

## NOTICE OF MEETING

### TECHNICAL COMMITTEE

DATE: April 5, 2023

TIME: 9:30 am

PLACE: 200 N. Main, Ann Arbor - Lower Level Conference Room

PUBLIC PARTICIPATION LINK: <https://us06web.zoom.us/j/85363141740?pwd=SHhBbUZNZ21kb2dBcTk1eVZjR2ZCZz09>

### AGENDA:

1. Call to Order/Introductions
2. Approval of the Agenda
3. Approval of Minutes – February 1, 2023, Meeting Minutes (attached) – Action
4. Public Participation
5. Communications and Announcements
6. Old Business
7. New Business
  - A. 2023-2026 Transportation Improvement Program (TIP) Amendments - Action
  - B. 2023-2026 TIP Administrative Modifications - Information
  - C. 2050 Long Range Transportation Plan - Information
  - D. Pavement and Bridge Condition, and System Performance/Freight/CMAQ Targets - Action
  - E. WATS Surface Transportation Block Grant - Urban Funding: TheRide Bus Stop Improvement Program - Presentation

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#### POLICY COMMITTEE MEMBERS

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8. Agency Reports

Ann Arbor DDA  
City of Ypsilanti  
Ypsilanti Township  
City of Ann Arbor  
City of Saline  
Dexter Township  
WCRC  
Non-motorized

Pittsfield Township  
The Ride  
MDOT Planning  
MDOT Region/TSC  
City of Dexter  
U of M  
Environmental  
People with Disabilities

City of Milan  
Washtenaw County  
City of Chelsea  
SEMCOG  
EMU  
FHWA  
Equity  
Senior

9. Adjournment

The Washtenaw Area Transportation Study (WATS) financed the preparation of this document through grants from the U.S. Department of Transportation in cooperation with the Michigan Department of Transportation and contributions from local government, public transit, and educational unit members of the Washtenaw Area Transportation Study. The views and opinions expressed herein do not necessarily state or reflect those of the U. S. Department of Transportation.



**WASHTENAW**  
AREA  
**TRANSPORTATION**  
STUDY

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Ann Arbor, MI 48103  
phone: 734.994.3127  
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## MEETING MINUTES

### TECHNICAL COMMITTEE

DATE: February 1, 2023

TIME: 9:30 am

PLACE: 200 N. Main, Ann Arbor - Lower Level Conference Room

Members Present: Washtenaw County – Nathan Voght, Chair  
City of Ypsilanti - Bonnie Wessler  
City of Ann Arbor - Trevor Brydon  
Disability Representative - John Waterman  
Pittsfield Township - Matt Best  
Eastern Michigan University – Dieter Otto  
MDOT University Region - Mike Davis  
Environmental Representative - Evan Pratt  
City of Saline – Tesha Humphriss  
TheRide – Dina Reed  
Washtenaw County Road Commission - Matt MacDonell  
Ypsilanti Township - Brenda Stumbo (for Jason Iacoangeli)  
Non-motorized Representative - Sarah Walsh

Members Absent: Ann Arbor DDA – Amber Miller  
City of Dexter – Dan Schlaff  
Dexter Township - Vacant  
Equity Representative - Weneschia Brand  
City of Chelsea - Vacant  
Senior Representative - Vacant  
City of Milan - Vacant  
University of Michigan – Steve Dolen

Others Present: WATS – Nick Sapkiewicz, Maggie Huntley, Anton Schauete  
WCRC - Brent Schlack  
MDOT - Andrea Strach

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1. Call to Order/Introductions

Chair Voght called the meeting to order at 9:31 AM and led the group in introductions.

2. Approval of the Agenda

**Ms. Wessler made a motion to approve the meeting agenda, Mr. Pratt supported the motion, motion approved.**

3. Approval of Minutes

**Ms. Wessler made a motion to approve the September 7, 2022 meeting minutes, Ms. Walsh supported the motion, motion approved.**

4. Public Participation

Nobody from the public wished to address the Committee.

5. Communications and Announcements

Mr. Sapkiewicz provided the following updates:

- FY 2024 Federal Aid Buyout Program projects were due in January, and WATS is working with SEMCOG and MDOT to display projects included in the program with other TIP projects
- WATS is the host agency for the 2023 Michigan Transportation Planning Association (MTPA) annual conference, July 25-28
- Carbon Reduction Program project applications are due to SEMCOG February 7
- System Reliability performance measures will be before the Committee in April
- 2050 Long Range Transportation Plan development will be kicking off soon and involve coordination with SEMCOG's development of its 2050 Regional Transportation Plan

6. Old Business

No old business.

7. New Business

**A. Regional Safety Transportation Performance Measure**

Mr. Schauerte explained that as discussed at the most recent Technical and Policy Committee meetings (November 2022), every year, the United States Department of Transportation (DOT) requires State DOTs and Metropolitan Planning Organizations (MPOs) to establish safety targets for the upcoming calendar year (CY). These safety targets pertain to fatalities and serious injuries resulting from motor vehicle crashes.

A new locally-developed safety target methodology strives to achieve zero deaths and serious injuries on roadways within the SEMCOG planning area (including Washtenaw County) by 2050. The methodology utilizes a non-linear approach, meaning that initial targets are more conservative and gradually increase closer to 2050.

