KIPDA
Kentuckiana Regional Planning & Development Agency

CMAQ Performance Plan:

Mid-Performance Period Update

October 29, 2024

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).

This update to the CMAQ Performance Plan is made at the mid-performance period. KIPDA proposes no changes to the 4-year (2026) targets at this time. This update assesses the status of the three measures based on recent data that is now available.

PHED

Table 1 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 table below. Figure 1 shows a plot of the baseline and target values.

Table 1 – 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

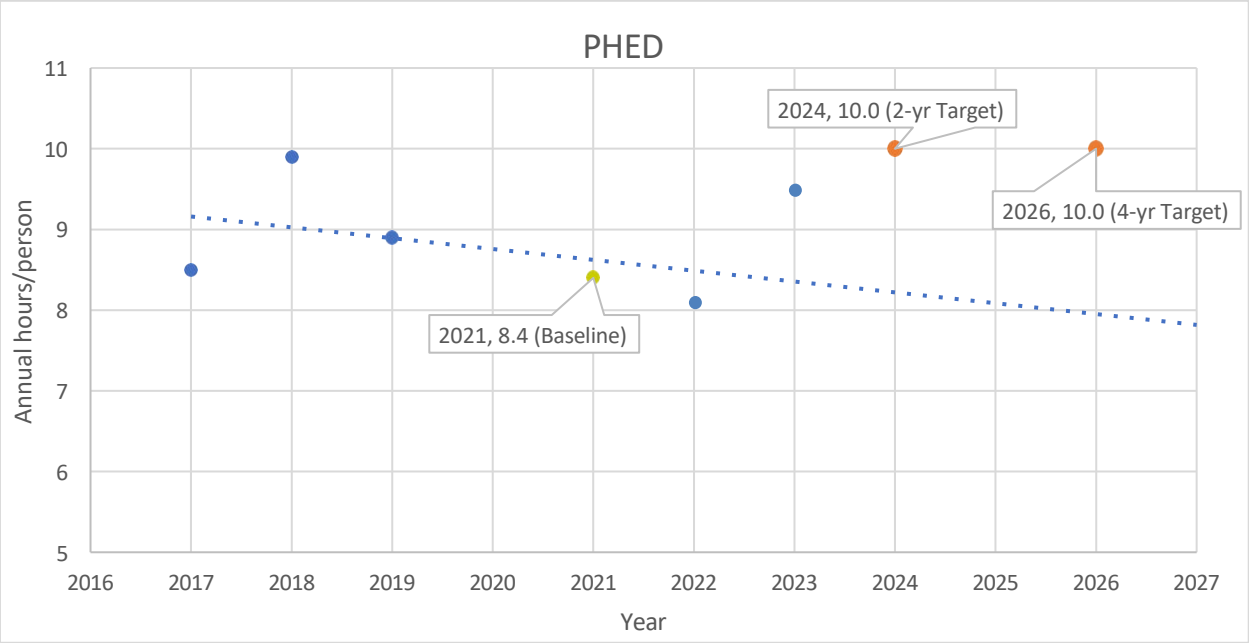

Figure 1. Plot of Baseline and Target PHED values

Table 2 presents actual PHED per person, per year for the Louisville urbanized area for 2020, 2021, 2022 and 2023. In these 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
2022	7.9
2023	9.3

% Non-SOV

Table 3 and Figure 2 show 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 INDOT, KYTC, and FHWA advisors. As shown, the 2- & 4-year targets were set slightly lower than the baseline due to the uncertainty in teleworking and overall commuting habits. The table and figure have been updated to display the values for 2021 and 2022, with both indicating increases amongst non-SOV travel modes.

