OLD BUSINESS

1. Approval of the June 7, 2012, Meeting Minutes – G. Johnson

   The June 7, 2012, meeting minutes were approved.

2. Fix Life Guidelines – C. Bleech/B. Krom

   The Fix Life Guidelines provide an estimate of the number of years a particular pavement fix type is expected to provide, excluding any future preventive maintenance treatments, and are traditionally found in the Michigan Department of Transportation’s (MDOT) annual Call for Projects instructions. In accordance with these guidelines, fix lives are assigned to projects when they are programmed. These fix lives are then used in statewide Remaining Service Life generation and when each region develops its Road Quality Forecasting System reconstruction and rehabilitation strategy. This, in turn, is reflected in MDOT’s network wide system condition forecast.

   The Fix Life Guidelines were last updated in 2010. Since that time, more recent data has become available and was utilized in updating the performance curves used in the Life Cycle Cost Analysis (LCCA) process. In addition, an audit was performed by the Office of Auditor General. One recommendation from the audit is that fix life variations across the state should be investigated for consideration of regional and climatic differences. The Fix Life Guidelines were investigated for regional and climatic differences for the six fixes, and presented to EOC at the June 7, 2012, meeting. Members decided that the fix life ranges presented, and the individual region guidance for their use, should be removed and replaced with the latest statewide average fix life values. The item was tabled at the June 7 meeting with direction to use the 2017 guideline format with revised fix lives based on the updated data. The revised fix life guidelines were presented at today’s meeting.

   Approval of the revised Fix Life Guidelines for the 2018 Call For Projects is requested.

   **ACTION:** The EOC approves the use of the revised Fix Life Guidelines for the 2018 Call For Projects. The audit response should note EOC’s review of the fix life guidelines that
considered regional and climatic differences and EOC’s disapproval of adopting such guidelines.

NEW BUSINESS

1. Fixed Cost Variable Scope – B. Wieferich

MDOT was awarded an Enhancement Grant for restoration of the existing sandstone fascia and mortared joints on the Cut River Bridge (B01-49023) in Mackinac County. The Cut River Bridge is eligible for inclusion on the National Register of Historic Places (NRHP) and the proposed work on the bridge is subject to review and approval by the State Historic Preservation Office (SHPO).

The proposed work involves removal of existing cement mortar material between the sandstone veneer panels and repointing of the joints with a mortar material with similar physical properties to the existing sandstone. Also the proposed mortar material would be used to reconstruct existing sandstone damaged due to freeze-thaw spalling and weather erosion damage.

Currently there is no MDOT prequalification category for masonry or grout work; therefore, there are no prequalified contractors for this work. Also there is no historical unit price information for this type of work, nor are there any similar projects with similar scope of work to use for estimating. Preliminary pricing information has been obtained from the material supplier.

Through the course of the project development, it was discovered that there is only one manufacturer and supplier of the grout material which meets the experience and product performance level acceptable for this type of historical restoration work. On June 21, 2012, FHWA approved the use of a sole source material supplier for the grout on this project.

Initial estimates indicate that there is far more work needed than the budget might allow. The Innovative Contracting Committee is recommending the Fixed Cost Variable Scope method for the above referenced project for restoration of the existing sandstone fascia and mortared joints. This is very unique work on a bridge that is subject to review by the State Historic Preservation Office. A budget of $873,000 is programmed utilizing FY12.

The contract format would be set up with a fixed cost amount based on the available enhancement funding. The sandstone bridge panels have been broken down into 33 segments, or units, and have been prioritized based on surface appearance and visible distress. The bid tab would require bidding in sequential order beginning with the lump sum item for Mobilization and a lump sum item for Training, Oversight and Prep Work required by the material supplier for installation of the product.

From that point each segment (1-33) of the sandstone bridge panels would be listed with the highest priority, first followed by each subsequent segment which would have a dollar amount bid in order of priority. The contractor that can complete the most work for the available dollars would be selected provided they meet the required insurance and bonding limits and have a reasonable work plan.

A SEP-14 will also be a requirement for this option. The Fixed Cost Variable Scope Method is considered a good choice based on the parameters described above.

Approval of use of Fixed Cost Variable Scope for the referenced project is requested.
ACTION: The EOC approves the use of Fixed Cost Variable Scope for the referenced project.

