
**JACKSON AREA COMPREHENSIVE TRANSPORTATION STUDY (JACTS)
TECHNICAL ADVISORY COMMITTEE**

**FOR FURTHER INFORMATION,
CONTACT:**

Steven Duke, Executive Director

**Region 2 Planning Commission
(517) 768-6706**

DATE: WEDNESDAY, JANUARY 20, 2021

TIME: 9:30 A.M.

PLACE: ** Zoom Meeting **

A G E N D A

Comments will be solicited on each item following discussion and prior to any final action.

1. Call to Order
2. Public Comment
3. Election of 2021 Officers – **ACTION**
 - Chair
 - Vice-Chair
4. Approve Minutes of the Technical Advisory Committee Meeting of December 16, 2020 and Receive the Minutes of the Policy Committee Meeting of December 17, 2020 (see enclosures) – **ACTION**
5. Agency Status Reports – **DISCUSSION**
 - City of Jackson (enclosed)
 - Jackson Area Transportation Authority (enclosed)
 - Jackson County Department of Transportation (enclosed)
 - Michigan Department of Transportation (enclosed)
 - Jackson County Airport-Reynolds Field (no change from previous month)
 - Enterprise Group (<http://www.enterprisegroup.org>)
6. Approval of Amendments to the JACTS FY 2020–2023 Transportation Improvement Program (TIP) (see enclosures) – **ACTION**
 - Jackson County Department of Transportation
 - Michigan Department of Transportation
7. Approval of the Resolution Supporting the MDOT State Targets for Bridge Condition – (see enclosure) – **ACTION**
8. JACTS FY 2020 Obligated List of Federally-Funded Projects (see enclosure) – **DISCUSSION**
9. Incorporating On-Road Bicycle Networks into Resurfacing Projects (see enclosure) – **DISCUSSION**
10. Other Business
11. Public Comment
12. Adjournment

Region 2 Planning Commission



Jackson Area Comprehensive Transportation Study

MINUTES

JACTS TECHNICAL ADVISORY COMMITTEE

Teleconference Meeting

Wednesday, December 16, 2020

Members Present: Chad Cumberworth (Alt.), Jackson Area Transportation Authority
Mike Davis (Alt.), MDOT
Jon Dowling, Vice-Chair, City of Jackson – Engineering
Steve Duke, Region 2 Planning Commission
Angie Kline, Chair, Jackson County Dept. of Transportation
Mark Kloha, MDOT – Lansing
Alex Masten, The Enterprise Group
Jack Ripstra, Blackman Charter Township
Bret Taylor, Jackson County Dept. of Transportation
Troy White, City of Jackson – Engineering
Juan Zapata, Jackson County Airport – Reynolds Field

Members Absent: Jonathan Greene, City of Jackson
Andy Pickard, FHWA (Ex-officio)

Others Present: Joe Bentschneider, Jackson County Dept. of Transportation
Tanya DeOliveira, Region 2 Planning Commission
Maria Habba, MDOT-OPT
Sam Korson, MDOT
Jill Liogghio, Region 2 Planning Commission
Kelby Wallace, MDOT – Jackson TSC

ITEM 1 CALL TO ORDER

Chair Kline called the meeting to order at 9:35 AM.

ITEM 2 PUBLIC COMMENT

No public comments were received.

ITEM 3 **APPROVE MINUTES OF THE TECHNICAL ADVISORY COMMITTEE MEETING OF NOVEMBER 18, 2020 AND RECEIVE THE POLICY COMMITTEE MINUTES OF NOVEMBER 19, 2020**

It was noted that Mr. Christopher Bolt was in attendance at the November 19, 2020 Policy Committee meeting. A motion was made by Mr. Davis, supported by Mr. Ripstra, to approve the Technical Advisory Committee meeting minutes of November 18, 2020 as presented, and receive the Policy Committee meeting minutes of November 19, 2020 as amended. The motion carried unanimously.

ITEM 4 **AGENCY STATUS REPORTS**

Project status updates were presented by the City of Jackson, Jackson Area Transportation Authority, Jackson County Department of Transportation, Michigan Department of Transportation, Jackson County Airport – Reynolds Field, and The Enterprise Group. The following project details were provided:

- City of Jackson – Staff is working with MDOT to ensure that they have the necessary paperwork for a February letting for the Elmdale Trail project.
- Jackson Area Transportation Authority – The security cameras will be now installed at the end of FY2021. Ridership is down about 50% for the year. A new Gillig bus has been awarded.
- Jackson County Department of Transportation – Graffiti has appeared on the recently-completed Parma Bridge on Michigan Avenue. JCDOT is working with local police to try to stop the perpetrators. The King Road project will have stop signs installed today and the project is nearly finished.
- Michigan Department of Transportation – Contractors have been selected and are ready to begin work on I-94/West Avenue and Elm interchanges and replacing the Lansing Avenue bridge. Message boards and cameras are being installed to warn drivers about traffic congestion on I-94 and US-127.
- Jackson County Airport – Reynolds Field – The airport restaurant is installing an outdoor pizza oven. Take-offs and landings have lessened due to winter time and the COVID-19 pandemic.
- The Enterprise Group – They are awaiting the award of the EDA grant.

ITEM 5 **APPROVAL OF AMENDMENTS TO THE JACTS FY 2020-2023 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)**

Chair Kline reported that the Jackson County Department of Transportation was requesting the following amendments to the JACTS FY 2020-2023 Transportation Improvement Program (TIP):

FY	JN	Project Name	Limits	Project Description	Funding	Action
2021	207171	McCain Rd and Robinson Rd	Robinson Rd to Spring Arbor Rd and Spring Arbor Rd to McCain Rd	Resurface	\$12,037 HIP \$591,963 STP \$151,000 JCDOT \$755,000 Total	Change

Mr. Davis reported that MDOT was requesting the following amendments to the JACTS FY 2020-2023 Transportation Improvement Program (TIP):

FY	Job number	Phase	Name	Limits	Length	Description	Funds & Source	Amendment Type
2021	211675	PE	I-94 BL	I-94 BL, US-127, M-50 over Grand River	0	Bridge Replacement	Fed (NH) \$102,666 State \$20,774 Total \$125,432	Phase Add
2021	211675	PES	I-94 BL	I-94 BL, US-127, M-50 over Grand River	0	Bridge Replacement	Fed (NH) \$650,676 State \$131,661 Total \$794,962	Phase Add
2023	211797	PE	Regionwide	Countywide in Jackson County	0	Install delineation, pavement markings and signs for wrong way treatment	Fed (HSIP) \$9,450 State \$1,050 Total \$50,000	Phase Add

A motion was made by Vice-Chair Dowling, supported by Mr. Duke, to approve the proposed JCDOT and MDOT amendments as presented. The motion passed unanimously.

ITEM 6 **OTHER BUSINESS**

Mr. Korson reported that MDOT is working on updating the travel demand model and data for the 2018 base year for the 2050 Long Range Transportation Plan update. MDOT staff completed an initial review of the data with Mr. Duke and Ms. DeOliveira in November. In the coming months, R2PC staff will be working with townships, villages, and the City of Jackson to review the data to ensure that the information for the base year is correct.

Chair Kline asked Vice-Chair Dowling and Mr. White if the City of Jackson would support the balance of the HIP funds being allocated to the JCDOT McCain/Robinson Road project. There was \$104,713 FY2020 HIP funds available. As shown in the JCDOT amendment presented, \$12,037 HIP funds will be moved to make up the difference in the reduction of STP funding. The remaining \$92,676 FY2020 HIP funds would be allocated to JCDOT. Vice-Chair Dowling made a motion, supported by Mr. White, to support the balance of \$92,676 FY2020 HIP funds to be allocated for the McCain Road/Robinson Road JCDOT project. The motion passed unanimously.

Mr. Duke asked the Committee to approve the JACTS Technical Committee and JACTS Policy Committee 2021 meeting calendar. Vice-Chair Dowling made a motion, supported by Mr. White, to approve the 2021 meeting calendar. The motion carried unanimously.

ITEM 7 **PUBLIC COMMENT**

No public comments were received.

ITEM 8 **ADJOURNMENT**

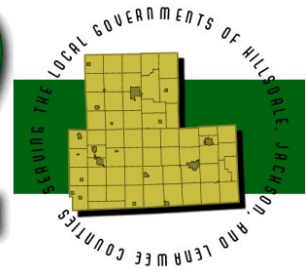
There being no further business, Chair Kline adjourned the meeting at 10:20 AM.

Tanya DeOliveira
Transportation Planner

Region 2

Planning Commission

Jackson Area Comprehensive Transportation Study



MINUTES

JACTS POLICY COMMITTEE

Teleconference Meeting

Thursday, December 17, 2020

Members Present: Keith Acker, Sandstone Township
Don Mayle, MDOT – Lansing
John Feldvary, Jackson County Airport-Reynolds Field
Pete Jancek, Vice-Chair, Blackman Charter Township
Angela Kline, JACTS Technical Advisory Committee
Randy Purvis, Jackson Area Transportation Authority
Steve Shotwell, Chair, Jackson County Board of Commissioners
Mike Trudell, Summit Township
Bob Welsh, Region 2 Planning Commission
Dan Wymer, Napoleon Township

Members Absent: David Herlein, Spring Arbor Township
Jonathan Greene, City of Jackson
Howard Linnabary, Leoni Township
Mike Overton, Jackson County Department of Transportation
Laura Schlecte, City of Jackson

Others Present: Joe Bentschneider, Jackson County Department of Transportation
Christopher Bolt, Jackson County Department of Transportation
Mike Brown, Jackson Area Transportation Authority
Tanya DeOliveira, Region 2 Planning Commission
Jon Dowling, City of Jackson
Steve Duke, Region 2 Planning Commission
Jill Liogghio, Region 2 Planning Commission
Bret Taylor, Jackson County Department of Transportation
Kelby Wallace, MDOT – TSC

ITEM 1 CALL TO ORDER

Chair Shotwell called the meeting to order at 8:00 AM.

ITEM 2 PUBLIC COMMENT

There were no public comments received.

ITEM 3 **APPROVE MINUTES OF THE POLICY COMMITTEE MEETING OF NOVEMBER 19, 2020 AND RECEIVE THE TECHNICAL ADVISORY COMMITTEE MINUTES OF NOVEMBER 18, 2020**

It was noted that Mr. Christopher Bolt was in attendance at the November 19, 2020 Policy Committee meeting. A motion was made by Mr. Acker, supported by Mr. Feldvary, to approve the amended Policy Committee meeting minutes of November 19, 2020 and receive the Technical Advisory Committee meeting minutes of November 18, 2020 as presented. The motion carried unanimously.

