



US 340 Corridor East Gateway Plan



DRAFT Received by Jefferson County Commission on March 8, 2012

Jefferson County
Departments of Planning and Zoning
116 East Washington Street, Suite 200
P.O. Box 338
Charles Town, WV 25414
Phone: 304-728-3228
Fax: 304-728-8126

Planning E-mail: planningdepartment@jeffersoncountywv.org

Zoning E-mail: zoning@jeffersoncountywv.org

Web: [www.jeffersoncountywv.org/government/
departments/planning-and-zoning-department.html](http://www.jeffersoncountywv.org/government/departments/planning-and-zoning-department.html)

Table of Contents

	Executive Summary.....	6
Section 1.0	INTRODUCTION	9
Section 1.1	Plan Vision.....	9
Section 1.2	Background.....	9
Section 1.3	Definition of Plan Area.....	10
Section 1.4	History of the US 340 Corridor Study.....	11
Section 1.5	Plan Methodology.....	13
Section 2.0	PUBLIC OUTREACH STRATEGY	15
Section 2.1	Public Meetings.....	16
Section 2.2	Other Outreach Methods.....	23
Section 3.0	EXISTING CONDITIONS	25
Section 3.1	Community Services and Infrastructure.....	25
Section 3.2	Economic Conditions.....	28
Section 3.3	Environmental and Natural Resources.....	29
Section 3.4	Historic Resources and Viewshed.....	32
Section 3.5	Land Use and Zoning.....	34
Section 3.6	Parks, Trails, Greenways.....	39
Section 3.7	Transportation.....	41
Section 4.0	GOALS AND OBJECTIVES	61
Section 4.1	Community Services and Infrastructure.....	61
Section 4.2	Economic Opportunities.....	63
Section 4.3	Environmental and Natural Resources.....	64
Section 4.4	Historic Resources and Viewshed.....	65
Section 4.5	Land Use and Zoning.....	67

Section 4.6	Parks, Trails, Greenways.....	69
Section 4.7	Transportation.....	70
Section 5.0	PLAN RECOMMENDATIONS	74
Section 5.1	Community Services and Infrastructure.....	74
Section 5.2	Economic Opportunities.....	77
Section 5.3	Environmental and Natural Resources.....	79
Section 5.4	Historic Resources and Viewshed.....	80
Section 5.5	Land Use and Zoning.....	82
Section 5.6	Parks, Trails, Greenways.....	96
Section 5.7	Transportation.....	99
Section 6.0	IMPLEMENTATION STRATEGIES	126
Section 6.1	Introduction.....	126
Section 6.2	Implementation Tools.....	128
Section 6.3	Table of Recommendations.....	131
Section 7.0	APPENDICES	138
Appendix A	Technical Advisory Committee and Citizens Advisory Committee.....	139
Appendix B	Major Subdivisions within Corridor.....	140
Appendix C	Land Use Scenarios.....	142
Appendix D	County Commission and Planning Commission Members.....	147
Appendix E	Map Disclaimer and Map Sources.....	148
Appendix F	Definitions.....	149