**Mr. Waterman made a motion to recommend the Policy Committee accept the Regional Safety Transportation Performance Measures. Mr. Otto supported the motion, motion approved.**

**B. 2045 Long Range Transportation Plan Reaffirmation**

Mr. Sapkiewicz reported that while the 2050 Long Range Transportation Plan and 2050 Regional Transportation Plan are being developed by WATS and SEMCOG, respectively, the 2045 Plans must be reaffirmed to remain in good standing per FHWA guidance. The additional development time provided by a reaffirmation of the 2045 Plan will allow for remaining post 2020 Census updates to be made to the Adjusted Census Urban Boundary, National Functional Classification of roads, and other resources.

**Mr. Best made a motion to recommend the Policy Committee reaffirm the WATS 2045 Long Range Transportation Plan. Mr. Otto supported the motion, motion approved.**

**C. 2021 Crash Report for Washtenaw County**

Ms. Huntley explained that the Crash Report provides information on 5-year crash trends for fatal and serious injury crashes, and evaluates lane departure crashes, intersections crashes, speeding related crashes, and crashes with young and older drivers.

Ms. Huntley also reported on several key observations within the crash data, including crash totals and non-motorized crash totals.

The Crash Report is provided as information.

8. Agency Updates

A. City of Ypsilanti

Ms. Wessler reported:

- Huron River Drive has been submitted to MDOT and is slated for a March letting

B. Ypsilanti Township

Ms. Stumbo reported:

- That as part of the Huron Bridge improvements, streetlights will be added, but only up to the bridge

C. City of Ann Arbor

Mr. Brydon reported:

- The City and MDOT are kicking off trunkline transfer project, with Sam Swartz reviewing State assets
- Working on contract with Spin for dockless bikes and scooters (including ADA options) to roll out in the spring

D. City of Saline

Mr. Humphriss reported:

- Clark St. reconstruction is slated for an April letting

E. Washtenaw County Road Commission

Mr. MacDonnell reported:

- WCRC will have several projects in the March bid letting
- Federal aid buyout program projects are being bundled and bid with local projects and are available to review on the WCRC website

F. Non-motorized

Ms. Walsh reported:

- Non-motorized access should be kept accessible at construction sites

G. Pittsfield Township

Mr. Best reported:

- Non-motorized crossing work will begin in March, mast-arms are ordered
- Residents have concerns over upcoming construction at US-12 and US-23

H. MDOT PLanning

Mr. Davis reported:

- The PEL Barton at M-14 PEL study will be wrapping up in February/March with one more public engagement opportunity to come
- The first public engagement opportunity for the M-17 PEL will be held March 2
- Upcoming work on US-23 and M-17 will be separate efforts
- Ms. Strach will be representing MDOT Planning at WATS Technical Committee

I. People with Disabilities

Mr. Waterman reported:

- Winter maintenance is vital, especially for people with disabilities and on the non-motorized network

J. Washtenaw OCED

Mr. Voght reported:

- The County is working with TheRide on transit superstop designs

K. SEMCOG

Ms. Abramovich reported:

- SEMCOG is continuing work on a regional safety plan to support the just adopted safety performance measures
- SEMCOG is kicking off 2050 RTP development

9. Adjournment

**Ms. Walsh made a motion to adjourn the meeting. Mr. Waterman supported the motion, motion approved.**

# MEMORANDUM

To: Technical Committee  
From: Nick Sapkiewicz  
Date: March 22, 2023  
Re: 2nd Call for FY 2023 TIP Amendments for 2023-20236 TIP

## **Background**

WATS initiated the 2nd call for FY 2023 TIP amendments on December 14, 2022 with project changes due to WATS January 13, 2023. Amendments in the 2nd call were received from Ann Arbor, MDOT and WCRC. Many of the 2nd call project changes are the result increases to the FY 2023 federal funding targets.

Significant changes in this TIP amendment include:

- **Cost Increases**
  - FY 2023
    - JN 205648 - WCRC - E. Huron River Dr from Hospital entrance to Hogback
    - JN 215261 - WCRC - North Territorial from Mast Road to Webster Church
    - JN 210417 - Ann Arbor - S. State
    - JN 214205 - Ann Arbor - Hill from South Fifth Avenue to Forest
    - JN 214011 - WCRC - North Territorial from west of Dexter Townhall Road to Toma Road
    - JN 205508 - MDOT - US-23 at Plank, Milan Oakville & Carpenter over US-23, US-23 over Saline River
  - FY 2024
    - JN 214638 - S. Main - Ann Arbor
- **Cost Decrease**
  - FY 2025
    - JN 215058 - N. 5th at various locations - Ann Arbor

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- **Scope Change**
  - 2023
    - JN 214659 -WCRC - N. Zeeb at Miller
  - 2025
    - JN 208665 - MDOT - I-94 from Parker to Zeeb

NOTE: WATS staff have been working with MDOT and other MPOs to restore the accuracy of TIP GIS information. This has been an ongoing issue for the TIP across the state. In an effort to bring forward as much information as possible in a timely manner, WATS staff recently recreated the TIP GIS in-house as of the 1st call 2023 amendment to the 2023-2026 TIP (previous amendment). The TIP value and EJ calculations are based on data from that snapshot in time.

