

# Initial Financial Plan

*As of December 1, 2013*

## I-94 Ford Freeway Modernization Project I-96 to Conner Avenue City of Detroit, Wayne County, Michigan



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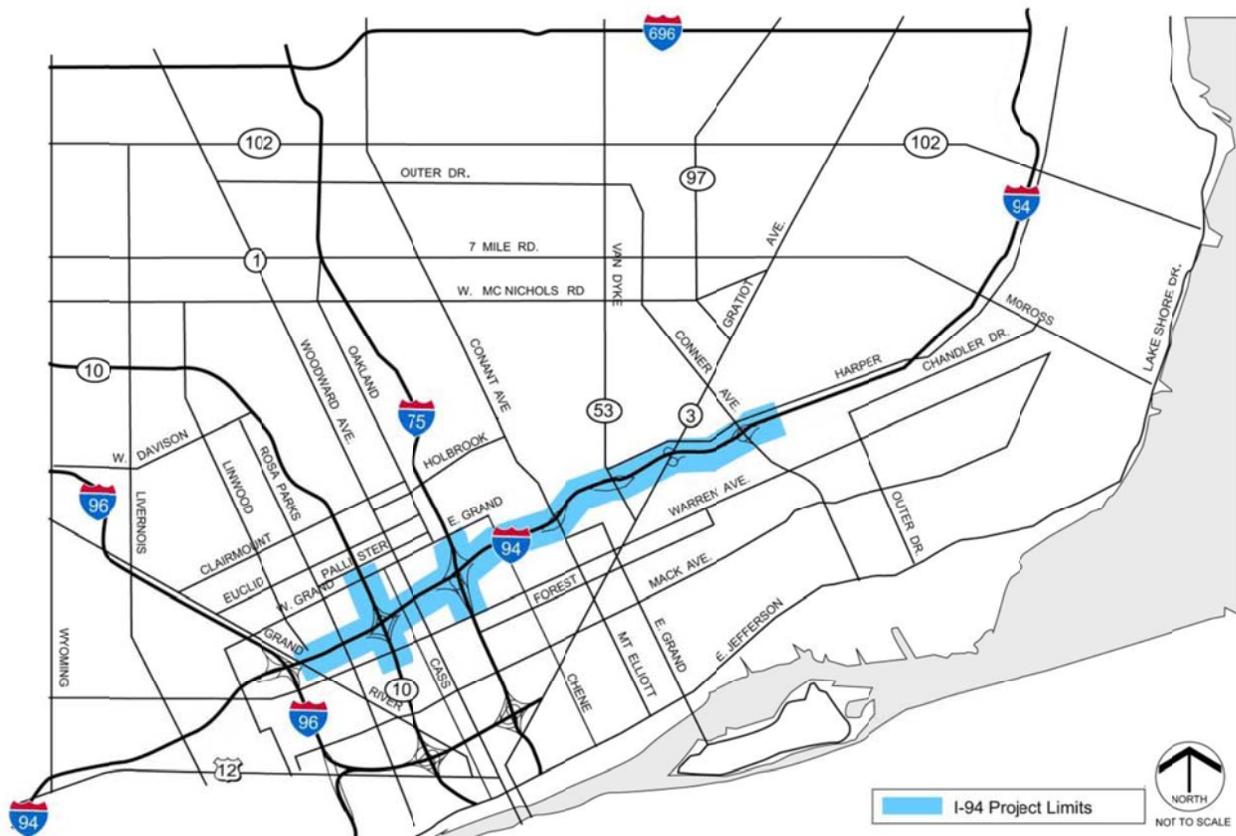
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## EXECUTIVE SUMMARY – PLAN OVERVIEW

The I-94 Ford Freeway Modernization Project (the Project) involves the complete reconstruction of 6.7 miles of I-94 in the City of Detroit, with widening from three lanes in each direction to four lanes in each direction. The Project includes the construction of continuous service roads along the mainline, new major interchanges, new bridges over I-94, and a new drainage system.

In December 2005, the Federal Highway Administration (FHWA) issued a Record of Decision (ROD), which identified the preferred alternative in the Final Environmental Impact Statement (FEIS) as the selected alternative (see Figure ES-1 below). The construction schedule for the Project as currently envisioned will span approximately twenty-four years.

**Figure ES-1 Project Map**



## PROJECT SPONSOR, PARTNERS, AND MANAGEMENT

The Project Sponsors are the FHWA, the Michigan Department of Transportation (MDOT) and the City of Detroit. The overall management of the Project will be the responsibility of MDOT.

## INITIAL FINANCIAL PLAN SUMMARY

This document is the Project's Initial Financial Plan (IFP). It is submitted by MDOT, as required by Section 106 of Title 23 of the United States Code, and is consistent with guidance issued by FHWA<sup>1</sup>. The IFP provides detailed cost estimates to complete the Project as well as estimates of financial resources to fund the segments of the Project that are currently scheduled for construction.

This IFP demonstrates the State's commitment to complete the Project, and for sound financial planning for Major Projects, as defined by Section 106 of Title 23 and modified by Section 1305 (b) of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), Section 1904 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) Public Law 112-141.

A Technical Memorandum entitled "**I-94 Detailed Engineering Report (DER) Conceptual Base Plan Design Opinion of Probable Cost**" is used as a basis to develop this financial plan. The memo is in Appendix A.

Within the IFP, the following topics are addressed (by chapter):

- **Chapter 1. Introduction** – This chapter provides an overview of the Project and the individual segments that together make up the Project, describes the management plan, and provides a history of the Project to date, including a review of the status of all ongoing activities.
- **Chapter 2. Project Cost Estimate** – This chapter provides a detailed description of the cost elements of the Project and provides current estimates of those costs. It also summarizes the costs incurred to date and provides detail on key cost-related assumptions.

The current cost estimate is based on the state fiscal year (FY) 2013. The state FY is based on the period of October 1 through September 30.

The total baseline estimated cost for the Project is \$1,976.7 million in FY 2013 dollars. The projected year of expenditure cost (YOE), inflated to year of letting, is \$2,913.4 million. The YOE estimate reflects the current project schedule and reasonable assumptions for future inflation. MDOT will continue to monitor and adjust the cost estimate based on new project-specific information, as well as

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<sup>1</sup> Federal Highway Administration. *Financial Plans Guidance*, January 2007

information on economic conditions that will affect project costs. For purposes of this Financial Plan, unless otherwise noted, the YOE estimate is calculated to the year of the respective individual contract lettings.

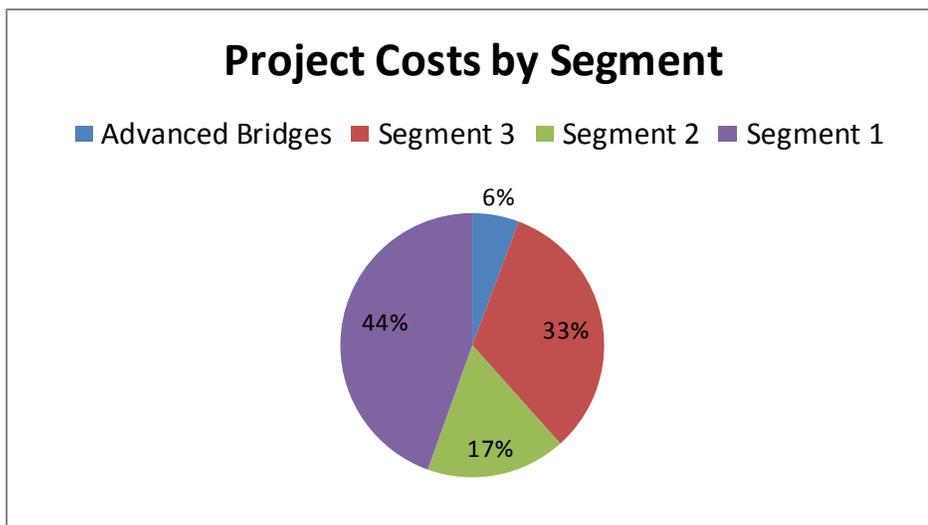
Table ES-1 and Figure ES-2 provide an overview of the Project costs. These costs are presented in YOE dollars based on the current project schedule, current cost estimates, and reasonable estimates of inflation.

For purposes of this Financial Plan, the Project has been broken into four Segments. Segments represent how the project was packaged for construction contracts or lettings, to represent the logical breaks in the construction schedule, or to reflect how the project has been grouped together by physical location, or by like elements. The Segments for this Project are Advanced Bridges, Segment 1 (Cass Avenue to east of I-96), Segment 2 (Chene Street to Cass Avenue including the I-75 interchange) and Segment 3, (Conner Avenue to Chene Street). As the Project will be constructed in a general southwest to northeast order, Project Segments in this IFP will typically be presented in reverse chronological order of Advanced Bridges followed by Segments 3, 2 and 1.

**Table ES-1. Project Cost Estimate, by Segment (Year of Expenditure dollars, in millions)**

Project Segment	Total Project Cost
Advanced Bridges	166.3
Segment 3	951.8
Segment 2	498.0
Segment 1	1,297.3
<b>Total (Y.O.E) =</b>	<b>\$2,913.4</b>

**Figure ES-2. Project Cost Breakdown by Segment (Year of Expenditure dollars, in millions)**



- **Chapter 3. Implementation Plan** – This chapter provides information on the planned schedule for implementation of all the Project elements. It also provides information regarding the assignment of implementation responsibilities and provides a summary of the status of necessary permits and approvals.

Based on the current planned project delivery approach, the Project is scheduled to be constructed in 25 construction packages over a 24-year build out period to construction completion. Scheduled first is the Advanced Bridges segment, followed by Segment 3, then Segment 2, and finally Segment 1. The Project is scheduled to be physically completed by the conclusion of FY 2036. (See Appendix B for a detailed project schedule).

**Figure ES-3. Project Schedule Overview**

State Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Advanced Bridges	Design				Design																							
					CON			Constructor																				
Segment 3									Design																			
								ROW					ROW															
									CON			Construction																
Segment 2																	Design											
																ROW												
																CON	Construction											
Segment 1																						Design						
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- **Chapter 4. Project Funding** – This chapter reviews MDOT’s overall plan of finance for the Project, describes in detail the planned sources of funds, and reviews the funding plan in the context of the State’s overall transportation program and available resources. The planned sources of funds in this chapter are shown in year of obligation.

As currently conceived and for the purposes of this IFP, the Project will be funded with traditional funding; approximately 81.5 percent federal funding and 18.5 percent state funding with the City of Detroit responsible for contributing 12.5 percent of the state’s portion. (See Table ES-2 for a summary of funding planned for the Project).

Federal funding sources are from the National Highway Performance Program. State Transportation Funds are from the state restricted fund for transportation purposes as provided for in Michigan Public Act 51 of 1951, here after described as the State Trunkline Fund (STF). The City of Detroit must provide local funds to meet their minimum participation amount, as required by Michigan Public Act 51 of 1951.

**Table ES-2. Summary Project Funding by Source**

Funding Source	Expended / Obligated	Programmed	Total
<b>Federal</b>			
Formula funds (by category)			
National Highway Performance Program	135,494,702	2,238,906,243	2,374,400,945
<b>SUBTOTAL - Federal</b>	<b>135,494,702</b>	<b>2,238,906,243</b>	<b>2,374,400,945</b>
<b>State</b>			
State Match on Federal Formula Funds	-	-	-
Michigan State Trunkline Funds (Act 51)	26,911,908	444,690,734	471,602,642
<b>SUBTOTAL - State</b>	<b>26,911,908</b>	<b>444,690,734</b>	<b>471,602,642</b>
<b>Local</b>			
Local Match on Federal Formula Funds			
Act 51 participation	3,844,558	63,527,248	67,371,806
<b>SUBTOTAL - Local</b>	<b>3,844,558</b>	<b>63,527,248</b>	<b>67,371,806</b>
<b>GRAND TOTAL</b>	<b>\$166,251,169</b>	<b>\$2,747,124,224</b>	<b>\$2,913,375,393</b>

- Chapter 5. Project Cash Flow** – This chapter provides a summary of the annual cash flow needs for the Project. Project cash needs are shown by year in Figure ES-4. The planned sources and uses of funds at the summary level are shown in Figure ES-5 and Figure ES-6. Chapter 5 discusses cash flow and sources and uses in detail. Note the Segment for Early Preliminary Engineering (EPE) is not included with the cash needs, as the segment was completed in prior fiscal years and is not part of this IFP.