	LIST OF TABLES	
Table 1	2004 Comprehensive Plan Recommendations List of Priorities.....	12
Table 2	Planning Process Milestones.....	13
Table 3	2012 School Enrollment Statistics.....	26
Table 4	Brunswick Line Eastbound Monday through Friday only.....	43
Table 5	Worker Inflow/Outflow for the East Gateway Corridor.....	44
Table 6	Summary of East Gateway Study Survey Responses.....	46
Table 7	Priority Levels for Transportation Needs.....	49
Table 8	Un-Signalized Intersection Approaches of Concern.....	52
Table 9	Analysis Results of Future Traffic Growth Scenario.....	57
Table 10	Benefits of Transportation Options.....	58
Table 11	Summary of Recommended Roadway Improvement Projects.....	103 104
Table 12	Improvement Project Types of Un-Signalized Intersections.....	108
Table 13	Transit Improvement Recommendations.....	121
Table 14	Where Workers Are Employed Who Live in East Gateway Corridor.....	122
Table 15	Estimated Cost of Recommended Improvements.....	125
	LIST OF FIGURES	
Figure 1	Overview of Plan Recommendations.....	7 8
Figure 2	US 340 Corridor East Gateway Planning Process.....	14
Figure 3	What We Heard on March 26, 2011.....	17
Figure 4	What We Heard on June 16, 2011.....	18 19
Figure 5	What We Heard on September 17, 2011 Pros and Cons.....	20
Figure 6	What We Heard on September 17, 2011 Key Points.....	21
Figure 7	What We Heard on December 6, 2011.....	22
Figure 8	MetroQuest Web-Based Tool.....	23
Figure 9	Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEMPO) US 340 Corridor Survey (October 2002).....	45
Figure 10	Summary of US 340 Traffic Speeds by Season and Time Period.....	48
Figure 11	The Transportation Planning Process.....	100
Figure 12	Improvements Most Needed Along the US 340 Corridor.....	101
Figure 13	Harpers Ferry Bridge.....	102
Figure 14	Examples of Advanced Warning Flashers.....	106
Figure 15	Examples of Restricted Crossing U-Turn (RCUT) Intersections.....	109
Figure 16	Stressing Options and Attractiveness of New Roadway Design.....	112
Figure 17	US 340 Right-of-Way.....	112
Figure 18	Flowing Springs Road / WV 9 / WV 9 Ramp.....	119
Figure 19	Bakerton Road Railroad Underpass.....	120
Figure 20	Components of Streetscape Design.....	124

	LIST OF MAPS	
Map 1	US 340 Corridor East with Study Areas.....	10
Map 2	Fire Company Response Areas.....	27
Map 3	Land Cover Green Infrastructure (GI).....	29
Map 4	Land Cover (University of Vermont).....	30
Map 5	Hydrologic Features.....	31
Map 6	Historic Resources.....	32
Map 7	Existing Land Use.....	34
Map 8	Large Properties with US 340 Frontage.....	37
Map 9	2011 Zoning Map Jefferson County, WV.....	38
Map 10	Parks and Trails.....	39
Map 11	Transportation System.....	41
Map 12	Pan Tran Orange Route.....	43
Map 13	Existing Average Daily Traffic Volumes.....	47
Map 14	Fatalities within the US 340 Corridor East Gateway	50
Map 15	Peak Congested Speeds and Traffic Queuing on US 340.....	54
Map 16	Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEMPO) Regional Travel Demand Model.....	56
Map 17	Future Land Use.....	83
Map 18	Proposed Projects.....	105
Map 19	US Customs & Border Protection (USCBP Proposed Intersection Improvements) – Option 1.....	110
Map 20	US 340 Turning Lane Extension (WV 9 to Jefferson Terrace Road).....	111
Map 21	Recommended Improvements Near US 340 and Millville-Bakerton Roads Intersection.....	113
Map 22	Additional Frontage Roads on Western Portion of US 340.....	114
Map 23	Alternative East-West Roadway Linkages in Northern Sections of Corridor.....	115
Map 24	Additional Roadways Connecting Keyes Ferry Road to US 340 and to Somerset Blvd.....	116
Map 25	Additional Access Roads to Shenandoah Springs Road.....	117
Map 26	US 340 and Old Country Club Road Intersections.....	118
Map 27	Major Subdivisions.....	140
Map 28	Alternative Land Use Scenario 1: Growth within the Urban Growth Boundary.....	143
Map 29	Alternative Scenario 2: Planned Mixed-Use.....	144
Map 30	Alternative Scenario 3: Full Build-Out.....	146

Executive Summary

The US 340 Corridor – East Gateway Plan was created to guide Jefferson County leadership, businesses, residents and tourists to achieve a shared community vision of the future of this vital corridor. The County's 2004 Comprehensive Plan recommended that "the County should study the US 340 Corridor, including land use, viewscape, economic development and traffic design and management in order to create an effective strategy for the long term management of this important mixed-use corridor; initiate a cooperative planning effort with the WV DOT to improve the US 340 Corridor, and to improve traffic flow, appearance and land use coordination in the US 340 Corridor east of Charles Town."

