



CMAQ Baseline Performance Plan

September 07, 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 baseline 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 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) |
|-------------------------|---|
| 2021 Baseline PHED | 9.6 |
| 2024 2-Year PHED Target | < 9.0 |
| 2026 4-Year PHED Target | < 9.0 |

Table 1b 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 1b – Traffic Congestion Measures: Non-Single Occupancy Vehicle (Non-SOV) Travel

| Measure | Metric (% of total travel modes) |
|--------------------|---|
| 2021 Baseline | 17.7% |
| 2024 2-Year Target | ≥ 18.5% |
| 2026 4-Year Target | ≥ 18.5% |

Table 2 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 2016 – 2020. The data for the two and four-year targets was derived from projects in the TIP with quantitative emissions benefits, for the years 2022-2026.

Table 2 – On-Road Mobile Source Emissions

| Measure | State | NOx (kg/day) | VOC (kg/day) | PM2.5 (kg/day) |
|--------------------|----------|--------------|--------------|----------------|
| 2016-2020 Baseline | Indiana | 3,484.76 | 1,010.30 | 168.33 |
| | Kentucky | 97.86 | 41.05 | N/A |
| | Ohio | 253.67 | 52.7 | 10.43 |
| 2024 2-Year Target | Indiana | 690 | 590 | 3 |
| | Kentucky | 100 | 100 | N/A |
| | Ohio | 250 | 60 | 30 |
| 2026 4-Year Target | Indiana | 725 | 600 | 4 |
| | Kentucky | 200 | 200 | N/A |
| | Ohio | 250 | 60 | 30 |

Table 3 lists all of the future projects in the TIP with quantitative emissions benefits for the years 2022-2026. Additionally, each project includes a description on how OKI anticipates these projects will contribute to the achievement of the PHED and Non-SOV targets.

Table 3 – Future Projects Estimated Emissions Benefits

| Year | PID | State | Facility | Location | Description | VOC (kg/day) | NOx (kg/day) | PM2.5 (kg/day) | PHED Benefit | Non-SOV Benefit |
|------|---------|---------|----------------------------------|---|---|--------------|--------------|----------------|------------------------------|-----------------|
| 22 | 1297183 | Indiana | State Line Road | State Line Road and US 50 | Intersection improvement | 0.015 | 0.016 | 0.000 | Reduces congestion and delay | N/A |
| 22 | 100816 | Ohio | Countryside YMCA Trail Extension | Bridge rehab & new trail btwn Lebanon Bike Park E of SR 48 and the YMCA. Connect north to Forge Rd. | Construction of new section of the Lebanon Countryside YMCA Trail. Includes rehab of E. Turtlecreek Union Road Bridge over SR 48. | 0.022 | 0.030 | 0.001 | Encourages alternate modes | N/A |

