SCENARIO B02
IN-TOWN BYPASS

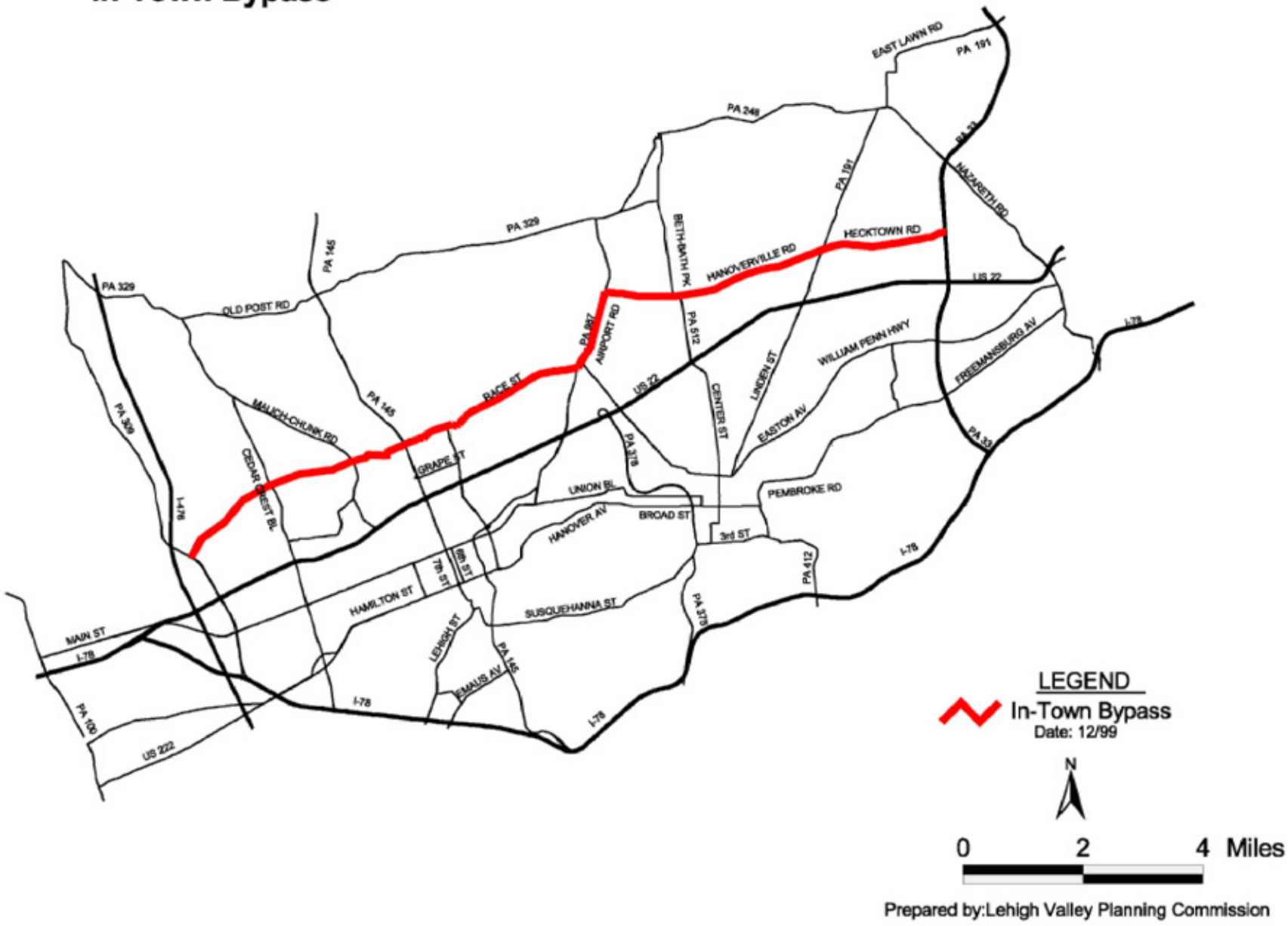
This scenario studies the effects of introducing a new four lane arterial approximately 1.5 miles north of the existing U.S. Route 22 Corridor.

This bypass stretches from Route 309 in the western portion of Lehigh County to Route 33 in Northampton County via use of existing roads such as Schadt Avenue, Race Street, Airport Road, Hanoverville Road, and Hecktown Road.

This location was chosen because it is the first location north of U.S. Route 22 that is close enough to U.S. Route 22 to have more of an impact to travel patterns on U.S. Route 22.

