

Appendix A – Air Quality

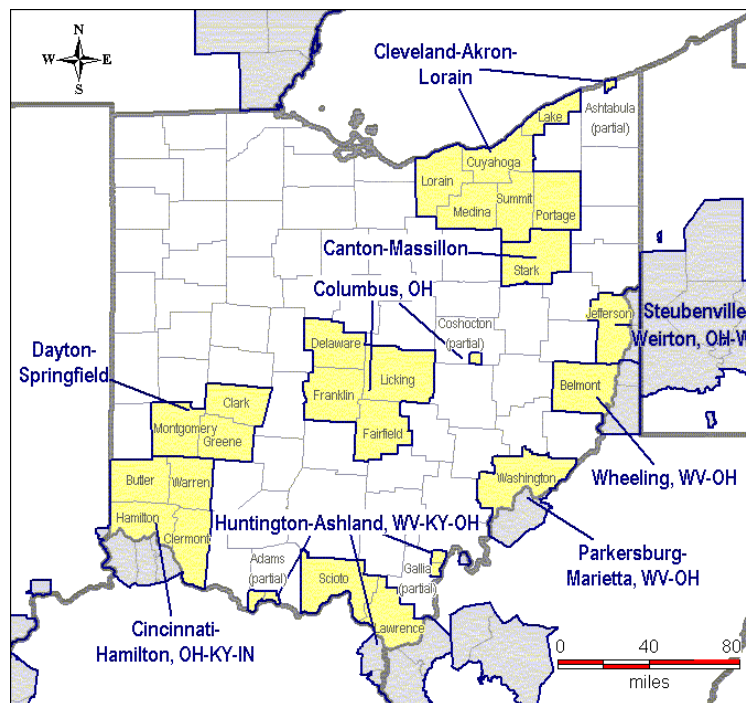
Transportation Air Quality Analysis and Technical Documentation For the Canton/Massillon Metropolitan Statistical Area State Implementation Plan Inventory Mobile Emission Estimates For the U.S. EPA 2006 Daily PM_{2.5} & 1997 8-Hour Ozone National Ambient Air Quality Standard

INTRODUCTION

This memorandum documents the air quality analysis and underlying planning assumptions performed for the 2006 Daily PM_{2.5} on-road mobile source emission inventories for the Canton/Massillon Metropolitan Statistical Area State Implementation Plan (SIP). The Ohio Department of Transportation (ODOT), Division of Transportation System Development-Modeling and Forecasting Section and the Stark County Area Transportation Study (SCATS) completed this analysis in coordination with the Ohio Environmental Protection Agency (OEPA).

The SCATS Region is comprised of Stark County, Ohio. The Canton/Massillon Metropolitan Statistical Area (MSA) was classified as nonattainment for PM_{2.5} in the Federal Register on December 18th, 2014. Although the MSA area also includes Carroll County, OEPA and USEPA concurred that only Stark County is designated as the nonattainment area within the MSA as Carroll County is rural in nature with a population of less than 30,000. SCATS is the MPO (Metropolitan Planning Organization) for this county. The SCATS MPO boundary and urban planning model cover the entire nonattainment area. This area is shown on the following map as prepared by the USEPA.

Figure 1 – Location of Massillon/Canton MSA



Map as shown at: <http://www.epa.gov/pmdesignations/states/Ohio.htm>

SCATS submitted the necessary Travel Demand Model networks along with all land use and socio-economic demographics to ODOT Modeling and Forecasting. ODOT performed the MOVES runs to generate travel-demand-model-based emission factors as well as the complete air quality analyses for the metropolitan area.

Stark County is a US EPA designated 1997 Ozone Standard “Orphan” area and has been determined in conformity based on a qualitative conformity determination consistent with US EPA’s November 29, 2018 guidance resulting from the South Coast II Court Decision.

ON-ROAD MOBILE EMISSION CONFORMITY TEST RESULTS

Table 1 below presents a summary of the pollutant emissions including Fine Particulate Matter (PM_{2.5}) and Nitrogen Oxides (NO_x) modeled for the SCATS Region. The Model Years for the demonstration includes the Budget Year 2025 compared to Interim Years 2030 and 2040, and Maintenance Year 2050.

Table 1
SCATS REGION ON-ROAD MOBILE EMISSION CONFORMITY TEST RESULTS

Stark County	Tons Per Year			
	2025 Budget	2030 Emissions	2040 Emissions	2050 Emissions
Direct PM _{2.5}	101.50	35.296	28.397	27.193
NO _x Precursors	4673.83	660.212	315.032	269.845

The SCATS model shows on-road PM_{2.5} emissions and NO_x precursor emissions at less than the allowed budget in every year of the Plan. The model shows PM_{2.5} emissions of 35.296 tons in 2030, 28.397 tons in 2040, and 27.193 tons in 2050. The model shows NO_x Precursor emissions of 660.212 tons in 2030, 315.032 tons in 2040, and 269.845 tons in 2050.

LATEST PLANNING ASSUMPTIONS

The annual PM_{2.5} inventory runs meet the latest planning-assumption requirements. This report presents the latest population and land use data available that calibrated the modeling process used to calculate the vehicle emissions for the mobile-emissions budgets, as well as, the input values for U.S. EPA’s most recent emissions software MOVES for this air-quality determination.

This determination utilizes the U.S. EPA’s most recent emissions software, MOVES, for all mobile-source-emission analyses, and the annual emissions estimates are based on a single-season approach. Since travel demand models produce average daily conditions, the daily emissions estimates are multiplied by 365 days to produce annual emissions estimates expressed in tons per year.

