



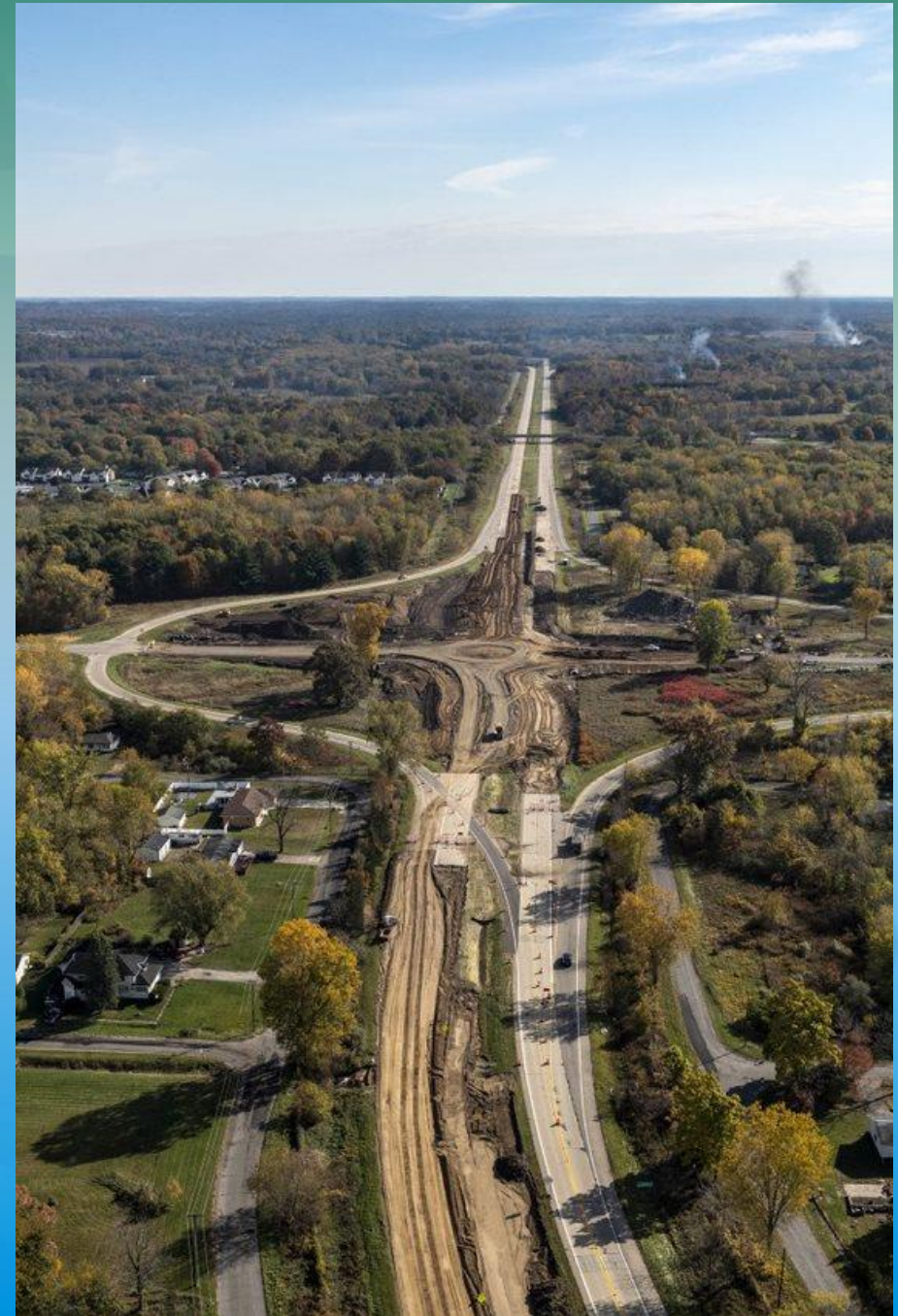
MITA Conference 2021

MDOT Innovative Contracting

The Power of Partnership

Overview

- Safety Moment
- Intros
- I-69 DB Project
- I-94/US-31 DB Project
- I-75 Modernization Segment 3
- Challenges
- Lessons Learned
- Upcoming IC Opportunities
- Questions



Safety Moment

SNOWPLOW SAFETY:

- Don't crowd the plow!
- Use caution when following, passing or approaching a plow
- Drive a safe distance behind snowplows. Plows travel slower than other vehicles to remove snow, apply salt and assist stranded vehicles
- Before attempting to pass snow removal equipment, see where the snow and salt are flying and plan your pass safely
- Don't travel beside a snowplow. They can shift sideways after hitting snow packs or drifts
- Don't surprise the plow with movements or braking suddenly – large, heavy plows cannot stop as quickly as passenger vehicles
- Don't assume the driver can see you. A snowplow operator's field of vision is restricted. You may see them, but they may not see you!





