



MEMORANDUM

To: CMAP Transportation Committee

From: CMAP Staff

Date: February 18, 2022

Re: Plan Update of Federal Performance Measures

Ten years ago, MAP-21 instituted a national performance measurement system for the highway and transit programs. After several years of rulemaking planning, CMAP, IDOT, and transit agencies started setting targets in 2018 for many measures. As we approach the four-year target period for many of the targets set in ON TO 2050, we can for the first time begin to see if the region is making progress toward our federal goals. This memo provides a brief overview of the federal performance measures and the process to re-evaluate current targets as part of the ON TO 2050 plan update. Staff are developing a System Performance Report appendix, similar to the one included with the last plan.¹ While the comprehensive list of measures has not been presented to the transportation committee since the adoption of ON TO 2050, three of the five target areas have been updated since 2018.

The targets identified tie directly to ON TO 2050 policy priorities. In addition, they are linked to several long-range plan indicators and, where possible, the financial plan. Seven of sixteen plan mobility indicators² are also federal performance measures. These were selected as the measures that best aligned with plan goals and policies. While federal measures set targets for the next one to four years, plan indicator targets are for the year 2050. Additionally, the federal condition measures for transit and highway systems are key metrics used in the financial plan to estimate maintenance and modernization needs.

Federal law requires that targets be set by states and metropolitan planning organizations (MPOs). Transit agencies must also set targets for transit measures. There are five target setting areas.

¹ Chicago Metropolitan Agency for Planning (CMAP), "ON TO 2050 2018 Systems Performance Report Appendix," October 2018,

<https://www.cmap.illinois.gov/documents/10180/862153/FINAL+2018+System+Performance+Report+Appendix.pdf/f5b1714b-1c3b-ce2a-2ce0-7d55a078dc8e?t=1538532153599>.

² CMAP, "Plan Indicators webpage" <https://www.cmap.illinois.gov/2050/indicators>

Area	Measure Areas	Number of targets	Last update	Target setting	Changes from ON TO 2050
Highway Safety	Fatalities, serious injuries	5	January 2022	CMAP has historically supported IDOT's targets.	CMAP has launched several efforts to address roadway safety.
Highway Condition	NHS Bridge and pavement condition	6	March 2021	CMAP supports IDOT's pavement targets. Bridge targets are set for modest improvement.	Using federal measure for pavement now that data is available.
System Performance	Congestion and air quality	9	October 2018	Congestion targets reflect goals of avoiding increases in congestion while improving reliability and increasing transit ridership. Air quality goals are based on projects selected in the CMAQ program.	Targets will be updated to reflect the most current CMAQ program. Round Lake Beach urbanized area will have separate targets for some measures.
Transit Safety	Fatalities, serious injuries, safety events, and reliability	28	March 2021	Targets are based on those set by the transit agencies. A target is set for four modes for each of the seven measures. (Metra sets targets with the Federal Railroad Administration.)	ON TO 2050 was amended in 2021 to include transit safety. Rules were not final when original plan was adopted.
Transit Condition	Vehicle, equipment, facility, and track condition	8	October 2018	Targets are based on estimates of financial capacity to reduce the state of good repair backlog by 2050.	May include FTA supported Chicago Water taxi assets.

Staff have collected new data as it becomes available and are working through each target area to identify trends, needed analysis, new rules, and any other significant changes. A snapshot of the latest data is available in the tables at the end of this memo. In general, target setting methodology will remain consistent with the original ON TO 2050 plan or the most recent targets adopted by the MPO policy committee. Changes will reflect evolving requirement and improved data where appropriate.

MPOs are required to demonstrate how the Transportation Improvement Program (TIP) contributes to achieving performance targets. In response to this requirement, CMAP has been collecting information in the eTIP database about what performance measures are impacted by TIP projects. This information was first presented in the 2019 Obligations report. A profile of TIP obligations and programming will be included in the System Performance Report update to demonstrate the connection between programming and federal performance measures.

Highway Safety

Highway safety measures are the only target areas requiring adoption by the MPO each year (typically in January). The federal timeline for this measure makes it difficult to align with CMAP's planning cycle, so the targets adopted in January 2022 will be the targets for the plan update. Since CMAP supports the state targets, there are no specific targets for the region, but data for the region is included below for reference.