In 2010, the Jefferson County Commission initiated this small area planning effort as an opportunity to engage the public in a process to develop a common vision to guide future land use and zoning decisions, encourage a vibrant economy, and manage the related transportation impacts. This stretch of the US 340 Corridor is an important gateway into the County and the

State as well as a prime commuter route. Development along the corridor has a significant impact on the flow of traffic for residents, employees and visitors. The intent of this plan is for it to act as a small area plan for this seven mile stretch of road and to be incorporated into the 2014 Comprehensive Plan when it is adopted.



The analysis of existing conditions fell into six broad categories that were utilized throughout the five public meetings and two web-based outreaches at which issues and opportunities, and recommendations and implementation strategies were discussed. These

categories include Land Use/Zoning; Transportation; Community Services/Infrastructure; Economic Development; Historic Resources/Viewsheds; and Parks, Trails and Greenways. An additional category of Environmental and Natural Resources was added later in the process due to public comments related to Environmental and Natural Resources that were not adequately addressed in the other categories. Primary issues identified related to traffic flow and safety; the need for better trail access along the corridor; and the need to better guide the relationship between land development patterns and traffic issues.

Based on public input received, three alternative land use scenarios were developed for discussion and consideration. The three scenarios had various levels and intensities of urban level development at various locations along the corridor. The land use alternatives were analyzed through an exercise at the September meeting and through one of the two web-based

input opportunities. The preferred land use alternative was one that primarily focused the highest intensity development inside the Charles Town and Ranson Urban Growth Boundaries (UGBs), where growth can be served by existing utilities and transportation infrastructure, but allows for high-quality development to occur along the US 340 Corridor at key intersections. The preferred scenario supports the concept that the area outside of these growth boundaries and the noted commercial nodes should be retained as agricultural land, open space, or low-density residential uses. This preferred growth scenario acts as the vision for this planning document.

The choice of the preferred land use alternative allowed the development of goals and recommendations related to the other categories previously discussed. A brief overview of the recommendations which are detailed in this plan document is as follows (Figure 1).

Community Services/Infrastructure

- A. Enhance Emergency Services
- B. Enhance Area Schools and Libraries
- C. Utilize and Enhance Existing Water / Sewer Service
- D. Promote Expanded Health Services
- E. Improve Wireless Service in the 340 Corridor

Economic Opportunities

- A. Promote Economic Development along the US 340 Corridor
- B. Promote Business Development and Retention

Environmental/Natural Resources

- A. Preserve Sensitive Natural Resources from the Negative Impacts of Development
- B. Preserve and Improve the Scenic Quality Along the Corridor including Rural/Agricultural and Scenic/Natural Areas.

Historic Resources and Viewshed

- A. Protect Historic Structures/Resources
- B. Enhance Cultural/Heritage Activities
- C. Protect the Rural and Historic Viewshed/Landscape
- D. Create Gateway/Entrance

Land Use

- A. Retain Open Space and Land in Agricultural Use
- B. Encourage Development Within Existing Urbanized Areas and at Specific Commercial Nodes
- C. Permit Mixed-Use Development in Targeted Areas
- D. Encourage Appropriate Development Opportunities in Rural Areas
- E. Improve Planning Coordination with Other Agencies

Parks, Trail and Greenways

- A. Improve Existing Trail Network
- B. Beautify the US 340 East Corridor
- C. Develop Additional Parks and Enhance Existing Parks
- D. Improve Signage and Mapping
- E. Identify Financial Resources for Passive and Active Recreational Opportunities

Transportation:

- A. Maintain and Enhance the Efficiency and Capacity of the Developed and Underdeveloped Segments of the Corridor
- B. Promote Traffic Safety
- C. Improve Traffic Flow
- D. Promote Transportation Alternatives
- E. Develop an Access Management Strategy in Conformance with State Law
- F. Improve Mobility for Pedestrians, Hikers, and Bicyclists
- G. Provide Safe and Convenient Transportation Opportunities

Figure 1: Overview of Plan Recommendations

The key to the effectiveness of this planning effort is the review and adoption of the Plan by the Jefferson County Commission as well as implementation of the recommendations. The policies proposed will be implemented in part through adoption of the future land use map using land use categories related to this corridor. Further, implementation will occur through revisions to the Zoning Ordinance and Subdivision Regulations, including a recommended design overlay. Some of these implementation strategies provide additional opportunities for citizen participation in working towards the preferred vision.