**Figure ES-4. Total Project Annual Cash Flow (Year of Expenditure dollars, in millions)**

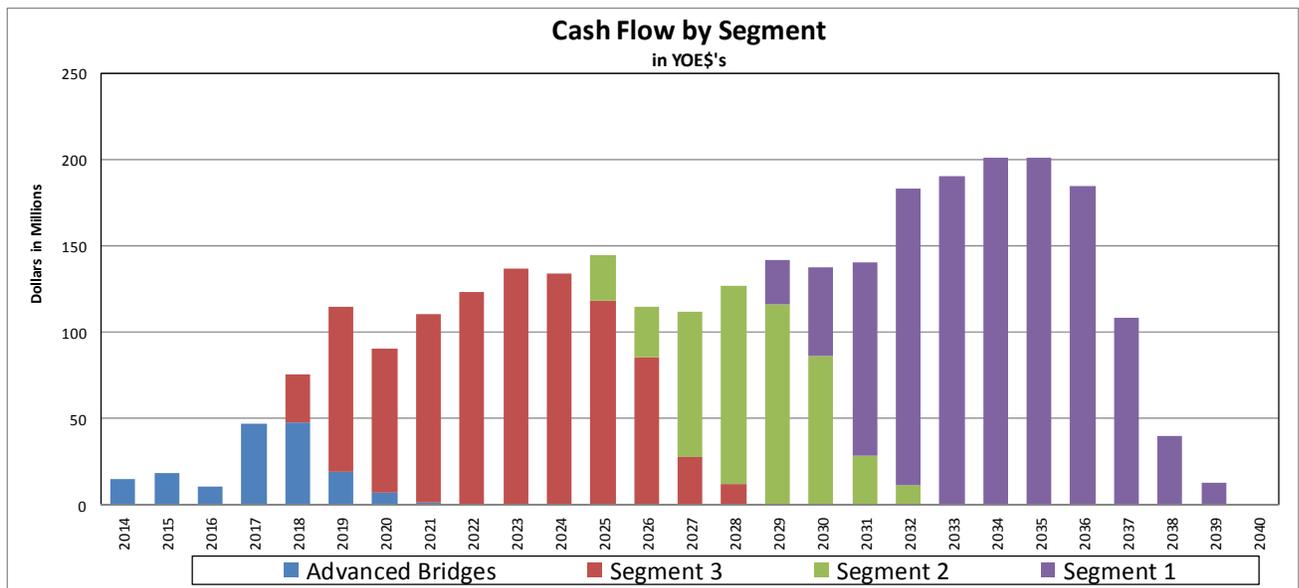


Figure ES-5. Total Project Sources of Funds

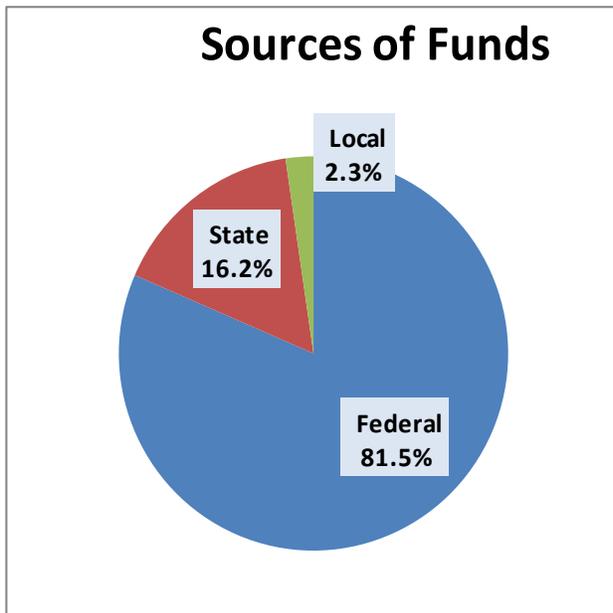
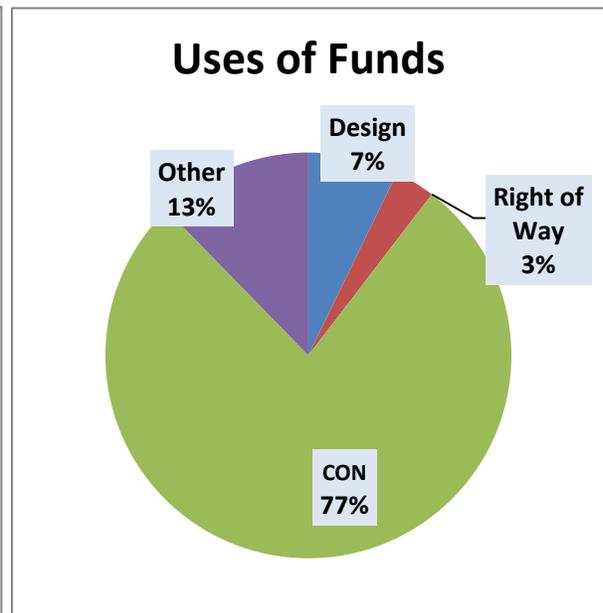


Figure ES-6. Total Project Uses of Funds



- Chapter 6. Other Factors – This chapter addresses a number of important factors, which could affect the Project including interdependencies with the transportation program, budgets, and other projects.

## ANNUAL UPDATES

MDOT is fully committed to meet its obligations under this plan based on its current legal authorities. Circumstances can change and alternatives may present themselves as superior to the baseline plan, as articulated in this document. Future annual updates will account for any such revisions to the funding plan.

MDOT has selected the anniversary date method to establish the date for which data will be refreshed and to establish the date for annual updates. The anniversary date for this IFP is December 1, 2013. MDOT will provide annual updates using data that is current as of each December 1st, until the project is substantially complete. Each updated financial plan will be submitted within three months of the December 1<sup>st</sup> anniversary date in accordance with major project requirements.

## CONCLUSION

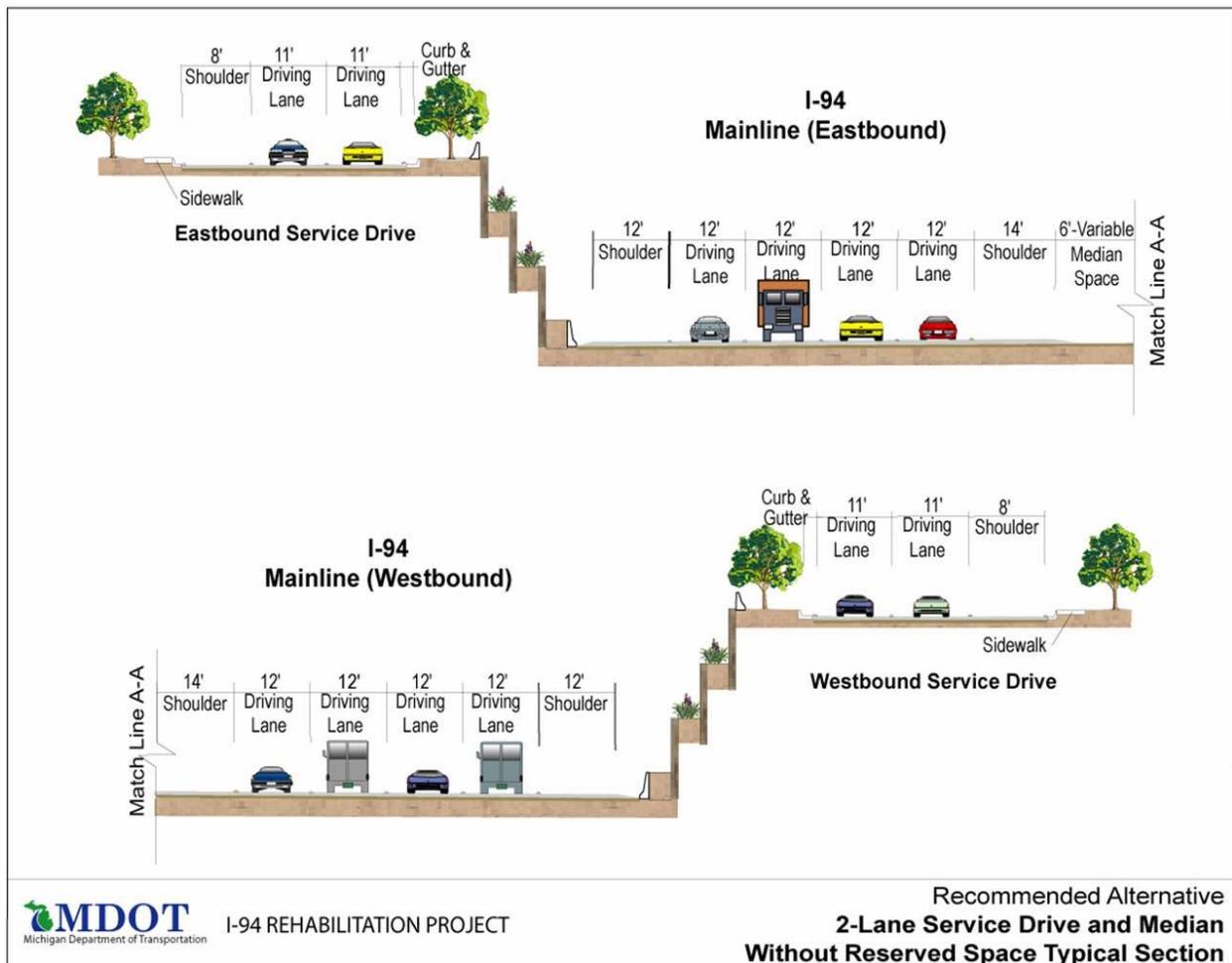
This IFP creates a record of planned expenditures and funding sources secured for the Project, and documents sources of funding through project completion. The presentation of this IFP is based upon currently available information and as such, MDOT is fully prepared to complete the Project on schedule and in accordance with the projected funding requirements.



Avenue in the north to Martin Luther King Boulevard in the south, and on I-75, from East Grand Boulevard in the north to Warren Avenue in the south.

The existing mainline is a below-grade, six-lane facility with three travel lanes in each direction. I-94, from I-96 to Conner Avenue, is in an area of dense urban development with closely spaced interchanges. These interchanges serve numerous major traffic generators and provide access to Detroit's central business district. The project area includes two major freeway-to-freeway interchanges, eight interchanges with local streets, equating to ten interchanges in less than seven miles. More than 66 bridges cross I-94 between East Grand Boulevard and Conner Avenue. A discontinuous series of service roads provides linkage to local streets.

**Figure 1-2. Mainline Cross Section**



The Project consists of four separate segments, which are expected to be broken down into 25 separate construction packages involving major construction segments. Each segment is briefly described below.

- ADVANCED BRIDGES
- SEGMENT 1 - EAST OF I-96 TO CASS AVENUE INCLUDING THE M-10 INTERCHANGE
- SEGMENT 2 - CASS AVENUE TO CHENE STREET INCLUDING THE I-75 INTERCHANGE
- SEGMENT 3 - CHENE STREET TO EAST OF CONNER AVENUE

### **Early Preliminary Engineering**

The consultant firm of Parsons Brinkerhoff performed the EPE for the entire Project from September 1994 to December 2005. The consultant firm of CH2MHill developed the engineer's detailed cost estimate as transmitted to MDOT on June 8, 2010. The total cost of the EPE segment was \$21 million. Expenses were incurred between FY 1994 and FY 2010 to complete the Feasibility Study, Environmental Clearance Documents, and the DER. The I-94 Project reports can be found on the Project website at [http://www.michigan.gov/mdot/0,1607,7-151-9621\\_11058---,00.html](http://www.michigan.gov/mdot/0,1607,7-151-9621_11058---,00.html) or by searching [michigan.gov/mdot/studies](http://www.michigan.gov/mdot/studies) with your browser. No further discussion of EPE is in the IFP nor is this prior year cost included in segment presentations, funding or cash needs.

### **Advanced Bridges**

There are 67 bridges included in the entire Project. Based on the prioritization of state of good repair and critical need, the bridge on Van Dyke was determined to be in greatest need of replacement. FHWA authorized the construction on March 2011 under the designation of operational independence and non-concurrent construction. This bridge project is no longer part of the greater I-94 Project and is not discussed in this document. Authorization for the eleven most critical bridges was advanced to this Segment; they have priority for scheduling, and funding. Seven of these eleven bridges are within the termini of Segment 3, between Chene Street and Conner Ave. Segment 3 is the next phase to be scheduled, followed by Segment 2, and then Segment 1.

### **Segment 3**

Segment 3 is from east of Conner Avenue to Chene Street. This segment is 3.8 miles long and includes freeway widening and reconstruction, new bridges, interchanges, and service drives.

### **Segment 2**

Segment 2 is from Chene Street westerly to Cass Avenue and includes the I-75 freeway-to-freeway interchange reconstruction, as well as freeway widening and reconstruction, new bridges, interchanges, and service drives. The segment is 1.5 miles long.

### **Segment 1**

Segment 1 is from Cass Avenue westerly to just east of I-96 and is 1.5 miles long. It includes the M-10 freeway-to-freeway interchange reconstruction as well as freeway widening and reconstruction, new bridges, interchanges, and service drives.

## **PROJECT SPONSOR, PARTNERS, AND MANAGEMENT**

The Project Sponsors are the FHWA, MDOT, and the City of Detroit. FHWA and the City of Detroit are cost sharing partners. MDOT has management and oversight responsibility. MDOT is a separate state agency within the government of the State of Michigan. MDOT is self-funded with dedicated, legislatively restricted revenue sources. MDOT owns, operates, and maintains approximately 10,000 miles of trunkline. MDOT administers an annual budget of approximately \$1.8 billion. The proposed Project is well within the capabilities of the department to manage successfully.

