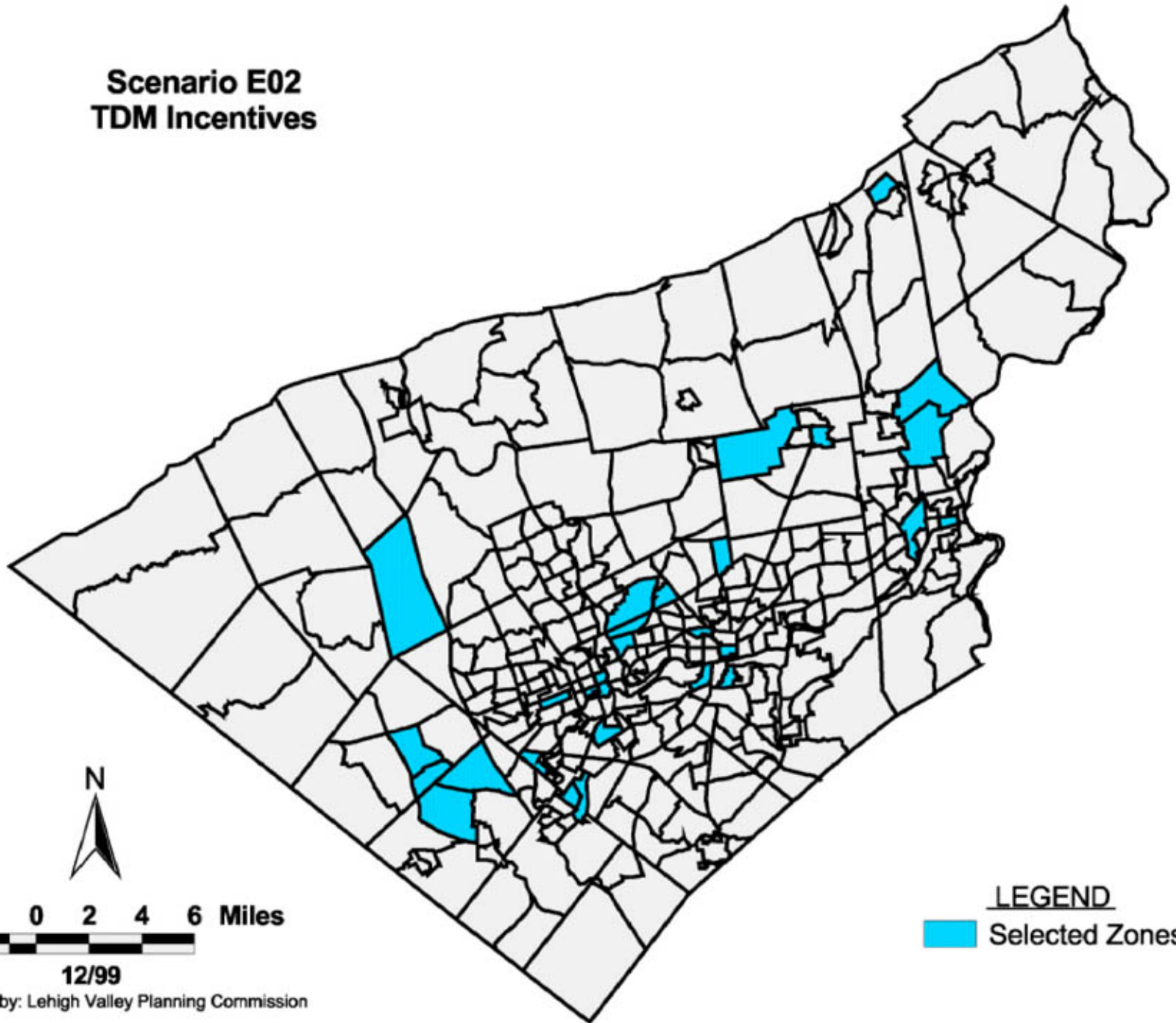


SCENARIO E02
TRAVEL DEMAND MANAGEMENT (TDM) INCENTIVES

This scenario studies the effects of providing carpool and walk/bike incentives to employers having 400 or more employees.

The Lehigh Valley region is divided into 354 traffic zones for analysis purposes. Of those, 29 traffic zones are given TDM incentives in this scenario. 75 percent of all eligible employees in these 29 traffic zones are given carpool incentives and 25 percent of all eligible employees are given walk and bike incentives.

