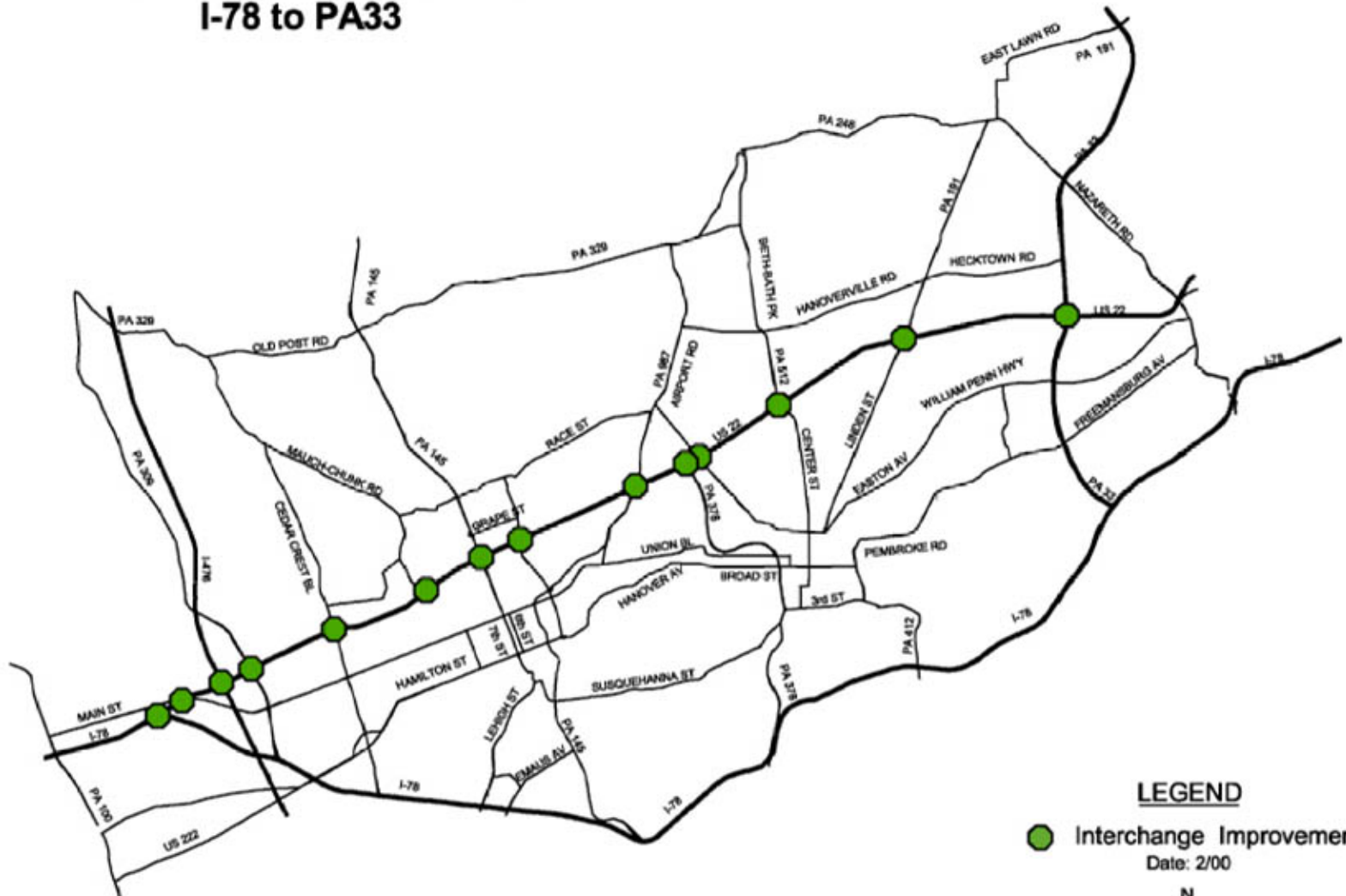


SCENARIO A15
INTERCHANGE IMPROVEMENTS FROM
I-78/U.S. ROUTE 22 TO STATE ROUTE 33

This scenario studies the effects of upgrading interchanges from I-78/ U.S. Route 22 merge point to Route 33.

