



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
AUGUST 4, 2016 – 9:00 A.M.
MULTI-MODAL CONFERENCE ROOM**

Present: M. Van Port Fleet R. Ranck J. Gutting
R. VanPortfliet B. Wieferich M. Geib
S. Bower K. Schuster M. Sweeney
T. Marshall (FHWA) H. Zweng C. Rogers

Absent: M. Bott

Guests: B. Krom B. Yu K. Wallace J. Loree
C. Stein B. Maurer C. Libiran

OLD BUSINESS

1. Approval of the June 2, 2016 Meeting Minutes – M. Van Port Fleet

ACTION: Approved

2. Reinstatement of ET-Plus Guardrail Approach Terminal – C. Torres

New Business Item # 1 from the June 2016 meeting. Item was tabled due to Mark Van Port Fleet’s absence at the June meeting. EOC further discussed the issue based on the presentation made by Carlos Torres at the June meeting.

ACTION: Approved

3. Design-Build Procurement Method – (July Email Approvals)

- a. Reconstruction 6 Miles of M-54 (Dort Highway), Flint, Bay Region – C. Stein

The project will reconstruct approximately 6 miles of M-54 (Dort Hwy) from approximately Bristol Road northerly to Stewart Avenue in the City of Flint, Genesee County. The project will also include utility replacements / relocations for water main and sanitary sewer as well as ADA upgrades and signal modernizations.

Job Number: 130705
Control Section: 25072
Project Cost: \$40,000,000
Letting Date: To be determined

Utilities are the largest risk. To help mitigate this risk a full subsurface utility exploration will be completed and provided to the short-listed teams. There is also a railroad within the project limits, but impacts should be minimal and appropriate coordination will be necessary.

ACTION: Approved

- b. Operational Improvements on US-12, Wiard and Ecorse Roads, Wayne, Metro Region – C. Stein/K. Wallace

Operational improvements will shift all US-12 traffic onto the eastbound roadway. This will allow the American Center for Mobility to use the westbound roadway for connected/autonomous vehicle testing. Other improvements and modifications are expected on Wiard and Ecorse Roads.

Job Number: 131071 (130032)
Control Section: 81063
Project Cost: \$4,600,000
Letting Date: 6/2/2017 (current programmed date)

An agreement will be needed with FHWA for the alternate use of the ROW. Local agreements will also be needed for associated work on Wiard and Ecorse Roads. Potential issues related to contamination will need to be evaluated further and proper contract language will need to be incorporated into the contract documents.

ACTION: Approved

- c. Reconstruction of US-2 near Iron Mountain, Superior Region – C. Stein

The project is located north of Iron Mountain in Dickinson County. The project will reconstruct the existing US-2/M-95 north junction intersection, replacing the existing US-2 divided (boulevard) road section with a multi-lane pavement with center left turn lanes. Work includes reconstruction of the M-95 approach and new traffic signals.

The project also includes US-2 road rehabilitation from the state line easterly to the existing E&LS railroad overpass west of the intersection. Road rehabilitation includes concrete pavement repairs from the state line to Pine Mountain Road, and HMA cold milling and resurfacing from Pine Mountain Road easterly to the E&LS railroad overpass.

Job Number: 125866
Control Section: 22021
Project Cost: \$1.78M
Letting Date: November 2016 (possibly late October)

ACTION: Approved

NEW BUSINESS

1. Bridge Priority Preservation Fund (BPPF) Guidance Document – C. Rogers

Efforts by the Request for Action (RFA) Coordination Committee have identified the need for additional funding to address critical bridge RFAs, in particular priority 2 and priority 3 repairs to ensure the safety of MDOT structures. An additional \$10 million will be allocated to the RFA Coordination Committee to address critical needs, remove temporary supports, and conduct bridge preservation with the emphasis of reducing and eliminating RFA demand.

Currently priority 1 repairs (Critical Urgency) are addressed through the Emergency Coordination Engineer or special contract to ensure immediate safety. These get reprioritized into a priority 2, 3, or 4 once immediately addressed. Therefore, the BPPF will address priority 2 (High Urgency) and priority 3 (Medium Urgency) to eliminate temporary supports and prevent them from becoming a priority 1.

