



CMAQ Performance Plan

August 25, 2022

**Kentuckiana Regional Planning and Development Agency
Louisville/Jefferson County, KY-IN**

The KIPDA CMAQ Performance Plan is prepared as part of the Kentucky Transportation Cabinet, and Indiana Department of Transportation statewide CMAQ Performance reports for the Second Performance Period in accordance with the requirements of 23 CFR 490.107(c) and 23 USC 149(l) by KIPDA staff in collaboration with the respective State DOTs, FHWA, and other stakeholders. Specifically, the report addresses the Baselines and Targets for the performance measures promulgated through the PM3 regulation Subpart G (Measures to Assess the CMAQ Program – Traffic Congestion) and Subpart H (Measures to Assess the CMAQ Program – On-road Mobile Source Emissions).

PHED

Table I shows the baseline, two-year, and four-year target peak hours of excessive delay (PHED) per person, per year for the Louisville urbanized area. The data for this metric was obtained from the NPMRDS RITIS data platform. In setting PHED targets, regional ongoing and future construction projects were considered and the potential impacts are reflected in the selected target metrics. INDOT, KYTC, & FHWA were consulted and their input was also considered in the target setting process. Through agency consultation, data analysis, and accounting for unknown factors, we arrived at the metrics shown in the below table. Figure I shows a plot of the baseline and target values.

Table I – Traffic Congestion Measures: Peak Hour Excessive Delay (PHED)

Measure	Metric (annual hours per person)
2021 Baseline PHED	8.4
2024 2-Year PHED Target	<10.0
2026 4-Year PHED Target	< 10.0

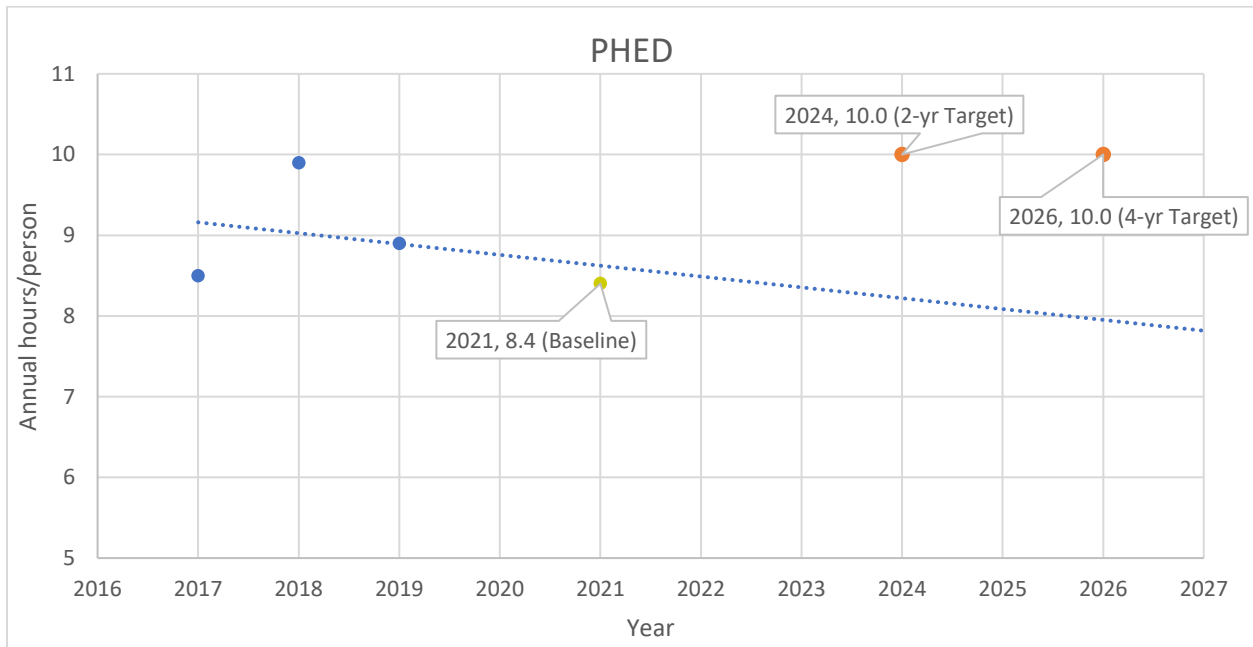


Figure 1. Plot of Baseline and Target PHED values

Table 2 presents actual PHED per person, per year for the Louisville urbanized area for 2020 and 2021. In both years, PHED was at or below the four-year target of 10.