Scenario E02 TDM Incentives



LEGEND
Selected Zones

12/99

Prepared by: Lehigh Valley Planning Commission

SCENARIO E02: MEASURES OF EFFECTIVENESS RELATING TO PROJECT NEEDS

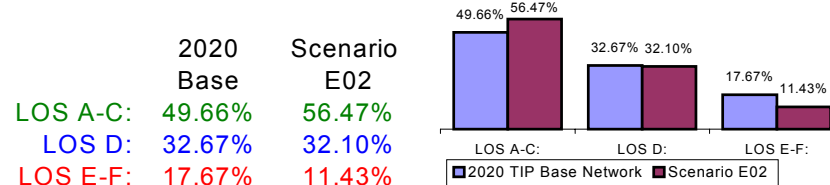
Improve Safety on U.S. Route 22

The goal of this scenario is to provide an alternative to a single occupancy vehicle. Also, if there are less vehicles on the road then there will also be less likelihood of crashes occurring, whereby increasing safety on U.S. Route 22. However, the travel demand model run results indicate that this scenario does not decrease traffic to a notable level on U.S. Route 22 to affect safety levels. These results combined with no interchange improvements on U.S. Route 22 lead to no anticipated safety improvements on U.S. Route 22.

IMPACT: Neutral

Reduce Congestion on U.S. Route 22

**Percent of Vehicle Miles of Travel (VMT) by Level Of Service (LOS)
Route 22- PM Peak Hour**

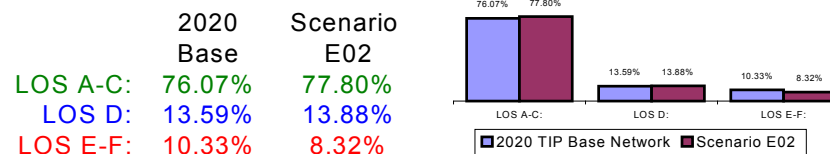


- Comparing the 2020 TIP base year with the TDM incentives scenario, the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 7 percent and a reduction of 6 percent is achieved in the breakdown traffic conditions of LOS E and F on U.S. Route 22.

IMPACT: Marginal

Recommended improvements must not increase congestion on regional road network

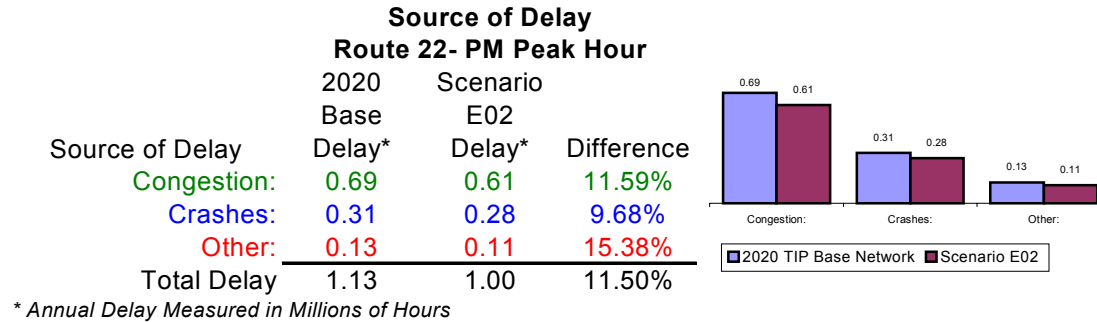
**Percent of Vehicle Miles of Travel (VMT) by Level Of Service (LOS)
All Lehigh Valley Region Roads - PM Peak Hour**



- The level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour shows an improvement of less than 2 percent in the overall Lehigh Valley roads and a reduction of 2 percent is achieved in the breakdown traffic conditions of LOS E and F in the Lehigh Valley region. This is a very small improvement compared to the infrastructure investment required for this scenario.

IMPACT: Positive

Reduce Impacts of incidents on U.S. Route 22 traffic flow



- The source of delay due to various types of incidents is used to gauge the progression of traffic on U.S. Route 22 and is measured in millions of hours per year for this scenario. Annual delay caused by congestion has decreased by 12 percent on U.S. Route 22, delay due to crashes has also decreased by approximately 10 percent, and delay due to breakdowns decreased by 15 percent on U.S. Route 22.
- Total delay due to all incidents on U.S. Route 22 has been reduced by approximately 12 percent from the “no-build” condition.

IMPACT: Positive

Support Land Use and Redevelopment Goals of Regional Comprehensive Plan

Providing carpool/vanpool and walk/bike incentives support the comprehensive plan goals of providing an alternative to the single-occupancy vehicle. This scenario meets the objectives of reduced air pollution and efficient road use. The incentives will encourage more involvement in carpool/vanpool and walk/bike programs by employees therefore reducing morning and evening work trips. These trips make up majority of the traffic on major roads in the peak periods of the day. If these trips are reduced, then the logical conclusion is that there will be a reduction in overall and U.S. Route 22 traffic congestion.

IMPACT: Positive

FINDINGS/CONCLUSIONS

This scenario is not beneficial in reducing major congestion areas and delay on U.S. Route 22. The TDM improvements by themselves do not adequately address the traffic problems on U.S. Route 22. However, providing travel demand management incentives may have a place in the Lehigh Valley region in conjunction with other U.S. Route 22 construction improvements. This scenario by itself does not adequately meet all five needs, but these improvements will be studied in conjunction with scenarios that consider added capacity improvements.