



CMAQ Full Performance Report

August 23, 2022

MPO Name: OKI Regional Council of Governments
TMA and States: Cincinnati, OH-KY-IN

This OKI CMAQ Performance Plan is prepared as an element of the Ohio Department of Transportation, Kentucky Transportation Cabinet, and Indiana Department of Transportation statewide CMAQ Performance reports for the full performance period in accordance with the requirements of 23 CFR 490.107(c) and 23 USC 149(l) by OKI staff in collaboration with the respective state departments of transportation, FHWA, and other stakeholders. Specifically, the report addresses the progress made toward 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).

Table 1a shows the baseline and four-year target peak hours of excessive delay (PHED) per person, per year for the Cincinnati urbanized area. The data for this metric was derived from FHWA vehicle occupancy factors, HPMS traffic count data, and the NPMRDS travel time data set.

Table 1a – Traffic Congestion Measures: Peak Hour Excessive Delay (PHED)

Measure	Metric (annual hours per person)
2017 Baseline PHED	8.7
2020 2-Year PHED Target	N/A
2022 4-Year PHED Target	< 12.0

Table 1b presents actual PHED per person, per year for the Cincinnati urbanized area for the years 2018 through 2021. In all four years, PHED was below the four-year target of 12.0. Metrics in the years 2019 through 2021, were equal to or below the 2017 baseline of 8.7. The data for this metric was derived from FHWA vehicle occupancy factors, HPMS traffic count data, and the NPMRDS travel time data set.

Table 1b – Traffic Congestion Measures: Actual Peak Hour Excessive Delay (PHED) Statistics

Year	Metric (annual hours per person)
2018	11.5
2019	8.7
2020	5.1
2021	6.8

Table 2a shows the baseline, two-year, and four-year targets for non-single occupancy vehicle travel (Non-SOV) in the Cincinnati urbanized area. The data for this metric was derived from the American Community Survey Economic Characteristics table.

Table 2a – Traffic Congestion Measures: Non-Single Occupancy Vehicle (Non-SOV) Travel

Measure	Metric (% of total travel modes)
2017 Baseline	17.6%
2-Year Target	≥ 17.4%
4-Year Target	≥ 17.4%

Table 2b presents actual Non-SOV travel in the Cincinnati urbanized area for the years 2018 through 2021. Non-SOV travel during each of the four years was above both the two- and four-year targets of 17.4 percent. In comparison to the 2017 baseline, Non-SOV travel in each of the four years was a minimum of 0.5 percent higher than 2017 levels. The data for this metric was derived from the American Community Survey Economic Characteristics table.

Table 2b – Traffic Congestion Measures: Actual Non-Single Occupancy Vehicle (Non-SOV) Travel Statistics

Year	Metric (% of total travel modes)
2018	18.1%
2019	19.0%
2020	18.6%
2021	20.0%

Table 3a shows the on-road baseline, two-year, and four-year quantitative emissions targets for Volatile Organic Compounds (VOC), Nitrous Oxide (NOx), and Particulate Matter having a diameter of less than 2.5 micrometers (PM2.5). The baseline data was derived from the CMAQ Public Access System and aggregated, by state and pollutant type for the years 2014 – 2017. The data for the two and four-year targets was derived from CMAQ-eligible projects in the OKI TIP with quantitative emissions benefits, for the years 2018 – 2021.

Table 3a – On-Road Mobile Source Emissions

Measure	State	NOx (kg/day)	VOC (kg/day)	PM2.5 (kg/day)
2014-2017 Baseline	Indiana	N/A	N/A	N/A
	Kentucky	33.4	4.93	2.91
	Ohio	309.24	61.65	13.22
2020 2-Year Target	Indiana	1,600	1,600	20
	Kentucky	100	100	N/A
	Ohio	537	69	36
2022 4-Year Target	Indiana	2,200	2,600	30
	Kentucky	36	48	N/A
	Ohio	537	69	36

Table 3b presents the on-road actual quantitative emissions statistics for VOC, NOx, and PM2.5 in fiscal years 2018 through 2021. During the four-year period, both Ohio and Kentucky CMAQ-funded projects in the OKI region contributed toward statewide daily emissions reduction targets. Overall, 35 CMAQ-funded projects (Table 3c) contributed to daily emissions savings in the OKI region of 31.22 kg of VOC, 252.14 kg of NOx, and 8.56 kg of PM2.5, during fiscal years 2018 through 2021. This data was derived from the FHWA CMAQ Public Access System and encompasses all CMAQ-funded projects within the OKI region with on-road mobile source emissions savings that were obligated during FY 2018 through 2021.