TRAVEL DEMAND MODELING - ANALYSIS YEARS

A Travel Demand Model (TDM) is the traditional forecasting tool used to examine potential changes in future travel patterns for a specific study area, in this case the Canton/Massillon Metropolitan Statistical Area. The SCATS MPO, with the assistance of ODOT Modeling & Forecasting, maintains a validated region-wide TDM that employs a four-step modeling process consisting of trip generation, trip distribution, mode choice, and route assignment performed with the Cube Voyager software package. The model outputs generated from the TDM are link-by-link directional traffic volumes for four time

periods, morning, mid-day, evening, and night-time. The outputs are used for simulating Base Year and Horizon Year travel patterns generated by the LRTP transportation network.

The current SCATS TDM Validation Year is 2010. The model uses comparable Average Daily Traffic count data, updated socio-economic variables for each of the analysis years by projecting land use commitments for 2030, 2040, and 2050 variables based on the Ohio Department of Development's population projections for those years. These networks represent all planned federal-aid projects as well as any regionally significant projects found in the SCATS TIP and LRTP expected to be open for traffic by the end of each respective analysis year.

The interagency consultation process, established the following model years for the analysis that reflected the most recent correspondence from the U.S. EPA:

- Budget Year 2025 – Budget Year
- Analysis Year 2030 – Interim Year
- Analysis Year 2040 – Interim Year
- Analysis Year 2050 – Maintenance Year

SOCIO-ECONOMIC DEMOGRAPHICS

Identifying projected growth centers and understanding urban and rural population changes are essential to determining future transportation needs in a given study area. Critical elements include an understanding of the past and anticipated future shifts in the region's economy, population, land use patterns, and other environmental factors over time. In turn, these factors are useful for predicting future transportation patterns and justifying transportation improvements over the next twenty-plus years.

Travel forecasting procedures require the user to delineate the TDM study area into geographic areas called Traffic Analysis Zones (TAZs). Typically, TAZs are based on factors such as land use, area types (urban, suburban or rural), or political government units such as cities, villages, or townships. TAZs represent centers of travel generators or attractors based on a set of demographic variables. The SCATS MPO collects and reviews the TDM independent variables that characterize current and future estimates of the metropolitan area's social and economic activity that may influence land-use development patterns. In all, there are 696 TAZs in the SCATS model. Figure 2 displays the SCATS MPO geography covered by the travel demand model including the Traffic Analysis Zone structure. The computer-based TDM for the SCATS highway network employs the following land use variables:

- [AREA_TYPE] ≡ Area Type
- [AVG_PARK] ≡ Average parking cost
- [ENROLL] ≡ School enrollment classified by Private [ENROLL_PRIV], Public [ENROLL_PUB] and Post-secondary [ENROLL_UNIV] schools
- [HOTEL_RM] ≡ Hotel Rooms
- [MED_HHINC] ≡ Median household income
- [POP] ≡ Population
- [POP_18] ≡ Population 18 years or less
- [POP_GRP] ≡ Population residing in Group Quarters
- [TOTEMP] ≡ Total Employment grouped by the North American Industrial Classification System (NAICS)
- [TOT_HH] ≡ Occupied housing
- [TOT_VEH] ≡ Vehicles available per household

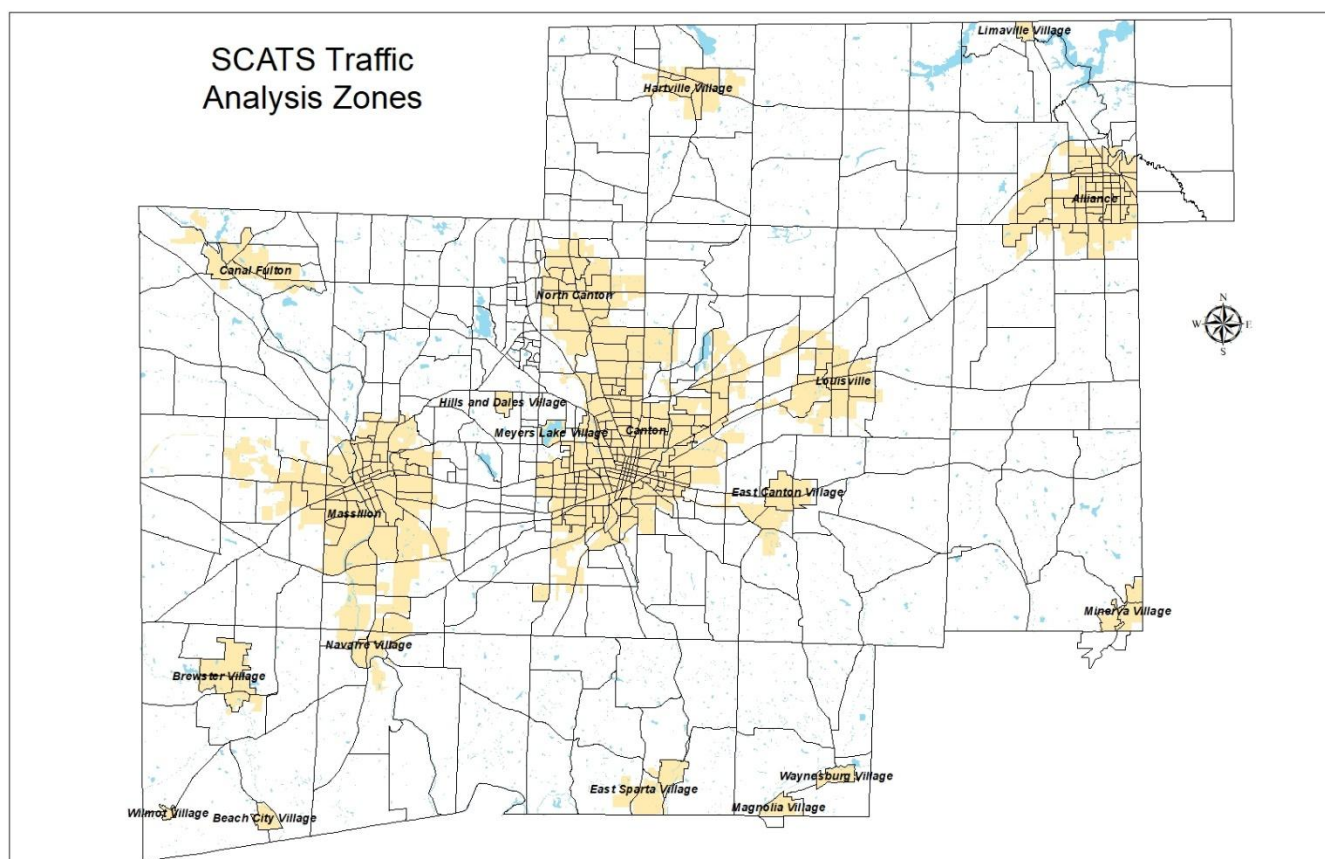
- [WORKERS] $\equiv$ Workers per household

