

# AAAMPO

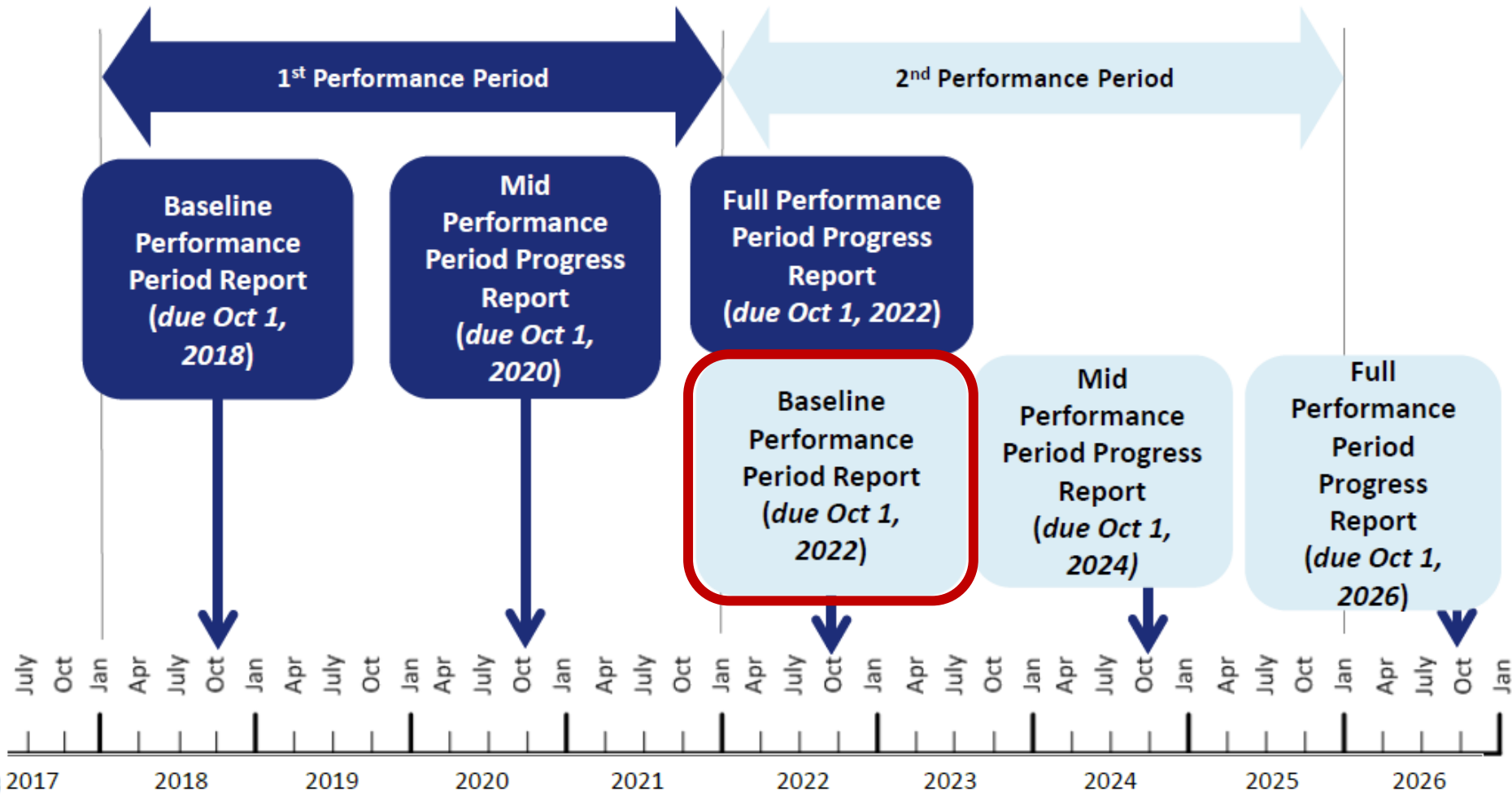
## **Federal PM3 and CMAQ Performance Measures**