The purpose of this scenario is to reduce travel on U.S. Route 22 by shifting travel patterns to a new road, thereby lessening the demand on U.S. Route 22.

Scenario B02
In-Town Bypass



SCENARIO B02: MEASURES OF EFFECTIVENESS RELATING TO PROJECT NEEDS

Improve Safety

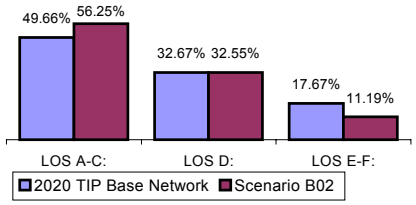
The premise of this scenario is that by building a new bypass, significant shifts in travel will occur from the heavily traveled U.S. Route 22 corridor to the new bypass. This will give the motorists remaining on U.S. Route 22 more freedom to navigate their vehicles to safety in case of a crash or incident ahead. However, the results of the travel demand model run show that there is an insignificant reduction in the amount of travel demand for the U.S. Route 22 corridor. Furthermore, the interchanges will not be upgraded in the U.S. Route 22 corridor meaning geometric deficiencies will still exist therefore, no relief is expected in alleviating crashes. Due to travel demand, safety would still be an issue on U.S. Route 22 even with the existence of a bypass near 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

	2020 Base	Scenario B02
LOS A-C:	49.66%	56.25%
LOS D:	32.67%	32.55%
LOS E-F:	17.67%	11.19%



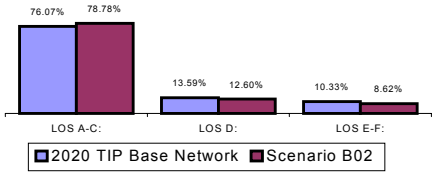
- Comparing the 2020 TIP base year with the In-Town Bypass, the level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour has improved by 6 percent and a reduction of 6 percent is also achieved in the breakdown traffic conditions of LOS E and F on U.S.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

	2020 Base	Scenario B02
LOS A-C:	76.07%	78.78%
LOS D:	13.59%	12.60%
LOS E-F:	10.33%	8.62%



- The level of travel occurring under desirable traffic conditions of LOS A through C in the afternoon peak hour shows marginal improvement of 2.5 percent 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. There is very minimal change in the overall network operating conditions with the new Bypass.

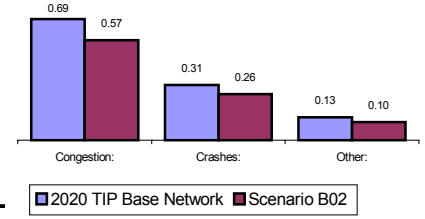
IMPACT: Positive

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

Source of Delay
Route 22- PM Peak Hour

Source of Delay	2020 Base Delay*	Scenario B02 Delay*	Difference
Congestion:	0.69	0.57	17.39%
Crashes:	0.31	0.26	16.13%
Other:	0.13	0.10	23.08%
Total Delay	1.13	0.93	17.70%

** Annual Delay Measured in Millions of Hours*



- 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 17 percent on U.S. Route 22, delay due to crashes has also decreased by approximately 16 percent, and delay due to breakdowns decreased by 23 percent on U.S. Route 22.

- Total delay due to all incidents on U.S. Route 22 has been reduced by approximately 18 percent from the "no-build" condition.

IMPACT: Positive

Support Land Use and Redevelopment Goals of Regional Comprehensive Plan

This scenario has limited impact on the land use and redevelopment goals of the comprehensive plan. This improvement provides an access to major industrial parks to the north of U.S. Route 22. Implementing this scenario will also help in discouraging undesirable growth in areas recommended for rural development in the regional comprehensive plan. This is the case because when better access is provided to an area, developments usually follow.

IMPACT: Positive

FINDINGS/CONCLUSIONS

The travel conditions on U.S. Route 22 have not altered significantly. Even though some motorists find this new bypass attractive, and are moving to use it, new motorists are ready to take their place on U.S. Route 22. It is observed from the model data results that the travel from the south is moving onto U.S. Route 22. There is a northward migration of travel, therefore backups are experienced on U.S. Route 22. Only three of the five needs are met. Some needs are met by a narrow margin. Safety will still remain a concern for the U.S. Route 22 corridor in light of the fact that the traffic level remains the same as in the no-build condition. This scenario does not adequately meet all needs of this project.