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DRAFT RESOLUTION

BY THE WILMINGTON AREA PLANNING COUNCIL (WILMAPCO) APPROVING THE ADOPTION OF MARYLAND TRANSPORTATION PERFORMANCE TARGETS FOR PM1 PM2 AND PM3

WHEREAS, the Wilmington Area Planning Council (WILMAPCO) has been designated the Metropolitan Planning Organization for Cecil County, Maryland and New Castle County, Delaware by the Governors of Maryland and Delaware, respectively; and

WHEREAS, Federal surface transportation legislation, beginning with MAP-21 in 2012 and continued in the FAST Act, established performance management requirements for States and MPOs under the Transportation Performance Management (TPM) program); and

WHEREAS, the Maryland Department of Transportation coordinated with WILMAPCO on the development of their performance targets for safety (PM 1- 23 CFR Part 490 Subpart B), pavement and bridge condition measures (PM 2 - 23 CFR Part 490 Subparts C & D), performance of NHS, freight and CMAQ measures (PM 3 - 23 CFR Part 490 Subparts E, F, G & H); and

WHEREAS, WILMAPCO will adopt the TPM performance targets, as established by the Maryland Department of Transportation, for the State of Maryland; and

WHEREAS, WILMAPCO will report performance and progress toward achieving the targets in the safety and system performance report of the Regional Transportation Plan (RTP); and

WHEREAS, WILMAPCO agrees to plan and program projects in the Transportation Improvement Program (TIP) to accomplish the State's targets;

NOW THEREFORE BE IT RESOLVED that WILMAPCO adopts the State of Maryland's targets and agrees to plan and program projects to accomplish said targets

Date:

John Sisson, Chairperson
Wilmington Area Planning Council

*Wilmington Area Planning Council
(WILMAPCO)
Technical Advisory Committee Meeting*

November 19, 2020

**Transportation Performance
Management in Maryland**



MAP-21 and FAST Act
Transportation Performance
Management (TPM)

✓ **Federal Transportation Performance Management Program**

 **TPM 1: Safety Performance**

 **Performance Period Progress Reporting**

 **Mid-Period Performance Progress Report**

 **TPM 2: Infrastructure Condition Performance**

 **TPM 3: System Performance, Freight, CMAQ Performance**


 **TPM 3: Emissions Reduction CMAQ Projects**


 **TPM Resources**


 **MDOT TPM Contacts**


PRESENTATION OUTLINE

TPM performance management outcomes are grouped into six elements to more effectively communicate the efforts under way to implement the statutory requirements:

 **National Goals:** set to focus the Federal-aid highway program into specific areas of performance.

 **Measures:** established to assess performance/condition in carrying out performance-based Federal-aid highway programs.

 **Targets:** established by State DOTs and MPOs for the measures to document future performance expectations

 **Plans:** strategic and/or tactical plans developed by State DOTs and MPOs to identify strategies and investments that address performance needs.

 **Reports:** reports developed by State DOTs and MPOs that document progress toward target achievement, including the effectiveness of Federal-aid highway investments.

 **Accountability and Transparency:** FHWA-developed requirements for State DOTs and MPOs to use to achieve or make significant progress toward targets.

FEDERAL TRANSPORTATION PERFORMANCE MANAGEMENT PROGRAM (TPM)

 **TPM 1. Safety Performance (5 measures)**

 **TPM 2. Pavement Condition (4 measures)**

 **TPM 2. Bridge Condition (2 measures)**

 **TPM 3: Travel Time Reliability (2 measures)**

 **TPM 3: Freight Reliability (1 measure)**

 **TPM 3. CMAQ Congestion Management (2 measures)**

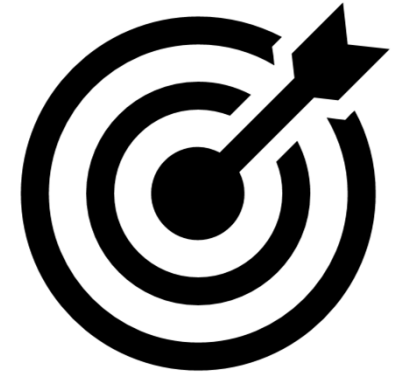
 **TPM 3: CMAQ Air Quality (2 measures)**

TRANSPORTATION PERFORMANCE MEASURES

MDOT TPM 1 TARGET SETTING

METHODOLOGY: TOWARD ZERO DEATHS

- MDOT's Maryland Highway Safety Improvement Plan (HSIP), submitted annually to FHWA on August 31st communicates the State's quantifiable and data driven highway safety performance targets.
- MDOT maintains the Toward Zero Deaths (TZD) approach by developing interim targets to reduce overall fatalities and serious injuries by at least 50 percent by 2030.
- Starting with a baseline of 2008 to a fixed end goal in 2030, an exponential trend line is fitted between those points. Five-year rolling averages are used to calculate five-year projections. The targets for each individual year are taken from the midpoint of the five-year average, e.g., 2020 target = midpoint of the 2018 – 2022 average.
- This method is applied to the five performance measures required by the Federal Highway Administration (FHWA): fatalities, fatality rate, serious injuries, serious injury rate, and non-motorized fatalities and serious injuries with the first three being identical in Maryland's HSP and HSIP.