1.0 Introduction

The purpose of the US 340 Corridor East Gateway Plan is to develop a shared community vision for the future of this vital corridor. This segment of US 340, between Charles Town/Ranson and Harpers Ferry/Bolivar, is an important artery in Jefferson County. It acts not only as the East Gateway into Jefferson County, but also the State of West Virginia. It is important to ensure that future development along the US 340 corridor is appropriate for the area's historic and rural context, while maintaining adequate transportation facilities. The 2004 Comprehensive Plan identified this corridor as an important planning priority.

1.1 Plan Vision

The vision for the US 340 Corridor East Gateway Plan is to attain a balanced approach to the built and natural environment by creating an effective strategy to promote the long-term management of the corridor. A mixed land-use concept will lay the groundwork to deliver several opportunities for residents and tourists to gather and socialize in restaurants, cultural and recreational facilities, farmers markets, nationally significant historical parks, and other areas that serve to bring lifelong and new residents together. This plan builds upon the cultural, historical, and social diversity of the current and future residents of the corridor. The plan envisions a blend of old and new businesses and providing quality experiences.

The plan includes the following seven categories:

1. Community Services/Infrastructure
2. Economic Conditions
3. Environmental/Natural Resources
4. Historic Resources/Viewshed
5. Land Use and Zoning
6. Parks, Trails and Greenways
7. Transportation



1.2 Background

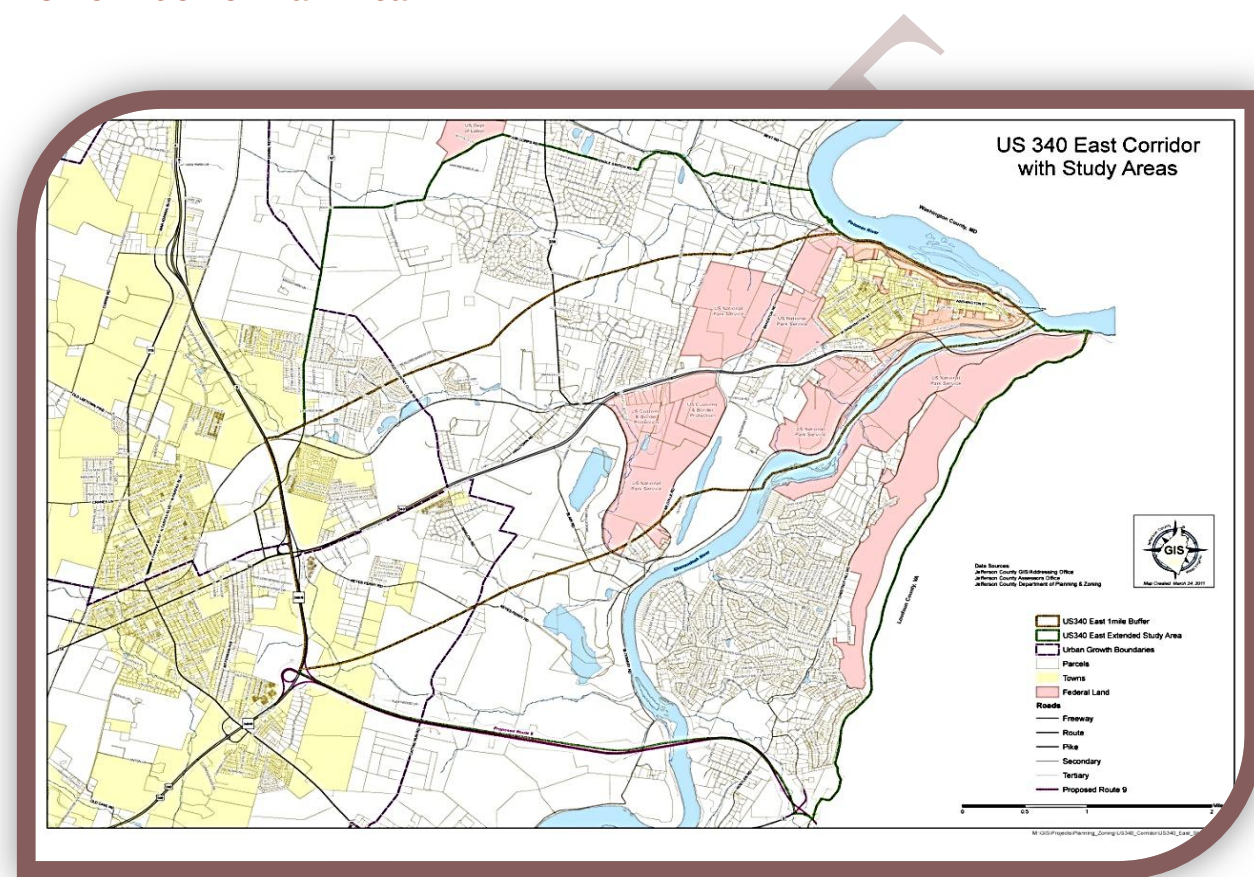
In 2010, the Jefferson County Commission authorized the Planning and Zoning Department to conduct a collaborative process for the development of the US 340 Corridor East Gateway Plan. The purpose of the plan is to create an effective strategy for the long term management of the corridor to promote economic opportunities and to improve the quality of life for lifelong residents, newcomers, visitors, and tourists. The plan contains a vision for the future and