## **PROJECT MANAGEMENT AND OVERSIGHT**

MDOT will oversee all Project activities from the preliminary engineering and environmental phases through final construction. To assist with this endeavor, MDOT will retain an Owners Representative (OR). Contractual agreements will not transfer the overall responsibility of project oversight to the Consultant. MDOT is also responsible for developing the Project Management Plan (PMP) to prescribe the project management and oversight method, including scope, schedule, cost oversight, and cost containment procedures.

Because of the complexity of the Project, MDOT oversight will be exercised by the MDOT Leadership Team, which is comprised of the Director of the Department, the Chief Operations Officer, and the Directors of the various bureaus within MDOT.

The MDOT Senior Project Manager is Terry Stepanski, P.E. It is the role and responsibility of the Senior Project Manager to provide overall administration, coordination, and technical oversight to the Project. Various levels of support staff and teams have been established with roles and responsibilities accountable to the Senior Project Manager. The specific roles and responsibilities are defined in the PMP.

# OVERVIEW OF ACTIVITIES AND PROJECT SCHEDULE

Figure 1-3 Project History Timeline

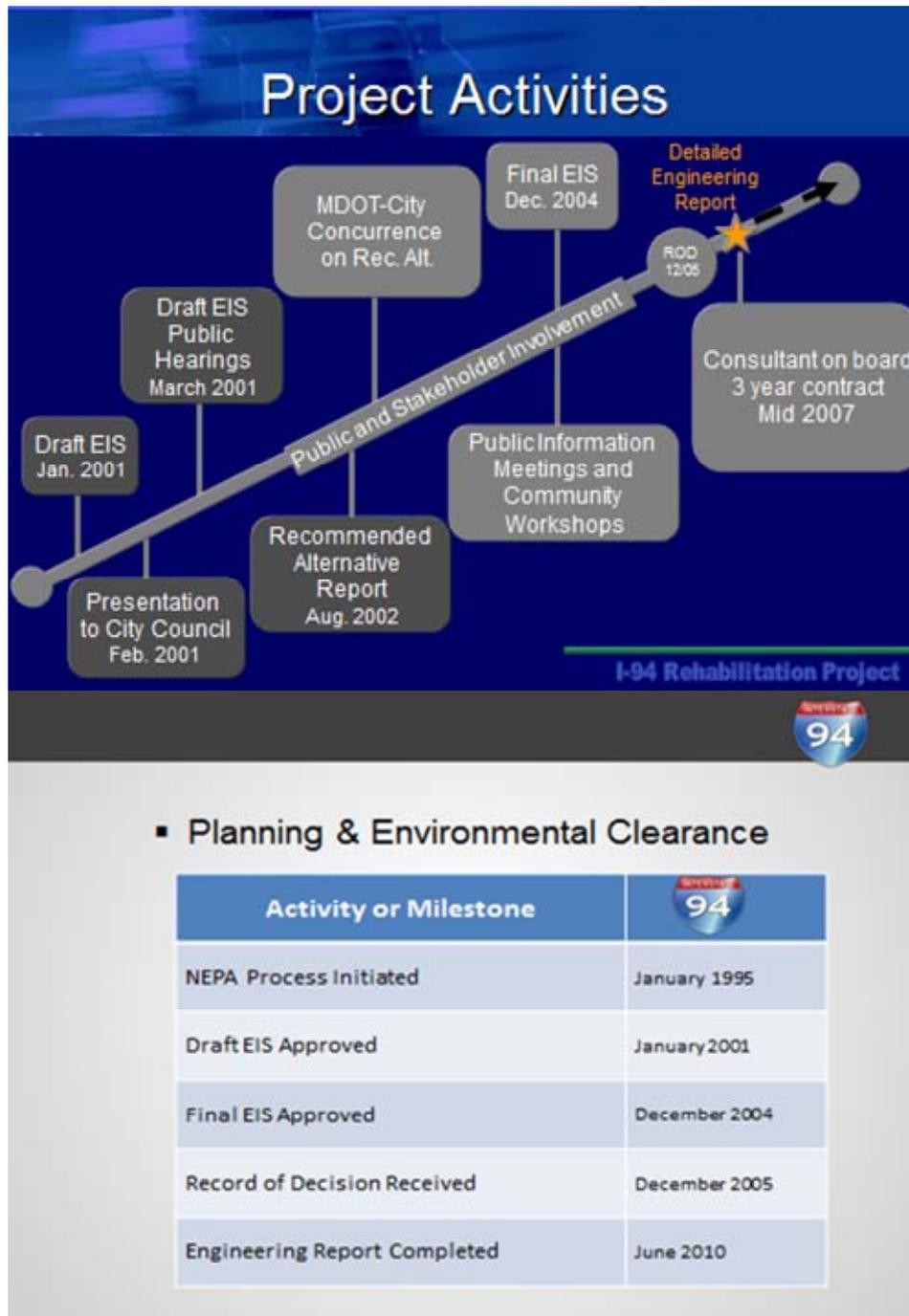


Table 1-1 presents an overview of the Project schedule. Project schedule is discussed more fully in Chapter 3.

**Table 1-1. Project Schedule Overview by Segment and Element**

State Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036				
Advanced Bridges	Design				Design																										
					ROW			Construction																							
Segment 3								ROW			Design																				
									CON	Construction																					
Segment 2																ROW		Design													
																CON	Construction														
Segment 1																					Design										
																					ROW	Construction									

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## CHAPTER 2 - PROJECT COST ESTIMATE

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### INTRODUCTION

*This chapter provides a detailed description of the cost elements of the Project and provides current estimates of those costs. It also summarizes the costs incurred to date and provides detail on key cost-related assumptions.*

### COST ESTIMATE OVERVIEW

The detailed cost estimate was developed by the consultant firm of CH2MHill. It is herein referred to as the I-94 DER dated June 2010. Unit prices were reviewed and updated in September 2013 based on actual prices MDOT paid for similar work in the Metro area. The base cost estimate is in 2013 dollars.

The current total estimated cost for the Project is \$1,976.7 million in FY 2013 dollars and \$2,913.4 million based on the projected year of expenditure (inflated to year of letting) and current expectations of construction-related inflation. The year of expenditure estimate reflects the current Project letting schedule and reasonable assumptions for future inflation. MDOT will continue to monitor, adjust the cost estimate based on new information on underlying economic conditions, and to reflect any changes in Annual Updates to the Financial Plan.

It is highly possible the final cost of the Project will differ from the estimate. The DER report provides for a low to high range of costs. The lower and higher ends of the variance are unlikely to occur. As this Project progresses to final design, the range should become narrower. It is typical to determine the cost of a major project such as this one at 70 percent probability range. Considering all risks to project costs, the 70 percent probability range determines what the cost of the Project will be if most of these risks occur. Conversely, the Project cost has a 30 percent probability to cost more than the estimate at this level. The 70 percent probability estimate for this Project was \$2,912.7 million, based on the results of the November 18-20, 2013 Cost Estimate Review (CER), see Appendix C.

The November 18-20, 2013 CER was an update of the initial CER performed in April 2011. The CER Team used the original base estimate of \$1,652 million. The original base estimate includes \$105 million of risks and opportunities added from the initial CER. New adjustments of \$97 million were made with the most significant being added costs for mobilization (\$50M), construction change order risks (\$30M), and utilities (\$5M). The CER Team's probabilistic risk at the 70 percent range resulted in a total cost, in YOE dollars, of \$2,912.7 million. See Appendix D for the CER II Report.

MDOT, taking a slightly different approach, added the net estimate changes to the DER and inflated the 25 individual construction packages to year of letting. MDOT's YOE estimate is \$2,913.4 million.

Independent from the CER II and MDOT estimates, the consulting firm of HNTB reviewed and created a cost estimate. HNTB was present during the CER II. HNTB has collaborated with MDOT for many innovative contracting workshops on this Project, including the I-94 Practical Design Workshop, MDOT Success Management Workshop, and SHRP2 Workshops. HNTB's independent estimate of this Project using the full build out schedule presented in this IFP is also consistent with the CER and MDOT totals.

## **COST ESTIMATING METHODOLOGIES AND KEY ASSUMPTIONS HISTORY**

### **Baseline Cost Estimating Methodology by Cost Element**

A Technical Memorandum entitled "I-94 DER Conceptual Base Plan Design Opinion of Probable Cost," is used as the basis to develop this financial plan. It can be found in Appendix A.

The Opinion of Probable Cost provides an estimate commensurate with the level of design development performed to date, and includes contingency factors to account for design elements, which are not fully developed at that time. The June 2010 un-inflated baseline cost was \$1,811.7 million. An analysis of actual unit prices paid for similar work in the Detroit Metro region was performed by MDOT's internal Specifications and Estimates Section. Many unit prices increased due to inflation, however, a few unit prices remained the same, and some decreased which is reflective of the region's economy. The cost estimate was brought up to date by using MDOT's 2013 actual unit prices. Additional changes were made to the DER during the CER II. The updated baseline cost using this method is \$1,976.7 million.

### **Baseline Inflation Assumption**

The projects in the Advanced Bridge Segment are typical replacement bridge projects with little or no expectation of delays or unplanned costs. The design for these bridges will be let in the current fiscal year in one contract with construction planned for FY 2014 for the Woodward Avenue Bridge and all others planned in FY 2017. Inflation of 3 percent was added to the base costs.

A 3 percent annual inflation rate was applied to ROW purchases, design, construction, construction engineering, and utilities for the fourteen construction packages in Segments 3 and 2. These packages will be designed and built between FY 2018 and FY 2029. Inflation for all elements within Segment 1 was calculated at a slightly higher amount of 3.1 percent. The higher rate was used for Segment 1 due to economic influences discussed in the updated CER II. Segment 1 will be designed and built from FY 2029 – FY 2036.

The 3 percent inflation rate is slightly above the current Consumer Price Index rate for the region. MDOT will continue to monitor market conditions and adjust the inflation rates as appropriate. Adjustments for inflation will be reflected in the Annual Updates to the IFP.

## COST ELEMENTS

The cost estimate to complete the Project is broken down into four segments. It is typical to accumulate costs incurred for EPE. As this element was completed in FY 2010, it is not discussed below, nor is the associated cost included in the presentation of cost estimate.

The costs for each project segment have been further broken down into major project elements as follows:

- 1) **Preliminary Engineering Road and Bridge (PE)** – Development of plans, specifications, and estimates necessary to let the Project for construction.
- 2) **Right of Way (ROW)** – Total costs to purchase ROW including appraisals, administration, management, and acquisition of required ROW.
- 3) **Construction** – Total estimated cost to construct the Project. Including clearing, drainage, guardrail, and other removals; earthwork; pavement and base materials; drainage and erosion control; structures; maintenance of traffic; sidewalk, curb and gutter and other miscellaneous items of construction; and mobilization.

3(A) **Construction Contingencies** – The Association for the Advancement of Cost Estimating International defines contingency as "a specific provision for unforeseeable elements of cost within the defined project scope; particularly important where previous experience relating estimates and actual costs has shown unforeseeable events which will increase costs are likely to occur." Note the contingency is not intended to cover future inflation. The base cost estimate includes a contingency of 25 percent for structures and 25 percent for the roadway and all other items.

3(B) **Miscellaneous and Incidentals** – various project-related activities such as sidewalks, curb and gutter, freeway lighting and landscaping, and handling of hazardous materials, wetlands, and cultural resources mitigation as well as historic mitigation of sensitive historic properties.

- 4) **Construction Engineering** – Engineering services required throughout the construction of the Project.
- 5) **Utilities** – all public and private utility relocation and new utility construction, such as telephone, electric, gas, fiber optics, water, sewer, and storm drainage.
- 6) **Owners Representative** - MDOT is planning to use an Owners Representative (OR) for this Project due to the complexities and duration of a modernization project in an established urban area of this magnitude. The OR will serve as an extension of the Senior Project Manager and will assist with project design, management, cost, schedule, and quality.
- 7) **Global Risks and Opportunities** - The initial CER disclosed many global risks and opportunities for the roadway segments of the Project. MDOT chose to manage the value of those risks and opportunities as a separate element.

## Presentation of Project by Major Segment

Table 2-1 provides an overview of the Project costs by segment. These costs are presented in Baseline and Year of Expenditure dollars based on the current project letting schedule, current cost estimates, and reasonable estimates of inflation.

**Table 2-1. Project Cost Estimate by Segment (Year of Expenditure dollars, in millions)**

Project Segment	Total Project Cost
Advanced Bridges	166.3
Segment 3	951.8
Segment 2	498.0
Segment 1	1,297.3
<b>Total (Y.O.E) =</b>	<b>\$2,913.4</b>

## Advanced Bridges Segment

The Advanced Bridges segment of the Project includes eleven bridges for which MDOT has determined to be in the most critical need of replacement. Seven of the eleven bridges are within the same footprint as Segment 3. Preliminary engineering for Advanced Bridges began in FY 2010 for the Gratiot Bridge. One contract will be let for Design in FY 2014 and construction is scheduled to begin in FY 2014 with the Woodward Bridge and others to follow in FY 2017.

Table 2-2 provides an overview of the Advanced Bridges Segment of the Project. These costs are presented in year of expenditure dollars based on the current project letting schedule, current cost estimates, and reasonable estimates of inflation.