Table 2 is a set of demographic variables developed for the most recent Long-Range Transportation Plan update for the SCATS area compiled in November, 2024.

Table 2
SCATS REGION
REPRESENTATIVE SOCIO-ECONOMIC DEMOGRAPHIC
VARIABLES 2020-2050

	2030	2040	2050
Population	358,580	337,655	317,552
Workers	179,666	169,167	159,049
Vehicles	256,025	241,090	226,722
Households	152,409	145,425	140,676
Employees	133,470	125,830	118,189

Figure 2
SCATS GEOGRAPHIC AREA
COVERED BY TRAVEL DEMAND MODEL
AND TRAFFIC ANALYSIS ZONE STRUCTURE



EMISSION-FACTOR GENERATION

The MOVES model generated the emission factors for the budget year 2025. The model also generated emission factors for three future-year scenarios 2030, 2040, and 2050.

Table 3 summarizes the settings used in the MOVES run specification file and the MOVES County-Data Manager. The subsequent tables provide the specific inputs that are not using the MOVES default values.

Table 3
MOVES INPUTS

RunSpec Parameter Settings	
MOVES Version	MOVES3.2
Scale	Custom Domain
MOVES Modeling Technique	Emission Factor Method Rates per Distance Rates per Vehicle
Time Span	Time Aggregation: Hour 1 Month representing average annual temperatures All hours of day selected 16 speed bins Weekdays only
Geographic Bounds	Stark County
Vehicles/Equipment	All source types, gasoline and diesel
Road Type	All road types including off-network
Pollutants and Processes	NO _x , All PM _{2.5} categories, SO ₂ , Total Energy Consumption
Strategies	None
General Output	Units = grams, joules and miles
Output Emissions	Time = hour, Location = custom area, on-road emission rates by road type and source use type
Advance Performance	None

Table 3 (continued)
MOVES INPUTS

County Data Manager Sources	
Source Type Population	Combination of local and default data Local data from motor vehicle registration Default data used for source types 51, 52, 53, 61, and 62 Future year growth rate based on MPO model Household growth rate
Vehicle Type VMT	Combination of local and default data HPMSVTypeYear VMT = daily VMT from travel demand model monthVMTFraction = default dayVMTFraction=default hourVMTFraction=local
I/M Program	None
Fuel Formulation	Default
Fuel Supply	Default
Metereology Data	Local data obtained from NOAA National Climatic Data Center. Data will consist of monthly high and low temperatures and daily relative humidity for 2002.
Ramp Fraction	Using the base year travel demand model for VHT fractions. Future fractions will be assumed constant
Road Type Distribution	Use ODOT county summary VMT categorized by federal functional classes
Age Distribution	Combination of local and default data. Local data from motor vehicle registration Default data used for source types 41, 42, 43, 51, 52, 53, 61, and 62 The same age distribution will be used for all analysis years
Average Speed Distribution	Default
Alternative Fuel Type	Default

TEMPERATURE AND RELATIVE HUMIDITY

The single season approach for temperature and relative humidity uses weather data collected by the National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center (NCDC). Temperature data for the MOVES emission factors came from the Akron Canton Airport and are shown in Table 4. Data entered into a spreadsheet, provided by U.S. EPA, converted the Mobile6 data to get the correct data for the MOVES model. Annual PM_{2.5} emissions data were established using the single season methodology. The standard emissions modeling routines establish daily pollutant burdens. Annual direct PM_{2.5}, NO_x precursor, and SO₂ emissions for the PM_{2.5} conformity tests were established by multiplying the daily model results by 365.

Table 4 – Temperature and Relative Humidity Data

Hour	Average Temperature	Average Relative Humidity
1	60.8	82
2	57.2	93
3	57.2	93
4	60.8	82
5	60.8	87
6	62.6	82
7	62.6	82
8	64.4	77
9	66.2	72
10	66.2	72
11	68.0	68
12	69.8	64
13	69.8	64
14	71.6	60
15	69.8	60
16	69.8	60
17	69.8	64
18	66.2	68
19	66.2	63
20	66.2	68
21	66.2	68
22	64.4	72
23	64.4	72
24	60.8	82

RAMP FRACTION

The Base-Year Travel Demand Model used the Vehicles Hour of Travel (VHT) fractions to derive the Ramp Fractions shown in Table 5. The future-year networks also used the base-year fractions.

Table 5
RAMP FRACTIONS

roadTypeID	roadDesc	rampFraction
2	Rural Restricted Access	0.05
4	Urban Restricted Access	0.13

SOURCE-TYPE POPULATION

A combination of local and MOVES default data is the Source-Type Population for vehicle classifications. The MOVES default values provided the data for Source-Type Population 51, 52, 53, 61, and 62 while local data from Ohio motor vehicle registrations accounted for all other Source-Type

Population needed to run the MOVES model. Table 6 shows the Source-Type Population identifications, the corresponding Source-Type Name, and the number of vehicles analyzed for Stark County.