Introductions

Presenters

- James Ranger, PE
 - Innovative Contracts Engineer, Project Manager
- Dharmesh Valsadia, PE
 - Innovative Contracts Engineer, Project Manager
- Mark Dubay, PE, DBIA
 - Innovative Contracts Engineer, Project Manager
- Ryan Mitchell, PMP, DBIA
 - Manager, Innovative Contracting Unit





Project Spotlights

Scope/Budget/Schedule – I-69

Scope

- Reconstruct 22 miles of I-69 freeway, I-94 interchange, five interchanges
- Rehabilitate 2 miles of I-69 freeway, three carpool lots
- Replace one bridge, rehabilitate 7 bridges, CPM work on 19 bridges
- Other improvements

Budget

- \$210M

Schedule

- Bid Letting – July 24, 2020
- Substantial Completion – November 15, 2023
- Final Completion – May 31, 2024



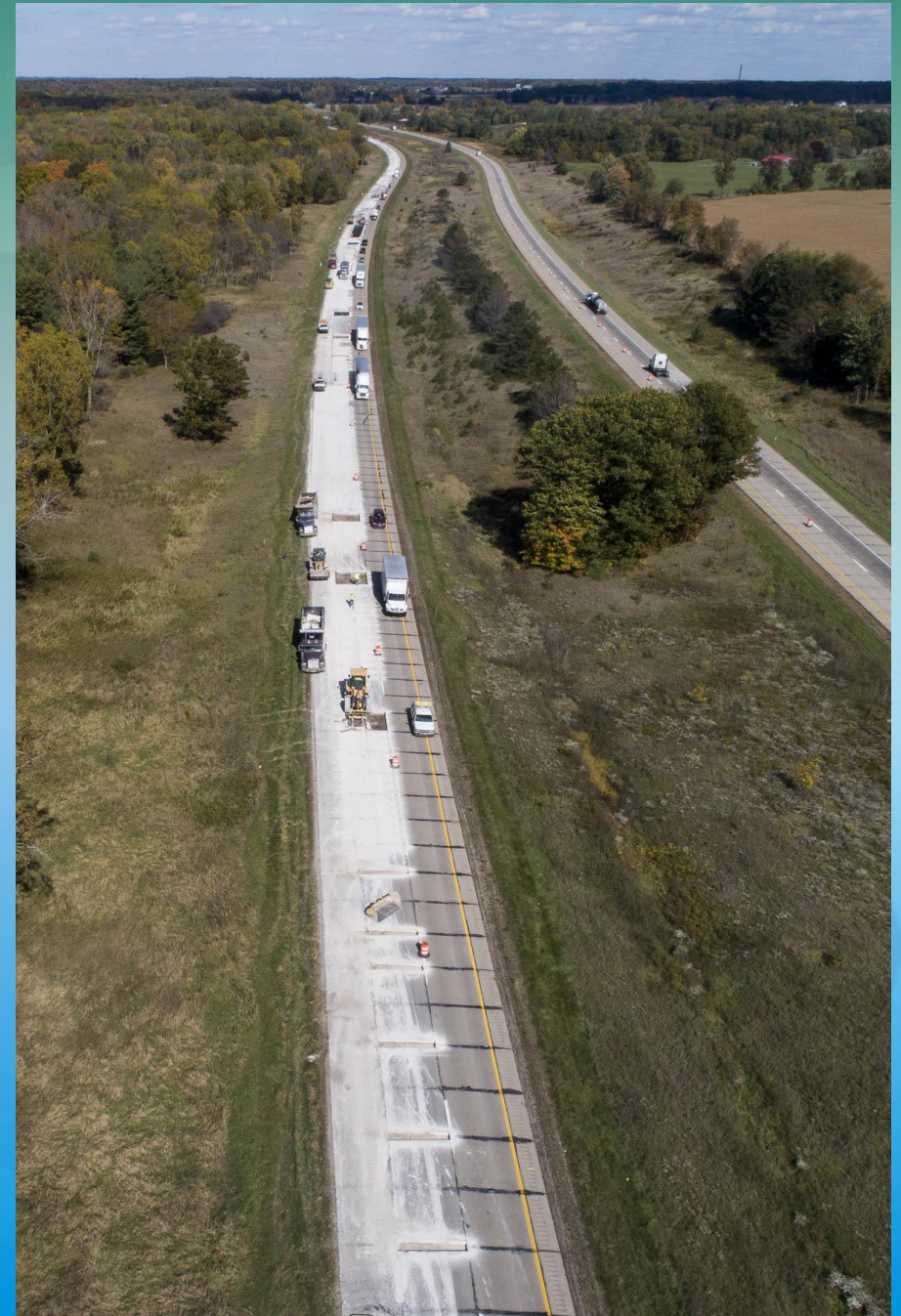
Goals of the Project – I-69

- Combine multiple freeway reconstruction segments into one comprehensive project
- Acceleration of final design and construction