**Environmental Justice Review**

The Environmental Justice (EJ) review evaluates the fair distribution of environmental benefits and burdens in EJ and non-EJ areas. In addition, the EJ review evaluates each project for adverse social, economic, and environmental effects. More information on the USDOT EJ strategy is available [here](#).

*Total Investment in the TIP*

Over the course of the TIP, investment made in Washtenaw County is affected by amendments and modifications (grant awards, cost changes, new projects). These changes continually affect the value of the TIP, and the amount of investment in EJ areas. Per Jobnet, as of March 24, 2023, the 2023-2026 TIP is valued at \$638,122,443. This amount is a snapshot in time of the TIP’s value and is adjusted via administrative modifications, amendments, cost changes at time of obligation, etc. For the purposes of WATS’ equity analysis, the TIP was analyzed as of September 22, 2022, with a value of **602,952,951**

To quantify investment within EJ areas, WATS analyzes Census block groups by their combined percentages of minority and low-income residents to identify areas that fall within the 80th and 90th percentile. TIP projects located within these EJ areas, or within 0.5 mile of these areas, are measured in a GIS overlay analysis by the total cost of projects. For projects with a portion of investment in these areas, the segment cost was calculated as follows:

$$(Segment\ Length / Total\ Project\ Length) * Total\ Project\ Cost$$

*Transit Investment*

Transit projects are considered to be an additional benefit to EJ areas by improving access and mobility. Transit investments are included in the EJ analysis, but are not mapped.



**Environmental Justice Review  
FY 2023 1st Call - 2023-2026 TIP**

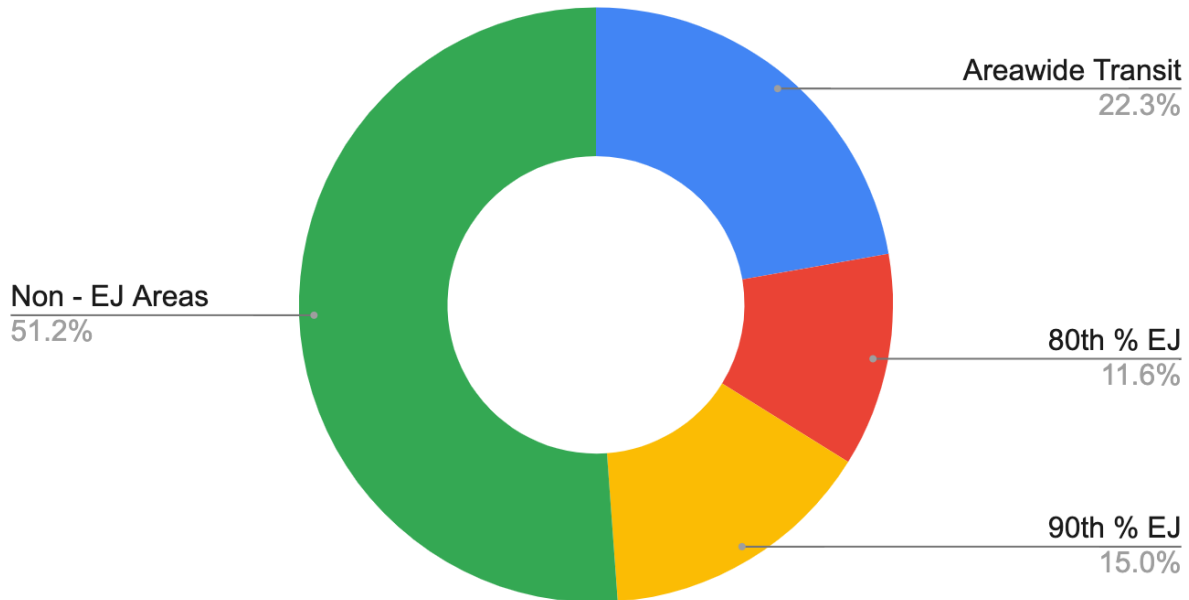
	<b>Total Investment</b>	<b>Percent of TIP</b>
80th Percentile EJ Areas	\$69,898,322	11.59%
90th Percentile EJ Areas	\$90,348,695	14.98%
Non-EJ Areas	\$308,498,411	51.16%
Areawide Transit Projects	\$134,207,523	22.2%
<b>TIP Value</b>	<b>\$602,952,951</b>	<b>100%</b>

\*Excluded from Analysis

Projects excluded from this analysis include those that are non location specific, such as areawide signal optimizations, and therefore cannot be quantified within a GIS overlay analysis.

**Enviornmental Justice (EJ) Review**

FY 2023 1st Call



WATS does not anticipate the TIP amendments will have a disproportionately negative impact on EJ areas. (NOTE: 19% of federal aid eligible roads are in EJ areas.)

A map of 2023-2026 TIP projects in environmental justice areas is available at <http://www.miwats.org/tip>.

**Opportunity Evaluation**

WATS’ opportunity evaluation uses the [county’s Opportunity Index](#) to measure TIP investment within areas of low economic mobility. WATS measures investment in areas identified as “low access to opportunity” and “very low access to opportunity”.