Table 6
SOURCE-TYPE POPULATION FOR YEAR 2005

sourceTypeID	sourceTypeName	sourceTypePopulation
11	MotorCycle	24,199
21	Passenger Car	282,913
31	Passenger Truck	129,129
32	Light Commercial Truck	2,916
41	Intercity Bus	129
42	Transit Bus	19
43	School Bus	744
51	Refuse truck	86
52	Single Unit Short-haul Truck	182
53	Single Unit Long-haul Truck	138
54	Motor Home	418
61	Combination Short-haul Truck	1,063
62	Combination Long-haul Truck	1,223

VEHICLE-AGE DISTRIBUTION

A grouping of data from Ohio sources along with the MOVES model defaults make up the Vehicle-Age Distribution. MOVES default values included Vehicle-Type ID 41, 42, 51, 52, 53, 61, and 62. Local data from Ohio motor vehicle registrations accounted for all other Vehicle-Type ID. Table 7 shows the Vehicle-Age Distribution for Stark County.

Table 7
VEHICLE-AGE DISTRIBUTION FOR STARK COUNTY, OH

Year	Source Type	Age	Fraction	Year	Source Type	Age	Fraction
2005	11	0	0.0015	2005	21	0	0.0060
2005	11	1	0.0214	2005	21	1	0.0238
2005	11	2	0.0508	2005	21	2	0.0362
2005	11	3	0.0633	2005	21	3	0.0440
2005	11	4	0.0790	2005	21	4	0.0471
2005	11	5	0.0733	2005	21	5	0.0510
2005	11	6	0.0719	2005	21	6	0.0491
2005	11	7	0.0794	2005	21	7	0.0530
2005	11	8	0.0576	2005	21	8	0.0562
2005	11	9	0.0530	2005	21	9	0.0545
2005	11	10	0.0446	2005	21	10	0.0624
2005	11	11	0.0365	2005	21	11	0.0613
2005	11	12	0.0260	2005	21	12	0.0562
2005	11	13	0.0217	2005	21	13	0.0543
2005	11	14	0.0203	2005	21	14	0.0487
2005	11	15	0.0210	2005	21	15	0.0500
2005	11	16	0.0167	2005	21	16	0.0398
2005	11	17	0.0114	2005	21	17	0.0337
2005	11	18	0.0087	2005	21	18	0.0282
2005	11	19	0.0077	2005	21	19	0.0215
2005	11	20	0.0073	2005	21	20	0.0178
2005	11	21	0.0088	2005	21	21	0.0150
2005	11	22	0.0091	2005	21	22	0.0111
2005	11	23	0.0103	2005	21	23	0.0082
2005	11	24	0.0177	2005	21	24	0.0069
2005	11	25	0.0159	2005	21	25	0.0057
2005	11	26	0.0135	2005	21	26	0.0045
2005	11	27	0.0162	2005	21	27	0.0026
2005	11	28	0.0241	2005	21	28	0.0017
2005	11	29	0.0186	2005	21	29	0.0017
2005	11	30	0.0927	2005	21	30	0.0478

ROAD-TYPE DISTRIBUTION

The ODOT Division of Highways produced a summary of Vehicle Miles Traveled (VMT), categorized by federal functional class, for Stark County. This summary was used as the basis for the Road-Type-Distribution Fractions. Table 8 illustrates Road-Type Distribution.

Table 8
**ROAD-TYPE DISTRIBUTION FOR STARK COUNTY
NON-ATTAINMENT AREA**

Source Type	Road Type	Road Description	Road-Type VMT Fraction	Source Type	Road Type	Road Description	Road-Type VMT Fraction
11	1	Off-Network	0	43	4	Urban Restricted Access	0.19
11	2	Rural Restricted Access	0.01	43	5	Urban Unrestricted Access	0.62
11	3	Rural Unrestricted Access	0.18	51	1	Off-Network	0
11	4	Urban Restricted Access	0.19	51	2	Rural Restricted Access	0.01
11	5	Urban Unrestricted Access	0.62	51	3	Rural Unrestricted Access	0.18
21	1	Off-Network	0	51	4	Urban Restricted Access	0.19
21	2	Rural Restricted Access	0.01	51	5	Urban Unrestricted Access	0.62
21	3	Rural Unrestricted Access	0.18	52	1	Off-Network	0
21	4	Urban Restricted Access	0.19	52	2	Rural Restricted Access	0.01
21	5	Urban Unrestricted Access	0.62	52	3	Rural Unrestricted Access	0.18
31	1	Off-Network	0	52	4	Urban Restricted Access	0.19
31	2	Rural Restricted Access	0.01	52	5	Urban Unrestricted Access	0.62
31	3	Rural Unrestricted Access	0.18	53	1	Off-Network	0
31	4	Urban Restricted Access	0.19	53	2	Rural Restricted Access	0.01
31	5	Urban Unrestricted Access	0.62	53	3	Rural Unrestricted Access	0.18
32	1	Off-Network	0	53	4	Urban Restricted Access	0.19
32	2	Rural Restricted Access	0.01	53	5	Urban Unrestricted Access	0.62
32	3	Rural Unrestricted Access	0.18	54	1	Off-Network	0
32	4	Urban Restricted Access	0.19	54	2	Rural Restricted Access	0.01
32	5	Urban Unrestricted Access	0.62	54	3	Rural Unrestricted Access	0.18
41	1	Off-Network	0	54	4	Urban Restricted Access	0.19
41	2	Rural Restricted Access	0.01	54	5	Urban Unrestricted Access	0.62
41	3	Rural Unrestricted Access	0.18	61	1	Off-Network	0
41	4	Urban Restricted Access	0.19	61	2	Rural Restricted Access	0.01
41	5	Urban Unrestricted Access	0.62	61	3	Rural Unrestricted Access	0.18
42	1	Off-Network	0	61	4	Urban Restricted Access	0.19
42	2	Rural Restricted Access	0.01	61	5	Urban Unrestricted Access	0.62
42	3	Rural Unrestricted Access	0.18	62	1	Off-Network	0
42	4	Urban Restricted Access	0.19	62	2	Rural Restricted Access	0.01
42	5	Urban Unrestricted Access	0.62	62	3	Rural Unrestricted Access	0.18
43	1	Off-Network	0	62	4	Urban Restricted Access	0.19
43	2	Rural Restricted Access	0.01	62	5	Urban Unrestricted Access	0.62
43	3	Rural Unrestricted Access	0.18				