August 5, 2022 | Technical Advisory Committee

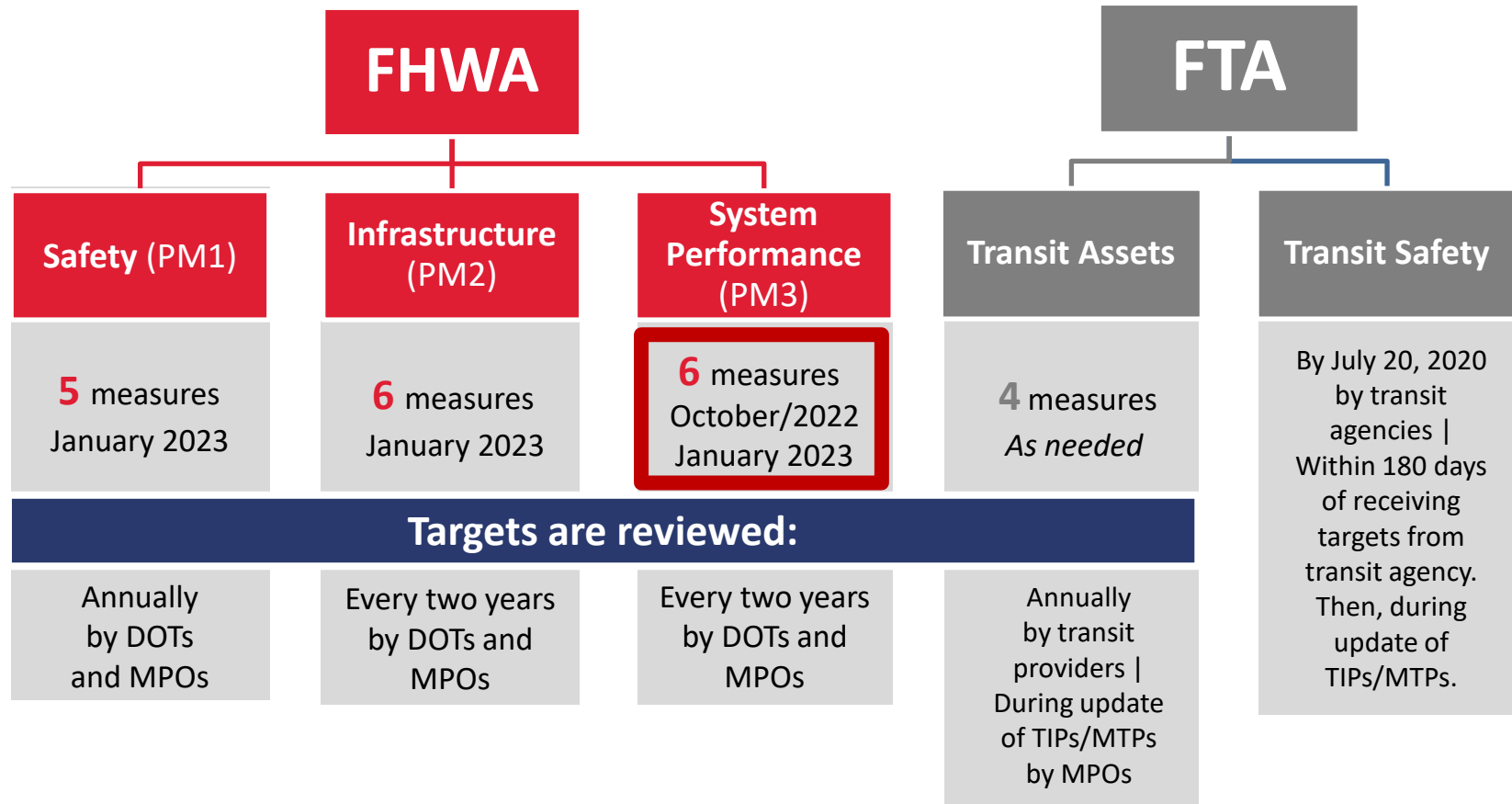
# Overview

- Measures and Timelines
- PM Structure and Reporting
- CMAQ Performance Measures and Targets
- CMAQ Performance Plan Overview
- Timeline and Next Steps

# Federal Performance Measure Target Dates



# Federal Performance Measure Target Dates





# Performance Measure Structure

- **Performance Periods:** 4 years with a Mid-Performance Period update after 2 years
- **Metrics:** specific calculations of performance following federal guidelines
- **Baselines:** metrics defining existing conditions/performance prior to the start of the Performance Period
- **Targets:** metrics developed by states/MPOs to track the Performance Measure across the Performance Period



# CMAQ PM3 Reporting Requirements

- CMAQ performance measures are a subset of **System Performance Measures (PM3)**.
- Mandated for MPO populations of **200k+** and a **nonattainment area** receiving CMAQ funds.
- **CMAQ Performance Plan** Required
- The baseline, 2-year and 4-year targets, and performance plan must be submitted to TxDOT prior to **October 2022**.
- TxDOT integrates them into their **Statewide Biennial Performance Report** for the Second Performance Period.

# Target Setting

- **Coordinated, collaborative effort** between AAMPO, TxDOT, TTI, and other MPOs.
- TTI provided technical assistance and AAMPO generally followed TTI suggestions for targets.
- For the **emissions reduction** measure, AAMPO participated in an **MPO working group** to establish the methodology for developing this measure.
- **Baseline** performance measures for traffic congestion are reported for 2021 for this performance period.

# CMAQ Performance Measures

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Traffic Congestion

Total Emissions Reduction  
NOx and VOC

On-Road Mobile Source  
Emissions



# Peak Hour Excessive Delay

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## What is it?

- **Delay** is the extra time spent travelling below the speed limit.
- **Excessive delay** means delay occurring at an average speed less than:
  - 20 mph or
  - 60% of the posted speed limit  
(e.g. 39 mph in a 65 mph zone.)
- Peak hour or **the peak period** is commonly known as “rush hour”, weekdays from 6-10am and from 3-7pm
- Peak hour excessive delay (**PHED**)

# Peak Hour Excessive Delay

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## How is it calculated?

