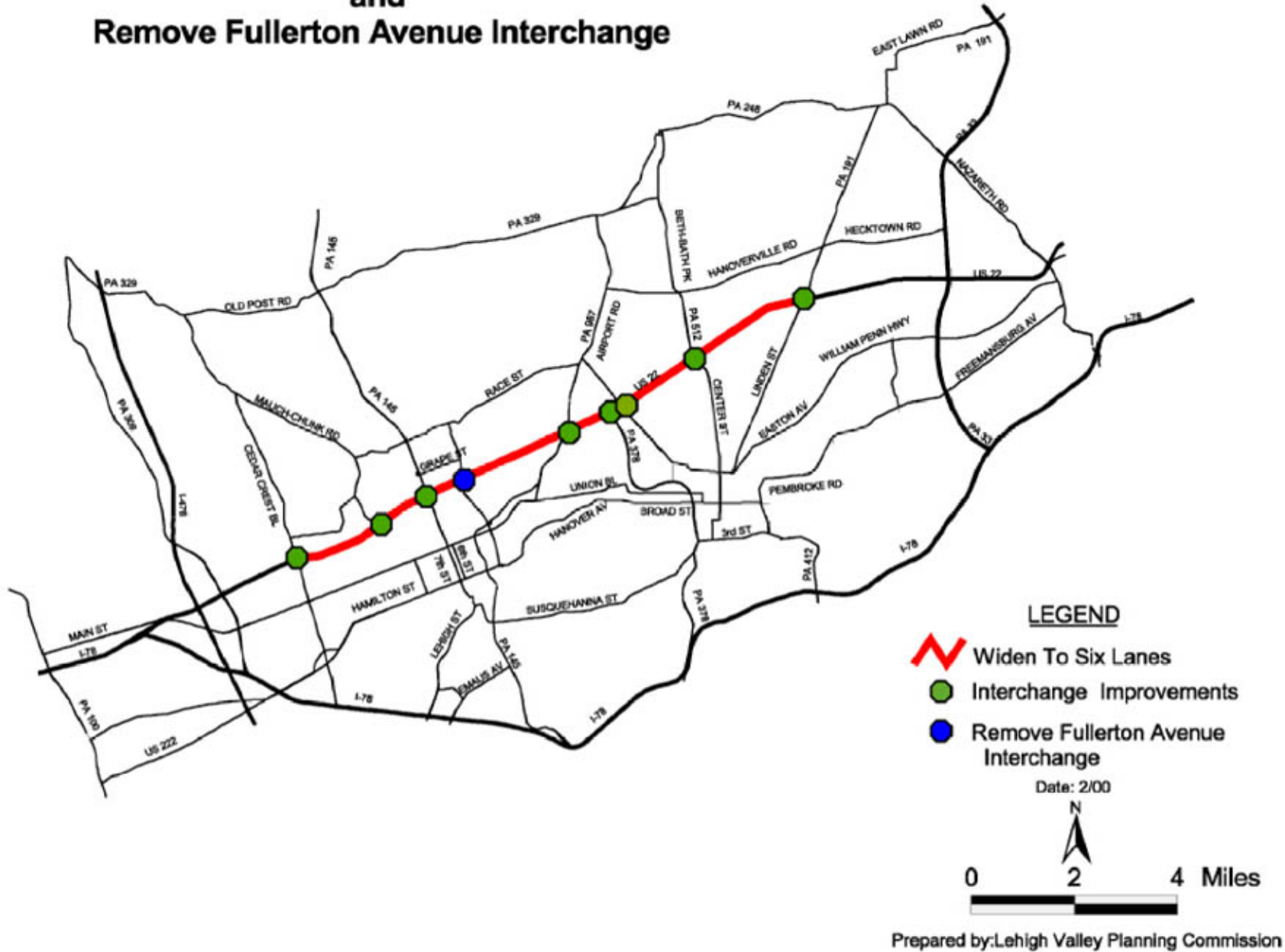


SCENARIO A12
WIDEN U.S. ROUTE 22 TO 6 LANES, INTERCHANGE IMPROVEMENTS
AND REMOVE INTERCHANGE @ U.S. ROUTE 22 AND FULLERTON AVENUE

This scenario studies the effects of widening U.S. Route 22 to six lanes. U.S. Route 22 is widened from existing four lanes to six lanes from I-78, in the western portion of Lehigh County to Route 33 in Northampton County. All interchanges except the Fullerton Avenue interchange along U.S. Route 22 are also upgraded between these two end points. The Fullerton Avenue interchange with U.S. Route 22 is removed in this scenario.