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%
2021 (5-yr estimate)	21.1%
2022 (5-yr estimate)	22.6%
2024 2-Year Target	≥ 18.5%
2026 4-Year Target	≥ 19.0%

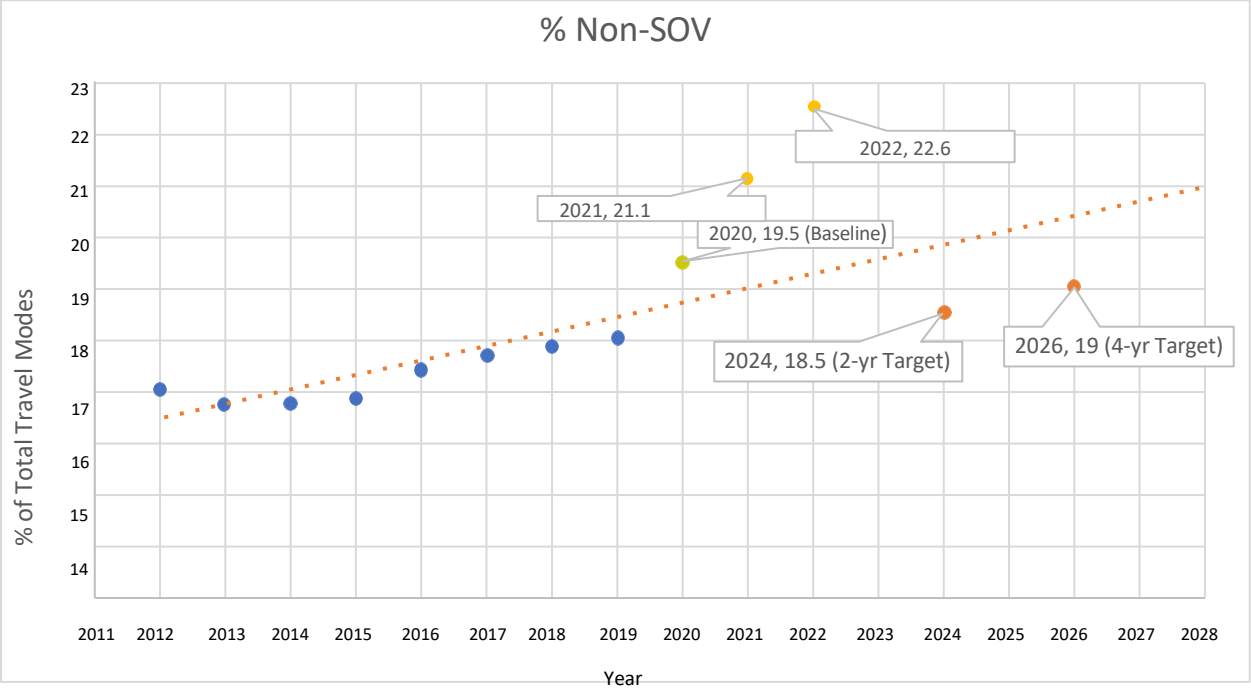

Fig 2. Plot of % Non-SOV baseline and target values

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. This table has been updated to show the Percent non-SOV for 2021 and 2022, which both indicate an increase in non-SOV travel.

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%
2021	21.1%
2022	22.6%

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 recent fiscal years. Overall, nine CMAQ-funded projects have contributed or will contribute (depending on the project phase) to daily emissions savings in the KIPDA region of 39.229 kg/day of VOC and 105.032 kg/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 2023. At the time of the original development of the KIPDA CMAQ Performance Plan in 2022, there were no new projects

(only subsequent projects exist), future projects with obligated CMAQ funding that can be used for the purpose of creating CMAQ Performance Plan metrics (these projects would normally be used to help set targets). This has been reassessed at the Mid-performance Period with projects introduced through a KIPDA Call for Projects. 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
2023	KY	TARC Project	Purchase Two (2) Extended Range Electric Buses	Congestion Mitigation	0.043	1.296	Reduces congestion and emissions	Encourages transit ridership
2022	IN	1800646	I- 65 Intelligent Transportation Systems (ITS) Deployments	Upgrades monitoring capabilities, ITS	0.521	1.567	Reduces congestion & delay	N/A
2022	KY	5-3036.00	Ohio River Valley NE Bike/Ped Improvements Phase I (Louisville Loop)	New mixed use pedestrian path	0.11	0.48	Encourages alternate modes	N/A
2020	IN	IN20200015	ITS - CCTV/DMS on I-65 from 2.1 miles S of SR160 to Clark/Scott County Line	ITS, Freeway Management Systems	.521	1.567	Reduces congestion & delay	N/A
2019	IN	IN20190003	Cross River Connector Project	Operating Assistance and Fuel, New Service, Bus	.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	TS, 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	**39.229**	**105.032**		