ITEM 4 **AGENCY STATUS REPORTS**

Project status updates were presented by the City of Jackson, Jackson Area Transportation Authority, Jackson County Department of Transportation, Michigan Department of Transportation, and Jackson County Airport-Reynolds Field. The following project details were provided:

- City of Jackson – MDOT will be sending comments on the grade inspection plan review for the Bridge capital preventative maintenance project. The Elmdale Trail project is expected to be in the February letting.
- Jackson Area Transportation Authority – The Rides to Wellness program has started, but there has been some difficulty in finding drivers. JATA also had to close for two days in December due to a COVID exposure at the Transit Center. The two days allowed for extensive cleaning and to minimize disruption to transit service.
- Jackson County Department of Transportation – Graffiti has appeared on the recently-completed Parma Bridge on Michigan Avenue. JCDOT is working with local police to try to stop the perpetrators. Staff is also working on designing the South Dearing Road/McCain Road mini-roundabouts.
- Michigan Department of Transportation – There is active construction on I-94 and US-127 to install message boards and cameras to warn drivers about any traffic congestion issues on the corridors. Work will begin in the Spring, 2021 on I-94, starting at the West Avenue interchange. Dan's Excavating was the low bidder.
- Jackson County Airport-Reynolds Field – New electric car charging stations have been installed at the airport.

ITEM 5 **APPROVAL OF AMENDMENTS TO THE JACTS FY 2020-2023 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)**

Ms. Kline reported that the City of Jackson was requesting the following amendments to the JACTS FY 2020-2023 Transportation Improvement Program (TIP):

FY	JN	Project Name	Limits	Project Description	Funding	Action
2021	207171	McCain Rd and Robinson Rd	Robinson Rd to Spring Arbor Rd and Spring Arbor Rd to McCain Rd	Resurface	\$12,037 HIP \$591,963 STP \$151,000 JCDOT \$755,000 Total	Change

Mr. Wallace reported that MDOT was requesting the following amendments to the JACTS FY 2020-2023 Transportation Improvement Program (TIP):

FY	Job number	Phase	Name	Limits	Length	Description	Funds & Source	Amendment Type
2021	211675	PE	I-94 BL	I-94 BL, US-127, M-50 over Grand River	0	Bridge Replacement	Fed (NH) \$102,666 State \$20,774 Total \$125,432	Phase Add
2021	211675	PES	I-94 BL	I-94 BL, US-127, M-50 over Grand River	0	Bridge Replacement	Fed (NH) \$650,676 State \$131,661 Total \$794,962	Phase Add
2023	211797	PE	Regionwide	Countywide in Jackson County	0	Install delineation, pavement markings and signs for wrong way treatment	Fed (HSIP) \$9,450 State \$1,050 Total \$50,000	Phase Add

A motion was made by Mr. Feldvary, supported by Mr. Welsh, to approve the proposed JCDOT and MDOT amendments as presented. The motion carried unanimously.

ITEM 6 **OTHER BUSINESS**

Mr. Duke shared that MDOT is working on updating the travel demand model and data for the 2018 base year for the 2050 Long Range Transportation Plan development. In the coming months, R2PC staff will be working with townships, villages, and the City of Jackson to review the employment, land use, and population demographic data to ensure that the information for the model is correct.

Mr. Duke asked the Committee to approve the JACTS Technical Committee and JACTS Policy Committee 2021 meeting calendar. Mr. Acker made a motion, supported by Ms. Kline, to approve the 2021 meeting calendar. The motion carried unanimously.

Chair Shotwell noted that this meeting is the final meeting for Mr. Bob Welsh, and thanked him for his service. He is the Region 2 Planning Commission representative on the JACTS Policy Committee. A new representative will replace him in 2021.

ITEM 7 **PUBLIC COMMENT**

No public comments were received.

ITEM 8 **ADJOURNMENT**

In the absence of Chair Shotwell, Vice-Chair Jancek adjourned the meeting at 8:40 AM.

Tanya DeOliveira, Principal Planner

To: JACTS Technical Advisory and Policy Committees
DATE: January 13, 2021
FROM: Jon H. Dowling, P.E.
SUBJECT: TIP Project Status

2021

Morrell Street: Greenwood to Francis (Urban) – Reconstruct pavement with curb repairs. HRC is the City's consultant on this project. Preparing submittal for the March 2021 letting through MDOT.

Steward Street: RR to Ganson (Urban) – Mill and asphalt resurface with curb repairs and signal reconstruction at Ganson. HRC is the City's consultant on this project. Preparing the submittal for a March 2021 letting through MDOT.

Bridge CPM (BHT) Denton, Mechanic, North and Trail - Rehabilitation on the four bridges. Great Lakes Engineering is the City's consultant on this project. **Project has received GI comments from MDOT and plans have been sent to utilities for comments.**

Elmdale Trail: Hickory to South St (SR2S) - Reconstruction of the existing path to a 10' wide concrete non-motorized path. Rowe Professional Services is the City's consultant on this project. **Project is scheduled to be advertised on January 15 for the February 5 MDOT letting.**

Wisner St Traffic Signals (HSIP) Ganson, North and Argyle - Replacement of the existing traffic signals at these three intersections with mast arm signals. HRC is the City's consultant on this project. Working on right of way easements. Plan to be in the April 2021 letting.

2022

E. High Street Bridge over the Grand River - Replacement of the existing bridge superstructure. HRC is the City's consultant on this project.



PROJECT REPORT
2020-2023 TIP

January 2021

1. Vehicle Procurements
 - a. Two (2) Medium duty vans – have been paid for and are waiting for exterior decals to be installed. The vans should be active and on the road in the next few weeks.
2. Bus & Bus Components
 - a. We have received reallocation funds from MDOT. JATA is now waiting on approval from the FTA's grant amendment in order to submit a Purchase Order to Gillig for the procurement of a 35' bus.
3. Facility Upgrades
 - a. Surveillance upgrades (cameras, fencing and gates)
 - i. The security camera upgrades is going out for Request for Quote (RFQ) the week of January 11th.
 - ii. The fences and gates RFP will have to be rebid, because the bids we received were incomplete. We will send out the RFP again in January of 2021.
4. Grants
 - a. JATA is waiting to hear back on grant awards for the Bus and Bus Facilities Grant. JATA applied for a contactless payment solution for its transit buses.
5. Rides to Wellness
 - a. The Rides to Wellness program is gaining momentum and we are starting to acquire more trips as more people are becoming aware of our services.



Jackson County

Department of Transportation

Christopher J. Bolt, MPA, PE
Assistant County Administrator
& Managing Director, JCDOT

Angela N. Kline, PE
Director of Engineering
Deputy Managing Director



Keeping Our Community Safely in Motion...

TO: Mr. Steven Duke
Executive Director
Region 2 Planning Commission

FROM: Angela N. Kline, PE
Director of Engineering/ Deputy Managing Director

SUBJECT: December JACTS Update

DATE: January 12, 2021

We would like to provide the following update regarding our projects that are on the Transportation Improvement Program (TIP) for FY 2019, 2020 and 2021.

FY 2020

JN 207225/207226 Jefferson Road and W Michigan Ave tree removal

This work will start the end of January/ beginning of February and complete by April 1, 2021.

JN 207227 S Jackson Road intersection re-alignment

Work will begin the spring of 2021.

JN 206577 S Union Street (Village of Parma)

Work will begin the spring of 2021.

FY 2021

JN 206636 Preventative Maintenance, Countywide

This project will be submitted to MDOT for a February GI meeting.

JN 207171 McCain Road and Robinson Road

The project will be submitted to MDOT for a February GI meeting.



JN 210386 Edge line pavement marking

The project has been submitted to MDOT for a GI meeting.

JN 210343 South Dearing Road and McCain Road mini-roundabout

This project will be submitted to MDOT for a March GI meeting.





GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
JACKSON TRANSPORTATION SERVICE CENTER

PAUL AJEGBA
DIRECTOR

January 11, 2020

Construction:

M-60 bridge over I-94 – The project is substantially complete. Turf restoration, pavement markings, signing, bridge coatings and other miscellaneous items remain for the spring of 2021.

I-94 & US-127 – Install cameras and/or permanent message boards near Airport Road, Parnall Road, Page Ave, I-94/US-127 south interchange, Hawkins Road, Whipple Road, and Grass Lake Scales. Construction is underway.

I-94 at Elm Road, Lansing Ave. and West Ave (US-127 west), also includes resurfacing on US-127 (I-94 to Parnall) – Work is scheduled to begin in March with tree removals. Work will begin near West Ave for the new WB I-94 bridge in April.

Design:

US-127 bridges over M-50/Railroad (just north of McDevitt) – Deck replacement and superstructure repairs. (late 2021-2022 Construction).

Railroad bridges over Jackson Street and Mechanic Street in downtown Jackson – Bridge replacement (late 2021 construction).

M-106 and I-94BL – Non-freeway signing upgrade (2022 construction).

I-94 from M-60 to Calhoun County line – Reconstruction from M-60 to Michigan Ave, major rehabilitation from Michigan Ave to Calhoun County line – (2022-2024 construction).

Cooper Street (M-106) bridge replacement in downtown Jackson south of train station – Bridge replacement (2024 Construction).

US-127 (Henry to near Ingham Co Line) – state funds only, major resurfacing (future construction).



Jackson County Department of Transportation

Christopher J. Bolt, MPA, PE
Assistant County Administrator
& Managing Director, JCDOT

Angela N. Kline, PE
Director of Engineering
Deputy Managing Director



Keeping Our Community Safely in Motion...

TO: Mr. Steven Duke
Executive Director
Region 2 Planning Commission

FROM: Angela N. Kline, PE
Director of Engineering/ Deputy Managing Director

SUBJECT: December JACTS TIP Amendment

DATE: January 12, 2021

Jackson Department of Transportation is requesting approval from the Region 2 Planning Commission, JACTS Technical Advisory, and JACTS Policy Committees concerning the following Transportation Improvement Program (TIP) Amendment for FY2020- 2023:

Fiscal Year	Job #	Project Name	Limits	Project Description	Funding	Action
2021	207171	McCain Rd and Robinson Rd	Robinson Rd to Spring Arbor Rd and Spring Arbor Rd to McCain Rd	Resurface	From: \$12,037.00 HIP \$591,963.00 STP \$151,000 local \$755,000.00 Total To: \$104,713.00 HIP \$591,963.00 STP \$151,000 local \$847,676.00 Total	CHANGE



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

PAUL C. AJEGBA
DIRECTOR

January 13, 2021

Mr. Steve Duke,
Executive Director
Region 2 Planning Commission
Jackson County Tower Building
120 W. Michigan Avenue, 9th Floor
Jackson, Michigan 49201

Dear Mr. Duke:

This letter is sent by the Michigan Department of Transportation (MDOT) to inform the Jackson Area Comprehensive Transportation Study committees of several TIP amendments to the FY 2020-2023 Transportation Improvement Plan (TIP).