I-69 Design Build Team

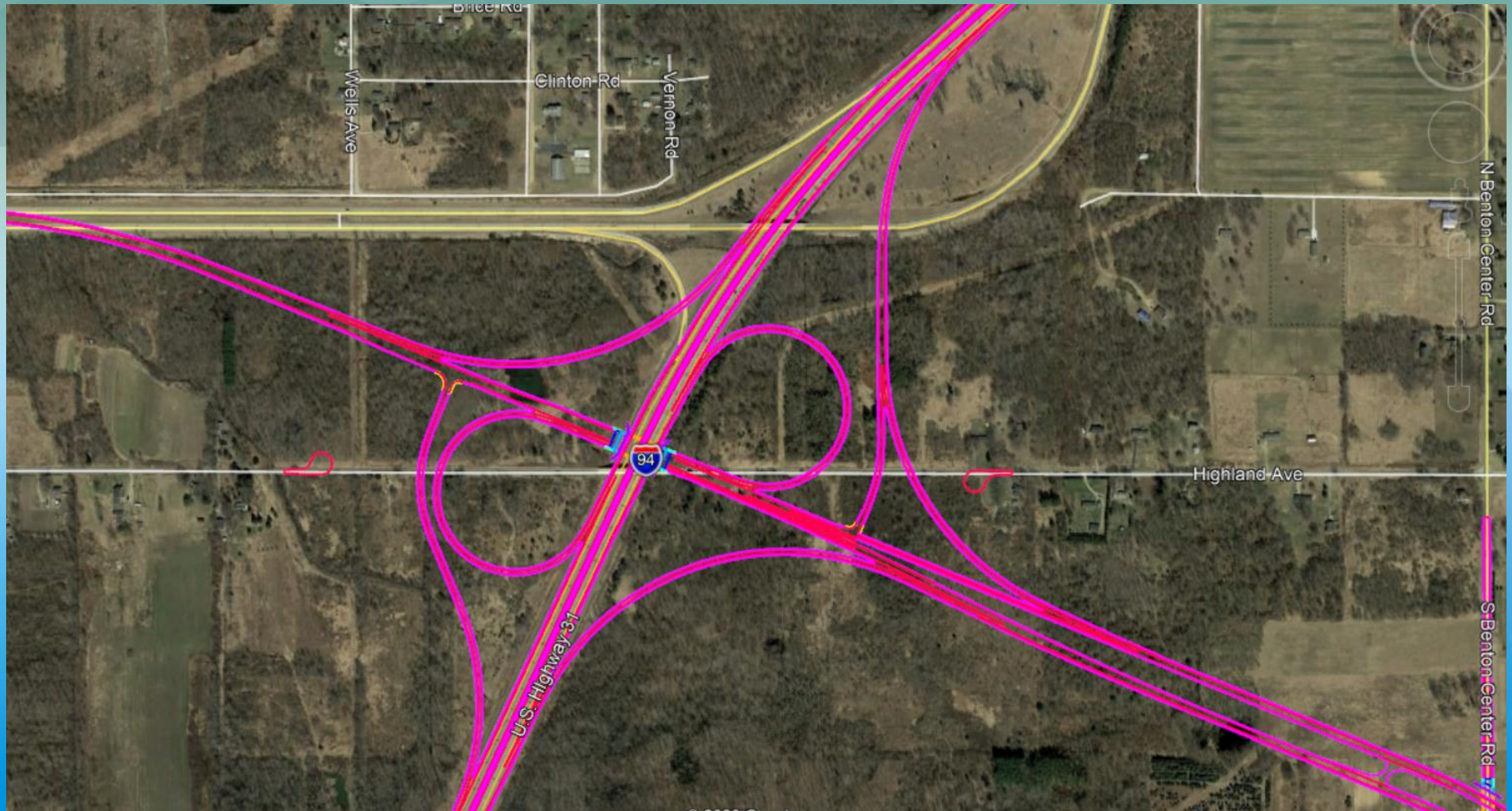
- **Contractor – Michigan Paving and Materials (MPM)**
- **Earthwork Subcontractor – Hoffman Bros.**
- **Bridge Subcontractor – AnLaan Corporation**
- **Lead Designer – Baker and Associates**



Next Steps



I-94/US-31 Freeway Connection



Scope/Budget/Schedule

Scope

- **2.9 miles of reconstruction and widening of I-94 from I-94BL to I-196**
- **2.0 miles of US-31 construction from Napier Ave to I-94 interchange**
- **1.8 miles of I-94BL reconstruction from Urbandale Ave to I-94 interchange**
- **Construction of I-94/US-31/I-94BL interchange with new configuration**
- **Construction of four new bridges**
- **Replacement of one bridge**
- **Removal of two bridges**

Budget

- **\$121 million**

Schedule

- **Award – July 10, 2020**
- **Substantial Completion – November 15, 2022**
- **Final Completion – May 19, 2023**

Project Goals

- **System Connectivity and linkage**
- **Free Flow movement of US-31 freeway to I-94**
- **Interchange design – “right-sizing” infrastructure and safety improvements**
- **Improve local access to I-94 and Business Loop (I-94BL)**
- **Auxiliary lane – EB I-94**

Design-Build Goals

- **Acceleration of final design and construction to meet Grant deadline**
- **Complexity of MOT/Opportunity for MOT Innovations**
- **Safety, Quality, Mobility, Budget, Environmental**

Design Build Team

- **Contractor (Tri-Venture)**
 - DJ McQuestion & Sons, Inc
 - J&N Construction, LLC
 - Hardman Construction, Inc
- **Structure Subcontractor**
 - Milbocker & Sons, Inc
- **Lead Designer**
 - Alfred Benesch & Company
- **Geotechnical**
 - SME

ATCs

- **Close existing structures over I-94 at Territorial Road, Highland Road and EB I-94BL concurrently.**
- **Pavement section change for Maintaining Traffic**
- **Reduction of US-31 Median Width**
- **Short Term I-196 & I-94 ramp closures**
- **Short Term, full I-94 Closure for Bridge Demo**

Next Steps

2021 construction tentatively includes:

- Reconstructing westbound I-94.
- Construction of cul-de-sacs
- Territorial Road and Benton Center Road bridge work, bridge work over US-31 and westbound I-94.
- Construction of the US-31/I-94 BL interchange.

2022 construction tentatively includes:

- Reconstructing eastbound I-94.
- Construction of the US-31 segment and the connection at the I-94 BL interchange.
- Benton Center Road bridge work over eastbound I-94 and over US-31.
- Reconstruction of the I-196 interchange.