	Performance Measure	CY 2020 State Target	CY 2019 State Performance	CY 2021 State Target	CY 2021 WILMAPCO Regional Target
Safety	Number of Fatalities: The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year	425.7	531	420.6	14.0
	Number of Serious Injuries: The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year	3,029.40	3,123	2,905.80	76.3
	Fatality Rate: The ratio of total number of fatalities to the number of vehicle miles traveled (VMT, in 100 Million VMT) in a calendar year	0.752	0.880	0.742	1.064
	Serious Injury Rate: The ratio of total number of serious injuries to the number of VMT (in 100 Million VMT) in a calendar year	5.372	5.193	5.075	5.761
	Non-Motorized Fatalities & Serious Injuries: The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year	465.8	639	467.7	8.8

TPM 1: SAFETY PERFORMANCE



TPM 1 TARGETS - MPO ROLE/ RESPONSIBILITY

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Performance Period Progress Reporting: Federal Requirement

- **Under 23 USC 150(e), Starting October 1, 2018, State DOTs were required to submit to FHWA, a Biennial Report that includes at a minimum:**
 - NHS condition and performance for required measures
 - Progress in achieving performance targets
 - Effectiveness of the investment strategies in the State's NHS asset management plan
 - How freight bottleneck congestion is being addressed
- **Reports:**
 - Baseline Report by Oct. 1 of the first performance year (2018)
 - Reported Baseline performance, 2-year Targets, 4-year Targets
 - Mid Period Progress Report by Oct. 1 of the third performance year (2020)
 - Full Period Progress Report by Oct. 1 of the fifth year following the performance period (2022)

**PERFORMANCE PERIOD
PROGRESS REPORTING**



Mid-Performance Period Progress Report: Components

- 2-year condition/performance
- 2-year progress in achieving performance targets
- 2-year significant progress discussion for the National Highway Performance Program (NHPP) targets and the National Highway Freight Program (NHFP) target
- Extenuating circumstances discussion on 2-year Targets
- Target adjustment discussion
- Investment strategy discussion
- Congestion at truck freight bottlenecks
- MPO CMAQ Performance Plan

MID-PERFORMANCE PERIOD PROGRESS REPORT



	Performance Measure	Baseline	2-Year Target (Reported in 2018)	2-Year Performance (Reported in 2020)	4-Year Target (Reported in 2018)	4-Year Target Adjustment (Reported in 2020)	Penalty Assessment	Justification for adjustment
Pavement	% Interstate in Good Condition	-	-	54.7%	60.0%	50.0%	No	Current performance is less than the baseline and reduction in available funding and therefore investment into system is projected to result in further reduction in performance.
	% Interstate in Poor Condition *Min Req: 5.0%	-	-	0.7%	2.0%	-	Yes	-
	% Non-Interstate in Good Condition	57.3%	-	58.4%	-	-	No	-
	% Non-Interstate in Good Condition (Full Distress + IRI)	-	35.0%	32.2%	35.0%	30.0%		Current performance is less than the baseline and reduction in available funding and therefore investment into system is projected to result in further reduction in performance.
	% Non-Interstate in Poor Condition	17.8%	-	17.9%	-	-	No	-
	% Non-Interstate in Poor Condition (Full Distress + IRI)	-	7.0%	6.8%	8.0%	-		-
Bridge	% Deck Area in Good Condition	27.4%	29.5%	23.6%	27.0%	28.4%	Yes	Current performance is less than the baseline and reduction in available funding and therefore investment into system is projected to result in further reduction in performance.
	% Deck Area in Poor Condition (less than 10.0% poor max.)	2.3%	2.0%	2.7%	5.0%	2.4%	Yes	The State DOT must obligate a portion of the National Highway Performance Program (NHPP) and transfer a portion of its Surface Transportation Program (STP) funds to address Interstate pavement conditions if percentage of pavement in poor condition exceeds 5%. We do not appear to be at risk to approaching that threshold with 2.7% rated poor currently.

