,738	384,602,444	42,712,828	9.00
7/1/2033	14,806,093	606,231,905	379,907,520	383,842,226	42,600,880	9.01
7/1/2034	15,472,705	591,425,809	378,474,169	382,408,875	42,411,629	9.02
7/1/2035	16,166,302	575,953,102	376,323,752	380,258,459	42,139,362	9.02
7/1/2036	16,878,472	559,786,797	373,404,044	377,338,750	41,779,089	9.03
7/1/2037	17,621,286	542,908,321	369,669,391	373,604,097	41,324,312	9.04
7/1/2038	18,391,439	525,287,032	365,060,464	368,995,171	40,768,670	9.05
7/1/2039	19,186,092	506,895,590	359,519,151	363,453,857	40,105,885	9.06
7/1/2040	20,012,776	487,709,497	352,988,132	356,922,838	39,336,934	9.07
7/1/2041	20,864,018	467,696,721	345,400,538	349,335,245	38,461,100	9.08
7/1/2042	21,752,551	446,832,703	336,694,619	340,629,325	37,456,592	9.09
7/1/2043	22,664,469	425,080,152	326,793,718	330,728,424	36,317,259	9.11
7/1/2044	23,616,396	402,415,683	315,632,388	319,567,095	35,033,744	9.12
7/1/2045	24,594,659	378,799,287	303,126,253	307,060,959	33,572,371	9.15
7/1/2046	25,612,020	354,204,628	289,201,638	293,136,344	31,947,196	9.18
7/1/2047	26,661,506	328,592,608	273,769,515	277,704,222	30,148,867	9.21
7/1/2048	27,746,002	301,931,102	256,744,696	260,679,403	28,167,386	9.25
7/1/2049	34,718,980	274,185,101	238,036,108	241,970,814	25,344,784	9.55
7/1/2050	36,119,279	239,466,121	211,695,999	215,630,705	22,267,919	9.68
7/1/2051	37,567,894	203,346,841	183,028,419	186,963,125	18,922,448	9.88
7/1/2052	39,066,365	165,778,947	151,903,125	155,837,832	15,293,348	10.19
7/1/2053	40,616,279	126,712,583	118,183,751	122,118,457	11,364,890	10.75
7/1/2054	42,219,273	86,096,304	81,727,540	85,662,246	7,120,603	12.03
7/1/2055	43,877,031	43,877,031	42,385,076	46,319,783	2,545,115	18.20
7/1/2056						
Total	731,669,188	18,306,872,723	11,556,777,485	11,694,492,206	1,269,372,902	

TIFIA Reserve

Year	Beginning Balance	Additional Deposit	Ending Balance
7/1/2019	1,967,361		1,967,361
7/1/2020	1,967,361		1,967,361
7/1/2021	1,967,361	393,472	2,360,834
7/1/2022	2,360,834	393,472	2,754,306
7/1/2023	2,754,306	393,472	3,147,778
7/1/2024	3,147,778	393,472	3,541,251
7/1/2025	3,541,251	393,472	3,934,723
7/1/2026	3,934,723		3,934,723
7/1/2027	3,934,723		3,934,723
7/1/2028	3,934,723		3,934,723
7/1/2029	3,934,723		3,934,723
7/1/2030	3,934,723		3,934,723
7/1/2031	3,934,723		3,934,723
7/1/2032	3,934,723		3,934,723
7/1/2033	3,934,723		3,934,723
7/1/2034	3,934,723		3,934,723
7/1/2035	3,934,723		3,934,723
7/1/2036	3,934,723		3,934,723
7/1/2037	3,934,723		3,934,723
7/1/2038	3,934,723		3,934,723
7/1/2039	3,934,723		3,934,723
7/1/2040	3,934,723		3,934,723
7/1/2041	3,934,723		3,934,723
7/1/2042	3,934,723		3,934,723
7/1/2043	3,934,723		3,934,723
7/1/2044	3,934,723		3,934,723
7/1/2045	3,934,723		3,934,723
7/1/2046	3,934,723		3,934,723