Table 2 – Traffic Congestion Measures: Actual Peak Hour Excessive Delay (PHED) Statistics

Year	Metric (annual hours per person)
2020	5.5
2021	8.4

% Non-SOV

Table 3 shows the baseline, two-year, and four-year targets for non-single occupancy vehicle travel (Non-SOV) in the Louisville urbanized area. The data for this metric was obtained from the American Community Survey Economic Characteristics table. The targets were set based on consultation with IN/KY State DOT and FHWA advisors. As shown, the 2- & 4-year targets were set slightly lower than the baseline due to the uncertainty in telework and the overall commuting habits.

Table 3 – Traffic Congestion Measures: Non-Single Occupancy Vehicle (Non-SOV) Travel

Measure	Metric (% of total travel modes)
2020 Baseline (5-yr estimate)	19.5%
2024 2-Year Target	≥ 18.5%
2026 4-Year Target	≥ 19.0%

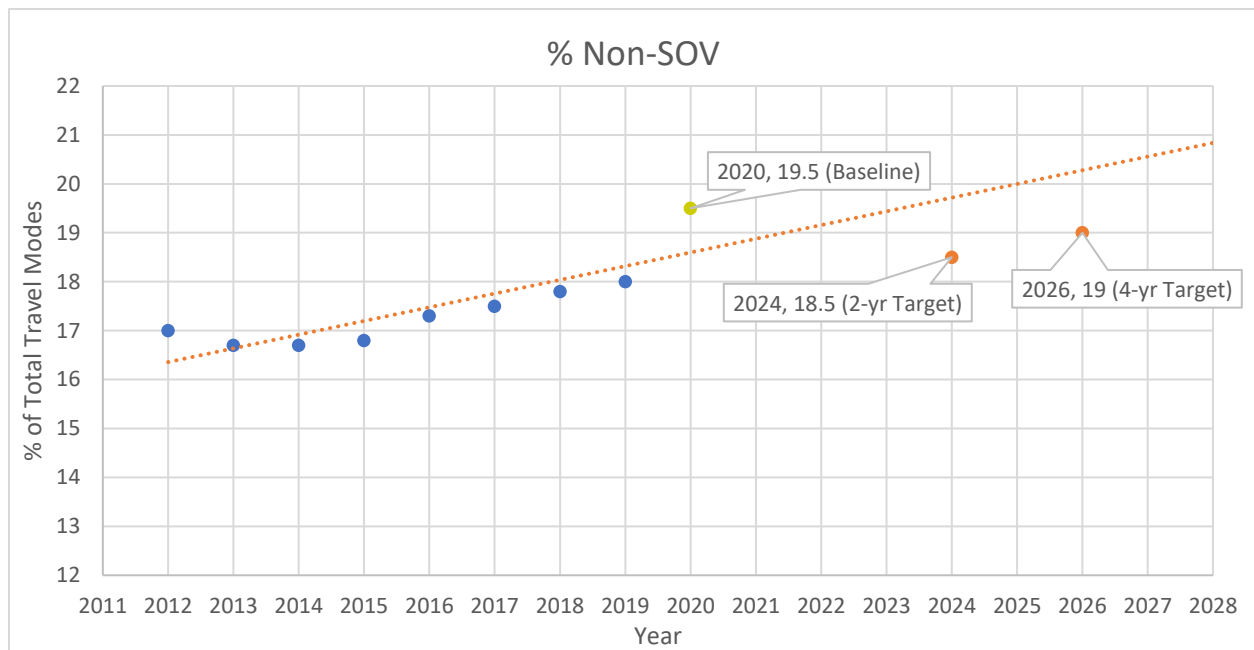


Fig 2. Plot of % Non-SOV baseline and target values

Table 4 presents Percent Non-SOV for travel in the Louisville urbanized area for 2019 and 2020 (5-yr estimates). Non-SOV travel in those 5-year estimates could possibly be viewed as the upper and lower bounds for the two-year and four-year targets. In comparison to the 2020 baseline (5-yr estimate), 2019 was 1.5% below the Non-SOV travel metric.

Table 4 – Traffic Congestion Measures: Actual Non-Single Occupancy Vehicle (Non-SOV) Travel Statistics

Year	Metric (% of total travel modes)
2019	18.0%
2020	19.5%

On-Road Mobile Source Emissions Reduction

Table 5 shows the on-road baseline, two-year, and four-year quantitative emissions targets for Volatile Organic Compounds (VOC) and Nitrous Oxide (NOx). The baseline data was derived from the CMAQ Public Access System and aggregated, by state and pollutant type for the years 2018-2021. The data for the two and four-year targets was derived from CMAQ-eligible projects in the FHWA CMAQ Public Access for the years 2014-2021.

Table 5 – On-Road Mobile Source Emissions

Measure	State	VOC (kg/day)	NOx (kg/day)
2018-2021 Baseline	Indiana	1.061	11.007
	Kentucky	37.494	90.682
Measure	MPO	VOC (kg/day)	NOx (kg/day)
2024 2-Year Target	KIPDA	22.329	60.144
