



Modernization Project
March 21st, 2016





TODAY'S AGENDA

- **Project Overview**
- **Innovative Contracting**
- **Group Exercise (Lessons Learned)**
- **Advanced Bridges Delivery**
- **Next Steps**

PROJECT OVERVIEW



I-94 Modernization Project Goals



- Maintain regional mobility during construction for freight users and access to businesses and homes.
- Deliver within programmed budget.
- Construct Advanced Bridges in three years (2016-2018).
- County residents & users give MDOT 90% approval rating for performance on project before and after construction.
- Utilize contracting mechanisms to exceed stakeholder goals for Michigan businesses and DBE participation.
- Increase opportunity for small business engineering consultants to become prequalified and grow their technical capacity in a mentored environment.

PROJECT OVERVIEW



I-94 MODERNIZATION PROJECT

Project Limits

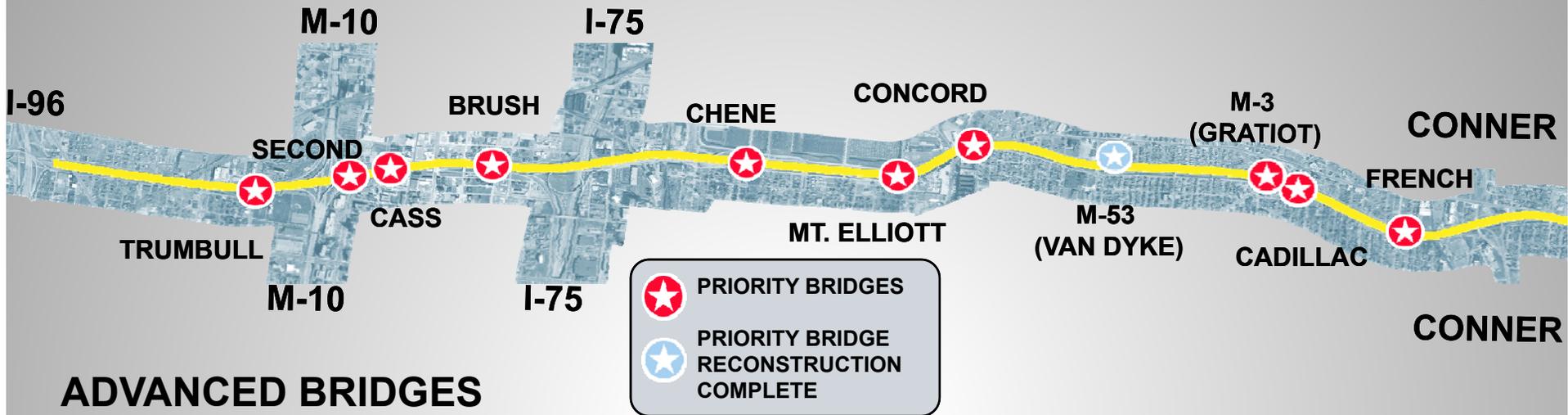
PROJECT OVERVIEW



I-94 MODERNIZATION PROJECT

- 6.7-mile freeway reconstruction from east of I-94/I-96 Interchange to east of Conner Ave
- 67 bridge structures, six railroad overpasses and 11 Advanced Bridges
- Local access improvements including the addition of continuous I-94 service drives
- Modernize interchange ramps including the elimination of freeway left-hand exits and entrances
- Project divided into three segments based on the geographic boundaries shown above

PROJECT OVERVIEW



ADVANCED BRIDGES

Bridges Over I-94	Year Built	Condition*	Reconstruction Year*
Trumbull Avenue	1954	Critical	2016
Gratiot Avenue	1958	Poor	2017
Second Avenue	1954	Poor	2017-2018
Cass Avenue	1955	Poor	2017-2018
Brush Street	1955	Poor	2017-2018
Chene Street	1956	Poor	2017-2018
Mt. Elliott Street	1955	Poor	2017-2018
Concord Avenue	1958	Poor	2017-2018
Cadillac Avenue	1957	Poor	2017-2018
French Road	1957	Poor	2017-2018



Bridge Inspection

*Design to be completed in 2016. Construction letting dates dependent on ROW Certification and available funding.

PROJECT OVERVIEW (SEGMENT 1-2)



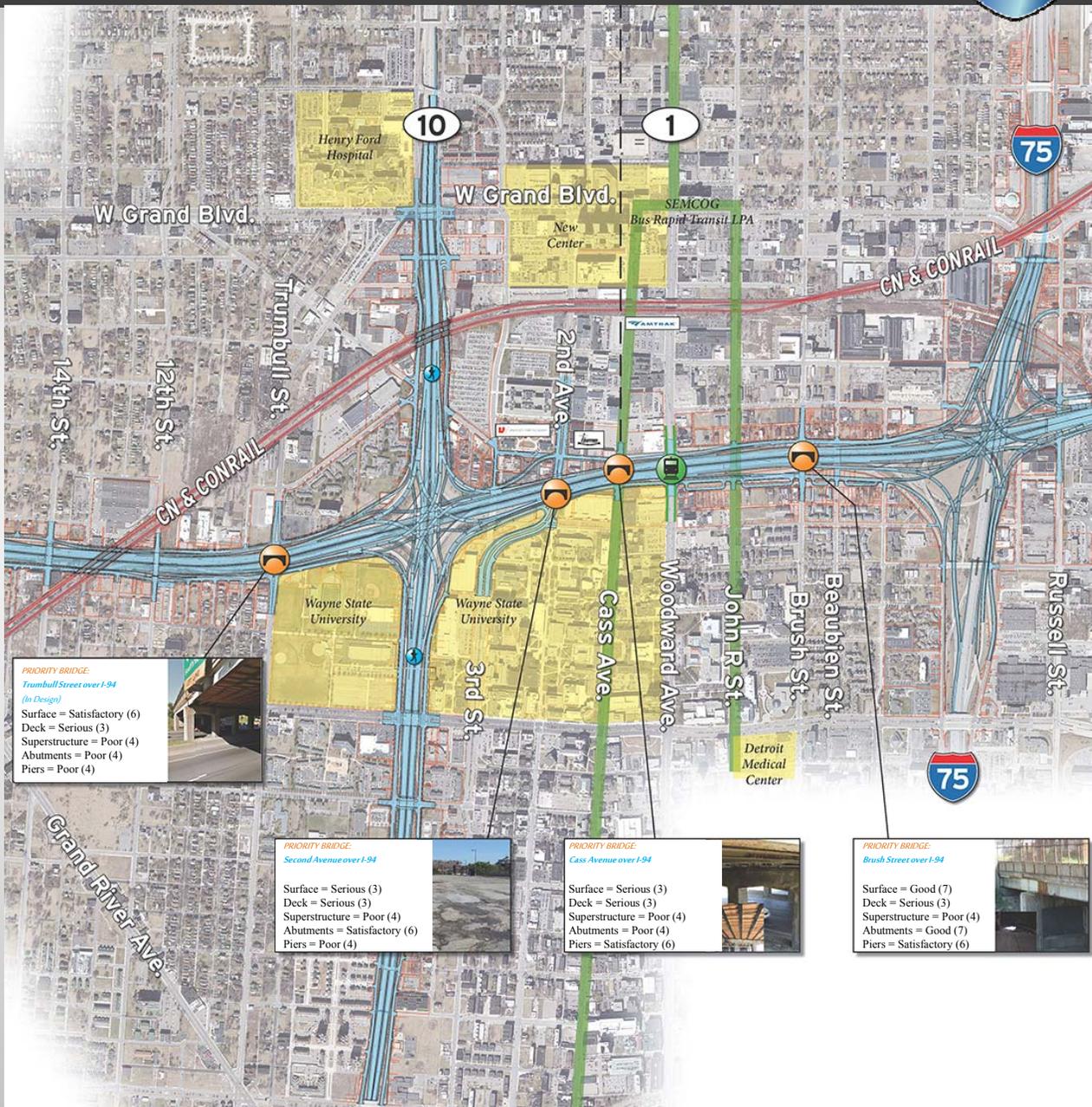
**Second Avenue over I-94
Complex Bridge Design**