<u>Fiscal Year</u>	<u>Job no.</u>	<u>Phase</u>	<u>Project Name</u>	<u>Limits</u>	<u>Length</u>	<u>Project Description</u>	<u>Federal Budget</u>	<u>State Budget</u>	<u>Federal Fund Source</u>	<u>Total Phase Cost</u>	<u>Amendment Type</u>
2021	212155	PE	I-94BL	Michigan Avenue from East Avenue to Page Avenue	0.14	Install mid-block crossing and rapid flashing beacon	\$45,000	\$4,562	HSIP	\$50,000	Phase Add
2021	212155	CON	I-94BL	Michigan Avenue from East Avenue to Page Avenue	0.14	Install mid-block crossing and rapid flashing beacon	\$77,726	\$7,881	HSIP	\$86,362	Phase Add

Thank you for your attention to this request. If you have any questions or need additional information, please contact me at 517-257-9248

Sincerely, Mike Davis Jr, Transportation Planner

Region 2 Planning Commission



Jackson Area Comprehensive Transportation Study

To: JACTS Technical Advisory, JACTS Policy and Region 2 Planning Commission committee members

From: Tanya DeOliveira, Principal Transportation Planner

Date: January 8, 2021

Subject: Briefing on Michigan Department of Transportation State Targets for Bridge Condition – Resolution Adoption

The Federal Highway Administration (FHWA) continues to require that States, MPOs, and operators of public transportation establish targets in specific national performance areas. MPOs may support the state targets for the performance measures and/or establish specific numeric targets on their own. MPOs will not be penalized if MDOT does not meet any of their performance measure targets.

MDOT has been working with MPOs across the state to share information as the targets and timelines are developed. The 2021 bridge condition performance measures are due to MDOT by March 31, 2021. Upon review of the materials from FHWA and MDOT, the **Region 2 Planning Commission staff recommends** that the Region 2 Planning Commission, acting as the MPO, agrees to support MDOT's **Bridge Condition Performance Measure Targets for Calendar Year 2021** by passing the attached resolution.

Bridge condition is one of the national Federal highway program performance goals that were established by Congress. The goal is to maintain the highway system in a state of good repair. The targets for bridge conditions are what's expected in the short term (every two-year and four-years) as strategies are applied to achieve the long-term goals given fiscal constraints and competing needs between all of the performance management areas and assets. MDOT is documenting the progress as it works to meet the National Highway System bridge condition targets.

Included in the packet is the thorough MDOT report on the mid-period time-frame and target adjustments. The report is a program update from MDOT since 2018, the first year that the information was documented and collected. Please review the report for a better understanding of MDOT's program. The final page, page 13, shows the 2020 Measured Condition on the NHS (National Highway System) Deck Area for the Jackson Area Comprehensive Transportation Study.



Region 2 Planning Commission Resolution to Support Michigan Department of Transportation State Targets for Bridge Conditions Performance Measures

WHEREAS, the Region 2 Planning Commission has been designated by the Governor of the State of Michigan as the Metropolitan Planning Organization responsible for the comprehensive, continuing, and cooperative transportation planning process for Jackson County;

WHEREAS, the National Performance Management Measures for Assessing Bridge Condition (23 CRF Part 490.401-490.413) requires States to set targets for two bridge performance measures, and MPO's to set targets 180 days after the States target date; and

WHEREAS, the Michigan Department of Transportation (MDOT) has established targets for two bridge performance measures:

1. Percent National Highway System (NHS) Bridges Deck Area in Good Condition
2. Percent NHS Bridges Deck Area in Poor Condition; and

WHEREAS, the MDOT through its review of the performance measures at the mid-point of the first performance period (and officially reported on October 1, 2020) chose to adjust the 4-year Bridge Condition targets, as shown in the chart below, and

WHEREAS, the MDOT coordinated the establishment of Bridge targets with the 14 Metropolitan Planning Organizations (MPOs) in Michigan through the periodic Target Coordination Meetings, and

WHEREAS, the Region 2 Planning Commission may, within 180 days of the State establishing and reporting its bridge targets, establish bridge targets by agreeing to plan and program projects so that they contribute toward the accomplishment of the state bridge targets, or commit to a quantifiable target for each bridge performance measure for their own metropolitan planning area,

BE IT FURTHER RESOLVED, that the Region 2 Planning Commission will plan and program projects that contribute to the accomplishment of state 4-year adjusted NHS bridge condition targets.

Region 2 Planning Commission



Michigan State Bridge Condition Targets

Bridge Condition Performance Measure	Baseline Condition 2017	2-year Target 2020	Adjusted 4-year Target
NHS Deck Area in Good Condition	32.7%	27.0%	23.0%
NHS Deck Area in Poor Condition	9.8%	7.0%	8.0%

PASSED, ADOPTED, and APPROVED this eleventh day of February 2021.

By: _____
Doug Terry, Chair
Region 2 Planning Commission

Steven M. Duke, Executive Director
Region 2 Planning Commission

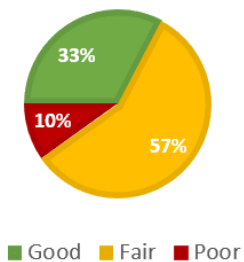


BRIDGE MID -PERFORMANCE PERIOD REPORT

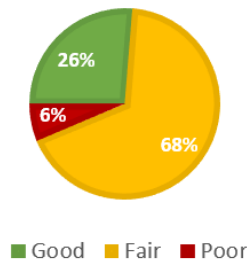
2018 – 2022 ACTUALS AND TARGET

MDOT established Bridge Performance Management Targets for bridges carrying the NHS as required for the National Federal Highway Program Performance Goals. This document describes how MDOT determined the two- and four-year targets from asset management analyses and procedures and reflecting investment strategies that work toward achieving a state of good repair over the life cycle of assets at minimum practicable cost. This document reports on the actual performance at the Mid-Performance Period and recommends changes to the 2022 Target.

2018 MEASURED
PERCENT BY NHS DECK AREA



2020 MEASURED
PERCENT BY NHS DECK AREA



2022 ADJUSTED TARGET
PERCENT BY NHS DECK AREA

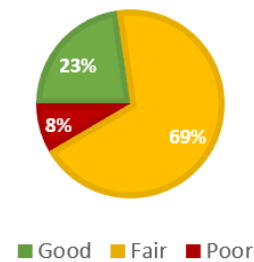


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EXECUTIVE SUMMARY

Executive Summary

TPM REQUIREMENTS

Infrastructure Condition is one of the national Federal highway program performance goals as established by Congress. The goal is to maintain the highway infrastructure asset system in a state of good repair. As part of this endeavor, targets were required to be set for NHS bridge conditions. These targets are the conditions that we expected in the short term (two- and four-years) as we apply our strategies to achieve our long-term goals given fiscal constraints and competing needs between all the performance management areas and assets. This report documents the progress of MDOT, our bridge authorities, and local agencies in meeting the NHS bridge condition targets.

TARGETS

Using deterioration modeling and analysis of programmed projects, MDOT predicted that the percentage of deck area on the NHS in Good condition would decline, the percentage of deck area in Fair condition would increase and the percentage of deck area in Poor Condition would decrease. Targets were set based upon this information, allowing for uncertainties, and are presented in Figure 1.

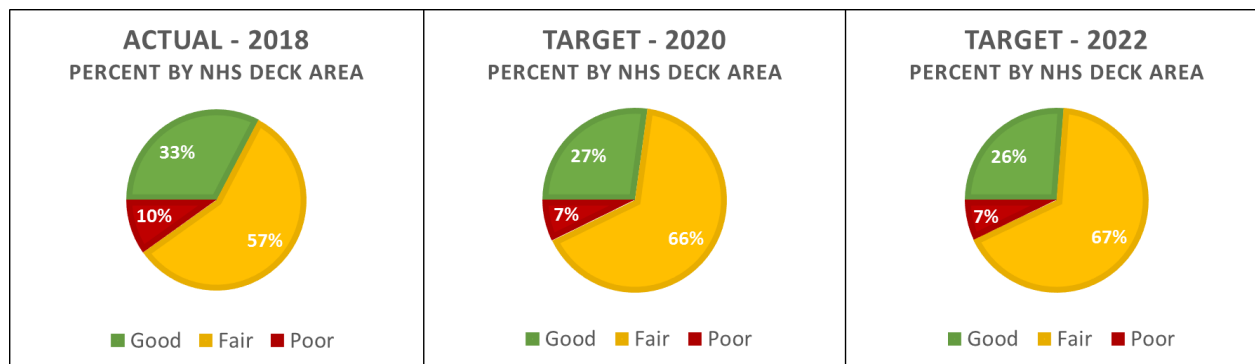


Figure 1: Original Recommended Bridge Targets

EXECUTIVE SUMMARY

MID-PERFORMANCE PERIOD

The baseline condition reported for 2018 reflected NHS NBI data through March 14, 2018. The mid-performance period condition reflects NHS NBI data through March 13, 2020. The actual conditions report in March of 2020 were **26.3%** in Good condition, **67.5%** in Fair condition and **6.2%** in Poor condition, by deck area. This is within 1% of the predicted target values, and the Poor condition performance exceeded the target condition. The major factor leading to the Good condition target being missed was the impact of four large deck area bridges deteriorating into Fair condition faster than predicted. This will be discussed in further detail.

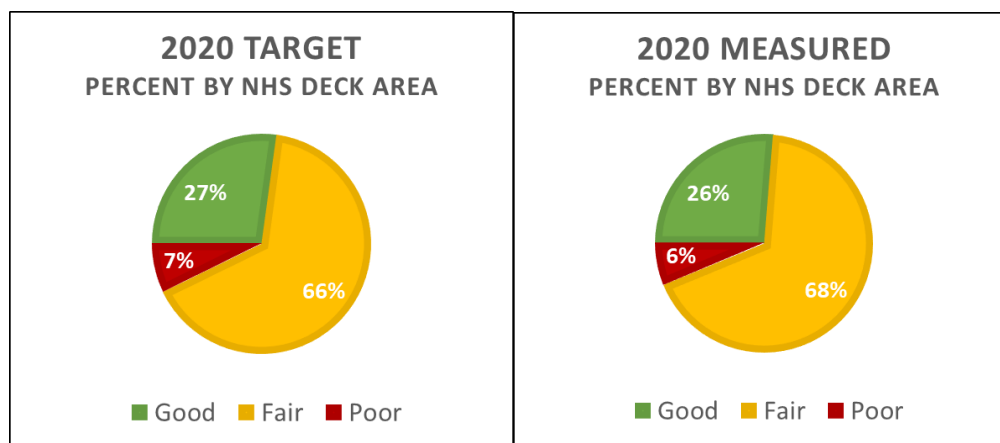


Figure 2: 2020 Target vs 2020 Measured

During the timeframe, the inventory changed slightly as owners continued to manage their bridges through projects and inspections. 235 bridges were removed, added, or modified leading to changes in bridge counts and deck area. Table 1 reflects the changes in the inventory from the 2018 baseline data to the 2020 mid-performance period data. In general, the number of NHS bridges increased while the total deck area decreased. The percent change both by count and by area is less than 1% of the total NHS area.