For projects with a portion of investment in these areas, the segment cost was calculated as follows:

$$(Segment\ Length / Total\ Project\ Length) * Total\ Project\ Cost$$

*Transit Investment*

Transit projects are considered to be an additional benefit to low opportunity areas by improving access and mobility. Transit investments are included in the opportunity evaluation analysis, but are not mapped.

**Opportunity Evaluation  
FY 2023 1st Call - 2023-2026 TIP**

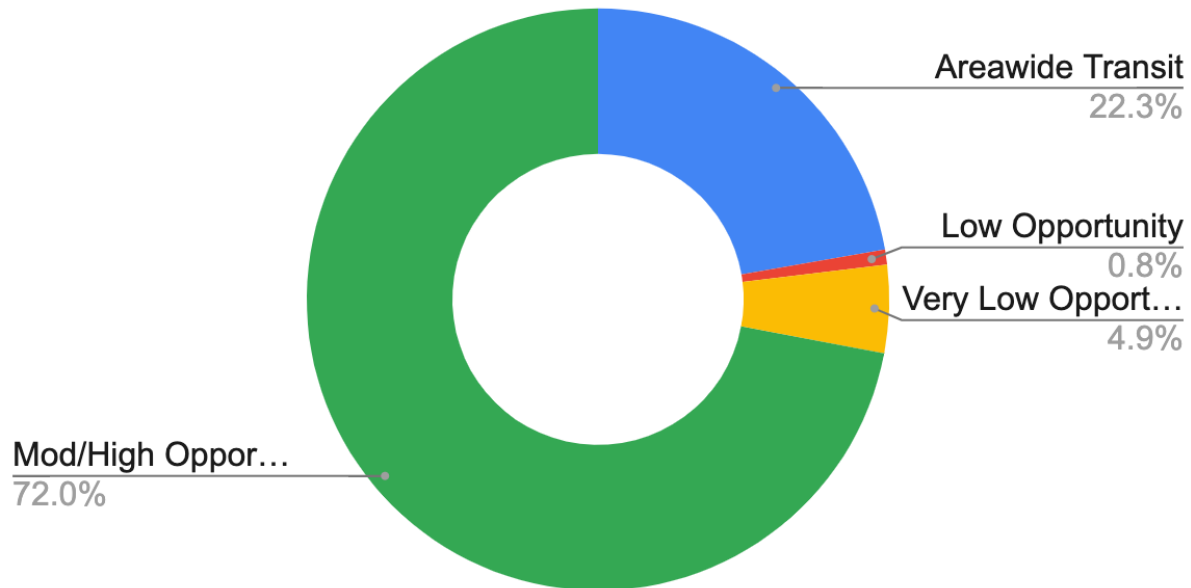
	<b>Total Investment</b>	<b>Percent of TIP</b>
Low Access to Opportunity	\$29,439,388	4.9%
Very Low Access to Opportunity	\$4,941,927	.8%
Moderate /High Access to Opportunity	\$434,364,113	72%
Areawide Transit Projects	\$134,207,523	22.3%
<b>TIP Value</b>	<b>\$602,952,951</b>	<b>100%</b>

\*Excluded from Analysis

Projects excluded from this analysis include those that are non location specific, such as areawide signal optimizations, and therefore cannot be quantified within a GIS overlay analysis.

## 2020 Opportunity Index

FY 2023 1st Call



The opportunity evaluation is provided as information during each TIP amendment.

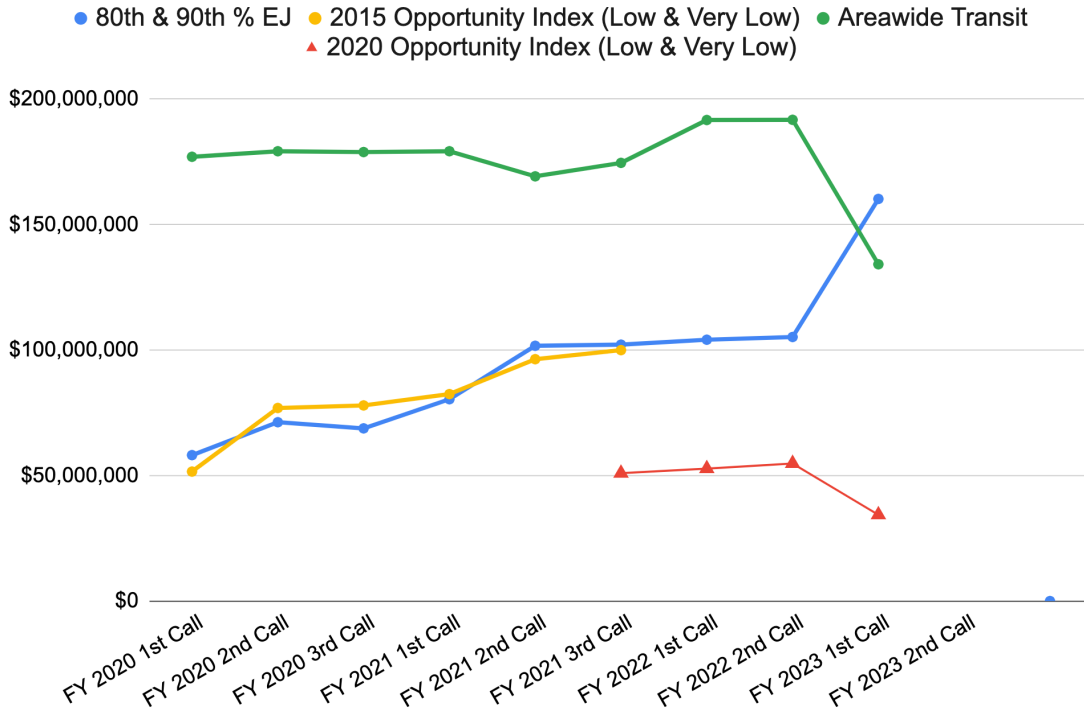
### **Tracking TIP Investment in Equity Areas**