The BPPF will also be utilized to prevent RFA's through bridge preservation, in particular, joint repair and pavement growth prevention.

The BPPF Guidance Document establishes guidance to the Region Bridge Engineers on the role of the RFA Coordination Committee and the process for BPPF distribution. It also establishes guidance to assist in the decision making for project selection.

The \$10 million BPPF will be available FY 2017 and this guidance will allow the RFA Coordination Committee to effectively begin fund distribution and address RFAs.

The EOC is requested to approve the BPPF Guidance Document prior to FY 2017.

ACTION: Approved

2. M-99 Road Diet – B. Maurer

Route/Location: M-99 in Albion

Job Number: 116324

Control Section: 13092

Letting Date: 12/02/2016

The project began due to the deteriorating condition of the brick pavers along M-99 in Albion. After analyzing the traffic data and crash history, it was determined that the conversion to a three lane cross section would provide a safer alternative for all road users without sacrificing level of service along the corridor.

Along M-99 through downtown Albion the highest reported crash types were side-swipe same, parking, and rear end straight crashes. Additionally the existing and projected traffic volumes along this corridor fall well within the range for acceptable three lane operations.

The Albion City Council has passed a resolution supporting this change.

The EOC is requested to approve the reduction of M-99 from a four lane cross section with two lanes in each direction to a three lane cross section with one lane in each direction and a two-way left turn lane (TWLTL). In addition to the change to three lanes, bump-outs will be constructed to provide a safer environment for pedestrians.

ACTION: For Information Only. No Action Required.

3. Pavement Selection M-59 – B. Krom

Route/Location: M-59: From east of M-53 to east of Romeo Plank Road, Macomb County

Job Number: 111361

Control Section: 50022

Letting Date: 12/6/2016

Department policy requires that Life Cycle Cost Analysis (LCCA) be used to determine the lowest cost pavement design alternative following the procedures outlined in the MDOT Pavement Design and Selection Manual. Final pavement selection requires approval by the Engineering Operations Committee.

The reconstruction alternatives being considered are a Hot Mix Asphalt Pavement (HMA Alt #1) and a Jointed Plain Concrete Pavement (JPCP Alt #2). The pavement designs being considered are as follows:

Alternative #1: Reconstruct with Hot Mix Asphalt Pavement

1.5"	HMA, 5E10, Top Course, High Stress, PG 70-22P
3"	HMA, 3E10, Leveling Course, High Stress, PG 70-22P
3"	HMA, 3E10, Base Course, PG 58-22
16"	Open Graded Drainage Course
	Geotextile Separator
8"	Sand Subbase (6.94" existing, 1.06" new)
6" dia.	Subbase Underdrain System
31.5"	Total Section Thickness

Present Value Initial Construction Cost	\$335,261/lane-mile
Present Value Initial User Cost	\$120,015/lane-mile
Present Value Maintenance Cost	\$130,132/lane-mile
Equivalent Uniform Annual Cost (EUAC)	\$ 22,621/lane-mile

Alternative #2: Reconstruct with Jointed Plain Concrete Pavement

8.5"	Non-Reinforced Concrete Pavement, P1 Modified, w/ 12' joint spacing
16"	Open Graded Drainage Course
	Geotextile Separator
6" dia.	Open-Graded Underdrain System
24.5"	Total Thickness

Present Value Initial Construction Cost	\$407,432/lane-mile
Present Value Initial User Cost	\$149,506/lane-mile
Present Value Maintenance Cost	\$140,566/lane-mile
Equivalent Uniform Annual Cost (EUAC)	\$ 26,339/lane-mile

Pavement designs are based on the 1993 AASHTO “Guide for Design of Pavement Structures” and the AASHTO pavement design software, DARWin Version 3.1, 2004.

The Equivalent Uniform Annual Cost calculation is based on the pavement selection process as approved by the EOC on June 3, 1999. Construction costs are derived from historical averages on similar projects while user costs are calculated using the MDOT Construction Congestion Cost model.

ACTION: EOC approves the selection of Alternative #1, Reconstruct with Hot Mix Asphalt Pavement, which has the lowest life cycle cost.

