

## **DEFICIENCY ANALYSIS**

As explained in the previous chapter, travel demand modeling of the urban transportation system helps to identify deficiencies in the network capacity as well as where future congestion is likely to occur. The model, which takes into account local traffic and socioeconomic data, aids decision makers in determining what projects should take place in the area in a given period of time. As a result of the travel demand model, deficient or congested portions of the NATS network have been identified for the base year (2006), as well as the horizon year (2035).

Road segments or corridors are identified as deficient when the projected vehicle volumes approach or exceed the design capacity of the road. Highly-congested road segments are those where the volume to capacity ratio exceeds 1.2 at a level of service (LOS) D (see Appendix F for additional discussion on LOS). Moderately-congested road segments are those where the volume to capacity ratio is between 1.0 and 1.2 at LOS D. Segments where the volume to capacity ratio is between 0.8 and 1.0 at LOS D are considered to be approaching capacity, and are considered to have low levels of congestion.

Overall, the most recent travel demand model revealed that the NATS road system should sufficiently handle the projected traffic capacities over the next twenty years. There were no highly congested road segments identified by the model. Moderately congested road segments and segments with low congestion are discussed in the section that follows.

Each deficiency identified by the model was mapped and discussed by a subcommittee of the TAC on Tuesday, August 26, 2008 at 1:30 p.m. Subcommittee members were asked to study the deficiencies in their communities in the base year as well as the horizon year and to determine whether or not they agreed that the road segment was deficient and if there were any deficiencies not identified by the model. Members were then asked to determine the reasons for the deficiencies and propose possible solutions. Results were presented to the TAC and Policy Committee at the regular September meetings, and a set of projects was sent to MDOT to be modeled for area-wide impacts.

It should be noted that the traffic volumes used in the current model are 24-hour averages and do not account for a.m. or p.m. peak travel times. This data will be collected for use in the next travel demand model. See Appendix G for tables with volume to capacity ratios for the base and horizon years.

**NATS Deficiencies**

Because of the limited number of deficiencies in the area, the discussion below combines the 2006 and 2035 segments.

<b>Location of Deficiency</b>	<b>Most Likely Cause(s)</b>	<b>Identified Solution(s)</b>
<b>Main Street – Front St. to 5<sup>th</sup> St.</b>	In 2009, this route, which currently falls under MDOT jurisdiction, will be turned over to the City of Niles. At this time, it is likely that semi truck traffic will be rerouted, and MDOT plans to work with the city to identify a new truck route. In addition, employment numbers in this TAZ were too high in the base year, which inflated the traffic volumes in the model. Employment numbers were decreased over time in an effort to remedy the problem. Also, Census data shows an extraordinarily high number of single person households in the TAZs surrounding Main St.	City officials feel that the route functions well as it exists. This is the central business district and slow traffic is desired. Since signals are currently optimized, there are no plans to alter the route at this time. However, the city plans to re-examine its population and household data in this area, and make efforts to ensure that residents are correctly accounted for in the next Census.
<b>Main Street – 12<sup>th</sup> St. to 13<sup>th</sup> St.</b>	This problem is likely an intersection problem, with most congestion occurring at a.m. and p.m. peaks. There are many signals in a relatively short distance and lanes here are reduced from 5 on Main to 2 on Oak and 2 on 13th/E. Main. In the past, the City of Niles planned to widen Oak St., but public hearings revealed that local residents were strongly against this project.	This intersection should be studied to determine the best solution.
<b>5<sup>th</sup> Street – Wayne St. to North City Limits</b>	5 <sup>th</sup> Street is one of the main north south routes entering into the City of Niles. The primary congestion is between Wayne Street and north city limits.	This section should be studied to determine the best solution.

\*This deficiency was identified by the TAC and Policy Committee rather than by the travel demand model.

**Additional Information:**

In the future, sufficient traffic data will be gathered to allow for an a.m. and p.m. peak analysis. In addition, the MPO may consider an application for State Planning and Research (SPR) to study intersections of concern, including but not limited to Main Street from 12<sup>th</sup> Street to 13<sup>th</sup> Street.