2. Increasing Truck Speed Limits on Freeways and Trailer Lengths in Michigan – K. Coduti

Currently in Michigan, truck speed limits on freeways are posted at 55 mph and the use of long combination vehicles, specifically 28½ foot triple-trailer combinations and 50 foot double-trailer combinations, are not legally permitted per federal regulations.

At a meeting on September 19, 2011, representatives of the Michigan Trucking Association (MTA) informed MDOT executive leadership that two of their top priorities were to increase truck speed limits on Michigan’s freeway system and increase trailer lengths for more efficient and cost effective movement of goods.

Subsequent to the meeting with the MTA, the MDOT/MSP Commercial Vehicle Strategy Team (CVST) formed an AD-HOC committee to evaluate and provide recommendations on increasing freeway truck speed limits and trailer lengths. At a meeting on June 28, 2012, the CVST accepted both reports with some minor technical revisions to the trailer length report.

Approval of the CVST recommendations as noted is requested:

- Increase truck speed limits on freeways to 70 mph that have a posted speed limit for cars of 70 mph; and
- Submit a research idea to MDOT’s Research Administration section for the evaluation of issues, challenges, and opportunities associated with the use of long combination vehicles in Michigan, specifically 28½ foot triple-trailer combinations and 50 foot double-trailer combinations. Solicit other states and transportation coalitions, such as the Great Lakes Regional Transportation Operations Coalition, to determine their interest in participating in a pooled-fund study on this research topic.

ACTION: EOC directs that the proposal to increase truck speeds to 70 mph be referred back to the AD-HOC team created by CVST. Further evaluation of various freeway speed limit combinations (passenger car and truck) is required. The AD-HOC committee is directed to further investigate the economic impacts of any proposed changes to freeway truck speed limits.

EOC agrees with the CVST recommendation to initiate a research project that will evaluate the pros and cons of permitting the use of long combination vehicles in Michigan, specifically 28 ½ foot triple-trailer combinations and 50 foot double-trailer combinations. CVST will identify who in MDOT will be responsible for drafting and submitting a problem statement to Research Administration. Research Administration will investigate whether a pooled fund solicitation should be considered.

3. CMGC Recommendation for M-139 over the St. Joseph River in the City of Niles, Berrien County, CS 11021/JN 104152 – B. Wieferich/M. Azam

The existing M-139 bridge over the St. Joseph River is a four-span reinforced concrete earth-filled arch that was constructed in 1919. The alternative selected for the new bridge is the only one that did not have any effect on the Riverfront Park and the two historic homes in the vicinity. This alternative, while significantly improving safety, will only require ROW from the YMCA property on the west
bank of the St. Joseph River. The purpose of this project is to replace the historic Main Street Bridge, improve the adjoining roadway geometrics, and provide adequate drainage for the future structure. The aesthetics of the new bridge will weigh heavily on the overall design of the project. These improvements to the bridge and surrounding area must be accomplished while preserving the nature and character of the city of Niles.

The CMGC process is the preferred delivery method because it provides early coordination between the contractor, designer, and other stakeholders of the project. This coordination will be crucial for the successful completion of this historic bridge replacement as this project has complexities of historical significance, adjoining properties resulting in a limited work area, deep foundations in water, possible drill shafts, and tremmie construction concerns. The CMGC process also allows for advance material procurement through the selected contractor, which will save significant time as this route is the main carrier of through-traffic across the river.

Approval for use of the CMGC contracting method is requested.

**ACTION:** This item is tabled pending discussions with MITA on the relevancy of using CMGC contracting methods for this project.

4. **MDOT Accelerated Bridge Construction Policy – M. Chynoweth**

As a result of an increased focus on mobility, innovations, and implementation of new technology, the Bridge Development and Bridge Field Services sections have developed an MDOT ABC/PBES policy for development and implementation of ABC/PBES bridge projects.

The use of accelerated bridge construction techniques (structural moves), and prefabricated bridge elements (precast superstructure, substructure and approach) has the potential to decrease project impacts on the public, businesses, etc., decrease user delay costs, and increase the quality of fabricated elements.

