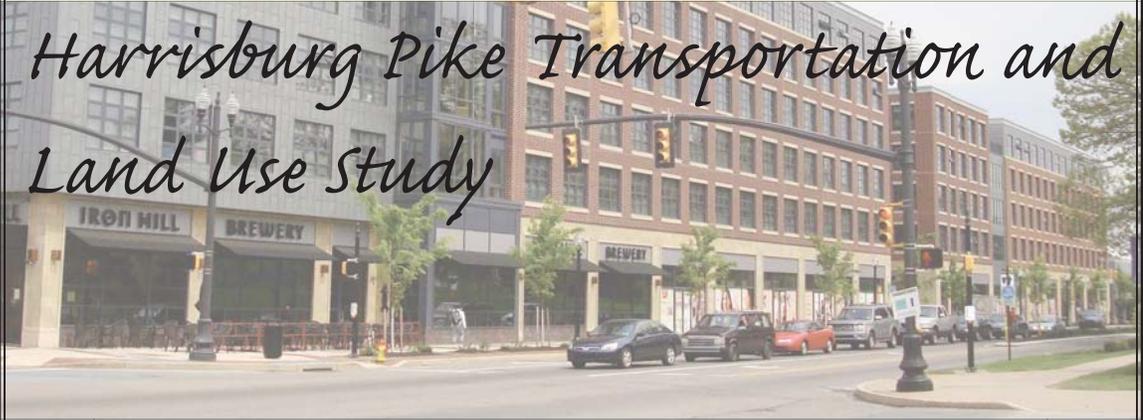


MOVING SMARTER

Harrisburg Pike Transportation and Land Use Study



September 2008



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TABLE OF CONTENTS

<i>I. INTRODUCTION</i>	1
<i>II. PLAN DIRECTIONS</i>	9
<i>A. CORRIDOR VISION</i>	9
<i>B. PROJECT GOALS, OBJECTIVES, AND STRATEGIES</i>	9
<i>C. ANTICIPATED LAND USE/LAND COVER PLAN</i>	16
<i>D. RECOMMENDED TRANSPORTATION PLAN</i>	21
1. <i>Forecasted Traffic Volumes</i>	21
2. <i>Anticipated Projects</i>	21
3. <i>Additional Roadway Improvements</i>	22
4. <i>Future Level-of-Service</i>	29
5. <i>Access Management</i>	29
6. <i>Smart Growth/ Smart Transportation</i>	33
<i>E. RECOMMENDED PLANNING TOOL BOX</i>	38
<i>F. FUNDING OPPORTUNITIES</i>	41
1. <i>National Highway System Funds</i>	41
2. <i>Federal Safe Routes to Schools Program</i>	42
3. <i>BikesBelong</i>	42
4. <i>The Transportation Partnership Act</i>	42
5. <i>Infrastructure and Facilities Improvement Program</i>	43
6. <i>Impact Fees</i>	43
7. <i>Community Development Block Grants</i>	43
8. <i>Hometown Streets Program</i>	44
9. <i>The Recreational Trails Program and the Transportation Enhance- ment Program</i>	44
10. <i>Rivers, Trails, Conservation Assistance Program</i>	44
11. <i>Developer Contributions</i>	44
12. <i>Private Sources</i>	44
13. <i>Pennsylvania Infrastructure Bank</i>	45

14. Other Funding Options.....	45
III. BACKGROUND AND METHODOLOGY.....	47
A. STUDY AREA.....	47
B. EXISTING CONDITIONS.....	47
1. Environmental and Land Use Inventory	47
2. Transportation Inventory	48
3. Physical Condition and Functional Classification.....	59
4. Traffic Volumes.....	60
5. Level of Service Analysis	63
6. Travel Time Study.....	67
7. Crash Analysis	69
C. PUBLIC PARTICIPATION	70
1. Steering Committee.....	70
2. Public Meetings.....	70
3. Information Dissemination.....	73
IV. SUMMARY.....	75

LIST OF TABLES

<i>Table II.1: Recommended Roadway Improvements.....</i>	<i>27</i>
<i>Table II.2: Multimodal Recommendations</i>	<i>37</i>
<i>Table II.3: Planning and Funding Tool Box.....</i>	<i>39</i>
<i>Table III.1: Travel Time Study, Corridor Summary.....</i>	<i>69</i>

LIST OF FIGURES

Figure I.1 - Location Map.....	3
Figure I.2 - Study Area Map.....	4
Figure I.3 - Detailed Study Area Map.....	5
Figure II.1 - Anticipated Land Use/Land Cover Plan.....	19
Figure II.2 - Future Daily and Peak Hour Traffic Volume.....	23
Figure II.3 - Recommended Transportation Plan.....	25
Figure II.4 - Future Year Corridor And Intersection Level Of Service With Proposed Improvements.....	31
Figure III.1 - Opportunities And Constraints.....	49
Figure III.2 - Generalized Current Zoning.....	51
Figure III.3 - Daily And Peak Hour Traffic Volume.....	53
Figure III.4 - Crash History.....	55
Figure III.5 - Multitmodal Inventory.....	57
Figure III.6 - Roadway Features.....	61
Figure III.7 - Daily Traffic Fluctuation.....	63
Figure III.8 - Existing Corridor And Intersection Level Of Service.....	65
Figure III.9: Existing Travel Time Summary.....	68

APPENDICES

Appendix A - References

Appendix B - Definitions

Appendix C - Sample Access Management Ordinance

Appendix D - Public Meeting Survey Form

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I. INTRODUCTION

Harrisburg Pike ranks high among the most important routes within Lancaster County in support of economic activity, education, health care, and recreation; yet it also ranks as the second most congested highway in the County. Harrisburg Pike also serves as a major gateway into the City of Lancaster. It plays a vital role in the everyday life of county residents and provides access for a multitude of regional and local trips with many varied land uses. It also plays an instrumental function in providing goods and services to the entire county and is a regionally significant resource. Harrisburg Pike:

- Carries over 28,000 vehicles to and from downtown Lancaster daily;
- Carries over 600,000 annual riders on the Red Rose Transit System;
- Hosts over 50,000 daily workers in its shops, offices, clinics, and factories;
- Delivers over 15 million shoppers to Park City every year;
- Delivers over 300,000 fans to Clipper Stadium every year;
- Delivers over 100,000 visitors to Longs Park every year; and
- Carries over 1,100 tons of solid waste every day.

This area hosts major commercial, recreational, institutional and residential land uses. These varied land uses are the chief source of traffic generation, and include:

- Donnelley Printing;
- Park City Center;
- Long's Park;
- Clipper Magazine Stadium;
- Lancaster County Solid Waste Management Authority Transfer Station (LCSWMA);
- United States Postal Service Regional Facility;
- Franklin and Marshall College;
- Lancaster General Hospital Health Campus
- Woodcrest Villa; and many others.



Clipper Magazine Stadium



LCSWMA



US Post Office, Lancaster, PA

Source: KCI Technologies, Inc.

Several of the business and property owners mentioned above are making enormous investments into their sites and more investments in undeveloped or underdeveloped parcels are also proposed, including High Real Estate Group's proposed project - The Crossings at Conestoga Creek.

Recognizing the importance of the corridor and the need for a long-term vision and comprehensive view, the Lancaster County Planning Commission (LCPC) began the Harrisburg Pike Transportation and Land Use Study (HPTLUS) in August 2007. The study's focus is on a 5-mile section of the Harrisburg Pike (SR 4020) from just west of State Road to Prince Street (US 222). The study area also includes the State Road (PA 722) interchange with PA 283 (**Figures I.1, I.2 and I.3**). The entire study area lies within the Central Lancaster Urban Growth area.

The HPTLUS addresses traffic capacity, safety and access issues and evaluates transportation alternatives including bicycle accommodations, transit and pedestrian accessibility. Four municipalities - City of Lancaster, Lancaster Township, Manheim Township and East Hempfield Township - are all participating on a public-private steering committee that is helping to guide the study.

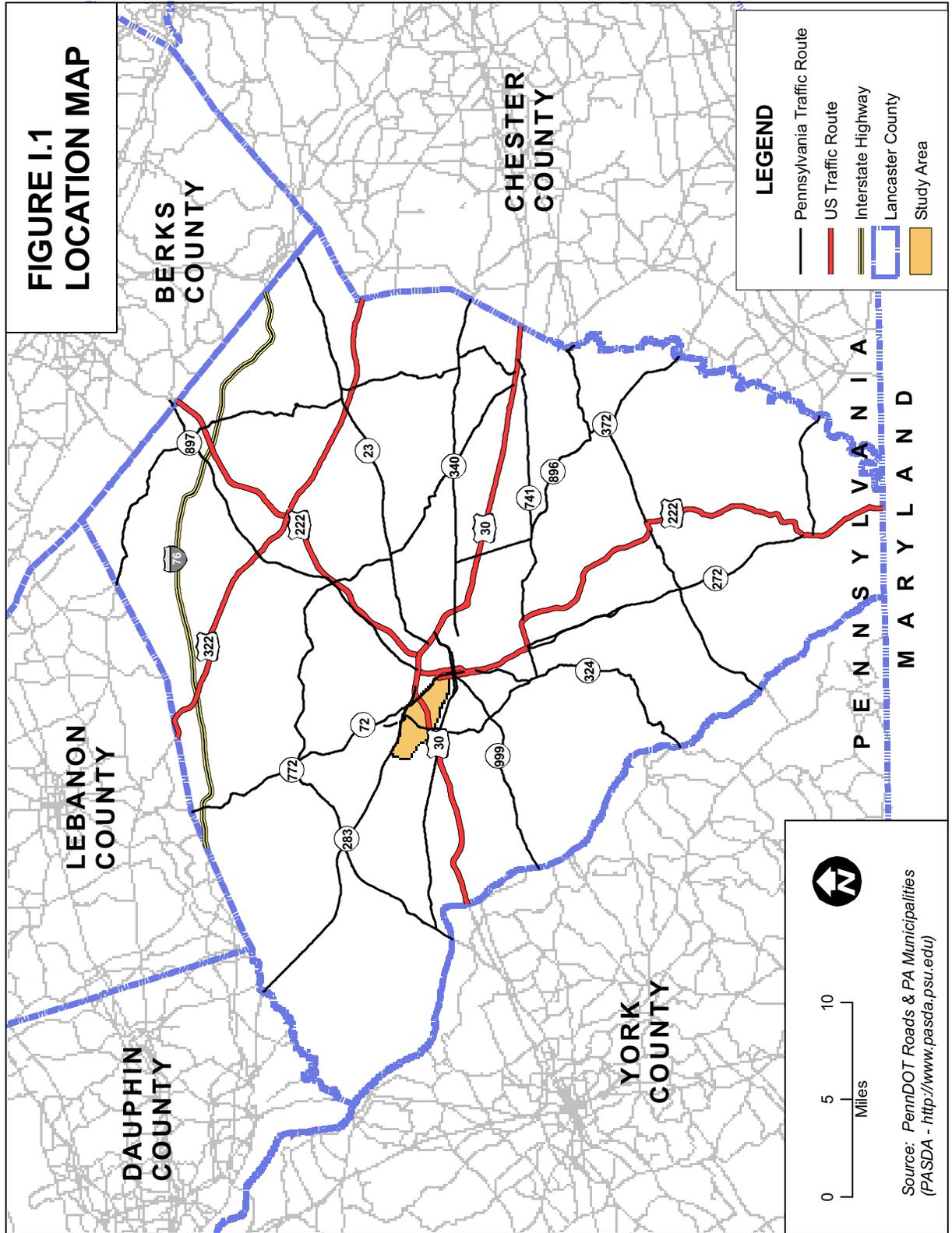
The relationship between transportation improvements and land use changes is cyclical, with each impacting the other, i.e., transportation decisions affect land use patterns just as land use patterns affect the transportation network. PennDOT's **Sound Land Use Implementation Plan: Building on Smart Transportation Principles** notes that as our population shifts to more suburban locations and automobile ownership increases, we will continue to experience significant increases in traffic congestion and other related impacts to our quality of life. Most often the proposed solution to congestion is to add capacity to the congested roadway through widening. This traditional approach has only led to a continuous cycle of widening rather than providing a long-term solution.



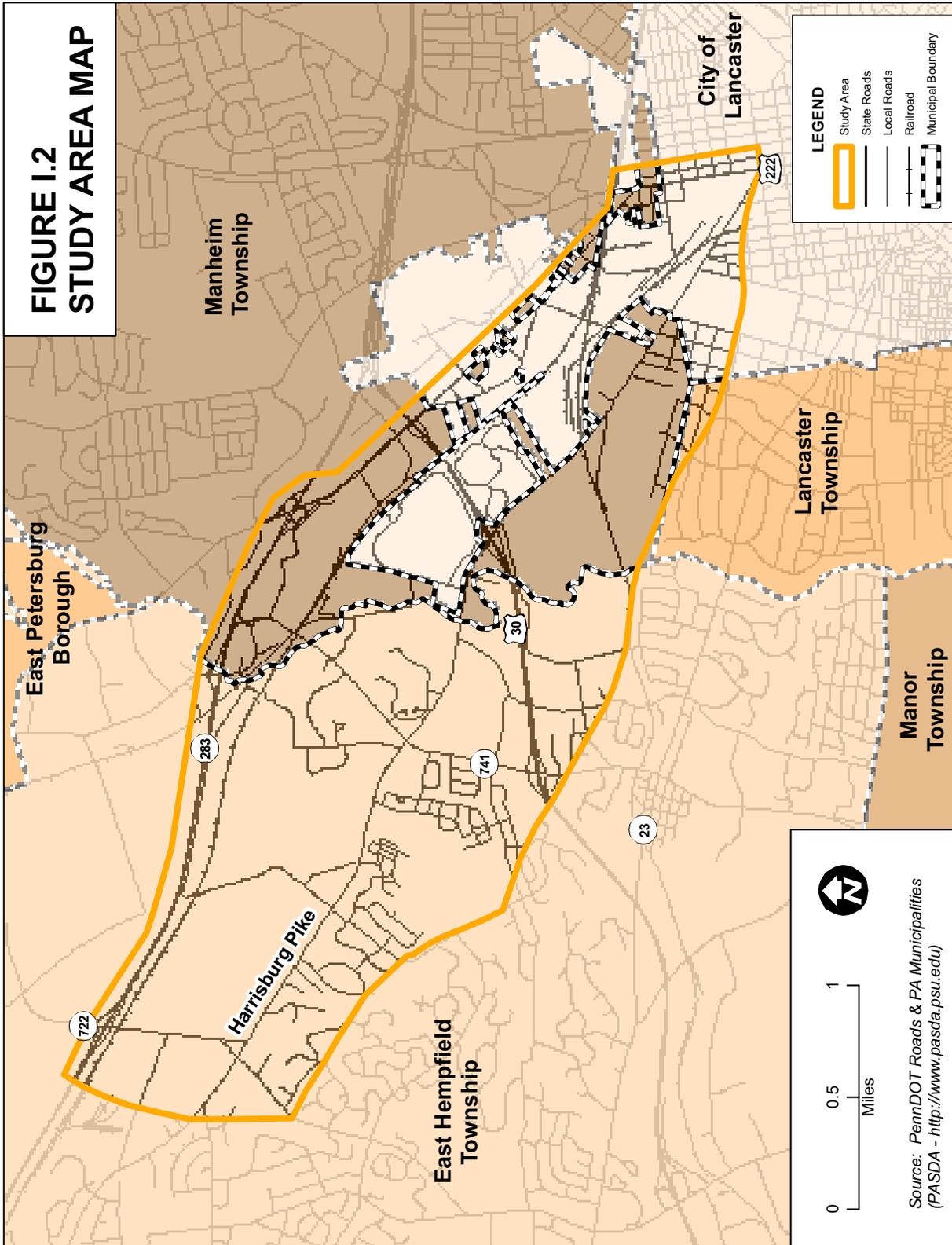
*Lancaster General Hospital
Source: KCI Technologies, Inc.*

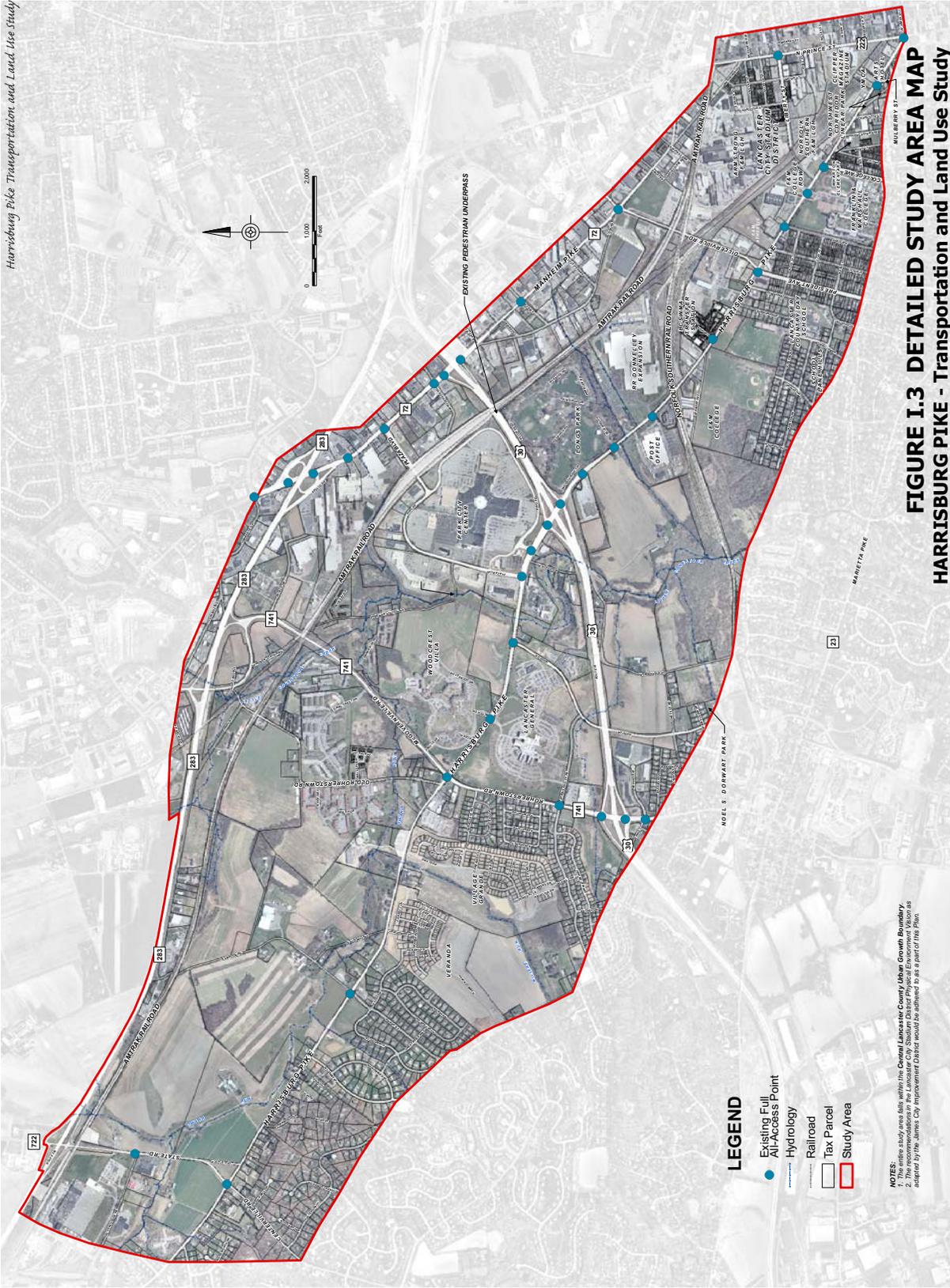
R. R. Donnelley

Park City Mall



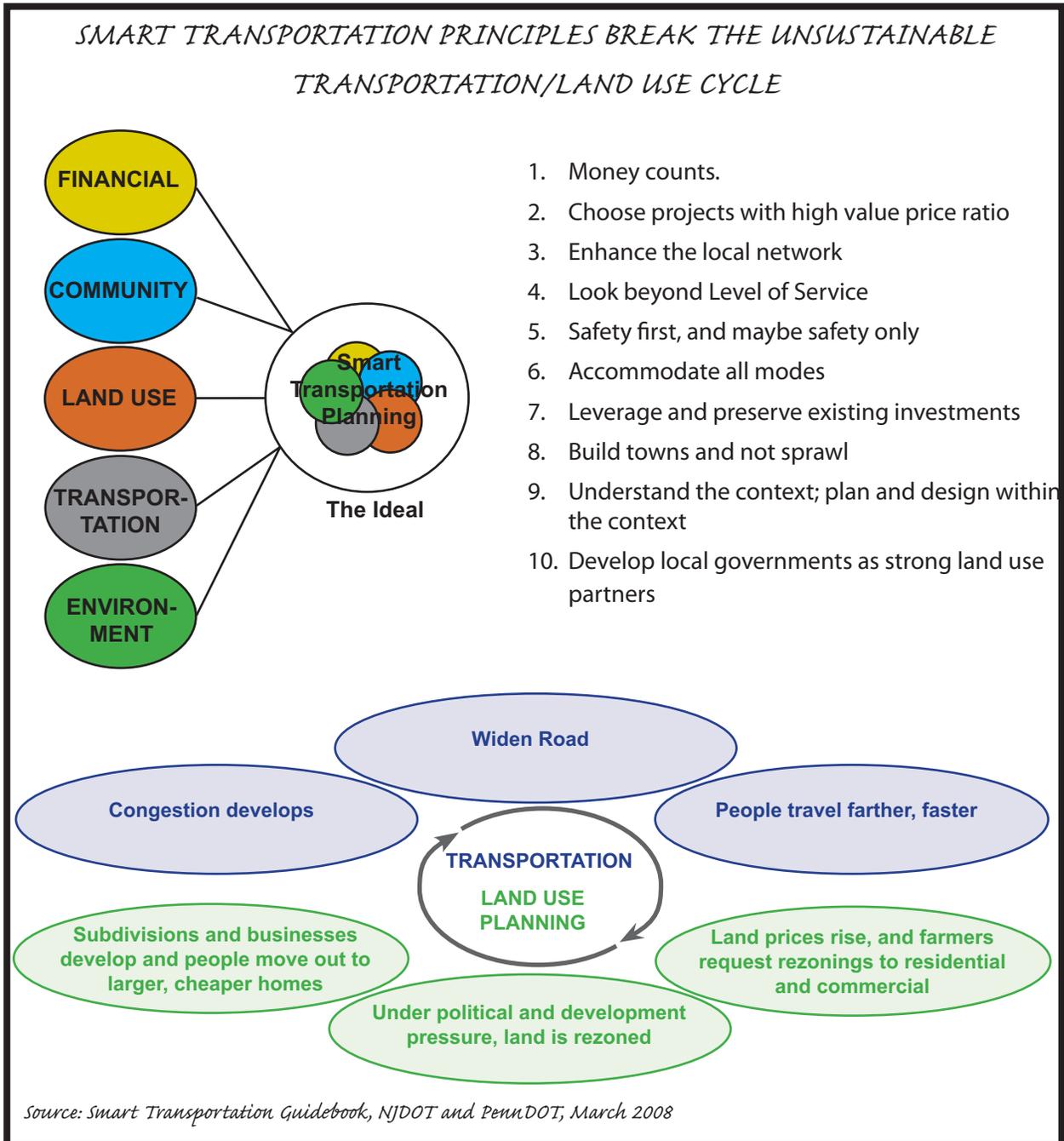
**FIGURE I.2
STUDY AREA MAP**





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PennDOT's **Smart Transportation Principles** can break the unsustainable transportation/land use cycle. The graphic shown below depicts this cycle and identifies ten principles to disrupt its progression. The recommendations contained in this report are designed to support these principles.



The purpose of this study is to develop a consensus around the transportation and land use vision for the Harrisburg Pike corridor that:

- Considers the impacts of the various planned projects along the corridor from State Road to Prince Street,
- Addresses multimodal transportation needs and solutions including auto/trucks, transit, bicycles, and pedestrians, and
- Offers an Action Plan that includes land use and transportation recommendations and partnerships to achieve a vision that is consistent with the Lancaster County Comprehensive Plan **Envision**, including its growth management element **Balance** and regional comprehensive plans including **Growing Together**, and
- Develops a strategy that is a “policy” based approach designed to effectively manage future development and preserve the transportation capacity of the Harrisburg Pike corridor.