**Table 2-2. Project Cost Estimate for Advanced Bridges (Year of Expenditure dollars, in millions)**

Project Segment	Total Project Cost
AB#1 Gratiot	13.2
AB#3 MT. Elliot	22.7
AB#4 Second Avenue	28.0
AB#5 Chene & Concord	18.3
AB#6 Cadillac & Cass	16.5
AB#7 Brush & French	18.5
Woodward Bridge	15.1
Trumbell Bridge	6.8
Owners Representative Contract	15.0
Opportunity Buys (ROW)	12.0
Risks and Opportunities	-
<b>Total (Y.O.E) =</b>	<b>\$166.3</b>

### Segment 3

Segment 3 is the longest and most congested segment within the corridor; therefore, it was determined to schedule the Project from east to west after completing the Advanced Bridges. This segment consists of freeway reconstruction and widening along with the reconstruction of vehicular bridges over I-94, pedestrian bridge, railroad bridges, and service roads. Preliminary engineering and acquisitions of ROW will begin in FY 2018.

Segment 3 is scheduled for design in FY 2018. The design will be let as one package with oversight performed by the OR during all years of construction FY 2019–FY 2025. The Construction phase is scheduled from FY 2019–FY 2025. Table 2-3 provides an overview of Segment 3 of the Project. These costs are presented in Year of Expenditure dollars based on the current project letting schedule, current cost estimates, and reasonable estimates of inflation.

**Table 2-3. Project Cost Estimate for Segment 3 (Year of Expenditure dollars, in millions)**

Project Segment	Total Project Cost
#1 Dequindre	240.3
#2 St Aubin & Frontenac	174.9
#3 Frontenac, Burns, Conner	42.8
#4 Pedestrian Bridges	43.4
#5 Gratiot Ramps	41.8
#6 Norfolk Southern & Conrail	55.9
#7 Frontenac & Norcorss	124.4
#8 Pump Stations	26.9
#9 Temporary Widening	3.5
#10 Frontenac & Connor	118.4
Owners Rep Contract	26.9
Risks and Opportunities	52.6
<b>Total (Y.O.E) =</b>	<b>\$951.8</b>

### Segment 2

Segment 2 is scheduled for construction in years FY 2027–FY 2029. The most significant costs for this segment will be the reconstruction of the I-94/I-75 freeway-to-freeway interchange. Other work includes 1.5 miles of freeway reconstruction, service drive construction, and cross road bridges. Design will be let in one contract in FY 2025 with amounts allocated for the OR contract and global Risks and Opportunities throughout.

Table 2-4 provides an overview of Segment 2 of the Project. The costs are presented in Year of Expenditure dollars based on the current project letting schedule, current cost estimates, and reasonable estimates of inflation.

**Table 2-4. Project Cost Estimate for Segment 2 (Year of Expenditure dollars, in millions)**

Project Segment	Total Project Cost
#11 Between Cass & I-75	32.1
#12 Brush & Russell	305.6
#13 Second Ave & Russell	72.9
#14 Rehab I-75	6.2
Owners Rep Contract	16.9
Risks and Opportunities	64.2
<b>Total (Y.O.E) =</b>	<b>\$498.0</b>

## Segment 1

Segment 1 is the last segment to be scheduled. Construction lettings are anticipated to be in years FY 2030-FY 2036. The most significant construction packages in this portion of the Project include the reconstruction of the I-94/M-10 freeway-to-freeway interchange, the railroad bridges, and 1.5 miles of freeway reconstruction, service roads and cross road bridges. Costs by construction package are shown in the table and graph below. Table 2-5 provides an overview of Segment 1 of the Project. These costs are presented in Year of Expenditure dollars based on the current project letting schedule, current cost estimates, and reasonable estimates of inflation.

**Table 2-5. Project Cost Estimate for Segment 1 (Year of Expenditure dollars, in millions)**

Project Element	Total Project Cost
Owners Rep Contract	\$3.2
Preliminary Engineering/Bridge	18.2
Preliminary Engineering/Road	48.6
Right-of-Way	24.4
CE	73.8
Construction	1,077.9
Risks and Opportunities	34.1
Utilities	17.2
<b>Total (Y.O.E) =</b>	<b>\$1,297.3</b>

## COST BREAKDOWN BY CONSTRUCTION SEGMENT AND PROJECT ELEMENT

Table 2-6 provides a summary breakdown of project costs by segment and project element, in year of expenditure dollars.

**Table 2-6. Project Cost Estimate by Construction Segment and Project Element**

Project Element	Cost by Segment				Total Project Cost
	Advanced Bridges	Segment 3	Segment 2	Segment 1	
Owners Representative	\$15.0	\$26.9	\$16.9	\$3.2	\$62.0
Preliminary Engineering/Bridge	14.3	44.2	22.0	18.2	98.7
Preliminary Engineering/Road	-	-	0.4	48.6	48.9
Right-of-Way	20.1	38.4	10.8	24.5	93.7
CE	7.6	49.7	24.1	73.8	155.1
Construction	100.6	719.5	353.7	1,077.9	2,251.6
Risks and Opportunities	-	52.6	64.2	34.1	151.0
Utilities	8.8	20.4	5.9	17.2	52.3
<b>Total (Y.O.E) =</b>	<b>\$166.3</b>	<b>\$951.8</b>	<b>\$498.0</b>	<b>\$1,297.3</b>	<b>\$2,913.4</b>

The following tables (Tables 2-7 through 2-10) provide a summary breakdown of project costs by element for each Segment of the Project.

**Table 2-7. Advanced Bridges**

Project Element	Cost by Segment										Total Project Cost
	AB#1 Gratiot	AB#3 MT. Elliot	AB#4 Second Avenue	AB#5 Chene & Concord	AB#6 Cadillac & Cass	AB#7 Brush & French	Woodward Bridge	Trumbell Bridge	Owners Representative Contract	Opportunity Buys (ROW)	
Owners Representative	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$15.0	\$0.0	\$15.0
Preliminary Engineering/Bridge	1.5	2.2	1.3	2.4	2.3	2.3	1.5	0.8	-	-	14.3
Right-of-Way	-	1.7	1.7	1.0	1.5	2.2	-	-	-	12.0	20.1
CE	0.7	1.3	1.7	1.0	0.7	0.8	1.0	0.4	-	-	7.6
Construction	9.7	16.7	22.2	12.8	9.9	11.1	12.7	5.6	-	-	100.6
Risks and Opportunities	-	-	-	-	-	-	-	-	-	-	-
Utilities	1.4	0.8	1.2	1.2	2.1	2.1	-	-	-	-	8.8
<b>Total (Y.O.E) =</b>	<b>\$13.2</b>	<b>\$22.7</b>	<b>\$28.0</b>	<b>\$18.3</b>	<b>\$16.5</b>	<b>\$18.5</b>	<b>\$15.1</b>	<b>\$6.8</b>	<b>\$15.0</b>	<b>\$12.0</b>	<b>\$166.3</b>

**Table 2-8. Segment 3**

Project Element	Cost by Segment											Total Project Cost	
	Dequindre	St Aubin & Frontenac	#3 Frontenac, Burns, Conner	#4 Pedestrian Bridges	#5 Gratiot Ramps	#6 Norfolk Southern & Conrail	#7 Frontenac & Norcorss	#8 Pump Stations	#9 Temporary Widening	#10 Frontenac & Connor	Owners Rep Contract		Risks and Opportunities
Preliminary Engineering	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$26.9	\$0.0	\$26.9
Preliminary Engineering/Bridge	13.2	9.0	2.1	1.9	1.9	2.9	6.2	1.3	0.2	5.7	-	-	44.2
Preliminary Engineering/Road	-	-	-	-	-	-	-	-	-	-	-	-	-
Right-of-Way	9.8	10.2	3.0	6.8	5.6	-	2.2	-	-	0.7	-	-	38.4
CE	13.7	9.8	2.4	2.2	2.2	3.3	7.2	1.6	0.2	7.0	-	-	49.7
Construction	202.8	136.3	33.7	32.5	29.3	49.7	106.0	23.9	3.1	102.1	-	-	719.5
Risks and Opportunities	-	-	-	-	-	-	-	-	-	-	-	52.6	52.6
Utilities	0.8	9.6	1.6	-	2.8	-	2.8	-	-	2.9	-	-	20.4
<b>Total (Y.O.E) =</b>	<b>\$240.3</b>	<b>\$174.9</b>	<b>\$42.8</b>	<b>\$43.4</b>	<b>\$41.8</b>	<b>\$55.9</b>	<b>\$124.4</b>	<b>\$26.9</b>	<b>\$3.5</b>	<b>\$118.4</b>	<b>\$26.9</b>	<b>\$52.6</b>	<b>\$951.8</b>

**Table 2-9. Segment 2**

Project Element	Cost by Segment						Total Project Cost
	Cass and I-75	Brush & Russel	Avenue and Russell	#14 Rehab I-75	Owners Rep Contract	Risks and Opportunities	
Owners Representative	\$0.0	\$0.0	\$0.0	\$0.0	\$16.9	\$0.0	\$16.9
Preliminary Engineering/Bridge	1.9	16.1	3.9	-	-	-	22.0
Preliminary Engineering/Road	-	-	-	0.4	-	-	0.4
Right-of-Way	-	8.6	2.2	-	-	-	10.8
CE	1.9	17.6	4.2	0.4	-	-	24.1
Construction	27.0	260.0	61.2	5.5	-	-	353.7
Risks and Opportunities	-	-	-	-	-	64.2	64.2
Utilities	1.3	3.3	1.3	-	-	-	5.9
<b>Total (Y.O.E) =</b>	<b>\$32.1</b>	<b>\$305.6</b>	<b>\$72.9</b>	<b>\$6.2</b>	<b>\$16.9</b>	<b>\$64.2</b>	<b>\$498.0</b>

**Table 2-10. Segment 1**

Project Element	Cost by Segment							Total Project Cost
	Cross Streets	Rehab Pump Stations	CN Rail & Conrail Bridges	Between I-96 and Trumbull	Service Drives-Trumbull & Cass	Owners Rep Contract	Risks and Opportunities	
Owners Rep Contract	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3.2	\$0.0	\$3.2
Preliminary Engineering/Bridge	-	-	18.2	-	-	-	-	18.2
Preliminary Engineering/Road	8.4	1.0	-	2.6	36.5	-	-	48.6
Right-of-Way	9.1	-	4.8	-	10.6	-	-	24.4
CE	9.0	1.0	20.9	2.8	40.1	-	-	73.8
Construction	125.8	15.5	309.8	39.7	587.1	-	-	1,077.9
Risks and Opportunities	-	-	-	-	-	-	34.1	34.1
Utilities	6.5	-	-	3.2	7.4	-	-	17.2
<b>Total (Y.O.E) =</b>	<b>\$158.8</b>	<b>\$17.6</b>	<b>\$353.7</b>	<b>\$48.3</b>	<b>\$681.6</b>	<b>\$3.2</b>	<b>\$34.1</b>	<b>\$1,297.3</b>

## **FHWA Major Projects Cost Estimate Review**

The FHWA Major Projects Team performed the initial CER on the Project April 25-29, 2011. The purpose of the CER was to verify the accuracy and reasonableness of the current project total cost estimate and project schedule, and to develop a probability range for the cost estimate that represents the Project's current stage of development.

The Senior Project Manager, together with subject matter experts from MDOT, and Consultant, CH2MHill, discussed and supported the design, schedule, and unit prices used to estimate the Project. The following documents were reviewed: Project Cost Estimate Spreadsheet, Project Schedule, project risks, draft IFP, draft PMP, Accelerated Construction Technology Transfer Workshop Report, and the I-94 DER Opinion of Probable Cost. Over 25 cost and schedule risks were identified and quantified. Unit prices, current and anticipated market conditions, and influences on inflation were discussed. In addition, many opportunities to reduce costs were identified and discussed.

The 35 percent contingency used in the Project cost estimate was replaced with actual dollar values for uncertainties related to: base variability, quantity and unit cost variability, and schedule and market risks. The total value of the uncertainties was determined to be \$105 million and is referred to as Risks and Opportunities. A Monte Carlo analysis was then used to model a probable cost range for the Project.

The FHWA recommended MDOT fund the Project at the 70 percent probability range. The resulting derived cost estimate at the 70 percent confidence level in year of expenditure (YOE) dollars increased the MDOT estimate to \$2,840.1 million, a 3.7 percent increase.

The CER was updated again in November 2013 (CER II). The CER II Team used the previously adjusted base estimate of \$1,652 million. The adjusted base estimate includes the \$105 million of risks and opportunities added from the initial CER. As a result of the CER II additional adjustments of \$97 million were made with the most significant being those that added costs for mobilization (\$50M), construction change order risks (\$30M) and utilities (\$5M). The CER II Team's probabilistic risk at the 70 percent range resulted in a total cost, in YOE dollars, of \$2,912.7 million.

MDOT, taking a slightly different approach, applied the CER II changes to the base estimate. MDOT added the original base estimate plus the additions from the first CER and the changes from the CER II and inflated the new values to the year of letting of each of the 25 construction packages. MDOT's YOE estimate is \$2,913.4 million. MDOT will show the Project is fully funded at the higher \$2,913.4 million estimate.

