

Air Quality Technical Report Summary

Genesee County Air Quality Technical Report



Transportation planning in Genesee County must take into account the effects that automobiles, trucks and buses have on air quality. Vehicle emissions account for 40% of ozone producing hydrocarbon emissions in metropolitan areas. GCMA strives to meet the needs of Genesee County’s transportation system while minimizing the effects the system has on air quality. The U.S. Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ) as well as other state and federal transportation agencies have put in place regulations, guidelines and tools for transportation planning agencies to assist in improving air quality.

Genesee County Air Quality Goals

1. To Improve Air Quality in Genesee County
2. To Stay in Air Quality Attainment for the new 8-hour Ozone Standard

Air Quality Attainment

Genesee and Lapeer Counties together represent the Flint Michigan Air Quality Attainment Maintenance Area. We are joined together as an air quality area because when the two monitoring stations in Genesee County exceeded the 0.08 ppm standard for ozone during 2001-2003, the one in Otisville was close enough to Lapeer County it was determined that the air quality in Lapeer County was also being affected by increased levels of ozone. Therefore the two counties were joined together as the Flint Michigan Air Quality Non-Attainment Area on June 15, 2004.

History of Air Quality in Genesee and Lapeer Counties		Regulations	Procedures
June 15, 2004	EPA designates Genesee and Lapeer Counties in nonattainment for 8-hour ozone standard	LRTP, TIP and STIP must demonstrate that the implementation of the projects in these documents does not result in a greater mobile source emissions than those of the year 2002	All projects must be reviewed for air quality conformity by the Interagency Work Group (IAWG) before approval by GCMA and MDOT
June 13, 2006	Michigan Department of Environmental Quality (MDEQ) submits a request for redesignation of attainment of five counties in Michigan including Genesee and Lapeer	If approved Flint Area would go from Nonattainment to Attainment and become an Air Quality Maintenance Area	MDEQ provided EPA with a proposed Air Quality Maintenance Plan for approval
May 16, 2007	EPA Final Rule of Genesee and Lapeer Counties from 8-Hour Ozone Nonattainment Areas to Attainment for Ozone	LRTP, TIP and STIP must demonstrate that the implementation of the projects in these documents does not result in a greater mobile source emissions than those provided in the approved SIP budget	All projects must still be reviewed for air quality conformity by the Interagency Work Group (IAWG) before approval by GCMA and MDOT
March 12, 2008	EPA significantly strengthens the National Ambient Air quality Standards (NAAQS) for ground level ozone	New 8-hour standard is set at 0.075 ppm	The 0.075 ppm designations are still pending. EPA is monitoring areas.

Interagency Work Group (IAWG)

The Flint Michigan Air Quality Maintenance Area Interagency Work Group (IAWG) meets to review projects for the LRTP, TIP and STIP and reviews all regionally significant projects for their effect on air quality. The IAWG also selects air quality analysis years and shares information on air quality issues including new legislation and conformity regulations. The IAWG is composed of representatives from both Genesee and Lapeer Counties.

Air Quality Analysis

Projects that add capacity to the transportation system such as widening a roadway from 2 lanes to 5 lanes or building of a new regionally significant road are determined by the IAWG to undergo air quality analysis. If the IAWG finds a project that needs to undergo air quality analysis the project is then analyzed with the travel demand model.



Travel demand model runs with the new widening or expansion projects are completed for all the analysis years (2005, 2011, 2018, 2025 and 2035) and the outputs of vehicle miles traveled, vehicle hours traveled and average speed are summed by National Functional Classification (NFC). This data is merged with data from the Michigan Statewide Model for Lapeer County and Highway Performance Monitoring System (HPMS) data. Then this information is used in the MOBILE6.2 air quality modeling program. MOBILE6.2 produces a total VOC and NOx emissions for each Genesee and Lapeer Counties for each analysis year.

The Attainment Budget for the Flint Michigan Air Quality Maintenance Area (including both Genesee County and Lapeer Counties):

VOC = 23,296.90 kg/day

NOx = 34,464.53 kg/day

Air quality emissions must be below these amounts for each analysis in order to be in compliance with air quality regulations.