US-31 at Napier Avenue



I-94BL



Roundabout Construction at Crystal Avenue



Clearing



Bridge work near Benton Center Road and Britain Avenue

A faint, light blue map of California is visible in the background, centered behind the text.

I-75 MODERNIZATION SEGMENT 3

M-102 to 13 Mile in Oakland County

February 10, 2021

I-75 Modernization

3 Accelerated Segments

SEGMENT ONE

Coolidge Highway-South Boulevard Design Build (DB); \$90M

3.1 miles, 8 bridges

Open to traffic September 2017

SEGMENT TWO

Coolidge Highway-13 Mile Road Design Build (DB); \$223M

8.5 miles, 20 bridges

Under construction; Walsh-Toebe

SEGMENT THREE

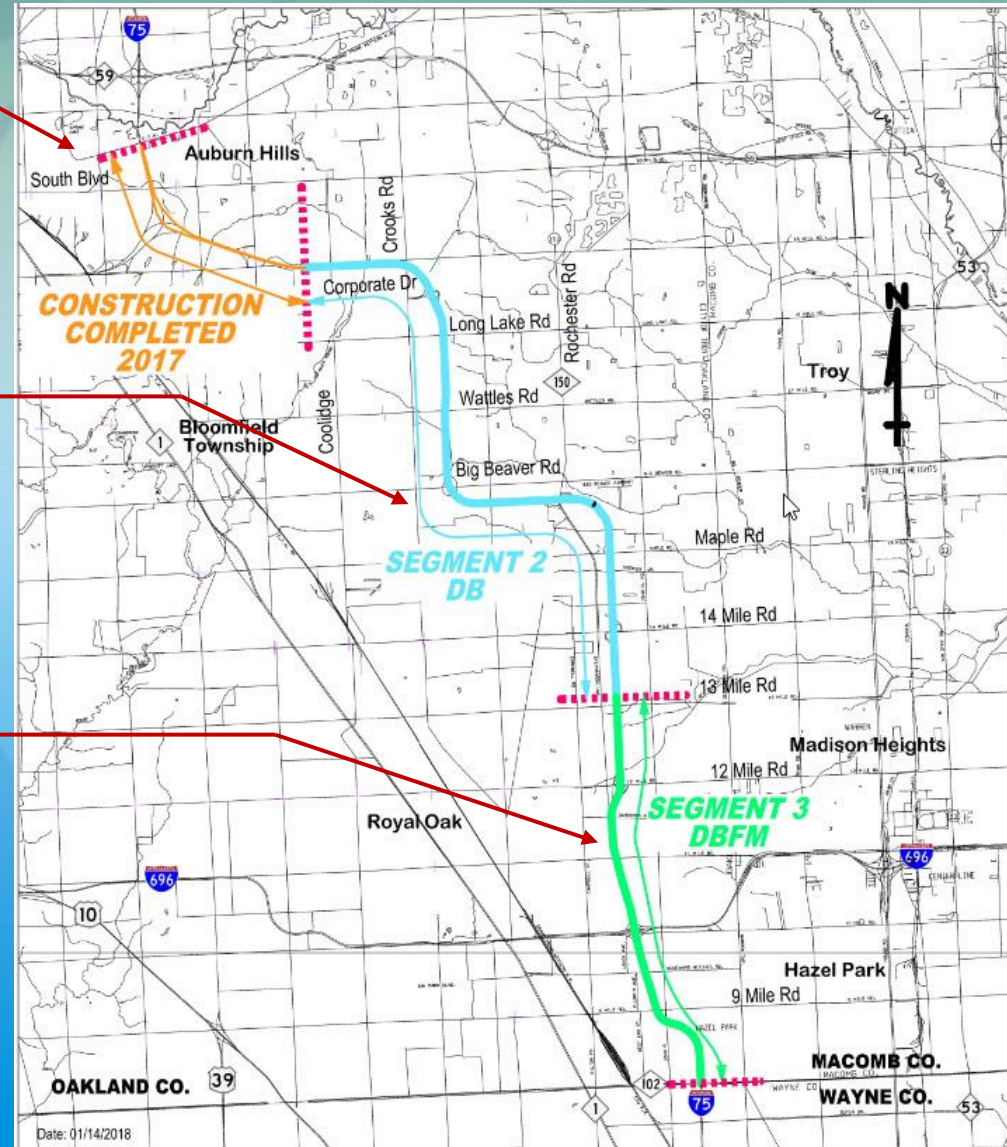
13 Mile Road-north of M-102 /8 Mile

Design Build Finance Maintain (DBFM); \$1.45B (Final Cost for 30 year Term including maintenance)

5.5 miles, 28 bridges

Open to traffic 2023

Developer – Oakland Corridor Partners (OCP)