Inventory Changes - 2018 to 2020 - Statewide						
Owner	2018		2020		Percent Change	
	Count	Deck Area	Count	Deck Area	Count	Deck Area
Trunkline	2,729	32,936,116	2738	32,792,958	0.3%	-0.4%
Authority	8	1,998,482	8	1,998,482	0.0%	0.0%
Local	225	2,425,951	221	2,361,559	-1.8%	-2.7%
Total	2,962	37,360,549	2967	37,152,999	0.2%	-0.6%

Table 1: Inventory Changes – 2018 to 2020 - Statewide

MID-PERIOD CONDITION REPORT

MID-Period Condition Report

NATIONAL BRIDGE INSPECTION STANDARDS

Federal law, outlined in the National Bridge Inspection Standards (NBIS), defines a bridge as a structure carrying traffic with a span greater than 20 feet and requires that all bridges be inspected to monitor and report condition ratings. The FHWA requires that for each applicable bridge, the performance measures for determining condition be based on the minimum values for substructure, superstructure and deck or culvert.

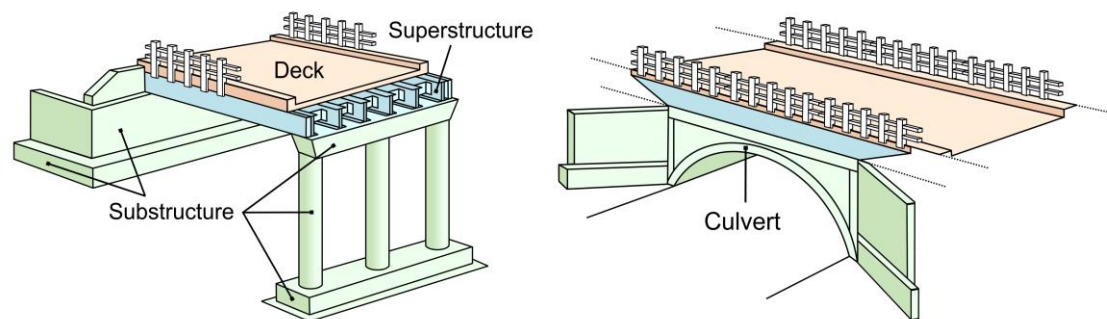


Figure 3: ANATOMY OF A BRIDGE OR CULVERT

Condition ratings are based on a 0-9 scale and assigned for each culvert, or the deck, superstructure and substructure of each bridge. These ratings are recorded in Michigan's National Bridge Inventory (NBI) database through a web-based system called MiBRIDGE. According to Federal standards, ratings of 7 and above are in Good Condition, 4 and less are in Poor Condition, and the remainder are in Fair Condition. Condition ratings are an important tool for transportation asset management as they are used to identify preventative maintenance needs and to determine rehabilitation and replacement projects.

NBI Condition Ratings			
7-9	Good Condition		Routine maintenance candidate.
5-6	Fair Condition		Preventative maintenance and minor rehabilitation candidate.
4	Poor Condition	Poor	Major rehabilitation or replacement candidate.
2-3		Serious or Critical	Emergency repair or high priority major rehabilitation or replacement candidate. Unless closely monitored it may be necessary to close until corrective action can be taken.
0-1		Imminent Failure or Failed	Major rehabilitation or replacement candidate. Bridge is closed to traffic.

Table 2: NBI CONDITION RATINGS

MID-PERIOD CONDITION REPORT

MID-PERFORMANCE PERIOD NHS BRIDGE CONDITIONS

Structures that meet the definition of a bridge according to the NBIS are recorded in the Michigan Bridge Inventory database through a web-based system called MiBRIDGE. MDOT's Bureau of Bridges and Structures (BOBS) in turn submits this information to the National Bridge Inventory (NBI). Using this database, BOBS compiles the number of bridges and deck area for each of the categories required by the Performance Management requirements. While the National Bridge Inspection Standards applies to all publicly owned highway bridges, the Transportation Performance Management Targets are only applied to those bridges carrying routes on the National Highway System (NHS) including bridge on- and off-ramps connected to the NHS. The FHWA requires counting the NHS condition by the respective deck area of each bridge and express condition totals as a percentage of the total deck area of bridges in a state. The area is computed using the NBI Structure Length and Deck Width or Approach Roadway Width (for some culverts). Tables 3 and 4 represent the data submitted to the FHWA on March 13, 2020.

Mid-Performance Period NHS Bridge Condition by Count – Statewide								
Owner	Good		Fair		Poor		Total	
Trunkline	752	27%	1828	67%	158	6	2738	92%
Authority	3	38%	5	63%	0	0%	8	<1%
Local	83	38%	100	45%	39	17%	221	7%
Total	838	28%	1933	65%	196	7%	2967	

Table 3: Mid-Performance Period NHS Bridge Condition by Number of Bridges – March 2020

Mid-Performance Period NHS Bridge Condition by Deck Area - Statewide								
Owner	Good		Fair		Poor		Total (sft)	
Trunkline	8,719,688	27%	22,092,484	67%	1,980,786	6%	32,792,958	88%
Authority	291,482	15%	1,707,000	85%	0	0%	1,998,482	5%
Local	756,411	32%	1,282,990	54%	322,158	14%	2,361,559	6%
Total	9,767,581	26%	25,082,474	68%	2,302,994	6%	37,152,999	

Table 4 Mid-Performance Period NHS Bridge Condition by Deck Area – March 2020

The majority of structures by both count and deck area are owned by MDOT Trunkline. The three bridge authorities – the International Bridge, the Mackinac Bridge, and Blue Water Bridge own only 8 structures, but those 8 structures comprise 5% of the NHS deck area statewide. Local agencies are responsible for 7% of the NHS population by count and 6% by deck area. While these numbers are small in comparison to the proportion within the trunkline program, the expected deterioration and improvement of Bridge Authority and Local Agency bridges must be considered when setting Performance Management Targets.

MID-PERIOD PROGRESS TOWARD TARGETS

MID-Period Progress Toward Targets

COMPARING MEASURED AND TARGET VALUES

The Mid-performance period condition reflects NHS NBI data through March 13, 2020. The actual conditions report in March of 2020 were **26.3%** in Good condition, **67.5%** in Fair condition and **6.2%** in Poor condition, by deck area. This is within 1% of the predicted Target Values, and the poor condition performance exceeded the target condition.

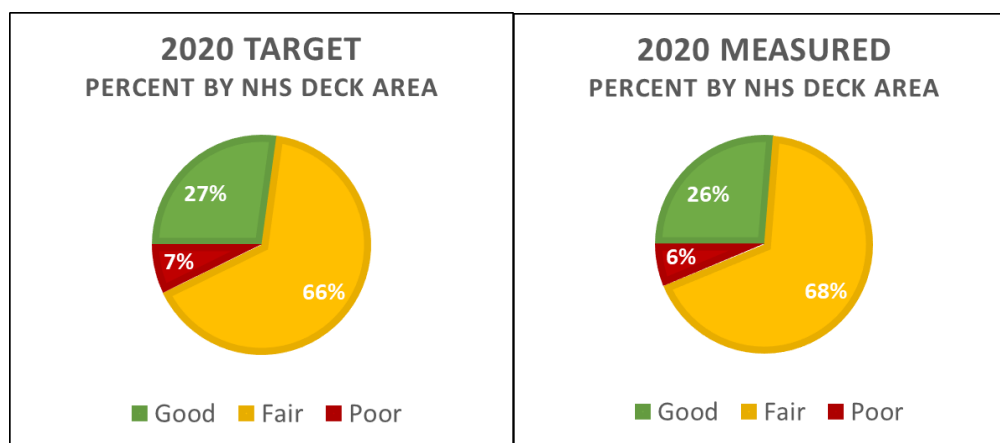


Figure 4: 2020 Target vs 2020 Measured

EVALUATING GOOD CONDITION

The target for Good condition was set as a combination of estimating the deck area that was expected to deteriorate and the deck area that was expected to be improved. This is demonstrated in Figure 5, which shows that 8.8% of the NHS deck area was predicted to leave Good condition and 2.3% was expected to enter Good condition during the time period. As shown, the Good condition deck area was predicted to decline and the mid-performance period target was set at 27.0%. However, the measured decline was slightly larger than predicted with a resulting Good condition by deck area of 26.3%. This 0.7% difference is 260,000 sft of deck area. The prediction for the 27.0% deck area in Good condition correlated to 23.4% of NHS bridges in Good condition by count. In 2020, the actual number of NHS in Good condition was significantly higher – 28.2%. This means that the reduction in Good deck area as compared to the target is less about the number of bridges that were maintained in Good condition, and more dependent on how large the bridges are that deteriorated. When analyzed by count instead of deck area, both the Good and Poor target were exceeded.

MID-PERIOD PROGRESS TOWARD TARGETS

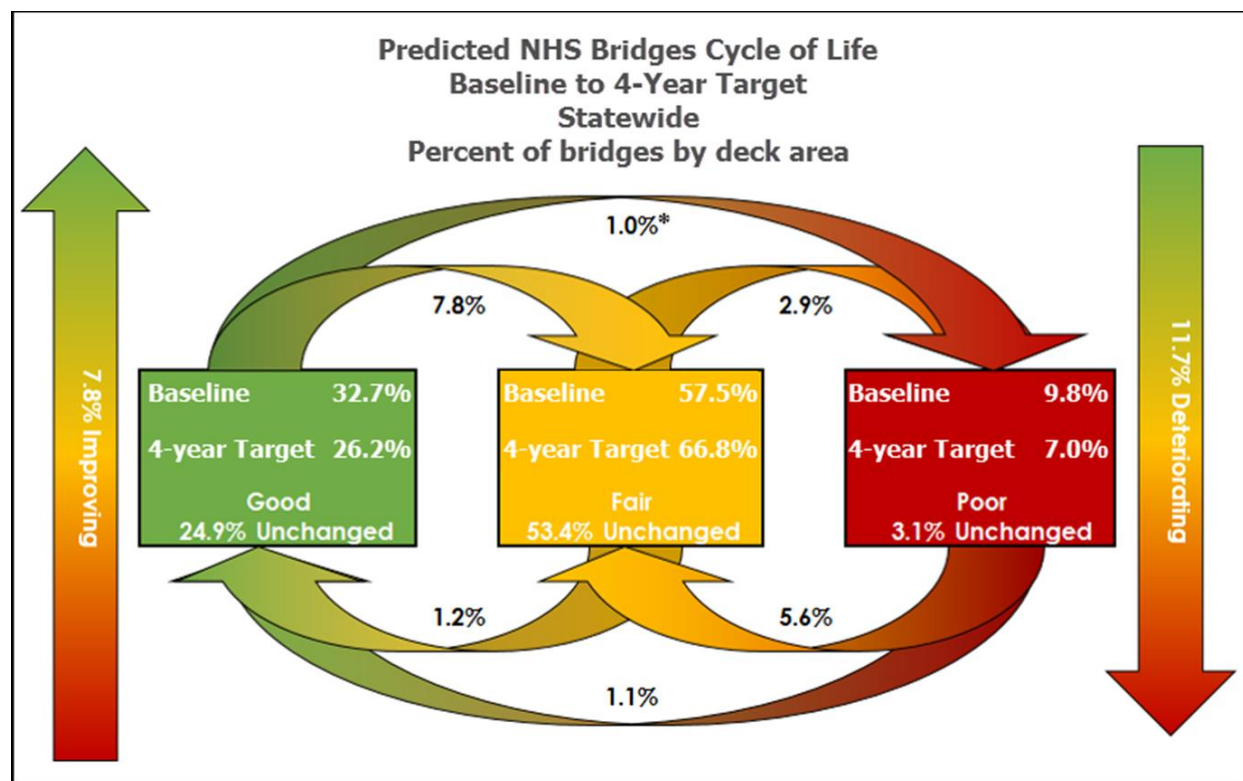


Figure 5: Baseline to 4-Year Target Predicted Cycle of Life

GOOD BRIDGE DETERIORATION

Four “big bridges” deteriorated from good condition to fair condition during this performance period. As discussed when setting the targets, when measuring by deck area the impact of only a few signature structures can significantly impact the uncertainty within projections. The four bridges that fell to fair condition sum to 1.43M sft of deck area, or just under 4% of the Statewide NHS deck area. Additionally, these structures had extenuating circumstances which make it challenging to perform condition projections as refined of a level as two-years. The two Zilwaukee bridges are segmental concrete box girders. Michigan has few of these structure types and so there is significant uncertainty in the prediction of deterioration rates. The other two structures were found to have Alkali Silica Reactivity (ASR) damage in the substructure, which leads to accelerated deterioration.

