SIP INVENTORY
MOBILE-EMISSIONS ESTIMATE
(OZONE)

FOR STARK COUNTY, OHIO

May, 2012

Revised August, 2012

Prepared By:

STARK COUNTY AREA TRANSPORTATION STUDY

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Canton, Ohio 44702

This report is the product of a study financed in part by the US Department of Transportation, Federal Highway Administration, Federal Transit Administration and the Ohio Department of Transportation. The contents of this report reflect the views of the Stark County Area Transportation Study, which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policy of the U. S. Department of Transportation. This report does not constitute a standard, specification, or regulation.

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Appendix A Interagency Consultation Documentation

1. Overview

This memorandum is intended to document the air quality analysis and underlying assumptions performed by the Ohio Department of Transportation (ODOT), Division of Transportation System Development-Modeling and Forecasting Section and the Stark County Area Transportation Study (SCATS) for the 8-hour ozone on-road mobile-source emissions inventories for the Canton-Massillon Metropolitan Statistocal Area (MSA) State Implementation Plan (SIP) revision in coordination with the Ohio Environmental Protection Agency (OEPA).

The Canton-Massillon MSA is comprised of Stark County in northeastern Ohio. Although the MSA area also includes Carroll County, OEPA and USEPA concurred that only Stark County is needs to be analyzed within the MSA as Carroll County is rural in nature with a population of less than 30,000. Stark County is designated as attainment for the 8-hour Ozone Standard. SCATS serves as the Metropolitan Planning Organization (MPO) for Stark County.

The ODOT Modeling and Forecasting section performed the MOVES runs to generate travel-demand-model-based emission factors as well as the air-quality analysis for Stark County.

Latest Planning Assumptions

The ozone inventory runs meet the latest planning assumption requirement. As discussed in Section 2 of this report, the modeling process used to develop the MPO emissions is calibrated using the latest population and land-use data available and is validated using corresponding traffic-count data. Currently, the travel demand model is validated for the year 2000.

U.S. EPA's most recent emissions software, MOVES, is used for all mobile-source emission analyses with MOVES inputs being established at various interagency consultations between January, 2012, and May, 2012, (See **Appendix A)**

Finally, the regional emissions analysis includes emissions for Hydrocarbons (HC) and Nitrogen Oxides (NO_X).

On-Road Mobile Emission Summary

Table 1 presents a summary of emissions for the SCATS Region for the required precursors HC and NO_X for the requested scenarios: 2002 base year, 2004 attainment year, 2009 interim-budget year, and 2018 maintenance-budget year. The remainder of the document focuses on the assumptions behind the analysis.

Table 1 – SCATS Region On-Road Mobile Emissions

TYPE	YEAR	VMT or # Vehicles	HC (tons)	NO_X (tons)
LINK	2002	8,196,644	8.401	27.788
VEHICLE	2002	474,615	15.862	7.200
INTRA-ZONAL	2002	48,465	0.075	0.197
TOTAL		8,245,109	24.339	35.185
LINK	2004	8,462,377	7.304	25.595
VEHICLE	2004	477,279	15.192	7.367
INTRA-ZONAL	2004	48,934	0.064	0.178
TOTAL		8,511,311	22.559	33.141
LINK	2009	8,544,607	4.071	17.657
VEHICLE	2009	483,940	12.560	6.867
INTRA-ZONAL	2009	52,473	0.039	0.135
TOTAL		8,597,080	16.671	24.659
LINK	2018	8,864,133	1.416	6.084
VEHICLE	2018	495,933	6.413	3.761
INTRA-ZONAL	2018	51,921	0.013	0.044
TOTAL		8,916,054	7.842	9.888

2. Urban Travel Demand Models

SCATS maintains regional travel demand forecasting models for use in the urban transportation planning process. The models employ the traditional four step modeling process to project existing and future traffic volumes and travel patterns on the regional transportation network. The four step process consists of trip generation, trip distribution, modal split, and route assignment. Output from the urban models is link-by-link directional 24-hour traffic volumes.

In 2000 SCATS, in cooperation with the Ohio Department of Transportation (ODOT), updated its travel demand model. The new model includes changes to the model interface to Cube Voyager, and improves model functionality. The changes primarily affected trip generation distribution functions in the SCATS region.

