

**SCENARIO F05**  
**INTERCHANGE IMPROVEMENTS ON U.S. ROUTE 22**  
**WIDEN S. 4<sup>TH</sup> STREET AND EXTEND AMERICAN PARKWAY TO PA 378**  
**WIDEN CEDAR CREST BLVD., AIRPORT ROAD, ROUE 512, ROUTE191**  
**BUILD IN-TOWN BYPASS AND ADD INTERCHANGE @ I-78/PA 378**

This scenario studies the effects of widening parallel and feeder roads to U.S. Route 22 such as:

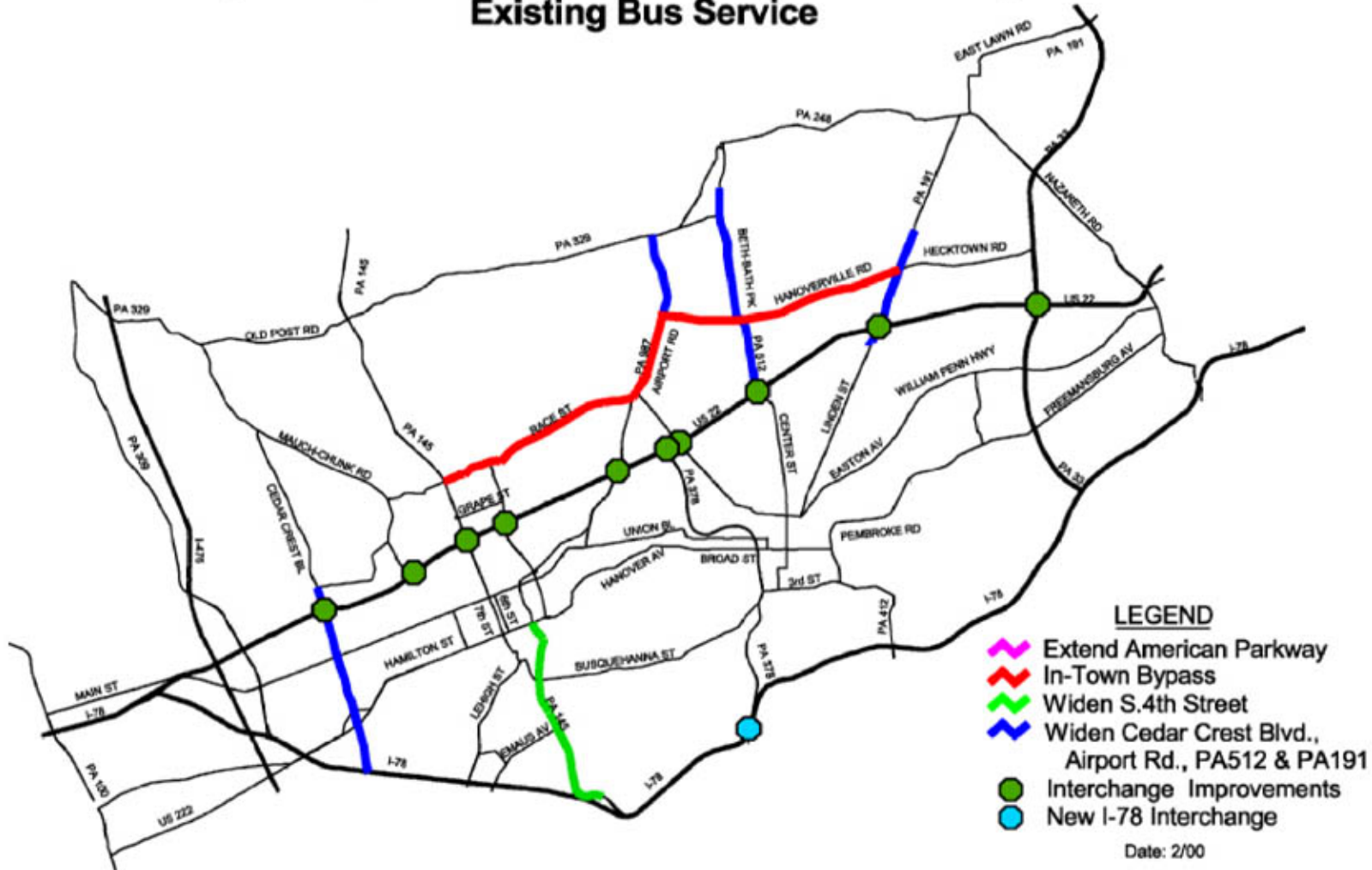
- Providing an In-Town bypass (widened to four lanes) from Route 145 to Route 191;
- Widening to four lanes on Cedar Crest Blvd from I-78 in the south to Main Blvd. in the north;
- Airport Road from U.S. Route 22 to Route 329;
- Route 512 from U.S. Route 22 to Borough of Bath; and
- Route 191 from Oakland Road to Newburg Road.
- The interchanges are improved on U.S. Route 22 from Cedar Crest Blvd. in the west to Route 33 in the east.