MID-PERIOD INVESTMENT STRATEGY

MID-Period Investment Strategy

TAMP INVESTMENT CONSISTENCY ANALYSIS

As part of the requirements of the Transportation Asset Management Plan, MDOT performs an investment consistency analysis each year. This analysis demonstrates implementation of MDOT's TAMP. MDOT project selection is guided by investment strategies from the TAMP to make progress toward achievement of its targets for asset condition and performance of the NHS. The agency's Investment Consistency Analysis shows an alignment between MDOT's actual investment levels based on budgeted project obligations from FY 2018 to 2019 for specified work types, and MDOT's planned levels of investment included in the TAMP for these same work types.

Bridge Investment - 2018 and 2019		
Trunkline (NHS and Non-NHS)	TAMP Allocations	Obligated Funds
Reconstruction	\$154 M	\$208 M
Rehabilitation	\$81 M	\$55 M
Preservation	\$68 M	\$66 M
Authorities and Local Agencies (NHS only)	\$41 M	\$39 M

Table 5: TAMP Investment Consistency Analysis

Implementation of bridge projects in FY 2018 exceeded the reconstruction investment estimate in the initial TAMP. This was primarily a result of two bridge replacements that accounted for \$62 million. One of the bridges was rated in serious condition and the other bridge was scour critical. Considering these factors, the agency is satisfied that the constrained bridge strategy included in the initial and final TAMP for years 2018 and 2019 have been implemented within reasonable expectations due to changing conditions and circumstances and while maintaining a risk based asset management strategy.

TARGET ADJUSTMENT

Target Adjustment

DEVELOPING TARGETS

Starting from the condition reported with the NBI submittal on March 14th of 2018, the expected improved condition from projects and reduced condition from deterioration was summarized into expected condition in 2020 and in 2022. The deck areas in good, fair and poor conditions at each year were summarized. To account for uncertainty, the amount of deck area in good condition was conservatively reduced by 1%, and the amount of deck area in poor condition was increased by 1%. A 1% reduction for uncertainties reflects about 30 average size structures that either deteriorated faster than predicted or that did not see as much of an improvement as predicted.

Unfortunately, four of the bridges that deteriorated faster than predicted dwarfed the 1% reduction planned for uncertainties. If the four large deck area structures had remained in Good condition, then the NHS Good Condition Target would have been exceeded at a value of 30.1%. To account for this unforeseen circumstance and to bring the 2022 targets in alignment with current conditions, the target setting analysis was repeated by combining the current condition (therefore accounting for the bridges that deteriorated faster than predicted), the predicted deterioration rates of the remaining bridges as well as the expected condition following programmed projects.

ADJUSTING TARGETS

The 2018 and 2020 measured values and the updated 2022 Targets are shown in Figure 6. Overall, the number of Good bridges is expected to decline significantly as preservation efforts tend to extend life in Fair condition. Additionally, there is a large population of bridges that have exceeded the expected time in Good condition. By applying the statewide median time, they are predicted to fall to Fair condition at any time, and so they are reflected as in Fair condition in the targets. It could be that unique factors or preservation activities have extended the time in Good condition for these structures.

TARGET ADJUSTMENT

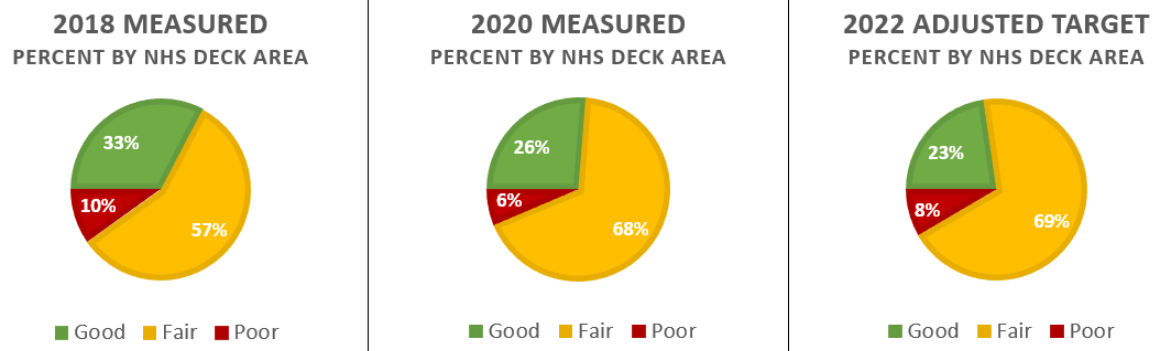


Figure 6: Proposed Targets – 2020 analysis

The amount of bridges in Good condition is predicted to decrease and the amount of deck area in Poor condition is predicted to increase. This is consistent with previous targets, except it accounts for the deterioration of the big bridges discussed previously which account for nearly 4% of the NHS deck area statewide. The amount of Fair deck area will require a sustained commitment to preservation in order to prevent an unsustainable amount of fair bridges from falling into poor condition.

MPO COORDINATION

MPO Coordination

The MPO's established targets supporting the State DOT's statewide bridge performance targets. As part of the Full Performance Period Progress Report, MPOs will report their established targets, performance, progress, and achievement of the targets to their respective state DOT in a manner that is agreed upon by both parties and documented in the Metropolitan Planning Agreement. The MPOs are not required to provide separate reporting to the FHWA. However, State DOTs and MPOs will need to coordinate and mutually agree to a target establishment reporting process. The minimum penalty threshold requires that no more than 10% of NHS bridges measured by deck area be classified as structurally deficient.

MDOT provided estimated condition for each MPO's population of bridges, however it was not recommended that they were adopted as specific targets. As discussed earlier, predicting deterioration applies statewide average deterioration rates to all bridges. Some bridges will deteriorate faster while some will deteriorate slower. At the network level, these differences tend to balance. When looking at smaller populations, the difference between specific bridge deterioration and statewide averages can lead to large differences between predictions and measured values. When the performance values are measured in terms of deck area rather than count, large bridges can exacerbate this discrepancy.

MDOT also created a Transportation Performance Measures Dashboard for MPOs and bridge owners to aid in reviewing targets. The 2018 baseline data can be found at <https://mdot.maps.arcgis.com/apps/webappviewer/index.html?id=26ddc82bc9634e05a055cd4a6747818f>. The 2020 data can be found at <https://mdot.maps.arcgis.com/apps/webappviewer/index.html?id=91289b5580114648a4ae0b4d002c565b>. These pages represent a snapshot of data at the time of the NHS bridges in the NBI submittal to FHWA, and is what will be used by FHWA to evaluate the targets. For more current information, all NBI bridge data is updated monthly at <https://Michigan.gov/bridgeconditions>.

MPO COORDINATION

2020 Measured Condition on the NHS by Deck Area								
MPO	Good		Fair		Poor		Total	
	Deck Area	Percentage	Deck Area	Percentage	Deck Area	Percentage	Deck Area	Percentage
Battle Creek Area Transportation Study	3,429	1%	420,446	92%	31,722	7%	455,597	100%
Bay City Area Transportation Study	112,658	18%	426,620	70%	74,079	12%	613,357	100%
Genesee County Metropolitan Planning Commission	133,738	7%	1,508,951	79%	257,875	14%	1,900,564	100%
Grand Valley Metropolitan Council	1,488,565	38%	2,257,585	58%	176,016	4%	3,922,166	100%
Jackson Area Comprehensive Transportation Study	90,300	21%	268,966	64%	60,932	15%	420,198	100%
Kalamazoo Area Transportation Study	234,944	44%	238,508	45%	57,426	11%	530,878	100%
Macatawa Area Coordinating Council	72,176	24%	230,927	76%	0	0%	303,103	100%
Midland Area Transportation Study	41,128	21%	154,375	79%	0	0%	195,503	100%
Saginaw Metropolitan Area Transportation Study	544,567	24%	1,722,253	75%	41,708	2%	2,308,528	100%
Southeast Michigan Council of Governments	5,712,390	35%	9,619,314	58%	1,115,618	7%	16,447,322	100%
Southwest Michigan Planning Commission	28,277	3%	1,000,380	96%	17,444	2%	1,046,101	100%
Niles-Buchanan-Cass Area Transportation Study	4,965	2%	254,801	98%	0	0%	259,766	100%
Twin Cities Area Transportation Study	23,312	3%	745,579	95%	17,444	2%	786,335	100%
Tri-County Regional Planning Commission	93,825	4%	1,922,819	84%	268,451	12%	2,285,095	100%
West Michigan Metropolitan Transportation Planning Program	179,670	27%	473,386	71%	16,298	2%	669,354	100%
Outside MPO Boundaries	1,031,914	17%	4,837,944	80%	185,375	3%	6,055,233	100%
All NHS	9,767,581	26%	25,082,474	68%	2,302,944	6%	37,152,999	100%

Region 2 Planning Commission



Serving Hillsdale, Jackson, and Lenawee Counties

JACKSON AREA COMPREHENSIVE TRANSPORTATION STUDY (JACTS)

Federal Funds Obligated in Fiscal Year 2020

As the state-designated Metropolitan Planning Organization for the Jackson urbanized area, the Region 2 Planning Commission, is responsible for developing and managing a 20-year Long Range Transportation Plan and a short-term, 4-year Transportation Improvement Program (TIP). The current edition of the TIP includes a listing of the approved road, highway, bridge, transit, and non-motorized projects programmed to receive federal and/or state funds in Jackson County during the 2020-2023 Fiscal Years.