Independent from the CER and MDOT methods, the consulting firm of HNTB also estimated the YOE cost of the Project. HNTB has collaborated with MDOT for many innovative contracting workshops on this Project including the I-94 Practical Design Workshop, MDOT Success Management Workshop, and SHRP2 Workshops. HNTB was present at the CER II. HNTB's independent estimate of this Project is also consistent with the CER and MDOT totals.

A detailed discussion of the results of the CER and MDOT’s plans to mitigate risks and implement opportunities is included in Chapter 6. The complete Initial CER Report is included as Appendix C and the updated CER II Report is included as Appendix D.

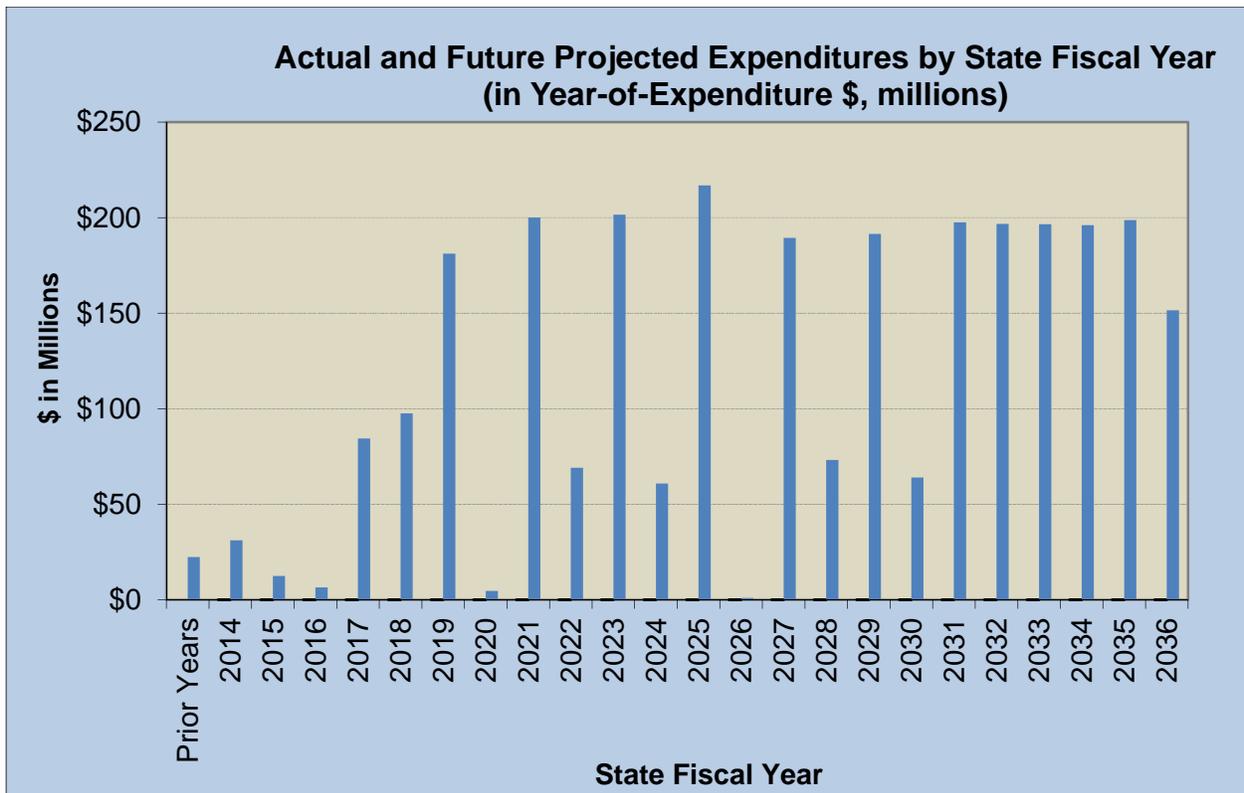
### Costs to Date

Actual expenditures to date include those incurred for EPE and PE. The cost of the corridor study in 1994 comprised most of the \$21 million of EPE costs. \$1.4 million of PE for the Gratiot Bridge occurred primarily in 2010.

### Actual and Future Expenditures

Actual and future expenditures are shown below. Future expenses are shown as anticipated lettings, inflated to year of obligation. Future expenditures total \$2,912.0 million.

**Figure 2-1. Actual and Projected Future Expenditures by State Fiscal Year (YOE’s in millions)**



## **COST MANAGEMENT RESPONSIBILITY**

MDOT has ongoing responsibility for the oversight of the Project and, in particular, the management of project costs and project schedule. MDOT recognizes the importance of cost control for a project of this scale. As such, the possibility of using new and/or innovative contracting strategies to build and finance the Project will be considered as opportunities present themselves. If MDOT does adopt an innovative contract strategy for this Project, this will be reflected in future updates of this financial plan.

Methods for estimating and monitoring the value of project costs and the associated risks of potential variances in cost will be developed from MDOT's best past practices and industry best practices. Best practices include the implementation of an Earned Value Management System (EVMS), contingency management consistent with FHWA Major Project Guidelines, utilization of several of MDOT's cost tracking packages including Map Project Information System, Map Financial Obligation System, Administrative Customizable Reporting System, and the Michigan Administrative Information Network (MAIN).

As part of the cost control process, risks and opportunities will be continually monitored to assess the potential for cost overruns, and opportunities for savings. Each design consultant will be required to provide constant updates and confirm the work can be secured within the target amount for each construction package.

Implementation of an EVMS is a key component of program and project management to ensure cost, schedule, and technical aspects of the contract are truly integrated. An EVMS will be developed for this Project, as defined by ANSI/EIA 748-A-1998. The EVMS process can identify trends and forecasts of the Project.

Amounts for unknown costs are included as contingencies in the cost estimate consistent with FHWA Major Project Guidelines. Each contingency is managed by evaluating project segment budgets and reallocating costs within the baseline to support the remaining segments and any other cost requirements. Similarly, modifications in scope will be evaluated within each segment to determine if the modifications can be accommodated within the allocation for that segment.

MDOT uses several software packages to manage projects, including:

**Map Project Information System** – Collects and tracks information about projects from scoping through obligation and electronically documents a projects change control.

**Program/Project Management Software** – Coordinates project tasks between staff and transmits project changes for review and approval (for inclusion in MDOT's capital program).

**Map Financial Obligation System** – Used to manage the financing of approved job phases (elements), including coordination of federal fund obligation and disbursement,

communication between Program Management and Program Control, project initiation, project accounting, and FHWA.

**Administrative Customizable Reporting System** – Allows MDOT employees to create their own reports that access data from the shared project databases.

**Michigan Administrative Information Network (MAIN)** – Is an integrated, automated, administrative information system for the State of Michigan. It is comprised of components and systems that support the State’s accounting, payroll, purchasing, contracting, budgeting, personnel, revenue management activities, and requirements.

**Primavera (P3) Version E/C** – Is a commercially available project management software tool for task management.

All of these systems have a set of pre-packaged reports that address normal tracking needs, and they also have the ability to generate custom designed reports to address unusual needs. All of these systems (except Primavera) are integrated and share cost information. The distinguishing characteristics are the non-cost project information that can be retrieved from each system. In addition, the Primavera system allows for resource and cost loading of the Master Project Schedule. Detailed reporting of the Project is available to show total project status with regard to schedule and budget.

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## CHAPTER 3 - IMPLEMENTATION PLAN

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### INTRODUCTION

*Based on the currently planned project delivery approach, all contracts for the Project are scheduled for tender by the conclusion of FY 2036. This chapter provides information on the planned letting schedule for implementation of all elements of the Project. It also provides additional information regarding the assignment of implementation responsibilities and provides a summary of the status of necessary permits and approvals.*

### PROJECT DESCRIPTION/PHASING

As detailed in Chapter 1 of this IFP, four segments comprise the I-94 Project, which is being implemented to rehabilitate 6.7 miles of the I-94 corridor and 66 bridges from the I-96 Interchange to Connor Avenue. The Project segments in order of completion are:

- ADVANCED BRIDGES
- SEGMENT 3 - CHENE STREET TO EAST OF CONNER AVENUE
- SEGMENT 2 - CASS AVENUE TO CHENE STREET INCLUDING THE I-75 INTERCHANGE
- SEGMENT 1 - EAST OF I-96 TO CASS AVENUE INCLUDING THE M-10 INTERCHANGE

Given the structure of the Project as outlined above, it is clear that the coordination of design and construction sequencing among the various segments will be critical. Such sequencing also could have a significant impact on overall costs and financing requirements.

### IMPLEMENTATION RESPONSIBILITY

Because of the magnitude of this Project, MDOT oversight will be exercised by the MDOT Leadership Team, which is comprised of the Director of the Department, Deputy Directors, and the Directors of the various bureaus within MDOT.

The MDOT Senior Project Manager is Terry Stepanski, P.E. It is the role and responsibility of the Senior Project Manager to provide overall administration, coordination, and technical oversight to the Project. Various support staff and teams have been established with roles and responsibilities accountable to the Senior Project Manager. The specific roles and responsibilities are defined in the PMP. MDOT will use an OR for this Project due to the complexities and duration of a modernization project in an established urban area of this magnitude. The OR will serve as an extension of the Senior Project Manager and will assist with project design, management, cost, schedule, and quality.



Individual project schedules for each remaining segment are shown below.

**Figure 3-2. Summary Project Schedule Advanced Bridges**

State Fiscal Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AB#1 Gratiot		Design									
									CON		
									Utilities		
AB#2 Van Dyke OINCC				Design							
				ROW		CON					
AB#3 MT. Elliot						Design					
							ROW				
									CON		
AB#4 Second Avenue						Design					
							ROW				
									CON		
AB#5 Chene & Concord						Design					
							ROW				
										CON	
AB#6 Cadillac & Cass						Design					
							ROW				
									CON		
AB#7 Brush & French						Design					
							ROW				
									CON		
Woodward Bridge						Design					
						CON					
Trumbell Bridge										Design	
											CON
Owners Representative Contract						Design					
Opportunity Buys (ROW)						ROW					

Figure 3-3. Summary Project Schedule Segment 3

State Fiscal Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
#1 Dequindre			Design									
			ROW									
				CON		CON						
#2 St Aubin & Frontenac			Design									
			ROW									
						CON	CON	Utilities				
Frontenac, Burnes, Conner			Design									
							ROW					
							CON	Utilities				
#4 Pedestrian Bridges			Design									
								ROW				
								CON	CON			
#5 Gratiot Ramps			Design									
							ROW					
								CON	Utilities			
Norfolk Southern & Conrail			Design									
									CON			
Frontenac & Norcorss			Design									
							ROW					
								CON	Utilities			
Pump Stations			Design									
										CON		
Temporary Widening			Design									
										CON		
Frontenac & Connor			Design									
							ROW					
										CON	Utilities	
Owners Rep Contract			Design									
Risks and Opportunities			CON		CON							

Figure 3-4. Summary Project Schedule Segment 2

State Fiscal Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
#11 Between Cass & I-75			Design								
			ROW								
			CON								
			Utilities								
#12 Brush & Russell			Design								
			ROW								
					CON						
					Utilities						
#13 Second Ave & Russell			Design								
			ROW								
					CON						
					Utilities						
#14 Rehab I-75			Design								
			CON								
Owners Rep Contract			Design	Design	Design	Design	Design				
Risks and Opportunities			CON		CON						

Figure 3-5. Summary Project Schedule Segment 1

State Fiscal Year	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Cross Streets		Design									
		ROW									
		Utilities		CON							
Rehab Pump Stations		Design									
			CON								
CN Rail & Conrail Bridges		ROW		Design							
								CON	CON		
Between I-96 and Trumbull		Design									
		Utilities		CON							
Service Drives-Trumbull & Cass		Design	ROW								
		Utilities			CON	CON	CON	CON			
Owners Rep Contract		Design									
Risks and Responsibilities		CON		CON							

## STATUS OF PERMITS AND APPROVALS

As discussed, further in the Risk Management section of this IFP (see Chapter 6), early and frequent communication, and coordination, with the permitting agencies will facilitate the permitting processes. At this time, permits are expected to be issued in a timely manner, posing no risk to project completion, scope, or cost.

Those permits as required in the FEIS are outlined in Table 3-1.

**Table 3-1. Required Permits and Status**

Issuing Agency	Permit/Notification	Status
Michigan Department of Environmental Quality	National Pollution DES Permit	Application not submitted.
Michigan Department of Natural Resources	Act 203 of the 1974 Michigan Endangered Species Act Notification	Application not submitted.
Michigan Department of Environmental Quality	Air Quality Permit	Application not submitted.
US Fish & Wildlife Service	Federal Endangered Species Permit	Application not submitted.

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## CHAPTER 4 - PROJECT FUNDING

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### INTRODUCTION

*As described in detail in Chapter 2, based on current estimates and the most up-to-date information on construction-related inflation, the Project will require an estimated \$2,913.4 million (in year of expenditure dollars) to fully fund all project elements over the planned project horizon. This chapter reviews MDOT's plan of finance for the Project, describes in detail the planned sources of funds, and reviews the funding plan in the context of the State's overall transportation programs and available resources.*

### PROJECT PLAN OF FINANCE

As currently planned, the Project will be funded through traditional federal aid, state, and local match.