By monitoring investment in equity areas (EJ and low opportunity), WATS Committees can evaluate if enough investment is being made to balance environmental benefits and burdens and to disrupt the effects of historic injustice.

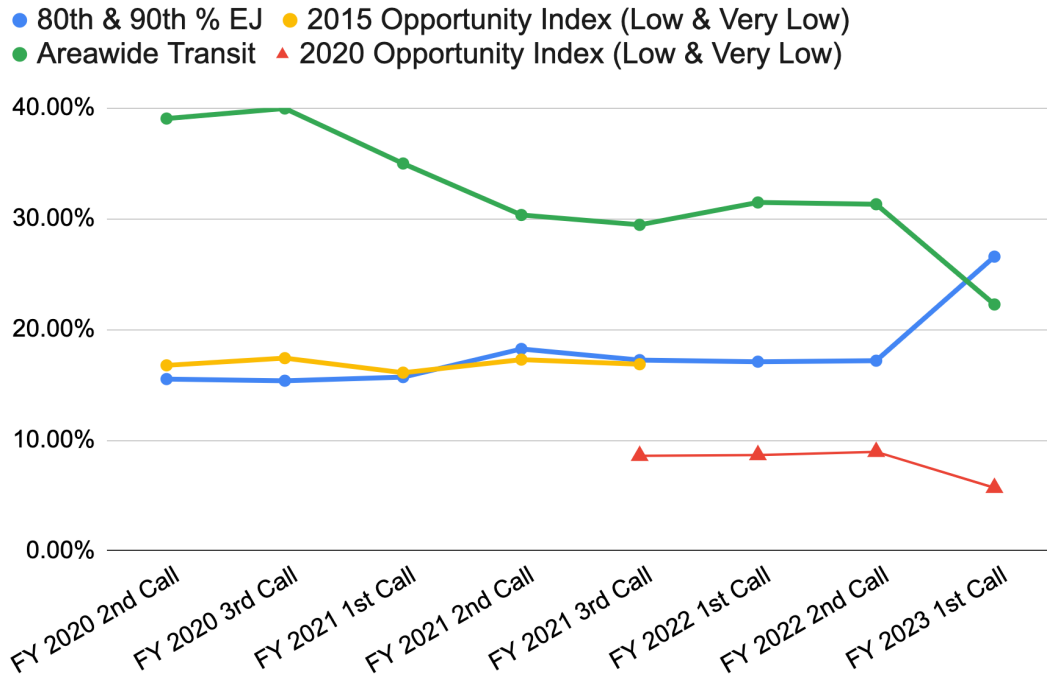
Total TIP investment naturally has a large swing at the onset of a new TIP as not all projects, awards, and investments are yet reflected. Accurate data for analysis between the 2020-2023 and 2023-2026 TIP was not available at the new TIP's time of adoption and as such is being presented in the equity analysis here. Significant changes between the 2020-2023 and 2023-2026 TIPs include a higher level of investment being made in EJ areas and a lower portion being made in Opportunity areas. This change largely results from forthcoming work on US-23 and the ½ mile buffer of EJ areas that include portions of the project. The other significant change is the reduction in transit investment, which results only from the way TheRide has evolved to reflect their projects in jobnet.

Note: WATS equity analysis is provided as information and is presented as a review of projects circa the 1st 2023 amendment to the 2023-2026 TIP. In the Action portion of this memo, the Technical Committee is being asked to make a recommendation to the Policy Committee on the projects being presented in the 2nd amendment.

### Investment in Equity Focus Areas



### Investment in Equity Focus Areas as % of Total TIP



**Action**

Staff request the Technical Committee review the 2nd Call TIP amendments and make a recommendation to the Policy Committee.