The study is designed to be administered at the local level, with coordination at the county and state levels. The HPTLUS provides guidance and recommendations for the corridor; however, final implementation and action on the plan is the responsibility of individual municipalities working cooperatively.

II. PLAN DIRECTIONS

A. CORRIDOR VISION

Visioning is an invaluable tool to use early in the planning process to facilitate consensus and cultivate a sense of ownership. By bringing a broad range of interests to the table, you augment your ability to establish a collective vision representative of the corridor community and supported by a mutually agreed upon framework of goals that have a local flavor. For this project, the process entailed a review of the county and municipal comprehensive plans and dialogue with the Steering Committee via a visual preference survey to identify what they defined as desirable and undesirable land use and transportation compositions.

Harrisburg Pike will represent the standard for a Lancaster County mixed-use transportation network by inviting opportunities for all forms of travel, aligning the flow of the Pike to the extraordinary concentration of major businesses and county-wide community assets, and encouraging environmentally-friendly movement of people, goods, and services.

-- Steering Committee Vision

B. PROJECT GOALS, OBJECTIVES, AND STRATEGIES

The purpose behind the study goals, supporting objectives and strategies of the HPTLUS is the achievement of the vision. The three goals for the study include:

- 1) Improve the overall carrying capacity of the Harrisburg Pike Corridor and enhance the safety for all users.
- 2) Incorporate alternative modes of transportation in new development and redevelopment along the Harrisburg Pike Corridor.
- 3) Preserve the unique qualities of the urban and suburban land patterns and the community values and environmental resources of the project area.

The objectives are measurable steps toward achieving these goals. The strategies describe specific action initiatives to accomplish the objectives. The goals, objectives, and strategies are provided below.

GOAL #1

IMPROVE THE
OVERALL CARRYING
CAPACITY OF THE
HARRISBURG PIKE
CORRIDOR AND
ENHANCE THE
SAFETY FOR ALL
USERS.

Objectives:

1) Improve the operation of highway intersections.

Strategies:

- a. Provide traffic signal coordination to minimize stop and go traffic along Harrisburg Pike.
- b. Monitor the traffic signal systems from a central location on a continual cycle and consider using a traffic responsive signal system.
- c. Focus on intersection improvements projects such as turn lane or short through lane additions.
- d. Provide safe crossings for pedestrian traffic including updating to current Americans with Disabilities Act (ADA) regulations.

2) Improve connectivity between Harrisburg Pike and generally parallel east-west corridors.

Strategies:

- a. Prepare an Act 209 Regional Transportation Plan (see **Appendix B** for this and other definitions) as a basis for charging impact fees for new developments to build new roads and improve intersections.
- b. Prepare and adopt an Official Map coordinated among the municipalities along Harrisburg Pike that identifies Act 209 links and priorities.
- c. Amend Subdivision and Land Development Ordinances (SALDO) to require implementation of the Official Map improvements as a part of the subdivision and land development process.
- d. Develop traffic impact fees and other alternative funding mechanisms at a multi-municipal level.

3) Manage direct access to Harrisburg Pike from surrounding land developments.

Strategies:

- a. Prepare an Access Management Agreement that is coordinated with and adopted by the municipalities along Harrisburg Pike that strategically identifies and limits the number of full signalized intersection locations along Harrisburg Pike.
- b. Prepare an Access Management Ordinance that is coordinated with and adopted by the municipalities along Harrisburg Pike to define spacing, design, operations, etc of driveway access.

GOAL #1

IMPROVE THE
OVERALL CARRYING
CAPACITY OF THE
HARRISBURG PIKE
CORRIDOR AND
ENHANCE THE
SAFETY FOR ALL
USERS.

4) Educate the public, public officials, and major employers on the advantages of interconnectivity of vehicular as well as pedestrian and bicycle traffic movements, carpooling, use of mass transit, and transportation demand management (TDM) strategies.

Strategies:

- a. Discuss the benefits of interconnectivity, carpooling, mass transit and TDM at applicable county and municipal meetings and with major employers.
- b. Conduct interconnectivity workshops for public officials.
- c. Seek alternative funding for public transportation including public-private partnerships.

5) Consider alternative modes of transportation as an integral part of mobility, including Event Day mobility plans.

Strategies:

- a. Request that all Event Day Sponsors assist with getting the message out regarding the benefits of using public transportation on Event Days. Coordinate all local events among the event holder, Chamber of Commerce, the Red Rose Transit Authority (RRTA), local taxi services and tour buses. Provide additional services on Event Days.
- b. Provide convenient park-and-ride facilities.
- c. Provide convenient bicycle rack facilities.
- d. Provide appropriate parking spaces for bicycles, scooters, etc and receive "credit" for this towards overall parking requirements required in the SALDOS.
- e. Provide connected sidewalk systems.
- f. Provide bicycle paths and circulation routes.
- g. Increase frequency of bus service, particularly those routes servicing park and ride facilities.
- h. Embrace Bus Rapid Transit (BRT) or Light Rail as a vision for the future mobility of this area.
- i. Provide "guaranteed ride home" or similar service to the community who opt out of single-occupant vehicles through joint employer-municipal financial support.

GOAL #2

INCORPORATE
ALTERNATIVE
MODES OF
TRANSPORTATION
IN NEW DEVELOP-
MENT AND REDE-
VELOPMENT ALONG
THE HARRISBURG
PIKE CORRIDOR.

Objectives:

- 1) **Use zoning strategies that facilitate higher intensity, mixed use development within the corridor, where appropriate, that are compatible with valued preexisting development patterns and are consistent with local, regional, and county growth management plans.**

Strategies:

- a. Provide incentives to develop and/or redevelop where infrastructure already exists within the Central Lancaster Urban Growth Boundary growth management area.
- b. Encourage transit-oriented development, particularly in the section along Harrisburg Pike between Rohrerstown Road and Prince Street.
- c. Prepare and adopt a Transit Accessibility Ordinance that is coordinated with and adopted by the municipalities along Harrisburg Pike and the RRTA that considers transit accessibility as a part of the SALDO process.
- d. Provide incentives to developers for consideration of transit accessibility and usage.
- e. Provide incentives for developers for private funding of transit, e.g., possibly reducing the amount of on-site parking required as a compromise for transit funding.
- f. Review and revise zoning ordinances to provide appropriate scale buildings and provide better access between suburban centers and urban center portions of the study area to promote walkability and mixed uses.

- 2) **Promote and educate the public, including public officials, on public transportation as a viable alternative to the single-occupant vehicle and to encourage support through local funding.**

Strategies:

- a. Promote public transportation funding considerations at the national and state levels. Lobby state legislators to make the case that consideration of transit funding is a positive method of investing in improved mobility in the corridor without building more roads.

GOAL #2

*INCORPORATE
ALTERNATIVE
MODES OF
TRANSPORTATION
IN NEW DEVELOP-
MENT AND REDE-
VELOPMENT ALONG
THE HARRISBURG
PIKE CORRIDOR.*

- b. Educate local officials on the benefits of an expanded public transportation system and search for ways that local governments could contribute to a dedicated stream of funding to the system.
- c. Coordinate efforts with local radio and television stations as well as other advertising entities to promote the use of public transportation and seek funding from local endowments to fund advertising the use of public transportation.
- d. Promote employer and/or municipal funding support of activities that promote alternative modes of transportation such as the "guaranteed ride home" program.
- e. Incorporate bus shelters with lighting and bicycle racks into new site designs and into existing conditions where needed. Educate municipalities on need for alternative funding mechanism for these shelters such as advertising panels, municipal funding or private contributions.

GOAL #3

PRESERVE THE
UNIQUE QUALITIES
OF THE
URBAN AND SUB-
URBAN LAND PAT-
TERNS AND THE
COMMUNITY
VALUES AND
ENVIRONMENTAL
RESOURCES OF THE
PROJECT AREA.

Objectives:

- 1) **Develop aesthetically pleasing, interconnected transportation systems that encourage walking, bicycling, and public transit access to surrounding community facilities and events while discouraging high speed traffic.**

Strategies:

- a. Provide signage that is of such scale to match the community character and natural features of the corridor.
- b. Provide tree-lined walkways and/or multi-purpose trails with crosswalks for pedestrians and recreational bicyclists.
- c. Incorporate decorative pedestrian lighting into the streetscape. Consider energy efficient ("Green") shoebox lighting to minimize energy consumption and light pollution.
- d. Provide, where appropriate, a central median as part of the streetscape comprised of either a grass planted island with trees and possibly shrubs and ground cover, or decorative pavers with cut-outs for a variety of trees and shrubbery.
- e. Establish "Main Street" renewal programs in appropriate areas.
- f. Incorporate bicycle and pedestrian accommodations into county and municipal policies and development procedures.

- 2) **Adopt development policies for older neighborhoods and new developments that promote interconnectivity between land use types, transit-oriented development, and enhanced accessibility to diverse assets while enhancing the safety and efficiency of the corridor transportation system. Encourage existing communities to establish a central focus that combines commercial, civic, cultural and recreational uses.**

Strategies:

- a. Adopt mixed-use zoning regulations that encourage new development to utilize compact and efficient methodologies/applications.
- b. Adopt zoning and subdivision regulations that encourage a mix of housing types at appropriate densi-

GOAL #3

*PRESERVE THE
UNIQUE QUALITIES
OF THE
URBAN AND SUB-
URBAN LAND PAT-
TERNS AND THE
COMMUNITY
VALUES AND
ENVIRONMENTAL
RESOURCES OF THE
PROJECT AREA.*

ties, shallow building setbacks, front porches, narrow streets, alleys and sidewalks.

- c. Provide zoning and financial incentives for the adaptive re-use of historic buildings and structures. Create a public/private partnership to invest in and market re-use of historic resources.
- d. Adopt zoning regulations that permit a wide-range of housing types and densities in each residential district.
- e. Adopt zoning and subdivision regulations that facilitate a development pattern that encourages walking, bicycling and shorter automobile trips.
- f. Implement regional comprehensive plans.

3) Develop a permanently preserved open space system that provides a diversity of publicly accessible open space resources in the format of town squares, greenways, parks and natural areas.

Strategies:

- a. Continue to promote open space zoning and conservation design at the municipal level as part of the SALDO process.
- b. Provide incentives to developers who preserve significant open spaces as part of their development.
- c. Maintain existing parks and promote development of new ones.

C. ANTICIPATED LAND USE/LAND COVER PLAN

The anticipated plan was formulated through a review of the County Comprehensive Plan **Envision** and local and regional comprehensive plans including **Growing Together**. The plan is also based on current zoning, publicly discussed plans that are consistent with **Growing Together**, and discussions with the steering committee (see **Figure II.1**). The anticipated composition of the study area is:

- **Urban Center** - That portion of the study area between Prince Street and the Norfolk Southern Railroad bridge over Harrisburg Pike. The Urban Center is envisioned as a mixed use, high density area with buildings adjacent to the sidewalk, typically two to four stories tall with commercial operations on the ground floor and offices or residences above. A significant level of redevelopment activity and in-fill of existing land uses occurs here. Parallel parking usually occupies both sides of local and minor collector streets leading to Harrisburg Pike. Parking lots are located behind the buildings. Street trees are located within the public right-of-way. A high level of pedestrian activity/opportunities occurs in this area. Transit is also viable in the area. This definition of Urban Center is consistent with what **Balance** calls *Core Reinvestment* and *Concentrated Building* areas. **Growing Together** identifies the Urban Center as *District and Corridor Regeneration* areas.



BEFORE
Urban Center - Example of a Mixed Use Urban Center.

AFTER

Source: Urban Advantage



BEFORE
Urban Center - In-fill and Redevelopment of an Industrial Area

AFTER

Source: Urban Advantage



BEFORE
Urban Center - Urban Revitalization of an Older Commercial Area

AFTER
Source: Urban Advantage

- General Urban** - That portion of the study area between the Norfolk Southern Railroad bridge, and Rohrerstown Road. West of the intersection of Harrisburg Pike with Rohrerstown Road, the General Urban composition will continue to be the dominant character along the north side of Harrisburg Pike, to the western end of the study area. The General Urban composition is envisioned to be a mixed use cohesive collection of land uses that may include residential, office, retail, and restaurant uses where commercial uses serve surrounding neighborhoods. A significant level of redevelopment activity and in-fill of existing land uses can also occur in this area. These areas are typically designed to be accessible by car, and may include large parking areas and garages. However, a concentrated effort is made to promote pedestrian activity/opportunities in the area. Transit opportunities are also available, but to a lesser degree than the Urban Center. This definition of General Urban is consistent with what **Balance** calls *General Reinvestment* areas and what **Growing Together** identifies as *District and Neighborhood Regeneration* areas.



BEFORE



INTERIM



AFTER

Example of General Urban Composition.

Source: Urban Advantage



BEFORE *AFTER*
General Urban - Example of Creek Restoration and Regional Bicycle Path within Mixed Use Development.

Source: Urban Advantage

- **Suburban Center** - That portion of the study area along the south side of Harrisburg Pike between Rohrerstown Road and the western terminus of the study area. The Suburban Center composition is envisioned to be predominantly low-density residential communities. House lots are typically arranged along an internal system of streets with limited connections to the regional road network. Neighborhoods are primarily residential, but can include community facilities such as schools, churches, recreational facilities, and some commercial and office development. Limited transit and pedestrian opportunities occur between neighborhoods. This definition of Suburban Center is consistent with what **Balance** calls *General Reinvestment* areas and what **Growing Together** identifies as *District and Neighborhood Regeneration* areas.



BEFORE



INTERIM - Stage 1

INTERIM - Stage 2



AFTER

Suburban Center - Example of Various Stages of Suburban/Residential Regeneration

Source: Urban Advantage

ANTICIPATED COMPOSITION OF STUDY AREA

Urban Center

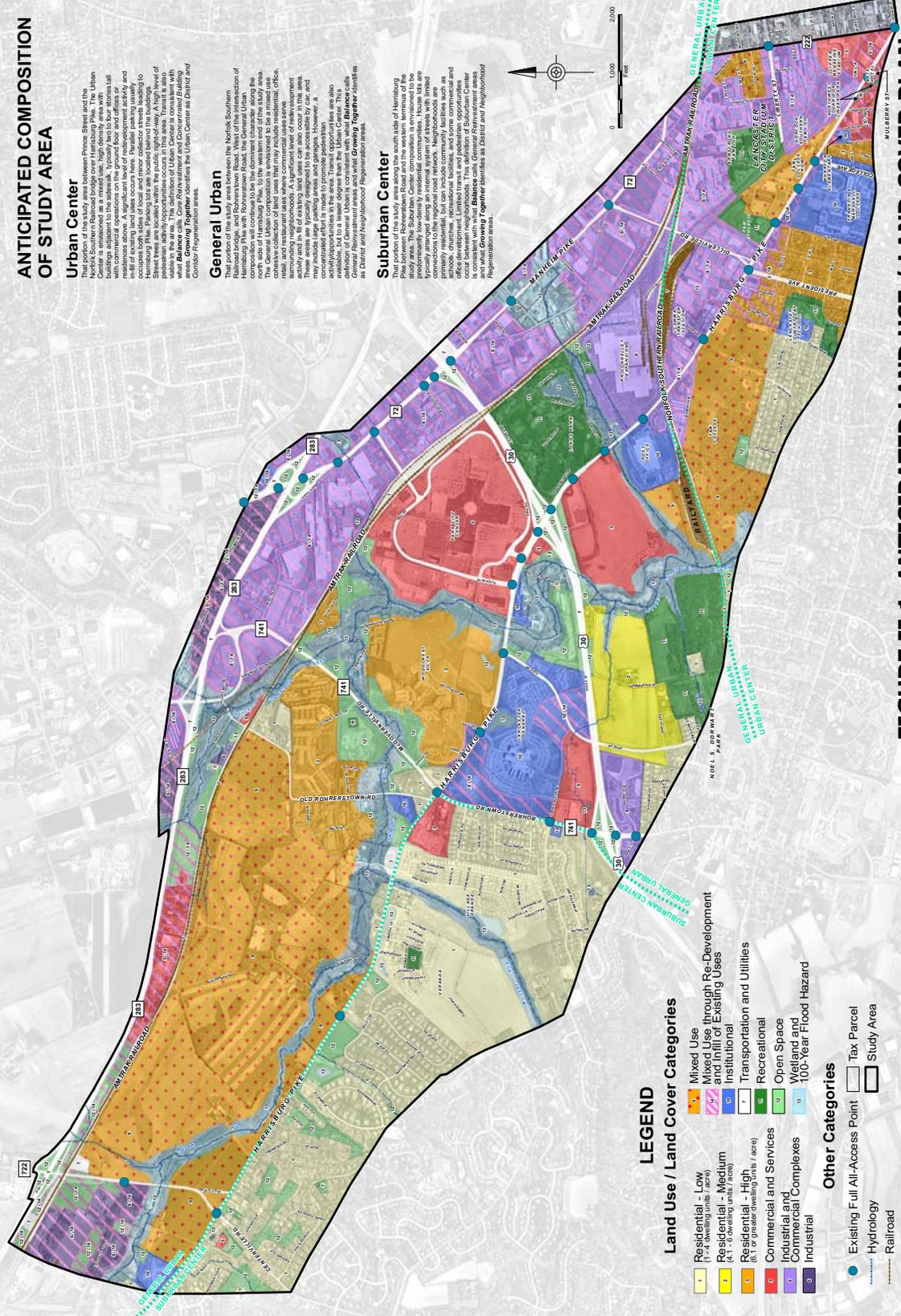
This portion of the study area between Prince Street and the Urban Center is envisioned as a mixed use, high intensity area with walkable streets to the street, typically two to four stories tall with a mix of residential, commercial, and office uses. The area is envisioned as a significant level of redevelopment activity and includes both sides of food and minor collector streets leading to Harrisburg Pike. Parking lots are located behind the buildings. The area is envisioned as a high density area with a mix of residential, commercial, and office uses. Transit is also envisioned as a significant level of activity in this area. Transit is also envisioned as a significant level of activity in this area. Transit is also envisioned as a significant level of activity in this area.

General Urban

This portion of the study area between the Norfolk Southern Railroad and the Urban Center is envisioned as a mixed use, high intensity area with walkable streets to the street, typically two to four stories tall with a mix of residential, commercial, and office uses. The area is envisioned as a significant level of redevelopment activity and includes both sides of food and minor collector streets leading to Harrisburg Pike. Parking lots are located behind the buildings. The area is envisioned as a high density area with a mix of residential, commercial, and office uses. Transit is also envisioned as a significant level of activity in this area. Transit is also envisioned as a significant level of activity in this area. Transit is also envisioned as a significant level of activity in this area.

Suburban Center

This portion of the study area along the south side of Harrisburg Pike between Sowers Road and the western terminus of the Norfolk Southern Railroad is envisioned as a mixed use, high intensity area with walkable streets to the street, typically two to four stories tall with a mix of residential, commercial, and office uses. The area is envisioned as a significant level of redevelopment activity and includes both sides of food and minor collector streets leading to Harrisburg Pike. Parking lots are located behind the buildings. The area is envisioned as a high density area with a mix of residential, commercial, and office uses. Transit is also envisioned as a significant level of activity in this area. Transit is also envisioned as a significant level of activity in this area. Transit is also envisioned as a significant level of activity in this area.



LEGEND

Land Use / Land Cover Categories

- 1 Residential - Low (1-4 dwelling units / acre)
- 2 Residential - Medium (5-10 dwelling units / acre)
- 3 Residential - High (11 or greater dwelling units / acre)
- 4 Commercial and Services
- 5 Industrial and Commercial Complexes
- 6 Industrial
- 7 Mixed Use through Re-Development and Infill of Existing Uses
- 8 Institutional
- 9 Transportation and Utilities
- 10 Recreational
- 11 Open Space
- 12 Wetland and 100-Year Flood Hazard

Other Categories

- Existing Full All-Access Point
- ▭ Tax Parcel
- ▭ Study Area
- Hydrology
- Railroad

NOTES:
 1. Anticipated Land Use (Land Cover) Plan is based on current zoning and publicly disclosed plans consistent with "Growing Together".
 2. Anticipated Land Use (Land Cover) Plan is based on current zoning and publicly disclosed plans consistent with "Growing Together".

FIGURE II.1 ANTICIPATED LAND USE / LAND COVER PLAN
HARRISBURG PIKE - Transportation and Land Use Study

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D. RECOMMENDED TRANSPORTATION PLAN

The Recommended Transportation Plan for “full build out” was developed using the Anticipated Land Use/Land Cover Plan and associated anticipated traffic volumes. The Recommended Transportation Plan is comprised of: traffic projections, planned roadway improvements as part of other projects underway or pending, recommended physical projects, anticipated level-of-service (LOS), and access management regulatory actions. Additionally, alternatives beyond the traditional “lane additions and roadway widening” solutions are included in the plan.

1. Forecasted Traffic Volumes

To forecast the existing traffic volumes to “full build out”, several steps were taken. First, PennDOT records on general growth of traffic on similar types of roadways were utilized. For this project, a growth rate of 1.6 percent per year was utilized to account for general traffic growth and for future land development outside of the study area. Second, the anticipated land use/land cover data discussed in **Section II.C** of this report was used for a more direct input into the future traffic projections. Using the Institute of Transportation Engineers (ITE) *Trip Generation* book, specific traffic volumes for future land development were developed. The outcome of this analysis was reviewed against the LCPC county-wide traffic forecast for relative consistency. The future anticipated daily and peak hour traffic volumes are shown on **Figure II.2**.

The trend with the existing traffic volumes of the heaviest traffic in the east, with the volumes decreasing to the west, is anticipated to still be prevalent. The daily volumes would be lowest west of Rohrerstown Road, at approximately 16,000 vehicles per day (vpd), and steadily increase along Harrisburg Pike to approximately 38,000 vpd near Prince Street. As in the existing conditions, many of the cross streets carry as much, if not more traffic than Harrisburg Pike in certain areas. For example, Rohrerstown Road could carry approximately 29,000 vpd, and Dillerville Road could have about 28,000 vpd.

Improvements described here are expected to preserve the capacity and mobility of Harrisburg Pike such that traffic volume growth along the parallel east-west routes of Marietta and Manheim Pikes should experience only “normal” growth and not significant additional traffic diverted from Harrisburg Pike as a result of increased congestion and trip times on Harrisburg Pike itself.

2. Anticipated Projects

In order to account for proposed roadway infrastructure improvements, roadway construction projects are included in the level-of-service analyses. Three such roadway improvement projects that will affect traffic operating conditions along the Harrisburg Pike corridor were included in the analysis. These projects are described below and are shown on **Figure II.3** and are listed in **Table II.1**.

- **Traffic signal coordination:** The Lancaster County Transportation Authority (LCTA) is currently designing improvements to interconnect and coordinate the traffic

signal timings along Harrisburg Pike from College Avenue to the Lancaster General Hospital (Hemlock Drive). This is anticipated to be constructed in year 2009 and is currently on draft Lancaster County's 2009 Transportation Improvement Program (TIP).

- **State Road Interchange Project:** East Hempfield Township and PennDOT are currently analyzing solutions to State Road/PA 283 interchange. At this time, it appears that each ramp intersection will become signalized with left-turn lanes provided on State Road. This project is in preliminary design, but construction should be completed by year 2014. This project is currently on Lancaster County's draft TIP and Long Range Plan.
- **Developer Improvements near US 30:** The developer for The Crossings at Conestoga Creek is proposing improvements to the US 30 interchange and along Harrisburg Pike from US 30 east to directly east of the Norfolk-Southern overpass. Minor improvements on Dillerville Road would also be included. Although this project does not have land development approval at the local level (conditional use was approved April 14, 2008) and does not have a PennDOT Highway Occupancy Permit, the traffic volumes and associated improvements are included in the 2030 analyses. The US 30 interchange is currently on Lancaster County's 2009 TIP through preliminary engineering.

3. Additional Roadway Improvements

In order to determine what additional improvements would be needed along Harrisburg Pike beyond those already anticipated (**Section II.D.2**), a series of LOS analyses were completed. First, intersection analyses were completed using the future volumes (**Section II.D.1**) with the above-mentioned improvements. Then intersections that either exhibited LOS E or F or had traffic volumes higher than the available intersection capacity were reanalyzed to determine what additional improvements would be necessary to achieve reasonable operating conditions. These additional improvements are shown on **Figure II.3** and are shown in **Table II.1**.