| Year | PID | State | Facility | Location | Description | VOC (kg/day) | NOx (kg/day) | PM2.5 (kg/day) | PHED Benefit | Non-SOV Benefit |
|------|--------|-------|----------------------------------|--|--|--------------|--------------|----------------|------------------------------|------------------------------|
| 22 | 107130 | Ohio | HAM CR 284 1.33 Pfeiffer Road | Intersection of Pfeiffer Road and Deerfield Road | Construct roundabout | 0.062 | 0.073 | 0.002 | Reduces congestion and delay | N/A |
| 22 | 107302 | Ohio | WAR US 42 Roundabouts | Intersections at Bethany Road and Mason-Morrow-Millgrove Road | Convert two existing stop controlled "T" intersections to roundabouts. Add multi-use path. | 1.291 | 1.516 | 0.042 | Reduces congestion and delay | N/A |
| 22 | 107866 | Ohio | HAM Winton Rd/IR 275 Ramp Y | Omniplex Drive south to Ramp Y (WB I-275 on-ramp) | Additional right turn lane from SB Winton onto WB I-275 on-ramp. Dual right turns on ramp. | 0.490 | 2.114 | 0.111 | Reduces congestion and delay | N/A |
| 22 | 108014 | Ohio | HAM US 50 8.43 Thornton Ave | Thornton Av from Forbes Rd across the RR and River Road (US 50) | Bike/ped crossing along south side of Thornton Av, across River Rd and RR tracks to Fernbank Park | 0.018 | 0.024 | 0.001 | Encourages alternate modes | N/A |
| 23 | 108112 | Ohio | BUT Oxford Area Trail Phase 3 | Connection of Peffer Park to Talawanda High School | Construction of shared use path on south side of Oxford. Also paving the existing crushed aggregate path that connects Bonham Rd and SR 73 on the east side. | 0.021 | 0.029 | 0.001 | Encourages alternate modes | N/A |
| 23 | 108254 | Ohio | CLE CR 3 Aicholtz Rd Roundabouts | West of Eastgate Square Drive to Glen-Este Withamsville Rd north of Burgoyne Drive | Construct three roundabouts (1) Aicholtz at Eastgate Square Drive (2) realigned Aicholtz with Glen Este Withamsville (south), and (3) realigned Aicholtz with Glen Este Withamsville (north) | 1.122 | 1.318 | 0.037 | Reduces congestion and delay | N/A |
| 23 | 109079 | Ohio | HAM Uptown Smart Hub | Within an area bounded by Reading Road (US 42), Whitter Avenue, I-71 and MLK Drive | Multi-modal transportation facility with fixed route bus and institutional shuttles. Includes park and ride and connection to bike/ped facilities | 5.863 | 8.089 | 0.297 | Encourages alternate modes | Encourages transit ridership |
| 23 | 114042 | Ohio | US 52 | within Village of New Richmond | Convert four lanes of US 52 into two lanes and provide bike/ped path at former SB lanes. Convert intersections at Front, Sycamore, Walnut and Augusta Streets into roundabouts. | 0.107 | 0.094 | 0.004 | Reduces congestion and delay | N/A |

| Year | PID | State | Facility | Location | Description | VOC (kg/day) | NOx (kg/day) | PM2.5 (kg/day) | PHED Benefit | Non-SOV Benefit |
|-----------------------------------|--------|-------|---|--|---|---------------|---------------|----------------|--|------------------------------|
| 23 | 114214 | Ohio | US 42 Shared Use Path | Between Downtown Sharonville and East Kemper Road | Construct a shared use path | 0.215 | 0.25 | 0.012 | Encourages alternate modes | N/A |
| 24 | 114348 | Ohio | SORTA Bus Replacement FY 2024 CMAQ | Hamilton County | Replacement of 15 10' buses with clean diesel technology buses | 0.154 | 6.938 | 0.032 | Removes multiple vehicles from network | Encourages transit ridership |
| 24 | 115277 | Ohio | HAM VAR CTCS OTR West End | West End, Queensgate, Pendleton and OTR neighborhoods | Establish a fiber optic communications platform to interconnect traffic signals. Includes underground duct bank, fiber cable, network communications, traffic signal controllers for adaptive system. | 1.44 | 1.27 | 0.05 | Reduces congestion and delay | N/A |
| 25 | 115942 | Ohio | SORTA North College Hill Transit Center | Hamilton County | SORTA's North College Hill Transit Center construction project through OKI's CMAQ program for SFY25 | 6.036 | 5.759 | 0.284 | Encourages alternate modes | Encourages transit ridership |
| 25 | 115997 | Ohio | BCRTA EPIC Bus Replacements FY25 | Butler County | Bus replacements using OKI CMAQ funds as a flex fund transfer for Environmentally Preventing Increasing Carbon (EPIC) vehicles | 0.045 | 0.919 | 0.04 | Removes multiple vehicles from network | Encourages transit ridership |
| 25 | 117001 | Ohio | BUT Oxford Area Trail Phase 5 | Peffer Park to Talawanda Middle School and Chestnut Fields Multi-Modal Hub | Construct three segments of the Oxford Area Trail | 0.037 | 0.041 | 0.002 | Encourages alternate modes | N/A |
| 25 | 117016 | Ohio | Winton Woods to Glenwood Gardens Trail | West Fork Mill Creek Greenway Trail to Harbor Loop Trail in Winton Woods | Extension of trail | 0.265 | 0.295 | 0.015 | Encourages alternate modes | N/A |
| 26 | 115941 | Ohio | SORTA OKI Bus Replacements FY26 | Hamilton County | Bus replacements for SORTA through OKI's CMAQ program for SFY26 | 0.024 | 1.012 | 0.022 | Removes multiple vehicles from network | Encourages transit ridership |
| Total Emissions Reductions | | | | | | 17.227 | 29.787 | 0.953 | | |