## 2nd Call FY 2023 TIP Amendments

CHANGE DESCRIPTION	JOB ID	STIP FISCAL YEAR	AGENCY	ROUTE NAME	LOCATION (REPORT)	LENGTH	MAJOR WORK TYPE	WORK (REPORT)	PHASE	ESTIMATED FEDERAL FUND AMOUNT	ESTIMATED STATE FUND AMOUNT	ESTIMATED LOCAL FUND AMOUNT	ESTIMATED TOTAL FUND AMOUNT
Increase Cost	214205	2023	Ann Arbor	Hill St	from South Fifth Avenue to Forest	0.983	Asphalt Pavement Repair	Road Rehabilitation	CON	\$760,000	\$0	\$2,975,918	\$3,735,918
Reduce Cost	210417	2023	Ann Arbor	S State St	South State St.	0.745	Three Course Asphalt Resurfacing	Road Rehabilitation	CON	\$1,746,486	\$0	\$1,346,998	\$3,093,484
Increase Cost	205648	2023	WCRC	E Huron River Dr	from Hospital entrance to Hogback	0.562	Milling & One Course Asphalt Overlay	PM	CON	\$430,000	\$0	\$107,500	\$537,500
Increase Cost	215261	2023	WCRC	North Territorial Rd	from Mast to Webster Church	2.658	Intersection Improvements	Left turn lanes, centerline rumble strips, curve delineation	CON	\$587,394	\$0	\$817,288	\$1,404,682
Increase Cost	214011	2023	WCRC	North Territorial Rd	from west of Dexter Townhall to Toma	1.083	Segment Geometric Improvements for Safety	Vertical curve modification, intersection left turn lane, centerline rumble	CON	\$878,531	\$0	\$718,469	\$1,597,000
Update Work Type to Roundabout	214659	2023	WCRC	N Zeeb Rd	at Miller Road	0.214	Intersection Improvements	Roundabout	CON	\$770,890	\$0	\$429,110	\$1,200,000
Decrease Cost, Update Work Type to Preventive Maintenance	215058	2025	Ann Arbor	N 5th Ave	Various Locations City of Ann Arbor	0.064	Asphalt Pavement Repair	Capital Preventive Maintenance	CON	\$375,000	\$0	\$375,000	\$750,000
Increase Cost	214638	2024	Ann Arbor	S Main St	South Main Street	0.656	Bike/Pedestrian facility improvements	Sidewalk gap infill	CON	\$1,426,268	\$0	\$1,200,000	\$2,626,268

Fiscal Year	Job no.	Amendment # (CR #)	MDOT Approved Date	Administration Type	Phase	Action Type	Action Approval Date	County	MPO/RTF	Responsible Agency	Project Name	Limits	Length	Primary work Type	Project Description	Advance Construct	AC Budget	ACC Years	Federal Budget	Federal Fund Source	State Budget	State Fund Source	Local Budget	Total Phase Cost	Local ID No.	MPO/Rural Action Date	Amendment Type	Air Quality	Phase Final STIP Approved Amount	General Program Account	Flexed to FTA	Transit Flex Category	Comments	Total Job Cost	Total Project Cost	Job Type
2023	205508	18	1/24/2023	FHWA	CON			Monroe, Washenaw		MDOT	US-23	Plank, Milan Oakville & Carpenter over US-23, US-23 over Saline River	0	Bridge Replacement	Bridge Replacement and CPM Repairs	No			\$11,340,350	NH,VRU	\$2,514,688		\$0	\$13,855,038			PHASBDGT			Not Applicable				\$14,945,355.00	\$N/A	Trunkline
2025	208665	10	2/22/2023	FHWA	CON			Washenaw		MDOT	I-94	Parker to M-14	5.104	Road Capital Preventive Maintenance	Milling and single course overlay	No			\$11,700,000	IM	\$1,300,000		\$0	\$13,000,000			PHASBDGT, JOBS/CCP, CNSTR/LGTH			Not Applicable				\$15,000,000.00	\$N/A	Trunkline

## MEMORANDUM

To: Technical Committee  
From: Nick Sapkiewicz  
Date: March 22, 2023  
Re: 2nd Call for FY 2023 TIP Modifications for the 2023-2026 TIP

### **Background**

WATS completes administrative modifications as needed for the Transportation Improvement Program (TIP) and provides them to the Committees and the public for their information.

Administrative modifications are minor changes staff make to the TIP as well as MDOT. WATS may modify items such as small cost changes, limits or a year change without Committee approval. WATS and SEMCOG use administrative modifications to expedite the processing of small changes without delaying a project.

Attached is the 2nd call for FY 2023 TIP administrative modifications along with a list for MDOT's administrative modifications for informational purposes. The change description field in the spreadsheets outlines the changes that were made to each project.

### **Action**

Review the attached modifications and send any questions to Nick Sapkiewicz at [sapkiewicz@miwatgs.org](mailto:sapkiewicz@miwatgs.org).

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## 2nd Call FY 2023 TIP Modifications