7/1/2047	3,934,723		3,934,723
7/1/2048	3,934,723		3,934,723
7/1/2049	3,934,723		3,934,723
7/1/2050	3,934,723		3,934,723
7/1/2051	3,934,723		3,934,723
7/1/2052	3,934,723		3,934,723
7/1/2053	3,934,723		3,934,723
7/1/2054	3,934,723		3,934,723
7/1/2055	3,934,723		3,934,723
7/1/2056	3,934,723		3,934,723
Total			

VI. Aggregate Flow of Funds

Period	Gross Toll Revenues	O&M Expenses	Available Revenues	CIB 1 Debt Service	Available Revenues	DSRF Deposit	TIFIA/Sub Repayment	TIFIA/Sub Reserve Fund	Available Revenues	CIB 2 Debt Service	Residual Revenue Deposit	General Reserve Distribution	General Reserve Balance
7/1/2019													
7/1/2020													
7/1/2021	4,875,878	731,382	4,144,496		4,144,496			393,471	3,751,026		3,751,026		3,751,026
7/1/2022	10,641,275	1,596,191	9,045,084	2,163,349	6,881,734		1,518,099	393,471	4,970,165		4,970,165		8,721,191
7/1/2023	12,157,845	1,823,677	10,334,168	2,163,349	8,170,819		1,518,099	393,471	6,259,249		6,259,249		14,980,440
7/1/2024	13,456,378	2,018,457	11,437,922	2,163,349	9,274,572		1,518,099	393,471	7,363,003		7,363,003		22,343,443
7/1/2025	14,475,445	2,171,317	12,304,128	2,163,349	10,140,779		1,518,099	393,471	8,229,209	3,318,213	4,910,996		27,254,439
7/1/2026	15,183,577	2,277,537	12,906,040	2,163,349	10,742,691		1,518,099		9,224,592	5,688,366	3,536,227		30,790,665
7/1/2027	15,918,068	2,387,710	13,530,358	2,263,349	11,267,009		1,518,099		9,748,910	5,688,366	4,060,544		34,851,210
7/1/2028	16,679,795	2,501,969	14,177,826	2,369,599	11,808,226		1,518,099		10,290,127	5,688,366	4,601,762		39,452,972
7/1/2029	17,469,659	2,620,449	14,849,210	2,486,376	12,362,835		1,518,099		10,844,736	5,688,366	5,156,370		44,609,342
7/1/2030	18,288,591	2,743,289	15,545,302	2,603,177	12,942,126		1,518,099		11,424,027	5,688,366	5,735,662		50,345,003
7/1/2031	19,137,552	2,870,633	16,266,919	2,724,623	13,542,296		1,518,099		12,024,197	5,688,366	6,335,831		56,680,835
7/1/2032	20,017,530	3,002,629	17,014,900	2,855,181	14,159,719		1,556,681		12,603,038	5,688,366	6,914,673		63,595,507
7/1/2033	20,929,546	3,139,432	17,790,114	2,984,021	14,806,093		1,628,670		13,177,422	5,688,366	7,489,057		71,084,564
7/1/2034	21,874,651	3,281,198	18,593,454	3,120,749	15,472,705		1,701,998		13,770,707	5,688,366	8,082,342		79,166,906
7/1/2035	22,853,931	3,428,090	19,425,842	3,259,540	16,166,302		1,778,293		14,388,009	5,708,366	8,679,643		87,846,549
7/1/2036	23,868,504	3,580,276	20,288,228	3,409,756	16,878,472		1,856,632		15,021,840	5,957,510	9,064,331		96,910,880
7/1/2037	24,919,521	3,737,928	21,181,593	3,560,307	17,621,286		1,938,341		15,682,945	6,220,792	9,462,153		106,373,033
7/1/2038	26,008,172	3,901,226	22,106,946	3,715,507	18,391,439		2,023,058		16,368,381	6,496,812	9,871,569		116,244,602