**Cass Avenue over I-94
Complex Bridge Design**



Brush Street over I-94



PROJECT OVERVIEW (SEGMENT 2-3)



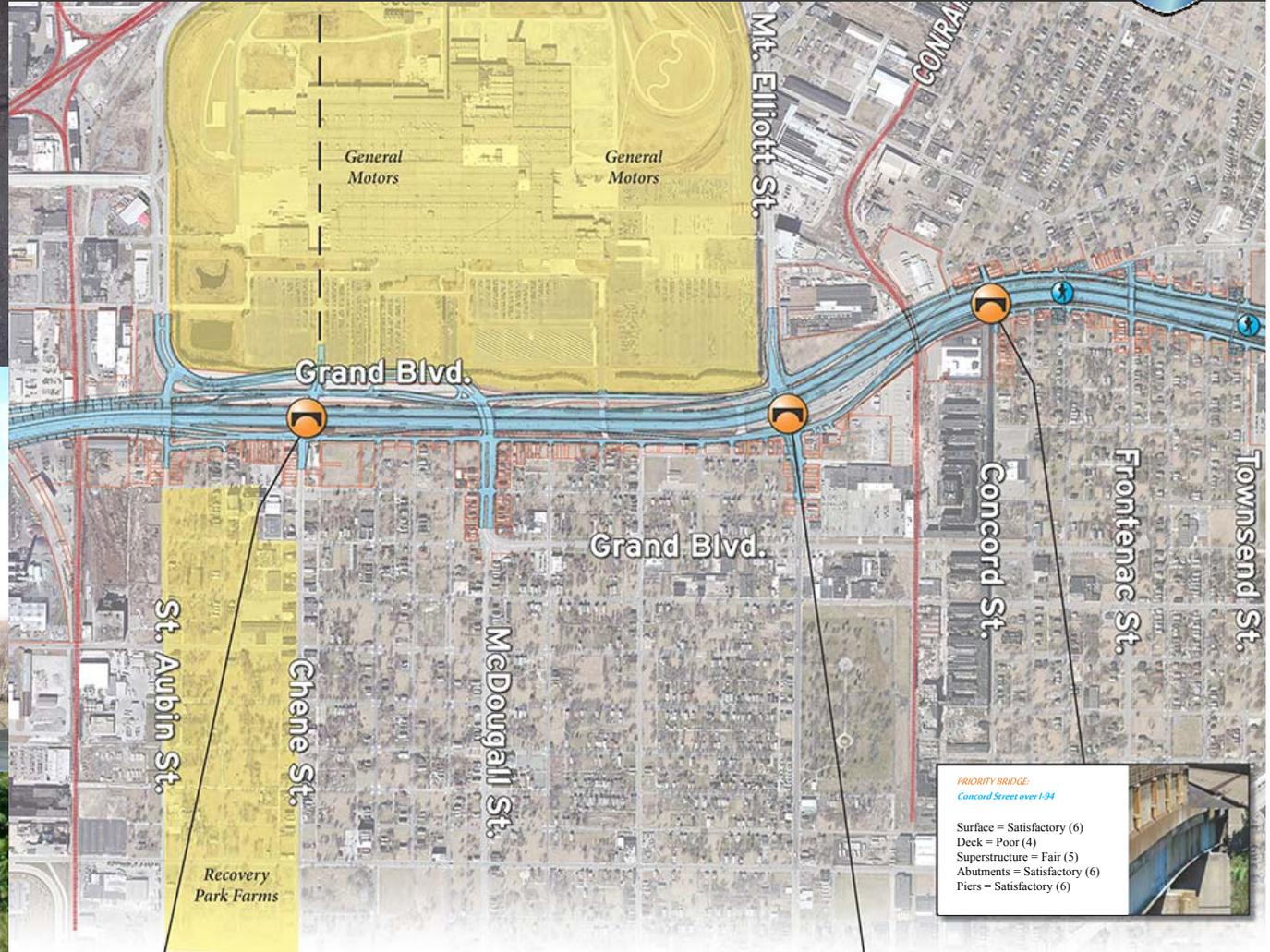
Chene Street over I-94
Complex Bridge Design



Mt. Elliott Street over I-94
Complex Bridge Design



Concord Avenue over I-94



PRIORITY BRIDGE:
Chene Street over I-94

- Surface = Poor (4)
- Deck = Serious (3)
- Superstructure = Poor (4)
- Abutments = Satisfactory (6)
- Piers = Fair (5)



PRIORITY BRIDGE:
Mt. Elliott Street over I-94

- Surface = Fair (5)
- Deck = Serious (3)
- Superstructure = Fair (4)
- Abutments = Fair (5)
- Piers = Satisfactory (6)



PRIORITY BRIDGE:
Concord Street over I-94

- Surface = Satisfactory (6)
- Deck = Poor (4)
- Superstructure = Fair (5)
- Abutments = Satisfactory (6)
- Piers = Satisfactory (6)



PROJECT OVERVIEW (SEGMENT 3)