Networks

The SCATS modeled network accurately reflects projects in the Transportation Improvement Program (TIP) and Long-Range Transportation Plan (LRTP). Project lists can be found online as listed below:

TIP
http://www.co.stark.oh.us/internet/docs/rpc/SCATS%202012%20-15%20TIP%20Final%20Draft.pdf

Long-Range Transportation Plan
http://www.co.stark.oh.us/internet/docs/rpc/2030%20Transportation%20Plan%20Update.pdf

Landuse and Socio-economic Data

The SCATS socio-economic variables reflect the current and expected future regional land uses.

The socio-economic variables were developed for the May 2009, 2030 LRTP Update and are based on 2000 Census variables and 2030 county-level Ohio Department of Development population projections.

Independent variables are available for the 3 analysis years (2004, 2009, and 2018) and the travel demand model has the ability of interpolating data for any year between available data sets. A summary of SCATS' socio-economic data is available in Table 2. As can be seen from the table, population, households, and employment are expected to make modest gains between 2004 and 2018.

Table 2 – SCATS Socio-Economic Variables

	2002	2004	2009	2018
Population	384,889	385,483	386,965	389,728
Households	150,643	145,290	133,763	157,447
Employment	168,699	177,196	197,518	214,350

3. Emission-Factor Generation

Attainment and Budget Years

Using MOVES, emission factors were generated for the attainment year, 2004, the interim-budget year, 2009, and the maintenance-budget year, 2018, to represent the programs being implemented in the SCATS Region. Programs and corresponding MOVES parameters were developed in consultation with the OEPA.

Technical Details

Table 3 summarizes the settings used in the MOVES run specification file and the MOVES County-Data Manager. Further details in specific inputs that are not using default values are provided below.

Table 3 – MOVES Inputs

RunSpec Parameter Settings	
MOVES Version	MOVES2010A
Scale	Custom Domain
MOVES Modeling Technique	Emission Factor Method Rates per Profile (grams/vehicle) Rates per Distance (grams/mile) Rates per Vehicle (grams/vehicle)
Time Span	Time Aggregation: Hour 1 Month representing average summer 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	Total Gaseous Hydrocarbons, Non-Methane Hydrocarbons, Volitile Organic Compounds, NO_x, NO, NO_2, Total Energy Consumption
Strategies	Default values with assumed CNG buses removed
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
County Data Manager Sources	
Source Type Population	Combination of local and default data Local data (2010) ODOT from motor vehicle registration Default data used for source types 41, 51, 54, 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 (2010) ODOT from motor vehicle registration Default data used for source types 41, 51, 54, 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

Temperatures used for the single season approach are representative of July 2004 based on NOAA data from the National Climate Data Center webiste. Data for Akron-Canton Airport was also used. The EPA provided a spreadsheet to convert Mobile6 data into a format compatable with MOVES. The average July hourly temperature and relative humidity distribution profile can be seen in Table 4.

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

Ramp fractions were derived using the base year travel demand model VHT fractions. Ramp fractions can be seen in Table 5. Base year fractions were assumed to apply to future years.

Table 5 – Ramp Fractions

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

Source-Type Population

Source-type population is based on a combination of local and MOVES default data. Local data was provided by ODOT based on 2010 motor vehicle registration. Default data is used for source types 41, 51, 54, 61, and 62. Table 6 shows source-type population for Stark county in 2004.

Table 6 – Source-Type Population for year 2004

Source-Type ID	Source-Type Name	Source-Type Population
11	MotorCycle	24,132
21	Passenger Car	282,125
31	Passenger Truck	128,769
32	Light Commercial Truck	2,908
41	Intercity Bus	129
42	Transit Bus	19
43	School Bus	742
51	Refuse truck	86
52	Single Unit Short-haul Truck	181
53	Single Unit Long-haul Truck	138
54	Motor Home	416
61	Combination Short-haul Truck	1,060
62	Combination Long-haul Truck	1,220

Vehicle-Age Distribution

Vehicle-age distribution information was derived using Ohio Bureau of Motor Vehicle registration data. The data was given to OEPA which supplied a VIN decoder that allowed ODOT to create correctly formatted MOVES inputs. MOVES default data is used for source types 41, 51, 54, 61, and 62. The vehicle-age distribution for Stark County is shown in Table 7. The same age distribution will be used for all analysis years