TPM 2: INFRASTRUCTURE CONDITION PERFORMANCE



	Performance Measure	Baseline	2-Year Target (Reported in 2018)	2-Year Performance	4-Year Target (Reported in 2018)	4-Year Target Adjustment (Reported in 2020)	Penalty Assessment	Justification for adjustment
System Performance	Percent of Person-Miles traveled on the Interstate that are Reliable	71.4%	72.1%	69.0%	72.1%	-	No	-
	Percent of Person-Miles traveled on the Non-Intertate NHS that are Reliable	-	-	82.8%	81.7%	82.0%	No	MDOT's 2-year performance for this measure has exceeded that of both the baseline performance of 82.0%, by 0.8%, and the 4-year target of 81.7, by 1.1%. MDOT proposes to adjust the 4-year target to 82.0% in alignment with its commitment to work to maintain the stellar performance we have achieved as purported in our long range planning documents, but in consideration of expected projected traffic growth.
Freight Reliability	Truck Travel Time Reliability Index	1.88	1.87	1.86	1.88	-	No	-
CONGESTION MANAGEMENT	Annual Hours of Peak-Hour Excessive Delay Per Capita: Philadelphia, PA/DE/MD/NJ	-	-	14.6%	17.2%	-	No	-
	Percent of Non-Single Occupancy Vehicle Travel: Philadelphia, PA/DE/MD/NJ	27.9%	28.0%	28.2%	28.1%	-	No	-
AIR QUALITY	On-road Mobile Source Emission Reduction (Volatile Organic Compounds)	13.315	6.728	145.481	8.129	-	No	-
	On-road Mobile Source Emission Reduction (Nitrogen Oxides)	140.678	88.88	335.66	123.961	-	No	-

TPM 3: SYSTEM PERFORMANCE, FREIGHT, CONGESTION MANAGEMENT AND AIR QUALITY PERFORMANCE



FFY	Project List (Emission Reductions quantified)	Funding Category	MPO
2018	Bus Replacement	Transit Improvements	BMC
2019	Bus Replacement	Transit Improvements	BMC
2018	LOTS State of MD Guaranteed Ride Home - Baltimore Area	Ride Sharing	BMC
2018	LOTS State of MD Guaranteed Ride Home -Washington DC Area	Ride Sharing	MWCOG
2019	LOTS State of MD Ridesharing Funds	Ride Sharing	State-sponsored
2018	Metro Rail Car Overhaul	Transit Improvements	BMC
2018	Baltimore City Bike Share Program	Bicycle and Pedestrian Facilities and Programs	BMC
2018	Baltimore City's Traffic Management Center	Congestion Reduction and Traffic Flow Improvements	BMC
2018	Adaptive "Smart" Signal Systemization - Baltimore Area	Congestion Reduction and Traffic Flow Improvements	BMC
2018	Adaptive "Smart" Signal Systemization - Washington DC Area	Congestion Reduction and Traffic Flow Improvements	MWCOG
2019	MD 180 (Jefferson Pike) at Mt. Zion Road - Park and Ride Lot	Ride Sharing	MWCOG
2019	MD 273 (Telegraph Road) at Appleton Road - Roundabout	Congestion Reduction and Traffic Flow Improvements	WILMAPCO

TOTAL EMISSIONS REDUCTION



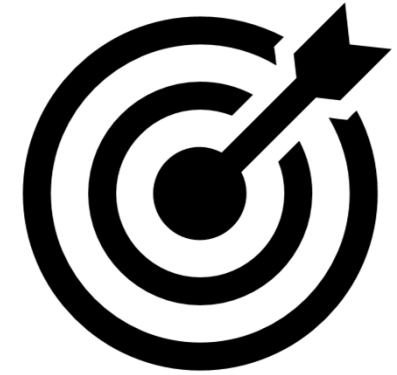
CONGESTION MITIGATION TARGET SETTING METHODOLOGY

PHED

- **Data:** NPMRDS Version 2 -baselines for the PHED per capita
- Calculated using the CATT Lab MAP-21 tool for the Baltimore, MD UZA.
- **Initial Target Setting Methodology/Coordination:** The limitations of the data contributed to a level of uncertainty of the values for the measure.
- **Mid-Performance Period Review:** 2 additional years of data were included to evaluate the trend against the baseline.

Non-SOV

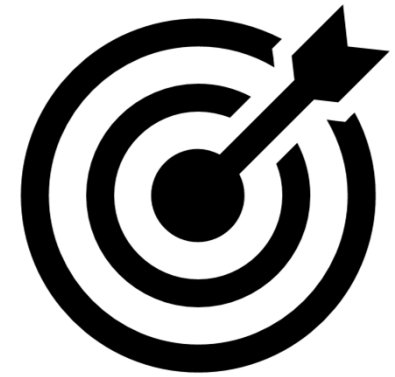
- **Data:** U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates DP-03 "Journey-to-Work" table with baseline data from the 2012-2016 survey.
 - includes car/vanpool, public transportation, ridesharing and taxi, non-motorized modes, and working from home.
- **Initial Target Setting Methodology/Coordination:** The percent of non-SOV travel targets were calculated by MDOT SHA for the Baltimore, MD UZAs. A best-fit trend analysis was completed considering data from 2012 to 2016 ACS and projected 2 and 4 years ahead.
- **Mid-Performance Period Review:** there were 2 additional years of data to evaluate against the baseline to determine current performance and inform/re-evaluate 4-year target projection.