FHWA, AASHTO and NCHRP have all published guidelines, details and methods for accelerated bridge construction techniques and considerations, and the practice has been well received and established in other state DOTs. The MDOT policy focuses on evaluating every project as a potential ABC/PBES candidate, taking into account the following project specific criteria:

- Site Considerations
- Average Daily Traffic
- Delay or Detour Time
- User Costs
- Impact to Local Economy During Construction
- Safety
- Environmental Issues
- Technical Feasibility
- Quality Concerns

Guidance is given in the policy for ABC techniques and typical PBES elements for consideration. Project candidates will be identified during the Call for Projects process, then, further evaluated during the project development process. The MDOT Bridge Committee will then approve the final candidates for implementation.
This draft policy document has been reviewed by the MDOT Bridge Committee, and other Field Services staff, and all comments have been addressed or incorporated into the document.

Approval of the draft policy is requested.

**ACTION:** EOC requests that project evaluations of increased costs for the use of ABC/PBES be compared to the resulting reduced user delay cost. Additionally, the MDOT Bridge Committee will approve all projects for use with the ABC/PBES and report monthly to EOC of all such approvals. The policy is to be revised such that the details of the procedure be moved to other manuals by reference. Approval of the revised policy will be requested at the next EOC meeting.


As a result of the change from LFD to LRFD in the bridge design specifications, greater factored loads are placed on bridge foundations, and therefore greater loads are being placed on foundation piling. Due to the depths required to achieve nominal driving resistance, field welded splices are typically required, and within the last few construction seasons, there have been issues with the quality of welded splices, lack of training of field staff on weld inspection, and lack of consistency in applying the specifications.

Industry has thought for years that if a welded pile splice can survive the pile driving process, the weld is sufficient to provide the required service over the life of the structure. The increased use of semi-integral and fully integral pile supported abutments requires the piles to resist combined axial and flexural stresses. Welded splices connecting pile sections also need to develop the full capacity of the section, and therefore increased emphasis has been placed on the weld quality, qualifications of welders, and methods of accepting welded splices.

New guidance and specifications are required to address field issues and ensure welded piles splice quality, constructability and structure serviceability. A core group of MDOT Bridge Field Services staff, and MITA members worked together to identify the current issues and deficiencies within specifications and contractor’s means and methods. From this, new special provisions covering the welding, and quality control procedures were developed, along with a field weld manual that will be used to train both MDOT construction staff and contractor staff.

According to the current language in the MDOT spec book, welded splices can be tested using an Ultra Sonic thickness (UT) gage at any time during the project for acceptance. This has been problematic with industry, as they have not traditionally included the cost of the testing in their bid, nor taken into account how failed tests may impact the project schedule.

The new special provisions and field weld manual focuses on visual acceptance for all non-primary member welded splices, and will provide MDOT construction staff with the information to properly inspect and determine acceptability of welded splices. Primary member welded splices will be called out on the plans, and subject to 100 percent UT testing, therefore notifying the contractors to include this in their bids.

This effort started in December 2011 and all documents have been thoroughly reviewed and vetted between MDOT and MITA staff. Both MDOT and MITA are pleased with the result of the effort.

Approval of the MDOT Field Weld Manual for publication and distribution is sought.
ACTION: The EOC approves the Field Weld Manual for publication and distribution.

6. Rest Area Research Project Acceptance – L. Lynwood

A research project entitled *Evaluating the Appropriate Level of Service for Michigan Rest Areas and Welcome Centers Considering Safety and Economic Factors* was initiated and performed to determine the value of these facilities and to develop a tool that the department could use to help establish system wide priorities and plan work. A benefit/cost (B/C) economic analysis procedure was utilized to assess rest areas/welcome centers both individually and as a system. The benefits associated with rest areas included: travel diversion cost savings, comfort and convenience benefits, increased tourism spending (welcome centers only), and crash reductions. The costs associated with rest areas included amortized construction costs, operating costs, and routine maintenance costs. A value index for overall prioritization of rest area facilities was computed for each facility considering the B/C ratio along with several non-economic functional factors. To provide flexibility for future forecasting and planning, the software tool has been developed to allow for estimation of the impacts associated with the removal of an existing facility or addition of a new facility to the network.

The RBMT recommends EOC acceptance of the research and recommends that it be allowed for distribution to external entities with the caveat that MDOT has not yet adopted the findings as standard practice or policy. It is also recommended that the current Welcome Center Team be expanded to include rest areas and include program development staff.

ACTION: The EOC accepts the report and use of the developed tool for prioritizing the rest area facility program. EOC also concurs with the recommendation to include rest areas and include program development staff to be part of the Welcome Center Team.

Steven Bower, Secretary
Engineering Operations Committee