Table 7 – Vehicle-Age Distribution

Year	Source-Type ID	Age	Age Fraction
2004	11	0	0.0015
2004	11	1	0.0214
2004	11	2	0.0508
2004	11	3	0.0633
2004	11	4	0.079
2004	11	5	0.0733
2004	11	6	0.0719
2004	11	7	0.0794
2004	11	8	0.0576
2004	11	9	0.053
2004	11	10	0.0446
2004	11	11	0.0365
2004	11	12	0.026
2004	11	13	0.0217
2004	11	14	0.0203
2004	11	15	0.021
2004	11	16	0.0167
2004	11	17	0.0114
2004	11	18	0.0087
2004	11	19	0.0077
2004	11	20	0.0073
2004	11	21	0.0088
2004	11	22	0.0091
2004	11	23	0.0103
2004	11	24	0.0177
2004	11	25	0.0159
2004	11	26	0.0135
2004	11	27	0.0162
2004	11	28	0.0241
2004	11	29	0.0186
2004	11	30	0.0927

Year	Source-Type ID	Age	Age Fraction
2004	21	0	0.006
2004	21	1	0.0238
2004	21	2	0.0362
2004	21	3	0.044
2004	21	4	0.0471
2004	21	5	0.051
2004	21	6	0.0491
2004	21	7	0.053
2004	21	8	0.0562
2004	21	9	0.0545
2004	21	10	0.0624
2004	21	11	0.0613
2004	21	12	0.0562
2004	21	13	0.0543
2004	21	14	0.0487
2004	21	15	0.05
2004	21	16	0.0398
2004	21	17	0.0337
2004	21	18	0.0282
2004	21	19	0.0215
2004	21	20	0.0178
2004	21	21	0.015
2004	21	22	0.0111
2004	21	23	0.0082
2004	21	24	0.0069
2004	21	25	0.0057
2004	21	26	0.0045
2004	21	27	0.0026
2004	21	28	0.0017
2004	21	29	0.0017
2004	21	30	0.0478

Road-Type Distribution

Road-type distribution is based on the 2008 ODOT county summary, HPMS VMT data categorized by federal functional class for the SCATS area. Road-type distribution can be seen in Table 8.

Table 8 – Road-Type Distribution

Source-Type ID	Road-Type ID	Road-Type VMT Fraction
11	1	0.00
11	2	0.01
11	3	0.18
11	4	0.19
11	5	0.62
21	1	0.00
21	2	0.01
21	3	0.18
21	4	0.19
21	5	0.62
31	1	0.00
31	2	0.01
31	3	0.18
31	4	0.19
31	5	0.62
32	1	0.00
32	2	0.01
32	3	0.18
32	4	0.19
32	5	0.62
41	1	0.00
41	2	0.01
41	3	0.18
41	4	0.19
41	5	0.62
42	1	0.00
42	2	0.01
42	3	0.18
42	4	0.19
42	5	0.62
43	1	0.00
43	2	0.01
43	3	0.18
43	4	0.19
43	5	0.62
51	1	0.00
51	2	0.01
51	3	0.18
51	4	0.19
51	5	0.62
52	1	0.00
52	2	0.01
52	3	0.18
52	4	0.19
52	5	0.62
53	1	0.00
53	2	0.01
53	3	0.18
53	4	0.19
53	5	0.62
54	1	0.00
54	2	0.01
54	3	0.18
54	4	0.19
54	5	0.62
61	1	0.00
61	2	0.01
61	3	0.18
61	4	0.19
61	5	0.62
62	1	0.00
62	2	0.01
62	3	0.18
62	4	0.19
62	5	0.62

Vehicle-Type VMT and VMT Fractions

The first component of the VMT inputs is the Yearly HPMS VMT, but the travel demand model was used instead of ODOT's HMPS data since it was felt that the model would better predict future year VMT. ODOT's CMS post-processor was run for each year to generate congestion reports, which includes total daily VMT. The vehicle-type percentages of the total VMT were based on ODOT's weigh-in-motion (WIM) data. Since there are not enough WIM stations for lower class facilties in the area, a statewide average of all ODOT WIM data collectors was used. Daily VMT was then converted to yearly VMT. Yearly HPMS VMT for 2004 can be seen in Table 9. The same method was to generate all other analysis years

Table 9 – Yearly HPMS VMT for 2004

HPMS Vtype ID	Year	HPMS Base-Year VMT	Base-Year Off-Net VMT
10	2004	11,106,492	0
20	2004	1,980,755,140	0
30	2004	611,157,640	0
40	2004	6,246,845	0
50	2004	46,180,207	0
60	2004	109,640,294	0

Monthly and daily VMT fractions used MOVES default data. The hourly VMT fractions were derived from ODOT WIM data. Hourly VMT fractions vary for each of the five MOVES road types but do not change for each of the 16 MOVES source types. A representative sample of the hourly-VMT-fraction input file can be seen in Table 10, the entire file is too large to include in this document.