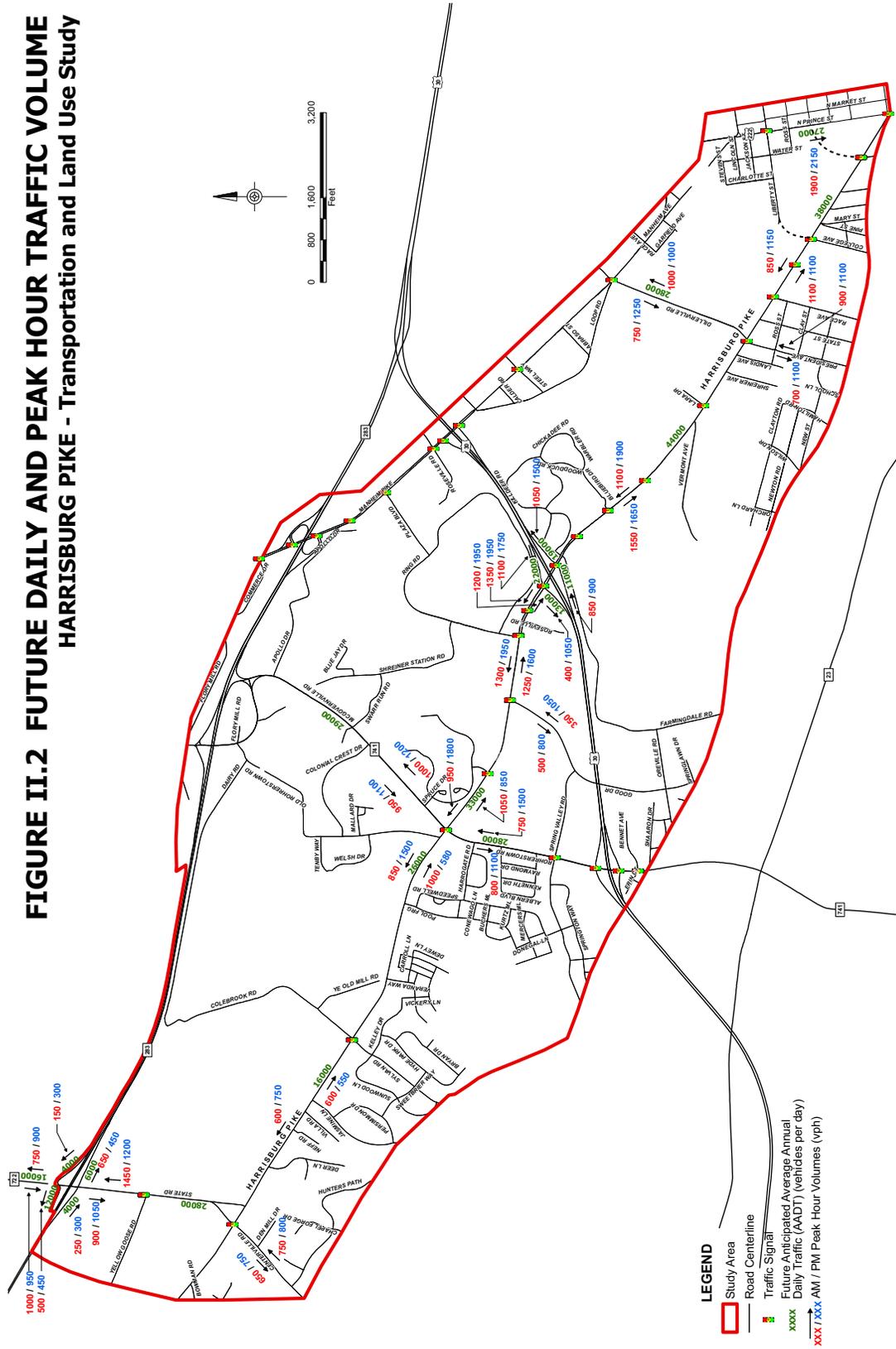


Harrisburg Pike West of Sylvan Road.
Source: KCI Technologies, Inc.

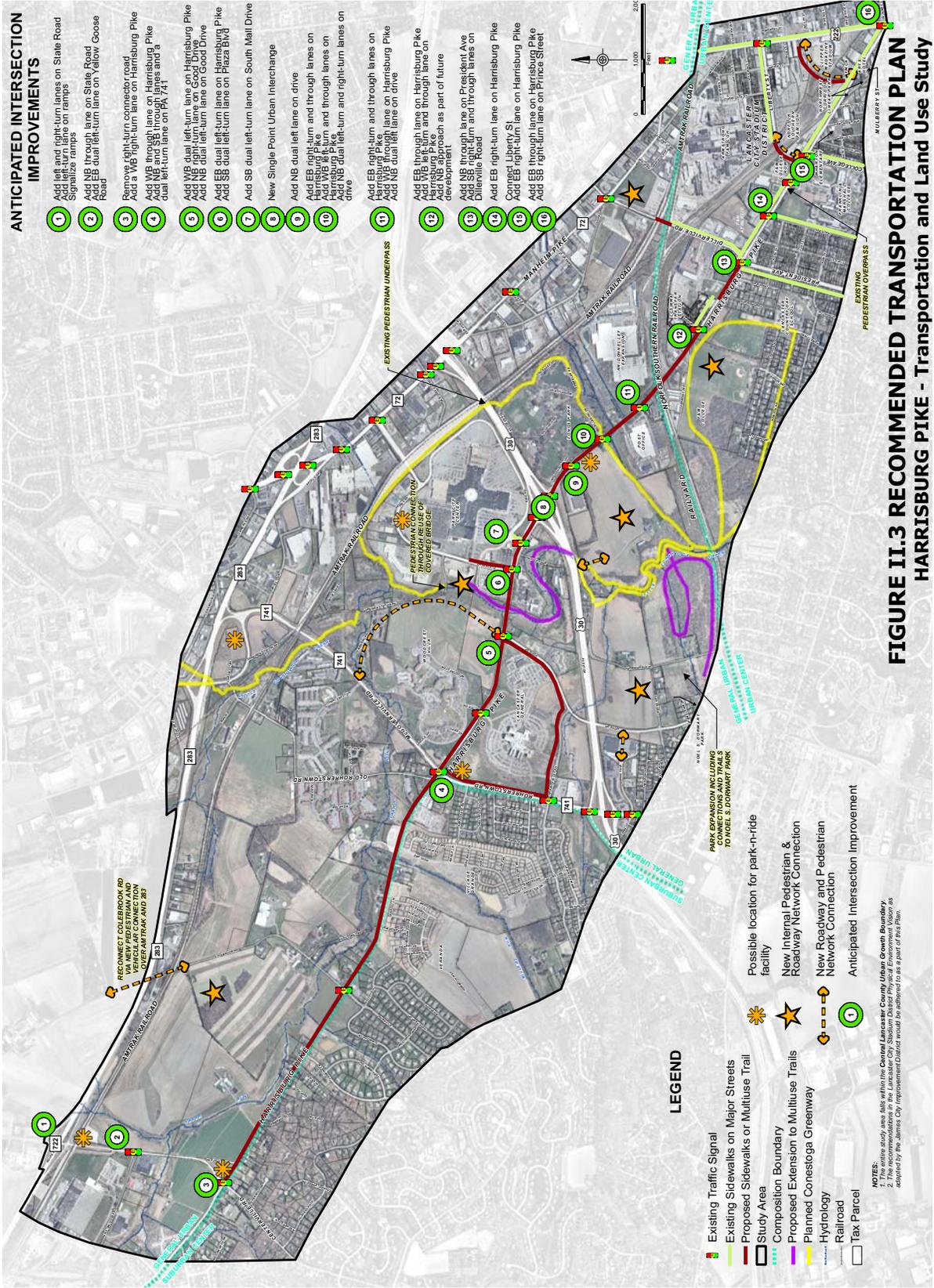
Harrisburg Pike at Dillerville Road.
Source: KCI Technologies, Inc.

Harrisburg Pike at Franklin & Marshall
Pedestrian Bridge.
Source: KCI Technologies, Inc.

FIGURE II.2 FUTURE DAILY AND PEAK HOUR TRAFFIC VOLUME
HARRISBURG PIKE - Transportation and Land Use Study



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TABLE II.1: RECOMMENDED ROADWAY IMPROVEMENTS

Figure II.3 Reference Number	Location	Description	Priority ¹	Cost to Complete ²	Lead Organization(s)
--	Rohrerstown Road east to Prince Street	Coordinate and retime traffic signals	High	\$200,000 ⁵	LCTA
1	PA 722/PA 283 Interchange	Widen bridges to accommodate left-turn lanes on PA 722. Add turn lanes on ramps and signalize Replace structurally deficient bridge	High	\$19,000,000 ⁵	East Hempfield Township/PennDOT
4	Harrisburg Pike/ Rohrerstown Road Intersection	Add a westbound through lane on Harrisburg Pike Add second through and second left-turn lanes in both directions on Rohrerstown Road	High	\$2,500,000	PennDOT/Local Developers
13	Harrisburg Pike/ Dillerville Road Intersection	Add northbound through lane on President Avenue Add southbound right-turn lane and through lane on Dillerville Road	High	\$900,000	PennDOT/Local Developers
2	State Road/ Yellow Goose Road Intersection	Add northbound through lane on State Road Add second left-turn lane on Yellow Goose Rd	Medium	\$1,000,000	East Hempfield Township/PennDOT
14	Harrisburg Pike/ Race Avenue Intersection	Add eastbound right-turn lane on Harrisburg Pike	Medium	\$400,000	PennDOT/Local Developers
5	Harrisburg Pike/ Good Drive Intersection	Add right and left-turn lanes on Good Drive Add second westbound left-turn lane on Harrisburg Pike	Medium	\$800,000	High Real Estate Group/PennDOT
6	Harrisburg Pike/ Plaza Blvd Intersection	Add second eastbound left-turn lane on Harrisburg Pike Add second southbound left-turn lane on Plaza Blvd	Medium ³	\$800,000	High Real Estate Group/PennDOT
7	Harrisburg Pike/ South Mall Entrance Intersection	Add second southbound left-turn lane on South Mall Drive	Medium ³	\$800,000	High Real Estate Group/PennDOT
8	Harrisburg Pike/ US 30 Interchange	Reconstruction entire interchange to a Single-Point-Urban Interchange	Medium ³	\$16,000,000	High Real Estate Group/PennDOT
9	Harrisburg Pike/ Toys R Us Drive Intersection	Add second northbound left-turn lane on Drive	Medium ³	\$600,000	High Real Estate Group/PennDOT
10	Harrisburg Pike/ Longs Park Drive Intersection	Add eastbound right-turn and second through lane on Harrisburg Pike Add westbound left-turn and second through lane on Harrisburg Pike Add northbound approach including dual left-turn lanes, a through lane, and a right-turn lane (future development)	Medium ³	\$1,300,000	High Real Estate Group/PennDOT
11	Harrisburg Pike/ Post Office Drive Intersection	Add second through lane in both directions on Harrisburg Pike Add eastbound right-turn lane on Harrisburg Pike Add second northbound left-turn lane on Post Office Drive	Medium ³	\$1,300,000	High Real Estate Group/PennDOT
15	James Street Improvement District	Connect Liberty Street and College Avenue Add eastbound right-turn lane on Harrisburg Pike	Medium	\$900,000 ⁴	James Street Improvement District/ F & M College/Lancaster General Hospital
--	James Street Improvement District	Connect Mulberry Street and Clay Street	Medium	\$1,600,000 ⁴	James Street Improvement District/ F & M College/Lancaster General Hospital
--	Good Drive	Connect Good Drive to Rohrerstown Road and to Plaza Boulevard	Medium	\$5,000,000	East Hempfield & Manheim Townships/ Local Developers

TABLE II.1: RECOMMENDED ROADWAY IMPROVEMENTS (continued)

Figure II.3 Reference Number	Location	Description	Priority ¹	Cost to Complete ²	Lead Organization(s)
12	Harrisburg Pike/LCSWMA Drive Intersection	Add second through lane in both directions on Harrisburg Pike Add westbound left-turn lane on Harrisburg Pike Add northbound approach as part of future development	Low	\$1,000,000	Local Developers
3	Harrisburg Pike/State Road Intersection	Remove connector roadway and add a westbound right-turn lane on Harrisburg Pike	Low	\$700,000	Local Developers
16	Harrisburg Pike/Prince Street Intersection	Add eastbound through lane on Harrisburg Pike Add southbound right-turn lane on Prince Street	Low	\$800,000	City of Lancaster/Local Developers
			Total	\$55,600,000	

¹Priority - should be completed in: Low = > 10 years, Medium = 5-10 years, High = <5 years

²Cost to complete is construction costs in 2008 dollars and does not include design, utility relocation, and right-of-way costs

³High priority concurrent with opening of The Crossing at Conestoga Creek if approved

⁴These costs are for the roadway construction only and do not account for the Norfolk-Southern Railway Relocation that must occur first.

⁵These projects are fully funded on the Transportation Improvement Program (TIP).

By combining improvements numbers 9, 10, 11 and 12 of **Figure II.3**, Harrisburg Pike would essentially have two lanes of travel per direction from PA 741 east to almost the Dillerville Road intersection.

4. Future Level-of-Service

Based on proposed and additional improvements and future traffic projections, LOS analyses to estimate future operating conditions were performed utilizing the methods outlined in the Year 2000 version of the **Highway Capacity Manual** (HCM) as published by the Transportation Research Board. The results of capacity analyses are expressed as LOS, a qualitative measure of traffic flow. There are six LOS, which are defined by letters A through F. LOS A represents the highest quality of operating conditions, while LOS F represents the worst (see LOS insert).

The future year intersection and corridor LOS are shown on **Figure II.4**. For the intersection LOS, most intersections along Harrisburg Pike are anticipated to operate in acceptable LOS with the proposed improvements in place. The only exception would be the Rohrerstown Road intersection, which is anticipated to operate in LOS E for the morning peak and Plaza Boulevard which is anticipated to operate in LOS E for the afternoon peak; however, these and all other intersections are anticipated to operate with traffic volumes less than the available capacity, resulting in generally acceptable conditions.

For the corridor LOS (also shown in **Figure II.4**), the peak hour corridor LOS for Harrisburg Pike varies between LOS B and LOS D and is generally acceptable. One section near the Park City Center is anticipated to operate in LOS E during the evening peak.

LEVEL - OF - SERVICE (LOS)

DEFINITIONS



LOS A is defined as free flowing. Individual users are virtually unaffected by the presence of others in the traffic stream.



LOS B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable.



LOS C is in the range of stable flow, but begins the range in which the operations of individual users become significantly affected by interactions with others in the traffic stream.



LOS D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted and the driver experiences a generally poor level of comfort and convenience.



LOS E represents operating conditions at or near the capacity level. Comfort and convenience levels are extremely poor and driver frustration is generally high.



LOS F is used to define forced or breakdown flow. This condition exists whenever the amount of traffic approaching a point exceeds the amount which can travel through the point.

5. Access Management

In order to preserve the existing capacity of Harrisburg Pike and to ensure the goals of the above improvements are achieved, access management strategies need to be employed along

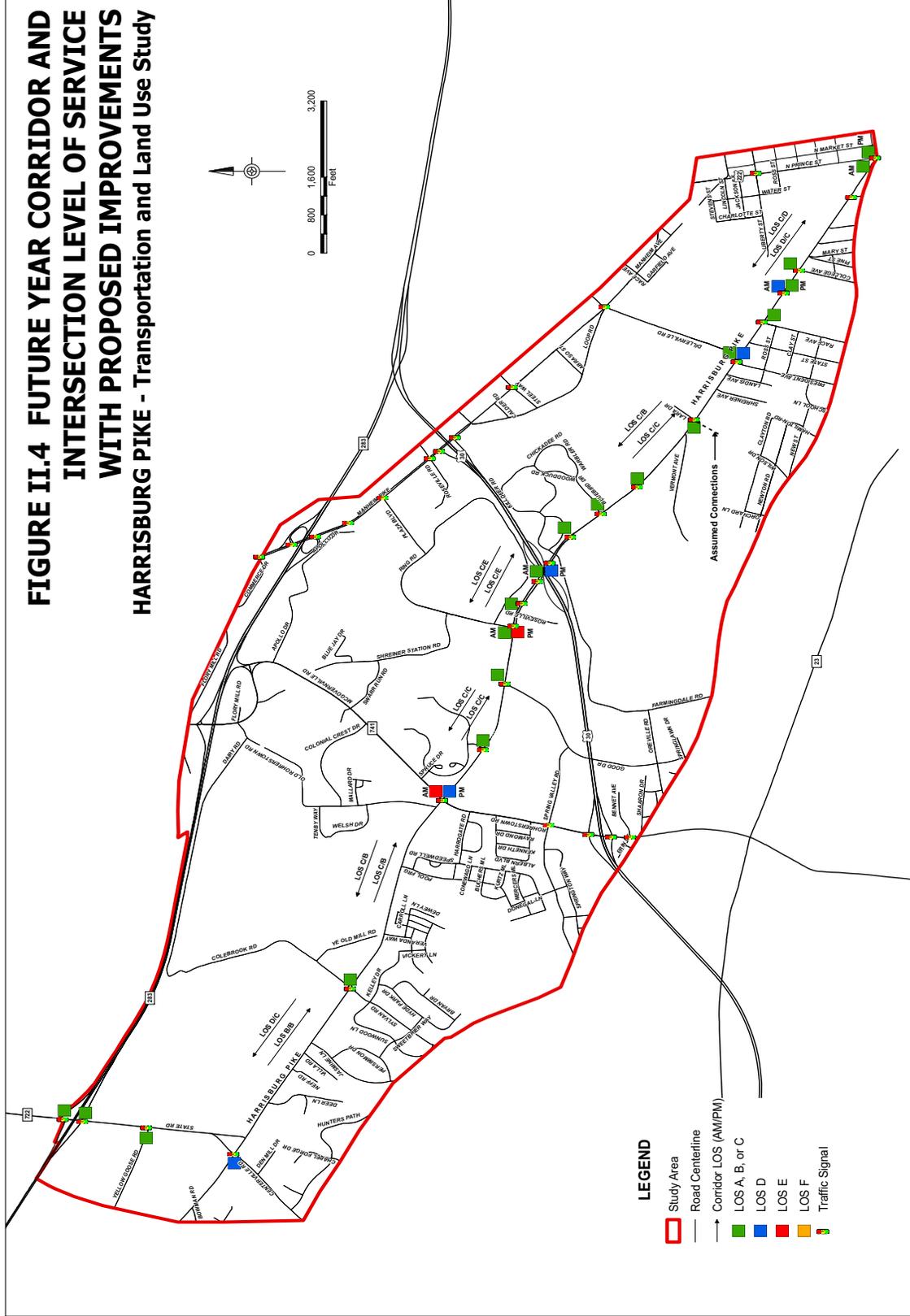
this corridor. Harrisburg Pike is utilized jointly as a regional highway and a local access road passing through several distinct areas and connecting travelers with residential areas, businesses, and community facilities. From State Road to Prince Street, Harrisburg Pike includes 18 signalized intersections with an additional one permitted for Mulberry Street. Because the existing highway allows free access for cross traffic at any location along the corridor, there is a need to control access along this corridor and provide a highway that promotes safe access to local facilities and efficient movement of regional traffic.

Access management is defined in the Transportation Research Board's Access Management Manual as "... the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connection to a roadway. It also involves roadway design applications, such as median treatments and auxiliary lanes, and the appropriate spacing of traffic signals. The purpose of access management is to provide vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system." According to studies conducted by the National Highway Institute, "An effective access management program can reduce crashes as much as 50 percent, increase roadway capacity by 23 to 45 percent, and reduce travel time and delay as much as 40 to 60 percent."

Some of the key principals of access management that apply to the Harrisburg Pike corridor include:

- **Limit direct access to major highways** – This applies to the study corridor in two ways. During any redevelopment or site improvement in developed areas that have existing driveway access onto Harrisburg Pike, access should be reanalyzed to determine if the number of driveways can be reduced by (1) eliminating multiple driveways to the same property, (2) relocating the driveways to a local street rather than Harrisburg Pike, and (3) combining the driveway with one from an adjacent property resulting in a shared driveway. For newly developed parcels, direct access to Harrisburg Pike should follow applicable access management techniques.
- **Locate signals to favor through movement** – Due to the number of existing signalized intersections along Harrisburg Pike and the heavy cross street traffic, this technique is difficult to apply to this corridor. However, to preserve the remaining capacity on Harrisburg Pike, it is imperative that the number of signalized intersections remain relatively unchanged. The section from State Road to Rohrerstown Road may be the exception where, as development occurs, two additional signalized intersections could be properly designed into the system without disrupting the function of Harrisburg Pike. One could be located on either side of the Sylvan/Colebrook Road intersection with adequate spacing between the existing signals. *For the area east of Rohrerstown Road, no new signalized intersections should be permitted.* Access to large developments that may require signalized access to Harrisburg Pike should be focused at the existing signalized intersections.
- **Removing turning vehicles from through lanes** – Turning lanes (both left and right) allow turning vehicles to decelerate out of the through lane, greatly reducing the possibility of a rear-end crash. Turn lanes also help reduce travel delays by not

FIGURE II.4 FUTURE YEAR CORRIDOR AND INTERSECTION LEVEL OF SERVICE WITH PROPOSED IMPROVEMENTS HARRISBURG PIKE - Transportation and Land Use Study



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slowing through vehicles. They serve both the local access and regional trip needs. As Harrisburg Pike develops, turn lanes should be required at all driveways and local roads. As part of the improvements listed in **Table II.1**, ten new turn lanes are suggested for this corridor along with eight expanded ones.

- **Using non-traversable medians** – Medians can reduce the likelihood of head-on crashes, provide traffic calming benefits, promote pedestrian safety and can aid in prohibiting left-turn movements. The recently installed median between College Avenue and Race Street is a good example of this application. Other areas along Harrisburg Pike where this type of treatment may be warranted would be in select areas from Prince Street to College Avenue where left-turn access is not needed, from Good Drive to Rohrerstown Road where an existing 5-lane section exists but left-turns are not needed at all locations, and in the future from Rohrerstown Road to State Road depending on how land development occurs.
- **Providing a supporting street and circulation system** – The use of an interconnecting street system through increased network connections is a key component of Smart Transportation. Since additional roadway network helps reduce the number of trips that need to access Harrisburg Pike, it allows for better movement of regional traffic. The importance of increased connectivity cannot be overstated and as such is repeated as an access management technique. Possible areas for increased network connections are shown in **Figure II.3**.

In order to accomplish proper access management, local municipalities should develop access management ordinances. These ordinances can be customized to individual municipalities but are even more beneficial if they are more regionally designed with inter-municipality coordination. Sample access management ordinances and methods for developing an access management program are found in PennDOT's Access Management Model Ordinance for Pennsylvania Municipalities Handbook. One such model access management ordinance developed for Lancaster County is provided in **Appendix C**.

6. Smart Growth/ Smart Transportation

The discussion in **Section II.D.3** focused on traditional travel methods (cars, trucks, etc.) and solutions (reconstructed interchanges, lane additions, etc). These traditional improvements are illustrated on the anticipated transportation plan shown in **Figure II.3**. The above analysis shows that new interchanges and improved intersections along Harrisburg Pike may meet the future needs of this corridor via the traditional way. Smart Transportation and Smart Growth techniques are also recommended to preserve the carrying capacity of the Harrisburg Pike Corridor.

Smart Transportation and Smart Growth principles include transit-oriented development, making walking and bicycling a priority, developing transportation networks, and generally providing a variety of transportation choices. **The focus is on moving people and not vehicles.**



BEFORE



AFTER - Conventional Development



AFTER - Traditional Neighborhood Development

Example of Smart Growth - Greenfield Development

Source: Urban Advantage

Smart Transportation solutions along Harrisburg Pike include re-evaluating local land development ordinances to focus on **mixed land uses**, creating **walkable neighborhoods**, and providing more **multi-modal opportunities** (particularly transit). It also includes adopting **access management ordinances** (see **Section II.D.5**), and focusing on operations and **maintenance of existing transportation features**. An example of this would be monitoring and adapting signal timings and coordination on a more regular basis. Numerous studies have shown the tremendous benefits versus cost of signal retiming.