4. Public-Private Partnership Procurement – Detroit Intermodal Station, Metro Region – C. Stein/B. Yu

Job Number: To Be Determined
Control Section: To Be Determined
Project Cost: \$150,000,000
Letting Date: Release a RFQ in late summer/early fall

EOC reviewed this item previously at the October 2014 meeting with the following action,

The EOC directs that the Office of Rail discuss this project with the Bureau of Planning to ensure that local involvement requirements are met including TIP and STIP requirements. EOC grants conditional approval pending addressing these action items. The Director will grant final approval.

Metro Region continues to work with the Office of Rail and the Bureau of Planning on the above issues related to the TIP and STIP.

The Detroit Intermodal Station is envisioned as the Detroit Metropolitan Region's major public transportation passenger terminal. The facility will serve as a hub for the intercity rail system, bus services including intercity services, and the M-1 light rail line service. The station will be located in Mid Town Detroit where the existing AMTRAK station is currently located.

Metro Region and the Innovative Contracting Committee recommend procuring the services of a Master Developer, through a Public-Private Partnership, to assist with the planning and development, and facilitate private sector investment and participation in the development. A Master Developer is anticipated to partner with MDOT in the planning, development, design, financing, construction, and property management. A Master Development

Agreement is anticipated to include multiple phases in order to complete the project. This agreement would be negotiated and amended over time as each distinct phase of work is ready to be performed. At the conclusion of each phase of work MDOT expects to negotiate an amendment to the Master Development Agreement for the next phase of activity.

ACTION: EOC approves the use of a Public-Private Partnership/Master Developer procurement approach subject to the final approval of the Director. EOC also directs that the Design Division and the Metro Region collaborate with the Attorney General to ensure that the contact language includes appropriate “off-ramps” or exit clauses at identified project milestones to ensure that MDOT is properly protected in any agreement. Financial advisor services should also be pursued if deemed necessary.

5. Public-Private Partnership Procurement - Improve pedestrian and non-motorized crossings over the I-75 (Fisher Fwy.), Metro Region – C. Stein/B. Yu

Job Number: To Be Determined
Control Section: To Be Determined
Project Cost: \$45,500,000
Letting Date: RFQ released August

The intent of this project is to improve pedestrian and non-motorized access between the downtown and stadium districts.

Metro Region and the Innovative Contracting Committee recommend procuring the services of a Master Developer, through a Public-Private Partnership, to assist with the planning, development, design, financing, construction, and property management (operations/maintenance). A Master Development Agreement is anticipated to include multiple phases in order to complete the project. This agreement would be negotiated and amended over time as each distinct phase of work is ready to be performed. At the conclusion of each phase of work MDOT expects to negotiate an amendment to the Master Development Agreement for the next phase of activity. The first phase, which will select the Master Developer, will be to fully develop their plan and begin design of the recommended build-out.

An agreement will be needed with FHWA to allow crossings over limited access freeways. Commercial activities on the structures are also being considered, which would also require FHWA approval. Utilities will also need further analysis to determine what impacts they could have on the project.

The Innovative Contracting Committee recommends approval of using a Public-Private Partnership/Master Developer procurement for this project. It recommends not releasing an RFQ until FHWA approves the project concept and potential for commercial activities within the LA ROW. The ICC also recommends working with the AG’s office to obtain legal services to assist in writing the contract. There needs to be appropriate off-ramps included in the contract to sever ties with the Developer if we aren’t able to come to an agreement at specific milestones established within the Contract. Financial advisor services should also be considered to produce financial models.

The EOC is requested to approve using a Public-Private Partnership/Master Developer procurement for this project.

ACTION: EOC approves the use of a Public-Private Partnership/Master Developer procurement approach subject to the final approval of the Director. EOC also directs that the Design Division and the Metro Region collaborate with the Attorney General to ensure that the contract language includes appropriate “off-ramps” or exit clauses at identified project milestones to ensure that MDOT is properly protected in any agreement. Financial advisor services should also be pursued if deemed necessary. A Request for Qualifications will not proceed until all necessary approvals including FHWA approvals are secured.