Table 10 – Hourly VMT Fractions

Source-Type ID	Road-Type ID	Day	Hour	Hourly- VMT Fraction
11	1	5	1	0.0089
11	1	5	2	0.0056
11	1	5	3	0.0042
11	1	5	4	0.0043
11	1	5	5	0.0070
11	1	5	6	0.0180
11	1	5	7	0.0381
11	1	5	8	0.0570
11	1	5	9	0.0577
11	1	5	10	0.0554
11	1	5	11	0.0555
11	1	5	12	0.0556
11	1	5	13	0.0558
11	1	5	14	0.0605
11	1	5	15	0.0677
11	1	5	16	0.0776
11	1	5	17	0.0843
11	1	5	18	0.0797
11	1	5	19	0.0601
11	1	5	20	0.0452
11	1	5	21	0.0365
11	1	5	22	0.0291
11	1	5	23	0.0214
11	1	5	24	0.0149

4. Post Processing

Total emissions were computed with the aid of several custom programs by ODOT. The process uses data on daily and directional traffic distributions as well as more up-to-date volume/delay functions from the 2000 Highway Capacity Manual (HCM). This process, described below, also uses rewritten codecompatable with the newer model network formats and MOVES-generated emission factors.

The first step in the 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. Link speeds from the travel demand model are not used in the analysis. The speeds are estimated as a post-process to the model based on HCM methods using a link's volume-to-capacity ratio and link-group code.

The second step (movesnet.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 roadtype to calculate emissions for every network link for each hour. The final total for link on-road vehicle emissions for the area is the sum of all individual link-hour emissions.

The third step, (movesveh.exe), calculates vehicle-based emissions (using a combination of the Rate per Distance and Rate per Profile files) for each source type for each hour of the day. The vehicle source type is based on a combination of local and default data. The final vehicle emissions are the sum of all individual hourly emissions for all vehicle types.

Intrazonal trips are not loaded onto the network, so 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 movesintra.exe program uses intrazonal trips to estimate VMT using the area in square miles and intrazonal trips of each zone. The zone is assumed circular and the radius of the circle is used as the average trip length for these intrazonal trips. Intrazonal emissions are then calculated by combining MOVES-generated emissions with estimated intrazonal VMT. The emission rates are the same as those used to calculated link-based emissions.

The final step is to summarize link, vehicle, and intrazonal emissions for each county, pollutant, and analyzed year.

Appendix A

Interagency Consultation Documentation

>>> "Moore, Dave" <Dave.Moore1@dot.state.oh.us> 1/30/2012 9:17 AM >>>
All,

The current Ohio Ozone SIP budgets were developed using US EPA's MOBILE software. Effective March 2, 2012 US EPA's AQ software of record will be MOVES. Post March 2nd all new SIP and Transportation Conformity actions will be required to use MOVES. In order to assure ongoing positive Ohio MPO T-Plan/TIP conformity actions, the Ohio Ozone SIP budgets need updated to reflect MOVES outputs.

Updating the Ozone SIP budgets to MOVES requires new MOVES based mobile emission inventories for the SIP attainment year and budget years, consistent with the attached pdf. Please contact your ODOT CO travel demand modeling liaison to coordinate needed transportation network, modeling runs, and emission factor post processing to establish these new SIP mobile emission inventories. Our goal is to submit the new inventories and documentation to OEPA on or before April 1, 2012.

We have a working agreement with OEPA to establish SIP budgets, assuming sufficient safety margin is available, at 15% above the emission inventory. As you are developing the new MOVES based budget year inventories, it may be a good idea to compare the resulting inventories plus 15% to MOVES based T-Plan interim and horizon year emissions as a check to assure positive future year conformity findings.