Smart Transportation solutions for the Harrisburg Pike corridor should also include **increased network connectivity**. By connecting neighborhoods, commercial properties and local roads, the number of local trips that are required to use Harrisburg Pike can be reduced. These short local trips help disperse traffic rather than concentrating it at the intersections along Harrisburg Pike. They sometimes offer a more direct route and almost always reduce the total vehicle miles traveled in a corridor. Short trips encourage walking and bicycle riding as route length is shortened. These network connections are not meant to shift high speed, regional traffic onto local streets, and therefore typically use traffic calming features to fit the roadway into its sur-

roundings. By developing a better roadway network, the need for improvements to Harrisburg Pike may decrease.

Possible areas for increased network connectivity are shown on **Figure II.3**. Two examples of where this concept is already being planned, include the James Street Improvement District with the proposed extension of Mulberry and Liberty Streets, and the area just west of Park City where Good Drive may be extended to Rohrerstown Road. An example of where a network connection could help avoid additional improvements to Harrisburg Pike would be a possible connection from the proposed Good Drive extension to the Park City Center. This connection could relieve the need for additional left-turn lanes into Park City from Harrisburg Pike. As with most of the suggestions in this report, the decision for the use of these network connections lies with the local municipalities.

Smart Transportation also involves **increased uses of multimodal transportation**. **Figure II.3** shows several potential multiuse trails in the study area. These trails are beneficial to connect the region's park systems and to provide opportunities for recreational bicycling off of Harrisburg Pike. These trails do not replace the use of Harrisburg Pike by the commuter bicyclist. **Figure II.3** also shows potential locations for future sidewalks along Harrisburg Pike. There was a consensus within the Steering Committee that a high emphasis be placed on providing a continuous sidewalk/multi-purpose trail system between Lancaster City and Long's Park. The existing sidewalks system is located at the eastern end of the corridor, mainly east of Dillerville Road, and is shown in **Figure II.3**.

Another key technique of Smart Growth is the focus on **transit-related development**. As areas develop or redevelop, coordination with the RRTA to determine how to better design the site for use of transit should occur. Another possible use of the RRTA would be to help manage traffic during special events. For example, during Clipper Magazine Stadium events, it may be possible to park off-site with a special shuttle service provided to reduce traffic on Harrisburg Pike. This and other non-standard uses of transit should be investigated.

The more convenient transit access can be made to potential users, the more likely it will be to realize an increase in ridership. To increase convenience, more emphasis must be placed on providing the required infrastructure and funding for transit. Park-and-ride facilities strategically located throughout the corridor would provide areas for people from the surrounding region to park their vehicles and use transit services to move throughout the Harrisburg Pike corridor and into the City. Increasing the frequency of bus service, particularly on routes serving park-and-ride facilities, would improve the likelihood of increased transit usage. Special event traffic, which often occurs along Harrisburg Pike, could be serviced by the park-and-ride facilities. This would reduce the volatility of traffic peaks along the corridor. To maximize the benefit from these facilities, they should be tied to the pedestrian/bicycle network. Transit amenities such as benches, bus shelters, and bicycle racks are also needed to increase convenience and add value to the transit system. Additionally, priority could be given to the buses as they approach intersections through signal timing.

Areas for potential **park-and-ride facilities** are noted on **Figure II.3**. Engineering studies would need to be performed to evaluate the viability of any of these locations. Alternative means of locating these parking facilities should also be explored. Alternatives could include the use of churches during the weekdays and possibly Park City Center or Lancaster General Hospital if there are consistently underutilized parking areas. Another means of obtaining park-and-ride facilities would be to require them as an integral part of large scale developments.

Other items to help promote the use of multimodal transportation include use of programs such as the “**guaranteed ride home**” (GRH). A GRH program provides commuters who carpool, vanpool, walk, bike or take transit to work, free rides home or to their car from work if an unscheduled, unexpected event occurs. Examples of unscheduled events include illnesses, need to work unexpected hours, or other family issues. **Table II.2** lists the recommendations for multimodal projects and programs in this corridor. The priority rankings in this table are equal with those in **Table II.1** (i.e., one table does not have priority over the other).

Park-and-ride lots, increased bus frequency, transit amenities such as bus shelters, sitting benches and bicycle racks can all help to increase transit usage, relieve congestion, and preserve the people-moving capacity of the Harrisburg Pike Corridor. However, additional funding must be pursued to improve transit infrastructure. **Section II.F** discusses some funding sources for roadway and non-roadway projects, but there must also be an increase of multimodal funding. Rather than thinking of transit funding as a subsidy, it needs to be thought of as a positive method of investing in improved mobility in the corridor without building more roads. Funding from local businesses in the form of advertisements on buses and bus shelters, developer contributions as part of transportation impact fees, and municipal contributions are a few of the non-traditional sources of funding that should be investigated further.



*Harrisburg Pike at Park City Center.
Source: KCI Technologies, Inc.*

*Harrisburg Pike Looking Towards
Long's Park.
Source: KCI Technologies, Inc.*

*Harrisburg Pike at US Postal Facility
and R. R. Donnelley.
Source: KCI Technologies, Inc.*

TABLE II.2: MULTIMODAL RECOMMENDATIONS

Location	Description	Priority¹	Cost to Complete²	Lead Organization(s)
Dillerville Road west to Long's Park	Complete sidewalk system	High	\$200,000	Municipalities/ Developers
City to Long's Park	Provide Bicycle Route/connectivity	High	\$200,000	James Street Improvement District
Long's Park to PA 741	Add a sidewalk and/or multiuse trail or circulation system	High	\$300,000	Municipalities/ Developers
James Street Improvement District	Include sidewalk along with Mulberry and Liberty Street extensions	High	\$100,000	City/Developers
Park City Center	Park-and-ride facility ³	High	0 ⁴	County/RRTA
Lancaster General Hospital	Park-and-ride facility ³	High	0 ⁴	County/RRTA
PA 741/PA 283 Interchange	Park-and-ride facility ³	High	\$300,000	County
Entire Corridor	Increase frequency of bus service	High	\$500,000/year	RRTA
Entire Corridor	Extend bus routes into new areas	High	\$300,000/year ⁶	RRTA
Entire Corridor	Local road connectivity	High	n/a ⁵	Municipalities
Entire Corridor	Mass transit amenities including bus shelters, bicycle racks, benches, etc.	High	\$400,000	Municipalities/RRTA
Entire Corridor	Implement Capital Red Rose Corridor Regional Rail Service	High	\$11.2 million ⁷	County
PA 741 to State Road	Add a sidewalk/multiuse trail system	Medium	\$300,000	East Hempfield Township/Developers
Plaza Boulevard	Add sidewalk system from Harrisburg Pike to shopping areas	Medium	\$50,000	Park City Center
Dillerville Road	Connect sidewalk from Harrisburg Pike to Manheim Pike	Medium	\$50,000	Manheim Township/City/ Developers
PA 741 to Dillerville Road	Complete planned Conestoga Greenway trail system	Medium	\$700,000	County
State Road/PA 283 Interchange	Park-and-ride facility ³	Medium	\$300,000	County/East Hempfield Township
Southeast Quadrant of the US 30/Harrisburg Pike Interchange	Park-and-ride facility ³	Medium	\$300,000	County
Entire Corridor	Guaranteed ride home and similar programs	Medium	n/a ⁶	County/RRTA
Near PA 741	Add sidewalks along Good Drive, Spring Valley Road, and PA 741	Low	\$200,000	East Hempfield Township/Developers

TABLE II.2: MULTIMODAL RECOMMENDATIONS (continued)

Location	Description	Priority ¹	Cost to Complete ²	Lead Organization(s)
State Road/Harrisburg Pike Intersection	Park-and-ride facility ³	Low	\$300,000	County/East Hempfield Township
Entire Corridor	Add pedestrian lighting along existing and future pedestrian paths	Low	\$300,000/mile	Municipalities/Developers

¹Priority - should be completed in: Low = >10 years, Medium = 5-10 years, High = <5 years

²Cost to complete is construction costs in 2008 dollars and does not include design, utility relocation, and right-of-way costs

³Not all of these park-and-ride facilities are needed as some cover duplicate areas. Engineering studies are needed to determine the best locations.

⁴Construction cost is zero dollars as utilizing an existing facility.

⁵A cost cannot be readily placed on this recommendation as each site and roadway will be different. These costs should mainly be covered by developers.

⁶Will vary, depending on extent or usage.

⁷Construction cost for entire route.

E. RECOMMENDED PLANNING TOOL BOX

Design and decision making tools provide a tangible means of helping planners, policy makers, public officials, business owners and citizens of various backgrounds build a consensus for the design and development of an area. Readily available published tool boxes include:

- PennDOT Publication 616 (March 2007), "**The Transportation and Land Use Toolkit – A Planning Guide for Linking Transportation to Land Use and Economic Development**". <ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB%20616.pdf>
- PennDOT Publication 574 (February 2006), "**Access Management – Model Ordinances for Pennsylvania Municipalities Handbook**". <ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB%20574.pdf>
- PennDOT Publication 383 (January 2001), "**Pennsylvania's Traffic Calming Handbook**". <ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB%20383.pdf>
- PennDOT Publication 639 (November 2007), "**Transportation Impact Fee Handbook**". <ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB%20639.pdf>

Other invaluable references can be found in **Appendix A** of this document.

Specific tools for implementing the vision, goals and objectives defined in **Section II.A and B** are summarized on **Table II.3**. When used properly, these tools will enable the municipalities to make better planning decisions by enabling improved communication, planning, design and analysis of a particular issue of concern. These tools need to be used by local municipalities in a cooperative effort in order to achieve the vision and goals of this report.

TABLE II.3: PLANNING AND FUNDING TOOL BOX

LAND USE AND PLANNING TOOLS	Lead Organization(s)	Goal 1: Improve the overall carrying capacity of the Harrisburg Pike Corridor and enhance the Safety for all users.					Goal 2: Incorporate alternative modes of transportation in new development and redevelopment along the Harrisburg Pike Corridor.		Goal 3: Preserve the unique qualities of the urban and suburban land patterns and the community values and environmental resources of the project area.					
		1	2	3	4	5	1	2	1	2	3			
HIGH PRIORITY														
Improve Way Finding and Business Signage	County/Municipal	X										X		
Act 209 Regional Transportation Plan	Municipal	X	X	X								X		
Official Map	Municipal	X	X	X								X		
Amend SALDO to Require Implementation of Official Map	Municipal	X	X	X								X		
Traffic Impact Fees	Municipal	X	X	X								X		
Access Management Ordinance	Municipal	X	X	X								X	X	
Interconnectivity Between Land Use Types	Municipal		X	X								X	X	X
Transit Oriented Development Policies/ Transit Accessibility Ordinance	Municipal			X	X					X	X	X	X	X
Employer Supported Incentives for Alternative Modes of Transportation	Private Sector			X	X					X	X			
Smart Transportation Initiatives	County/Municipal	X	X	X	X									
Smart Growth Initiatives	Municipal									X			X	X
PennDOT Bicycle and Pedestrian Checklist	County/Municipal				X	X				X	X		X	X
Regional/Multi-Municipal Planning and Zoning Ordinances	Municipal		X	X						X	X		X	X
Mixed Use Zoning Regulations	Municipal		X	X						X	X		X	X
Traditional Neighborhood Design SALDO	Municipal		X	X						X	X		X	X
MEDIUM PRIORITY														
Access Management Agreement	Municipal	X	X	X										
Capital Improvements Planning	Municipal	X	X	X	X							X	X	
Park and Ride Facilities	County/Municipal			X	X					X	X			
Event Day Public Transportation	Municipal			X	X									
Incentive Zoning	Municipal									X			X	X
Promote Public Transportation Usage and Funding	County/RRTA			X	X							X		
Context Sensitive Solutions	PennDOT/Municipal									X	X		X	X
Main Street Renewal Programs	Municipal									X	X		X	X
Open Space Zoning/Conservation Design	Municipal											X	X	X
LOW PRIORITY														
Transportation Demand Management Techniques	County/Municipal			X	X									
MPC Amendments to Allow Approval of Large Developments That Cross Municipal Boundaries	County		X	X						X		X	X	X

TABLE II.3: PLANNING AND FUNDING TOOL BOX (continued.)

FUNDING TOOLS	Goal 1: Improve the overall carrying capacity of the Harrisburg Pike Corridor and enhance the Safety for all users.					Goal 2: Incorporate alternative modes of transportation in new Development and redevelopment along the Harrisburg Pike Corridor.			Goal 3: Preserve the unique qualities of the urban and suburban land patterns and the community values and environmental resources of the project area.			
	1	2	3	4	5	1	2	3	1	2	3	
HIGH PRIORITY												
Surface Transportation Program (STP)	X	X	X			X			X			
Private/Developer Funding	X	X	X	X		X			X			X
The Transportation Partnership Act	X	X	X	X		X			X			X
Impact Fees	X	X	X	X		X			X			X
MEDIUM PRIORITY												
Transportation Enhancement Activities (TEAs)	X	X	X	X		X			X			X
Congestion Mitigation and Air Quality Improvement Program	X	X	X	X		X			X			X
Hometown Streets Program	X	X	X	X		X			X			X
High Priority Projects and Designated Transportation Enhancement Activities	X	X	X	X		X			X			X
Urbanized Area Formula Grants, Capital Investment Grants and Loans, and Formula Program for Other than Urbanized Area	X	X	X			X			X			X
State and Community Highway Safety Grants	X	X	X	X		X			X			X
Community Development Block Grants (CDBG)	X	X	X	X		X			X			X
LOW PRIORITY												
National Scenic Byways Program		X		X		X			X			X
The Recreational Trails Program				X					X			X
Job Access and Reverse Commute Grants						X			X			
Federal Safe Schools Program	X	X	X	X		X			X			X
BikesBelong.org		X		X					X			X
Rivers, Trails, Conservation Assistance Program				X					X			X
Private Sources	X	X	X	X	X	X			X			X

E. FUNDING OPPORTUNITIES

The proposed improvements for the Harrisburg Pike corridor include roadway improvements such as new signals, medians and turn lanes. Additional improvements identified by the Steering Committee include the incorporation of multimodal trails, park and ride facilities, attractive signage and streetscape improvements. Given the budgetary constraints on the state and local municipalities, it is important to consider alternative funding sources for these projects. In addition to federal, state and local grants and low interest loans, it is vital to investigate appropriate public-private partnerships and programs offered by non-profit foundations and organizations. Below is a summary of possible funding sources for the proposed improvements. It will be important to research other opportunities as programs change frequently over time.

1. National Highway System Funds

(www.fhwa.dot.gov/environment/te/guidance.htm)

The programs listed below may be used for traditional street improvements and enhancements, as well as for the establishment of trail, pedestrian and bicycle resources. Landscaping, beautification and the removal of outdoor advertising are all eligible activities under Federal Highway Administration's (FHWA) Transportation Enhancement Program. Funds for projects that increase bicycle and pedestrian access are somewhat difficult to locate since funds are limited and demand is increasing as communities realize the importance of multimodal transportation. At the federal level, there are several programs that allot a certain portion of their budget to pedestrian and bicycle funding.

- **Surface Transportation Program (STP)** funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking.
- **Transportation Enhancement Activities (TEAs)** account for ten percent of any given state's annual STP funds. The law provides a specific list of activities that are eligible TEAs and this includes "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists," An additional ten percent of each state's STP funds is allocated to the Hazard Elimination and Railway-Highway Crossing programs. Both of these programs address safety issues for bicyclists and pedestrians.
- **Congestion Mitigation and Air Quality Improvement Program** funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects.
- **Recreational Trails Program** funds may be used for all kinds of trail projects. Provisions for pedestrians and bicyclists are eligible under the various categories of the Federal Lands Highway Program.
- **National Scenic Byways Program** funds may be used for construction along a scenic byway or a facility for pedestrians and bicyclists.

- **Job Access and Reverse Commute Grants** are available to support projects, including bicycle-related services, designed to transport welfare recipients and eligible low-income individuals to and from employment.
- **High Priority Projects and Designated Transportation Enhancement Activities** identified by Section 1602 of TEA-21 include numerous bicycle, pedestrian, trail, streetscape, and traffic calming projects in communities throughout the country.
- **Urbanized Area Formula Grants, Capital Investment Grants and Loans, and Formula Program for Other than Urbanized Area** are all transit funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles. Eligible activities include investments in "pedestrian and bicycle access to a mass transportation facility" that establishes or enhances coordination between mass transportation and other transportation. This program may be useful only if it can be tied into a major transportation facility along the Pike.
- **State and Community Highway Safety Grants** are funded by Section 402 formula grant program. A state is eligible for these grants by submitting a Performance plan detailing how their project will address pedestrian and bicyclist safety.

2. Federal Safe Routes to Schools Program

(<http://safety.fhwa.dot.gov/saferoutes/>)

This program was previously known in Pennsylvania as the Safe Routes to School Program. It is now encompassed in this larger federal Program. This program is dedicated to the safety of pedestrians and bicyclists along and around school route areas.

3. BikesBelong

(www.bikesbelong.org)

Funding for bicycle and pedestrian access should also be pursued through private corporations and foundations. One of the most promising private sources is through BikesBelong (Bikes-Belong.org). This non-profit foundation awards grants for the construction of bike trails and parks.

4. The Transportation Partnership Act, 53 P.S. § 1621

This program allows municipalities to cooperate with other local governments to establish transportation development districts for the purpose of planning, acquiring, developing, constructing and operating transportation facilities within the district.

In order to fund the transportation improvements or facilities, the Partnership may:

- Impose an assessment per the Business Improvement District Act.
- Impose an easement for usage.

- Impose a lawful tax to finance transportation improvements in the district and levied on the district's subjects only.
- Issue bonds or notes.
- Accept grants, gifts or donations.

There are numerous provisions that must be complied with prior to implementing any improvements, but this can be a good funding option for those communities that are unable to obtain traditional financing. Moon Township, located in the southwest portion of Pennsylvania, is seen as one of the leaders in the utilization of the Act, advancing nine infrastructure projects through the use of funds captured through this program. This program could be highly effective for the Harrisburg Pike Corridor and should be discussed at a multi-municipal level.

5. Infrastructure and Facilities Improvement Program (IFIP)

The State's Infrastructure Improvement and Facilities Program provides grants to applicants for the infrastructure improvements associated with the construction or rehabilitation to a convention center, hospital, hotel, industrial enterprise, manufacturing center, retail center or research and development center. Funds may be used for the establishment of critical infrastructure, such as utility line installation, roadways, sidewalks and professional development fees. Additionally, funds may be used for financing debt, administrative and legal expenses and environmental remediation. Terms vary based on use from 10 to 20 years, and the awards vary in size.

6. Impact Fees

Another way municipalities may mitigate the transportation effects of large scale development in the community is to charge the new development for additional traffic impacts. The Municipal Planning Code allows for the collection of these fees in Pennsylvania, although there are several statutory requirements that must be followed. The complexity of this required process has made the use of impact fees very limited, but given the lack of resources municipalities are faced with, the process may well be worth the effort.

7. Community Development Block Grants (CDBG)

(www.newpa.com)

These grants are awarded to municipalities through the PA Department of Community and Economic Development. Grants may be used for infrastructure improvement, community facilities, public services or planning. While streetscape construction would be part of the infrastructure improvement use, a park and ride facility could also be funded through these grants.

8. Hometown Streets Program

(www.dot.state.pa.us/Internet/Bureaus/CPDM.nsf/HomePageTE?ReadForm&Click=)

This PennDOT program operates under the Transportation Enhancement umbrella and has a sporadic funding cycle. The program funds items such as planters, streetscape improvements, streetlights, signage, bicycle racks, sidewalks and traffic calming measures.

9. The Recreational Trails Program and the Transportation Enhancement Program

(www.fhwa.dot.gov/environment/rectrails/) and (www.fhwa.dot.gov/environment/te/guidance.htm)

These are both FHWA programs administered by the Department of Conservation and Natural Resources (DCNR) Bureau of Conservation and Recreation and the Pennsylvania Recreational Trail Advisory Board. The DCNR funds multimodal trail projects through matching grants.

10. Rivers, Trails, Conservation Assistance Program

(www.ncrc.nps.gov/rtca/)

This program offers free technical assistance to communities interested in establishing trails. This program works closely with many non-profit partners to further assist communities. Community Development Block Grants may also be available for the construction of community trails. The Pennsylvania Greenway Clearinghouse Program (www.pagreenways.org) is helpful in identifying state specific resources through their work with the Rails to Trails Conservancy.

11. Developer Contributions

Contributions to infrastructure improvements are most often seen in the form of impact fees, but it is far more time efficient if a municipality can come to an agreement with a potential developer without having to utilize the legislative requirements of impact fee collection. Additionally, municipalities have reduced certain fees or rents for developers that agree to install improvements above and beyond the minimum requirements.

12. Private Sources

There are numerous private organizations dedicated to funding safe and attractive communities. Almost every major corporation has a related foundation and most professional groups engage in some sort of charitable giving. For example, the Home Depot Foundation (www.homedepotfoundation.org/) funds tree planting for communities, while Norfolk Southern's Foundation (www.nscorp.com/nscportal/nscorp/Community/NS%20Foundation/?jsessionid=3QLCH2BLMkJQ8gfXWHrhtj8xd5nw5fYv9bvgx2pYgr1hcQFfds3H!-773242128) states that its mission is to fund projects that create "safe, attractive and desirable" community

environments. Some grants and low interest loans specify what kind of group may apply for them; therefore it is very important to partner with appropriate local non-profit organizations and other community groups in order to ensure that the project can take advantage of all funding opportunities.

- **PowerBar** funds trail and river projects each year through its D.I.R.T Grant program. Call 1-800-58-POWER
- **Active Living by Design** is a private foundation that strives to make communities safe and convenient for people to be physically active. (www.activelivingbydesign.org/)
- **The Conservation Fund and Eastman Kodak** provides matching funding for greenway and trail implementation. (www.conservationfund.org/)

13. Pennsylvania Infrastructure Bank

(<http://www.dot.state.pa.us/PennDOT/Bureaus/PIB.nsf/HomepagePIB?OpenForm>)

The Pennsylvania Infrastructure Bank (PIB) is a PennDOT-operated program that provides low-interest loans to help fund transportation projects within the Commonwealth. The goal of the PIB is to leverage state and federal funds, accelerate priority transportation projects, spur economic development, and assist local governments with their transportation needs.

14. Other Funding Options

Alternative funding options such as the utilization of access fees, hotel taxes, parking taxes, rental car taxes and real estate transfer taxes may also supplement the improvements budget. These items have a rational nexus between the people that use the roadway and items purchased. Other, more controversial funding options are to increase the gas tax, property taxes, sales tax or liquor taxes.

The final strategy municipalities may want to consider is the implementation of a TIF (Tax Increment Financing). Using this tool, existing tax rates are frozen with a percentage of future tax increases used to underwrite the issuance of bonds. TIFs are extremely useful in areas that are contemplating a high rate of growth and need substantial infrastructure improvements to support the development.

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III. BACKGROUND AND METHODOLOGY

A. STUDY AREA

The study area focuses on a 5-mile section of the Harrisburg Pike/Avenue from Prince Street, which forms the eastern boundary of the study area to just west of State Road, which forms the western boundary. The northern boundary is Manheim Pike (PA 72) and PA 283, and the southern boundary of the study area is defined as an area between Harrisburg Pike and Marietta Pike (PA 23) that has direct influence on the Harrisburg Pike or contains land that has a high likelihood of new or re-development. The study area south of Harrisburg Pike includes portions of Franklin and Marshall College, School Lane Hills, Village Grande and Veranda residential neighborhoods and others. By including these areas and the north-south roadways leading into the study area, the effects of the regional and local traffic from Manheim Pike, Marietta Pike and beyond are integrated into the overall study. Municipalities encompassed by the study area include portions of the townships of East Hempfield, Manheim, and Lancaster, as well as the City of Lancaster. The study area is depicted graphically on **Figure I.3**.

Throughout the study area, Harrisburg Pike is categorized as an arterial roadway that serves a variety of trip types and also provides access to many varied land uses. The corridor lies entirely within the Central Lancaster Urban Growth Area and serves as one of the City's major gateways. Harrisburg Pike from Rohrerstown Road to Prince Street is the second most congested corridor in the county according to Metropolitan Planning Organization's (MPO) Congestion Management System report. From State/Centerville Road in East Hempfield Township to Prince Street in the City of Lancaster, the physical design of the roadway ranges from a two-lane, to a three-lane, and then a five-lane facility in different segments.

