Sean Greene Regional Technical Committee September 8, 2020

CMAQ Performance Targets and Interim Performance Plan



Background What is CMAQ? - Federal program to fund projects that reduce congestion and improve air quality MAP 21 required US DOT to establish **Transportation Performance Measures for the CMAQ** program

– Known as PM3 regulation

- Subpart G Congestion Measures
- Subpart H On-Road Mobile Source Emissions



Today's Presentation

- PM3 Requirements
- Performance Measures
- Interim Performance Plan
- Requested Action



FHWA PM3 Rule Requires...

- 1. Establishment of 2-and 4-year Targets (Regions >1M people and in NAA)
 - Congestion Measures for UZA
 - CMAQ Emissions Reductions Measures for MPO region and state
- 2. Interim Performance Plan
 - Provides the chance to adjust targets
- 3. Performance reports from states due to FHWA by October 1, 2020



What are the Congestions Measures?

Unified targets for entire UZA

- 1. Peak Hour Excessive Delay (PHED)
 - Annual per capita delay on the NHS system
 - Data extracted from RITIS Probe Data Analytics Suite
- 2. Percent Non-SOV travel
 U.S. Census 5-Year Estimates



How Were the Targets Established? Discussion and Collaboration MPOs and DOTs in affected UZAs held a series of meetings in spring of 2018 and summer of 2020

Targets established by consensus



Congestion Targets and 2-Year Performance - PHED

Baseline (annual hours per capita)	Two-Year Target Optional (annual hours per capita)	Two-Year Performance Measurement (annual hours per capita)	Four-Year Target (annual hours per capita)		
Philadelphia UZA					
16.8	17.0	14.6	17.2		
New York-Newark UZA					
20.0	N/A	22.2	22.0		

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Congestion Targets and 2-Year Performance – Percent Non-SOV Travel

Baseline	Two-Year Target	Two-Year Measurement	Four-Year Target		
Philadelphia UZA					
27.9%	28.0%	28.2%	28.1%		
New York-Newark UZA					
51.6%	51.6%	51.7%	51.7%		

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Performance Results

Two-Year Performance surpassed or is meeting two- and four-year targets for Philadelphia and New York-Newark UZAs.



Adjusting the Targets

- MPOs and state DOTs in each UZA reviewed performance measures and targets
- Have agreed to NOT ADJUST 4-year congestion targets
 - Data issues
 - Uncertainty of future travel patterns due to COVID-19 pandemic



Emissions Performance Measure

CMAQ Program Eligibility

- Projects must show emissions reductions
- DOTs report emissions benefits for authorized projects in annual report to FHWA
- Data is stored in FHWA CMAQ Public Access
 System (PAS)



Emissions Reductions Requirements

Targets

- DOTs must set statewide 2- and 4-Year Targets for emissions reductions from CMAQ funded projects
- MPOs must either develop targets or adopt state targets for MPO area
- DVRPC is adopting state developed targets



How Were the Targets Established?

- Discussion and Collaboration
 - MPOs and DOTs collaborated on Emissions Measure for regional and statewide emissions targets and performance

Statewide targets incorporate MPO targets



Results (DVRPC Performance Pennsylvania)

	Emissions Reduction (Kg/day)		
Pollutant	2018-2019 2-year Target	2-Year Performance	2020-2021 4-year Target
VOC Emissions	37.61	142.8	69.31
NO _x Emissions	23.42	652.4	42.50
PM _{2.5} Emissions	1.08	24.21	2.06
CO Emissions	282.74	NA	NA

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Results (DVRPC Performance Pennsylvania)

	Emissions Reduction (Kg/day)		
Pollutant	2018-2019 2-year Target	2-Year Performance	2020-2021 4-year Target
VOC Emissions	1.45	142.8	2.864
NO _x Emissions	7.453	652.4	14.861
PM _{2.5} Emissions	2.627	24.21	5.253
CO Emissions	N/A	NA	N/A

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Performance Results

- Two-Year Performance surpassed two and four-year targets for PA and NJ
 - Transit flex emissions benefits included in PAS for first time in 2018
 - TDM projects that expected to be listed as "recurring" were counted in 2018
 - In NJ, Statewide projects contributed to regional goals