### SOURCE OF FUNDS

Funding sources is referred to as falling into one of the following categories:

- **Expended and/or Obligated Funds** – including funds that have actually been spent and those that have been obligated for the Project.
- **Programmed Funds**– refers to those funds for which there is a commitment but no actual expenditures or obligations (i.e., funding included in MDOT's Five Year Transportation Program and the Long Range Plan).

Obligated funds are commitments made by MDOT and Regional Planning Organizations to fund the Projects selected through the planning process. Obligated funds for the Project are constrained in MDOT's programming systems MPINS and MFOS, at the detailed job number and funding source level, i.e., by FINSYS code.

Programmed funds are financially committed through the planning process and resulting inclusion in long range planning documents. Commitments for programmed funding are documented by the MDOT Five Year Plan State Transportation Improvement Plan (STIP), the regional Transportation Improvement Plan (TIP), and the Regional Transportation Plan (RTP).

The Southeast Michigan Council of Governments (SEMCOG) is the regional planning organization in which this Project physically resides. SEMCOG's 2040 Regional Transportation Plan and the 2014-2017 Transportation Improvement Program include the Project as fiscally constrained. The FHWA Michigan Division Administrator recognizes the LRP and TIP as the Plan of record for Southeast Michigan.

Both the TIP and LRP can be found in their entirety at the following website:  
<http://www.semcog.org/2040RegionalTransportationPlan.aspx>.

The SEMCOG 2014–2017 TIP includes the programming for the Advanced Bridges Segment. The TIP was adopted by SEMCOG’s General Assembly on December 6, 2013.

**Figure 4-1. SEMCOG TIP**

Fiscal Year	Project Name	Limits	Primary Work Type	Project Description	Phase	Total Phase Cost (\$1000s)	MDOT Job No.	Local ID No.	Comments
2014	I-94	I-96 to Conner Avenue (8 bridges)	Bridge replacement	Replace bridges	PE	10,501	113124	11559	Freeway modernization 113125, 113551, 113552, 113553, 113558, 113126, and 113127
2014	I-94	From I-96 to Conner Ave.	Freeway Modernization	Project Manager for freeway modernization	EPE	4,000	122114	11528	Includes MDOT # 122115, 122116, and 122117
2014	I-94	I-96 to Conner Avenue	Bridge - other	Rehabilitate bridge	CON	10,100	120802	11570	Modernization of the freeway by replacing the Woodward bridge over I-94
2014	I-94	from I-96 to Conner Ave	Freeway Modernization	Purchase ROW for freeway modernization	ROW	1,500	122118	11548	ROW Purchases Includes # 122119, 122121 and 122122.
2015	I-94	From I-96 to Conner Ave.	Freeway Modernization	Project Manager for freeway modernization	EPE	2,500	122114	11528	Includes MDOT # 122115, 122116, and 122117
2015	I-94	from I-96 to Conner Ave	Freeway Modernization	Purchase ROW for freeway modernization	ROW	2,000	122118	11548	ROW Purchases Includes # 122119, 122121 and 122122.
2015	I-94	I-96 to Connor Avenue (8 bridges)	Freeway Modernization	Purchase ROW for freeway modernization	ROW	8,900	113124	11559	Freeway modernization 113125, 113551, 113552, 113553, 113558, 113126, and 113127
2016	I-94	From I-96 to Conner Ave.	Freeway Modernization	Project Manager for freeway modernization	EPE	3,001	122114	11528	Includes MDOT # 122115, 122116, and 122117
2016	I-94	from I-96 to Conner Ave	Freeway Modernization	Purchase ROW for freeway modernization	ROW	3,500	122118	11548	ROW Purchases Includes # 122119, 122121 and 122122.
2017	I-94	From I-96 to Conner Ave.	Freeway Modernization	Project Manager for freeway modernization	EPE	4,000	122114	11528	Includes MDOT # 122115, 122116, and 122117
2017	I-94	I-96 to Conner Avenue	Bridge replacement	Replace bridges	CON	75,692	113124	11569	Modernization of the freeway by replacing the Second, Mt. Elliot, Chene, Cadillac, and Gratiot bridges over I-94 (113125, 113552, 113553, 108061, and 113126)
2017	I-94	from I-96 to Conner Ave	Freeway Modernization	Purchase ROW for freeway modernization	ROW	5,001	122118	11548	ROW Purchases Includes # 122119, 122121 and 122122.
						130,695			

The SEMCOG 2040 RTP includes the remaining packages for the Advanced Bridges Segment and all packages for Segments 3–1. The Project in the LRP is listed as RTP Project Number 935 (RTP 935).

**Figure 4-2. SEMCOG RTP 935.**

Project ID	Project Name	Project Limits	Proposed Work	Jurisdiction	Year	Cost (in 1,000s)
Project <a href="#">935</a>	I-94	from I-96 to Connor	Widen to 4 lanes in both directions, reconstruct interchanges	MDOT	2018 2019 2020 2021-2025 2026-2030 2031-2035 2036-2040	2,776,800

The funds listed in the RTP for the above are Federal National Highway Performance Program and State Transportation Funds with local match as required by Michigan statute.

### Project Funding

MDOT anticipates \$2,913.4 million will be needed to complete the Project. This includes the already expended federal and state funding of \$1.5 million (FY 2010) for the design of the Gratiot Bridge in the Advanced Bridges Segment.

Table 4-1 shows the current breakdown of overall funding for the total project cost including those already expended of \$2,913.4 million.

### Federal Funding

Federal funds are a significant source of funding for the Project. It is anticipated that the future Federal funds will be from the National Highway Performance Program. MDOT received a \$100,000 grant from the Federal institution, Strategic Highway Research Program for New Strategies for Managing Complex Projects (SHRP2 R10). Half of the funds (\$50,000) will be used in FY2014 to update the Project Management Plan.

### State Funding

State Transportation Funds are from the state restricted fund for transportation purposes as provided for in Public Act 51 of 1951, so in described as the STF. The revenues of the STF are from the motor vehicle fuels taxes, vehicle registration taxes, and interest and miscellaneous fees deposited into the Michigan Transportation Fund, and statutorily distributed to the STF.

### Local Funding

Local match will be provided by the City of Detroit to meet their minimum participation amount, as required by Michigan Public Act 51 of 1951. According to this law, incorporated cities and villages are required to participate with MDOT in the cost of improving highways. This Act gives MDOT the authority withhold the distribution of motor fuel and registration

revenues earned and due to the City from the Michigan Transportation Fund for unpaid invoices due to MDOT for local match on participating construction projects.

**Table 4-1. Summary Total Project Funding by Source** (Year of Expenditure dollars, in millions)

<b>Funding Source</b>	<b>Expended / Obligated</b>	<b>Programmed</b>	<b>Total</b>
<b>Federal</b>			
Formula funds (by category)			
National Highway Performance Program	135,494,702	2,238,856,243	2,374,350,945
SHRP2 R10 Grant	-	50,000	50,000
<b>SUBTOTAL - Federal</b>	<b>135,494,702</b>	<b>2,238,906,243</b>	<b>2,374,400,945</b>
<b>State</b>			
State Match on Federal Formula Funds	-	-	-
Michigan State Trunkline Funds (Act 51)	26,911,908	444,690,734	471,602,642
<b>SUBTOTAL - State</b>	<b>26,911,908</b>	<b>444,690,734</b>	<b>471,602,642</b>
<b>Local</b>			
Local Match on Federal Formula Funds			
Act 51 participation	3,844,558	63,527,248	67,371,806
<b>SUBTOTAL - Local</b>	<b>3,844,558</b>	<b>63,527,248</b>	<b>67,371,806</b>
<b>GRAND TOTAL</b>	<b>\$166,251,169</b>	<b>\$2,747,124,224</b>	<b>\$2,913,375,393</b>

## RECONCILIATION OF THE TIP AND LRP FUNDING TO TOTAL PROJECT FUNDING

The following table shows the reconciliation of SEMCOG's TIP and LRP to MDOT's anticipated Project funding. Reconciling items include PE and ROW for Advanced Bridges previously obligated (prior to FY 2014).

**Table 4.2. Reconciliation of SEMCOG TIP and LRP to Total Project Funding**

Project Costs in YOES	2,913,375,000
SEMCOG TIP	130,695,000
SEMCOG LRP	2,776,800,000
SEMCOG Total Funding	2,907,495,000
<b>Difference</b>	<b>5,880,000</b>
PE and ROW Previously Obligated	5,880,000

## PROJECT FUNDING IN RELATION TO MICHIGAN'S OVERALL TRANSPORTATION PROGRAM

MDOT's Statewide Transportation Improvement Program and Long Range Plan are broken into seven regions. Each region must stay within its own separate budget for project planning and selection. This Project is in the Metro Region, which is within the geographic limits of the SEMCOG Regional Transportation Planning Organization. MDOT's transportation program for the Metro Region is listed in its entirety in the SEMCOG RTP

and as such is fiscally constrained. A complete list of MDOT's projects within the SEMCOG MPO jurisdiction can be found at the following website <http://www.semcog.org/2040RegionalTransportationPlan.aspx>.

The RTP includes all the major projects for this region such as the I-75 Freeway Improvement Project, the Blue Water Bridge Plaza and Interchange Project, the New International Trade Crossing (NITC) and the Detroit Intermodal Freight Terminal Project.

## **POTENTIAL ALTERNATIVE FUNDING APPROACHES**

While the State is fully committed to meet its obligations under this plan and based on its current legal authorities, MDOT recognizes that circumstances can change and alternative structures may present themselves as superior to the baseline plan, as articulated in this document. Future Annual Updates will account for any such revisions to the Plan of Finance and incorporate new funding capabilities for the Project.

## **KEY REVENUE-RELATED ASSUMPTIONS, RISKS, AND MITIGATIONS**

As with any project of the size and duration of the Project, there are a great number of uncertainties regarding the magnitude and timing of project costs in relation to the availability of funding. These risks and the strategies being utilized to address them are discussed in Chapter 6 of this IFP.

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## CHAPTER 5 - PROJECT CASH FLOW

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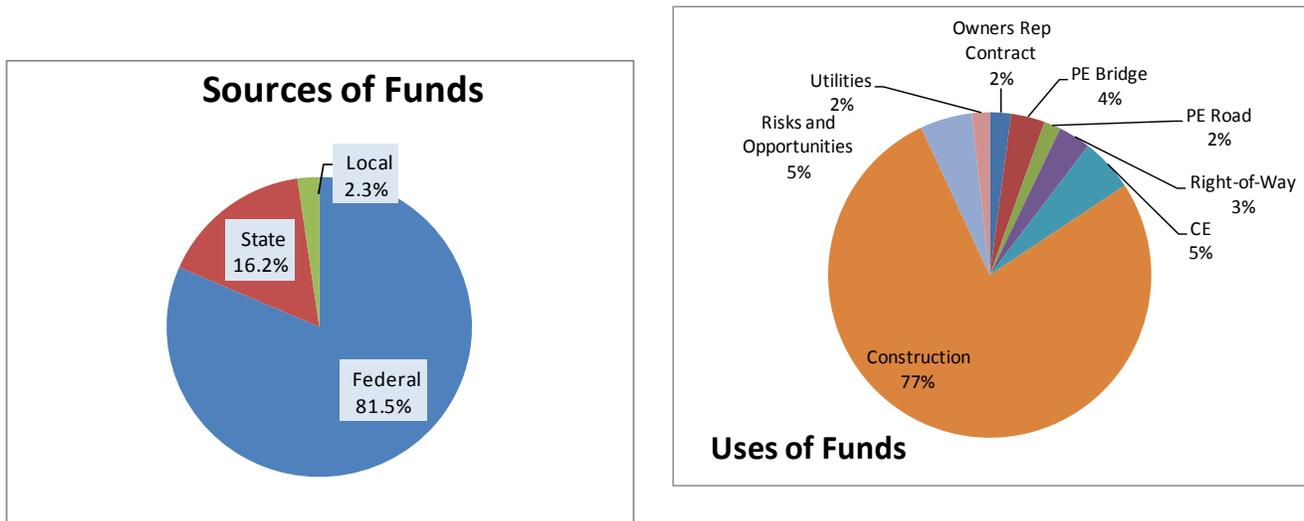
### INTRODUCTION

*This chapter provides a summary of the annual cash flow needs of the Project. Specific plans, contract packages, and resulting projections of actual cash outlays will be updated substantially in subsequent Annual Updates to the IFP. At a minimum, it is anticipated that such updates will address strategies to manage the timing of resource availability and cash flow requirements.*

### SOURCES AND USES OF FUNDS

As described in Chapter 4 of this IFP and based on current plans, the Project will be funded with Federal and state funds with local match. Figure 5-1 provides a summary of the planned sources and uses of funds for the Project.