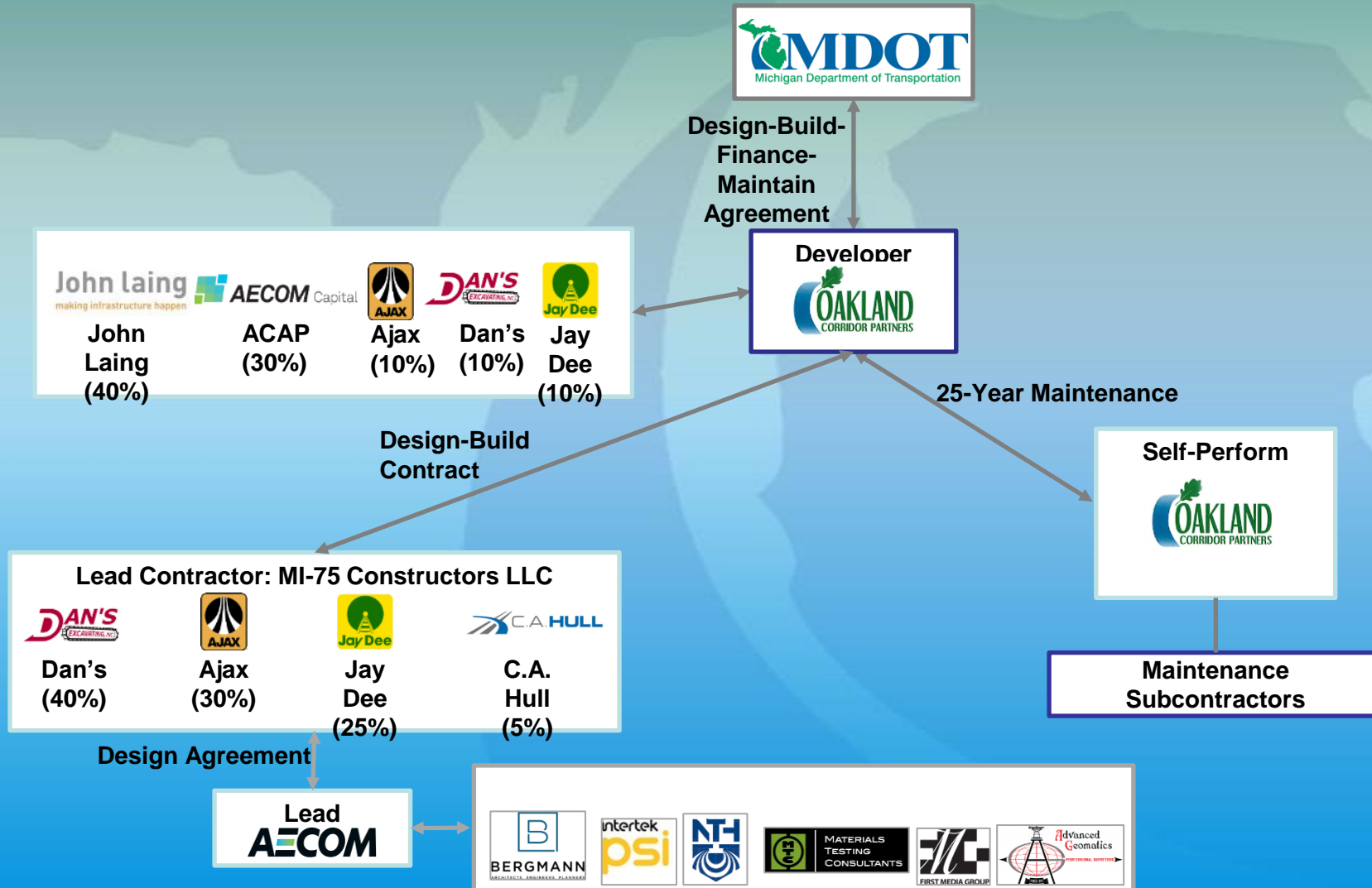
I-75 Segment 3 Overview

- Segment 3 of the I-75 Modernization Project was procured as a Design-Build-Finance-Maintain (“DBFM”) with approximately \$630m construction costs
- 1.5 miles of rural freeway and 4 miles of urban depressed freeway, from north of 13 Mile Road to north of 8 Mile Road
 - Add a new lane (general purpose and / or HOV) in each direction
 - Reconstruct 28 bridges / crossings
 - Install ITS improvements (e.g. CCTV, signs, fiber optic cable)
- Drainage System Improvements
 - Construct 3.9-mile long, 14.5-foot diameter drainage and storage tunnel 75-100 feet underground
 - Install a new pump station, and demolish the seven existing pump stations
- Long Term Maintenance
 - Pavement, bridge structures, retaining and noise walls, fencing, landscape, drainage tunnel and pump station