Adjusting the Targets

- Pennsylvania
 - DVRPC not adjusting Regional targets but removing CO (no longer applicable)
 - PennDOT adjusting statewide targets due to issues in other regions
- New Jersey

NJDOT and MPOs agreed to not adjust targets

Performance Plan

- **Applicability and Requirements**
 - All measures
 - Two-year performance
 - Congestion measures for UZA (Philadelphia and NYC-Newark)
 - Mobile Source Emissions for MPO area separated by state
 - Adjusted Targets
 - Emissions measures
 - List projects contributing to performance
 - Identify projects that have changed, been added or deleted
 - Identify projects that support 4-year targets
 - Narrative description of programed projects and benefits



Action Proposed

That the Regional Technical Committee (RTC) recommends that the Board adopt the Subpart H mobile-source emissions performance targets established by PennDOT and NJDOT in 2020 and approves **DVRPC** to submit the CMAQ Interim Performance Plan for 2018-2019 to the state DOTs for submission to FHWA.



Thank You!



Questions? Sean Greene | sgreene@dvrpc.org



FEDERAL FUNCTIONAL CLASS SYSTEM CHANGES

East Bradford Twp, Chester County, and Philadelphia Navy Yard

September 8, 2020 RTC Meeting

Matthew T. Gates

East Bradford Township

Proposed Federal-Aid Functional Classification Revisions Chester County, PA



- 1. Business 322 from US
 322 Bypass to PA 162
- 2. Birmingham Road from PA 52 to Sconnelltown Road
- 3. Sconnelltown Road from Birmingham Road to PA 842

East Bradford Township



Federal Functional Classification Changes

- Change from Other Principal Arterial (FC 3) to Minor Arterial (FC 4)
 - Business 322 (SR 3072) Segments 0010-0012 (1.00 miles)
- Change from Major Collector (FC 5) to Local Road (FC 7) and remove from Federal-Aid System
 - Birmingham Road (SR 2001) Segment 0070 (0.70 miles)
 Sconnelltown Road (SR G106) Segments 0010-0020 (1.10 miles)

Action Requested

That RTC recommend the Board approve the Federal Functional Classification changes in East Bradford Township, Chester County.

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January 12, 2021 February 9, 2021 March 9, 2021 April 6, 2021 May 11, 2021 June 8, 2021 July 6, 2021 September 7, 2021 October 12, 2021 November 9, 2021

FHWA Safety Performance Measures Regional Target Setting

Regional Technical Committee September 8, 2020

Contact: kmurphy@dvrpc.org



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Today's update:

- Review of the target discussion at the June RTC meeting
- New data
- Forthcoming processes
- Next steps





Why Consider Regional Safety Targets?

- Persistent regional crash trends
- Rising vulnerable user KSI trend
- Need for regional alignment of safety priorities at the local, city, county, state levels
- Speaking with one voice reinforces safety objectives





Why Consider Regional Safety Targets Now?

- DVRPC's TIP-LRP Project Benefit Evaluation Criteria:
 - Safety is the heaviest-weighted criteria
- RTSF goal: To reduce roadway crashes and eliminate serious injuries and fatalities from crashes in the Delaware Valley
 - RSTF 2020: Focus on Traffic Safety Culture
- PA and NJ Toward Zero Deaths goals
 - Included in current SHSP's of both states
- Philadelphia Vision Zero
- TSAP update
- DVRPC's Connections LRP update





Regional Target-Setting Process Progress to Date

✓ Form subcommittee at June 2020 RTC meeting

- ✓ Send follow-up email
- ✓ Notify state and federal partners of our intent and schedule
- ✓ Update crash data trends for the 9-county region w/2018 data
- ✓ Research target-setting methodologies
- Conduct iterative analysis to understand the implications of target scenarios
- Design programmatic recommendations to advance identified regional targets
- Present consensus-driven recommendations to DVRPC Board January 2021





Timeline and Process

- When are MPO targets due?
 - February 27 of each year (within 180 days of states' establishing and reporting HSIP targets on August 31)
 - Would require January Board action at the latest
- Where do MPOs report targets?
 - MPOs do not report their HSIP targets directly to FHWA
 - States and MPO mutually agree on how MPO targets are reported to respective DOTs