Table 3b – Actual On-Road Mobile Source Emissions Statistics

Year	State	NOx (kg/day)	VOC (kg/day)	PM2.5 (kg/day)
2018	Indiana	0.00	0.00	0.00
	Kentucky	0.00	0.00	0.00
	Ohio	132.34	12.74	4.08
2019	Indiana	0.00	0.00	0.00
	Kentucky	0.21	0.40	0.00
	Ohio	14.53	3.13	0.36
2020	Indiana	0.00	0.00	0.00
	Kentucky	0.00	0.00	0.00
	Ohio	22.86	7.49	1.99
2021	Indiana	0.00	0.00	0.00
	Kentucky	4.13	2.95	0.67
	Ohio	78.07	4.50	1.46

Table 3c – FY2018 through FY2021 CMAQ-funded Projects Actual Emissions Benefits

Year	PID	State	Facility/Agency	Location	Description	VOC (kg/day)	NOx (kg/day)	PM2.5 (kg/day)	PHED Benefit	Non-SOV Benefit
18	99799	Ohio	BCRTA	BCRTA	Bus Replacements	0.2	3.49	0.09	Removes multiple vehicles from network	Encourages transit ridership
18	99155	Ohio	SORTA	SORTA	Bus Replacements	5.898	110.773	2.455	Removes multiple vehicles from network	Encourages transit ridership
18	106797	Ohio	SORTA	SORTA	Bus Replacements - DERG	0	1.655	0.142	Removes multiple vehicles from network	Encourages transit ridership
18	99801	Ohio	SORTA	SORTA	Bus Replacements	1.95	12.14	1.09	Removes multiple vehicles from network	Encourages transit ridership
18	98771	Ohio	Fairfield ITS Phase 2	Throughout the City of Fairfield	Upgrades to existing central traffic system with advanced technology	0.99	1.22	0.13	Reduces congestion and delay	N/A
18	101886	Ohio	Cincinnati CTCS Zone 9	Hamilton County	Upgrades to existing central traffic system with advanced technology	1.25	0.9	0.06	Reduces congestion and delay	N/A
18	99839	Ohio	SR 32	Bells Lane at SR 32 and Old SR 74	Improvements at two intersections	2.21	1.58	0.11	Reduces congestion and delay	N/A
18	94484	Ohio	Cincinnati Traffic Signals Zone 1	130 signalized intersections in CBD bounded by Mehring Way, Central Pkwy, Central Ave, Eggleston Ave	Install underground duct bank with fiber optic interconnect cable, upgrade signals to LED technology	0.24	0.58	0.004	Reduces congestion and delay	N/A
19	6-287	Kentucky	KY 1072 (Kyles Lane)	Align intersections of US 25 and Kyles Lane (KY 1072) toll credits	Roadway realignment	0.4	0.21	0.001	Reduces congestion and delay	N/A

Year	PID	State	Facility/Agency	Location	Description	VOC (kg/day)	NOx (kg/day)	PM2.5 (kg/day)	PHED Benefit	Non-SOV Benefit
19	99155	Ohio	SORTA	SORTA	Bus replacements - CMAQ transfers for the OTPPP,	2.877	3.431	0.065	Removes multiple vehicles from network	Encourages transit ridership
19	99347	Ohio	WCTA	WCTA	Vehicle Replacement and Capitalized Maintenance; CMAQ funds only are a flex fund transfer,	0.195	0.088	0.001	Removes multiple vehicles from network	Encourages transit ridership
19	103348	Ohio	BCRTA	BCRTA	Bus Replacements	0.06	3.4	0.01	Removes multiple vehicles from network	Encourages transit ridership
19	109541	Ohio	SORTA	SORTA	Bus Replacements - DERG	0	3.016	0.011	Removes multiple vehicles from network	Encourages transit ridership
19	104913	Ohio	Southwest School System	Southwest School System - DERG	Replace four model year 1999-2004 diesel powered school buses with four new diesel-powered school buses.,	0	1.451	0.109	Removes multiple vehicles from network	Encourages transit ridership
19	105012	Ohio	Forest Hills School System	Forest Hills School System - DERG	Replace 11 model year 1998-2000 diesel-powered school buses with 11 new propane-powered school buses	0	3.147	0.162	Removes multiple vehicles from network	Encourages transit ridership
20	94491	Ohio	ORT Salem to Sutton	East side of Kellogg Avenue between Salem and Sutton Roads	Construct 10' wide bike path and 5' side path with retaining walls to accommodate grading	0.048	0.073	0.002	Encourages alternate modes	Encourages alternate modes
20	97784	Ohio	OKI	OKI	Rideshare Program	2.865	7.886	0.969	Removes multiple vehicles from network	Encourages carpooling

