

CONCLUSIONS AND RECOMMENDATIONS

The concurrence on project needs was given by state and federal resource agencies in early 2000. There are five project needs that relate to U.S. Route 22. They are: improve safety on U.S. Route 22, reduce congestion on U.S. Route 22, recommended improvements must not increase congestion on the regional road network, reduce impacts of incidents on U.S. Route 22 traffic flow, and support land use and redevelopment goals of the regional comprehensive plan. All scenarios were evaluated against each of these five needs.

A wide range of preliminary scenarios were developed as part of this study including public transit (express bus system, light rail system), travel demand management (ramp metering, carpool, and walk/bike), highway improvements (U.S. Route 22 as well as other parallel and feeder routes), and a No-Build scenario. In all, forty-two scenarios were initially tested. Of these forty-two, fifteen representative scenarios have been presented in detail in this report. The intent of this data analysis was to arrive at a range of reasonable alternatives that fully meet the needs to carry forward into the next phase of this project. Specific criteria were established prior to analysis of each scenario. All scenarios were evaluated using the previously established criteria. Professional judgement was utilized where data was not available.

The following pages contain Table 5 entitled *Summary of Effects of MOEs on Needs* and two charts which show the summary of each of the 15 scenarios in terms of the operating conditions for vehicles traveling on U.S. Route 22 as well as the entire Lehigh Valley regional road network. Chart 1 and Chart 2 convey operating conditions via vehicle miles of travel (VMT) at various levels of services. The section highlighted in green in Table 5 shows the five scenarios that positively meet all stated needs of this study. These scenarios are A01, A02, A03, A10, and F02. The scenarios recommended to advance for further considerations are A01, A02, A03, and A10. All other scenarios are not recommended to be carried forward because they do not adequately meet the needs of this study.

Scenario F02 is not recommended to be carried forward for detailed study. A comparison of benefits derived from this scenario with those of Scenario A10 (widen U.S. Route 22 to six lanes from Cedar Crest Blvd. to Route 33) show very similar results. Scenario A10 requires fewer improvements to the existing infrastructure for the same benefits. This suggests that the improvements in this scenario beyond widening U.S. Route 22 (i.e., improvements to South 4th Street from Hamilton Street to I-78, widening I-78 to 6 lanes from South 4th Street to the New Jersey border, and the addition of an interchange at I-78 and Route 378) have little direct benefit to U.S. Route 22 travel conditions. These off-corridor improvements however, would have independent utility, i.e., could stand on their own merits.

Scenario A10 requires fewer improvements to the overall road network and encounters fewer areas of potential environmental impacts while giving similar benefits as Scenario F02. Therefore, the recommendation is to advance Scenario A10 and not to carry Scenario F02 forward for detailed study.

As can be seen from Chart 1 entitled *2020 Comparison of Scenarios for U.S. Route 22 - Total Vehicle Miles of Travel By Level of Service for PM Peak Hour*, Scenario A01, A02, A03, and A10 all show the majority of U.S. Route 22 travel occurring at level of service C with very little travel occurring at level of service E or F.

The scenarios being recommended for further study are all on the mainline U.S. Route 22. The potential environmental resources that are affected will be similar for all four scenarios. A more detailed environmental impact and engineering investigation will be presented in subsequent environmental documents.

TABLE 5

Evaluation of Project Needs by Scenario for the year 2020						
Scenario	Improve Safety	Reduce Congestion on U.S.Route 22	Recommended improvements not increase congestion on regional road network	Reduce Impacts of Incidents on Traffic Flow	Support LVPC Comprehensive Plan	
A01	+	+	+	+	+	
A02	+	+	+	+	+	
A03	+	+	+	+	+	
A10	+	+	+	+	+	
A12	+	M	+	+	+	
A15	+	-	0	+	0	
B01	0	M	+	+	-	
B02	0	M	+	+	+	
C01	0	M	+	+	+	
D01	0	M	+	+	+	
D08	0	M	+	+	+	
E02	0	M	+	+	+	
F02	+	+	+	+	+	
F05	+	M	+	+	+	
F08	0	M	+	+	+	
Note:	+ = Positive M= Marginal 0 = Neutral - = Negative Scenarios that positively meet all project needs					