

22 / TOMORROW

A Corridor Planning Study — U.S. Route 22 — Lehigh Valley



*Lehigh Valley Planning Commission
November 2001*

22 / TOMORROW

A Corridor Planning Study — U.S. Route 22 — Lehigh Valley

***Lehigh Valley Planning Commission
November 2001***

LEHIGH VALLEY PLANNING COMMISSION

Ira J. Faro, Chair
Eleanore M. Hayden, Vice Chair
Steven L. Glickman, Treasurer

Lucy H. Ackerman
Arthur F. Barwick
Wilbur L. Boyer
Donald Cunningham
John N. Diacogiannis
Percy H. Dougherty
J. Michael Dowd
Jane R. Ervin
James E. Flemming
Charles L. Fraust
Donald D. Frederick
Robert L. Freeman
Thomas Goldsmith

Linda Gorgas
Samuel A. Guttman
Michael C. Hefele
William L. Heydt
Nils Hovik
Benjamin F. Howells, Jr.
Robert C. Kilpatrick
Robert T. Koch
Robert E. Korp
James F. Lancsek
Terry J. Lee
Henry A. Lubsen, Jr.

Earl B. Lynn
Stanley M. Lysek
Grayson E. McNair
Robert O'Neil
Glenn F. Reibman
Rene A. Rodriguez, Jr.
Gerald E. Seyfried
Deborah S. Skeans
Glenn D. Solt
Andrew Twiggar
Pamela D. Varkony

LEHIGH VALLEY PLANNING COMMISSION

* Michael N. Kaiser, AICP
Frederic H. Brock, AICP
Geoffrey A. Reese, P.E.
* Joseph L. Gurinko, AICP
Olev Taremäe, AICP
Laura M. Eberly, P.E.
Thomas K. Edinger, AICP
* Lynette E. Romig
Susan L. Rockwell

Executive Director
Assistant Director
Chief Engineer
Chief Planner
Chief Planner
Senior Engineer
GIS Manager
Senior GIS Analyst
Senior Environmental Planner

** Chetna A. Patel, AICP
Michael S. Donchez
Elaine A. Sales
Gayle H. Turner
* Alice J. Lipe
Kathleen M. Sauerzopf
* Joseph A. Sandova
* Wilmer R. Hunsicker, Jr.
Bonnie D. Sankovsky

Senior Transportation Engineer
Senior Transportation Planner
Administrative Assistant
Administrative Secretary
Planning Technician
Receptionist/Secretary
Senior Planning Technician
Senior Planning Technician
Drafter

**Project Planner
*Staff for this report

November 2001

TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY	vi
BACKGROUND	1
Introduction	1
SCENARIOS	4
Identification of Travel Demand Forecasting Model	4
Participation of Committees	4
Identification of Project Needs	5
Development and Analysis of Scenarios	6
Scenario 003	12
Scenario A01	14
Scenario A02	18
Scenario A03	22
Scenario A10	26
Scenario A12	30
Scenario A15	34
Scenario B01	38
Scenario B02	42
Scenario C01	46
Scenario D01	50
Scenario D08	54
Scenario E02	58
Scenario F02	62
Scenario F05	66
Scenario F08	70

TABLE OF CONTENTS (CONT.)

	<u>PAGE</u>
ENVIRONMENTAL OVERVIEW	74
Agriculture	74
Wetlands and Floodplains	74
Land Use and Zoning	74
Historic Sites	75
Parks	75
SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS	89

APPENDICES

- A List of Forty-Two Scenarios
- B Wetland Legend

LIST OF MAPS

MAP NO.		PAGE
1	Route 22 Study Corridor Limits	2
2	Route 22 Study Area Boundary	3
3	General Land Use Plan	11
4	Existing Land Use	81
5	Floodplains and Wetlands	83
6	Lehigh and Northampton County Municipal Zoning	85
7	Historic Sites and Parks	87