EMISSIONS REDUCTION TARGET SETTING METHODOLOGY

- **Initial Target Setting Methodology/Coordination:** evaluation of historic CMAQ trends, averaging emissions from FY2014 through FY2017 for the SHA CMAQ projects, and the known MTA bus replacements for FY2018 – FY2021 based on MTA’s programmed projects. The statewide target is the sum of the SHA and MTA projects. MDOT primarily uses two analysis tools for estimating emissions benefits of CMAQ projects.
 - i. MAQONE – a Maryland specific tool for analyzing off-network projects that uses MD MOVES emission rates and it is populated with county-level defaults.
 - ii. FHWA Emissions Calculator Toolkit (downloaded Feb. 2018) – supports a number of project types developed by FHWA to analyze CMAQ projects.
- Future SHA CMAQ projects are not officially programmed or are subject to change. Typical CMAQ projects over the last four years include CHART, roundabouts, advanced signals and park and ride lots.
- MTA – new bus replacement contract signed for FY2018-FY2022. Replaced buses are assumed to be 12 years old. Most of the other projects are continuing projects supporting Metro, LOTS ridesharing, etc.
- For recommended MPO targets, the statewide target was allocated to the MPO based on project location as reported in the updated FHWA’s PAS.

Mid-Performance Period Review: Reported Emissions Reduction values were pulled from the FHWA PAS for evaluation against baseline performance and potential for achievement of 4-years targets.



TPM 2 & 3 TARGETS - MPO ROLE/ RESPONSIBILITY

- MPOs may adopt and support the State's Infrastructure Condition and Total Emissions Reduction targets or develop and adopt their own regional targets.
- MPOs have the option to revise these 4-year targets within 180 days of the State reporting its targets in the Mid-Performance Period Progress Report (March 30th)
- MPO targets are reported to the State DOT.
 - *MPOs must include/document baseline performance and progress toward achieving those targets in the Metropolitan Transportation Plan (MTP).*



TRANSPORTATION PERFORMANCE MANAGEMENT (TPM) ESTABLISHED TARGETS FOR MARYLAND

The Maryland Department of Transportation (MDOT) established performance targets for Safety, Infrastructure Condition, System Performance, and Congestion Mitigation and Air Quality (CMAQ), per 23 U.S.C. 490 – National Performance Management Measures.

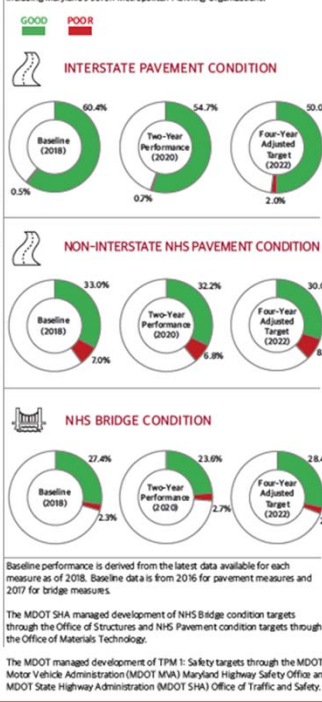
TPM 1: SAFETY

In support of Maryland's "Toward Zero Deaths" goal to halve fatalities and serious injuries by 2030, MDOT applies an exponential trend analysis to the five-year rolling averages to establish safety targets, as documented in the Maryland Strategic Highway Safety Plan 2016-2020. Targets are updated annually and reported in the Highway Safety Improvement Program.



TPM 2: INFRASTRUCTURE CONDITION

Infrastructure condition targets for the National Highway System (NHS) in Maryland were developed through an iterative, collaborative process which included monitoring performance trends, analyzing life cycle plans, and reevaluating future performance projections in partnership with other owners, including Maryland's seven Metropolitan Planning Organizations.



- USDOT Planning Website: www.planning.dot.gov
- FHWA Transportation Performance Management Website: www.fhwa.dot.gov/tpm
- FHWA Transportation Performance Management Safety Target Setting Website: https://safety.fhwa.dot.gov/hsip/spm/state_safety_targets/
- MDOT SHA Transportation Performance Management Website: <http://arcg.is/1r04uH>

TPM RESOURCES

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