supporting goals, objectives, and recommendations that honor Jefferson County's multifaceted character.

This small area plan will be an amendment to the Comprehensive Plan.

Because the study area includes Bolivar, Charles Town, Harpers Ferry, Ranson, and Jefferson County, the planning process must continue to be highly participatory. Collaboration among County-wide departments and public outreach is paramount as implementation proceeds.

1.3 Definition of Plan Area



Map 1: US 340 Corridor East with Study Areas, Source: Jefferson County, WV GIS/Addressing

The Route 340 Corridor for this study extends from the WV 9 Bypass in Charles Town east to the two-lane segment near Harpers Ferry and the Shenandoah River Bridge, extending approximately 1 mile north and south of US 340 (Map 1). The length of the corridor is 7 miles.

There are two boundaries that frame the study area. The first boundary is one mile on either side of the corridor. This is considered the primary impact area. The second boundary, defined as the scenic view, is much larger and follows the new WV 9 to the south and Job Corps Road and Engle Switch Road to the north.

This segment is an important artery as it acts as a gateway into West Virginia from Maryland and Virginia. The US 340 corridor boundary is highlighted within the Management of the Built

and Natural Environment section of the 2004 Jefferson County Comprehensive Plan. With respect to transportation improvements and planning, US 340 gains funding by the Hagerstown/Eastern Panhandle Metropolitan Organization planning area.

This area is populated with a mixture of single family residences, townhomes, commercial and retail spaces, agricultural land, open space, federal agencies and national park lands. The corridor is situated a short drive from Harpers Ferry National Historical Park, Appalachian National Scenic Trail, American Public University System (APUS), Shepherd University, National Conservation Training Center (NCTC), Charles Town Hollywood Casino, historic Harpers Ferry, Bolivar, Shepherdstown, Antietam National Battlefield, and Loudoun County wine country. Located within the corridor is the Brunswick/MARC line which provides easy access to Washington D.C. via the stations at Harpers Ferry and Duffields. The corridor is within approximately 60 miles of three major airports: Baltimore-Washington International (BWI), Reagan National (DCA), and Washington-Dulles International (IAD).

Being accessible to a variety of vast and diverse locations, the corridor is experiencing growth pressures.

1.4 History of the US 340 Corridor Study

Jefferson County 2004 Comprehensive Plan

The 2004 Comprehensive Plan recommends a study of the US 340 corridor from the Shenandoah River Bridge to the Charles Town bypass. The precise name given to this area in the Comprehensive Plan, "*Historic Gateway Special Study Area*," is itself an indication of the nature of the corridor. The Plan summarizes particular elements of the corridor that should be considered. Recommendation 2.25 of the Comprehensive Plan notes:

"The County should study the US 340 corridor, including land use, viewscape, economic development and traffic design and management in order to create an effective strategy for the long term management of this important mixed-use corridor."