The study area also includes the PA 722 interchange with PA 283. Major intersecting roadways include Prince Street (US 222), College Avenue, Dillerville Road (SR 4009), President Avenue, US 30 (via an interchange), Plaza Boulevard, Rohrerstown Road (PA 741), and Centerville/State Road.

Pedestrian demands exist but accommodations are minimal. RRTA Park City Routes A, B and C and the Millersville University (MU) Park City Express Route utilize portions of the corridor.

B. EXISTING CONDITIONS

1. Environmental and Land Use Inventory

Environmental and Land Use Inventory efforts focused primarily on preparing an inventory and developing an understanding of relevant data within the Harrisburg Pike Corridor. This task included the documentation of existing conditions and factors that could affect the future land use, transportation system and development activity in the Harrisburg Pike corridor. Sources of this data included readily available LCPC Geographic Information System (GIS) data, Lexicon Zoning data, all components of the County Comprehensive Plan, limited field views of the study area, and other resources noted below.

- **Growing Together:** A Comprehensive Plan for Central Lancaster County, Pennsylvania, Spring 2007
- Lancaster County 2005 Congestion Management Systems Report
- Lancaster County Bicycle and Pedestrian Transportation Plan
- Lancaster City Stadium District Physical Environment Vision Report, November 2003
- **Measure Up Lancaster,** Volume 3, 2006
- **The Gateways Report,** May 2007

The culmination of this effort was the preparation of the composite Opportunities and Constraints map (**Figure III.1**) and the Generalized Current Zoning map (**Figure III.2**) which, when reviewed together, provided a synthesis of relevant factors that could affect future development, land use, and the transportation system along Harrisburg Pike. The generalized zoning map is a composite of current local municipality zoning generalized to one common zoning scheme. This information was reviewed with the steering committee for consensus.

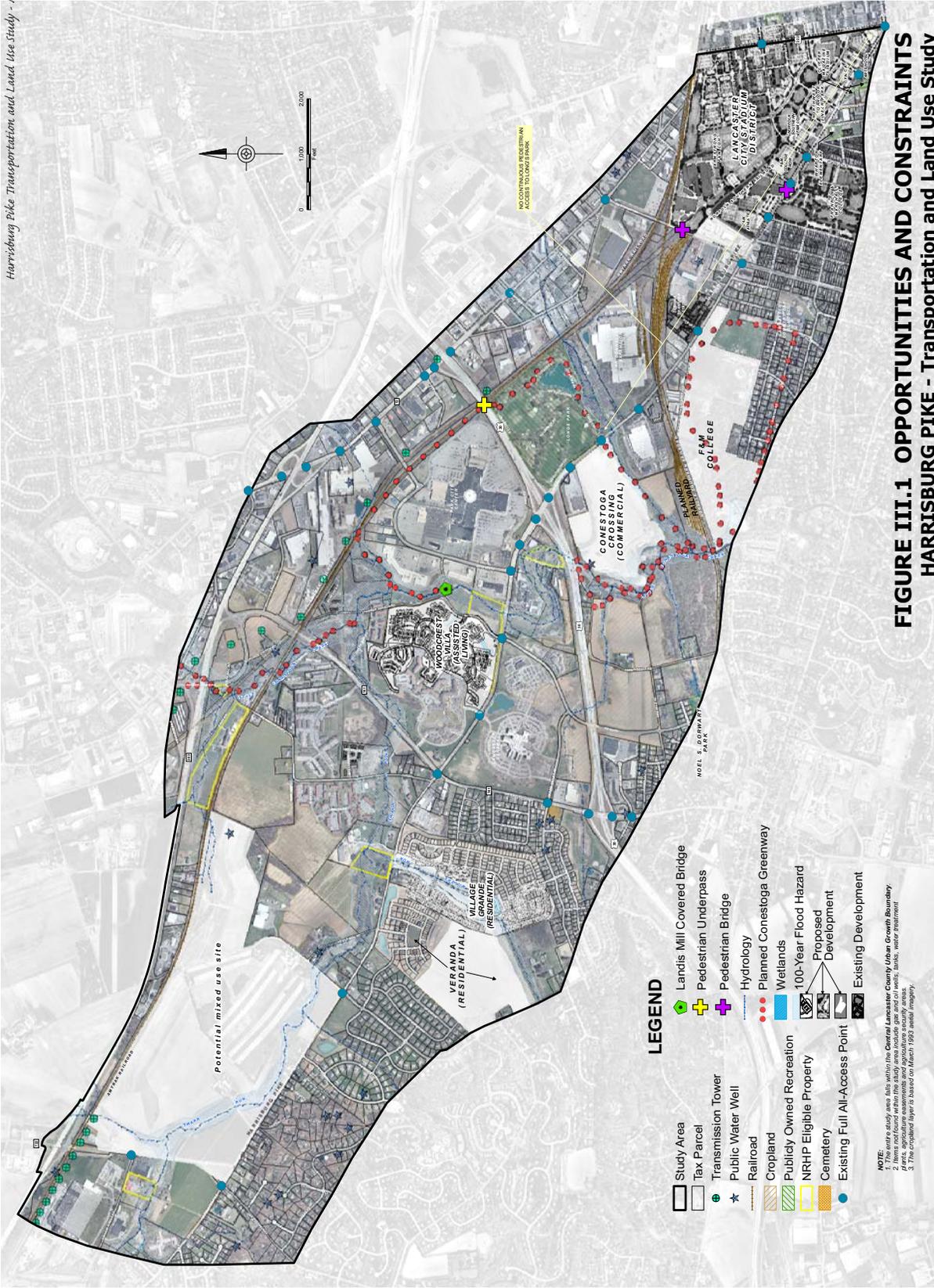
2. Transportation Inventory

In order to gain an understanding of the existing travel patterns, traffic composition and operations, and transportation infrastructure, and how these existing characteristics could affect the future transportation system, several sources of data were reviewed along with field views of the corridor.

Daily traffic volumes as well as its composition (e.g., number of trucks) and crash data were obtained through the Pennsylvania Department of Transportation (PennDOT) databases. Intersection turning movement counts along Harrisburg Pike were mainly obtained from counts performed for a separate traffic signal coordination project being conducted by the LCTA. The counts along State Road were obtained through the State Road Interchange project being conducted for East Hempfield Township. These intersection counts were supplemented by data supplied by the LCPC. The daily traffic volumes and peak hour volumes are shown in **Figure III.3**. A summary of the existing crash data is shown in **Figure III.4**.

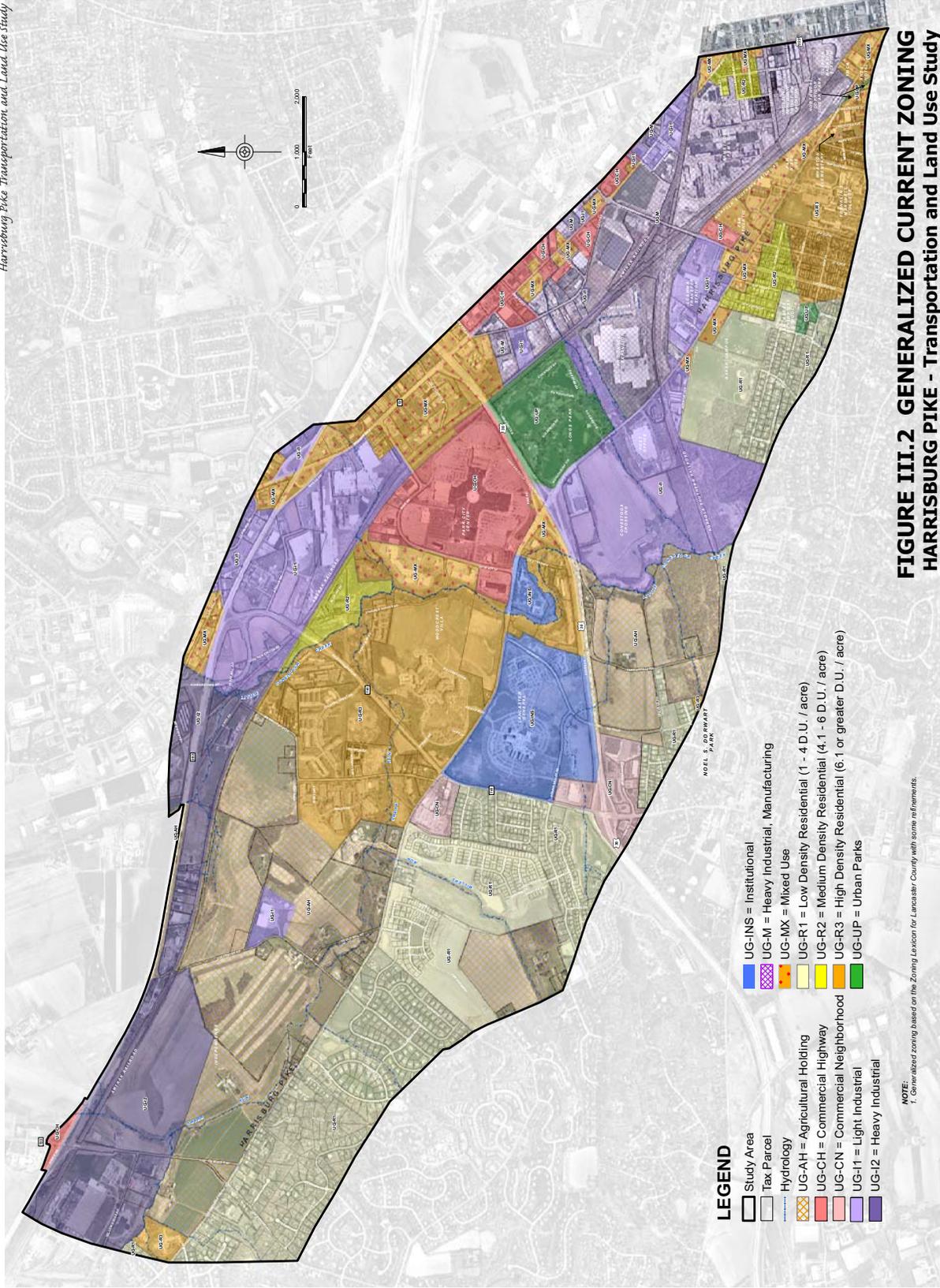
Field views were used to obtain information to analyze the existing traffic operations. This data included items such as sidewalk locations, lane patterns and width, intersection traffic control (e.g., stop signs and traffic signals), driveway locations and median curbs. These field views were supplemented with municipality and county data sources to document multimodal uses such as the RRTA bus routes, freight and passenger rail, and multiuse trails. These multimodal features are depicted in **Figure III.5**.

The RRTA runs four bus routes along Harrisburg Pike - Park City Routes A, B, and C and a route between Millersville and Park City (MU Park City Express). These routes are shown on **Figure III.5**. For the Park City routes, service is generally provided on a 30-45 minute schedule. The MU



**FIGURE III.1 OPPORTUNITIES AND CONSTRAINTS
 HARRISBURG PIKE - Transportation and Land Use Study**

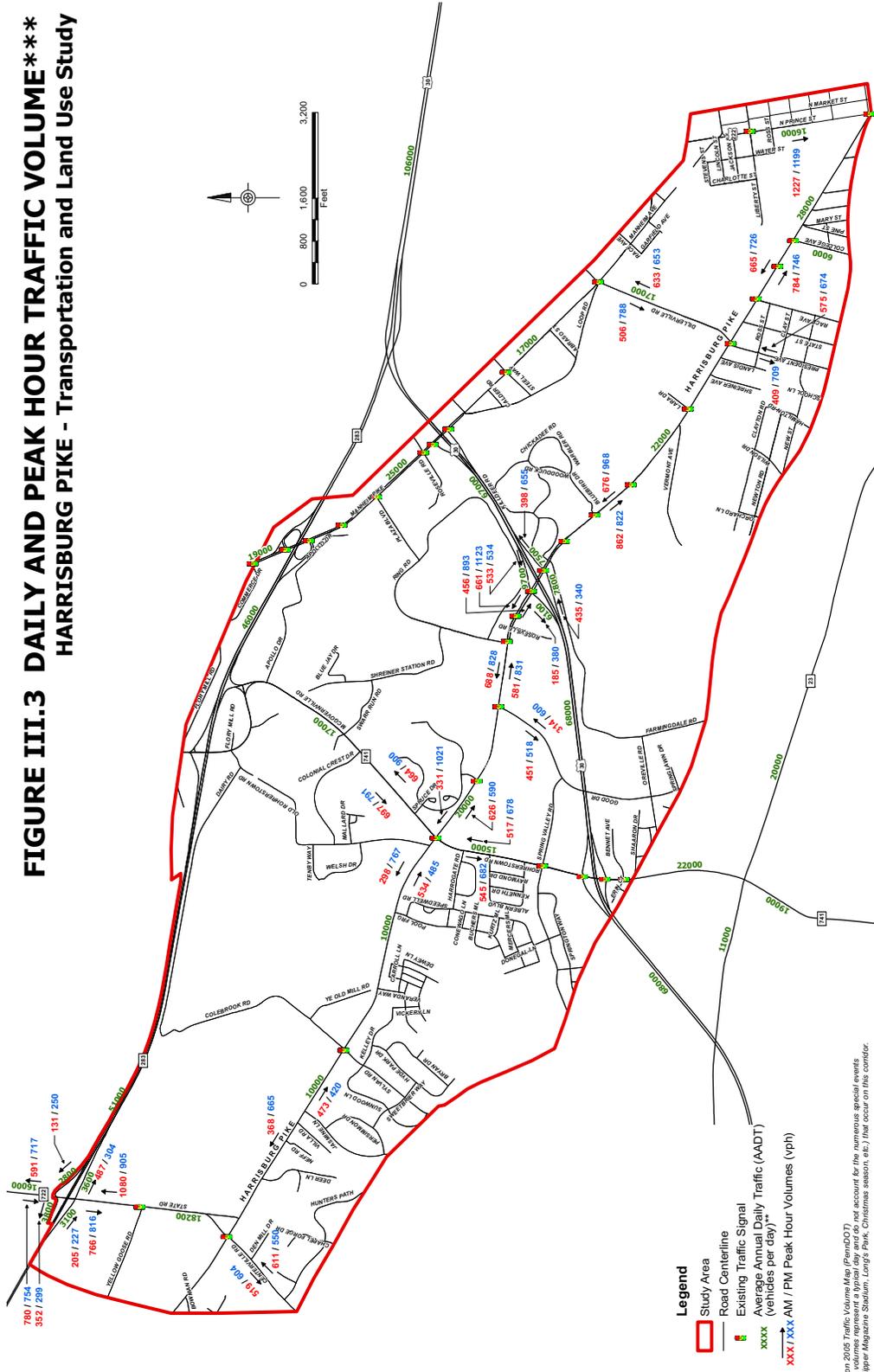
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**FIGURE III.2 GENERALIZED CURRENT ZONING
HARRISBURG PIKE - Transportation and Land Use Study**

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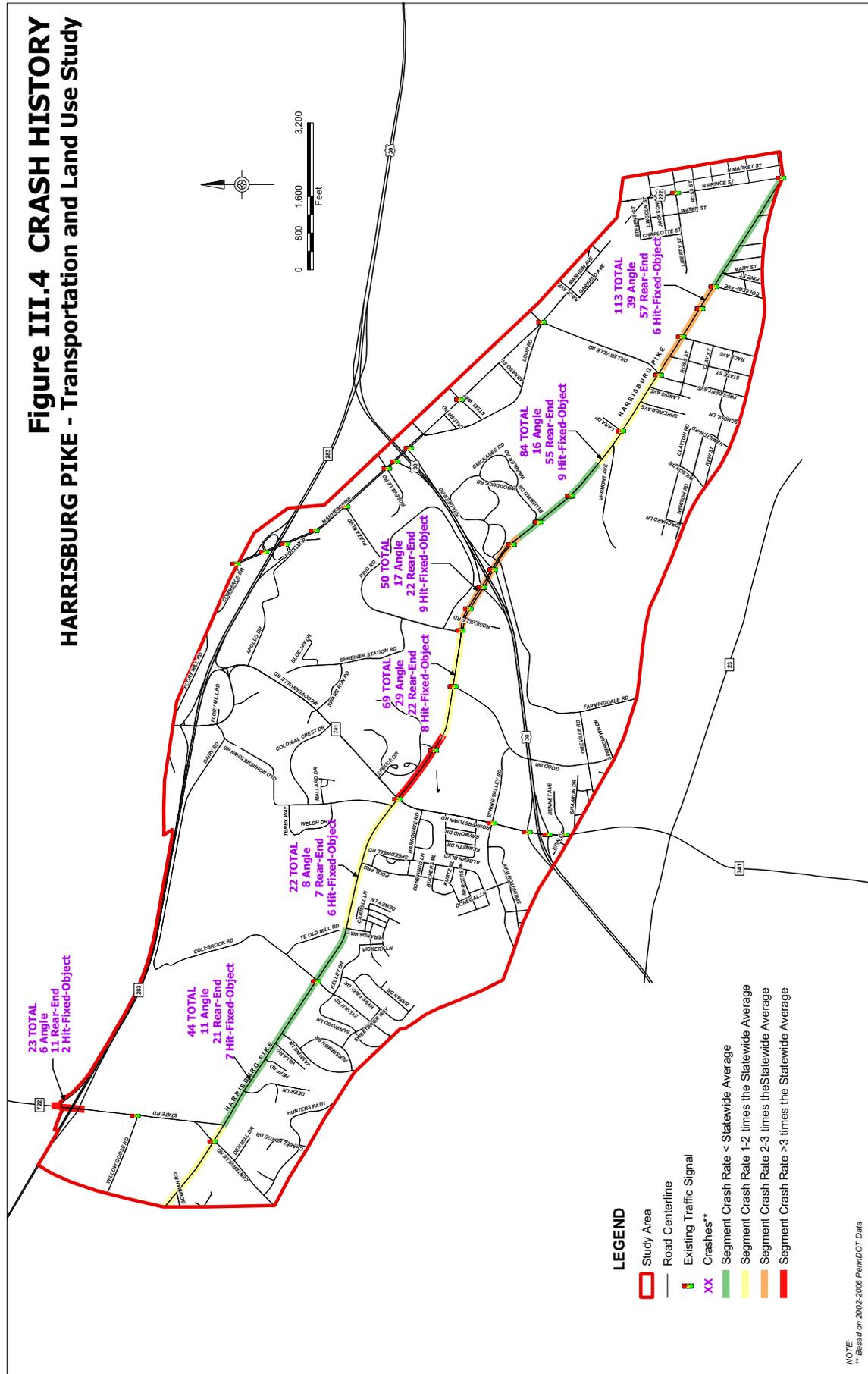
FIGURE III.3 DAILY AND PEAK HOUR TRAFFIC VOLUME*
HARRISBURG PIKE - Transportation and Land Use Study**



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Figure III.4 CRASH HISTORY

HARRISBURG PIKE - Transportation and Land Use Study



NOTE:
** Based on 2002-2006 PermitDOT Data

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Park City Express runs on an approximately one-hour schedule. Current ridership along these routes is approximately 600,000 annual trips. The RRTA also operates a shared-ride (paratransit) program for senior citizens and persons with disabilities in Lancaster County. This door-to-door transportation service, known as Red Rose Access, is available to those who are unable to use RRTA's fixed-route bus system. Commuter Services of South Central PA organizes a regional initiative that provides information on car pooling opportunities.

3. Physical Condition and Functional Classification

The western limit of the study corridor is the State Road interchange with PA 283. PA 722 passes over PA 283 as a two-lane roadway with a speed limit of 45 mph. The ramps from PA 283 are stop-controlled. No turn lanes exist on either the ramps or State Road. State Road south of the interchange is a township road, which is classified as a local roadway and does not carry the PA 722 designation. Approximately 0.6 miles south of the interchange, State Road intersects Harrisburg Pike at a signalized intersection. South of the Harrisburg Pike intersection, State Road becomes Centerville Road. **Figure III.6** shows the roadway function classifications, signalized intersection locations and other features of the roadway.

PennDOT uses functional classification as a way to characterize roadways by the type of service they are intended to provide. *Arterial roadways* move traffic for long distances without providing emphasis on land access. *Collector roads* provide both access points and traffic circulation and generally collect traffic from local streets and channel them onto the arterials. Harrisburg Pike is classified as an arterial but functions as both an arterial and a collector road.

From State Road east to Rohrerstown Road, Harrisburg Pike is classified as a minor arterial with a speed limit that varies between 35 and 40 mph. Access is uncontrolled and numerous residential driveways exist. Harrisburg Pike generally has two lanes of travel per direction until the signalized intersection with Sylvan Road and Colebrook Road. East of Sylvan Road, Harrisburg Pike is generally three lanes wide with a center turn lane. This section of roadway is generally without shoulders.

From Rohrerstown Road to the US 30 interchange, Harrisburg Pike is classified as a minor arterial and has a speed limit of 40 mph. It is generally five lanes wide with two lanes per direction and center turn lanes as appropriate. Shoulders vary from zero to four feet. Median curbing exists east of the Good Drive intersection near Park City. Driveway access is somewhat limited from Rohrerstown Road to Good Drive, while more driveways appear east of Good Drive. This area is served by the RRTA.

Harrisburg Pike continues to have two through lanes per direction until east of the signalized diamond interchange with US 30. From US 30 to the signalized intersection with Dillerville Road and President Avenue, Harrisburg Pike is generally a two lane road with turn lanes at key signalized intersections. The speed limit varies between 35 and 40 mph, and the road is classified as a principal arterial highway. Sidewalks start to appear in this segment. Driveway access is more frequent in this area.

East of Dillerville Road, Harrisburg Pike is generally a three lane road with a speed limit of 35 mph until its terminus at Prince Street. It traverses through Franklin and Marshall College and the James Street Improvement District where pedestrian traffic is heavy. Sidewalks are generally present on both sides of the road.

Within the study area, Harrisburg Pike is currently utilized as both a regional highway and a local access road passing through several distinct areas and accessing residential areas, businesses, and community facilities. From State Road to Prince Street, it accommodates over 100 residential, business and community facility driveway entrances, over 25 township and local road intersections, and four State Route intersections, as well as truck traffic. It serves regional facilities like Clipper Magazine Stadium, Franklin and Marshall College, the Lancaster County Solid Waste Management Authority Transfer Station (LCSWMA), Regional US Post Office, Long's Park, Park City Center, Lancaster General Hospital Health Campus, and others.