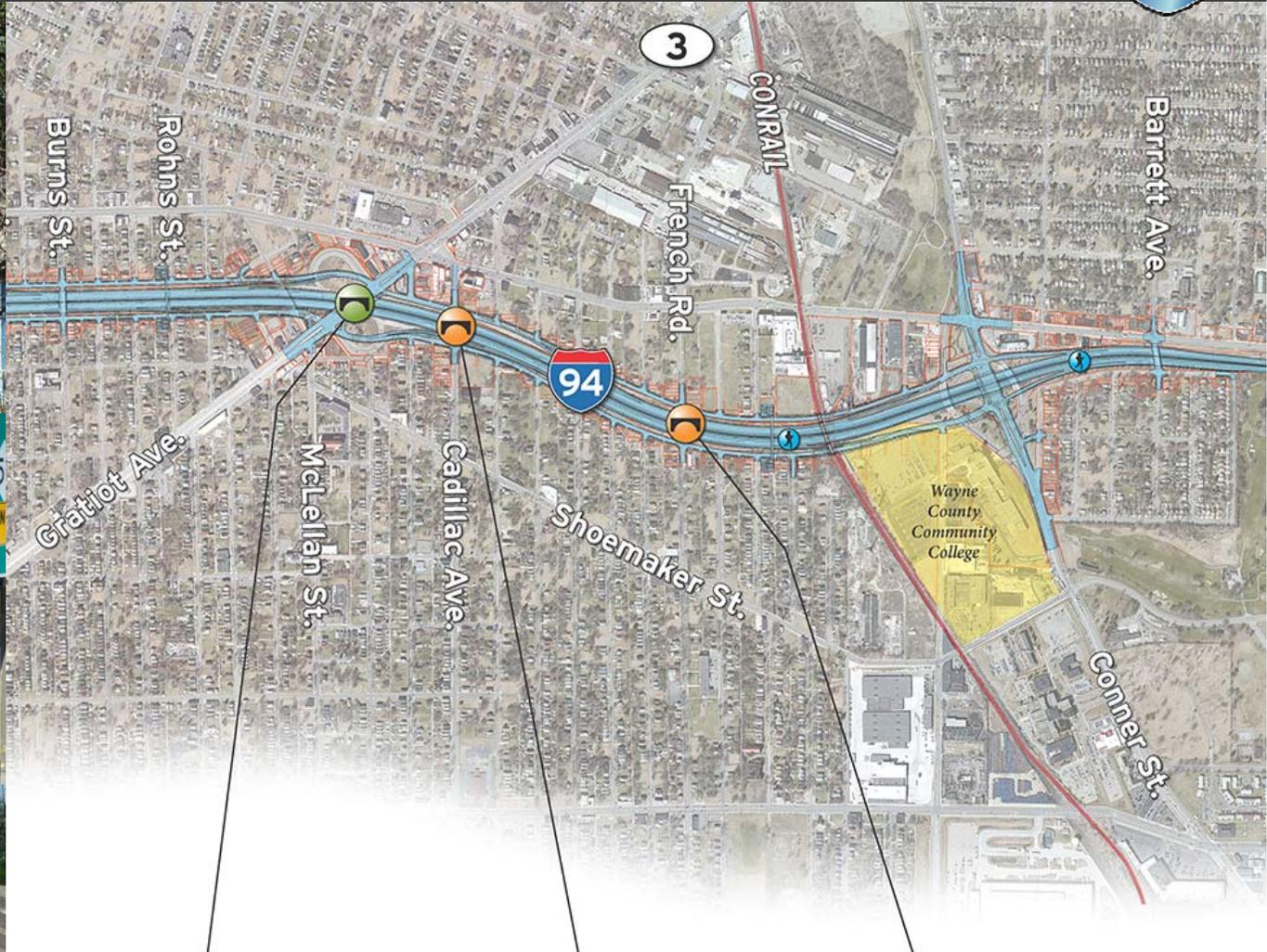
Gratiot Avenue over I-94



Cadillac Avenue over I-94



French Road over I-94



PRIORITY BRIDGE

M-3 (Gratiot Avenue) over I-94
(Design Completed)

- Surface = Fair (5)
- Deck = Poor (4)
- Superstructure = Fair (5)
- Abutments = Satisfactory (6)
- Piers = Good (7)



PRIORITY BRIDGE

Cadillac Avenue over I-94

- Surface = Fair (5)
- Deck = Serious (3)
- Superstructure = Poor (4)
- Abutments = Satisfactory (6)
- Piers = Satisfactory (6)



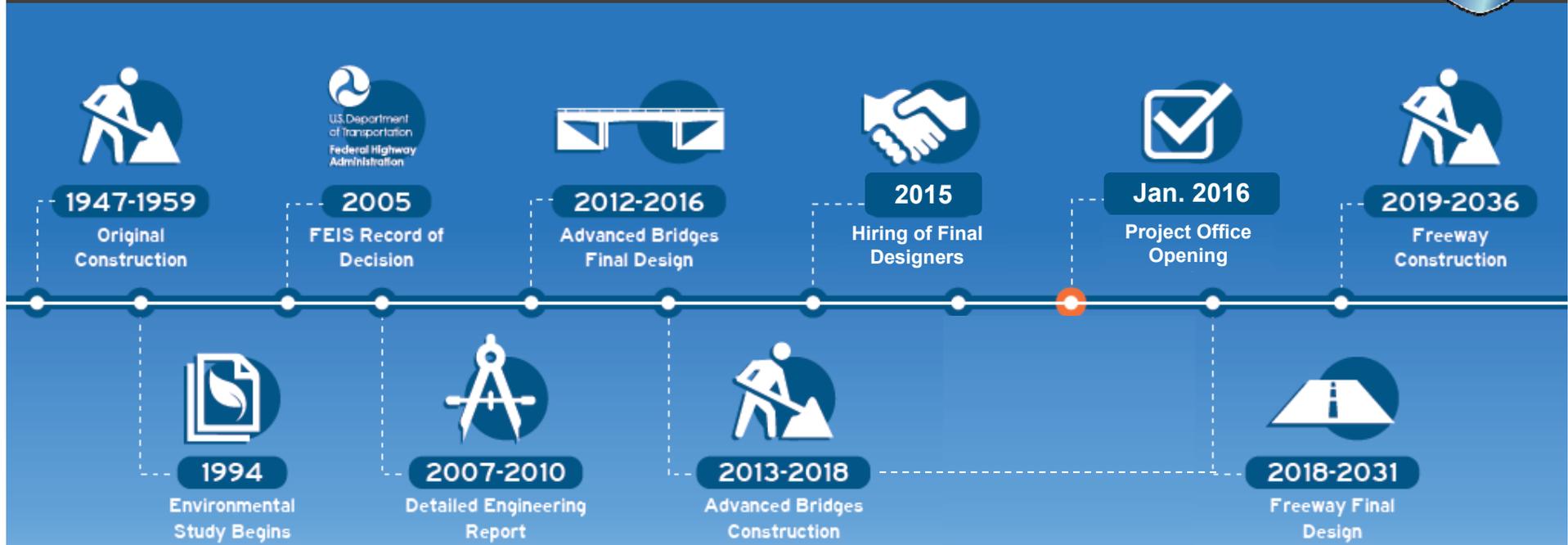
PRIORITY BRIDGE

French Road over I-94

- Surface = Poor (4)
- Deck = Serious (3)
- Superstructure = Poor (4)
- Abutments = Satisfactory (6)
- Piers = Satisfactory (6)