Name	Measure					Current Targets				Trend	Progress	vs Target
	2016	2017	2018	2019	2020	Mid Point Target	Target Date	End Year Target	Target Date			
Fatalities (CMAP five-year rolling average)	426	444	453	472	504							
Fatalities (State five-year rolling average)	990	1,016	1,025	1,042	1,081	985	2020	1000	2021			(96)
Fatalities per 100 million VMT- CMAP	0.72	0.75	0.76	0.78	0.87							
Fatalities per 100 million VMT - State	0.94	0.96	0.96	0.97	1.04	0.91	2020	0.93	2021			(0.13)
Serious injuries - CMAP	6,663	6,721	6,613	6,426	5,980							
Serious injuries - State	12,184	12,125	11,956	11,553	10,692	11,669	2020	11,556	2021			976
Serious injuries per 100 million VMT- CMAP	11.3	11.3	11.1	10.7	10.2							
Serious injuries per 100 million VMT- State	11.6	11.4	11.2	10.8	10.2	10.8	2020	10.79	2021			0.64
Non-motorized fatalities and serious injuries- CMAP	1,149	1,182	1,215	1,238	1,162							
Non-motorized fatalities and serious injuries - State	1,499	1,528	1,561	1,583	1,490	1456	2020	1518	2021			(33)

Highway Condition

This target area tracks the condition of pavement and bridges on the national highway system (NHS). The data required to calculate the federal pavement condition measure was not available when the ON TO 2050 plan targets were adopted. CMAP used an allowed alternative until the data was collected. The MPO policy committee received an update on bridge and pavement targets in March 2021 and adopted new pavement targets.³

Name	Measure					Current Targets		Trend	Progress	vs Target
	2016	2017	2018	2019	2020	End Year Target	Target Date			
Interstate NHS Pavement Condition - Good	60.8%	55.1%	58.2%	68.5%		61%	2021			-7%
Interstate NHS Pavement Condition - Poor	0.6%	0.9%	0.7%	6.6%		2%	2021			-5%
Non-Interstate NHS Pavement Condition - Good	20.6%	18.3%	18.3%	22.8%		21%	2021			-2%
Non-Interstate NHS Pavement Condition - Poor	6.0%	10.9%	9.7%	29.9%		9%	2021			-21%
Condition of bridges on NHS - % Good	37.6%	36.6%	35.2%	34.6%	30.0%	36.8%	2021			7%
Condition of bridges on NHS - % Poor	9.3%	8.6%	10.7%	12.7%	12.5%	8.3%	2021			-4%

³ CMAP, "2021 NHS pavement condition performance targets," March 2021, <https://www.cmap.illinois.gov/documents/10180/1298484/Board-MPO%28Memo%29PavementTargets03-03-2021.pdf/046b421b-cadb-ab4e-9b7c-ee8971cf2322?t=1614900045544>

System Performance

The system performance area looks at a number of different measures related to air quality, congestion and mode share. CMAP staff are just beginning to see the data from the pandemic, but it has had a significant impact on some of these measures. Past targets for congestion reflect plan goals to limit increases in congestion while focusing on the reliability of the system. It is unclear if reduced congestion levels are temporary or lasting, therefore staff plan to present targets that continue to target congestion level seen before the pandemic.

While most targets reflect assets in the CMAP MPO boundary, the non-single Occupancy vehicle and peak hour excessive delay (PHED) targets are set by census defined urbanized areas. A phase in of the rule mean that starting in 2022, all urbanized areas of over 200,000 population must set targets vs. over 1 million in 2018. Therefore, the Round Lake Beach--McHenry--Grayslake, IL – WI urbanized area may require targets with the plan update. More will be known when the Census Bureau releases updated urban boundaries in March 2022. CMAP will coordinate with IDOT, SEWRPC, WisDOT, INDOT, and NIRPC on these targets.

Name	Measure					Current Targets		Trend	Progress	vs Target
	2016	2017	2018	2019	2020	End Year Target	Target Date			
VOC (kg/day)		279		106		246.1	2021			17
NOx (kg/day)		1,271		7,247		6,643.5	2021			(3,925)
PM2.5 (kg/day)		47		505		432.2	2021			(289)
PM10 (kg/day)		-		-		-	2021			-
Interstate system travel time reliability	65.7%	66.6%	63.5%	64.2%	85.6%	64.7%	2021			-20.9%
Non-Interstate NHS travel time reliability	82.7%	83.4%	83.5%	86.3%	92.8%	84.7%	2021			-8.1%
Annual excessive peak hour delay per capita on the NHS	14.3	14.5	17.0	14.5	14.5	15.4	2021			0.9
Truck travel time reliability	1.96	1.92	2.06	2.08	2.08	1.95	2021			(0.1)
% non-single occupancy vehicle commute travel (Chicago)	30.6%	30.8%	31.2%	31.4%		31.9%	2021			0.0%

Transit Safety

The transit safety measures and rule were still being finalized when ON TO 2050 was adopted in 2018. The FTA also delayed enforcement for transit agencies due to the pandemic. The MPO policy committee adopted two-year transit safety targets in March 2021.⁴ With the plan update, staff will recommend four-year targets to align with the plan cycle. Staff are reviewing new guidance from the FTA on how to set targets with regard to incidents that result from criminal activity. Safety at Metra is regulated by the FRA, so federal targets are not required, but CMAP includes Metra in our planning and discussions around transit safety. Rail targets below only include CTA rail. Bus targets combine CTA and Pace.