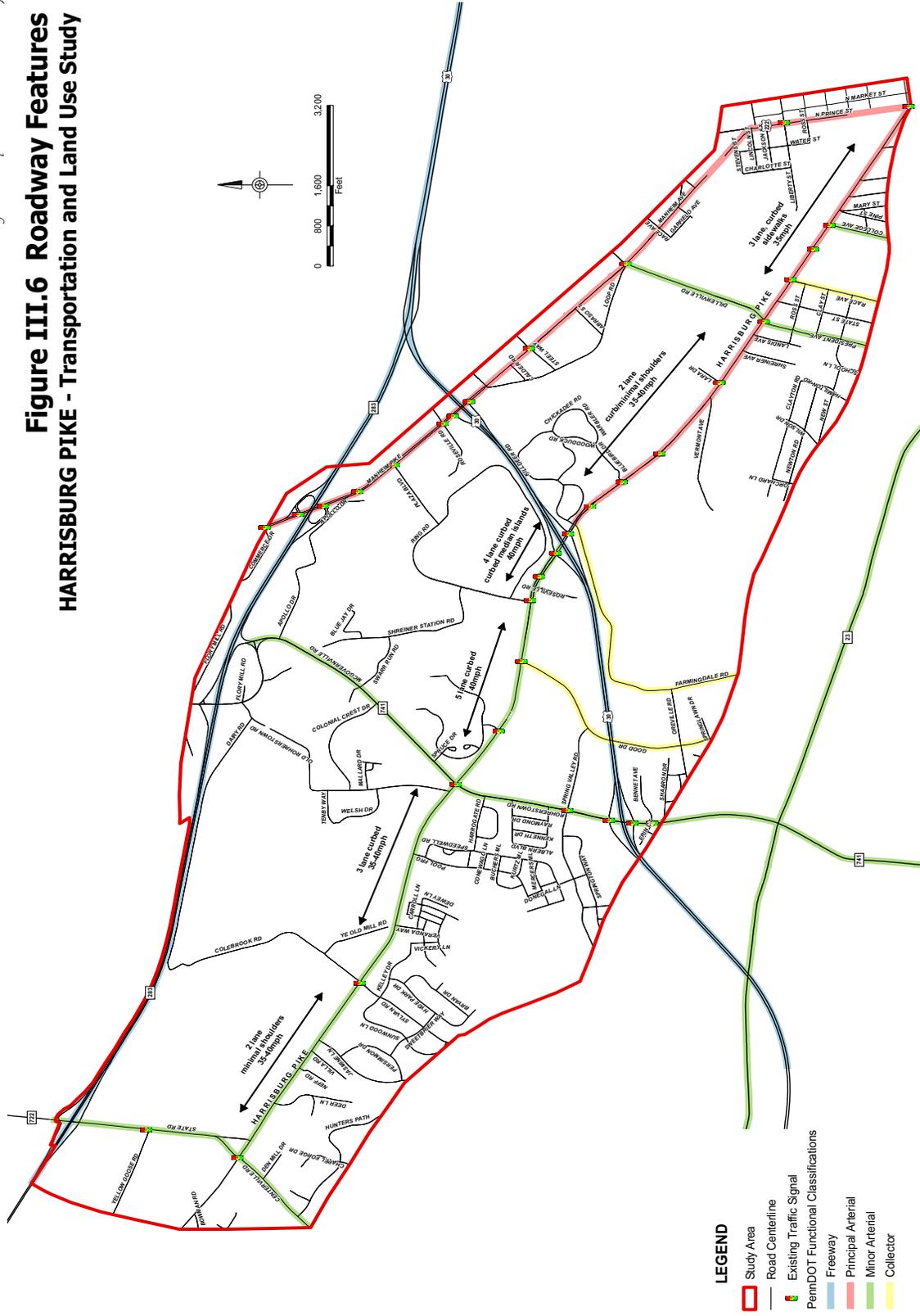
Basically, the two distinct types of users (regional trips versus local access) expect different types of access control. Local traffic desires unrestricted access to facilities along the corridor, while regional vehicles desire uninterrupted, higher speed traffic flow with little to no cross traffic. Because the existing highway allows free access for cross traffic at any location along the corridor, there is a need to control access along this corridor and provide a highway that promotes safer access to local facilities and efficient movement of regional traffic.

4. Traffic Volumes

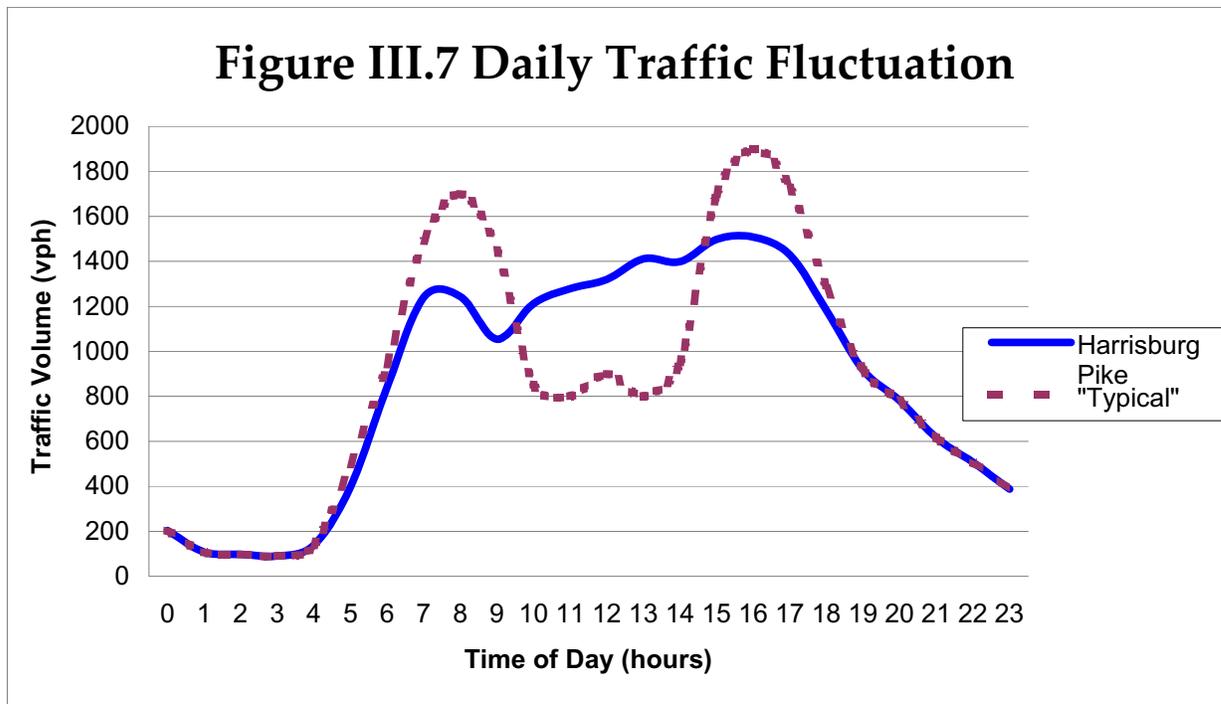
The existing average daily traffic (ADT) volumes and morning and afternoon peak hour volumes are shown on **Figure III.3**. The daily volumes are lowest west of Rohrerstown Road at approximately 10,000 vehicles per day (vpd), and steadily increase along Harrisburg Pike to approximately 28,000 vpd near Prince Street. Typical two-lane roads generally carry less than 15,000 to 20,000 vehicles per day, indicating that Harrisburg Pike is a heavily traveled roadway. Many of the cross streets carry as much, if not more traffic than Harrisburg Pike in certain areas. For example, Rohrerstown Road and Dillerville Road have daily traffic volumes of approximately 17,000 vpd. These and other cross streets add to the traffic concerns along Harrisburg Pike.

Harrisburg Pike peak hour volumes, shown in **Figure III.3**, are lower than typically expected for the total daily volumes discussed above. The reason for this is that the mix of traffic and trip purpose along Harrisburg Pike varies greatly. Harrisburg Pike is used by commuters during the usual morning and afternoon peak periods, but during the remainder of the day when most roads see a decline in traffic volumes, Harrisburg Pike is used by trucks serving the LCSWMA and Donnelley Printing and other vehicles accessing Clipper Magazine Stadium, Franklin and Marshall College, the Regional US Post Office, Park City Center, and the Lancaster General Hospital Health Campus. This behavior reinforces the importance of Harrisburg Pike to the entire region and explains why the daily traffic along Harrisburg Pike is high, while the peak hour volumes are more manageable. To further illustrate this point, a typical day of traffic along Harrisburg Pike was plotted against a typical commuter type road with the same daily traffic in **Figure III.7**. Again note the peaking characteristic of a typical road does not apply for the Harrisburg Pike.

Figure III.6 Roadway Features
HARRISBURG PIKE - Transportation and Land Use Study



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Another distinguishing feature for the Harrisburg Pike corridor is the definition of a typical day. Most arterial roads have relatively consistent daily and hourly volumes of traffic through the year with minor seasonal fluctuations; however, for the Harrisburg Pike corridor, this is not the case. The numerous special events at Clipper Magazine Stadium, Franklin and Marshall College, and Long’s Park, coupled with seasonal events associated with the numerous commercial establishments and centers including the Park City Center, daily and peak hourly volumes on the Harrisburg Pike can vary greatly. These fluctuations make traffic operations inconsistent and make the concept of traffic signal timing to accommodate daily traffic volumes more challenging.

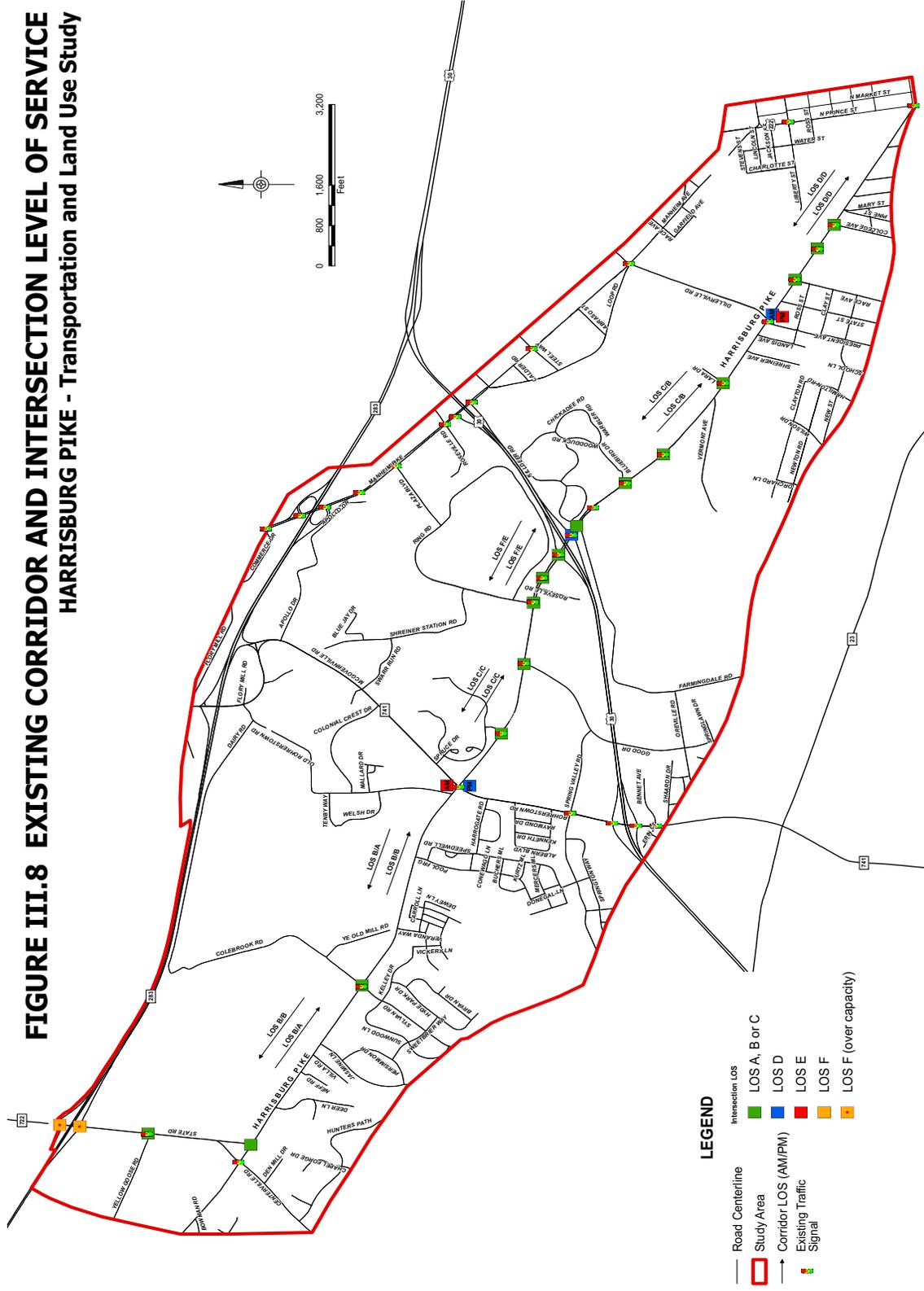
5. Level of Service Analysis

The existing intersection and corridor LOS are shown in **Figure III.8**. Most intersections along Harrisburg Pike currently operate at an acceptable LOS. The exceptions are the PA 283 ramp intersections with State Road (LOS F), the Rohrerstown Road intersection (LOS E in the morning peak), and the Dillerville Road/President Street intersection (LOS E in the afternoon peak).

However, the intersection analysis only takes into account one intersection at a time and not the overall interaction between the intersections. Information regarding LOS along the corridor can be used to analyze the interaction among the intersections and particularly important on a corridor such as Harrisburg Pike with numerous and closely spaced signalized intersections. As shown on **Figure III.8**, the peak hour corridor LOS for Harrisburg Pike is generally acceptable (but lower than the intersection LOS) except near the US 30 interchange and the Park City Center. This difference in LOS can be simply explained by noting that at most signalized intersections a motorist may only be waiting for a relatively short amount of time (say 30 seconds),

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**FIGURE III.8 EXISTING CORRIDOR AND INTERSECTION LEVEL OF SERVICE
HARRISBURG PIKE - Transportation and Land Use Study**



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but if that motorist stops at each of the 15 signalized intersections from Rohrerstown Road to Prince Street, they would incur 7.5 minutes of waiting time for that section of roadway.

6. Travel Time Study

In order to better assess corridor traffic operating conditions on Harrisburg Pike, travel time studies were conducted during the morning and evening peak periods. Travel time studies provide data on the amount of time it takes to travel a section of roadway and indicate the location and the amount of delay that occurs.

The travel time studies for the Harrisburg Pike corridor were conducted using the average vehicle method, as described in the Institute of Transportation Engineers's (ITE) Manual of "Transportation Engineering Studies". Utilizing this method, a vehicle was driven through the corridor at the average speed of the traffic stream. The time and distance to key points along the corridor were noted, as well as the posted speed limit. Areas where other delays (speed less than 5 mph) occurred were also noted. In order to achieve an acceptable level of accuracy, the corridor was traversed six times per direction per peak period. The six trips were then averaged and analyzed. For the purpose of this study, the corridor is defined as State Road to Prince Street and does not include the State Road interchange.

The actual travel times and speeds computed from the field measurements were then compared against the optimal (posted) travel time. The optimal travel time is calculated using the posted speed limit over each segment distance. This optimal time assumes that vehicles can travel without interruptions from traffic signals, incidents, or turning vehicles.

The results of these analyses are summarized for each direction of travel per peak period. **Table III.1** summarizes the travel time and speeds to traverse the entire corridor. **Figure III.9** summarizes the average travel times and speeds per segment of roadway. The vertical distance between the two lines on **Figure III.9** represents the difference between the total optimal and actual travel time. When these lines are parallel, the actual travel speed is close to the posted speed for that section of roadway and delay is depicted by diversion of the lines.

As shown in **Table III.1**, vehicles in the westbound direction in the morning and evening peaks need approximately six additional minutes to traverse this corridor compared to the optimal travel time. In the eastbound direction, vehicles require approximately five additional minutes during the peak periods. Average travel speeds across the corridor during both peak periods are approximately 16 mph less than the optimal for both directions of travel. These studies help calibrate the traffic models used to predict future LOS.

FIGURE III.9: EXISTING TRAVEL TIME SUMMARY

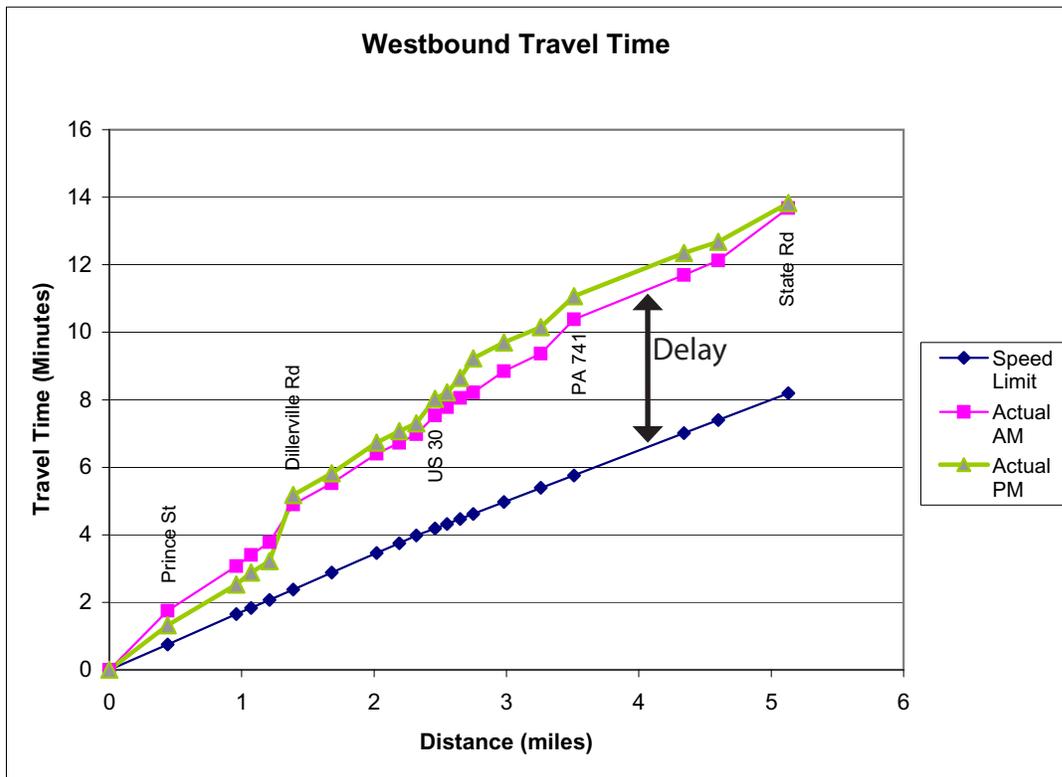
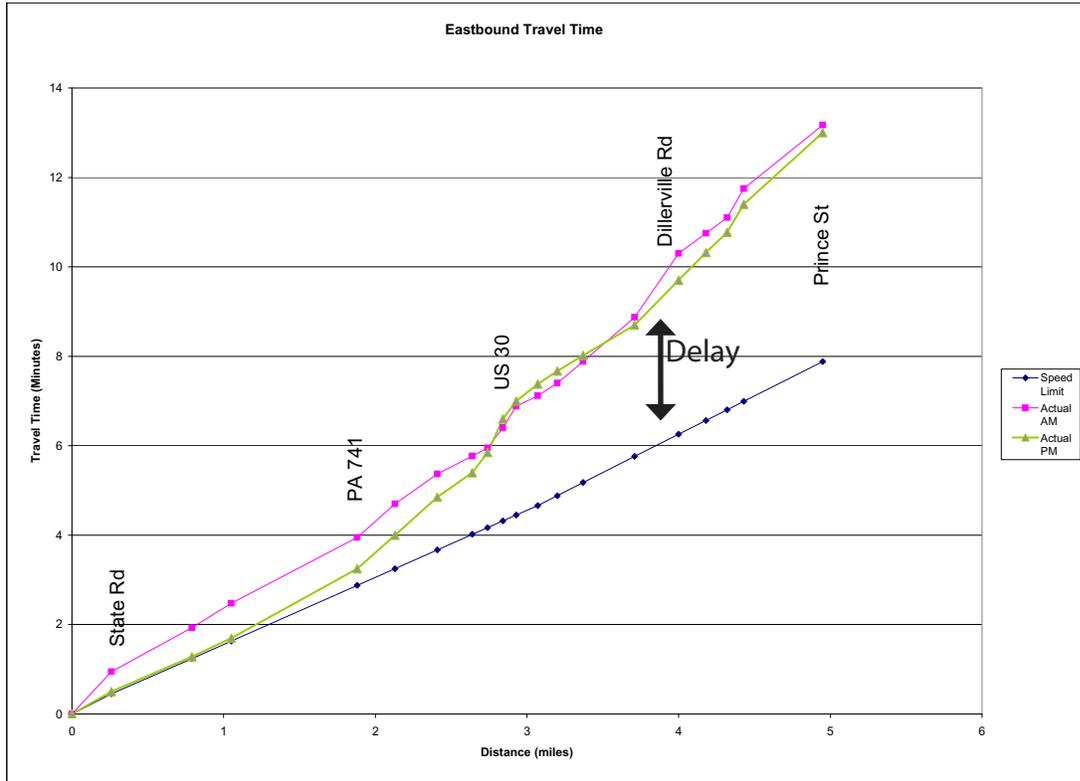


TABLE III.1: TRAVEL TIME STUDY, CORRIDOR SUMMARY

	Direction Westbound	Direction Eastbound
Distance Evaluated (miles)	5.0	5.0
Optimal Travel Time @ Posted Speed Limit (min)	7.9	7.9
Average Speed @ Posted Speed Limit (mph)	37.8	37.8
AM Actual Travel Time (min)	13.7	13.2
AM Average Speed (mph)	21.7	22.6
AM Average Delay/Vehicle (min)	5.8	5.3
PM Actual Travel Time (min)	13.8	13.0
PM Average Speed (mph)	21.7	22.8
PM Average Delay/Vehicle (min)	5.9	5.1

7. Crash Analysis

To conduct a crash analysis for this corridor, the crash histories over the latest complete five-year period were analyzed. The crash records were obtained from PennDOT's Bureau of Highway Safety and Traffic Engineering for the time period of January 1, 2002 through December 31, 2006. *This data only includes those crashes that were reported to PennDOT.* Reportable crashes are only those that involve injuries or require at least one vehicle to be towed. Crash type, location and severity can be obtained from these reports. A summary of these crashes is provided in **Figure III.4**.

For each roadway segment designated by PennDOT's Roadway Management System (RMS), the crash rate in crashes per million vehicle miles of travel along Harrisburg Pike was compared to the statewide average for roadways that display similar physical and traffic conditions. The results of this analysis for each roadway segment along Harrisburg Pike are shown in **Figure III.4**. Overall, 25 percent of the Harrisburg Pike roadway segments have crash rates less than the statewide average, 37 percent have rates one to two times the statewide average, and 38 percent have rates greater than two times the statewide average. For the segments with rates greater than two times the statewide average, the presence of numerous intersections generally causes the high crash rates. This trend indicates that there are numerous conflicts between local trips and regional trips.

Based on the review of the PennDOT crash records from 2002 through 2006, 380 reported crashes occurred on the study corridor, resulting in two fatalities, 8 major injuries, 22 moderate injuries, and 158 minor injuries. Rear-end crashes accounted for 47 percent of the crashes, while 30 percent were angle-type crashes. These two types of crashes are generally driveway

and intersection related crashes, which is consistent with the conflicting types of roadway users (local versus regional) and capacity issues previously discussed. Hit-fixed object crashes account for 12 percent of the crashes. Hit-fixed object crashes are generally associated with roadway deficiencies - such as narrow shoulders and clear zones, rather than intersections.

C. PUBLIC PARTICIPATION

To ensure that this study incorporated the thoughts and concerns of the community, a comprehensive public involvement program was developed for this project. The residents and community at large use this corridor on a daily basis and will have a vested interest in the actions taken as a result of the findings of this study. For the public participation program to be meaningful it was crucial to make certain that public opinions and available data were taken into consideration before taking action. The three key elements of the public participation program included the steering committee, public meetings, and information dissemination.

1. Steering Committee

The Steering Committee was comprised of local and PennDOT officials, citizens, business owners, key developers, institutional representatives and a variety of other key stakeholders representing the broad range of interests and users of the corridor. By including major community groups and surrounding municipalities on the Steering Committee, it is anticipated that the resulting Action Plan will be a relevant and practical tool for the municipalities. Each meeting addressed a certain topic as outlined below:

- Meeting 1, August 9, 2007: Determining Goals and Objectives of the Committee
- Meeting 2, September 12, 2007: Visioning – What Should the Corridor Look Like?
- Meeting 3, October 18, 2007: Review of Current Traffic Data
- Meeting 4, January 24, 2008: Future Land Use, Traffic Projections and their Implications
- Meeting 5, February 28, 2008: Anticipated 2030 Land Use & Transportation Plans
- Meeting 6, May 8, 2008: Review of Draft Action Plan/Preparation for Public Meeting
- Meeting 7, May 30, 2008: Continued Review of Draft Action Plan
- Meeting 8, September 9, 2008: Summary of Public Comments and Finalization of Action Plan

It is recommended that the Steering Committee meet on a regular basis after the completion of this report in order to implement the tools and other recommendations found in the report.