Segment Three Goals of the Project

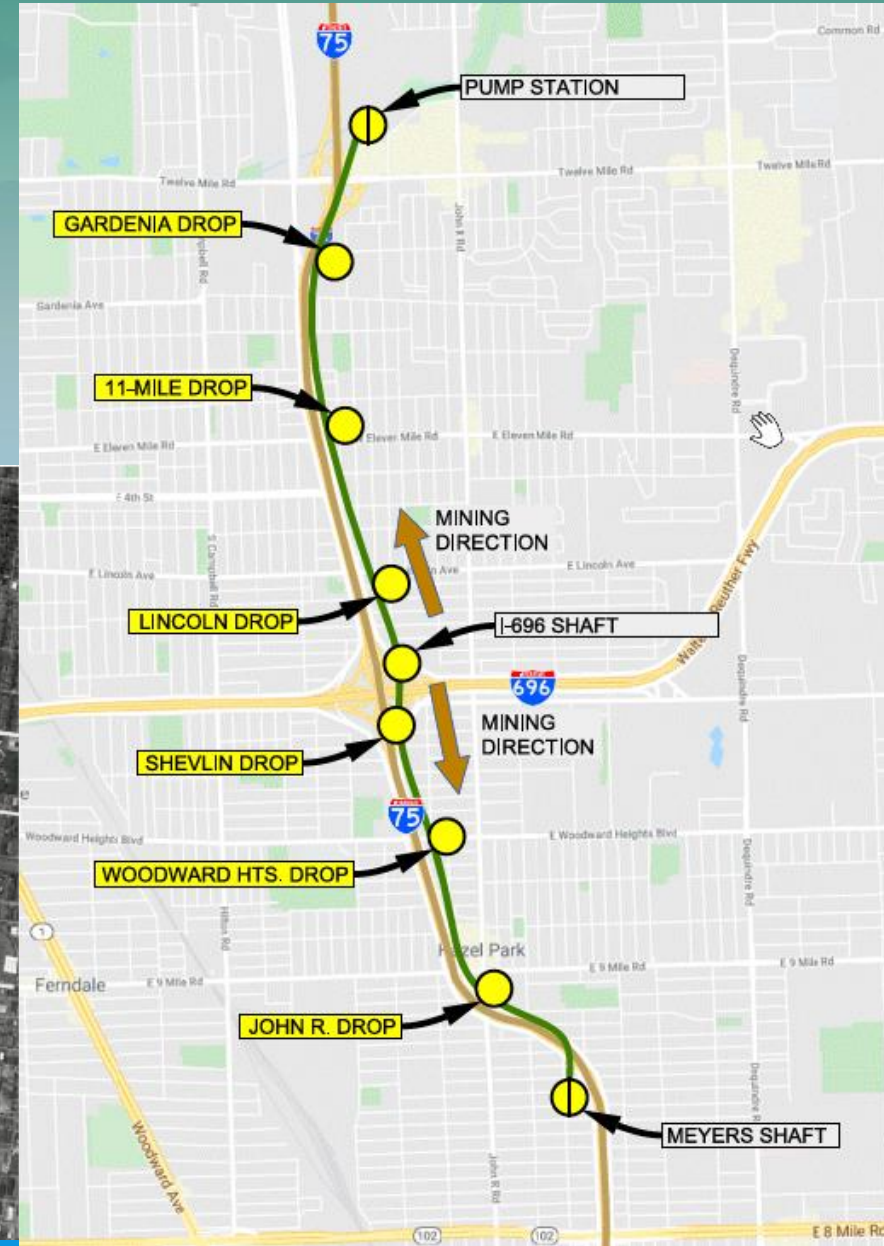
- Accelerate Project delivery by completing construction significantly faster (12 years)
- Reduce impacts to drivers and stakeholders
- Spreads payment over a 30-year term
- Allow/leverage industry innovation
- Transfer long term lifecycle risks
- Allow participation of local contractors in delivery and long term maintenance
- Add capacity to corridor, including HOV lane (12 Mile – South Blvd) and general purpose lane
- Improve geometrics and upgrade corridor
- Improve drainage/construct drainage tunnel

Segment Three Project Team

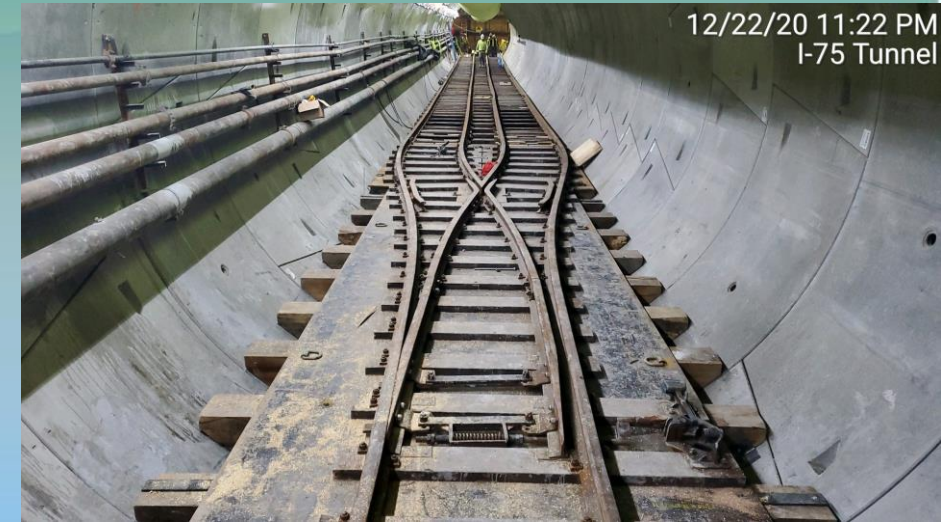


Segment Three Schedule

- The project will be generally constructed in 4 quadrants
- The progression of the work is planned to flow SE, SW, NE, NW