LIST OF TABLES

TABLE NO.		PAGE
1	The Concept of Level of Service (LOS)	8
2	Project Needs and Evaluation Criteria	9
3	Scenario Descriptions	10
4	Potentially Impacted Environmental Resources	76
5	Evaluation of Project Needs by Scenario for the Year 2020	90

LIST OF CHARTS

CHART NO.		PAGE
1	U.S. Route 22 Comparison of Level of Service by Scenario — 2020 PM Peak Hour	91

ACKNOWLEDGMENTS

The Lehigh Valley Planning Commission (LVPC) wishes to acknowledge the contributions of the following Committees in forming initial ideas and assisting in further refining of those ideas to meet the needs of the U.S. Route 22 Corridor.

- U.S. Route 22 Steering Committee
- U.S. Route 22 Corridor Study Advisory Committee
- Transportation Committee of the Lehigh Valley Planning Commission

We wish to thank our consultants on this project: Urbitran-Garmen Associates for their work in building and calibrating the enhanced Lehigh Valley Travel Demand Forecasting Model that allowed the LVPC staff to analyze a wide range of improvement scenarios for this project; and Orth-Rodgers and Associates for providing insights and inputs during the course of report writing and for reviewing the draft report.

We also appreciate the participation of the staff of The Pennsylvania Department of Transportation as well as the staff of the Lehigh and Northampton Transportation Authority (LANTA) for their review of this report.

All of these contributions are gratefully acknowledged.

EXECUTIVE SUMMARY

The Lehigh Valley Planning Commission (LVPC) in conjunction with the Pennsylvania Department of Transportation (PennDOT), and Lehigh and Northampton Transportation Authority (LANTA) are the sponsors of this project to define and address the long range transportation needs for the Route 22 corridor in the Lehigh Valley.

The purpose of this report is to identify a range of potential solutions to future traffic problems on Route 22 and to assess those that best meet the project purpose and needs. This report documents the study scenarios and identifies a preliminary list of environmental resources that might be impacted by this project.

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.

A wide range of ideas were originally considered without regard to feasibility or cost constraints. In all, forty-two scenarios (included in Appendix A) were initially tested using the Travel Demand Forecasting Model of the Lehigh Valley Planning Commission. The scenarios incorporate a wide range of ideas introduced by the study Committees. They are categorized into six main themes:

- The first theme includes all scenarios that introduce improvements to mainline Route 22, i.e., widen to six and/or eight lanes and improve interchanges;
- The second theme includes scenarios which introduce a new route

- in the road network, i.e., bypass to the north of Route 22;
- The third theme includes all scenarios which look at improving feeder (north-south routes leading to Route 22) or parallel routes (east-west routes parallel to Rt. 22);
- The fourth theme includes all scenarios involving improvements to the transit network e.g., express bus routes and light rail service;
- The fifth theme includes all scenarios which look at non-road improvements, e.g., Travel Demand Management (TDM) and alternative land use considerations;
- The sixth theme includes all scenarios which combine various improvements from the first five themes.

For purposes of documentation, fifteen of the forty-two scenarios evaluated are described in detail in this report. The fifteen scenarios comprise a wide range of improvements from each of the aforementioned themes. These scenarios are then evaluated based on how well each meets the five aforementioned needs of this study.

Four scenarios that provide a variety of improvements to mainline Route 22 are recommended for future preliminary design and environmental analysis. These scenarios include (Scenario A01) widening Route 22 to 8 lanes from I-78 to Route 33 with improved interchanges, (Scenario A10) widening Route 22 to 6 lanes from Cedar Crest Blvd. to Route 33 with improved interchanges, and two scenarios (Scenario A02 and A03) that examine widening Route 22 with a combination of six and eight lanes. Other scenarios do not meet the project needs.

Orth-Rodgers and Associates have created a report outlining the engineering and logical termini for the improvement of the entire corridor. The next task is for PennDOT to complete preliminary design and environmental review of the four scenarios.