2. Public Meetings

HARRISBURG PIKE STEERING COMMITTEE

<i>Bike/Pedestrian Advisory Committee</i>	<i>LCTA</i>
Mike Ridgeway	John Ahlfeld
<i>Charter Homes</i>	Bill Ebel
Jamie Brubaker	<i>Lancaster EMS Authority</i>
<i>City of Lancaster</i>	Andrew Gilger
Charlotte Katzenmoyer	<i>Lancaster General Hospital</i>
<i>East Hempfield Township</i>	Jan Bergen
John Bingham	Diane Bieber
Dennis Gehringer	<i>Lancaster Township</i>
Heidi Wheaton	Bob Desmarais*
<i>Franklin & Marshall College</i>	Edith May*
Keith Orris	Frank Orban*
<i>High Real Estate Group</i>	<i>Manheim Township</i>
Ben Bamford	Cory Rathman
<i>James Street BID</i>	Carol Simpson
Lisa Riggs	<i>PennDOT District 8-0</i>
<i>Lancaster Arts Hotel</i>	John Bachman
David Stull	Mike Dzurko
<i>Lancaster Chamber of Commerce & Industry</i>	<i>PennDOT Program Center</i>
Tom Baldrige	Jeff Reed
<i>LCSWMA</i>	Angela Watson
Jim Warner	<i>Red Rose Transit Authority</i>
Bob Zorbaugh	Dave Kilmer
	<i>Two Forty Associates</i>
	Jeff LeFever

* Indicates Member Joined the Committee after meeting #3

Over 100 individuals attended the first public meeting held on Monday, October 29th, 2007 at Lancaster General Health Campus. The meeting was set up in an open-house format with informational stations set up to address issues such as land use and traffic data. This meeting was primarily a fact finding session as the study was in its early stage. Speaking individually with residents helped to further clarify the concerns and opportunities in the area. Each attendee was provided with a brief survey that was utilized to prioritize the community's concerns and better understand issues of importance to the community. A copy of the survey is provided in **Appendix D**, and a summary of the survey responses is provided below:

- 42 percent cited general congestion as a major concern
- 15 percent cited the management of Franklin & Marshall growth as a concern
- 8 percent cited the Crossings as a concern

- 7 percent cited pedestrian issues as a problem
- 5 percent cited water quality concerns
- 5 percent cited the intersection of Route 283 and State Road as problematic
- Less than 5% of the respondents indicated concerns with the Independence site, noise and light pollution, impact on property values and bicycle issues.

The second and final public meeting on the Harrisburg Pike Transportation and Land Use Study was held on July 30, 2008 at Liberty Place in the City of Lancaster. The meeting was advertised to begin with the ability to view the information and talk with team members from 6:00 to 7:00 p.m.; a presentation followed by a question and answer period from 7:00 to 8:00 p.m., followed by a second opportunity to talk one on one with the study team from 8:00 to 9:00 p.m. Forty-one persons registered their presence at the meeting.

A PowerPoint presentation was given at 7:00pm. This presentation summarized the entire study from project initiation to recommendations and next steps. The main focus of the presentation was the roadway and multimodal recommendations, smart growth/transportation and access management. Repeated emphasis was placed on multimodal transportation and mixed-use land use patterns. After the presentation a question/answer period followed. The following bullets summarize the main topics discussed.

- Questions and clarification of the recommended roadway improvements at several intersections were provided. It was also mentioned that some of these improvements may not be feasible now, but as redevelopment occurs the space for the improvements may become available.
- There was some confusion on the priority rankings of all the improvements. It was explained that the high priority items in each table are of equal importance. Just because the roadway improvements table come first in the report, doesn't mean those improvements are more important than the multimodal improvements.
- There was much discussion on the State Road/PA 283 interchange being high priority. This interchange has a structurally deficient bridge and has a very high crash rate.



Various Public Meeting Photos.

Source: Taggart Associates.

- Many questions/comments focused on the multimodal nature of the corridor. Incentives such as bicycle, scooter and motorcycle parking should be used. There was some concern for pedestrian crossing a widened Harrisburg Pike, particularly near Long's Park. There were many discussions concerning bicycle traffic using the corridor. Topics such as bike lanes, bike networks, and/or bike trails were reviewed.

While 41 persons registered at the meeting, only twenty persons completed and submitted the questionnaire. The questionnaire with a summary of responses is attached in **Appendix D**. With only twenty questionnaires received compared to the population of the study area, the questionnaire results cannot be regarded as a true representative of the study area population. The key outcomes of the questionnaire is provided below:

- All twenty of the responses agreed that the "Harrisburg Pike is among the area's key multi-modal transportation corridors."
- Nineteen of the twenty persons agreed that the plan "effectively contribute(s) to a better long range future for Harrisburg Pike."
- Nineteen of the twenty persons agreed that Goal 1, "Improve the overall carrying capacity of the Harrisburg Pike Corridor and enhance the safety for all users", offers effective direction for actions to reach the long range vision.
- The biggest division amongst the participants (75%/25%) appears with regard to Goal #2, "Incorporate alternative modes of transportation in new development and redevelopment of the Harrisburg Pike Corridor", offering effective direction for actions to reach the long range vision for the Harrisburg Pike Corridor? Of the 10 comments offered a variety of positions and concerns without an apparent focus.
- The remaining questions dealing with Goals #3 and the various recommendations were uniform in the degree of favorable support for the recommended improvements. Each question had over 85 percent in favor or supporting the issue.
- Of the nine general comments provided at the end of the survey, eight either supported the process or proposed or provided recommendations to implement the recommendations. The final two comments relate to interchanges at Route 30 and PA283/State Road.

3. Information Dissemination

Dissemination of public information regarding the project focused mainly around the Public Meetings. For the Public Meetings, a notice in local newspapers was run approximately ten days prior to the meetings. Additionally, an e-mail flyer was created and sent to the Steering Committee members with the request that they circulate the e-mail to their respective organizations. The Public Meetings were covered by the *Lancaster Intelligencer*, who published articles on October 28 and 30, 2007 and July 28 and 31 and August 5, 2008. The pieces were mostly informational in nature, but did cite the concerns of various citizens. A local television news station, WGAL, also provided coverage of the public meetings.

Additional coverage of the study was included in the James Street Improvement District, the Lancaster County Chamber of Commerce, and the LCPC, who featured the HPTLUS in their respective newsletters. Along with the immediate news coverage relating to this project, several editorials and other news articles concerning other related activities in the corridor (e.g., relocation of the Norfolk-Southern rail yard, Conestoga Crossings conditional use hearings, etc) occurred throughout the life of the project.

CALL TO ACTION

Harrisburg Pike is among the area's key multimodal transportation corridors – a major gateway into the City of Lancaster. It is integral to sustaining the daily movement of people, goods, services – all of which are a vital component of the short and long term economic viability and a familiar but valued quality of life.

In today's environment, nothing ever stays the same, and the only thing that is certain is change.

Change in the local demographics, land use, and travel demands will continue to relentlessly challenge the physical integrity of the Harrisburg Pike infrastructure. Consequently, it is critical to look upon the Harrisburg Pike Transportation and Land Use Study as the impetus to move forward with a sense of urgency and sustained commitment to realize the recommendations contained therein.

IV. SUMMARY

Harrisburg Pike serves a vital role in the everyday life of county residents and provides access for a multitude of regional and local trips with many varied land uses. This report summarizes existing and anticipated future traffic and land use conditions and provides tools and strategies to ensure that traffic needs are met, while respecting a community character that interconnects the unique qualities of urban and suburban land use patterns and contributes to a high quality of life for all residents.

This project has brought together some of the key stakeholders in the Harrisburg Pike corridor to forge a partnership to develop a policy-based approach for managing transportation and land use decisions. On-going communications among the stakeholders, general public and others in the private and public sectors will be necessary to continue the process of implementing the recommendations consistent with this report.

As amended during the September 9, 2008 Steering Committee Meeting, the following motion approving Moving Smarter was unanimously agreed to by those present.

Motion of the Harrisburg Pike Transportation and Land Use Study Steering Committee approving the final draft of Moving Smarter, the Harrisburg Pike Transportation and Land Use Study and further recommending as follows:

- 1) The full study and its accompanying executive summary to be printed in quantities as budgeted and copies made available to the immediately affected municipalities, The Lancaster County Planning Commission, The Lancaster County Metropolitan Planning Organization, the Lancaster County Transportation Authority, the Lancaster Inter-Municipal Committee, and the Pennsylvania Department of Transportation.
- 2) The full study and its accompanying Executive Summary also be published in electronic form on compact disk media and on county and municipal websites.
- 3) That the immediately affected municipalities formally acknowledge and accept Moving Smarter, the Harrisburg Pike Transportation and Land Use Study for use as a Policy Guide for implementation of the recommendations offered by the study.
- 4) That the Lancaster County Planning Commission, The Lancaster County Metropolitan Planning Organization, the Lancaster County Transportation Authority, and the Lancaster Inter-Municipal Committee each formally acknowledge and accept Moving Smarter, the Harrisburg Pike Transportation and Land Use Study for use as a Policy Guide for implementation of the recommendations offered by the study.
- 5) That a steering committee will continue to meet as appropriate and needed to serve as a resource and to discuss the progress of the Study's implementation.

Appendix A
References

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APPENDIX A: REFERENCES

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Appendix B
Definitions

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APPENDIX B: DEFINITIONS

Access Agreement for Full Intersection Signal Locations – A legally binding agreement between municipalities along a defined corridor depicting the location of full intersection signal locations. The municipalities and PennDOT agree to limit the full intersection signals to those depicted locations along the corridor. This technique used in conjunction with other access management tools, reduces the need for access along major roadways, thereby preserving the safety and efficiency of the transportation system.

Access Management Overlay District – Access management overlay districts add special requirements to existing zoning districts. They may be established for a corridor, intersection, or interchange area. This type of overlay districts can be developed to fit the unique characteristics of a particular area or corridor to address concerns regarding safety, access, and traffic flow problems that could be experienced as a result of intense pressures from development. The overlay district may have more restrictive regulations regarding uses, setbacks, location and number of driveways, joints or cross access, and internal circulation. The regulations of the overlay district will generally prevail over the underlying district.

Act 209 Regional Transportation Plan – Act 209 amends the Municipalities Planning Code by adding a new Article (V-A) titled “Municipal Capital Improvement”, which authorizes all municipalities, except counties, to charge transportation impact fees on new development. Mount Joy Township in Adams County, PA is one example of where an Act 209 plan has been implemented.

Capital Improvements Planning (CIP) – The CIP is a document endorsed or approved by the governing body of the municipality that schedules all planned expenditures on capital improvements, usually for a 5 to 10 year period. A CIP sets priorities for project funding and explains how projects will be financed. The CIP can be used to assure that spending policies are coordinated with development planned for in the comprehensive plan, zoning ordinance, and subdivision and land development ordinance.

Carpooling Initiatives – Initiatives at the public or private level to encourage a shared ride by two or more persons traveling to the same or relatively nearby locations.

Conservation Easements – A non-possessory interest land that restricts the manner in which the land may be developed, the purposes of which include returning or protecting natural scenic or open space values of real property; assuring its availability for agricultural, forest, recreational or open space use; protecting natural resources, or maintaining air or water quality.

Context Sensitive Solutions – A process of melding the design of land development, highway, bridge and intermodal projects with consideration of the community values and environmental resources of the area.

Delivery Times and Schedules – A congestion management strategy designed to direct the delivery of goods to businesses during off-peak traffic periods.

Design Standards and Setbacks – A set of guidelines defining parameters to be followed in a roadway, site or building design and development. The specific criteria and limitations placed on roadways, development and uses are intended to protect the public health, safety and welfare.

Driveway Spacing Standards – Driveway Spacing Standards are intended for arterial and major collector roads. Adequate driveway spacing allows greater speeds for through traffic, reduces the number of potential conflict points that must be monitored by motorists, and helps preserve the capacity of the roadway. Spacing standards may be developed based on the posted speed limit of the intersecting roadway and/or its functional classification. Driveway spacing requirements are more difficult to implement in areas that are already developed, such as in commercial areas or corridors, and when there are no supporting land use regulations governing lot frontage or dimensions.

Frontage / Service Roads – A local street or road located on the side of an arterial street whose primary purpose is to provide access to abutting properties while controlling access to and from the arterial street.

In-Fill Development – Development or redevelopment of land that has remained vacant, and/or is under used as a result of the continuing urban development process. These areas are typically served by or are readily accessible to the infrastructure (services and facilities) provided by the applicable local governmental entity. In-fill development provides an attractive alternative to new development by reducing infrastructure expansion costs, and by reducing loss of resource lands to new development and by focusing on strengthening older neighborhoods.

Incentive Zoning – The granting by the approving authority of additional development capacity in exchange for a public benefit or amenity.

Interconnectivity between Land Use Types – Land development patterns that allow access between varying land uses through the use of interconnecting secondary roads, driveways and sidewalks. This reduces the need for access points along major roadways and removes local trips from the regional arterial thereby preserving the safety and efficiency of the transportation system.

Internal Access to Out Parcels and Internal Circulation Systems – For commercial and office developments under the same ownership and consolidated for the purposes of development or phased developments comprised of more than one building site, the municipality should require that the development be served by an internal road that is separated from the main roadway. Internal access reduces the number of direct access locations on major roadways in commercial districts and employment areas, thus reducing the number of conflict locations

Joint Main and Cross Access Driveways – Joint and cross access driveways reduce the number of driveways accessing the roadway, thus reducing the number of conflict areas along the main roadway. They are a safe and more efficient way to provide access to two or more adjacent land

uses. These types of driveways allow the municipality to maintain driveway spacing standards along corridors that have several parcels with limited roadway frontage. For undeveloped parcels, the easements for joint and cross access should be implemented during the land development approval process.

Locally Owned Road Connections – Locally owned roads are defined as every public roadway other than a state highway, e.g. existing streets, lanes, alleys, courts and ways. The number of these road connections to state highways should be managed to reduce the number of conflicts along the state highway.

Multi-Municipal Planning and Zoning – A multi-municipal approach to addressing a broad range of planning and zoning objectives including growth, economic development, infrastructure needs, education, preservation, tourism, recreation and community services. By working with neighboring jurisdictions, a municipality can increase its ability to address planning and zoning objectives that do not start and end within municipal boundaries – for example, traffic control or water and sewer connections.

Official Map – The official map is an effective planning tool to reserve right-of-way for new road alignments and interchanges. In addition, it can be used to reserve right-of-way along existing roadways for turning lanes at intersections, additional through lanes along corridors, and access management techniques such as two-way left turn lanes and non-traversable medians.

The Pennsylvania Municipalities Planning Code (MPC) provides that a municipality may adopt an official map covering the entire municipality, or a portion thereof, to show elements of the comprehensive plan pertaining to public lands and facilities. An official map identifies areas of public interest and need for the purpose of reserving lands for public use. It can be used to implement the transportation network and other community facilities. Section 401(1) of the MPC permits the municipality to represent the following transportation facilities on the official map: Existing and proposed public streets including widening, narrowing, extensions, diminutions, openings, or closings; Pedestrian facilities and easements; and Railroad and transit right-of-way and easements.

Open Space Land Acquisition – Land and water areas acquired for use as active or passive recreation areas or for resource protection in an essentially undeveloped state.

Open Space Zoning / Conservation Design – This technique preserves large open spaces while allowing full-density development. Subdivisions are required to dedicate a significant portion of their unconstrained land to permanent open space uses. House lots, usually for single-family homes, are sited on the remaining parts of the property, where they have views of and access to the open space. The open space is typically owned and managed (according to an approved management plan) by a homeowner association. Other possible owners include land trusts, the municipality, or individuals with large “conservancy lots”. When done, the open space in each new subdivision will ultimately join together to form inter-connected systems of conservation lands. Open space zoning / conservation design can be implemented through a municipality’s

zoning ordinance. The number of dwellings permitted is based on the net acreage of buildable land and the underlying density in the zoning district.

Overlay District - A special Zone where certain additional requirements intended to protect certain critical features or resource are superimposed on the underlying base zoning district. Where regulations differ, the more restricted standards apply.

Park and Ride Facilities – Parking lots or structures located along public transit routes designed to encourage transfer from private automobile to mass transit or to encourage carpooling for purposes of commuting.

Pedestrian / Bicycle Facilities and Connectivity – A right-of-way or easement dedicated for public pedestrian access.

Promote Transit Service – Promote an improved passenger service provided by public, private, or non-profit entities such as the following surface transit modes: commuter rail, rail rapid transit, light rail transit, light guideway transit, express bus, bus rapid transit, and local fixed route bus.

Public Education on Transportation Demand Management (TDM) – TDM consists of actions which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. TDM attempts to reduce the number of vehicles on the roadway during the commuter period and to increase the number in carpools, van pools, buses, and trains, or walking and biking. Other aspects of TDM include reducing the length of trips, moving them to off-peak hours, or eliminating them altogether. Implementation of TDM can reduce dependence on the single-occupant vehicle, thereby reducing traffic congestion, vehicle emissions, and fuel consumption. Some examples of public education on TDM could include the use of the County and Municipal web site, use of materials disseminated to the community advisory committee, educational outreach programs at the schools, and public meetings.

Smart Growth – Smart growth is development that serves the economy, the community and the environment. It changes the terms of the development debate away from the traditional growth/no growth question to “How and where should new development be accommodated?” Smart Growth answers these questions by simultaneously achieving:

- Healthy communities – that provide families with a clean environment. Smart growth balances development and environmental protection – accommodating growth while preserving open space and critical habitat, reusing land, and protecting water supplies and air quality.
 - Economic development and jobs – that create more business opportunities, local tax base improvements, provide neighborhood services and amenities, and create economically competitive communities.
-

- Strong neighborhoods – which provide a range of housing options giving people the opportunity to choose housing that best suits them. Smart growth provides the choice to walk, ride a bike, take transit, or drive. It maintains and enhances the value of existing neighborhoods and creates a sense of community.

Smart growth recognizes the many benefits of growth. It invests time, attention and resources in restoring community and vitality to center cities and older suburbs. Smart growth in new developments is more town centered, is transit and pedestrian oriented, and has a greater mix of housing, commercial and retail uses. It also preserves open space and other environmental amenities. Smart growth recognizes connections between development and quality of life. Some Smart Growth principles are as follows:

- Mix Land Uses
- Take Advantage of Compact Building Design
- Create a Range of Housing Opportunities and Choices
- Create Walkable Neighborhoods
- Foster Distinctive, Attractive Communities with a Strong Sense of Place
- Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas
- Strengthen and Direct Development Towards Existing Communities
- Provide a Variety of Transportation Choices
- Make Development Decisions Predictable, Fair, and Cost Effective
- Encourage Community and Stakeholder Collaboration in Development Decisions.

Smart Transportation – Smart Transportation is a quality of life approach to transportation solutions which, like Smart Growth, supports economic, social, and environmental goals. It supports principles such as community reinvestment, environmental stewardship, and mode choice. Smart Transportation can be defined as transportation which provides choice and convenience, and is coordinated with the way the community is growing. Specific features of Smart Transportation include transit-oriented development, making walking a priority, bicycle friendly communities, and better road designs to fit community needs.

Subdivision and Land Development Ordinances (SALDO) - A local law passed by a municipality to regulate the subdividing and developing of land.

Traffic Calming Techniques on Side Roads – Traffic calming measures are mainly used to address speeding and high cut through traffic volumes on neighborhood streets. These issues can create an atmosphere in which non-motorists are intimidated, or even endangered, by motorized traffic. Additionally, high cut-through volumes become an increased concern when larger commercial vehicles are involved. Along with the additional amount of traffic generated within the neighborhood, cut-through motorists are often perceived as driving faster than local motorists. By addressing high speeds and cut-through volumes, traffic calming can increase

both the real and perceived safety of pedestrians and bicyclists, and improve the quality of life within the neighborhood.

Traffic Incident Management – A planned and coordinated program process to detect, respond to, and remove traffic incidents and restore traffic capacity quickly as possible. This coordinated process involves a number of public and private sector partners.

Traffic Signal Improvements / Coordination – A technique, typically involving the cooperation of neighboring municipalities to locate traffic signals and synchronize the timing between the signals to favor through movements along a major roadway. This ensures continuous a movement of traffic at the desired speed along the roadway.

Transit-Oriented Development Policies – Development policies that promote a mix of densities and uses such as residential, retail office and public institutions within 1/4 - 1/2 miles of a transit stop that can generate sufficient bus ridership to support a frequent and consistent level of transit service.

Transportation Impact Fees – Impact fees may be used for costs incurred for improvements designated in the township's transportation capital improvement program attributable to new development, including the acquisition of land and rights of way; engineering, legal and planning costs; and all other costs directly related to road improvements within the service area or areas, including debt service. Impact fees may not be used for construction, acquisition or expansion of municipal facilities that have not been identified in the township's transportation capital improvement plan; the repair, operation or maintenance of existing or new capital improvements; the upgrade, update, expansion or replacement of existing capital improvements to serve existing developments to meet stricter safety, efficiency, environmental or regulatory standards that are not attributable to new development; the preparation and development of land use assumptions and the capital improvements plan; and road improvements due to pass-through traffic or to correct existing deficiencies.

Appendix C
Sample Access Management Ordinance

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APPENDIX C: SAMPLE ACCESS MANAGEMENT ORDINANCE

Draft-Lancaster County
Access Management Model Ordinance
Developed by Orth-Rodgers Associates, Inc.
November 5, 2007

A. Purpose

This access management ordinance is intended to promote safe and efficient traffic flow on higher order roadways within _____ (Borough/Township), while protecting the rights of abutting landowners to reasonable street access. By reducing the potential for crashes at access points along the corridor and avoiding future degradation of roadway capacity, this access management ordinance serves to promote the public health, safety and welfare of the people of _____ (Borough/Township).

B. Application of Regulations

This ordinance shall pertain to all applications for subdivision and land development approval, or building permits, for lots with frontage along roadways classified as arterial or major collector roadways within _____ (Borough/Township).

_____ (Borough/Township) may grant a modification of the requirements of this ordinance if _____ (Borough/Township) concludes that the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modifications will not be contrary to the public interest and that the purpose and intent of this Ordinance is observed.

Except for those criteria found within this ordinance, Pennsylvania Department of Transportation (PennDOT) criteria as found in Pennsylvania Code 441 shall govern the design of intersections of arterial and major collector roadways with private driveways and with other public roadways.

C. Definitions

Access point – the location of the intersection of a highway, street or driveway with another highway.

ADT Volume – Average Daily Traffic volume, or the number of vehicles passing a single point on a roadway in a 24-hour period adjusted by day of the week and monthly factors.

Band width – the time elapsed between the passing of the first and last possible vehicles moving at the design speed through a coordinated traffic signal system. Band width is expressed as a percentage of the signal cycle in which vehicles on the major street receive a green indication.

Cross access driveway – a service driveway providing vehicular access between two or more contiguous sites so that the driver need not re-enter the public street system.

Curbline opening – the overall opening dimension at the curbline measured between the points of tangency of the driveway radii if curbing exists or the maximum width of opening at the curbline/edge of the roadway if curbing does not exist.

Driveway – every entrance or exit used by vehicular traffic to or from properties abutting a public street or road. This term does not include proposed streets.

Driveway radius – the radius of the curb or pavement at the intersection of the public roadway and the driveway.

Driveway throat – the section of a driveway between the highway right of way and the first internal intersecting driveway within the site.

High volume driveway – a driveway used or expected to be used by more than 1,500 vehicles per day.

Joint access driveway – a driveway connecting two or more contiguous sites to the public street system.

Low volume driveway – a driveway used or expected to be used by more than 25 but less than 750 vehicles per day.

Medium volume driveway – a driveway used or expected to be used by more than 750 but less than 1,500 vehicles per day.

Minimum use driveway – a residential or other driveway which is used or expected to be used by not more than 25 vehicles per day.

Peak hour volume – the numbers of vehicles passing a single point during one hour during a defined peak period of a day, usually the morning or evening commuter peak or the Saturday shopping peak.

PennDOT Highway Occupancy Permit (HOP) – the permit issued by PennDOT to approve any construction, including driveways, within all PennDOT rights of way.

D. Non-Conforming Driveways

Driveways that do not conform to the regulations in this ordinance, and were constructed before the adoption of this ordinance, shall be considered legal nonconforming driveways. However, nonconforming driveway(s) shall be reconstructed to comply with this ordinance if there is a change in use or intensity of the land use, such that the use of the access increases peak hour or ADT volume by 10 percent or more and by 100 daily trips, based on the latest edition of *Trip Generation* published by the Institute of Transportation Engineers or upon other data approved by the Township.

E. Relationship to PennDOT Highway Occupancy Permit

Issuance of a PennDOT Highway Occupancy Permit (HOP) does not guarantee site plan approval by _____ (Borough/Township) nor does it deem the plan in conformance with this ordinance. The HOP submittal to PennDOT should not occur before approval to do so by _____ (Borough/Township). However, upon request of the applicant or request of _____ (Borough/Township), PennDOT may be brought into the review process to reconcile site design and access issues.