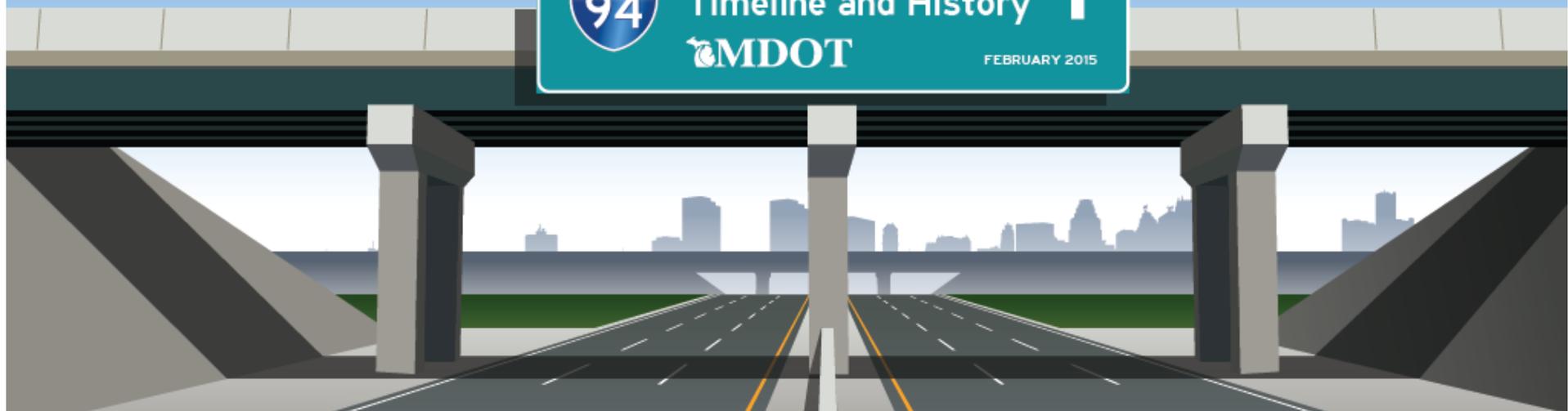


PROJECT OVERVIEW



 MODERNIZATION PROJECT
Timeline and History ↑

FEBRUARY 2015





PROJECT OVERVIEW

PROJECT SCHEDULE



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																							
				CON				Construction																				
Segment 3									Design																			
									ROW					ROW														
										CON		Construction																
Segment 2															Design													
															ROW													
															CON		Construction											
Segment 1																					Design							
																					ROW							
																							Construction					

- Design
- Right-of-Way
- Construction

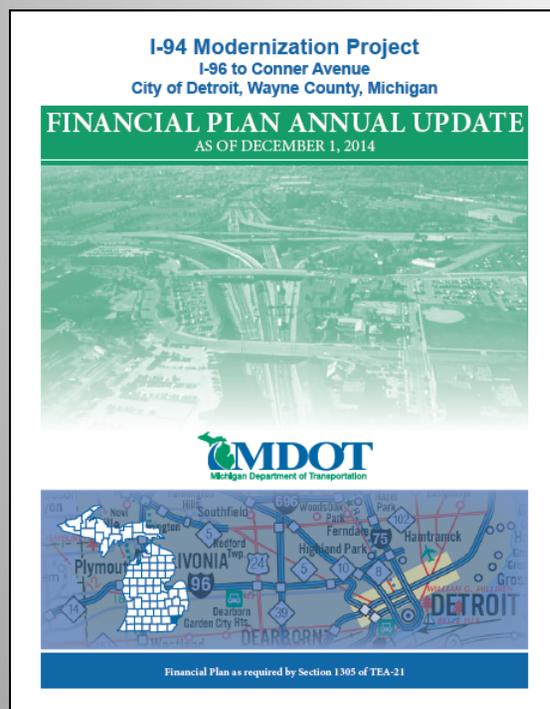


PROJECT OVERVIEW

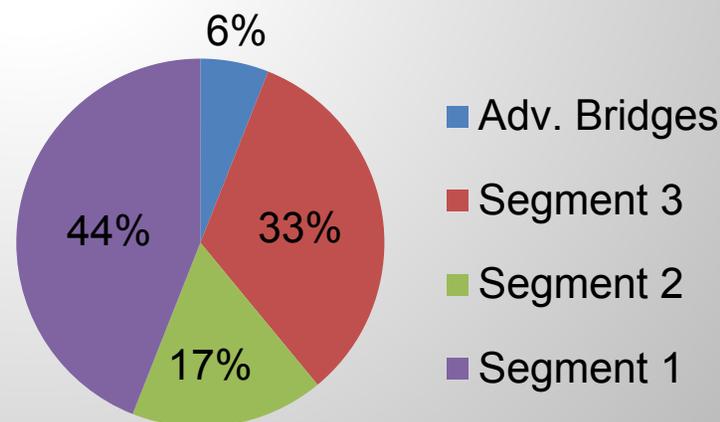
PROJECT COSTS

- **Baseline Estimated cost:**
 - \$1.976 billion (FY 2013 dollars)
 - \$2.913 billion (Year of Expenditure)

Note: YOE costs based on 3% annual inflation and project completion September 2036.