During the course of the US 340 Corridor East Gateway Study, care has been taken to honor the elements noted in the Comprehensive Plan in addition to other components that effect the US 340 corridor. Along the 7 mile corridor there are unique and identifiable areas that are distinct from other sections of the corridor. At the western edge of the corridor, there is an urban style development pattern. That end of the corridor has land within the jurisdiction of Jefferson County and both the cities of Charles Town and Ranson, which have the right and

ability to annex additional area. The eastern end of the corridor is dominated by a significant amount of property under the control of the National Park Service and the U.S. Customs and Border Patrol. A vast majority of federally owned land is comprised of open space highlighting the history of Harpers Ferry and the Battle of Harpers Ferry.

Acknowledging the unique character of the corridor, the US 340 Corridor East Gateway Study has been guided by the follow notation found in the 2004 Comprehensive Plan describing the *"Historic Gateway Special Study Area"*:

"...the purpose of this study is not to turn US 340 into an undeveloped parkway. Rather, it is stated here that the purpose of the study is to identify ways to ensure that the residential and commercial development that occurs along this corridor is designed and constructed in such a way where the development does not cause visual blight and major traffic problems along the eastern entrance corridor to the State."

The following is an excerpt from the 2004 Comprehensive Plan Recommendation List of Priorities (Table 1):

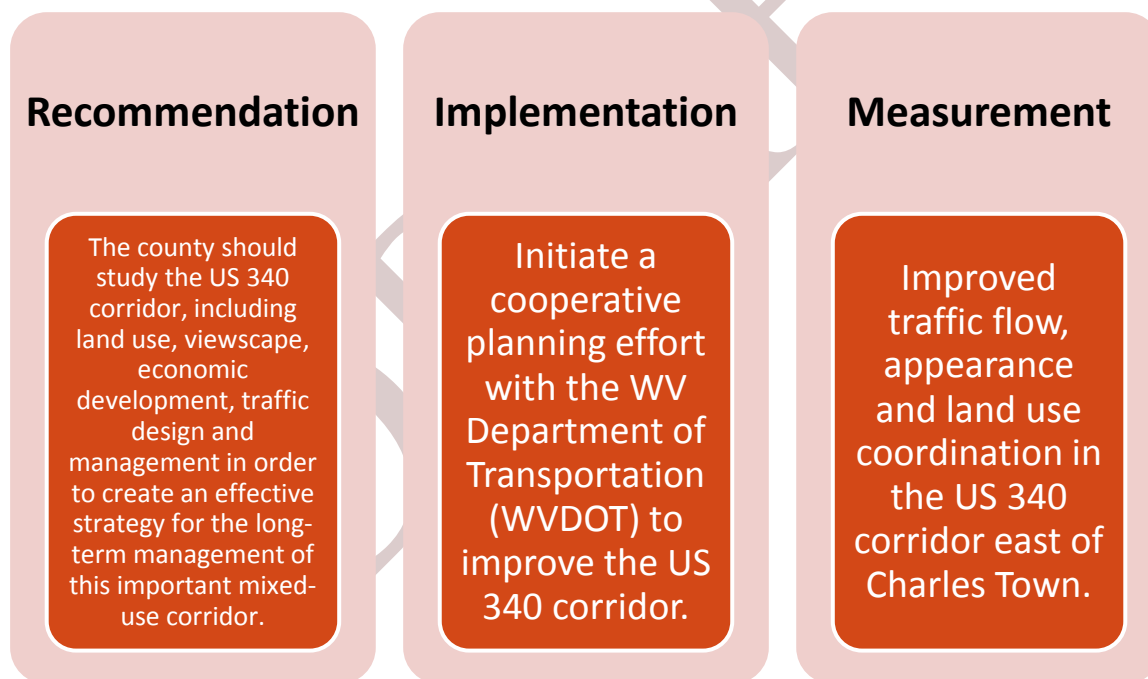


Table 1: 2004 Comprehensive Plan Recommendation List of Priorities

1.5 Plan Methodology

In 2010, the Jefferson County Commission authorized undertaking the US 340 Corridor East Gateway Plan, which included planning activities such as community outreach, research, and evaluation of land use and transportation scenarios for the plan (Table 2).

The Jefferson County Departments of Planning and Zoning led the planning and outreach effort for the corridor plan, with the support of the GIS/Addressing Department and the Engineering Department. Additionally, the Departments of Planning and Zoning worked directly with transportation consultants, Michael Baker Jr., Inc. (Baker) and the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) in assessing future transportation needs in support of the East Gateway Plan for the US 340 Corridor. The Departments of Planning and Zoning held five public workshops, and conducted regular meetings with the Technical Advisory Committee and Citizens Advisory Committee.