Thanks
DM

Ohio Ozone SIP Maintenance Plan Budgets Update Schedule

Update Budgets with US EPA MOVES Software

Original Schedule

MPO Priority Order	Quadrennial T-Plan Conformity Date	Attainment Year	Interim Budget Year	Maintenance Budget Year	ODOT/MPO MOVES Data To OEPA	MPO MPO Approval Resolution	OEPA SIP Budget Revision Submittal To USEPA	USEPA SIP Revision Approval	Comment
							60 days	90 days	
Wheeling	3/20/2012	2004	2009	2018	9/3/2011	1/12	12/2/2011	3/1/2012	
Parkersburg	2/12/2013	2004	2009	2018	9/3/2011	1/12	12/2/2011	3/1/2012	
Steubenville	8/2/2012	2004	2009	2018	9/3/2011	1/12	12/2/2011	3/1/2012	
Cincinnati	9/26/2012	2008	2015	2020	10/4/2011	2/12	1/2/2012	4/1/2012	
Columbus / Newark	8/2/2012	2006	2012	2020	10/4/2011	2/12	1/2/2012	4/1/2012	
Dayton / Springfield	8/2/2012	2005	2005	2018	10/4/2011	2/12	1/2/2012	4/1/2012	
Canton	6/15/2013	2004	2009	2018	10/4/2011	2/12	1/2/2012	4/1/2012	Note, also need MOVES based $PM_{2.5}$ SIP Revision
Cleveland / Akron	6/15/2013	2006	2012	2020	11/3/2011	3/12	2/1/2012	5/1/2012	
Youngstown	6/15/2013	2004	2009	2018	11/3/2011	3/12	2/1/2012	5/1/2012	
Lima	8/24/2013	2004	2009	2018	11/3/2011	3/12	2/1/2012	5/1/2012	
Toledo	7/1/2016	2004	2009	2018	11/3/2011	3/12	2/1/2012	5/1/2012	

Ozone SIP Budget Update Options:

1. Replace the MOBILE6 budgets with MOVES budgets in the current SIP Maintenance Plans. This requires that the monitored **attainment year** in the SIP and the **budget years** are modeled and replaced with MOVES emissions. The attainment year is included so that safety margin can be allocated to the budget years. US EPA can process this type of a revision in about 90 days from formal submission.

2. Compete a full 8-year SIP Maintenance Plan update. Eight years after formal redesignation to attainment, the Clean Air Act requires a new maintenance plan, to extend the maintenance time frame out another 10 years. This approach will update the earlier budgets with MOVES and provide for 10 more years of maintenance. Emission projections for point and area sources are included in the 8-Year Updates. US EPA can process this type of SIP submittal in about 18 months.

Conformity consideration - US EPA's Federal Register direct final rule action to extend the MOVES implementation date to March 2, 2013 has been withdrawn, due to receipt of negative comments. Recent communication with US EPA reveals that US EPA legal council and analysts are still assessing how they will respond this matter.

Revised Ozone SIP Budgets Update Schedule	Mobile data to OEPA		OEPA SIP Revision to US EPA	US EPA Approval
	4/1/2012		5/31/2012	8/29/2012

>>> "Brunello, Nino" <Nino.Brunello@dot.state.oh.us> 4/2/2012 9:19 AM >>>
Jeff/Dan,

I forgot to send these files that summarize the yearly emission totals that will be needed for your air quality document.

I've included the Dayton document that can be used as a starting point if desired, and I've created tables for SCATS that would correspond to that document.

You may already know most of what is needed to put together your SIP, but questions can be directed to Dave Moore, or to me if they are more technically related.

Thanks,

Nino

~~~
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From: Dines, Jennifer
Sent: Thursday, April 12, 2012 9:04 AM
To: Brunello, Nino; Durham, William F
Cc: Moore, Dave
Subject: RE: Ozone Summer Day Factors

Nino and Fred, talked to Pat and she agrees that BOTH VMT and number of vehicles should have the 1.08 factor applied.

Pat suggested we should have consultation on this. I told her ODOT is taking the lead on this project and I'd let Dave know……..she says email is fine.

Thanks,

Jennifer Dines
Manager, State Implementation Plan and Rulemaking Section
Division of Air Pollution Control
Ohio Environmental Protection Agency
Wk (614) 644-3696
Fax (614) 644-3681

>>> "Brunello, Nino" <Nino.Brunello@dot.state.oh.us> 4/19/2012 2:30 PM >>>
All:

After discussions with ODOT, OEPA, WVDEP, and USEPA, we are of the opinion that there needs to be an additional seasonal factor for summer when calculating ozone pollutants.

There is currently an adjustment for increasing average daily VMT (+ 8%) which was used in previously when using Moblie6 to generate emission factors. With MOVES, there is a vehicle component used in addition to VMT, so there needs to be an adjustment from average number of vehicles to the number of vehicles in summer day. We propose to use the same 8% increase.

We need to have an inter-agency agreement on this, and would prefer to do it via email (to make it easier on all of us). Please respond with your approval and/or questions.

Thanks,