Project Costs by Segment

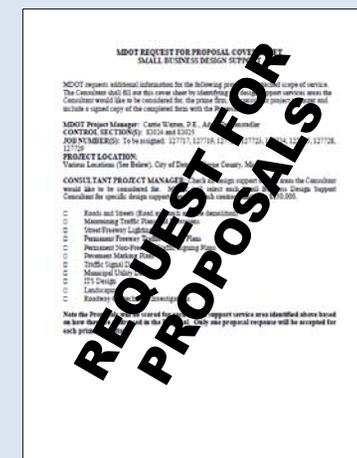


Source: Financial Plan Update 12/1/14



Advanced Bridges Design Contracting Timeline

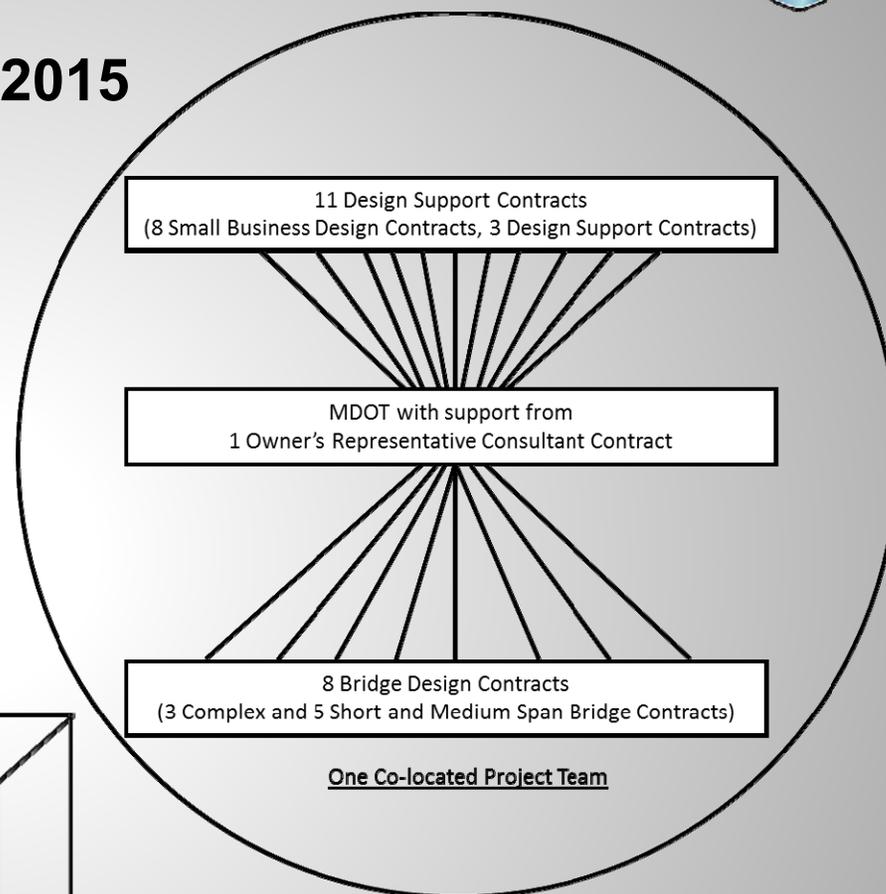
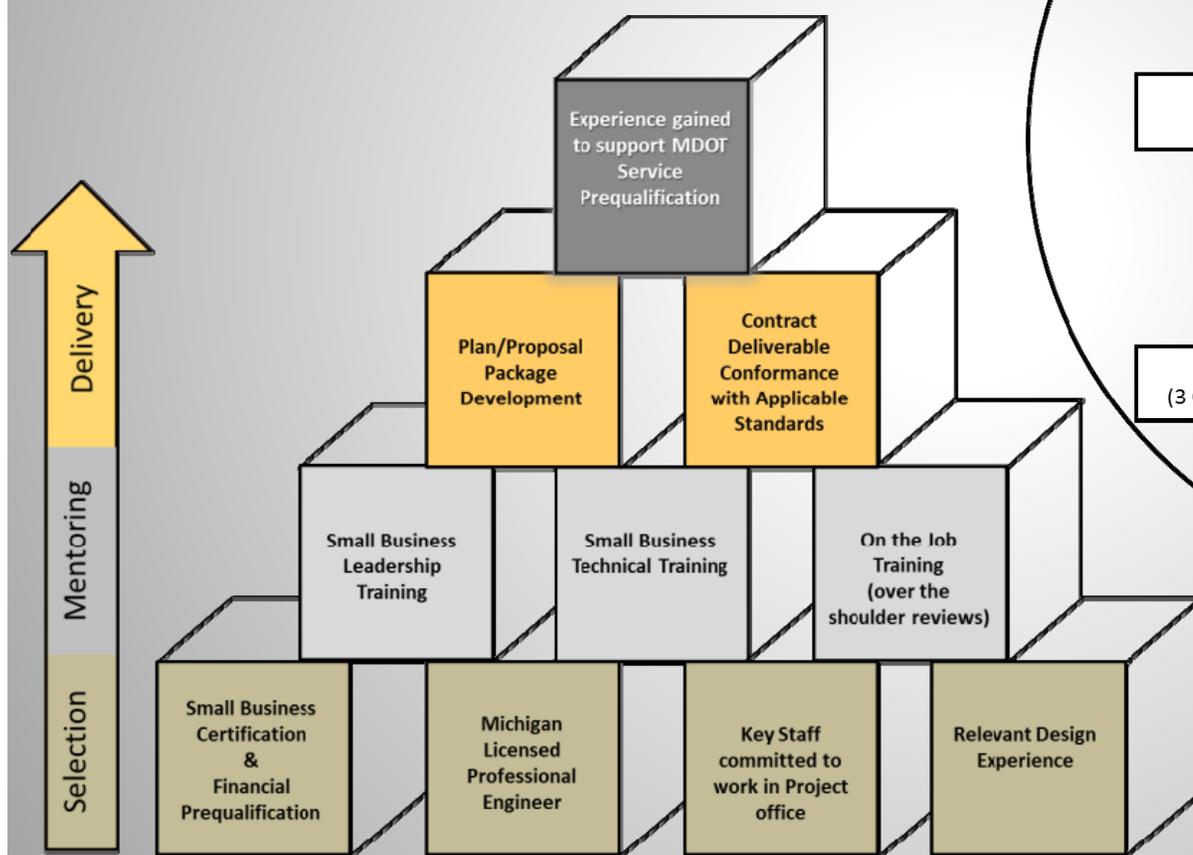
- **Draft White Paper issued January 2015**
 - 2 RFPs (Tier III, Tier I)
- **SBE Industry Meeting held March 2015**
- **Final White Paper issued May 2015**
- **Six RFPs issued by MDOT in June 2015**
 - 2 - Final Bridge Design (Tier III)
 - 3 - Design Support (Tier II - III)
 - 1 – SBE Design Support (Tier I)