FHWA Safety Performance Management Measures

The Safety PM Final Rule requires that State DOTs *and* metropolitan planning organizations (MPOs) establish targets for five safety performance measures:

- 1. Number of fatalities
- 2. Rate of fatalities per 100 million vehicle miles traveled (VMT)
- 3. Number of serious injuries
- 4. Rate of serious injuries per 100 million VMT
- 5. Number of non-motorized fatalities and serious injuries people killed or severely injured while walking or biking

Metric: 5-year rolling averages of crash data





Regional 5-Year Rolling Average Data Fatalities







Regional 5-Year Rolling Average Data Fatality Rate



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Regional 5-Year Rolling Average Data Serious Injuries






Regional 5-Year Rolling Average Data Serious Injury Rate







Regional 5-Year Rolling Average Data Vulnerable Users (bicyclists, pedestrians)







Total KSI - Regional Trend (by person), 2014-2018







Regional KSI Crash Trend of Bicyclists and Pedestrians (VU) at Intersections, 2014-2018

VU KSI at Intersections compared to All VU KSI







To advance FHWA Safety Targets

- Agree to plan and program projects that contribute toward the accomplishment of the targets
- Commit to a quantifiable HSIP target for the metropolitan planning area





Have any MPO's established regional targets?

According to FHWA, to date these MPO's set regional targets:

- Southeastern Wisconsin Regional Planning Commission (SEWRPC) the MPO for the Milwaukee
- East Grand Forks MPO, bi-state MPO in North Dakota and Minnesota
- East-West Gateway Council of Governments (Gateway COG) in the St. Louis Region
- Denver Regional Council of Governments (DRCOG) Denver, CO
- Mid-America Regional Council (MARC), a bi-state MPO in the Kansas City (MO/KS) area
- Fresno Council of Governments (Fresno COG), CA
- Metropolitan Council in the Minneapolis-St. Paul region, MN
- Atlanta Regional Council (ARC), 20 county region in Atlanta Georgia metro
- Southwestern Pennsylvania Commission (SPC)





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DRCOG

2018 Safety Targets Review

2018	SAFETY TARGETS (2014-2018 Five Year Average)	METHODOLOGY	TARGET	
1	DRCOG FATALITIES	METRO VISION	242	
2	DRCOG FATALITY RATE PER 100 MILLION VMT	METRO VISION	0.90	
3	DRCOG SERIOUS INJURIES	HOLD THE LINE	1,948	
4	DRCOG SERIOUS INJURY RATE PER 100 MILLION VMT	HOLD THE LINE	7.20	
5	NON-MOTORIZED FATALITIES AND SERIOUS INJURIES	METRO VISION (fatalities) + HOLD THE LINE (serious injuries)	59 + 287 = 346	





"METRO VISION" SAFETY TARGET SETTING METHODOLOGY

Regional Objective 5: Operate, manage and maintain a safe and reliable transportation system.

Performance Measures

Measure	Where are we today? (Baseline)	Where do we want to be? (2040 Target)		
Non- single occupant vehicle (Non- SOV) mode share to work	25.1 percent (2014)	35.0 percent		
Daily vehicle miles traveled (VMT) per capita	25.5 daily VMT per capita (2010)	10.0 percent decrease from 2010		
Average travel time variation (TTV) (peak vs. off-peak)	1.22 (2014)	Less than 1.30		
Daily person delay per capita	6 minutes (2014)	Less than 10 minutes		
Number of traffic fatalities	185 (2014)	Fewer than 100 annually		

62% REDUCTION TO HIT 2040 TARGET

DRCOG TMA Fatalities	DRCOG TMA Fatalities 5 Year Moving Average	Year	DRCOG TMA Fatality Rate	DRCOG TMA Fatality Rate 5 Year Moving Average 0.76	
229	180	2015	0.91		
274	204	2016	1.01	0.82	
264	223	2017	0.95	0.87	
259	242	2018	0.91	0,90	
252	(256)	2019	0.85	0.93	
245	259	2020			
238	252	2021			
230	245	2022			
223	238	2023			
216	230	2024			
208	223	2025	9		
201	216	2026			
194	208	2027			
187	201	2028			
179	194	2029			
172	187	2030			
165	179	2031			
157	172	2032			
150	165	2033			
143	157	2034			
135	150	2035			
128	143	2036			
121	135	2037			
114	128	2038			
106	121	2039			
99	114	2040			