Segment Three Tunnel

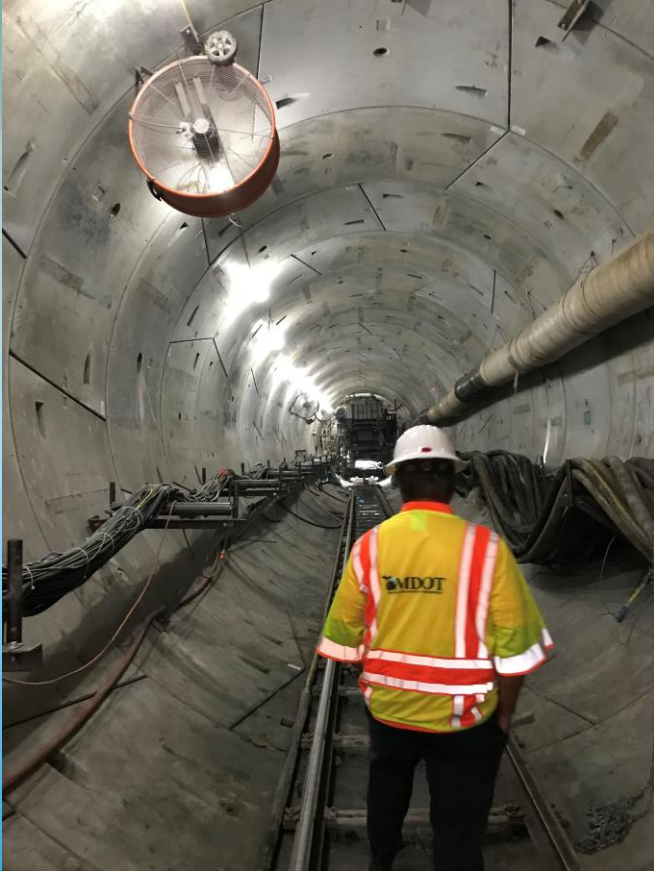


Views of Eliza the TBM

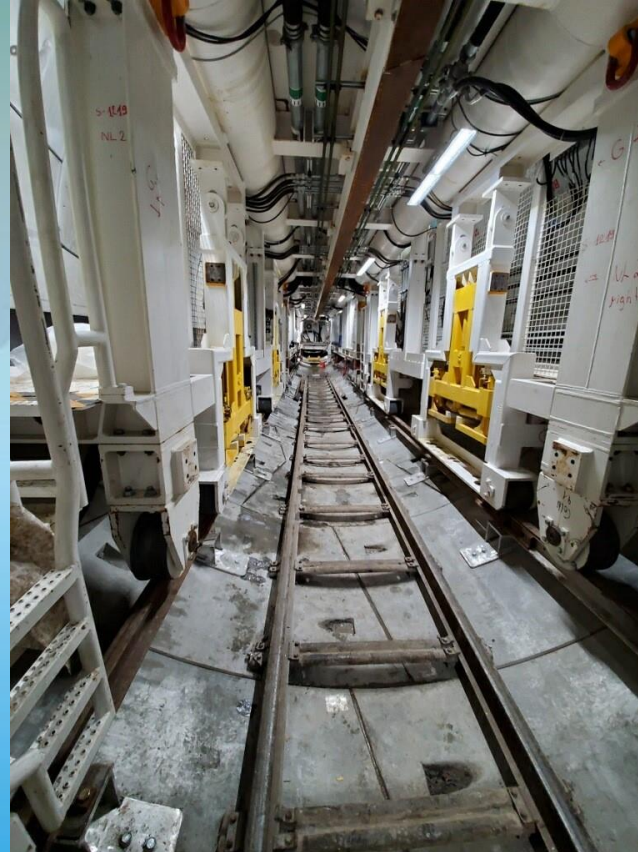


Inside the Tunnel –
Precast Concrete Segments
Waiting Delivery to the Tunnel
“Heading”

Segment Three Tunnel



Views Inside of the Tunnel



Inside the Tunnel Boring Machine Trailing Equipment



Precast Tunnel Segments Being Lowered to Bottom of the 696 Shaft

Segment Three

2020 Road and Bridge Construction Photos

Harry Ave. Ped Bridge



John R Rd Bridge East Abutment



Soldier Pile Wall Near 9 Mile Rd



Soundwall North of Orchard Ave.



Meyers Avenue Bridge



Woodward Heights Bridge



I-75 Modernization

MODERNIZE 75

Home Travel I-75 Activity by Segment Find Information > Contact Us

The I-75 Modernization Project will deliver the first High-Occupancy Vehicle (HOV) lane in Michigan.

Construction is unfolding in three segments. See the latest project activity.

Legends & Layers

- 1 Segment 1: North of Coolidge Highway to North of South Boulevard
- 2 Segment 2: North of 13 Mile to North of Coolidge Highway
- 3 Segment 3: M-102 to North of 13 Mile Road

Now Open

CLOSURES NEARBY PROJECTS ANNOUNCEMENTS

<https://www.modernize75.com/>

Thank You!



Questions for the PMs

Questions for the PMs

- **What unique challenges did the project present?**
- **What lessons have been learned that can be implemented on future projects?**
- **How have you partnered through challenges to accomplish project goals?**

I-69 Challenges

- **Larger MDOT Program / Increased Opportunity**
 - New Design Builders (contractors and designers)
 - New MDOT staff (PM, reviewers, and GECs)
- **Two MDOT Regions/TSCs**
 - Larger MDOT Core Team
 - Larger number of reviewers
- **Aggressive fall construction schedule**
 - Expedited schedule for administrative submittals (DQM, etc.)
 - Early CPM/Rehab design/construction packages
 - At-Risk work

I-94/US-31 Challenges

- **IACR approval and NEPA reevaluation**
- **EGLE Permit – Seven County Drains**
- **Drainage design with MS4 requirements – wetlands**
- **Poor soils**
- **Utility relocations – ANR and Marathon Petroleum Pipelines**
- **MOT while maintaining mobility**
- **Understanding schedule to allocate appropriate resources**

Segment Three Challenges

Challenges

- Unique/New Contracting Method
- Risk Transfer



I-69 Accomplishments/Lessons Learned

- **Effective Partnering and Communication**
 - Regular/open/unbiased discussions (MDOT and Dber)
 - Progress meetings – weekly with full team
 - OTS meetings
 - Clarify MDOT comments, reduce resubmittals
 - Consider increasing
 - Scheduling (Design Submittals)
 - Discuss flexibility of DB contract to increase project efficiency
 - Some expedited MDOT reviews
 - Prioritizing submittals and meetings
- **Improvements to be made to DB Program – formalize documentation**
 - Kickoff Seminar to summarize DB processes
 - Document Control (Design Submittals vs. Construction Submittals)
 - Roles and Responsibilities
 - Communications