INNOVATIVE CONTRACTING

- MDOT Selections in September 2015
- Contracting by January 2016





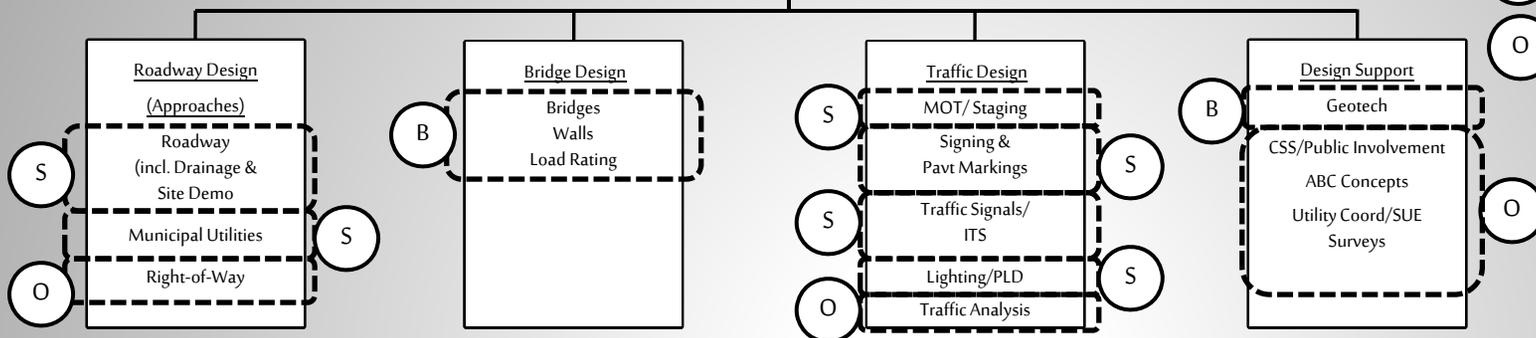
INNOVATIVE CONTRACTING

CONSULTANT TEAM

MDOT Project Management Team
(includes Owner's Representative Consultant)

Legend

- B Bridge Design Consultants
- S Design Support Consultants
- O Owner's Representative



Advanced Bridge Location	Bridge Design Consultant/ Bridge Geotech Subconsultant	Roadway Design Support	Roadway Geotech Design Support	Municipal Utilities Design Support	MOT Design Support	Traffic Signals Design Support	Lighting Design Support	ITS Design Support	Non-Freeway Signing Design Support	Freeway Signing Design Support	Pavt Markings Design Support
Second (S01 of 82024)	Tetra Tech/ SME	Tetra Tech	Tetra Tech GeoTran**	Tetra Tech	NCI Access**	Tetra Tech	Tetra Tech RSE**	Tetra Tech Tyme**	Access*	Spalding*	Tetra Tech
Cass (S02 of 82024)	AECOM/ SME	Tetra Tech	Tetra Tech GeoTran**	Tetra Tech	NCI Access**	Carter*	Tetra Tech RSE**	Tetra Tech Tyme**	Access*	Spalding*	Tetra Tech
Chene (S08 of 82024)	e. Construct/ GeoTran	Tetra Tech	Tetra Tech GeoTran**	Tetra Tech	NCI Access**	Tetra Tech AECOM**	Tetra Tech RSE**	Tetra Tech Tyme**	Access*	Spalding*	Tetra Tech
Mt. Elliott (S10 of 82024)	OHM/ Somat	Tetra Tech OHM**	Tetra Tech GeoTran**	Tetra Tech OHM**	NCI Access**	Tetra Tech	Tetra Tech RSE**	Tetra Tech Tyme**	Access*	Spalding*	Spalding*
Cadillac (S02 of 82025)	RSE/ G2 Consulting	Value Engineering*	Tetra Tech GeoTran**	Onyx*	NCI Access**	N/A	RSE*	Tetra Tech Tyme**	Access*	Spalding*	Spalding*
Brush (S05 of 82024)	FTC&H/ Somat	Tetra Tech	Tetra Tech GeoTran**	Tetra Tech	NCI Access**	Tetra Tech	Tetra Tech RSE**	Tetra Tech Tyme**	Access*	Spalding*	Tetra Tech
French (S03 of 82025)	DLZ/ GeoTran	Tetra Tech OHM**	Tyme*	Tetra Tech OHM**	NCI Access**	Carter*	RSE*	Tetra Tech Tyme**	Access*	Spalding*	Spalding*
Concord (S11 of 82024)	Bergmann/ Somat	Value Engineering*	Tyme*	Tetra Tech	Somat*	Tetra Tech AECOM**	RSE*	Tetra Tech Tyme**	Access*	Spalding*	Spalding*

* Small Business Design Support Consultant Prime. ** Small Business Design Support Subconsultant

GROUP EXERCISE



Lessons
Learned



ADVANCED BRIDGES DELIVERY

INTEGRATED TEAM



U.S. Department of Transportation
Federal Highway Administration
Major Project Oversight Manager
Amelia Hayes, PE

MDOT Mega Project Steering Committee

MDOT Senior Project Manager
Terry Stepanski, PE

MDOT Resource Team
Governmental Affairs
Communications
Technical Team

MDOT Deputy Project Managers & Design Coordinator
Adam Penzenstadler, PE
Carrie Warren, PE
Bonnie Yu, PE

Design Support Consultants (11)

Small Businesses
Access (Non-Freeway Signing)
Carter (Traffic Signals)
Onyx (Municipal Utilities)
RSE (Freeway Lighting)
Somat (Maintaining Traffic)
Spalding (Fwy Signing, Pavt Mkg)
Tyme (Rdwy Geotech, ITS)
Value Engineering (Streets)
MOT, Signals, As-Needed
NCI (Maintaining Traffic)
Tetra Tech (Traffic Signals)
Tetra Tech (As-Needed)

MDOT Advanced Bridges Project Managers

2nd, Cass and Brush
James Ranger, PE

Mt. Elliott, Chene & M-3
Tim Barry, PE

French, Cadillac & Concord
Phil Grotenhuis, PE

Bridge Design Consultants (8)

2nd, Cass and Brush
Tetra Tech, AECOM & FTC&H

Mt. Elliott, Chene & M-3
OHM, e.Construct & TranSystems

French, Cadillac & Concord
DLZ, RSE & Bergmann

Owner's Representative Consultant (1)

Project Manager
Tom Weston, PE (H)

PE/Project Office Lead
Matt Simon, PE (H)

Road/ROW Design
Eric Polvi, PE (H)

Bridges
Ihab Darwish, PHD, PE (B)

Utilities/Surveys
Peter Kinney, PE (H)

Communications Lead
Dr. Audrey Andrews (H)

Traffic & Safety
Karianne Steffen, PE, PTOE (H)