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FIRST AMENDMENT TO

VISION 2050: A REGIONAL LAND USE AND TRANSPORTATION PLAN FOR SOUTHEASTERN WISCONSIN

ESTABLISHING TARGETS FOR FEDERAL PERFORMANCE MEASURES: HIGHWAY SAFETY









Southeastern Wisconsin RPC

Table 4Final Recommended Regional Years 2046-2050 Targetsfor the National Safety-Related Performance Measures

	Preliminary					
		Recommended	Percent Change from			
Performance Measure	2012-2016 Baseline Data	2046-2050 Target	2012-2016 Base Year			
Number of Fatalities	152.2	91.9	-39.6			
Rate of Fatalities	0.962	0.488	-49.3			
Number of Serious Injuries	798.2	144.1	-82.0			
Rate of Serious Injuries	5.053	0.766	-84.8			
Number of Non-Motorized	167.2	45.7	-72.7			
Fatalities and Serious Injuries						

Source: Fatality Analysis Reporting System (FARS), Wisconsin Traffic Operations and Safety (TOPS) Laboratory, and SEWRPC





Next Steps

- Continue research into target setting methodologies
- Hold subcommittee meetings to consider:
 - 1. Target scenarios
 - 2. Relationship to LRP update and regional safety goals for 2050
 - 3. A quantifiable HSIP target for the DVRPC region
 - 4. Approaches to planning and programing projects that contribute toward the accomplishment of the targets
- Present findings to full RTC

Please use the Chat Pod to indicate your interest in the working group using the prefix #targets







What options do MPOs have for meeting FHWA Safety PM requirements?

- A. Adopt and support the state's HSIP targets
- B. Develop their own region-specific HSIP targets
- C. Or use a combination of both

Option A is what DVRPC has done so far





Assessing Significant Progress

• How is Progress Determined?

- 4 out of 5 targets must be met, or have better performance than the baseline
- When is Progress Determined?
 - MPO HSIP targets are not annually assessed for significant progress toward meeting targets (state HSIP targets are assessed annually)

• Penalty for not meeting targets?

- MPO No penalty
- States develop HSIP implementation plan and spend HSIP equal to the previous year's expenditure, no flex option (currently neither PA nor NJ flexes any HSIP funds)





Pennsylvania

Measure	Target (2014-2018)	Actual (2014-2018)	Baseline (2012-2016)	Target Achieved?	Better Than Baseline?	Met or Made Significant Progress?*
Number of Fatalities	1,177.6	1,182	1,220.2	No	Yes	Yes
Rate of Fatalities (per 100 million VMT)	1.161	1.169	1.220	No	Yes	Yes
Number of Serious Injuries	3,799.8	3,839.6	3,434	No	No	No
Rate of Serious Injuries (per 100 million VMT)	3.746	3.797	3.433	No	No	No
Number of Non-Motorized Fatalities and Serious Injuries	654.4	679	602.4	No	No	No

Pennsylvania Source: DVRPC 2020* 4 out of 5 targets must be met, or have better performance than the baselinePennsylvania did not meet or make significant progress towards its safety performance targets on three out of five performance measures:





New Jersey

Measure	Target (2014-201 8)	Actual (2014-201 8)	Baseline (2012-2016)	Target Achieved?	Better Than Baseline?	Met or Made Significant Progress?*
Number of Fatalities	586	581.6	571	Yes	Νο	Yes
Rate of Fatalities (per 100 million VMT)	0.778	0.759	0.762	Yes	Yes	Yes
Number of Serious Injuries	1,105	1,110.8	1,135.6	No	Yes	Yes
Rate of Serious Injuries (per 100 million VMT)	1.467	1.449	1.516	Yes	Yes	Yes
Number of Non-Motorized Fatalities and Serious Injuries	386.5	392.7	390.3	No	No	No





Statewide Target-Setting Methods

- PA & NJ: reduction goals consistent with SHSP
- Use trends based on historical numbers to project future year numbers
- Problems with this method:
 - Rising KSI trends have led to targets that are higher than baseline numbers (flattening but still upward curve)
 - Although target number is lower than the projected KSI number for target year, target number is higher than the baseline number, effectively showing an increase over the baseline
 - Requires unrealistic timeline to meet meaningful safety goals





How do MPOs with multi-state boundaries establish HSIP targets?