2026 4-Year Target	KIPDA	44.658	120.289

Table 6 presents the quantitative on-road emissions statistics for VOC and NOx in fiscal years 2019 & 2020. Overall, 6 CMAQ-funded projects have contributed or will contribute (depending on the project phase) to daily emissions savings in the KIPDA region of 38.55kg/day of VOC and 101.68kg/day of NOx. This data was derived from the FHWA CMAQ Public Access System and encompasses all CMAQ-funded projects within the KIPDA region with on-road mobile source emissions savings that were obligated between 2018 and 2021. There are currently no new

(only subsequent projects exist), future projects with obligated CMAQ funding that can be used for the purpose creating CMAQ Performance Plan metrics (these projects would normally be used to help set targets), but this will be reassessed in the Mid-performance Period and any projects introduced through a call-for-projects can be added at that time. As previously noted, the targets were set based on the available past data from 2014-2021.

Table 6 – Funded On-Road Mobile Source Emissions Projects/Statistics

YEAR	STATE	PROJECT ID	PROJECT TITLE	PROJECT DESCRIPTION	VOC (kg/day)	NOx (kg/day)	PHED Benefit	Non-SOV Benefit
2020	IN	IN20200015	ITS - CCTV/DMS on I-65 from 2.1 miles S of SR-160 to Clark/Scott County Line	ITS, Freeway Management Systems	0.521	1.567	Reduces congestion & delay	N/A
2019	IN	IN20190003	Cross River Connector Project	Operating Assistance and Fuel, New Service, Bus	0.54	9.44	Removes multiple vehicles from network	Encourages transit ridership
2019	KY	KY20190002	KY 53/I71	Congestion Reduction, Left-Turn / Managed Lanes	2.275	13.787	Reduces congestion & delay	N/A
2019	KY	KY20190004	TARC Outer Loop Circulator	Operating Assistance and Fuel, New Service, Bus, Operating Assistance	0.13	2.35	Removes multiple vehicles from network	Encourages transit ridership
2019	KY	KY20190005	Metro-Connection 21	ITS, Signalization Upgrades; connect traffic signals to ATMS.	33.79	73.3	Reduces congestion & delay	N/A
2019	KY	KY20190014	Louisville Loop Shelbyville Rd MET	Facilities, Other-- Description, shared use path	1.299	1.245	Encourages alternate modes	N/A
				Totals	38.555	101.689		