The Federal legislation that was adopted in December 2015, continues through fiscal year 2020, Fixing American's Surface Transportation Act (FAST Act), continues the requirement of past legislation that *"an Annual Listing of projects, for which federal funds have been obligated in the preceding year shall be published or otherwise made available by the metropolitan planning organization for public review. The listing shall be consistent with the categories identified in the Transportation Improvement Program."*

In response to the above directive, the R2PC is providing a listing of all the projects in Jackson County "obligated" during FY 2020 (October 1, 2019 - September 30, 2020). The Federal Highway Administration (FHWA) defines obligated as the federal government's legal commitment to reimburse the implementing agency for the federal share of a project's eligible costs. Although not all obligated projects were initiated or completed during this fiscal year, they have been approved by the FHWA for reimbursement in FY 2020. Some projects actually constructed in FY 2020 were obligated in previous fiscal years and will not appear on this listing.

The complete list of the FY 2020 projects obligated in the JACTS area appears on the next two pages. Questions or comments may be directed to:

Mr. Steven Duke, Executive Director
Region 2 Planning Commission
120 W. Michigan Avenue
Jackson, MI 49201
Phone: (517) 768-6706
Fax: (517) 788-4635
Email: sduke@mijackson.org

120 W. Michigan Avenue, Jackson, Michigan 49201

Implementing Agency	Phase of Project	Project Name	Improvements	Programmed Total Phase Cost	Federal Fund Source	Federal Funds Programmed	Federal Funds Obligated	Actual Total Phase Cost
Local								
Village of Brooklyn	CON	Marshall St	Asphalt Reconstruction	\$645,000	STL	\$516,000	\$0	\$606,921
Village of Grass Lake	CON	S Union St	Crush & Shape & Asphalt Resurfacing	\$192,000	STL	\$160,000	\$159,829	\$191,795
Village of Grass Lake	CON	S Union St	Crush & Shape & Asphalt Resurfacing	\$110,859	EDD	\$0	\$0	\$110,740
Village of Parma	CON	S Union St	Milling and One Course Asphalt Overlay	\$250,000	STL	\$200,000	\$0	\$250,173
City of Jackson	CON	Martin Luther King Jr Boulevard	Reconstruction	\$2,144,700	STUL	\$587,000	\$0	\$2,170,602
Jackson County	CON	Springport Rd	Cold mill and resurface	\$400,000	STUL	\$320,000	\$0	\$343,544
Jackson County	CON	Countywide	Edgeline pavement markings	\$238,056	HSIP	\$214,250	\$0	\$234,539
Jackson County	CON	King Rd	Two Course Asphalt Resurfacing	\$1,350,000	STUL	\$504,000	\$0	\$1,242,513
Jackson County	CON	Countywide	Upgrade Stop and Stop Ahead signs	\$21,335	HSIP	\$19,201	\$0	\$23,068
Jackson County	CON	Jefferson Road	Tree removal, pavement markings, intersection sign upgrades	\$65,000	HRRR	\$58,500	\$0	\$69,111
Jackson County	CON	W Michigan Avenue	Tree removal and intersection sign upgrades	\$144,960	HRRR	\$130,464	\$0	\$121,494
Jackson County	CON	S Jackson Road	Intersection realignment, construct turn lanes	\$188,849	HRRR	\$169,964	\$0	\$184,562
Jackson County	EPE	Airport Road	Road Safety Audit	\$20,000	HSIP	\$16,000	\$0	\$20,000
Jackson County	EPE	Hinckley Boulevard	Road Safety Audit	\$20,000	HSIP	\$16,000	\$0	\$20,000
Transit								
Jackson Area Transportation Authority	NI	Transit Capital	FY20 RTF - Two full size transit vans	\$125,000	STL	\$100,000	\$100,000	\$125,000
Jackson Area Transportation Authority	NI	Transit Operating	FY 2020 Section 5307 Operating	\$2,633,942	5307	\$1,316,971	\$0	\$0
Jackson Area Transportation Authority	NI	Transit Operating	FY 2020 Section 5311 Operating	\$73,142	5311	\$36,571	\$36,571	\$36,571
Jackson Area Transportation Authority	NI	Transit Capital	FY2020 5307 CTF Urbanized Formula - CARES Act Funding	\$179,540	5307	\$179,540	\$179,540	\$0
Jackson Area Transportation Authority	NI	Transit Capital	FY2020 Section 5307 Mobility Management - CARES Act Funding	\$1,005,142	5307	\$1,005,142	\$1,005,142	\$0
Jackson Area Transportation Authority	NI	Transit Capital	FY2020 Section 5307 Capital (Security Cameras)	\$16,463	5307	\$13,170	\$13,170	\$16,463
Jackson Area Transportation Authority	NI	Transit Capital	FY2020 Section 5339 - Bus facilities maintenance equipment	\$167,586	5339	\$134,069	\$134,069	\$167,586
State								
MDOT	CON	M-60 E	Bridge Replacement	\$10,062,000	IM	\$9,055,800	\$9,011,800	\$10,013,112
MDOT	CON	I-94	Reconstruct interchange	\$22,465,625	IM	\$20,219,063	\$19,568,310	\$22,302,399
MDOT	CON	M-50	HMA cold milling and single course HMA overlay	\$950,400	ST	\$777,902	\$896,570	\$1,095,382
MDOT	CON	I-94 E	bridge replacement and freeway reconstruct	\$16,211,009	NH	\$13,268,710	\$11,734,640	\$14,336,762
MDOT	CON	I-94BL	HMA Crack Treatment and Overband Crack Fill using FPVS contracting	\$282,000	ST	\$230,817	\$242,776	\$296,611
MDOT	CON	I-94 W	Install ITS devices along I-94 through out Jackson County.	\$2,051,471	NH	\$1,679,129	\$1,865,691	\$1,865,691
MDOT	CON	US-127	Installation of Virtual Weigh Station (VWS) Cameras at two locations	\$52,000	NH	\$42,562	\$95,703	\$116,925
MDOT	CON	US-127	Installation of Virtual Weigh Station (VWS) Cameras at two locations	\$52,000	NH	\$42,562	\$95,703	\$116,925
MDOT	CON	US-127	Installation of Virtual Weigh Station (VWS) Cameras at two locations	\$0	NH	\$0	\$95,703	\$116,925
MDOT	PE	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$255	HSIP	\$230	\$2,250	\$2,500
MDOT	PE	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$360	HSIP	\$324	\$2,250	\$2,500
MDOT	PE	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$938	HSIP	\$844	\$2,250	\$2,500
MDOT	PE	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$947	HSIP	\$852	\$2,250	\$2,500
MDOT	CON	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$278,970	HSIP	\$251,073	\$2,566,870	\$2,852,078
MDOT	CON	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$393,840	HSIP	\$354,456	\$2,566,870	\$2,852,078
MDOT	CON	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$1,025,625	HSIP	\$923,063	\$2,566,870	\$2,852,078
MDOT	CON	University Regionwide Longline Pavement Markings	Longitudinal marking application on trunklines in University Region	\$1,036,565	HSIP	\$932,909	\$2,566,870	\$2,852,078
MDOT	PE	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$510	HSIP	\$459	\$4,500	\$5,000
MDOT	PE	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$720	HSIP	\$648	\$4,500	\$5,000
MDOT	PE	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$1,875	HSIP	\$1,688	\$4,500	\$5,000
MDOT	PE	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$1,895	HSIP	\$1,706	\$4,500	\$5,000
MDOT	CON	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$52,020	HSIP	\$46,818	\$510,458	\$567,176
MDOT	CON	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$73,440	HSIP	\$66,096	\$510,458	\$567,176
MDOT	CON	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$191,250	HSIP	\$172,125	\$510,458	\$567,176
MDOT	CON	University Regionwide Special Pavement Markings	Special marking application on trunklines in University Region	\$193,290	HSIP	\$173,961	\$510,458	\$567,176
MDOT	CON	University Region Pvmt Mrkg Retro Readings	Pavement marking retro readings on trunklines in University Region	\$1,530	HSIP	\$1,377	\$11,678	\$12,975
MDOT	CON	University Region Pvmt Mrkg Retro Readings	Pavement marking retro readings on trunklines in University Region	\$2,160	HSIP	\$1,944	\$11,678	\$12,975
MDOT	CON	University Region Pvmt Mrkg Retro Readings	Pavement marking retro readings on trunklines in University Region	\$5,625	HSIP	\$5,063	\$11,678	\$12,975

Implementing Agency	Phase of Project	Project Name	Improvements	Programmed Total Phase Cost	Federal Fund Source	Federal Funds Programmed	Federal Funds Obligated	Actual Total Phase Cost
MDOT	CON	University Region Pvmt Mrkg Retro Readings	Pavement marking retro readings on trunklines in University Region	\$5,685	HSIP	\$5,117	\$11,678	\$12,975
MDOT	ROW	I-94	Freeway Interchange Reconstruction	\$1,000,000	RBMP	\$0	\$0	\$1,000,000
MDOT	CON	I-94	Freeway Interchange Reconstruction	\$78,000,000	RBMP	\$0	\$0	\$79,721,205
MDOT	PE	M-106	Non-Freeway Sign Upgrade	\$90,000	STG	\$90,000	\$90,000	\$90,000
MDOT	PE	US-127 S	Freeway Singning Update	\$210,000	NHG	\$210,000	\$210,000	\$210,000
MDOT	PE	US-127 S	Freeway Signing Upgrade	\$240,000	NHG	\$240,000	\$240,000	\$240,000
MDOT	PE	TSC Wide	Modernizing signalized intersection to current standards	\$419,886	STG	\$419,886	\$419,886	\$419,886
MDOT	NI	Norfolk Southern Railway	Rail Train	\$2,678,397	5337	\$2,678,397	\$0	\$0
MDOT	NI	Norfolk Southern Railway	Curve Patch Rail Replacement	\$3,400,010	5337	\$3,400,010	\$0	\$0

Phases: CON - Construction, NI – Non-Infrastructure, PE – Preliminary Engineering, EPE - Early Preliminary Engineering, ROW - Right of Way

Federal Fund Source Code: STL - Surface Transportation Rural, STUL - Surface Transportation Urban Areas < 200K Local, MCS - Michigan Critical Structures, BO - Bridge Not Classified Off System, ST- Surface Transportation, IM - Interstate Maintenance No Added Lanes, TA - Transportation Alternatives, NH - National Highway, HIPS - Highway Infrastructure Program Small Urban Areas, HSIP - Highway Safety Improvement Program, STG - Surface Transportation 100% Federally Funded, RBMP - ReBuilding Michigan Program 100% State Funded, EDD - Transportation Economic Development Fund-Category D, HRRR - High Risk Rural Roads



