Genesee County Model Update Technical Report
Summary

GCMPC
GENESEE COUNTY METROPOLITAN
PLANNING COMMISSION

Genesee County
2040 Long Range Transportation Plan

GeneSEE the Future: Mobility 2040

GENESEE COUNTY
METROPOLITAN ALLIANCE
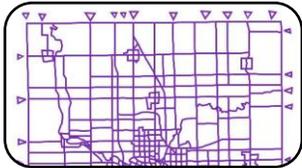
Overview

The Genesee County Travel Demand Model is a representation of travel patterns of the major roads in the county. The model uses population and employment projections to project where people may be traveling on the Genesee County road network in the future. Staff utilizes the model in determining the road network capacity deficiencies (congested areas), developing the list of capacity improvement (widening) projects for the 2040 Long Range Transportation Plan (LRTP), testing different alternative projects to alleviate congestion and for air quality conformity analysis on the LRTP and any future TIP projects that require analysis.

2005 Base Year

The 2005 Base Year Model was developed through a cooperative effort consisting of GCMPC staff, MDOT and the modeling consultants Bernardin Lochmueller and Associates as part of the 2035 LRTP update. The development of the model took over a year and was guided by the Genesee County Model Development Committee. The model has a 2005 base year, meaning that the outputs of the model were calibrated to 2005 traffic counts. This model is a significant improvement on the previous model and appropriate for a medium-sized MPO such as Genesee County. The model exceeds MDOT and FHWA standards for calibration.

2040 Updates

As part of the Genesee County 2040 LRTP, the 676 Traffic Analysis Zones (TAZ) in the 2005 Model were updated to include new socioeconomic data which was derived from the 2010 Census. The Genesee County 2040 Population and Employment Projections were used to update the population, households, persons per household and employment category attribute fields in the TAZ layer of the model. The 2040 LRTP Socioeconomic Projections and Methodology are documented in the appendix of the full model technical report. School and university data was also updated as well as the data for the external stations. Other updates include attribute and alignment changes to the road network and transit routes, and additions/deletions to the traffic signals. In addition to these changes, an additional modeling year, with associated attribute data, was added to allow analysis for the 2040 year of the 2040 LRTP. The Genesee County Model is run for the following years: 2005 (calibrated base year), 2011, 2018, 2025, 2035 and 2040. Various sections of the LRTP include analysis based on data from this updated model. In summary, the 2040 transportation model has been updated with- 2010 socioeconomic data, road and transit network updates, and is ready for use in the development of the 2040 LRTP.