F. Number of Driveways

1. One driveway shall be permitted per property. Additional driveways shall be permitted if the applicant demonstrates that:
 - a) The design is in the best interest of efficient traffic operations on the site, including but not limited to reducing delays at a single access point that would otherwise

operate at worse than a Level of Service ‘C’ in rural areas and Level of Service ‘D’ in urban areas, and can improve safety;

- b) The frontage of the property is of sufficient width to permit multiple driveways in accordance with the spacing requirements of Section O.
- c) All driveways on the property will be interconnected with an internal circulation network.

G. Access to Roadways

For properties that abut two or more roadways, _____ (Borough/Township) may restrict access to only one roadway, if all movements can be efficiently and safely accommodated on that roadway and if doing so serves the goal of managing the number of access points and thus better maintains mobility on the restricted roadway. For properties fronting a state roadway and local roadway, access can be restricted to the local roadway notwithstanding the ability to receive a Highway Occupancy Permit (HOP) from PennDOT for access to the state roadway.

H. Driveway radius

- 1. Following are the minimum and maximum driveway radii (in feet), as related to the posted speeds on the accessed street. Table H.1 pertains to land uses with infrequent service by buses and combination trucks. Table H.2 pertains to land uses which are regularly serviced by buses and combination trucks.

Table H.1 Land uses with infrequent service by buses and combination trucks

	Posted speed limit of street being accessed			
	Less than 45 mph		45 mph and greater	
	Min.	Max.	Min.	Max.
Minimum Use	5	15	10	25
Low Volume	10	15	15	25
Medium Volume	15	30	15	50
High Volume	30	50	40	50

Table H.2 Land uses with regular service by buses and combination trucks

	Posted speed limit of street being accessed			
	Less than 45 mph		45 mph and greater	
	Min.	Max.	Min.	Max.
Minimum Use	35	50	40	55
Low Volume	35	50	45	55
Medium Volume	45	55	50	55
High Volume	45	55	50	55

- 2. In urban growth areas or other areas with existing or projected regular pedestrian activity:
 - a. The driveway radius value should be selected from Table H.1 for all land uses, even those serviced on a regular basis by buses and combination trucks. However, the driveway radius value may be selected from Table H.2 if the use of values from Table H.1 is anticipated to regularly impair traffic operations on the abutting public street.
 - b. The driveway radius for high volume uses should be 30 feet or below. However, the driveway radius may be up to 40 feet if a radius of 30 feet or below is anticipated to regularly impair traffic operations on the abutting public street.

3. Notwithstanding any of the above, the applicant shall prepare a truck circulation plan to document that the largest truck that will regularly service the site can be accommodated by the site circulation design and the access design.

I. Driveway throat width

1. Minimum and maximum dimensions for the width of driveways in the throat are provided below. Driveways shall be designed such that the opening at the curbline is no larger than necessary. The maximum desirable curbline opening is 50 feet.
2. The dimensions in the table assume one lane in each direction; engineering judgment should be used to determine appropriate dimensions for multi-lane driveways.

	One-way	Two-way
Min.	10 feet	20 feet
Max.	24 feet	28 feet

J. Driveway throat length

Following is the minimum length of driveways from the public street to an internal driveway or intersection:

Driveway	Length
Minimum use	25 feet
Low volume	50 feet
Medium volume	120 feet
High volume	150 feet

An illustration of driveway radius, width and length is provided in the Appendix, Figure 1.

K. Driveway profile

Driveway grade requirements where curb is not present on the intersecting street:

1. The change in grade between the cross-slope of the connecting roadway or shoulder and the driveway shall not exceed 8%.
2. The driveway grade shall not exceed 8% within 10 ft. of the travel lane for minimum use driveways and within 40 ft. for low, medium and high volume driveways.
3. A 40-foot minimum vertical curve shall be used for a high volume driveway.

Driveway grade requirements where curbs and sidewalks are present:

1. The difference between the cross slope of the roadway and the grade of the driveway apron may not exceed 8%.
2. The driveway grade shall not exceed 8% within 10 feet of the travel lane for minimum use driveways and within 40 feet for low, medium and high volume driveways.
3. If the driveway grade would exceed 8% in the area between the curb and sidewalk, the street side of the sidewalk may be depressed to enable the driveway grade to stay within 8%.
4. The sidewalk cross slope shall be no greater than 1/4 inch per foot. If the sidewalk cross slope exceeds 1/4 inch per foot, the entire sidewalk may be depressed. The longitudinal grade of the sidewalk may not exceed 2 inches per foot.

An illustration of driveway profile is provided in the Appendix, Figure 2.

L. Driveway Channelizing Islands

1. Where it is found necessary to restrict particular turning movements at a driveway due to the potential disruption to the orderly flow of traffic or as a result of sight distance constraints, _____ (Borough/Township) may require a raised channelization island.
2. Raised channelization islands shall be designed with criteria consistent with the latest edition of the AASHTO (American Association of State Highway Transportation Officials) publication, *A Policy on Geometric Design of Highways and Streets*.

M. Driveway Location

Driveways shall be located directly across from a public roadway or private driveway on the opposite side of an undivided roadway where feasible. If it is not possible to align driveways on opposite sides, the centerlines of access points should be offset by at least 150 feet. In no case shall left turns into the driveway be made across a left turn lane serving another driveway or street on the opposite side of the roadway.

N. Safe Sight Distance

1. Safe sight distance shall be available for all permitted turning movements at all driveways onto _____ (Borough/Township) roads, and shall be documented on the site plans.
2. Pennsylvania Code Chapter 441, “Access to and Occupancy of Highways by Driveways and Local Roads,” and PennDOT Pub. 70, “Guidelines for the Design of Local Roads and Streets,” shall be referenced to determine minimum driveway and roadway intersection safe sight distance requirements.
3. All driveways and intersecting roadways shall be designed and located so that the sight distance is optimized to the degree possible without jeopardizing other requirements such as intersection spacing.
4. No waiver shall be permitted for this requirement.

An illustration of sight distance is provided in the Appendix, Figure 3.

O. Driveway Spacing

1. Driveway spacing is measured from the center of one driveway to the center of the next driveway, along the same side of the roadway.
2. The following driveway spacing standards are to be followed for arterial roadways and major collector roads:

Posted Speed (mph)	Minimum Spacing (feet)
30	200
35	250
40	300
45	360
50	425
55	490

3. If these driveway spacing standards cannot be met, a system of joint or cross access driveways, frontage roads or service roads may be required.
4. When possible, all driveways shall be located outside the limits of deceleration and acceleration lanes serving the adjacent driveway or intersection. _____ (Borough/Township) or PennDOT may require acceleration and deceleration lanes of adjacent driveways to be connected to form an auxiliary lane.

5. Pre-existing lots in residential zoning districts, which do not have sufficient lot frontage to meet the above driveway spacing standards, are permitted to install one driveway to serve single-family homes approved for construction.

P. Corner Clearance

1. Driveways on arterial and collector roadways shall meet the following spacing standards from intersecting roadways:

Posted Speed (mph)	Minimum Spacing (feet)
30	200
35	250
40	300
45	360
50	425
55	490

2. If minimum corner clearance standards cannot be achieved due to constraints, the following shall apply in all cases:
 - a. The driveway shall be sited as far from the corner as possible.
 - b. _____ (Borough/Township) may require turn restrictions at the driveway if it is determined that the location of the driveway and particular ingress or egress movements will create safety or operational problems.
 - c. _____ (Borough/Township) may require installation of joint or cross access driveways, or frontage or service roads.

Q. Joint and Cross Access

1. _____ (Borough/Township) may require a joint or cross access driveway in order to achieve the driveway spacing standards of Section O and the corner clearance standards of Section P, or on any property when possible in order to maintain efficient traffic flow on the abutting public roadway.
 - a. _____ (Borough/Township) shall waive this requirement if installing a joint or cross access driveway is not possible. In such cases, the property owner shall sign an agreement to close the permitted driveway and to seek to establish a joint or cross access driveway, if possible, when an adjoining property is developed or redeveloped.
2. Documentation that a joint or cross access driveway is not possible may include, but is not limited to:
 - a. Documentation that a good faith offer to develop a joint or cross access driveway was presented to adjacent property owners, but was declined;
 - b. Topographical conditions or other natural features, or insufficient front yard, that make it impracticable to develop joint or cross access.
3. If a joint or cross access is developed, the property owners shall:
 - a. Record an easement with the deed allowing cross access to and from other properties served by the driveway.
 - b. Record a joint agreement with the deed defining maintenance responsibilities of the property owners along the driveway.
 - c. Record an agreement with the municipality so that future access rights along the driveway are granted at the discretion of _____ (Borough/Township).

R. Driveway Clearance from Interchange Ramps

1. A driveway shall not be permitted on or within an interchange ramp, including the acceleration or deceleration lane.
2. A driveway shall not be permitted within 100 feet in areas classified as urban by PennDOT or 300 feet in areas classified as rural by PennDOT from either the end or beginning of a ramp radius.

S. Internal Access to Outparcels

For commercial and office developments comprised of more than one building site and under the same ownership at the time of application and consolidated for the purposes of development, _____ (Borough/Township) shall require that the development, including all outparcels, be served by an internal drive that is separated from the main roadway. Outparcel access shall demonstrate safe, efficient ingress and egress and avoid queuing across other driveways and parking aisles.

T. Pedestrian Connections

Land uses generating more than 750 vehicular trips per day shall provide pedestrian connections from their side or rear yards to adjoining land uses when possible. The intent of this section is to shorten pedestrian trips between abutting major pedestrian generators, such as shopping centers and multi-family residential developments. This requirement may be waived for connections between major pedestrian generators and properties with single-family and two-family residences. These direct pedestrian connections shall be provided in addition to the installation of sidewalks required along the front of the property.

U. Signalized Intersection Spacing

1. The following table indicates minimum spacing (in feet) for traffic signals for efficient vehicular progression:

Cycle length (sec.)	Speed (mph)						
	25	30	35	40	45	50	55
60	1,100	1,320	1,540	1,760	1,980	2,200	2,430
70	1,280	1,540	1,800	2,050	2,310	2,500	2,640
80	1,470	1,760	2,050	2,350	2,640	2,640	2,640
90	1,630	1,980	2,310	2,640	2,640	2,640	2,640
120	2,200	2,640	2,640	2,640	2,640	2,640	2,640
150	2,640	2,640	2,640	2,640	2,640	2,640	2,640

- a. Warrants for the signalization of an intersection shall be justified by PennDOT Pub. 201M, Engineering and Traffic Studies, with _____ (Borough/Township) concurrence, through a formal municipal resolution to maintain and operate the traffic signal in accordance with the Permit issued by PennDOT.
2. The location of a traffic signal shall result in a minimum band width percentage as indicated in the following table:

Roadway Function	Minimum Acceptable Band Width
Principal Arterial	50 percent
Minor Arterial	40 percent

Collector and Local	30 percent
---------------------	------------

3. The study area for the band width analysis shall include the traffic signal to either side of the proposed signal, and all traffic signals within the coordinated traffic signal system, if a coordinated system exists or is proposed.
4. A waiver from these signal spacing standards may be given to arterial or collector roadways that serve as the main street of a mixed use business district with a traditional grid street network. In these areas, signal spacing of one block length with a minimum of 300 feet may be acceptable, with no minimum bandwidth.

V. Right Turn/ Deceleration Lane

1. Development projects shall require a right turn deceleration lane on the major road at an unsignalized intersection under all of the following conditions:
 - a. When the posted speed on the road is greater than 40 mph;
 - b. The road has average daily traffic volumes of 5,000 or more; and
 - c. There are 40 or more right turns in the peak hour.
2. Following are the minimum deceleration lengths on roadways with a grade of 2% or less. These lengths include both the taper and the full-width deceleration lane:

Speed (mph)	Deceleration Length (feet)
35	220
40	275
45	360
50	425
55	510

- a. For roads with grades greater than 2%, the deceleration lengths shall be multiplied by the following factors:

Slope	Upgrade	Downgrade
3% to 4%	.9	1.2
5% to 6%	.8	1.35

3. Deceleration lanes are not required on roadways with a posted speed of 40 mph or less; however, where deceleration lanes are installed on such roadways, they should be at least the length indicated in the table.
4. Where the width of the roadway right-of-way is insufficient to permit construction of the right turn/ deceleration lane, the property owner shall provide any necessary right-of-way. Where the lot frontage is insufficient to permit installation of a deceleration lane of the recommended length, the property owner may be requested to set back the front curb for the length of the property if development on the adjacent property is eventually anticipated.

An illustration of a deceleration lane is provided in the Appendix, Figure 4.

W. Left Turn Lane

Signalized intersections shall require the installation of a left-turn lane when a capacity analysis indicates that the operation of an intersection, approach, or movement will operate at Levels of Service ‘E’ or ‘F’ and the operation of the intersection, approach or movement can be improved with the installation of one or more left turn lanes.

APPENDIX

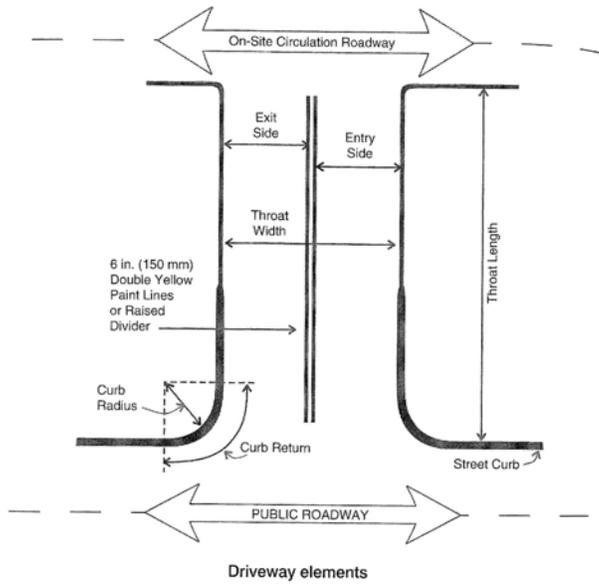


Figure 1.

Driveway Profile

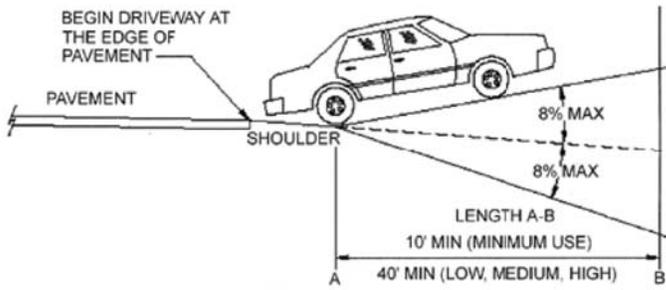


Figure 2.

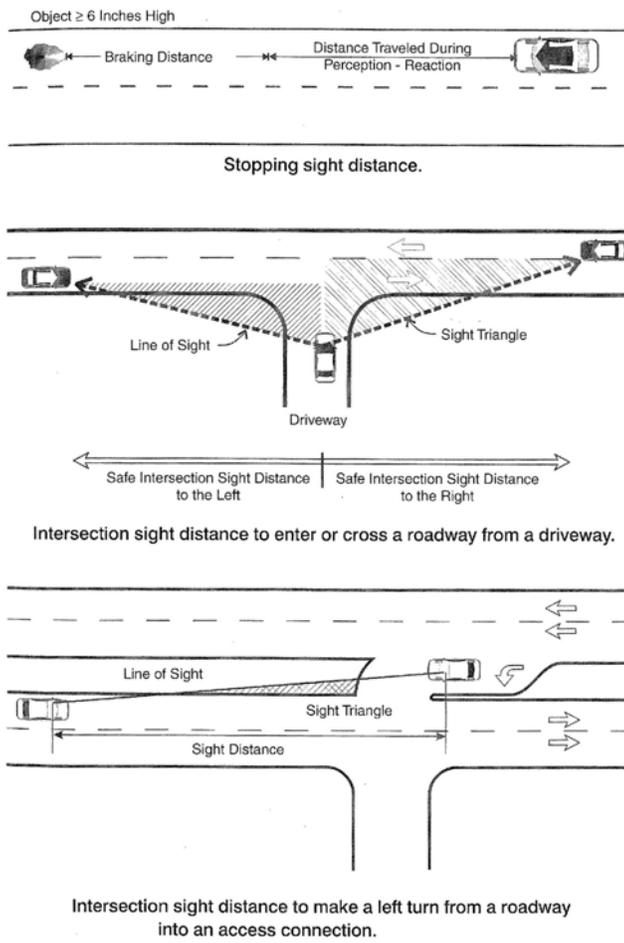


Figure 3.

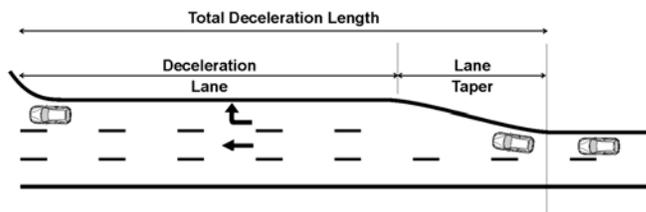


Figure 4.

Appendix D
Public Meeting Survey Forms

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Harrisburg Pike Transportation and Land Use Study
Public Meeting #1
October 29, 2007

Do you live within the study area? (The area map at last station can assist you with this)
Yes___ No___

What transportation or future land use issues concern you most within this corridor?
When describing an issue, cite the location by one or more intersections; briefly describe
the problem (congestion, sight distance, accidents, safety of bicyclers, pedestrian
crossing) and any solutions you might feel are appropriate (please use other side if you
need additional room).

1.

2.

3.

Quality Assurance: To help us provide the best meeting possible in the future, please rate
each of the following from 1 (not good/useful) to 5 (excellent/very useful):

Location _____ Staff _____ Materials _____

Comments: _____

If you would like to receive announcements of future meetings and findings, please fill
out the following:

Name: _____

Address: _____

Email: _____

**HARRISBURG PIKE TRANSPORTATION AND LAND USE STUDY
PUBLIC MEETING QUESTIONNAIRE RESPONSE SUMMARY
JULY 30, 2008**

1. Which municipality do you live in? _____

2. Do you agree that Harrisburg Pike is among the area's key multi-modal transportation corridors-a major gateway into the City of Lancaster? Yes No

Comments:

- **Pedestrian access and safety are high points**
- **So are Lititz & Fruitville Pikes, PA 272, US 222 & New Holland Pk., all of which pass through Manheim Township**

3. Corridor Vision – *Harrisburg Pike will represent the standard for a Lancaster County mixed-use transportation network by inviting opportunities for all forms of travel, aligning the flow of the Pike to the extraordinary concentration of major businesses and county-wide community assets, and encouraging environmentally-friendly movement of people, goods, and services.*

In your opinion, does this vision effectively contribute to a better long range future for Harrisburg Pike?
Yes No

Comments:

- **If implemented as 'for all' and 'environmentally-friendly'**
- **Vision should include pedestrians and bikes**
- **We need to ensure we move from vision to action**
- **Start with multi-modal transportation, set an example for the region**
- **Will the aesthetics vision be the same for Harrisburg Pike and US 30?**
- **Too much traffic, too much development! Where does it stop?**
- **Thanks for being proactive**
- **Not all forms of travel**

4. Project Goal #1 – *Improve the overall carrying capacity of the Harrisburg Pike Corridor and enhance the safety for all users.*

In your opinion, does Goal #1 offer effective direction for actions to reach the long range vision for the Harrisburg Pike Corridor?
Yes No

Comments:

- **Emphasis needs to be on more than just more vehicle accommodation**
- **Extra turn lanes are a must**
- **Safety issues for pedestrian trips (access management & ADA compliance)**
- **Traffic management, yes. Additional overdevelopment, no.**
- **This sounds like we're turning Harrisburg Pike into a highway - the opposite of what we should do**
- **Long range vision reached due to the mixture of land use**
- **Add sidewalks and bike paths**

5. Project Goal #2 – *Incorporate alternative modes of transportation in new development and redevelopment along the Harrisburg Pike Corridor.*

In your opinion, does Project Goal #2 offer effective direction for actions to reach the long range vision for the Harrisburg Pike Corridor? Yes No

Comments:

- **This is necessary**
- **How will this be done?**
- **Need bike lanes and transit stops**
- **Encourage developers to be open-minded, better marketing of available non-vehicular/multi-modal resources**
- **Marketing campaign for bus use**
- **Busses and other alternate modes of transportation should have their own lane to improve traffic flow**
- **How do we separate people from their automobile?**
- **Not sure - bicycles and pedestrians do not mix well with cars and trucks!**
- **I rode a bike to work for 29 years, but only rode a bike on the area from Dillerville road to Longs Park once!!!**
- **Median strips should never have been!!**

6. Project Goal #3 – *Preserve the unique qualities of the urban and suburban land patterns and the community values and environmental resources of the project area.*

In your opinion, does Project Goal #3 offer effective direction for actions to reach the long range vision for the Harrisburg Pike Corridor? Yes No

Comments:

- **What does this mean?**
- **Lacks clear direction**
- **Parks and pedestrian travel is important to preserve the qualities of the area**
- **How does adding more lanes, more traffic help preserve what we have?**
- **Pathways for walking and bikes should be defined separate from 3 & 4 lane highways**
- **Harrisburg Pike doesn't have 'unique qualities of the urban and suburban land patterns' now and will just get less from this plan**

7. Do you agree with the Anticipated Land Use/Land Cover Plan?

Yes No

Comments:

- **Not sufficient planning for safe cycling or walking**
- **While based on assumptions that may not happen, it is a very good starting place**
- **High density should be considered to conserve open space**
- **Too much traffic, too much development! Where does it stop?**
- **Downtown will become a ghost town as all commercial sites outside the city are developed!**
- **I think the 3 sectors are well thought out, the boundaries make sense**

8. Do you agree with the Recommended Roadway Improvements contained in the Recommended Transportation Plan? Yes No

Comments:

- **Concerned with emphasis on extra lanes**
- **Need bike lanes and transit**
- **Harrisburg Pike/US 30 SPUI (new interchange) will certainly help**
- **Better LOS at PA 283 interchange, with signalization will encourage driver to reroute**
- **Will the signal coordination be hardwire interconnect and will it be above or underground?**
- **Do enough to handle traffic but not to just overcrowd it again**
- **US 30 interchange and The RR Bridge create real challenges**
- **I am concerned about curb cuts between President Ave. and Race Street, especially left turns out of businesses**

9. Do you agree with the Multimodal Recommendations contained in the Recommended Transportation Plan? Yes No

Comments:

- **No provision for bicycle use**
- **Needs additional work**
- **Make non-vehicular transportation safer/more available**
- **Additional parking lots on Harrisburg Pike with pedestrian access for events at Longs Park**
- **I rode a bike to work for 29 years, but only rode a bike on the area from Dillerville road to Longs Park once!!!**
- **More focus on non-vehicular travel is needed**

10. Do you agree with the contents of the Planning and Funding Tool Box? Yes No

Comments:

- **Liberty Street to Harrisburg Pike?**
- **Find developer funding whenever possible**
- **Wrong projects are emphasized**

11. Additional comments:

- **State Road bridge doesn't relate to Harrisburg Pike corridor. It appears to be in this plan for political reasons**
- **Consider a SPUI interchange at PA283/State Road**
- **A very good Start!**
- **Funding is the most difficult aspect of implementation**
- **Multiple municipal agreement involves provincial, not-in-my back-yard, protect my fiefdom attitudes.**
- **This whole issue really needs to be dealt with and advanced**
- **Is the proposed left-turn lane at Good Drive in addition to the existing one?**
- **Bike lanes are a good idea, bikers are safer on these roads than winding back roads**
- **Consider elevated pedestrian crossings**

- **RRTA should be commended for its support for multi-modal transport with bicycles**
- **Where are all the people this corridor represents?**
- **Need more cross roads/streets to get traffic off and on Harrisburg Pike to calm traffic by reducing the volume of cars**
- **Connecting Liberty Street with College Ave will lead to increased traffic though an old residential neighborhood**
- **18 lights - set the right turns to green right arrow when left turns have a green left arrow.**
- **Consider Race Street extension to north to connect with McGovern Ave. extension to west**
- **Improvements are needed to the US 30 interchange even without the Crossings Projects**
- **Need a bike lane from F&M to Park City**