CHANGE DESCRIPTION	JOB ID	STIP FISCAL YEAR	AGENCY	ROUTE NAME	LOCATION (REPORT)	LENGTH	MAJOR WORK TYPE	WORK (REPORT)	PHASE	ESTIMATED FEDERAL FUND AMOUNT	ESTIMATED STATE FUND AMOUNT	ESTIMATED LOCAL FUND AMOUNT	ESTIMATED TOTAL FUND AMOUNT
Update Project Description	205638	2023	WCRC	Carpenter Rd	Carpenter from N. Textile to Ellsworth	1.162	Milling and Two Course Asphalt Resurfacing	Rehabilitate roadway	CON	\$823,449	\$375,000	\$205,862	\$1,404,311
Update Length	213431	2023	WCRC	W Michigan Ave	Michigan Ave.	0.457	Three Course Asphalt Resurfacing	Road Rehabilitation	CON	\$1,173,806	\$0	\$32,307	\$1,206,113
Increase Cost	214634	2023	WCRC	Whitmore Lake Rd	from Joy Road to North Territorial Road	2.602	Milling & One Course Asphalt Overlay	Mill and one course asphalt overlay	CON	\$804,234	\$112,925	\$71,000	\$988,159
Increase Cost	205651	2023	WCRC	Main St	Main St. East Shore Drive to 8 Mile Road	0.6	Asphalt Pavement Repair	Mill and resurface the existing roadway surface	CON	\$314,105	\$0	\$78,525	\$392,630
Update Funding Split	205642	2023	Saline	Clark St	Clark St. Harris to Maple	0.313	Reconstruction	3R	CON	\$500,474	\$0	\$625,526	\$1,126,000
Update Funding Split	205643	2023	Ypsilanti	N Huron River Dr	Huron River Dr. Cornell through Leforge	0.587	Asphalt Reconstruction	Reconstruction	CON	\$2,556,375	\$0	\$958,092	\$3,514,467



# MEMORANDUM

**To:** Technical Committee  
**From:** Nick Sapkiewicz  
**Date:** March 27, 2023  
**Re:** 2050 Long Range Transportation Plan

## Background

WATS has begun development of the 2050 Long Range Transportation Plan (LRTP) for Washtenaw County. The process kicked off with public participation focused on the goals for the Plan and the public’s expectations for the transportation network. Staff will soon be moving through other phases of plan development, including consultation, identifying transportation network deficiencies, review of local performance measures, and eventually, call for projects.



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Public participation opportunities will be offered throughout the plan's development. The current goals and expectations survey has officially closed, however the survey will remain available online.

**Action**

If you have not taken the survey yet, please do so [here](#).

# MEMORANDUM

To: WATS Technical Committee  
From: Anton Schauerte  
Date: March 29, 2023  
Re: Pavement Condition, Bridge Condition, System Reliability, Freight Reliability, and CMAQ Performance Targets

## Background

National, state-specific, and local transportation plans exist to enhance the safe, efficient, and effective movement of people and goods on the transportation system. To enhance the coordinated effectiveness of these plans, Performance Measures were developed by the Federal Highway Administration (FHWA) for which targets were then to be established by state departments of transportation (DOTs) and the metropolitan planning organizations (MPO's) within them. MPO's were granted the option of either adopting/supporting the State target, or establishing a specific target number or rate for each performance measure. The following pages outline the performance measures and targets first adopted by the Michigan Department of Transportation (MDOT), then later by the Southeast Michigan Council of Governments (SEMCOG), in addition to the 2-year and 4-year targets that are also required to be set.

The following four pages provide an overview, tables of baseline conditions and targets, and brief explanation of methodology used to set the targets for **Pavement Condition, Bridge Condition, System Reliability, Freight Reliability, and CMAQ**. The targets that relate to safety were adopted by the WATS Policy Committee in February 2023.

"Baseline Conditions" for all performance measures below are based on Calendar Year (CY) 2021 data.

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## Pavement Condition / Bridge Condition

The United States Department of Transportation (USDOT) published the [Pavement and Bridge Performance Measures Final Rule](#) in January 2017. The rule establishes six performance measures, which are outlined in Table 1. The baseline conditions, 2-year, and 4-year targets have been set by MDOT for the State of Michigan.

*Table 1: Michigan Department of Transportation (MDOT) Pavement and Bridge Targets*

Performance Measure	Baseline Condition <sup>1</sup>	2-Year Target	4-Year Target
<b>Pavement Condition</b>			
% of Interstate pavement in <b>GOOD</b> condition	70.4%	59.2%	56.7%
% of Interstate pavement in <b>POOR</b> condition	1.8%	5.0%	5.0%
% of non-Interstate NHS <sup>2</sup> pavement in <b>GOOD</b> condition	41.6%	33.1%	33.1%
% of non-Interstate NHS <sup>2</sup> pavement in <b>POOR</b> condition	8.9%	10.0%	10.0%
<b>Bridge Condition</b>			
% of NHS bridges by deck area in <b>GOOD</b> condition	22.1%	15.2%	12.8%
% of NHS bridges by deck area in <b>POOR</b> condition	7.0%	6.8%	5.8%

<sup>1</sup> Baseline Condition = CY 2021

<sup>2</sup> National Highway System

The National Highway System (NHS) is comprised of roads that have a National Functional Classification (NFC) of “Interstate”, “Other Freeway”, or “Other Principal Arterial”, as outlined in [MDOT’s Washtenaw County NFC Map](#).

Methodology (Pavement Condition): For the pavement measures, four metrics are used to assess conditions: International Roughness Index (IRI); Cracking Perfect; Rutting; and Faulting. For the bridge measures, a bridge’s deck, superstructure, substructure, and culverts are used to assess condition. Additional information regarding the methodology used to calculate the values provided in Table 1 can be viewed on the following pages.

Methodology (Bridge Condition): The substructure, superstructure, deck, and culvert of each bridge are rated on a 0-9 scale, according to the National Bridge Inspection Standards (NBIS).