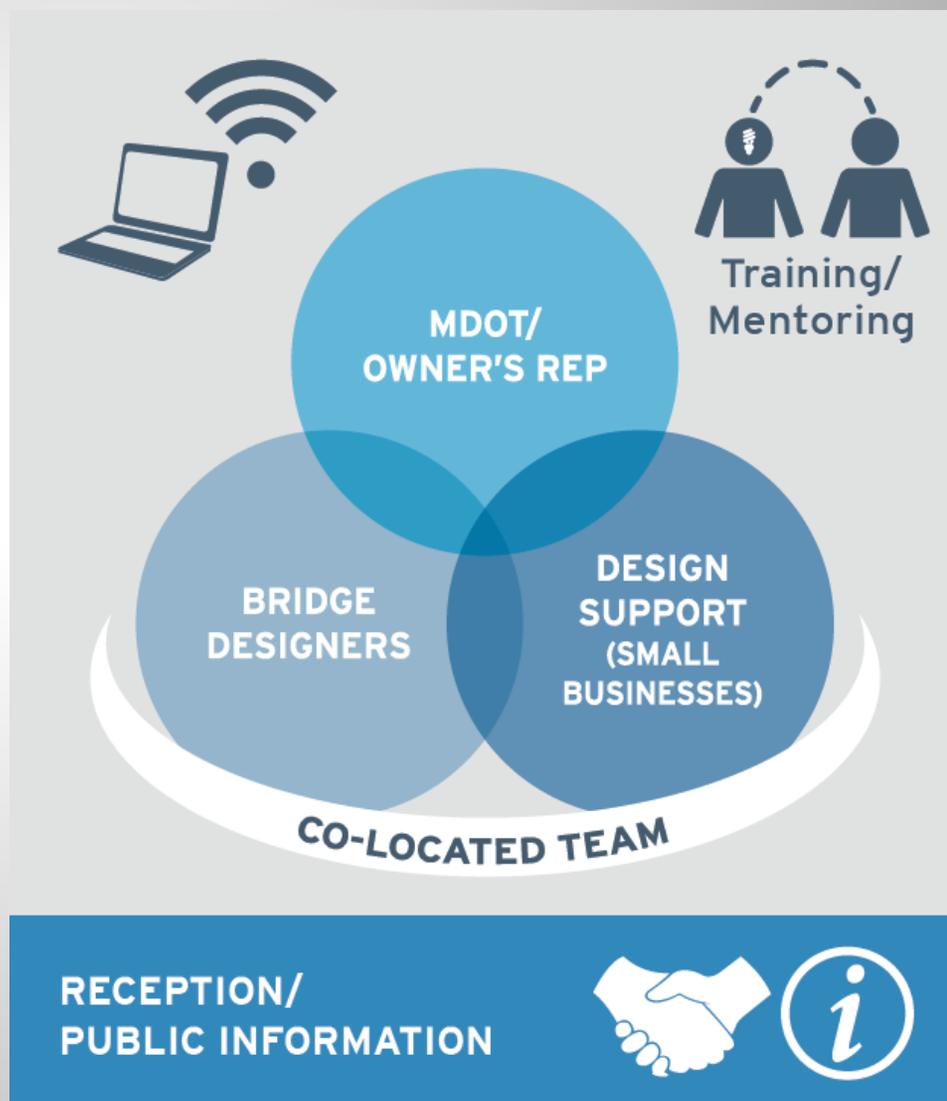
Small Business Dev. Lead
Dr. Audrey Andrews (H)

Team Key
(H) – HNTB Michigan
(B) – Alfred Benesch

ADVANCED BRIDGES DELIVERY

PROJECT OFFICE ENVIRONMENT

- Collaborative
- Continuous communications
- Improved Productivity
- Mentoring & Coaching atmosphere
- Technology equipped
- Easier access to project stakeholders



ADVANCED BRIDGES DELIVERY



PROJECT OFFICE ENVIRONMENT



New Center One Building
3031 West Grand Boulevard,
Suite 236
Detroit, Michigan 48202



Floor Plan



ADVANCED BRIDGES DELIVERY

PROJECT OFFICE ENVIRONMENT

- 25 Workstations (8'x8')
- 20 Computers w/ MS Office, Microstation and ProjectWise
- Conference/Training room with:
 - Audio/Visual, Wi-Fi
- Reproduction room with:
 - Printer/copier/scanner/fax machine
- Additional printers in suite
- Reception area and break room
- Key card access to suite and work area
- Men's and women's restrooms inside suite
- Secure server room
- Parking in New Center deck (enclosed walkway)



ADVANCED BRIDGES DELIVERY



PROJECT OFFICE ENVIRONMENT





Small Business Work Environment

- Provide a minimum of one key design personnel committed to the project office 100% of the time while working on the project through plan completion.
- Work alongside MDOT/Owner's Rep, 8 Bridge Design Consultants and other Design Support Consultants (MOT, Signals, As-needed).
- Participate in bi-weekly Project Team Meetings and Small Business Roundtables.
- Participate in personalized Training Curriculum (as applicable). Training to include Senior Leader and Technical training elements.
- Monthly Over-the-Shoulder reviews and interim evaluations by MDOT/Owner's Rep to review progress and provide feedback.
- "One Team" collaborative approach.



ADVANCED BRIDGES DELIVERY

SMALL BUSINESS TRAINING

■ Small Business Assessment

- Core Skills
- Business Skills
- MDOT Technical Skills

■ Training focus areas

- Senior Leadership Training
- Technical Training

■ Program Evaluations

- Interim
- Final (at Plan Turn-In)

I-94 ADVANCED BRIDGES SMALL BUSINESS (SBE) TRAINING PROGRAM

FEBRUARY 2016

Training Goals

The I-94 Advanced Bridges Small Business Enterprise (SBE) Training Program is designed to provide up to eight certified SBEs with design experience working in a collaborative project office environment to support future MDOT Service Prequalification in specific design service prequalification categories. Goals of the program include:

- Small Businesses meet or exceed 20% participation on the Advanced Bridges design.
- Increase the number of MDOT prequalified SBE consultants through the delivery of the I-94 Advanced Bridges Program.
- Increase the technical capacity of SBEs through project delivery experience gained in a mentoring environment.
- Enhance the business acumen of SBE owners through senior leadership training which focuses on project delivery, strategic planning, sales/marketing, business/operations and human resource management.

Training Schedule

The I-94 Advanced Bridges SBE Training Program will be implemented over a 12-month design schedule, with the majority of the work performed within a dedicated project office. The schedule below outlines the critical training program activities to be led by MDOT and their Owner's Representative Consultant over the life of the Advanced Bridges design phase.

