

Ozone and PM_{2.5} Conformity Analyses for Transportation Plans, Programs, and Projects in the Cleveland-Akron-Lorain, Ohio Metropolitan Area

Akron Metropolitan Area Transportation Study (AMATS) Northeast Ohio Areawide Coordinating Agency (NOACA) City of Vermilion, Lorain County portion

TIP conformity will be advanced consistent with the conformity regulations “reliance on previous regional emissions analysis” provisions embodied in 40 CFR 93.122(g). NOACA’s new long-range transportation plan – Connections⁺ 2035 will be adopted in May as will the new SFY 2014-2017 Transportation Improvement Program (TIP). As a result the TIP will be consistent with the plan’s conformity. Interagency consultation related to these conformity analyses can be found in Attachment A. A summary of the conformity analyses follows.

What is required?

Nonattainment areas, through a process called transportation conformity, are required to demonstrate that emissions resulting from planned transportation system improvements will not exceed an area’s emissions budgets. The US Department of Transportation (US DOT) issues nonattainment areas formal transportation conformity determinations following a quantitative analysis demonstrating that emissions from vehicles traveling on the planned transportation system are less than the area’s emissions budget (or other emission target in the absence of an approved budget). Transportation conformity determinations ensure that the transportation sector is contributing to an area’s progress toward meeting national air quality standards.

The Metropolitan Planning Organizations (MPOs) and the Ohio Department of Transportation (ODOT) must establish conformity for the 1997 and 2006 fine particulate matter standards and the 1997 and 2008 8-Hour ozone standards when adopting new plans and/or TIPs. Because conformity is determined on a nonattainment area, rather than a sub area basis, each of the area’s planning partners must approve a new conformity finding for the area based on these updates.

The analysis for each standard covers the pertinent portions of the counties of Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit. Because we are expecting the approval of MOVES based budgets in the near future, analyses based on the former Mobile6.2 budgets and new MOVES based budgets are both portrayed. The current analyses reflect a comparison of projected transportation emissions against the approved or submitted budgets for each standard.

Why are these tests required?

These tests are required because all areas with a current or former designation of nonattainment must maintain conformity findings for the designated pollutants. The tests ensure that transportation planning efforts are not hindering efforts to bring the area into attainment of the standards or maintain attainment of the standards.

What tests are being conducted?

The first test is a comparison of projected emissions against the Mobile6.2 based budgets in the approved Ohio EPA 8-Hour Ozone Standard redesignation package for the region (74 FR 47414).

The second test is a comparison of projected emissions with USEPA approved Mobile6.2 based budgets for fine particulates and oxides of nitrogen (NOx).

The third test is a comparison of projected emissions against the submitted MOVES based budgets for ozone precursors.

The fourth test is a comparison of projected emissions with submitted MOVES based budgets for fine particulates and oxides of nitrogen (NOx).

For all tests, projected emission levels beneath the respective budgets is considered conformance with the goals of the Clean Air Act.

What are the results of the tests?

The results of the tests, as displayed in the following Tables, are that the area’s existing plans, programs, and projects meet the conformity requirements.

1997 Daily 8-Hour Ozone Standard

Emissions Model: Mobile 6.2
 Attainment status: 8-Hour ozone maintenance area (74 FR 47414 Final Rule 9/15/09)
 8-Hour Geography: ATB, CUY, GEA, LAK, LOR, MED, POR, SUM Counties, OH
 Conformity Tests: 8-Hour budget tests
 Analysis Years: 2015 1st Analysis year (analysis year from current TIP)
 2020 Interim year
 2030 Interim year
 2035 Plan horizon year

	2012 Budget (tons/day)	2015 Emissions (tons/day)	2020 Budget (tons/day)	2020 Emissions (tons/day)	2030 Emissions (tons/day)	2035 Emissions (tons/day)
AMATS						
VOC		9.12		7.37	7.06	7.10
NOx		16.98		10.06	6.81	6.51
NOACA						
VOC		18.46		15.16	14.23	14.47
NOx		34.23		20.55	13.33	12.79
Ashtabula County						
VOC		2.06		1.69	1.63	1.60
NOx		2.94		2.01	1.55	1.58
TOTALS						
VOC	46.64	29.64	31.48	24.22	22.92	23.17
NOx	95.89	54.15	42.75	32.62	21.69	20.88

2008 Daily 8-Hour Ozone

Emissions Model: Mobile 6.2
 Attainment status: 8-Hour ozone marginal non-attainment area (77 FR 3088 Final Rule 5/21/2012)
 8-Hour Geography: ATB, CUY, GEA, LAK, LOR, MED, POR, SUM Counties, OH
 Conformity Tests: 8-Hour budget tests (required by July 20, 2013 as per 77 FR 30161)
 Analysis Years: 2015 1st Analysis year (analysis year from current TIP)
 2020 Interim year
 2030 Interim year
 2035 Plan horizon year

2008 Test	See 1997 Ozone Standard Table: Conformity regulations require the use of existing budgets for a pollutant until budgets are set under the new standard for conformity tests (77 FR 14979)
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1997 Annual PM_{2.5} Standard