Year	PID	State	Facility/Agency	Location	Description	VOC (kg/day)	NOx (kg/day)	PM2.5 (kg/day)	PHED Benefit	Non-SOV Benefit
20	99837	Ohio	Montgomery Road (US-22/SR-3)	Montgomery Road (US-22/SR-3) from the Norwood corp. line to the Silverton corp. line	Upgrade all traffic signals in corridor and re-stripe roadway to provide a five-lane section.	0.16	0.11	0.01	Reduces congestion and delay	N/A
20	100046	Ohio	ORT West Segment 1	Phase 1- Evans Recreational area to State Street	Construction of Ohio River Trail 10' wide bicycle trail--segment 1	0.16	0.4	0.01	Encourages alternate modes	Encourages alternate modes
20	100885	Ohio	Mason Snider Road	Mason & Snider Road intersection and Snider & Thornberry Court intersection	Reconstruction of existing intersections into single lane roundabouts	0.42	0.3	0.02	Reduces congestion and delay	N/A
20	103349	Ohio	SORTA	SORTA	Bus Replacements	1.63	10.12	0.9	Removes multiple vehicles from network	Encourages transit ridership
20	103392	Ohio	Montgomery Road (US 22) Sidewalks	West side of road from Dearwester Dr. to existing sidewalk 375' south of Pinehurst Lane	Construction of new sidewalk	0.518	1.3	0.037	Encourages alternate modes	Encourages alternate modes
20	107292	Ohio	CLE US 50/SR 132 Intersections	US 50 and SR 132 intersections in Village of Owensville (two intersections)	Add turn lanes, curb, sidewalk, storm sewer, curb ramps and upgrade signals.	0.37	0.43	0.001	Reduces congestion and delay	N/A
20	107296	Ohio	Mt. Healthy Signal System Phase 2	US 127 (Hamilton Av) and Compton Road	Upgrade 14 traffic signals.	1.32	1.55	0.04	Reduces congestion and delay	N/A
20	112320	Ohio	SORTA	SORTA	Bus Replacements - DERG	0	0.691	0.002	Removes multiple vehicles from network	Encourages transit ridership
21	6-00082	Kentucky	I-75 Exit Ramps	I-75 Exit Ramps @ Pike and 4th St	Congestion Reduction, Left-Turn / Managed lanes, Construction.	2.95	4.127	0.669	Reduces congestion and delay	N/A