	2015		2016			
	Q3	Q4	Q1	Q2	Q3	Q4
Project Office						
Temp. office (HNTS Detroit/MDOT DSC)						
Perm. office (Detroit One Center)						
Small Business Development Training						
Develop training program materials						
SBE assessment/scope verification						
Development personal training program						
MDOT selection						
SBE contract authorization						
Train-the-Trainer Workshop						
SMALL BUSINESS SENIOR LEADERSHIP TRAINING						
Module I: Business Operations						
Module II: Marketing & Sales						
Module III: Business & Financial Mgmt						
Module IV: Human Resources Mgmt						
SMALL BUSINESS TECHNICAL TRAINING						
Module V: Core Skills						
ProjectWise, Blue Beam/Adobe Markup						
Microstation						
Geopak						
Module VI: MDOT PPMs/Work Planning						
Module VII: Plan Development & Packaging						
Module VIII: Specifications & Estimates						
Module IX: E-Proposal						
Module X: Design Assistance during Constr.						
PROGRAM EVALUATIONS						
Interim Evaluations						
Monthly over-the-shoulder submittals						
Monthly Senior Leadership Meetings						
Base plan submittal						
Preliminary plan submittal						
OEC plan submittal						
FINAL EVALUATION						
PROGRAM DOCUMENTATION						

Key Training Elements



A tailored training and mentoring program will be developed for each SBE participant with the content of the training program to include measurable performance goals. The program will focus on Group Senior Leadership Training and Technical Training and provide professional development credit hours as well as informal one-on-one mentoring sessions.

Senior Leadership Training

One-on-one training sessions will be conducted monthly with each SBE owner to enhance their business skills. Additionally, at these training sessions MDOT will provide real-time feedback on SBE project performance.

Technical Training

Technical training will include core skills to enhance SBE technical staff experience utilizing MDOT equipment and software needed to successfully complete their design responsibilities. The five remaining technical training modules focus on providing SBEs an understanding of the MDOT way of developing plans, specs, and estimates with the training to support just-in-time application on planned work activities.

ADVANCED BRIDGES DELIVERY



SMALL BUSINESS TRAINING

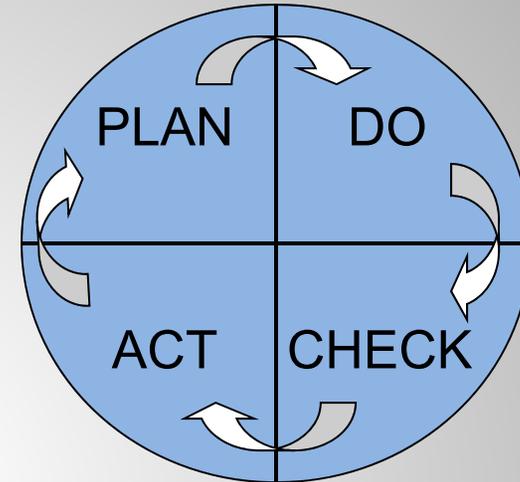


ADVANCED BRIDGES DELIVERY



QUALITY

- Design Reviews
- Audits
- Interim/Final Consultant Evaluations
- Advanced Bridge Design Guidelines
- Document Control



I-94 Advanced Bridges

Design Guidelines



Prepared By
HNTB Michigan, Inc.
535 Griswold Street, Suite 1100, Detroit MI 48226

REVISION HISTORY

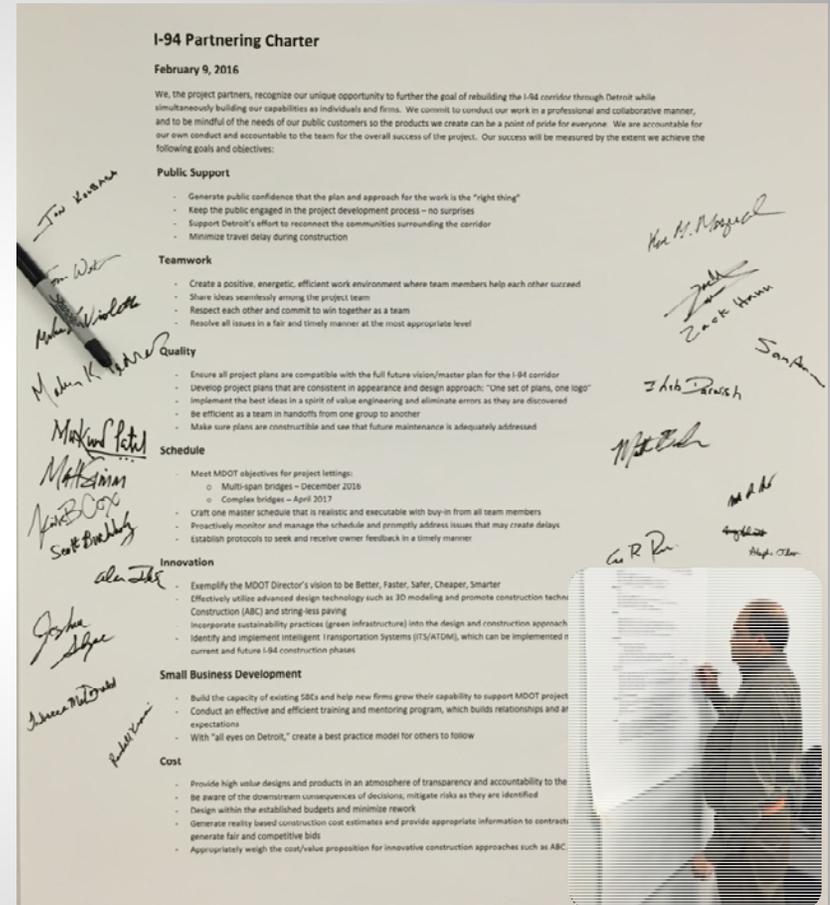
REVISION #	DATE ISSUED	SUMMARY OF CHANGES
Version 1.0	1/5/2016	First Release

ADVANCED BRIDGES DELIVERY



PROJECT PARTNERING

- Foster “One Team” Collaborative Approach
- Establish a Goal Oriented Partnering Charter
- Goals focused on:
 - Public Support
 - Teamwork
 - Quality, Schedule & Cost
 - Innovation
 - Small Business Development



NEXT STEPS



- Complete Design of Advanced Bridges and package for Construction in 2017-2018.
- Complete Conceptual Plan Update
- Acquire Project Right-of-Way
- Coordinate Utility Impacts and Relocations with affected Utility Owners
- Procure Final Designers for Freeway (Segment 3)
- Complete Design of Freeway (Segment 3) and package for Construction beginning in 2019.



Presenters:

Dr. Audrey Andrews & Tom Weston, PE
Owner's Representative Consultant



Questions?