POST PROCESSING

Several custom programs created by ODOT were used to compute the total emissions. The process uses data on daily and directional traffic distributions as well as more up-to-date volume/delay functions from the 2010 Highway Capacity Manual (HCM). This process, described below and illustrated in Figure 4, also uses rewritten code able to handle the newer model network formats and MOVES-generated emission factors.

The first step in the process involves running postcms.exe to calculate hourly link volumes based on the percentage of the daily volume (travel demand model output) determined by a link's facility and area type. The analysis does not use the link speeds from the travel demand model. Using a link's volume-to-capacity ratio and link group code, a post-process to the model based on HCM methods estimates the link speeds.

The second step (mmoves.exe) uses a combination of the MOVES emission factors and the hourly link volumes that are output of the postcms.exe program. The hourly volumes are multiplied by the MOVES emission factor for the corresponding hour of day, speed bin, and road type to calculate emissions for every network link for each hour. The total link on-road vehicle emissions for the area are the sum of all individual link-hour emissions.

The third step, (vehcalm.exe), calculates vehicle-based emissions for each source type for each hour of the day. A combination of local and default data is the source for the vehicle source type. The final vehicle emissions are the sum of all individual hourly emissions for all vehicle types.

Since the intrazonal trips are not loaded onto the network, the fourth step in the process requires a separate method to account for those trips that use local roads to travel within a zone. The intracalm.exe program uses intrazonal trips to estimate VMT using the area in square miles and intrazonal trips of each zone. The computer program assumes that the zone is circular and uses the radius of the circle as the average trip length for these intrazonal trips. By combining MOVES-generated emissions with estimated intrazonal VMT, the intrazonal emissions are then calculated. The emission rates are the same as those used to calculate link-based emissions.

The final step is to summarize link, vehicle, and intrazonal emissions for each pollutant, and analyzed year, and to multiply annual average daily emissions by 365 to produce an annual estimate.

INTERAGENCY CONSULTATION DOCUMENTATION

Overview:

The Canton MPO (Stark County, Ohio) is initiating a new transportation conformity determination for its updated 2050 Transportation Plan and new 2026 – 2029 Transportation Improvement Program (TIP).

Stark County is a US EPA designated 1997 Ozone Standard “Orphan” area and a 2006 PM_{2.5} Standard Maintenance area.

SCATS proposes advancing a new 2050 MTP and 2026 – 2029 TIP conformity determination based on budget-year comparisons.

Interagency consultation topics:

1. Latest planning assumptions -

- a. Latest planning assumptions – SCATS maintains current travel demand model socio-economic variables and highway/transit networks used to develop the SCATS Transportation Plan.
- b. The socio-economic variables were updated in the fall of 2024 to reflect the latest future population estimates generated by the Ohio Department of Development.
- c. The highway/transit networks will be updated in December, 2024, to reflect the latest project plans of the political subdivisions in Stark County.

2. Latest emission modeling -

- a. SCATS and ODOT will use MOVES3.1

3. SIP TCM Status -

- a. The Ohio SIP does not include any TCM

4. Conformity process schedule -

- a. Public involvement effort - SCATS attended several public events in the fall of 2024, engaging directly with citizens of Stark County and taking their comments on the MTP and TIP. SCATS is soliciting online comments with an interactive online map showing projects from TIP years 2026-2029 and MTP projects through 2050. SCATS will seek additional online comments after a draft TIP is completed. SCATS will hold public meetings between March 11 and April 11, 2025.
- b. Draft completed - January, 2025.
- c. Board approval date - April 28th, 2025.

5. Conformity data/information included in TIP and MTP? -

- a. YES

6. Conformity Tests:

Ozone	
Attainment status:	1997 8-Hour Ozone Standard Maintenance “Orphan” Area
Geography:	Stark County, Ohio
Conformity status:	Qualitative Conformity Determination consistent with US EPA’s November 29, 2018 guidance resulting from the South Coast II Court Decision.
Conformity Tests:	NA
SIP Commitments:	NA
Analysis Years:	NA

PM _{2.5}	
Attainment status:	1997 PM _{2.5} (Annual) Standard and 2006 PM _{2.5} (Daily) Standard Maintenance area 78 FR 62459, effective 10/22/2013
Geography:	Stark County, Ohio
Conformity status:	The table below reflects the PM _{2.5} SIP budget tests that will be conducted for the SCATS 2024 – 2027 TIP.
Conformity Tests:	PM _{2.5} SIP Budget tests
SIP Commitments:	
Analysis Years:	2030, 2040, 2050

PM _{2.5}	<u>2025</u> <u>Budget</u>	<u>2030</u>	<u>2040</u>	<u>2050</u>
Direct PM _{2.5} (Tons/Year)	101.50			
NOx Precursors (Tons/Year)	4673.83			

The interagency consultation process was accomplished through a series of electronic mail messages (email). The relevant emails have been reproduced below in reverse chronological order.