Incorporating On-Road Bicycle Networks into Resurfacing Projects



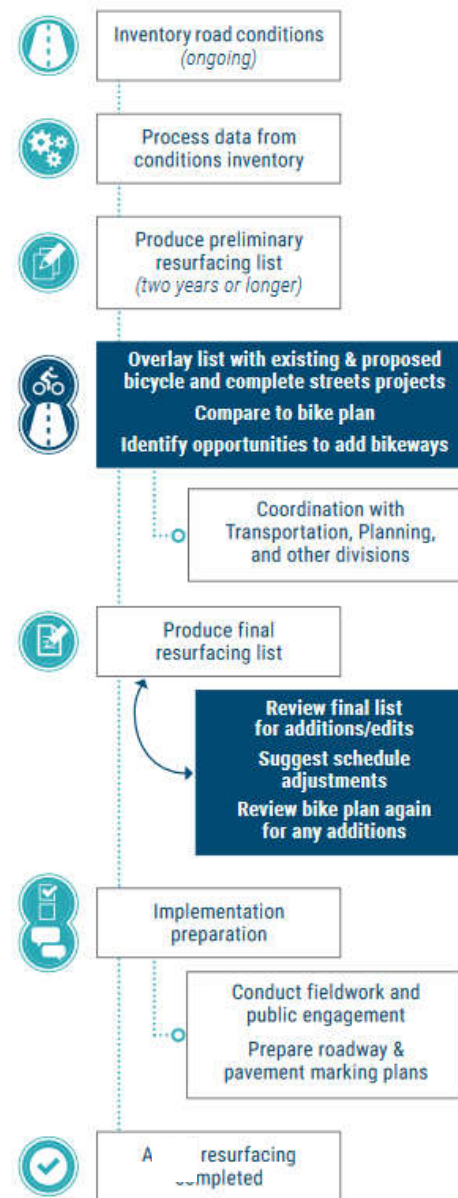
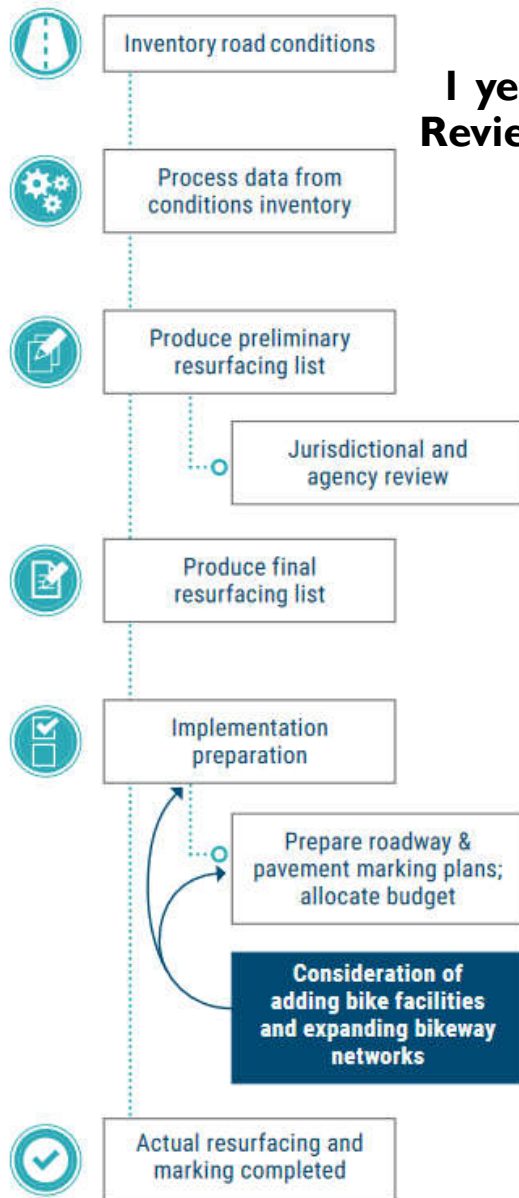
U.S. Department of Transportation
Federal Highway Administration

MARCH 2016

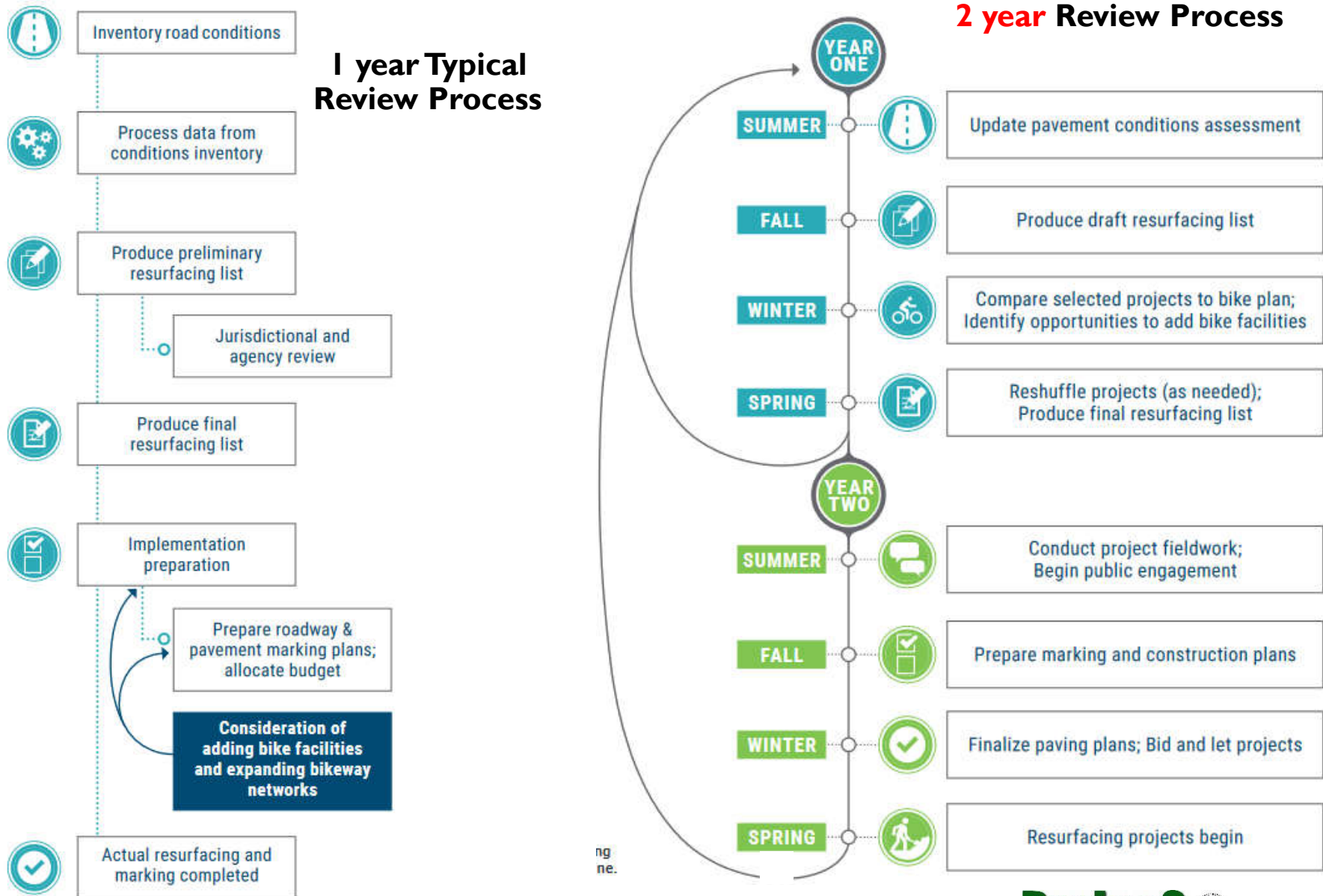
Guide Summary (Table of Contents)

- Chapter 1: Introduction
- Chapter 2: Resurfacing Process & Timelines
- Chapter 3: Methods for Including Bikeways
- Chapter 4: Cost & Materials Considerations
- Chapter 5: Conclusion

Sample Resurfacing Process & Timeline



Resurfacing Process & Timeline



Methods for Including Bikeways

Design Flexibility: Lane narrowing / Road Reconfiguration / Parking Choices

METHOD FOR INCLUDING BIKEWAYS: Shoulder Paving

Paving existing gravel shoulders can greatly improve bicycling conditions on rural roadways with higher speeds or traffic volumes, as well as benefit motorists. Paved shoulders also extend the service life of the road and can ease maintenance operations.

Benefits

- Provides a stable surface for bicyclists when shared use paths near or within the road right-of-way cannot be provided.
- Improves comfort for bicyclists by providing space outside of the motor vehicle travel lanes.
- Improves roadway drainage.
- Extends the service life of the road by reducing edge deterioration.
- Reduces shoulder maintenance requirements.
- Provides additional operating space for agricultural equipment and maintenance vehicles.

Challenges

- Roadways in constrained locations may not have shoulders wide enough to pave.
- Bridges along the roadway may be narrow and it may be impractical to widen an existing bridge when shoulders are paved, creating a situation in which bicyclists may need to transition into the motor vehicle lanes to cross the bridge.
- Some States have policies that prohibit bicycling on roadway shoulders.
- Some jurisdictions will add rumble strips on paved shoulders to reduce run-off-road crashes for motorists. Rumble strips on narrow shoulders may force bicyclists to ride in the travel lane rather than on the shoulder.
- This method is difficult to use as part of simple resurfacing projects and typically can only be done effectively with pavement rehabilitation (i.e. pavement replacement) projects.
- Increased impervious area may require changes to drainage and stormwater management.
- Subgrade deficiencies.

Example Locations Where Applied

Wilmington, NC; Springfield, OH; Florence, OR; Wisconsin Great River Road



FIGURE 15: Sample illustration of a road with unpaved shoulders.

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Design Considerations

- The AASHTO Bike Guide recommends that on uncurbed cross sections, paved shoulders should be at least four-feet wide, and at least five feet of width should be provided if there are signs, guardrails, curbs, or other vertical barriers. Six- to eight-foot wide shoulders are recommended if motor vehicle speeds exceed 50 miles per hour or if the road is commonly used by heavy trucks, buses, or recreational vehicles.
- Where pavement is being widened to provide paved shoulders or bike lanes, ensure that the joint between the old and new asphalt does not extend across the area traveled by bicyclists.
- Ensure sufficient subgrade is available or can be provided.
- Ensure compliance with pedestrian accessibility requirements if the shoulder is intended for pedestrian use.

Additional Considerations

- The best time to add paved shoulders is during a roadway reconstruction or pavement replacement, so that the gravel shoulder can be excavated and graded with an appropriate subbase to allow a sufficient layer of asphalt.
- Where paved shoulders are present, accommodations should be made for bicyclists through intersections when shoulders are dropped to provide for right turn lanes. Such accommodation could be a bike lane only at intersections to provide for through bicycle travel, or signage that directs bicyclists and motorists to share the road.
- Flexibility in the design of rumble strips may be needed on shoulders used by bicyclists unless there is a minimum clear path of four feet from the rumble strip to the outside edge of a paved shoulder, or five feet if there are guardrails or curbs present. Periodic gaps should be provided in rumble strips to allow bicyclists to move across them to avoid debris, make left turns, or pass.