Year	PID	State	Facility/Agency	Location	Description	VOC (kg/day)	NOx (kg/day)	PM2.5 (kg/day)	PHED Benefit	Non-SOV Benefit
21	94519	Ohio	Cincinnati Bulk Terminals	Milepost 3.4 to 4.1 located between the existing King-Wade Siding and the mainline	Construction of a new 3,673' siding to support local switching operations when serving nearby customers.	0.45	62.26	0.48	Reduces congestion and delay	N/A
21	100882	Ohio	WAR SR 741/Parkside Drive	Intersection of SR-741 with Kings Mill Road and Parkside Drive	Reconfigure roadway to include new through lane, a new signalized intersection, and extend Parkside Drive and convert it to a cul-de-sac.	0.35	0.25	0.02	Reduces congestion and delay	N/A
21	103371	Ohio	Butler Warren Road	Intersection of Butler Warren Road with Western Row/Barret Road	Convert intersection to a modern roundabout. Improve curb, gutter, drainage, culvert and geometry.	0.34	0.25	0.02	Reduces congestion and delay	N/A
21	103416	Ohio	Plainfield Road	Intersections with EB SR 126 ramps, Hunt Road and Peppermill Ln/Reed Hartman Hwy	Conversion of three signalized intersections to multi-lane modern roundabouts	0.4	0.29	0.02	Reduces congestion and delay	N/A
21	106571		OKI	OKI	Rideshare Program	1.1771	3.2405	0.3984	Removes multiple vehicles from network	Encourages carpooling
21	107283	Ohio	SORTA FY21 Bus Replacements	Hamilton County	Bus replacements using OKI CMAQ funds as a flex fund transfer.	1.65	9.97	0.511	Removes multiple vehicles from network	Encourages transit ridership
21	107295	Ohio	Little Miami Scenic Trail-Beechmont Connector	Connecting existing trail termini north of Beechmont Av and Lunken Loop trail.	Construct 12' wide multi-use trail, crossing LMR via new bridge, utilizing existing bridge foundation	0.097	0.132	0.005	Encourages alternate modes	Encourages alternate modes

Year	PID	State	Facility/Agency	Location	Description	VOC (kg/day)	NOx (kg/day)	PM2.5 (kg/day)	PHED Benefit	Non-SOV Benefit
21	107301	Ohio	HAM US 22/SR 3 9.66 Silverton	US 22 (Montgomery Road) at Highland Av, Sampson Ln, Plainfield Rd, and Elwynne Dr.	Upgrade signals at Higland, Sampson and Elwynne. Upgrade signal at Plainfield. Access management.	0.04	0.04	0.001	Reduces congestion and delay	N/A
21	114454	Ohio	SORTA	SORTA	Bus Replacements - DERG	0	1.6329	0.005	Removes multiple vehicles from network	Encourages transit ridership

Appendix

Appendix 1 – Performance Management Form FY2018 through FY2021 for Ohio

Project Description	VOC (kg/day)	CO (kg/day)	NOx (kg/day)	PM2.5 (kg/day)
Traffic Flow Projects - Traffic Engineering - Turn Lanes.	4.00		4.40	0.25
Pedestrian/Bicycle Project - Facilities - Separate Path.	0.257		0.532	0.015
Facilities, Other - Description, Bike/Ped Path	0.566		1.373	0.039
Congestion Reduction, Left-Turn/Managed lanes, design				
Operating Assistance and Fuel, Expansion, Bus, Operating Assistance (Yrs. 1), Description, Funding for operating assistance to expand bus service.	14.46		165.00	5.55
Congestion Reduction, Left-Turn/Managed Lanes, Construction	8.5821		76.4865	2.0384
Total Emissions Benefit	27.87		247.80	7.89

Appendix 2 – Performance Management Form FY2018 through FY2021 for Kentucky

Project Description	VOC (kg/day)	CO (kg/day)	NOx (kg/day)	PM2.5 (kg/day)
Traffic Flow Projects - Traffic Engineering - Turn Lanes.				
Pedestrian/Bicycle Project - Facilities - Separate Path.				
Facilities, Other - Description, Bike/Ped Path				
Congestion Reduction, Left-Turn/Managed lanes, design				
Operating Assistance and Fuel, Expansion, Bus, Operating Assistance (Yrs. 1), Description, Funding for operating assistance to expand bus service.				
Congestion Reduction, Left-Turn/Managed Lanes, Construction	3.35		4.34	0.67
Total Emissions Benefit	3.35		4.337	0.67

Appendix 3 – Performance Management Form FY2018 through FY2021 for Indiana

Project Description	VOC (kg/day)	CO (kg/day)	NOx (kg/day)	PM2.5 (kg/day)
Traffic Flow Projects - Traffic Engineering - Turn Lanes.				
Pedestrian/Bicycle Project - Facilities - Separate Path.				
Facilities, Other - Description, Bike/Ped Path				
Congestion Reduction, Left-Turn/Managed lanes, design				
Operating Assistance and Fuel, Expansion, Bus, Operating Assistance (Yrs. 1), Description, Funding for operating assistance to expand bus service.				
Congestion Reduction, Left-Turn/Managed Lanes, Construction				
Total Emissions Benefit				