6. Design Exceptions – K. Schuster

Proposed MDOT Road Design Manual changes to the Controlling Criteria for Design and Documentation for Design Exceptions

On May 5, 2016, a final notice was published in the Federal Register reducing the number of controlling design criteria from 13 elements to 10 elements. Changes to the MDOT Road Design Manual are needed to address this change.

On October 7, 2015, the Federal Highway Administration (FHWA) published a notice in the Federal Register soliciting comments on proposed changes to the 1985 policy establishing 13 controlling criteria for design. The October notice clarified when design exceptions are required and the documentation that is expected to support such requests. After considering the comments received, FHWA published a final notice in the Federal Register on May 5, 2016.

In summary, the following 10 criteria are considered controlling for the design of projects on the NHS: Design Speed, Lane Width, Shoulder Width, Horizontal Curve Radius, Super-elevation Rate, Stopping Sight Distance, Maximum Grade, Cross Slope, Vertical Clearance, and Design Loading Structural Capacity. Stopping sight distance (SSD) applies to horizontal alignments and vertical alignments except for sag vertical curves. Of the 10 controlling criteria, only design loading structural capacity and design speed apply to all NHS facility types. The remaining eight criteria are applicable only to "high-speed" NHS roadways, defined as Interstate highways, other freeways, and roadways with a design speed greater than or equal to 50 mph (80 km/h).

The EOC is requested to approve a new process called a “Design Variance” to establish and document design decisions when the design element doesn't require a design exception, but falls below MDOT or AASHTO standards.

ACTION: EOC grants approval of this new process on an interim basis. Design Division is directed to consider a more programmatic approach in place of the recommended Design Variance approach. Design Division is also directed to submit a final recommendation to EOC within one year.

7. National Association of City Transportation Officials (NACTO) Urban Street/Bikeway Guidelines – K. Schuster

Urban Street Design Guide is a publication intended to promote context sensitive and multi-modal design on lower speed urban streets. Other national manuals, including AASHTO's A Policy on Geometric Design of Highway and Streets, provide a general discussion of street design in an urban context. The NACTO guide is intended to address the unique needs of city street design more specifically than the current national guides.

Urban Bikeway Design Guide applies to similar urban roadways as does the Urban Street Design Guide, but focuses on the needs of bicyclists. Its intention is to provide guidance on principles of bicycle facility design that may not be described in detail in existing national guides. Most of the treatments mentioned are not specifically referenced in AASHTO's bicycles guide.

Both of these guides were developed by cities for cities, since unique urban streets require innovative solutions. They were not necessarily intended to address highways or higher speed roadways.

Other states and local agencies have been using these guides on their networks. In 2013, FHWA issued a memorandum supporting the use of the Urban Bikeway Design Guide as a resource to the extent that it does not violate the AASHTO publications. MDOT and the Geometries Unit specifically has been asked to review these guides and comment on their applicability for Michigan roadways.

FAST ACT adds the Urban Street Design Guide by NACTO to the list of resources to be utilized for design criteria development. Local entities that are direct recipients of Federal dollars may be allowed to use a design publication that is different than one used by their State DOT.

The Geometries Unit recommends the use of these two publications as a tool and resource for applicable projects. However, the AASHTO national guides continue to be the standard for both roadway and multi-modal facility designs.

EOC is requested to provide direction on the use of the NACTO Urban Street/Bikeway guidelines.

ACTION: EOC directs that the NACTO Urban/Bikeway guidelines be used by Department staff as a resource on applicable projects. However, the American Association of State Highway and Transportation Officials (AASHTO) national guides remain the standard for planning and designing Michigan roadways and multi-modal facilities.

Steven Bower, Secretary
Engineering Operations Committee

RA:SB

cc: EOC Members	D. Parker	D. DeGraaf (MCA)
Meeting Guests	M. DeLong	J. Becsey (APAM)
K. Steudle	D. Jackson	D. Needham (MAA)
L. Mester	W. Tansil	Monica Ackerson Ware (MRPA)
D. Wresinski	C. Libiran	
M. Chaput	R. Jorgenson (FHWA)	
Region Engineers	R. Brenke (ACEC Michigan)	
Assoc. Region Engineers	G. Bukoski (MITA)	
TSC Managers		