The Flint Michigan Air Quality Maintenance Area Interagency Work Group (IAWG) met on June 2, 2009 to review the projects that were being recommended for inclusion in the 2035 LRTP. Staff prepared a list of projects that should undergo air quality conformity analysis which the IAWG committee concurred with. That list of project is on the following page.

Each county is run through the air quality modeling process for each analysis year separately and at the end they are aggregated together and compared to the conformity budget for the entire air quality maintenance area. The outputs from MOBLIE6.2 and is compiled into a summary chart on page 5.

List of Projects that Require Air Quality Modeling Analysis

Agency	Project	Description	Limits	Length (miles)	Estimated Cost	Year
GCRC	Fenton Rd.	2 to 3	North Fenton City Limits to Butcher Road	1.09	\$ 3,767,948.00	2011
GCRC	North Road	Turn Lane Construction	Fenton City Limits to US-23 Ramps	0.34	\$ 700,000.00	2012-2018
GCRC	Grand Blanc Road	2 to 5	Fenton Road to Grand Blanc City Limits	2.60	\$ 9,800,000.00	2012-2018
GCRC	Irish Road	2 to 5	Davison Road to Richfield Road	2.00	\$ 7,500,000.00	2012-2018
GCRC	Belsay Road	2 to 5	Burton City Limits to Richfield Road	0.27	\$ 627,000.00	2012-2018
MDOT	M-21/I-75 Interchange Improvement Project	Interchange Improvement	M-21 at I-75	NA	\$ 30,000,000.00	2012-2018
MDOT	Holly Road @ I-75	Interchange Improvement	Holly Road at I-75	NA	\$ 10,000,000.00	2012-2018
GCRC	Hill Road	Saginaw Rd to Thread Creek Bridge 2 to 5 Thread Creek Bridge to Center Rd 2 to 3	Saginaw Road to Center Road	0.91	\$ 2,550,000.00	2019-2025
GCRC	Perry Road	4 to 5	Bella Vista Avenue to Belsay Road	1.12	\$ 2,600,000.00	2019-2025
GCRC	Lapeer Road	2 to 5	Irish Road to State Road	1.94	\$ 6,500,000.00	2019-2025
GCRC	Owen Road	2 to 3	Linden Road to Jennings Road	2.03	\$ 4,500,000.00	2019-2025
GCRC	Torrey Road	2 to 3	Fenton City Limits to Thompson Road	3.06	\$ 3,700,000.00	2019-2025
GCRC	Baldwin Road	2 to 5	Fenton Road to Saginaw Road	5.14	\$ 8,500,000.00	2026-2035
GCRC	Linden Road	Right Turn Lane Construction	Bristol Road to Miller Road	0.31	\$ 660,000.00	2026-2035
GCRC	Linden Road	3 to 5	Dodge Road to Vienna Road	1.81	\$ 5,500,000.00	2026-2035
GCRC	Irish Road	2 to 5	I-69 WB Ramps to Davison Road	1.34	\$ 3,095,000.00	2026-2035
GCRC	Center Road	2 to 5	Grand Blanc City Limits to Maple Avenue	1.56	\$ 9,000,000.00	2026-2035
GCRC	Belsay Road	2 to 5	Perry Road to Hill Road	1.00	\$ 2,300,000.00	2026-2035



Flint Michigan Air Quality Maintenance Area Conformity Demonstration for the 2035 Long Range Transportation Plan

All values expressed in Kg/day

	2018 Conformity Year Budget	2011 Action	2018 Action	2025 Action	2035 Action
Genesee County HC NOX		10,240.0154 16,260.8097	6,774.6577 8,580.7648	5,441.5242 6,155.8878	5,841.2386 5,410.2680
Lapeer County HC NOX		1,935.4815 3,214.3287	1,327.2434 1,652.7480	1068.0203 1187.3386	1074.6526 1020.0166
Nonattainment Area Totals	23,296.8960 34,464.5280 NOX	12,175.4969 19,475.1384 NOX	8,101.9011 10,233.5128 NOX	6,509.5445 7,343.2264 NOX	6,915.8912 6,430.2846 NOX