Other improvements include:

- The addition of an interchange at I-78 and PA 378;
- Widening to four lanes of S. 4<sup>th</sup> Street from I-78 to Hamilton Blvd.; and
- Extending a four-lane American Parkway from Airport Road to PA 378.

## Scenario F05

**Combination Improvements: Extend American Parkway, build "In-Town Bypass", Improve Rt. 22 Interchanges, New I-78 Interchange, S. 4th Street, Cedar Crest Blvd., Airport Rd., PA512 , PA191 and Decrease Headways for Existing Bus Service**



Prepared by: Lehigh Valley Planning Commission

# SCENARIO F05: MEASURES OF EFFECTIVENESS RELATING TO PROJECT NEEDS

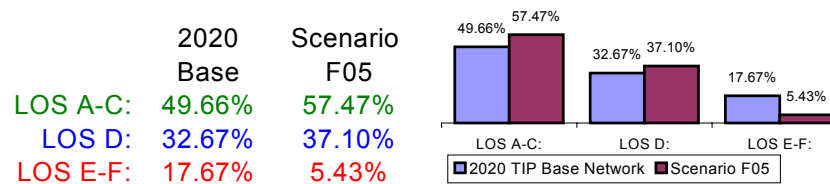
## Improve Safety on U.S. Route 22

The length of acceleration and deceleration lanes at interchange ramps will increase with the planned interchange improvements in this scenario. This could have a positive impact on safety at the interchanges.

**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**

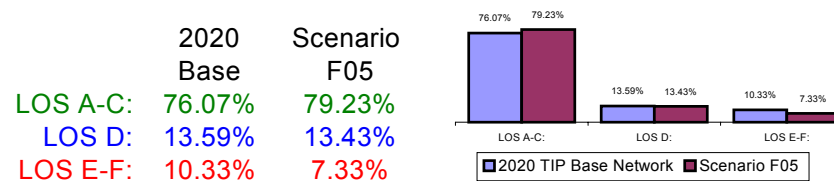


- Comparing the 2020 TIP base year with this combination scenario, the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 7 percent and a reduction of 12 percent is achieved in the breakdown traffic conditions of LOS E and F on U.S. Route 22.

**IMPACT: Marginal**

## Recommended improvements must not increase congestion on regional road network

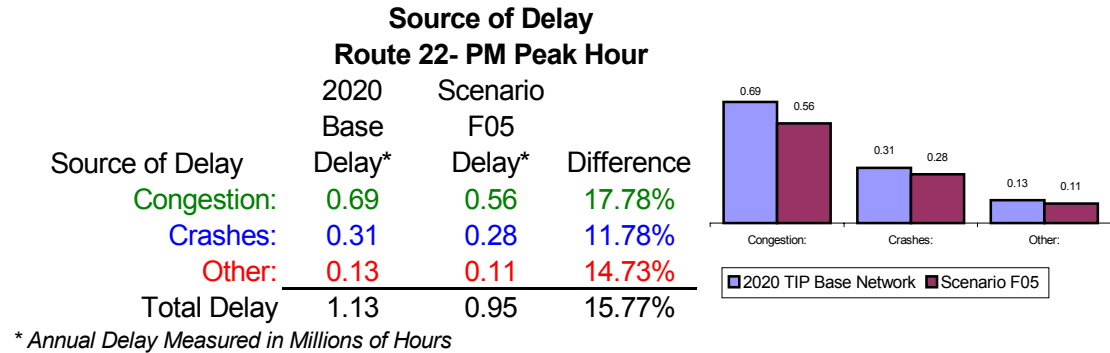
**Percent of Vehicle Miles of Travel (VMT) by Level Of Service (LOS)  
All Lehigh Valley Region Roads - PM Peak Hour**



- The level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 3 percent and a reduction of 3 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 caused by congestion has decreased by 18 percent on U.S. Route 22, delay due to crashes has also decreased by 12 percent, and delay due to breakdowns decreased more than 15 percent on U.S. Route 22.
- Total delay due to all incidents on U.S. Route 22 has been reduced by 16 percent from the “no-build” condition.

**IMPACT: Positive**

**Support Land Use and Redevelopment Goals of Regional Comprehensive Plan**

This scenario encourages urban redevelopment of facilities within the cities by improving key roads that will provide safe and efficient movement of traffic to and from these major generators of traffic. The improvement of I-78 will give motorists an easier access to and from south Bethlehem and the improvement of south 4<sup>th</sup> Street in Allentown along with the extension of American Parkway to PA 378 will create a major arterial between Routes 22, 378 and I-78. This will provide better traffic circulation in the area.

**IMPACT: Positive**

**FINDINGS/CONCLUSIONS**

The intent of this scenario was to improve the parallel and feeder road facilities along U.S. Route 22 in order to shift the U.S. Route 22 traffic to these improved roads. The idea was to mitigate the congestion problems on the overall Lehigh Valley road network as well as the bottlenecks on U.S. Route 22. However, as can be seen from the data, these off-line improvements do little to alleviate the U.S. Route 22 mainline congestion. In the end, without addition of any further capacity to U.S. Route 22, no other off-site improvements on their own provide relief to U.S. Route 22. This scenario does not adequately meet all five needs.