From: Nino.Brunello@dot.ohio.gov <Nino.Brunello@dot.ohio.gov>
Sent: Thursday, March 6, 2025 7:47 AM

To: Dan K. Slicker <dkslicker@starkcountyohio.gov>

Subject: RE: Moves analysis

Dan,

Here is the summary report for the updated emissions totals, using the newer MOVES4 emissions model. I deleted the information for years 2021 and 2025 since they were done with MOVES3, but it was just easier for me to reuse the spreadsheet. The results are lower than last time, and I think the reduction is mostly due to a decrease in model VMT. (and the new MOVES model could also have something to do with it.)

If anyone questions why we didn't use the latest MOVES5 model, it is because you started the IAC process before the new version was released. This was confirmed by USEPA.

Let me know if you have any questions.

Thanks,
Nino

[Nino Brunello, P.E.](#)

Transportation Engineer

ODOT Office of Statewide Planning & Research

1980 W. Broad Street, Mail Stop 3280, Columbus, Ohio 43223

C: 614-214-6438

(W:614-752-5742, but currently not responding due to working from home)

transportation.ohio.gov

From: Dan K. Slicker <dkslicker@starkcountyohio.gov>

Sent: Wednesday, March 5, 2025 8:28 AM

To: Brunello, Nino <Nino.Brunello@dot.ohio.gov>

Subject: RE: Moves analysis

The public comment period for the TIP starts next Tuesday. We don't absolutely need this done by then, but if we can put out a draft that includes the AQ numbers some time next week, that would be great.

Dan Slicker, P.E.

SCATS Technical

Director

t:330-451-7346

f:330-451-7990

From: Nino.Brunello@dot.ohio.gov <Nino.Brunello@dot.ohio.gov>

Sent: Wednesday, March 5, 2025 8:24 AM

To: Dan K. Slicker <dkslicker@starkcountyohio.gov>

Subject: RE: Moves analysis

So I was wrong about the turnaround time. I will have to run the new version of MOVES for all years. I do have everything I need from you though.

I'm currently working at home, and it takes a lot of time to run things over VPN. I'm not sure when I'll be allowed to back into the office since I just had the flu. When do you have to have this stuff completed?

[Nino Brunello, P.E.](#)

Transportation Engineer

ODOT Office of Statewide Planning & Research

1980 W. Broad Street, Mail Stop 3280, Columbus, Ohio 43223

C: 614-214-6438

(W:614-752-5742, but currently not responding due to working from home)

transportation.ohio.gov

From: Dan K. Slicker <dkslicker@starkcountyohio.gov>

Sent: Wednesday, March 5, 2025 7:35 AM

To: Brunello, Nino <Nino.Brunello@dot.ohio.gov>

Subject: RE: Moves analysis

Yes, those are the correct years.

Thanks,

Dan Slicker, P.E.

SCATS Technical

Director

t:330-451-7346

f:330-451-7990

From: Nino.Brunello@dot.ohio.gov <Nino.Brunello@dot.ohio.gov>

Sent: Wednesday, March 5, 2025 7:32 AM

To: Dan K. Slicker <dkslicker@starkcountyohio.gov>

Subject: RE: Moves analysis

Sorry, I just got back from the flu. I have a bit of catching up to do, but I should be able to knock this out quick if I have everything. I just want to verify the years first. 2030, 2040, 2050, correct?

[Nino Brunello, P.E.](#)

Transportation Engineer

ODOT Office of Statewide Planning & Research

1980 W. Broad Street, Mail Stop 3280, Columbus, Ohio 43223

C: 614-214-6438

(W:614-752-5742, but currently not responding due to working from home)

transportation.ohio.gov

From: Dan K. Slicker <dkslicker@starkcountyohio.gov>
Sent: Tuesday, March 4, 2025 10:17 AM
To: Brunello, Nino <Nino.Brunello@dot.ohio.gov>
Subject: Moves analysis

Nino,

Do you think you could run the Moves AQ analysis some time this week? Do you have everything you need from me?

Thanks,



201 3rd. St. NE, STE. 201, Canton
OH 44702-1211

Dan Slicker, P.E.
SCATS Technical Director
t:330-451-7346
f:330-451-7990
e:dkslicker@starkcountyohio.gov
www.rpc.starkcountyohio.gov
f in

From: Dan K. Slicker <dkslicker@starkcountyohio.gov>
Sent: Tuesday, December 24, 2024 9:00 AM
To: Maietta, Anthony (he/him/his) <maietta.anthony@epa.gov>; Nino.Brunello@dot.ohio.gov; Kane, Mark (FTA) <Mark.Kane@dot.gov>; jocelyn.johnson@dot.gov; Randy.Lane@dot.ohio.gov; ANTHONY.HILL@dot.ohio.gov; Nathaniel.Vogt@dot.ohio.gov; Graham.Johnson@epa.ohio.gov; Johnson, Daniel (FHWA) <daniel.j.johnson@dot.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>
Subject: RE: SCATS Interagency Consultation

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good morning all,

I just wanted to provide an update of the Conformity Summary, which has been changed to reflect Anthony's comments. Thank you Anthony!