**Figure 5-1. Sources and Uses of Funds – Total Project** (Year of Expenditure dollars, in millions)



### PROJECT OBLIGATIONS AND CASH FLOW

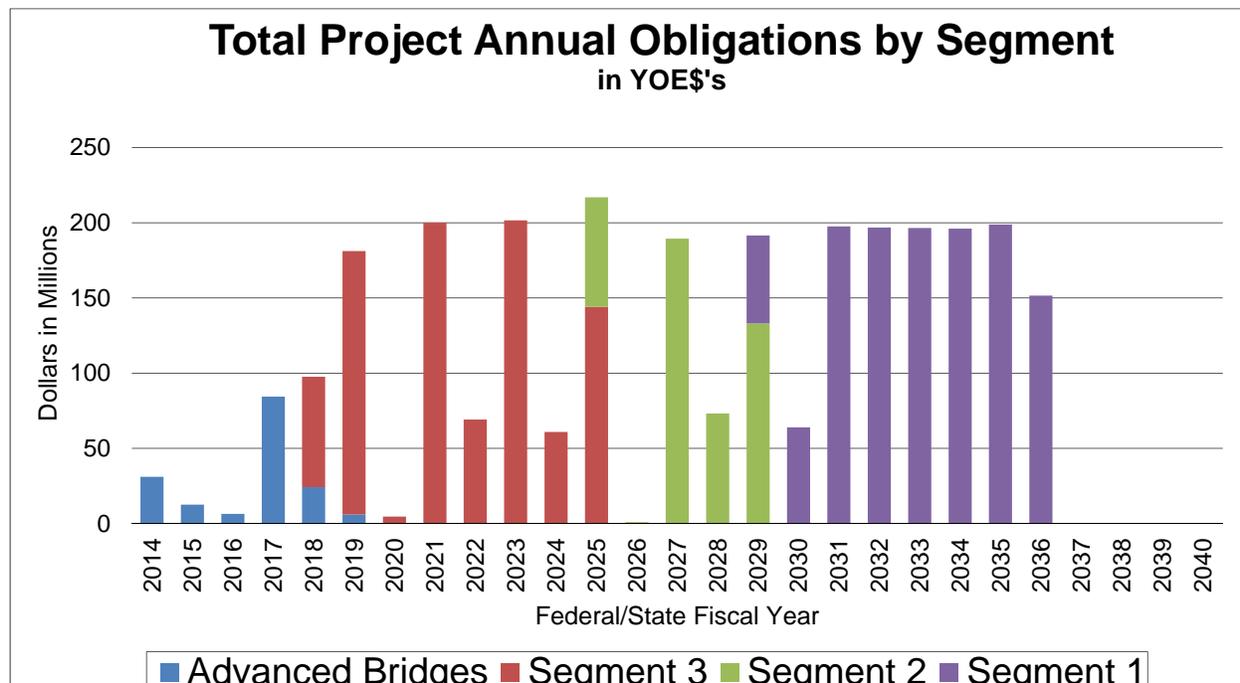
#### Obligations versus Annual Cash Outlays

The Project funding plan in Chapter 4 reflects obligations by project segment on an annual basis. This is to ensure that MDOT meets its requirement that federal and state funds will be available and appropriated prior to making contractual commitments for lettings.

Once MDOT develops letting schedules for each contract package, a more detailed analysis of the anticipated timing of cash outlays will be presented, to update the Plan to manage the annual cash flow for the Project. Given the Project's overall size, this will be quite important not only to ensure the availability of revenues as needed but also to help manage

the impact of the Project on the Department’s overall program. Figure 5-2 below shows MDOT’s obligations for each segment of the Project, inflated to the year of obligation.

**Figure 5-2. Total Project Annual Obligations by Segment**



### Planning for Cash Flow

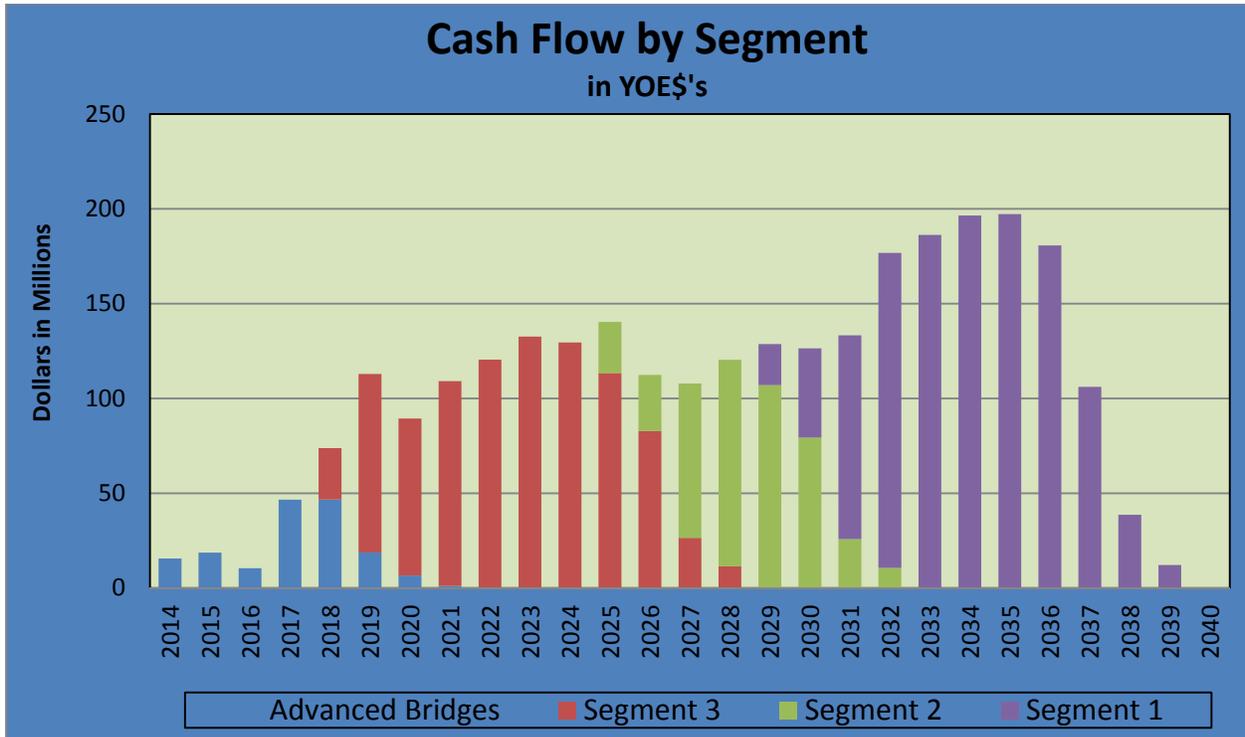
For cash flow planning purposes, MDOT uses historical averages for cash outlays by project type. Significant improvements are being made to both the contractor payment and project close out processes. However, for purposes of this IFP, the outlay of cash for vendor payments for this Project uses the averages for construction projects as shown in Table 5-1 below. The percentages represent cash needs for all phases of a project including Design, ROW, and Construction as well adjustments for claims, audits, and all other accounting transactions through financial close. These averages were applied to the annual obligation totals to arrive at cash flows shown in Figure 5-3, Total Project Cash Flow. Cash flow for Advanced Bridges uses the historical percentages for Preserve projects. The percentages for capacity improvement projects were applied to all other Segments.

**Table 5-1. MDOT Historical Cash Flow Schedule for Vendor Payments**

Allocation	FY 1	FY 2	FY 3	FY 4
Advanced Bridges	50.0%	40.0%	7.0%	3.0%
Segments 3-2-1	37.0%	40.0%	15.0%	8.0%

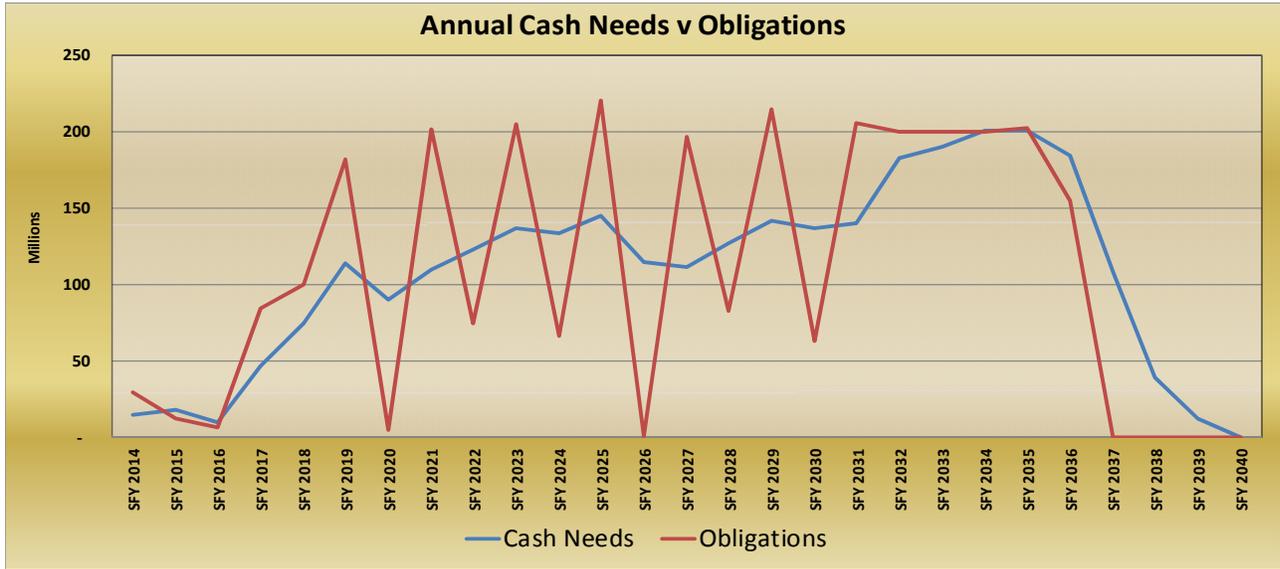
Cash flow by segment for the I-94 Project is shown in the chart below in YOE dollars.

**Figure 5-3. Total Project Cash Flow (Year of Expenditure dollars, in millions).**



The graph below demonstrates the relationship between obligations and cash needs. Obligations precede the need for cash and as such, MDOT can ensure that cash is available to make contractor payments.

Figure 5-4. Obligations versus Cash Flow (Year of Expenditure dollars)



### Cash Management

MDOT uses the TRNS\*Port Construction and Administration System (CAS) and Project Accounting and Billing (PAB) software systems to manage vendor payments and the timing of cash needed for these payments against the availability of federal, state, and local funds. Each contract is obligated at the job number, category, and fund level detail within the MFOS and PAB systems. Each week, pay items earned are documented in the field at the job number level using MDOT’s Field Manager (part of TRNS\*Port) system. Vendor payments are reviewed approved and posted electronically to PAB. Through an interface between PAB and the State of Michigan’s accounting system, MAIN, the payment is scheduled. The federal portion of the estimate report is billed to FHWA each week. The payments and billings are coordinated so the vendor payments are made and the Federal funds are received on the same day.

Monitoring of State Transportation Fund revenues occur on a monthly basis. In addition, actual revenues vs. budgeted revenues are reviewed as well as obligations for all planned projects. MDOT follows cash management practices required by the Federal Cash Management Improvement Act of 1990, as amended.

### INTERACTIONS WITH STATE TRANSPORTATION PROGRAMS, BUDGETS, AND OTHER PROJECTS

As described in this IFP, MDOT has made specific commitments to the completion of the Project. Commitments are incorporated into the STIP, relevant TIPs, and the SEMCOG Local Road Program (LRP) according to this Initial Financial Plan, the needs of the Project, and available funding. The chart below shows the amount of funding needed for the Project in relation to all other funding available for the total capital program.

Figure 5-5. Funding Available for Program



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## **CHAPTER 6 – PUBLIC PRIVATE PARTNERSHIP ASSESSMENT**

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At the current time, MDOT does not have legislative authority to enter into a public private partnership for a Project of this magnitude nor does MDOT have legislative authority to toll roadways including additions to existing road ways.

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## CHAPTER 7 – RISK AND RESPONSE STRATEGIES

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### INTRODUCTION

*This chapter addresses a number of important factors that could affect the Project and, in particular, the financial plan for the Project. These include cost and funding related risks, and associated mitigation strategies, as well as interdependencies with the State's overall transportation program, budget, and other projects.*

Cost escalation is a risk that can affect the overall ability to achieve expectations of completing a project on time and within budget. Recent national events draw heightened attention to the need for cost management and, in particular, a focus on identifying and mitigating cost related risks. All design and construction projects have risk elements that can affect costs, and should be identified and mitigated to the greatest extent possible. These risk elements include, but are not limited to, project scope and design, ROW acquisition, NEPA litigation, permitting, schedules, contract packaging, general and construction related inflationary pressures. The chapter briefly outlines areas of potential cost risks and possible mitigation measures MDOT is currently considering and/or pursuing for the Project.

With design segments for all 25-construction packages, careful attention needs to be given to design development and construction sequencing to keep the Project on schedule. The two Cost Estimate Reviews identified all known major risk factors that may be present as the Project moves forward. Action will be taken early on those items with the potential to increase cost or cause delay.

A Value Engineering Study was held during the EPE phase of the Project. Another Value Engineering Study will be held at the appropriate time, MDOT will be utilizing its well established extensive QA/QC processes throughout the design and construction of this Project.