I-94/US-31 Accomplishments/Lessons Learned

- Accomplishments:
- Integrating new DB team with a new project team
- Construction began in August 2020
- I-94BL construction, including a roundabout at Crystal Avenue, from Urbandale Avenue to Euclid Avenue
- I-94 crossover construction and shoulder widening in preparation for 2021 construction
- Tree clearing completed
- Construction started on Britain Avenue bridge over US-31 due to mild winter

- Lessons Learned:
- Early coordination with MDOT hydraulics and environmental
- Early design concept meetings led to efficient reviews
- Weekly progress meetings to align project team
- OTS reviews lead to better understanding, more efficient review
- Timely review of submittals
- Prompt response to resolving disputes
- Communication, communication, and more communication!

Segment Three Lessons Learned

Lessons Learned

- Communication, Communication, Communication!!
- Dedicated Staff
- Co-location
- Issue Resolution
- Aligned goals
- Partnering
 - Informal
 - Formal

Questions?



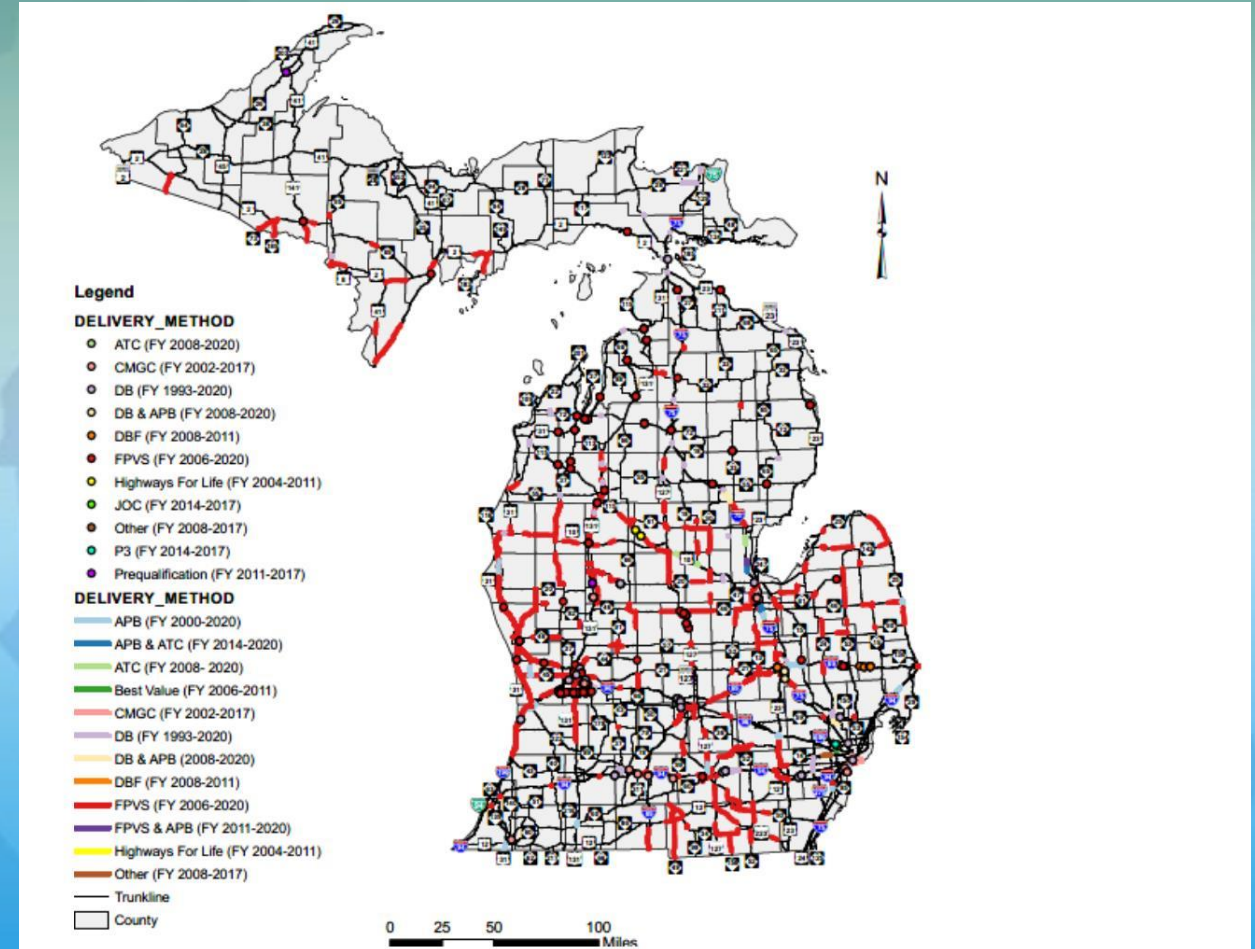


Upcoming Projects

MDOT's Innovative Contracting Program

Upcoming Opportunities

- Several design-build projects are currently in development or procurement:
 - Innovate Mound Rd (Local Agency Project-Macomb County)
 - I-94 Calhoun County
 - I-496 in Lansing
 - US-131 from Kent/Allegan County Line north to 76th Street





For more information regarding MDOT's
Innovative Contracting Program visit:
[MDOT's Innovative Contracting Website](#)