*Table 2: Bridge/NBIS Ratings*

<b>Poor</b>			<b>Fair</b>	<b>Good</b>
Failed Condition	Serious/Critical Condition			
0,1	2,3	4	5,6	7,8,9

[System Reliability / Freight Reliability / CMAQ](#)

The USDOT published the [System Reliability / Freight Reliability / CMAQ Performance Measures Final Rule](#) in January 2017. The rule establishes seven performance measures, which are outlined in Table 3. Additional information regarding the methodology used to calculate the values provided in Table 3 can be viewed on the following pages.

*Table 3: System Reliability, Freight Reliability, and CMAQ Performance Targets*

Performance Measure	Baseline Condition <sup>1</sup>	2-Year Target	4-Year Target	Target Set For
<b>System Reliability</b>				
% of person-miles on the Interstate system that are reliable	97.1%	80.0%	80.0%	State
% of person-miles on the non-Interstate NHS that are reliable	94.4%	75.0%	75.0%	State
<b>Freight Reliability</b>				
Truck Travel Time Reliability	1.31	1.60	1.60	State
<b>CMAQ (Congestion Mitigation Air Quality)</b>				
Annual Hours of Peak Hour Excessive Delay (PHED) per Capita (Detroit UA <sup>2</sup> )	9.8	N/A	18	UA <sup>2</sup>
Annual Hours of Peak Hour Excessive Delay (PHED) per Capita (Ann Arbor UA)	9.0	N/A	16	UA
% of Non-Single Occupancy Vehicle Travel (Detroit UA)	18.7	N/A	15.5	UA
% of Non-Single Occupancy Vehicle Travel (Ann Arbor UA)	31.9	N/A	29.7	UA
Particulate Matter 2.5 (in kg/day)	1,527.5	595	1,191	State <sup>3</sup>
Nitrogen Oxide (in kg/day)	13,118.8	5,227	10,455	State <sup>3</sup>

<sup>1</sup> *Baseline Condition = CY 2021*

<sup>2</sup> *UA = Urbanized Area*

<sup>3</sup> *Targets set for the State of Michigan, but were coordinated with SEMCOG*

**Methodology (System Performance):** The percent of reliable person-miles traveled, referred to as the Level of Travel Time Reliability (LOTTR) or more simply as Travel Time Reliability (TTR), measures the level of congestion. Additional details are outlined on the next page.

Table 4: Travel Time Reliability (TTR) Example

Level of Travel Time Reliability (LOTTR) (Single Segment, Interstate Highway System)		
Monday – Friday	6am – 10am	$LOTTR = \frac{44 \text{ sec}}{35 \text{ sec}} = 1.26$
	10am – 4pm	LOTTR = 1.39
	4pm – 8pm	LOTTR = <b>1.54</b>
Weekends	6am – 8pm	LOTTR = 1.31
Must exhibit LOTTR below 1.50 during <b>all</b> of the time periods		<b>Segment IS NOT reliable</b>

LOTTR is measured as the average time it takes to travel on a roadway segment during peak travel hours relative to normal travel hours. Using data from the National Performance Management Research Data Set (NPMRDS), the average travel time within a 15-minute period of time for an entire calendar year is calculated for each road segment. The 15-minute periods are grouped into four categories, by time of day, as outlined in Table 4.

LOTTR is calculated using congestion levels at the 50th percentile and 80th percentile of the combination of all 15-minute periods of time during the year. The 50th percentile represents the average travel time from the beginning of a segment to the end of that same segment. The 80th percentile represents the travel time on the worst day out of the workweek (1/5 = lowest 20%, or 80th percentile). If the travel time at the 80th percentile is more than 1.5 times greater than the travel time at the 50th percentile, then that segment is deemed “unreliable”. If at least one of the four time-of-day categories is deemed “unreliable”, then the entire segment is also considered “unreliable”. An example is provided in Table 4.

Next, a formula is applied to all road segments within the study area (for this performance measure, it’s the State of Michigan) to determine the ratio of road segments across the entire study area that are reliable. This is indicated as the Baseline Condition in Table 3.

Methodology (Freight): The methodology for calculating Truck Travel Time Reliability (TTTR) is generally similar to LOTTR, but differs in the following ways, (1) Includes a 5<sup>th</sup> time-of-day category for “overnight”, (2) Uses a travel time of 95<sup>th</sup> percentile, instead of the 80<sup>th</sup> percentile, and (3) travel time is only calculated for trucks.

Methodology (CMAQ-PHED): The Annual Hours of Peak Hour Excessive Delay measures the total excessive delay on the National Highway System (NHS) measured in per capita hours. The threshold is travel speeds of 20 mph or 60% of the posted speed, whichever is greater. This number will be aggregated for all reporting segments throughout an urban area.



Methodology (CMAQ-Non SOV Travel): The Percentage of Non-Single Occupancy Vehicle Travel measures the share that non-single occupancy travel comprises an urban area's travel modes. These modes include but are not limited to carpooling, transit, biking, and walking. This data is reported in the Census Bureau's American Community Survey.

More detailed information regarding the system performance, freight, and PHED methodologies can be found on the [FHWA's TPM website](#).

### **Action**

Recommend adoption of the established performance measure targets for Pavement Condition, Bridge Condition, System Reliability, Freight Reliability, and CMAQ, as shown in Tables 1 and 3.