~~~
~~~

SCATS concurs

Jeff

Jeff Dutton
SCATS Technical Director
Stark County Regional Planning Commission
201 3rd Street NE, Suite 201
Canton, Ohio 44702

>>> "Moore, Dave" <Dave.Moore1@dot.state.oh.us> 4/20/2012 7:53 AM >>>

Dan,

Responses below.

Thanks

DM

From: Dan Slicker [mailto:dkslicker@co.stark.oh.us]
Sent: Thursday, April 19, 2012 2:32 PM
To: Moore, Dave
Subject: Ozone SIP and PM2.5

Dave,

I can't stand air-quality stuff, whenever I see anything having to do with it, my brain partially shuts down. Until today, I didn't realize that we were dealing with two separate air-quality issues. Whenever I see "ozone", "PM2.5", "conformity", or "redesignation" my brain files it under "air quality", and I make I note that I'll have to send some networks down to Nino and plagiarize an air-quality document in the near future.

So, I have a few questions that need answers, so I can set my priorities.

1. When is the 8-Hour Ozone SIP document due? We've missed a number of due dates for submitting this documentation to OEPA. The most recent date was April 1st. OEPA is ready to move (pun intended) on the MOVES based budget SIP revisions. As you know, SCATS' T-Plan conformity lapse date is 6/15/13. Conformity for the Plan Update will need to be coordinated with the new 2014-2017 TIP. Considering standard review/approval schedules the T-Plan Update and Conformity Determination documentation will need to be submitted to US DOT/EPA by 5/1/13. This conformity work needs to be MOVES based. So, the SIP revision must be fully approved or have budget adequacy finding in time for SCATS' T-Plan/TIP approval/conformity findings. So backing up some more, OEPA needs a minimum 45 days to incorporated SCATS' results in the SIP revision for submission to US EPA. US EPA needs a

minimum 90 days to process the revision through the Federal Register process. The schedules/dates identified above put us somewhere in the Winter 2012/2013 timeframe. Accordingly, there's still time to accomplish the work, but schedules have a way of slipping.

Should we even discuss the matter of the new .075 Ozone standard, potential revocation of the exiting 8-Hour standard, the matter of Stark attaining the new standard and whether any of the above matters if the new standard is implemented?

2. When is the PM2.5 Redesignations for Stark County document due? Similar schedules as above. Note, Stark County is a PM2.5 nonattainment area for both the 1997 annual and 2006 daily standards. Based on recent OEPA streams it appears the intent is for the 1997 and 2006 standard budgets to be exactly the same.

3. Do we need to do an interagency consultation for either of these? Interagency consultation on the current Stark County aq SIP efforts is warranted just to make sure everyone is on the same page.

4. Besides the TIP and T-Plan air-quality analyses, are there any other air-quality issues we need to deal with in the next 2 years? Once the SIPs are updated, likely just Plan/TIP conformity.

There are two other matters:

- OEPA is updating the "Conformity SIP". SCATS may want to review the conformity SIP MOU that was prepared circa 2008-2009 to re-familiarize themselves with this topic.
- Not really air quality SIP/Conformity related, but SCATS should review its current suballcated funds CMAQ projects to assure they all have affirmative CMAQ eligibility findings.

Dan Slicker

>>> "Dines, Jennifer" <Jennifer.Dines@epa.state.oh.us> 4/20/2012 8:02 AM >>>

I will offer that the PM2.5 redesignations is listed as one of the top priorities by our director and this is the last area to be done. I will also add that if we do not do the redesignation and update mobiles numbers via that mechanism we will have to do the same work to update old mobile6 to MOVES numbers for Stark county for PM2.5 via the previous attainment SIP. So it has to be done either way.

I believe Nino completed all the modeling in accordance with all procedures used across the state for all other redesignations and all that needs done is the write-up, which he provided a template for. So I don't think it will take much effort to complete that piece of the puzzle so the redesignation can move forward quickly. But if this is a problem please let me know as I am being asked routinely on the status and will need to be able to provide my management with an update.