7/1/2039	27,135,680	4,070,352	23,065,328	3,879,236	19,186,092		2,110,470		17,075,622	6,774,040	10,301,582		126,546,184
7/1/2040	28,303,309	4,245,496	24,057,812	4,045,037	20,012,776	75,765	2,193,046		17,743,965	7,066,376	10,677,589		137,223,773
7/1/2041	29,512,359	4,426,854	25,085,505	4,221,487	20,864,018	202,690	2,272,679		18,388,649	7,366,996	11,021,653		148,245,426
7/1/2042	30,764,172	4,614,626	26,149,546	4,396,995	21,752,551	204,192	2,370,252		19,178,108	7,684,058	11,494,050		159,739,476
7/1/2043	32,060,131	4,809,020	27,251,111	4,586,642	22,664,469	214,661	2,469,408		19,980,400	8,005,986	11,974,414		171,713,890
7/1/2044	33,401,659	5,010,249	28,391,411	4,775,015	23,616,396	223,614	2,573,132		20,819,650	8,342,261	12,477,389		184,191,279
7/1/2045	34,790,227	5,218,534	29,571,693	4,977,034	24,594,659		2,705,413		21,889,247	8,686,131	13,203,116		197,394,395
7/1/2046	36,227,347	5,434,102	30,793,245	5,181,225	25,612,020		2,817,322		22,794,698	9,046,072	13,748,626		211,143,020
7/1/2047	37,714,580	5,657,187	32,057,393	5,395,886	26,661,506		2,932,766		23,728,740	9,420,073	14,308,667		225,451,688
7/1/2048	39,253,531	5,888,030	33,365,502	5,619,500	27,746,002		3,052,060		24,693,941	9,801,111	14,892,830		240,344,518
7/1/2049	40,845,859	6,126,879	34,718,980		34,718,980		3,822,819		30,896,161	15,427,930	15,468,231		255,812,749
7/1/2050	42,493,270	6,373,990	36,119,279		36,119,279		3,976,852		32,142,427	16,052,858	16,089,570		271,902,319
7/1/2051	44,197,522	6,629,628	37,567,894		37,567,894		4,136,200		33,431,694	16,691,982	16,739,713		288,642,032
7/1/2052	45,960,429	6,894,064	39,066,365		39,066,365		4,301,031		34,765,333	17,361,949	17,403,384		306,045,416
7/1/2053	47,783,858	7,167,579	40,616,279		40,616,279		4,471,522		36,144,757	18,048,449	18,096,308		324,141,724
7/1/2054	49,669,733	7,450,460	42,219,273		42,219,273		4,647,851		37,571,422	18,762,650	18,808,772		342,950,496
7/1/2055	51,620,036	7,743,005	43,877,031		43,877,031		4,828,339		39,048,692		39,048,692		381,999,188
7/1/2056	53,636,812	8,045,522	45,591,290		45,591,290		2,636,022		42,955,268		42,955,268		424,954,456
7/1/2057	55,722,163	8,358,325	47,363,839		47,363,839				47,363,839		47,363,839		472,318,295
7/1/2058	57,878,260	8,681,739	49,196,521		49,196,521				49,196,521		49,196,521		521,514,815
7/1/2059	60,107,334	9,016,100	51,091,234		51,091,234				51,091,234		51,091,234		572,606,049
7/1/2060	62,411,689	9,361,753	53,049,935		53,049,935				53,049,935		53,049,935		625,655,985
7/1/2061	64,793,694	9,719,054	55,074,640		55,074,640				55,074,640		55,074,640		680,730,624
Total	1,325,039,570	198,755,935	1,126,283,634	93,246,988	1,033,036,646	920,921	85,981,848	1,967,353	944,166,525	263,435,901	680,730,624		