Dan Slicker, P.E.
SCATS Technical Director
t:330-451-7346
f:330-451-7990

From: Maietta, Anthony (he/him/his) <maietta.anthony@epa.gov>

Sent: Thursday, December 19, 2024 2:29 PM

To: Nino.Brunello@dot.ohio.gov; Dan K. Slicker <dkslicker@starkcountyohio.gov>; Kane, Mark (FTA) <Mark.Kane@dot.gov>; jocelyn.johnson@dot.gov; Randy.Lane@dot.ohio.gov; ANTHONY.HILL@dot.ohio.gov; Nathaniel.Vogt@dot.ohio.gov; Graham.Johnson@epa.ohio.gov; Johnson, Daniel (FHWA) <daniel.j.johnson@dot.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>

Subject: RE: SCATS Interagency Consultation

Nino and all,

That was faster than I anticipated: I did indeed misinterpret the guidance—EPA concurs with the use of MOVES3.1. Please disregard the first bulleted comment in my 1pm central email below and apologies for the confusion. Here's EPA's revised comments:

- In the PM_{2.5} table, there's a number missing from that FR cite, it should be 78 FR 62459
- Happy to take a look at budget/analysis years once you've proposed them. Since the TIP starts the year after the only SIP budget year, you wouldn't have to test for 2025 but would use that 2025 budget to test against the to-be-determined analysis years
 - The reason 2025 is there as a budget year is because in the maintenance plan for PM, there is an established horizon year 2025 budget/onroad inventory. While final approval at 78 FR 62459 does establish the effective date of the attainment year and horizon year budgets, the proposal for that action has a discussion noting the year and (I'm pretty sure) listing out the budgets for the area. So that's why it needs to be used. The proposal is here, just for FYI: <https://www.govinfo.gov/content/pkg/FR-2013-08-07/pdf/2013-18951.pdf>
 - It's just how EPA produces our proposed/final notices...the bulk of the information about the action is in the proposal while the final action establishes the dates and requirements, officially.
 - But the baseline year for each pollutant is indeed codified into law at 40 CFR 93.119. See here for those dates: <https://www.epa.gov/state-and-local-transportation/baseline-year-baseline-year-test-40-cfr-93119> since that year is so far in the past now, it's really just the horizon year maintenance plan budget we're dealing with at this time
 - Then for the no-more-than-10 year increments, that's established through section 93.106 of the transportation conformity rule. So long as the no-more-than-10-years-apart condition is met, there can be other analysis years added in, should an MPO (or MPOs) need to coordinate on other air quality standards or just plain coordinating timing for areas with more than one MPO.

I do not have any other comments at this time from EPA. Other than the above it looked good to me; the data and assumptions are up to date/very recent. Please let me or Neena know if you have any questions.

-Tony

Anthony Maietta |he/him|
EPA Region 5

maietta.anthony@epa.gov

(312) 353-8777

From: Maietta, Anthony (he/him/his)

Sent: Thursday, December 19, 2024 1:21 PM

To: Nino.Brunello@dot.ohio.gov; dkslicker@starkcountyohio.gov; Kane, Mark (FTA)

<Mark.Kane@dot.gov>; jocelyn.johnson@dot.gov; Randy.Lane@dot.ohio.gov;

ANTHONY.HILL@dot.ohio.gov; Nathaniel.Vogt@dot.ohio.gov; Graham.Johnson@epa.ohio.gov;

Johnson, Daniel (FHWA) <daniel.j.johnson@dot.gov>; Kenny, William

<William.Kenny@epa.ohio.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>

Subject: RE: SCATS Interagency Consultation

Hey Nino,

Just want to send an email to say to the group that I'm double-checking to see whether I misinterpreted the MOVES5 guidance/MOVES3 grace period. I will respond shortly here with an update. Thanks Nino for bringing this up

-Tony

Anthony Maietta |he/him|

EPA Region 5

maietta.anthony@epa.gov

(312) 353-8777

From: Nino.Brunello@dot.ohio.gov <Nino.Brunello@dot.ohio.gov>

Sent: Thursday, December 19, 2024 1:07 PM

To: Maietta, Anthony (he/him/his) <maietta.anthony@epa.gov>; dkslicker@starkcountyohio.gov; Kane, Mark (FTA) <Mark.Kane@dot.gov>; jocelyn.johnson@dot.gov; Randy.Lane@dot.ohio.gov;

ANTHONY.HILL@dot.ohio.gov; Nathaniel.Vogt@dot.ohio.gov; Graham.Johnson@epa.ohio.gov;

Johnson, Daniel (FHWA) <daniel.j.johnson@dot.gov>; Kenny, William

<William.Kenny@epa.ohio.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>

Subject: RE: SCATS Interagency Consultation

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Hey Tony,

Since MOVES5 was just released last week and we need to have the draft done in January, do you think we will be able to use MOVES4 since the grace period just started? I don't even have the software installed yet, and I would like to have some time to get our IT team do the installation, learn any differences, update data formats, etc.

Thanks,

Nino

Nino Brunello, P.E.

Transportation Engineer

ODOT Office of Statewide Planning & Research

1980 W. Broad Street, Mail Stop 3280, Columbus, Ohio 43223

C: 614-214-6438

(W:614-752-5742, but currently not responding due to working from home)

transportation.ohio.gov

From: Maietta, Anthony (he/him/his) <maietta.anthony@epa.gov>

Sent: Thursday, December 19, 2024 1:00 PM

To: Dan Slicker <dkslicker@starkcountyohio.gov>; Kane, Mark (FTA) <Mark.Kane@dot.gov>; jocelyn.johnson@dot.gov; Lane, Randy <Randy.Lane@dot.ohio.gov>; Hill, Anthony <ANTHONY.HILL@dot.ohio.gov>; Vogt, Nathaniel <Nathaniel.Vogt@dot.ohio.gov>; Brunello, Antonino <Nino.Brunello@dot.ohio.gov>; Johnson, Graham <Graham.Johnson@epa.ohio.gov>; Johnson, Daniel (FHWA) <daniel.j.johnson@dot.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>

Subject: RE: SCATS Interagency Consultation

(fixed William's email address)

Hey Dan,

I saw your more recent email asking about the budget years and will include that answer in EPA's comments here.

On the conformity analysis summary document I only saw a couple things that I want to provide EPA comment on.