- Coordinate with each state involved
 - Collaborate on methodology and data sources
- Establish targets for entire metropolitan planning area, not separate targets for each state sub-region





Top 5 Things to Know about MPO HSIP Safety Performance Targets

- MPOs must set a target for each of the 5 HSIP Safety Performance Measures
- 2. MPOs may adopt and support the State's HSIP targets, develop their own HSIP targets, or use a combination of both
- 3. MPOs must establish their HSIP targets by February 27 of the calendar year for which they apply
- 4. MPO HSIP targets are reported to the State DOT, not FHWA
- 5. MPO HSIP targets are not annually assessed for significant progress toward meeting targets; State HSIP targets are assessed annually





FRANKFORD AVE MULTIMODAL STUDY

Al Beatty abeatty@dvrpc.org

9/8/2020



5

Philadelphia City Planning Commission CITY OF PHILADELPHIA



Source:

Study Goals



Steering Committee

- City of Philadelphia
 - Office of Transportation, Infrastructure, and Sustainability (OTIS)
 - City Planning Commission (PCPC)
 - Streets Department
 - Water Department
 - Commerce Department
 - PennDOT
 - SEPTA
- City Council District 6
- Mayfair BID
- Holmesburg Civic Association
- Mayfair Civic Association
- Tacony Civic Association
- Wissinoming Civic Association

Project Background



2015 Transit First Initiative



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North Delaware District Plan



Source: City of Philadelphia (2016)

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Source: City of Philadelphia 2019

PennDOT HSIP and Road Diet Study



Source: HNTB (2019)

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Source: SEPTA 2017



Source: City of Philadelphia 2019, DVRPC aerial imagery 2020





Source: PennDOT 2019



Source: PennDOT 2019



Source: Pennsylvania Department of Transportation (2014-2018)

Public Open Houses



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B: Robbins to Wellington		
Issues:	High speeds, long crossings, crashes (Robbins, Levick, Tyson, and mid- block near St. Vincent)	
Opportunities:	Intersecting bicycle facilities, green stormwater infrastructure	



Ince

Crispin St

500

Feet

Basemap: ESRI

@dvrpc

1,000





C: Cottman Triangle		
Issues:	High speeds, long crossings, crashes	
Opportunities:	PennDOT HSIP coordination, existing pedestrian plaza	



Cottman Avenue/Ryan Avenue - Existing



6-leg intersection with wide, fast turns and long crossings

FRANKFORD AVE | MULTIMODAL STUDY



Cottman Avenue/Ryan Avenue - Proposed

Ryan Ave. reverses direction

2-way parking protected cycle track

30' curb extensions for in-lane bus boarding

LPI

Ped plaza expansion

Clear SB left turn lane

Curb extensions decrease crossing length and slow turns

Ś

One lane closed to traffic

-AVE

RANKFORD

Ryan Avenue - Proposed

Two-way parking protected bike lane

HSIP curb extensions





D: Aldine to Rhawn	
ssues:	High speeds, long crossings, mid-block pedestrian crashes near Aldine
Opportunities:	Road diet feasible

C: Aldine to Rhawn

- Key Treatments
 - Reconfigure travel lanes: 5 to 3
 - Back-in angle parking (southbound)
 - Buffer area/flexible pedestrian space (northbound)
 - Wider parking lanes and wider, longer bus stops
 - Curb extensions
 - Mid-block crossings

Sample Cross Section: Shelmire to Sheffield









Sheffield Avenue - Existing







Sheffield Avenue - Proposed



Next Steps

 Write project report and post online for public comment (fall 2020)

- PennDOT HSIP improvements at Cottman and Ryan (TBD 2021)
 - Mayfair BID to program expanded pedestrian plaza
- Identify funding sources and timeline for other recommendations



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