Scenario A12

Widen Route 22 To 6 Lanes, Interchange Improvements and Remove Fullerton Avenue Interchange



SCENARIO A12: MEASURES OF EFFECTIVENESS RELATING TO PROJECT NEEDS

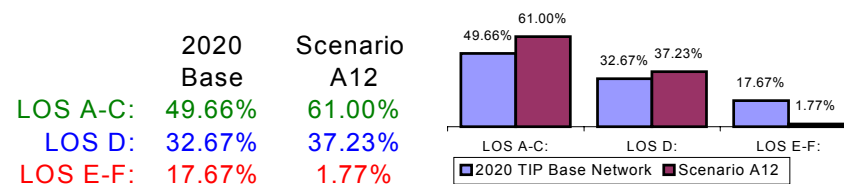
Improve Safety on U.S. Route 22

In the U.S. Route 22 corridor, most interchange designs do not meet current design standards (*A Policy on Geometric Design of Highways and Streets, 1994 AASHTO Greenbook and PennDOT Design Manual, Part 2, Highway Design; Publication 13M, September 2000*). The *U.S. Route 22 Needs Report* found that over 65 percent of the crashes occurred at interchange areas. Along with the improvement in the overall interchange configuration to meet current design standards, the length of acceleration and deceleration lanes at interchange ramps will also increase with the planned interchange improvements in this scenario. Additional lanes added to the mainline should accommodate more traffic with wider gaps between vehicles. Thus, allowing more room to maneuver a vehicle should traffic conditions change unexpectedly. The removal of the Fullerton Avenue interchange will also assist in reducing the number of conflicts occurring at this location due to the short acceleration and deceleration lanes.

IMPACT: Positive

Reduce Congestion on U.S. Route 22

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

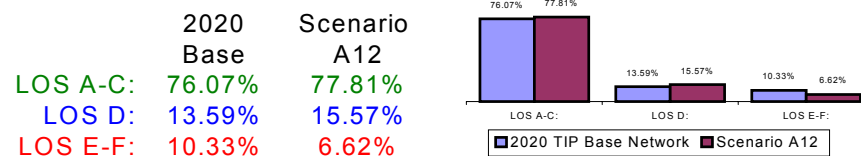


- Comparing the 2020 TIP base year with six-lanes on U.S. Route 22 without Fullerton Avenue interchange, the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 11 percent and a significant reduction from 18 percent to less than 2 percent is achieved in the breakdown traffic conditions of LOS E and F.

IMPACT: Marginal

Recommended improvements must not increase congestion on regional road network

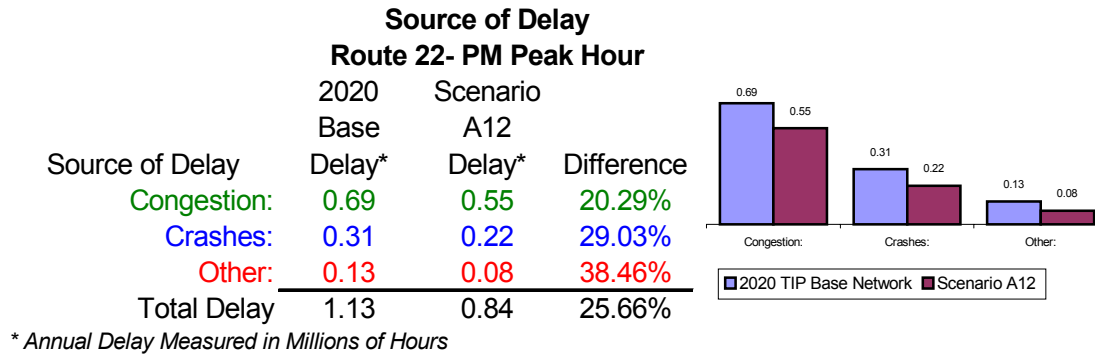
**Percent of Vehicle Miles of Travel (VMT) by Level Of Service (LOS)
All Lehigh Valley Region Roads - PM Peak Hour**



- The level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by less than 2 percent and a reduction of 3.7 percent is achieved in the breakdown traffic conditions of LOS E and F in the Lehigh Valley region.

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 due to congestion has decreased by 20 percent on U.S. Route 22, delay caused by crashes has also decreased by 29 percent, and delay due to breakdowns decreased 38 percent on U.S. Route 22.
- Total delay due to all incidents on U.S. Route 22 has been reduced by approximately 25 percent from the “no-build” condition.

IMPACT: Positive

Support Land Use and Redevelopment Goals of Regional Comprehensive Plan

Important goals stated within the Lehigh Valley Regional Comprehensive Plan such as economic development, constructing highways and bridge improvements that are compatible with the built and natural environments and farmland preservation are served with the implementation of this scenario. It encourages urban redevelopment of facilities within the cities by improving a major arterial that will provide safe and efficient access and movement of traffic to and from these major traffic generators. Conversely, implementing this scenario will also help in discouraging undesirable growth in areas recommended for rural development in the regional comprehensive plan by not improving access.

IMPACT: Positive

FINDINGS/CONCLUSIONS

The difference between this scenario and strictly widening to six lanes, scenario A10, is that in this scenario the level of travel occurring at LOS D has substantially increased and there is very little increase in LOS A, B or C. The second need, *Reduce congestion on U.S. Route 22* is not completely met, making it difficult to justify the improvements for such marginal benefit. Removing Fullerton Avenue interchange does not entirely remove congestion at this location. It merely stretches the area of congestion out to the next available point of access. This scenario does not adequately meet all needs of this project.