Until I crunch the numbers from Nino's modeling I won't be able to have much of a meaningful consultation process on that issue. Typically we consult after I incorporate mobile numbers in with all the other pollutant sectors to determine our possible safety margin options if budgets are necessary. Then we typically discuss if that is agreeable.

Thanks,

Jennifer Dines
Manager, State Implementation Plan and Rulemaking Section
Division of Air Pollution Control
Ohio Environmental Protection Agency
Wk (614) 644-3696
Fax (614) 644-3681

From: Dan Slicker [mailto:dkslicker@co.stark.oh.us]
Sent: Thursday, April 26, 2012 3:18 PM
To: Brunello, Nino
Subject: Re: Ozone emissions for SIP document

Nino,

Now I'm moving on to ozone. In the table that shows the emissions, what is the VMT/VEH column supposed to mean? VMT per vehicle doesn't make sense.

What are the different analysis years called? 2004 is the base year. What are 2009 and 2018?

That's all for now.

Dan

From: Dan Slicker [mailto:dkslicker@co.stark.oh.us]
Sent: Thursday, April 26, 2012 3:19 PM
To: Brunello, Nino
Subject: Re: Ozone emissions for SIP document

One more question. The Dayton-Springfield doc refers to an I/M program. What is that?

Dan

>>> "Brunello, Nino" <Nino.Brunello@dot.state.oh.us> 4/27/2012 7:59 AM >>>
Hey Dan,

Yeah, that table was put together by Greg, so I didn't mess with any of the formatting, but it's a little confusing. The header on the third column should really be VMT or VEH. So the units for links and intrazonals are in miles, and VEH is number of vehicles.

The analysis years are:
2004 – Attainment Year
2009 – Interim Budget Year
2018 – Maintenance Budget Year

I/M is short for inspection and maintenance. Akron and Cleveland have it. It's where you are required to take your vehicle to a service station and they do some testing like putting a sensor on the tailpipe, check the gas cap, make sure the catalytic converters aren't missing, etc. You have to do it before you can get new tags for your car. There's also things like vapor recovery, where there is a rubber funnel at the gas pumps that capture fumes while refueling.

Nino

>>> "Brunello, Nino" <Nino.Brunello@dot.state.oh.us> 5/18/2012 1:32 PM >>>
Ok, I need to update the emission totals (Table 1). I'll get to you by Monday, maybe later today if nothing else comes up.

>>> "Brunello, Nino" <Nino.Brunello@dot.state.oh.us> 5/21/2012 2:08 PM >>>
Attached is the latest spreadsheet with updated emission totals. I had to rerun some assignments, and I have also adjusted the VMTs to reflect summer traffic.

From: Dines, Jennifer
Sent: Wednesday, June 13, 2012 8:17 AM
To: Moore, Dave
Cc: Brunello, Nino; Fetty, Erica
Subject: RE: Ozone SIP budgets

Dave, we need to make sure all the MPOs know the numbers we need to complete our analysis. There should be 4 years for everyone (nonattainment/base, attainment, interim and maintenance years, using the years in the first tab of the attached sheet. Note that for Dayton there is an asterisk showing that 2005 was the interim budget year but 2009 was modeled…so we need both 2004 and 2009 years remodeled (with all four years being 2002, 2005, 2009, 2018)

Jennifer Dines
Manager, State Implementation Plan and Rulemaking Section
Division of Air Pollution Control
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Wk (614) 644-3696
Fax (614) 644-3681

>>> "Moore, Dave" <Dave.Moore1@dot.state.oh.us> 6/13/2012 9:36 AM >>>
All,

See below, OEPA Ozone SIP Update message. Please review your region's Ozone SIP update submissions to OEPA to assure it includes **base year** mobile emissions inventory (see attached spreadsheet – 2002 is the base year for most regions).

Thanks
DM

From: Dan Slicker [mailto:dkslicker@co.stark.oh.us]
Sent: Wednesday, June 13, 2012 9:56 AM
To: Jeffrey Dutton
Cc: Moore, Dave; Brunello, Nino
Subject: Re: Fwd: FW: Ozone SIP budgets

Ours does not include the base year 2002.

Nino, do you have our 2002 network or should I send it to you?

Dan

>>> "Brunello, Nino" <Nino.Brunello@dot.state.oh.us> 6/13/2012 10:37 AM >>>
Dan,

I looked at what I used in the past, and we had used the base 2000 network for running 2002. I think that would still be okay.

Also, last week you had sent 2010 network and prohibitor files. Is there a new transit line file?

Nino

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