⁴ Chicago Metropolitan Agency for Planning, “2022 Regional Transit Safety Performance Targets Memo,” March 2021, <https://www.cmap.illinois.gov/documents/10180/1298484/Board-MPO%28Memo%29TransitSafetyTargets03-04-2021.pdf/5294ab4b-f322-34ad-0d3d-9d1d855440fc?t=1614900046273>

Category	Name	Measure					Targets		Trend	Progress	vs Target
		2016	2017	2018	2019	2020	End Year Target	Target Date			
Bus Safety	Fatalities	-	7	6	1	1	1	2022			0
Bus Safety	Fatalities per million miles	-	0.1	0.1	0.0	0.0	0.0	2022			0.0
Bus Safety	Injuries	689	632	607	639	639	625	2022			-14
Bus Safety	Injuries per million miles	9.2	8.3	7.9	8.3	8.3	8.2	2022			-0.1
Bus Safety	Safety Events	447	411	387	415	415	422	2022			7
Bus Safety	Safety Events per million miles	6.0	5.4	5.1	5.4	5.3	5.5	2022			0.2
Bus Safety	Mean Distance Between Mechanical Failures	6,949	6,880	6,764	6,456	6,956	7,775	2022			819
Rail Safety	Fatalities	17	17	16	18	18	0	2022			-18
Rail Safety	Fatality Rate	0.24	0.23	0.22	0.25	0.25	0	2022			-0.2
Rail Safety	Injuries	96	109	150	239	239	213	2022			-26
Rail Safety	Injuries per million miles	1.3	1.5	2.0	3.3	3.3	3	2022			-0.3
Rail Safety	Safety Events	115	112	155	219	219	222	2022			3
Rail Safety	Safety Events per million miles	1.6	1.5	2.1	3.0	2.0	3	2022			1.0
Rail Safety	Mean Distance Between Mechanical Failures	319,162	249,533	160,747	161,347	188,376	150,000	2022			-38,376
Vanpool	Fatalities	-	0	0	0	-	0	2022			0
Vanpool	Fatality Rate	-	-	-	-	-	0.0	2022			0.0
Vanpool	Injuries	6	0	1	2	1	2	2022			1
Vanpool	Injuries per million miles	0.7	-	0.1	0.3	0.4	0.2	2022			-0.2
Vanpool	Safety Events	1	0	1	2	3	1	2022			-2
Vanpool	Safety Events per million miles	0.1	-	0.1	0.3	1.2	0.1	2022			-1.1
Vanpool	Mean Distance Between Mechanical Failures	138,656	222,290	226,765	180,389	197,391	170,031	2022			(27,360)
APA Paratransit	Fatalities	-	1	-	2	-	1	2022			1
APA Paratransit	Fatality Rate	-	0.03	-	0.06	-	0	2022			0.0
APA Paratransit	Injuries	137	92	99	102	44	102	2022			58
APA Paratransit	Injuries per million miles	0.7	-	0.1	0.3	0.4	2.8	2022			2.4
APA Paratransit	Safety Events	95	94	113	106	63	99	2022			36
APA Paratransit	Safety Events per million miles	2.5	2.6	3.2	3.3	2.8	2.7	2022			-0.1
APA Paratransit	Mean Distance Between Mechanical Failures	64,440	57,227	48,738	49,056	52,141	53,365	2022			1,224

Transit Condition

Transit agencies were required to complete their initial Transit Asset Management plans by October 2018, two weeks before ON TO 2050 was adopted. As such, the asset inventories and policies were still being developed as CMAP finalized the plan. Similar to highway condition, most transit asset condition measures indicate a decline in condition, while targets are for improving condition. CMAP will be working with the RTA and other transit agencies to review new asset condition data and past targets.

Name	Measure						Targets		Trend	Progress	vs Target
	2015	2016	2017	2018	2019	2020	End Year Target	Target Date			
Buses past ULB	3.9%	8.4%	2.7%	6.8%	5.6%	6.7%	8.2%	2022			3%
Rail vehicles past ULB	21.5%	16.9%	17.0%	23.5%	26.9%	30.2%	16.4%	2022			-11%
Non- Fixed Route Vehicles past ULB	33.9%	28.9%	9.9%	9.4%	33.1%	43.4%	28.4%	2022			-5%
Non Revenue - Equipment past ULB		44.5%		57.0%	61.7%	62.6%	43.2%	2022			-19%
Non Revenue - Vehicles past ULB		22.7%		35.7%	40.9%	37.7%	22.1%	2022			-19%
Track miles with performance restrictions			3.75%	3.83%	4.4%	5.7%	3.6%	2022			-1%
Transit facilities in marginal or poor condition		21.0%		21.6%	18.8%	13.2%	20.4%	2022			2%

Next steps

Following discussion by the transportation committee, staff will work with partners to develop draft targets. The full System Performance Report will be a component of the full plan update document that will be shared for public comment in June 2022. Following public and additional partner comments, CMAP will bring proposed final targets to the MPO Policy Committee and CMAP Board in October 2022.

ACTION REQUESTED: Discussion

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