Specific Successes

"The Great River Road" is a national scenic byway that travels along the Mississippi River through ten States. The designated Great River Road Route in Wisconsin is along State Highway 35. Despite significant space constraints, over 90 percent of the paved shoulders on State Highway 35 have been expanded to at least five feet since 1995.

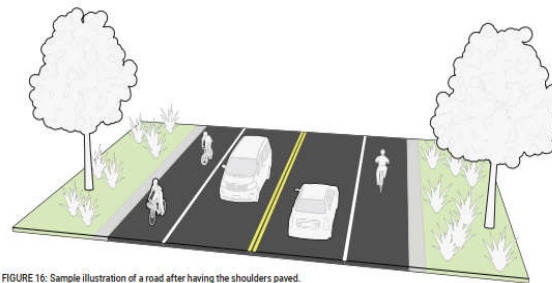


FIGURE 16: Sample illustration of a road after having the shoulders paved.

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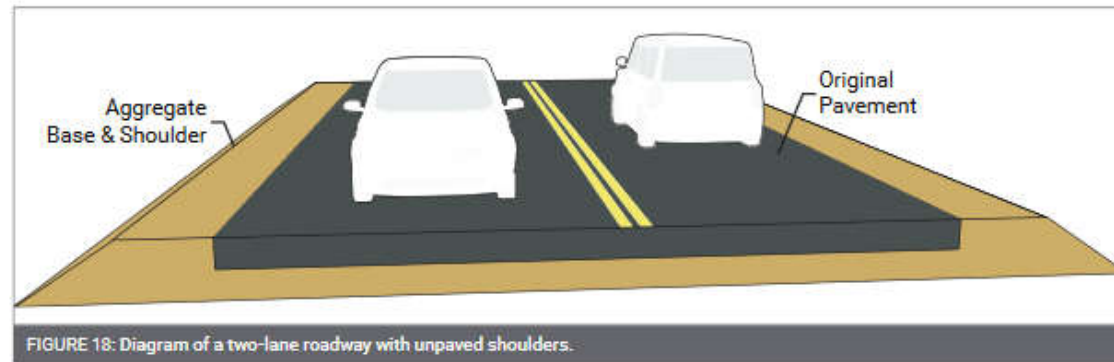
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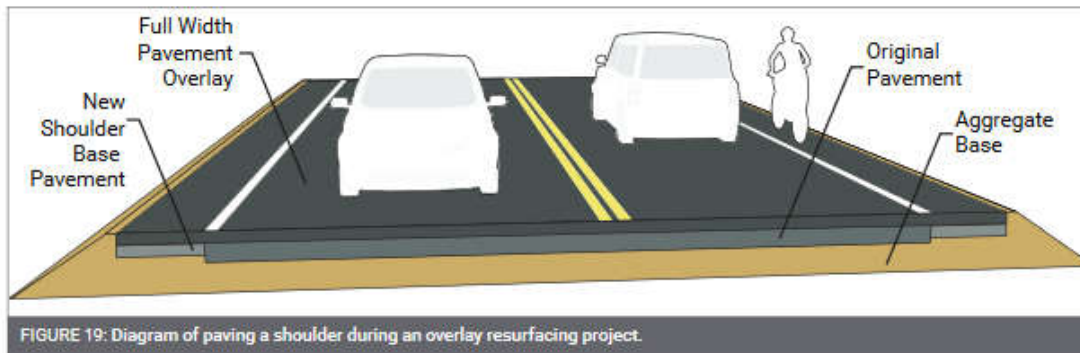
Costs & Material Considerations

- Cost Considerations
 - Road marking removal
 - Traffic Control
 - New marking cost
 - Paving shoulder
- Material Considerations
 - Durability/Remarking
 - Material comparison
 - Life Cycle Costs

Costs & Material Considerations

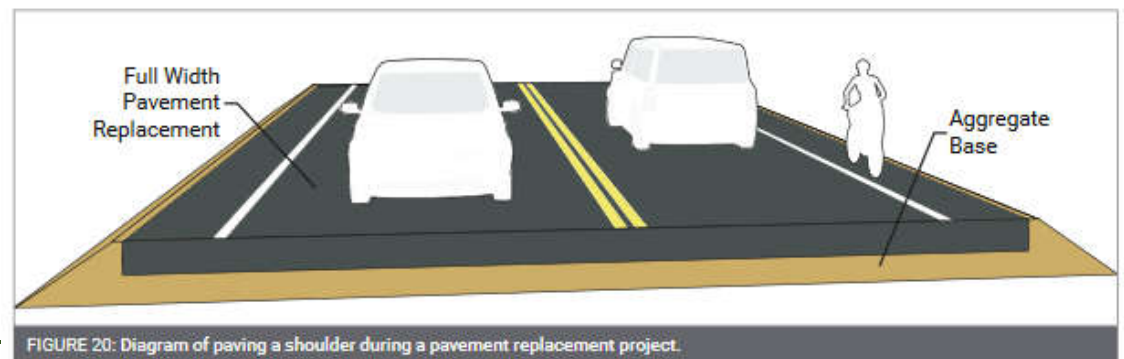


Original Road
(No Paved Shoulder)



**Paved Should during
Overlay Resurface Project**

**Paved Should during Pavement
Replacement Project**



Costs & Material Considerations

Relative comparison of marking materials based on cost, lifespan, & retroreflectivity

Material	Initial Relative Cost \$ =Low \$\$\$\$ =High	Lifespan (months)	Retroreflectivity ● =Low ●●● =High
Paint	\$	3 – 24	●
Epoxy Paint	\$ \$	24 – 48	● ●
Thermoplastic (sprayed)	\$ \$ \$	48 – 72*	● ●
Preformed Tape	\$ \$ \$ \$	36 – 96*	● ● ●

Note: Estimates based on 2014 comparative costs.^{1,2}

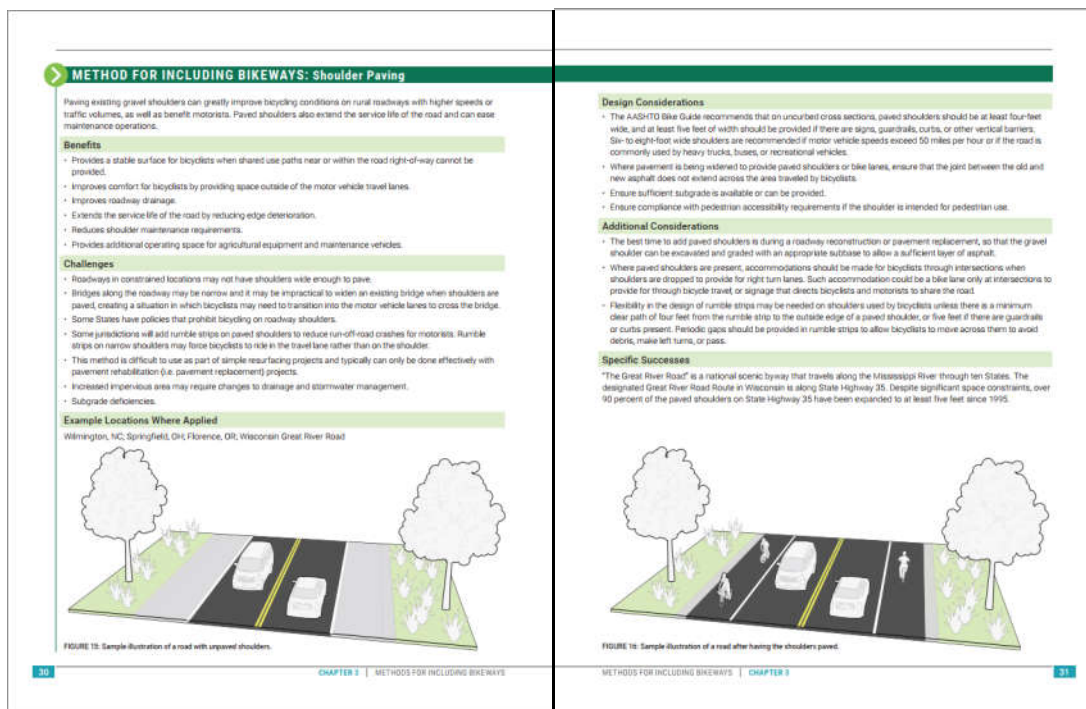
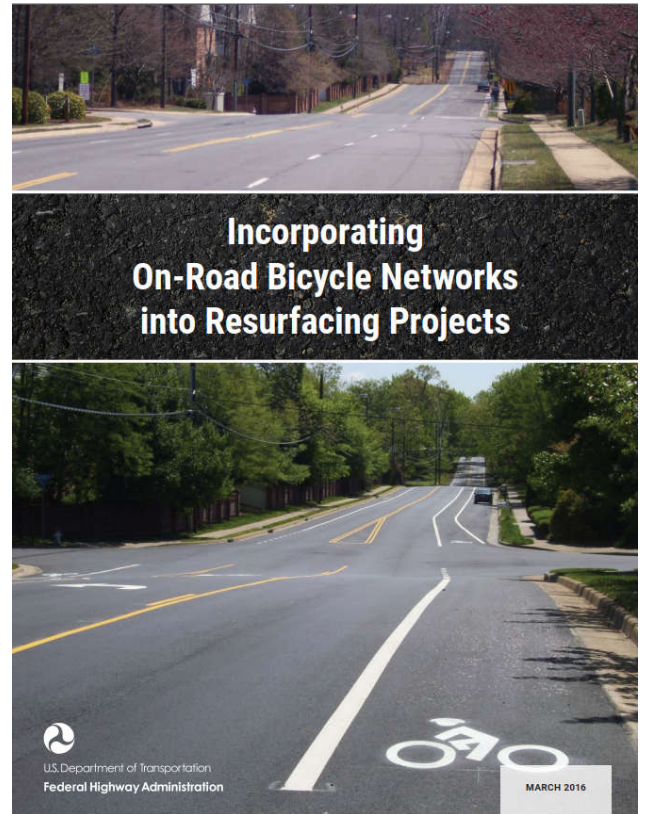
** Thermoplastic and tape have shortened lifespans in snowy areas where they are often damaged by snowplows.*

FHWA Guide: Incorporating On-Road Bicycle Networks into Resurfacing Projects

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/resurfacing/resurfacing_workbook.pdf

Guide Summary & Highlights

- Sample Resurfacing Process & Timeline
 - Improvements to the Typical 1 year Resurfacing Process
 - Recommended 1 year Resurfacing Process
 - Recommended 2 year Resurfacing Process
 - Common Pitfalls to Avoid
- Methods for Including Bikeways into Projects
 - Flexibility in Design
 - Space for Bikeways
 - Installing paved shoulders, bike lanes, etc.
 - Practices to Avoid
- Cost & Material Considerations
 - Cost Considerations
 - Material Considerations
 - Durability, Life Cycle Costs, etc
 - Marking Considerations



Before resurfacing project



After resurfacing project