- For the latest emissions model, I'd revise the language to reflect the newest MOVES version, MOVES5
- In the PM_{2.5} table, there's a number missing from that FR cite, it should be 78 FR 62459
- Happy to take a look at budget/analysis years once you've proposed them. Since the TIP starts the year after the only SIP budget year, you wouldn't have to test for 2025 but would use that 2025 budget to test against the to-be-determined analysis years
 - The reason 2025 is there as a budget year is because in the maintenance plan for PM, there is an established horizon year 2025 budget/onroad inventory. While final approval at 78 FR 62459 does establish the effective date of the attainment year and horizon year budgets, the proposal for that action has a discussion noting the year and (I'm pretty sure) listing out the budgets for the area. So that's why it needs to be used. The proposal is here, just for FYI: <https://www.govinfo.gov/content/pkg/FR-2013-08-07/pdf/2013-18951.pdf>
 - It's just how EPA produces our proposed/final notices...the bulk of the information about the action is in the proposal while the final action establishes the dates and requirements, officially.
 - But the baseline year for each pollutant is indeed codified into law at 40 CFR 93.119. See here for those dates: <https://www.epa.gov/state-and-local-transportation/baseline-year-baseline-year-test-40-cfr-93119> since that year is so far in

the past now, it's really just the horizon year maintenance plan budget we're dealing with at this time

- Then for the no-more-than-10 year increments, that's established through section 93.106 of the transportation conformity rule. So long as the no-more-than-10-years-apart condition is met, there can be other analysis years added in, should an MPO (or MPOs) need to coordinate on other air quality standards or just plain coordinating timing for areas with more than one MPO.

I do not have any other comments at this time from EPA. Other than the above it looked good to me; the data and assumptions are up to date/very recent. Please let me or Neena know if you have any questions.

Just FYI I will be on holiday leave starting next Monday the 23rd and will be on leave and then on work travel until Friday, January 10. But the week of January 6-10 I will have access to my email and should be able to respond to anything then.

-Tony

Anthony Maietta |he/him|
EPA Region 5
maietta.anthony@epa.gov
(312) 353-8777

From: Dan K. Slicker <dkslicker@starkcountyohio.gov>
Sent: Wednesday, December 11, 2024 7:08 AM
To: Kane, Mark (FTA) <Mark.Kane@dot.gov>; jocelyn.johnson@dot.gov; Maietta, Anthony (he/him/his) <maietta.anthony@epa.gov>; Randy.Lane@dot.ohio.gov; ANTHONY.HILL@dot.ohio.gov; Nathaniel.Vogt@dot.ohio.gov; nino.brunello@dot.ohio.gov; graham.johnson@epa.ohio.gov; Johnson, Daniel (FHWA) <daniel.j.johnson@dot.gov>; william.kenny@epz.ohio.gov
Subject: RE: SCATS Interagency Consultation

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good morning everyone,

Let's try this again. I think we have all of the right people included now.

This email is the initiation of the Interagency Consultation process for SCATS's upcoming 2026-2029 TIP and update of our 2050 MTP.

Please see the attached summary sheet. The budget years and analysis years still need to be updated.

Please give feedback on anything that looks incorrect or on anything that has been left out. If no response is given, concurrence will be assumed.

Also, please note that this IAC is for both the TIP and MTP.

Thank you.

Dan Slicker

Dan Slicker, P.E.
SCATS Technical
Director
t:330-451-7346
f:330-451-7990

From: ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>
Sent: Tuesday, December 10, 2024 3:10 PM
To: Dan K. Slicker <dkslicker@starkcountyohio.gov>
Cc: Randy.Lane@dot.ohio.gov
Subject: RE: SCATS Interagency Consultation

Dan,

I saw your email come in regarding IAC for SCATS's upcoming TIP and LRTP. There are a few items that you may want to consider.

- 1.) You may want to send out an email that asks the IAC group to respond by a certain date.
 - I would also put into that email a disclaimer that states "If no response is given, concurrence will be assumed." This just allows the transportation conformity process to progress in case someone doesn't respond.
- 2.) I noticed a few things with your IAC contact group:
 - Mark Kane is down as your FTA contact. You may want to include Jocelyn Hoffman (jocelyn.johnson@dot.gov) since Mark has started to transition to another role at FTA. Jocelyn would just ensure someone at FTA gets the IAC request.
 - Please remove Jordan Whisler and replace with Randy Lane (randy.lane@dot.ohio.gov).
 - Please also include William Kenney (OEPA) (william.kenny@epa.ohio.gov) in the IAC group as I have not heard that Graham has completely taken over the role yet
 - You will want to also include your Ohio FHWA contact – DJ Johnson (daniel.j.johnson@dot.gov). I know you have Andy Johns, but DJ is your FHWA liaison.

Let me know if there is anything you need from ODOT.

Have a good day,

Anthony Hill

Transportation Planner

Office of Statewide Planning and Research

1980 West Broad Street Columbus, Ohio 43223

Phone: 614-752-2965

Email: Anthony.Hill@dot.ohio.gov



**Department of
Transportation**

From: Dan K. Slicker

Sent: Tuesday, December 10, 2024 1:50 PM

To: Johns, Andy (FHWA) <Andy.Johns@dot.gov>; Kane, Mark (FTA) <Mark.Kane@dot.gov>; maietta.anthony@epa.gov; Jordan.Whisler@dot.ohio.gov; ANTHONY.HILL@dot.ohio.gov; Nathaniel.Vogt@dot.ohio.gov; nino.brunello@dot.ohio.gov; graham.johnson@epa.ohio.gov

Subject: SCATS Interagency Consultation

Good afternoon everyone,

This email is the initiation of the Interagency Consultation process for SCATS's upcoming 2026-2029 TIP and update of our 2050 MTP.

Please see the attached summary sheet. The budget years and analysis years still need to be updated. Please give feedback on anything that looks incorrect or on anything that has been left out.

Also, please note that this IAC is for both the TIP and MTP.

Thank you.

Dan Slicker