Baker teamed with MetroQuest, a firm with expertise in public involvement software, to assist Jefferson County in obtaining public insights, analyzing land use scenario impacts related to transportation, and conveying analysis results to key stakeholders and the public. This project focuses on unique methods for public involvement and visioning using MetroQuest customized software through a web-based portal. Baker performed the regional travel demand modeling for the Long-Range Transportation Plan (LRTP) that included developing the latest land use / demographic data for Jefferson County and integrated the travel model and simulation tools for this study. The planning process chart outlines major project milestones with the 2 year approved schedule. (Figure 2).

2010	PREPLANNING
•Transportation consultant research and selection •Review of 2004 Comprehensive Plan •Overview of existing conditions •Identification of strengths and weaknesses •Establish planning team	
2010-2012	PLANNING
•Project approved by County Commission •Research and preparation of small area plan •Public outreach meetings •Technical and Citizen Advisory Committee meetings •Transportation consultant meetings	
2012	REVIEW AND ADOPTION
•Joint County Commission/Planning Commission Work Session •County Commission review •Planning Commission review •County Commission adoption	

Table 2: Planning Process Milestones

US 340 Corridor East Gateway Planning Process

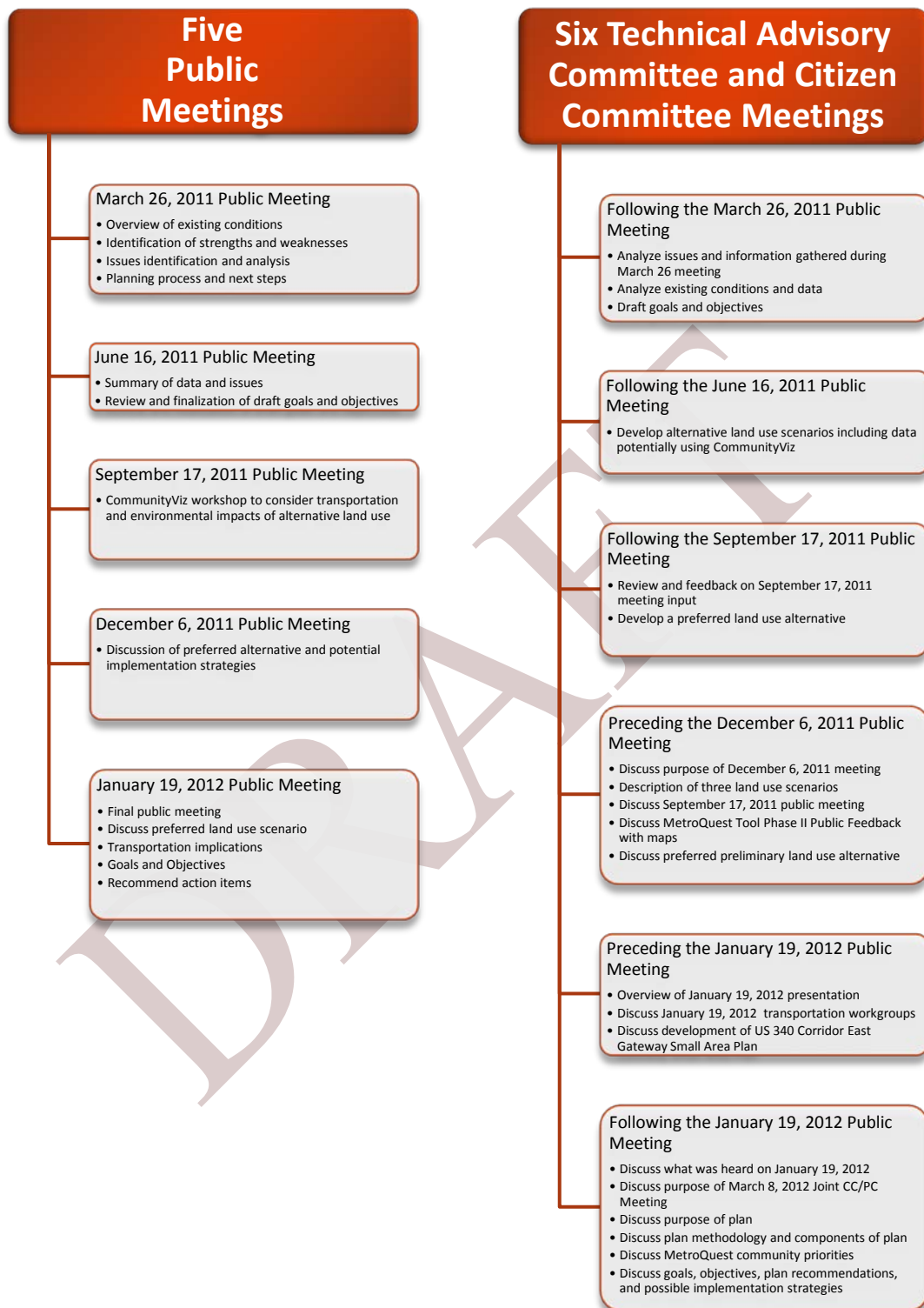


Figure 2: US 340 Corridor East Gateway Planning Process

2.0 Public Outreach Strategy

Public outreach and citizen participation were instrumental in this planning effort. Various methods were utilized to raise awareness to the US 340 Corridor study, attain comments in an open manner, and encourage citizens to work in groups to build relationships and commitment to the project.

In late 2010 and early 2011, the preliminary planning began for the US 340 Corridor East Gateway Study. A Technical Advisory Committee, made up of active working Jefferson County professionals from the Jefferson Public Service District, Jefferson County Economic Development Authority, Charles Town and Ranson Planners, National Park Service, U.S. Customs and Border Patrol, Freshwater Institute and Jefferson County GIS Department was created in the Fall of 2010 to assist in very preliminary components of the study. Their roles included providing their technical expertise as applicable to gather information to begin the study.



