

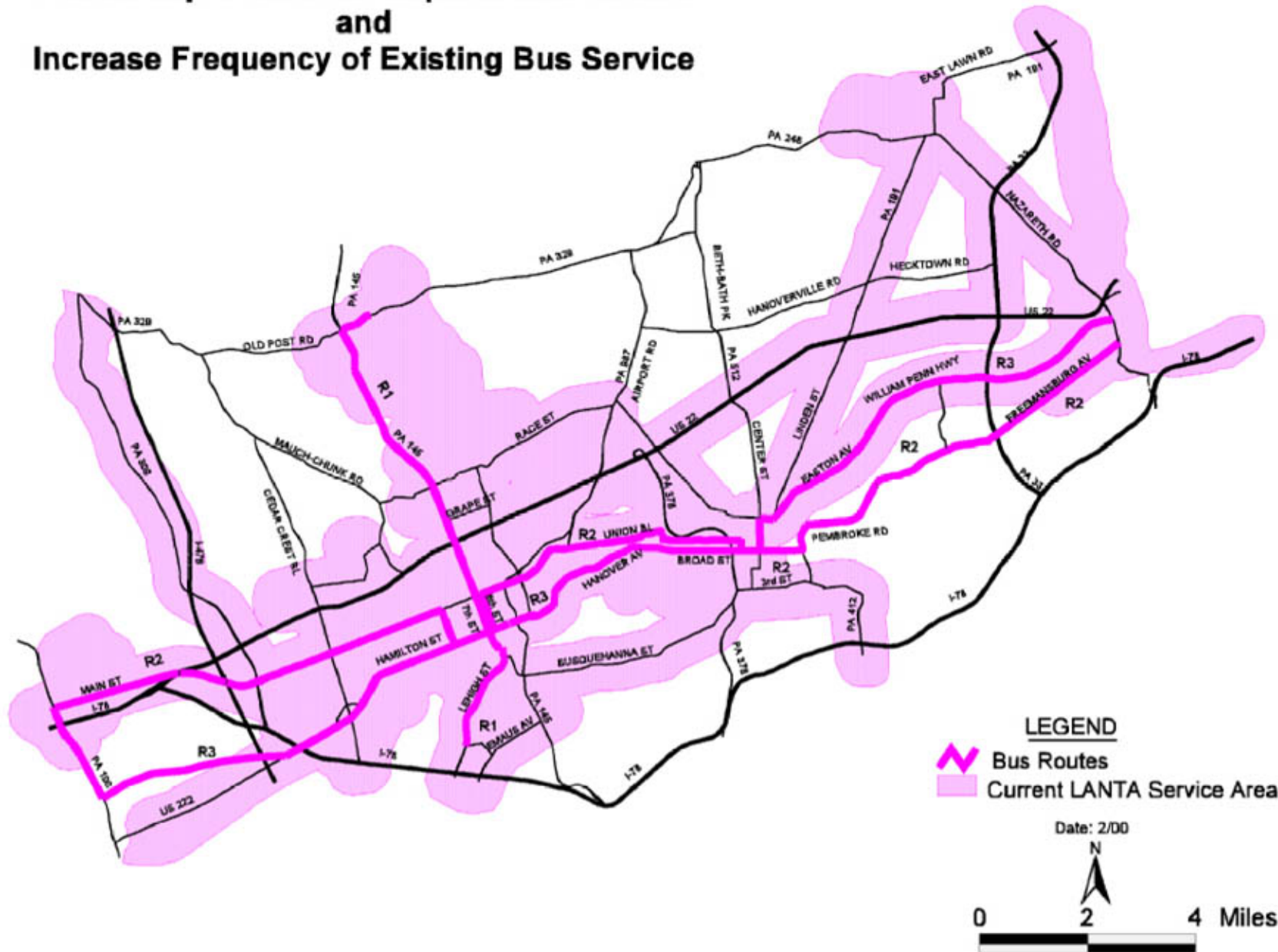
SCENARIO D08
EXPRESS BUS SERVICE AND
INCREASE FREQUENCY OF EXISTING BUS SERVICE

This scenario studies the effects on U.S. Route 22 travel of providing express bus routes and increasing the frequency of existing bus service.

The three express bus routes are as seen in the accompanying map of this scenario.

In addition to the express bus routes, the frequency of the existing bus routes has been increased to 10 minutes in the morning and evening peak periods, 6-9 AM and 4-7 PM, respectively, and 20 minutes in the off-peak periods. The existing bus routes are shown in the map as lightly shaded purple area.