Scenario A15 Interchange Improvement I-78 to PA33



LEGEND

● Interchange Improvements
Date: 2/00



Prepared by: Lehigh Valley Planning Commission

SCENARIO A15: MEASURES OF EFFECTIVENESS RELATING TO PROJECT NEEDS

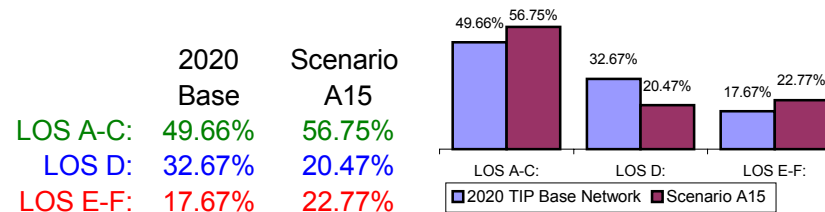
Improve Safety on U.S. Route 22

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 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. Ultimately, this should result in crash reduction.

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**

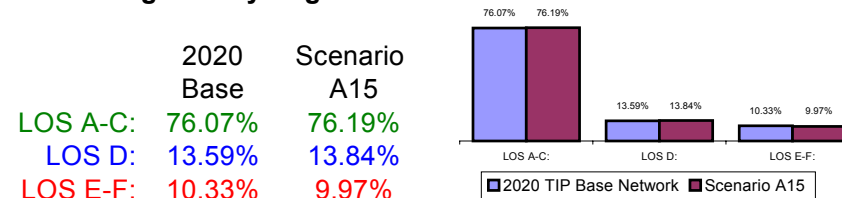


- Comparing the 2020 TIP base year with interchange improvements on U.S. Route 22, the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 7 percent; there is an increase from 18 percent to 23 percent that occurs in the breakdown traffic conditions of LOS E and F on U.S. Route 22.

IMPACT: Negative

Recommended improvements must not increase congestion on regional road network

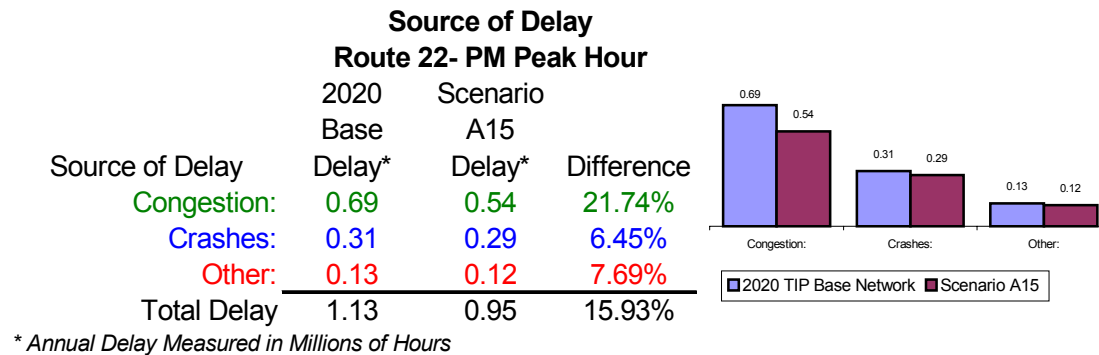
**Percent of Vehicle Miles of Travel (VMT) by Level Of Service (LOS)
All Lehigh Valley Region Roads - PM Peak Hour**



- As indicated by the above chart, virtually no change has resulted in the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour and in the breakdown traffic conditions of LOS E and F in the Lehigh Valley region.

IMPACT: Neutral

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 22 percent on U.S. Route 22, delay due to crashes has also decreased by 6 percent, and delay due to breakdowns decreased approximately 8 percent on U.S. Route 22.
- Total delay due to all incidents on U.S. Route 22 has been reduced by approximately 16 percent from the “no-build” condition.

IMPACT: Positive

Support Land Use and Redevelopment Goals of Regional Comprehensive Plan

This scenario has little impact on the land use and redevelopment goals and policies of the regional comprehensive plan.

IMPACT: Neutral

FINDINGS/CONCLUSIONS

This scenario on its own does not benefit the overall U.S. Route 22 corridor. The interchange improvements studied in this scenario are important. However, additional capacity on the mainline is needed to reduce congestion. Two of the five needs are met with positive impact, two needs are neutral and one need is not met with this scenario. This scenario does not adequately meet all needs of this project.