A CER was performed by the FHWA Major Projects Office from April 25-29, 2011. The objective of the CER was to verify the accuracy and reasonableness of the current Project total cost estimate and schedule, and to develop a probability range for the cost estimate, which represents the Project's current stage of development. Through this process, FHWA was able to determine the DER was developed at an appropriate level of detail and the estimated project cost appropriately represents the cost of the Project in YOE dollars.

To arrive at this conclusion, the Team, together with MDOT subject matter experts, defined and discussed known and probable unknown risk elements. Following FHWA's process, costs were assigned to these risks and the corresponding contingency percentages were reduced. The result of this review on the estimated cost of the Project, in YOE dollars at the 70 percent confidence level, was an increase of \$105.1 million, or 3.7 percent.

The adjustments to the cost estimate made during the initial CER are listed below:

Estimate Adjustments

- Eliminate the overall design contingency of 35 percent
- Add 10 percent allocated contingency to Bridges
- Add 35 percent unallocated contingency to Utilities
- Add \$9 million for pavement sections
- Add \$25 million for early completion incentives
- Add \$30 million to the public information campaign
- Increase mobilization from 5 percent to 10 percent
- Increase preliminary engineering from 7 percent to 9.5 percent
- Increase construction engineering from 7 percent to 11 percent

Adjustments to Costs for Risks as Determined by the CER Process

- Increase ROW estimate for impacts to existing buildings, parking, access to construction sites, and to accommodate temporary rail tracks
- Increase estimate for additional noise walls
- Increase estimate for an additional pedestrian bridge
- Add for community jobs training
- Add for technology costs and ROW to construct bridges offsite
- Add to the material costs of steel bridges
- Increase estimate for ground stabilization under structures
- Add for storage capacity
- Increase estimate for replacement of pump stations rather than refurbishment
- Add to mitigate damage to aging water and sewer systems
- Add for general construction risks of overruns and change orders
- Increase estimate to replace existing slopes with secant pile walls
- Increase for the possibility of encountering hydrogen sulfide latent water
- Add for the possibility of needing to use drilled shafts rather than pile drivers in some locations
- Add for use of extended life pavements
- Increase estimate for additional use of ITS technologies
- Increase estimate to provide for MOT techniques

Adjustment to Costs for Opportunities as Identified in the CER

- Reduce estimate for savings related to rail agreement for temporary runarounds
- Reduce estimate for opportunities related to VECP's during construction
- Reduce estimate for inflation due to schedule acceleration with full lane closures.

The complete report of the FHWA Cost Estimate Review is included as Appendix C.

The Updated CER II addressed the following risks and opportunities. MDOT accepted the likely probability of these risks and opportunities occurring, and adjusted the unit prices used to estimate each package. The complete report of the FHWA Updated Cost Estimate Review II is also included in Appendix C.

- Added ROW to Account for United Sound Recording Studios Building - \$1 M
- Added Environmental Commitments Item - \$ 1 M
- Increased Mobilization from 5 percent to 10 percent - \$50 M
- Increased (doubled) ITS Estimate - \$4 M

- New Line Item for Subgrade Undercutting - \$3 M
- Add Line Item for Construction Change Orders - \$30 M
- Added cost for drilled shafts to avoid utilities - \$15 M
- Added Line Item for Job Skills Training - \$5 M
- Reduced Advanced Bridges PE to reflect 2013 costs – (\$1 M)
- Reduced Advanced Bridges ROW + UT to reflect 2013 costs – (\$2 M)
- Reduced Advanced Bridges CON to reflect 2013 costs – (\$9 M)

## **Mitigation of Risks**

The following is a detailed discussion of the various risks and possible mitigation strategies.

## **Foundations**

A preliminary investigation of the existing boring logs in the corridor is being completed to determine generalized soil profiles and to make a preliminary recommendation on the proposed foundation types for the structures. Since this investigation is limited to the existing borings from the corridor and those borings were completed in excess of fifty years ago, any recommendation will need to be confirmed with a complete geotechnical investigation, prior to the foundation design, including new borings, soil analysis, and possible pile load tests. See the Geotechnical Report for additional recommendations.

## **Utilities**

As defined in the scope of work, the drainage design for the DER focused only on the major trunklines along mainline I-94 and M-10. The goal was to identify and maintain existing drainage patterns and develop an overall drainage plan including potential major utility conflicts for mainlines. Additional drainage design and utility investigations, particularly along the service drives, will be required for future design development. Considerations for potential retaining wall types have been evaluated based on the limited geotechnical data available. Each retaining wall type will potentially affect the existing utilities differently (example: use of tiebacks, excavation for CIP wall, etc.).

The Subsurface Utility Engineering (SUE) mapping completed in 2002 was based on ASCE/CI 38-02 using Quality Levels B-D. Additional utility investigations, including Quality Level A, will be required to facilitate identifying known and potentially unknown utilities. When final design begins, utility mapping will require updates to the latest ASCE standard guideline. Further investigation is needed to determine what additional public/private utilities may be reimbursable other than the Detroit Water and Sewer Department, and the Power and Lighting Department (PLD) municipal utilities.

## **Contamination and Remediation**

The FEIS lists 49 potential hazardous waste sites within the corridor. Evaluation of the potential contamination cleanup and remediation costs, particularly in the industrial areas near the I-94 and I-75 freeway-to-freeway interchange, will need further investigation during future design activities.

## **Railroads**

Future coordination will be required with the railroads to establish agreements regarding sharing tracks and to determine who will perform work on the property for tracks; the railroads or contractors. The temporary earth retention for the railroad bridges is conceptual. Additional detailed analysis will be required in final design to fully size the substructures and foundations, and obtain approval of staging details from the railroads. For the recommended CS/MOT plan, runarounds were required to maintain rail traffic. The conceptual layouts of the runarounds extended beyond the limits of the scope of work for survey. Additional topographical survey will be required in the next phase of design to confirm geometric design of the runarounds. The track profiles may increase the length or change the overall configuration of the required runarounds.

## **Pavement Section**

A pavement design selection process is not required for the DER. To facilitate the DER and opinion of cost development, a concrete pavement type was assumed. Should this assumption change to asphalt, unit prices would change, including potential adjustments to excavation and embankment quantities.

## **ROW Acquisition**

MDOT estimates the Project will require the acquisition of 39 parcels, containing 42 structures. There are approximately 300 additional minor (small size and do not involve structures) ROW takes required along the corridor. Delays in property acquisition can lead to cost increases, which affects the purchase price by escalation in real estate values. MDOT has identified the potential properties for purchase and, to the extent possible, is proceeding with advanced acquisitions.

## **NEPA Litigation**

Prior to the start of construction, the highest litigation risks generally relate to the National Environmental Policy Act (NEPA). To mitigate the potential impacts of future litigation that could cause schedule delays and cost escalation, risk and mitigation measures were addressed with the development of the Environmental Impact Statement (EIS). MDOT intends to adhere to the recommendations outlined in the EIS and take further litigation risk management steps as necessary.

## **Permitting**

As reviewed in Chapter 3 of this IFP, numerous permits are required for the Project. Failure to secure permits as needed can lead to construction delays and cost escalation. Beyond normal construction-related permits, and prior to the start of construction, permits are required from Michigan Department of Natural Resources, Michigan Department of Environmental Quality, and the U.S. Fish and Wildlife Service. It is MDOT's responsibility to obtain these permits. In order to mitigate potential permitting delays, all permitting agencies are being contacted early in design, made aware of future permitting needs, solicited for process feedback, and kept apprised of potential permitting issues.

## **Schedule**

Schedule delays, especially during construction, are primary causes of cost escalation. While expediting project schedules can often help to reduce inflation-related cost escalation, aggressive acceleration can sometimes drive up costs for particular project elements. To mitigate these potential schedule-related impacts, construction analysis will include the sequencing/scheduling to minimize the potential for delays, the advantages and disadvantages of potential accelerations are carefully considered prior to implementation. Other specific items for consideration include utility relocations, ROW acquisition activities, and the potential impacts of other construction projects.

## **Construction Packaging**

Packaging of bid documents can have a positive or negative impact on construction cost. Various bidding strategies will be considered when deciding how to structure the construction packages. These include, but may not be limited to, exploring opportunities to utilize competitive bidding, use of local contractors, and optimization of alternate construction methods, potential incentive/disincentive clauses, and pursuit of the most advantageous scheduling options.

## **Inflationary Pressures**

As with any major multi-year project, inflation is a key risk as it relates to the Project budget and ultimate project completion. As discussed in Chapter 2, Project cost estimates have been inflated annually based on the best currently available information. The provision for inflation will be reviewed on an ongoing basis throughout the life of the Project. Cost management strategies (such as the use of fixed price contracts) and cost reduction opportunities to offset unforeseen inflationary increases also will be explored, as necessary.

## **FUNDING RISKS AND MITIGATION STRATEGIES**

As with any major construction project, there are uncertainties associated with project funding. Following is a review of the key funding-related project risks and associated mitigation strategies MDOT is considering and/or actively pursuing to address these risks.

### **Risk of Non-Appropriation of Funds**

The greatest financial risk for a project expected to span over 20 years for full completion, is the risk federal and state funds may not be available to support appropriations.

### **Risk of Delays in Funding Availability**

A recognized funding risk includes delays in funding due to federal and/or state funding lapses, competition for available funding at the federal level, and the risk that revenues may not be at projected rates.

## **Risk of Local Funding Availability**

The Project is within the City of Detroit. According to Michigan law, Act 51 of 1951, as amended, incorporated cities and villages are required to participate with MDOT in the cost of improving highways. The City of Detroit's local match requirement is \$67.4 million over the life of the Project. The City was approved for bankruptcy in 2013 and by nature of this action, a risk exists that local match may not be provided. However, the City's transportation funds are restricted for transportation purposes. In addition, MDOT has the ability to withhold the distribution of motor fuel and registration revenues earned and due to the City from the Michigan Transportation Fund for unpaid invoices for local match on participating construction projects.

## **Mitigation Strategies**

All projects are subject to unknowns. MDOT will carefully monitor the progress of the Project elements to identify, evaluate, and mitigate the impacts of unknowns as necessary throughout the life of the Project. MDOT will employ mitigation strategies in an effort to contain the Project costs within the estimates and the contingencies currently established.

Despite the application of appropriate cost management and mitigation strategies, costs may increase above estimates. To alleviate this possibility, MDOT will follow FHWA's cost estimating guidance and employ risk based cost assessment methodologies to the extent appropriate.

MDOT is fully committed to the Project and intends to continue to make funds available to meet project needs and schedules. MDOT will continue to consider alternative funding structures, as appropriate.

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## CHAPTER 8 – ANNUAL UPDATE CYCLE

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### FINANCIAL PLAN UPDATES

MDOT plans to provide Annual Updates to this Financial Plan based on the anniversary date method. The anniversary date of this IFP is December 1. Each annual update will be based on actual data from MDOT's internal data systems and on budgets and plans using an as of date of December 1<sup>st</sup>.

MDOT will update and expand upon items as more current information becomes known. Examples of items that will be expanded upon in the Annual Updates, based on actual known information and anticipated progress on the Project, are:

- Updates to the Project schedule detailing those segments of the Project which will be advanced as funding becomes available;
- Updates to cost estimates based on the completion of more detailed design work and re-estimation of unit costs, as well as continued monitoring of inflationary forces;
- More detailed cash flow forecasting (i.e., of anticipated encumbrances/obligations as distinct from anticipated cash needs);
- Tracking of actual expenditures against projected cash flow needs;
- Tracking of actual revenues against projected funding and updated project costs as well as strategies to address any funding shortfalls, as necessary; and
- Incorporation of any additional funding sources and/or financing approaches to address any funding gaps that may have developed since this IFP.

Given the importance of managing overall costs, MDOT will continue to make efforts to incorporate alternative funding and finance approaches to help manage the impact of inflation on overall project costs.

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## GLOSSARY

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ASCE – American Society of Civil Engineers

CER – Cost Estimate Review

DER – Detailed Engineering Report

EIS – Environmental Impact Statement

EPE – Early Preliminary Engineering

EVMS – Earned Value Management System

FEIS – Final Environmental Impact Statement

FHWA – Federal Highway Administration

FTA – Federal Transit Administration

FY – Fiscal Year

IFP – Initial Financial Plan

LRP – Local Road Program

MAIN – Michigan Administrative Information Network

MAP-21 – Moving Ahead for Progress in the 21<sup>st</sup> Century Act

MDOT – Michigan Department of Transportation

NEPA – National Environmental Policy Act

OINCC – Operational Independent Non-Concurrent Construction

OR – Owners Representative

P3's – Public Private Partnership

PE – Preliminary Engineering Road and Bridge

PMP – Project Management Plan

Project – I-94 Edsel Ford Freeway Modernization Project

ROD – Record of Decision

ROW – Right of Way

SAFETEA-LU – Section 1904 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

SEMCOG – The Southeast Michigan Council of Governments

STF – State Trunkline Fund

STIP – State Transportation Improvement Plan

TEA-21 – Transportation Equality Act for the 21<sup>st</sup> Century

TIP – Transportation Improvement Plan

RTP 935 – RTP Project Number 935

RTP – Regional Transportation Plan

RTP – Regional Long Range Transportation Plan

YOE – Year of Expenditure