Emissions Model: Mobile 6.2
 Attainment status: 1997 Standard PM_{2.5} nonattainment area – (71 FR 61144 Dec. 14, 2009)
 SIP Status: Attainment demonstration MOBILE budgets adequacy finding - FR Jan.26, 2010
 Geography: CUY, LAK, LOR, MED, POR, & SUM Counties & Ashtabula Twp., Ashtabula County, OH
 Conformity Tests: 2009 Budget tests
 Analysis Years: 2015 1st Analysis year (analysis year from current TIP)
 2020 Interim year
 2030 Interim year
 2035 Plan horizon year

	2009 Budget (tons/year)	2015 Emissions (tons/year)	2020 Emissions (tons/year)	2030 Emissions (tons/year)	2035 Emissions (tons/year)
AMATS					
PM_{2.5}		156.22	131.76	132.13	126.25
NOx		5,981.55	3,445.60	2,246.90	2,151.24
NOACA					
PM_{2.5}		353.28	275.20	258.23	257.74
NOx		12,466.90	7,346.35	4,533.13	4,337.93
Ashtabula Township					
PM_{2.5}		1.68	1.43	1.39	1.37
NOx		72.18	48.24	36.26	35.76
TOTALS					
PM_{2.5}	815.11	511.18	408.39	391.75	385.36
NOx	43,553.48	18,520.63	10,840.19	6,816.29	6,524.93

2006 Daily PM_{2.5} Standard

Emissions Model: Mobile 6.2
 Attainment status: 2006 Standard PM_{2.5} nonattainment area – (71 FR 61144 Dec. 14, 2009)
 Geography: CUY, LAK, LOR, MED, POR, & SUM Counties
 Conformity Tests: 1997 Standard SIP (2009) budget tests – Per March 24, 2010 Conformity Rule PM_{2.5} and PM₁₀ Amendments
 Analysis Years: 2015 1st Analysis year (analysis year from current TIP)
 2020 Interim year
 2030 Interim Year
 2035 Plan horizon year

2006 Test	See 1997 PM_{2.5} Standard Table: Conformity regulations require the use of existing budgets for a pollutant until budgets are set under the new standard for conformity tests (77 FR 14979)
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2008 Daily 8-Hour Ozone Standard

Emissions Model: MOVES
 Attainment status: 8-Hour ozone maintenance area (74 FR 47414 Final Rule 9/15/09)
 8-Hour Geography: ATB, CUY, GEA, LAK, LOR, MED, POR, SUM Counties, OH
 Conformity Tests: 8-Hour submitted budget tests
 Analysis Years: 2015 1st Analysis year (analysis year from current TIP)
 2020 Interim year
 2030 Interim year
 2035 Plan horizon year

	2012 Draft Budget (tons/day)	2015 Emissions (tons/day)	2020 Draft Budget (tons/day)	2020 Emissions (tons/day)	2030 Emissions (tons/day)	2035 Emissions (tons/day)
AMATS						
VOC		14.32		9.39	8.09	8.55
NOx		25.11		15.23	11.74	10.66
NOACA						
VOC		33.53		23.32	17.72	17.19
NOx		61.81		37.33	25.03	23.35
Ashtabula County						
VOC		1.97		1.38	1.06	1.02
NOx		3.78		2.28	1.56	1.43
TOTALS						
VOC	81.54	49.82	43.17	34.10	26.87	26.76
NOx	189.27	90.71	108.36	54.85	38.34	35.45

1997 Annual and 2006 Daily PM_{2.5} Standards

Emissions Model: MOVES

Attainment status: 1997 Standard PM_{2.5} nonattainment area – (71 FR 61144 Dec. 14, 2009)

Geography: CUY, LAK, LOR, MED, POR, & SUM Counties & Ashtabula Twp., Ashtabula County, OH

Attainment status: 2006 Standard PM_{2.5} nonattainment area – (71 FR 61144 Dec. 14, 2009)

Geography: CUY, LAK, LOR, MED, POR, & SUM Counties

SIP Status: Budgets submitted

Conformity Tests: 2009 Budget tests

Analysis Years: 2015 1st Analysis year (analysis year from current TIP)

2022 Interim year

2030 Interim year

2035 Plan horizon year

	2009 Draft Budget (tons/year)	2015 Emissions (tons/year)	2022 Draft Budget (tons/year)	2022 Emissions (tons/year)	2030 Emissions (tons/year)	2035 Emissions (tons/year)
AMATS						
PM_{2.5}		339.24		212.43	205.54	202.32
NOx		8,434.82		4,073.80	2,419.59	2,161.35
NOACA						
PM_{2.5}		831.8		546.59	481.22	473.41
NOx		21,986.25		11,832.57	9,385.68	9,056.82
Ashtabula Township						
PM_{2.5}		4.42		2.81	2.77	2.77
NOx		107.68		54.49	37.61	35.30
TOTALS						
PM_{2.5}	1,371.35	1,175.46	880.89	761.83	689.53	678.50
NOx	35,094.70	30,528.75	17,263.65	15,960.86	11,842.88	11,253.47

For additional detail on these topics, visit the USEPA Web site at:

<http://www.epa.gov/air/ozonepollution/> (general ozone information)

<http://www.epa.gov/ttn/naaqs/ozone/ozonetech/> (technical ozone information)

<http://www.epa.gov/air/particlepollution/fastfacts.html> (fast facts on particulate matter)

<http://www.epa.gov/air/particlepollution/basic.html> (general particulate matter information)

http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_index.html (technical particulate matter information)