1. **Reporting segments** are taken from **NPMRDS** based on the Urban Area Boundary and National Highway System
2. **Travel times** recorded in 15-minute intervals determine amount of **excessive delay** experienced annually in each segment (during peak periods only).
3. **Hourly traffic volumes** and **vehicle occupancy rates** are multiplied by the amount of excessive delay to determine the total amount of **person-hours travelled** each year due to delay.
4. **PHED** is added up for each segment, then divided by the **Urban Area population** to yield the final metric.

# Peak Hour Excessive Delay

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## How were targets set?

- AAMPO utilized a **TTI spreadsheet** distributed to MPOs
- Past PHED numbers from all MPOs are adjusted for future increases in **excessive delay** and **daily person-miles travelled**
- AAMPO corroborated that the suggested targets matched **pre-COVID trends**

# Peak Hour Excessive Delay

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## Baseline and Targets

- **Baseline (2021) – 11 person-hours PHED per capita**
- **2-year Target (2023) – 15 person-hours**
- **4-year Target (2025) – 16 person-hours**

# Non-SOV Travel

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## What is it? How is it calculated?

- **Non-SOV** travel is the percentage of the workforce **not driving** alone in a car, truck, or van.
- This measure is taken from the **American Community Survey** Journey to Work data.
- TTI recommended 2-year and 4-year targets slightly lower than pre-COVID levels.

# Non-SOV Travel

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## Baseline and Targets

- **Baseline (2021) – 23.1% non-SOV travel**
- **2-Year Target (2023) – 20.0% non-SOV travel**
- **4-Year Target (2025) – 20.0% non-SOV travel**

# Total Emission Reduction

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## What is it? How is it calculated?

- Total amount of **emissions reduced** during entire **Performance Period** (as well as 2-year midway point)
- Calculated based on **CMAQ annual reporting** in **UPACS**
- All CMAQ TIP/MTP projects contain **yearly emissions reductions**
- Reduction figures are calculated using FHWA's **Emission Calculator Toolkit** or **TTI's MOSERS** models.
- The metric is **cumulative**: the 4-year target and metric includes the 2-year figure.
- **Baseline** is determined by CMAQ benefits reported several years **before** the start of Performance Period.

# Total Emission Reduction

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## How are targets set?

- *Only projects reported in UPACS count toward the target.* Some **discrepancy** typically between **UPACS** and the **TIP**.
- AAMPO has **10** projects in its baseline data, information on the let **2022** projects was used to determine a “win percentage” to apply to the first 2-years. This was 7 of 12 or **58.2%** of total benefits for each pollutant.
- AAMPO will revisit this methodology and the CMAQ program before the mid-Performance Period report.



# Total Emission Reduction

Annual Hours Peak Hour  
Excessive Delay (PHED)

% Non-SOV Travel

Total Emissions Reduction  
NOx and VOC

## Baseline and Targets

- **Baseline (2020-2021, NOx) – 121.583 kg/day**
- **2-Year Target (2023, NOx) – 127.750 kg/day**
- **4-Year Target (2025, NOx) – 219.130 kg/day**
  
- **Baseline (2020-2021, VOC) – 25.435 kg/day**
- **2-Year Target (2023, VOC) – 53.970 kg/day**
- **4-Year Target (2025, VOC) – 92.576 kg/day**



# “CMAQ” Performance Plan

- **Required and provided** to state by MPO for inclusion with **Biennial Performance Reports** submitted to FHWA
- AAMPO’s **Baseline Report** contains the following for each **CMAQ Measure**:
  - **Baseline Condition/Performance**
  - **2- and 4-year Targets**
  - Descriptions of relevant **funded projects** and how they will **contribute to achieving targets** in **Table 3**
- Potential **moderate** re-classification will not directly impact target methodology (required of all AQ **nonattainment** and **maintenance** areas).

# “CMAQ” Performance Plan

## Overview

Table 1 – Baseline Figures for CMAQ Performance Plan

<b>Measure</b>	<b>Baseline</b>
<i>Annual PHED per Capita</i>	11
<i>Percent of Non-SOV Travel</i>	23.1%
<i>Emissions – NO<sub>x</sub> (kg/day)</i>	121.583
<i>Emissions – VOC (kg/day)</i>	25.435

Table 2 – Established CMAQ-Focused Two- and Four-Year Targets

<b>Performance Measure</b>	<b>2-Year Target</b>	<b>4-Year Target</b>
<i>Annual PHED per Capita</i>	15	16
<i>Percent of Non-SOV Travel</i>	20.0%	20.0%
<i>Emissions – NO<sub>x</sub> (kg/day)</i>	127.75	219.13
<i>Emissions – VOC (kg/day)</i>	53.97	92.576



# Performance Measures Schedule

Milestone	Deadline
TAC Action	August 5, 2022
TPB Action	August 22, 2022
CMAQ Performance Plan and Performance Management Report (PMF) Due to TxDOT	September 19, 2022
Biennial Performance Report Due to FHWA (TxDOT)	October 1, 2022
AAMPO Regional Performance Targets Due to FHWA (or notice of supporting state measures)	March 30, 2023

# AAAMPO

## Questions?

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