Scenario D08 Transit Improvements: Express Bus Routes and Increase Frequency of Existing Bus Service



Prepared by: Lehigh Valley Planning Commission

SCENARIO D08: MEASURES OF EFFECTIVENESS RELATING TO PROJECT NEEDS

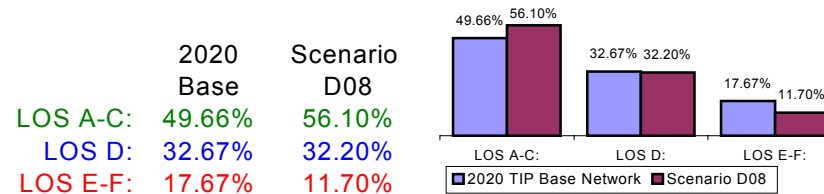
Improve Safety on U.S. Route 22

The intent of this scenario is to take enough traffic off the U.S. Route 22 corridor so as to increase gaps between vehicles which, in turn, would reduce the chances of an occurrence of crashes. However, the travel demand model run indicates that the transit ridership did not increase significantly to reduce overall traffic volumes on U.S. Route 22. These results combined with no interchange improvements on U.S. Route 22 lead to no expected 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**

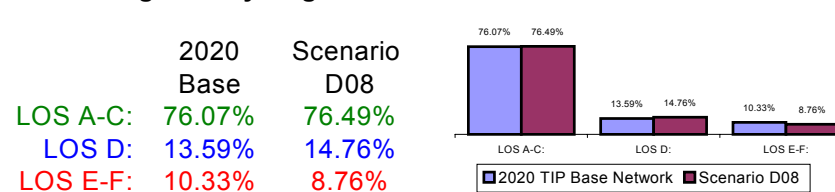


- Comparing the 2020 TIP base year with the express bus routes scenario, the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 6 percent and a reduction of 6 percent is achieved in the breakdown traffic conditions of LOS E and F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

IMPACT: Marginal

Recommended improvements must not increase congestion on regional road network

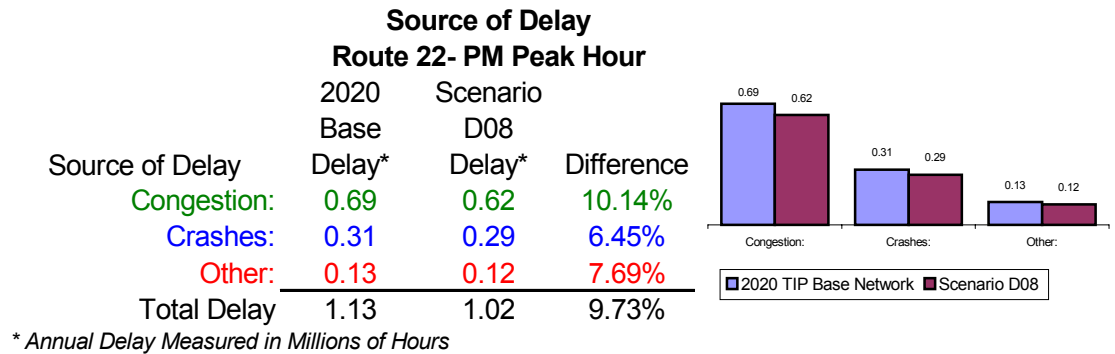
**Percent of Vehicle Miles of Travel (VMT) by Level Of Service (LOS)
All Lehigh Valley Region Roads - PM Peak Hour**



- The level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour shows less than 0.5 percent improvement in the overall Lehigh Valley roads and a reduction of less than 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 required infrastructure investment.
- The total transit ridership after these improvements is about 40,500 riders from 12,000 riders for the 'no build' 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. Annual delay due to congestion has decreased by 10 percent on U.S. Route 22, delay caused by crashes has also decreased by approximately 6 percent, and delay due to breakdowns decreased by 8 percent on U.S. Route 22.
- Total delay due to all incidents on U.S. Route 22 has been reduced by approximately 10 percent from the “no-build” condition.

IMPACT: Positive

Support Land Use and Redevelopment Goals of Regional Comprehensive Plan

Providing express bus routes as well as increasing frequency of existing bus service encourages use of transit services in the Valley without adding more roads. This supports the comprehensive plan goals of providing an alternative to the single-occupancy vehicle to meet the objectives of reduced air pollution and efficient road use and to provide adequate mobility for the elderly, the handicapped, the poor, and those who do not own automobiles.

IMPACT: Positive

FINDINGS/CONCLUSIONS

This scenario is one of the least beneficial in reducing major congestion areas and delay on U.S. Route 22 as well as in the entire Lehigh Valley region. The addition of express bus service does increase ridership on these systems. However, these improvements do not take sufficient traffic off of U.S. Route 22 to provide a remedy to the operational deficiencies on U.S. Route 22. This scenario does not adequately meet all needs of this project.