Once the technical and preliminary planning elements had been determined, the process of soliciting public involvement began.

2.1 Public Meetings

March 26, 2011

This first public kick-off meeting for the US 340 Corridor East Gateway Study was highly attended by over 130 stakeholders. This meeting presented an overview of the upcoming planning process for the study. Stakeholders were asked to provide comments on the following 6 broad topics:

- ✓ **Community Services**
- ✓ **Economic Development**
- ✓ **Historic Resources and Viewsheds**
- ✓ **Land Use and Zoning**
- ✓ **Parks, Trails and Greenways**
- ✓ **Transportation**

Those who attended the meeting were asked to discuss growth along the corridor, identify and discuss issues, determine strengths and weaknesses of the corridor, brainstorm possible solutions and alternative development and transportation patterns. Attendees were also asked why they moved to this area, live in this area or work within this area. The input received from the public was significant and valuable and allowed for a starting point for the process. Stakeholders who attended this meeting were asked to leave their contact information if they were interested in being part of a Citizens Advisory Committee (CAC). The Citizens Advisory Committee (CAC) was established to assist Planning and Zoning Staff to analyze issues, process information gathered at each meeting, examine existing conditions and data, and draft goals and objectives.



What We Heard on March 26, 2011 (Figure 3):

- Community Services
 - Improve Wireless Service in the 340 Corridor
 - Enhance Area Schools and Libraries
 - Emergency Services
 - Water / Sewer Service
 - Health Services
- Economic Opportunities
 - Promote Economic Development along the US 340 Corridor
 - Promote Business Development, Attraction, and Retention
- Historic Resources and Viewshed
 - Protect Historic Structures/Resources
 - Enhance Cultural/Heritage Activities
 - Protect the Rural and Historic Viewshed / Landscape
 - Create Gateway/Entrance
 - Improve Planning Coordination with Other Agencies
- Land Use Planning
 - Preservation
 - Allow New, Compatible Development
 - Minimize Development in Key Areas
 - Enhance Planning Efforts
- Parks, Trails and Greenways
 - Improve Existing Trail Network
 - Beautify the US 340 East Corridor
 - Develop Additional Parks and Enhance Existing Parks
 - Improve Signage and Mapping
- Transportation
 - Promote Traffic Safety
 - Improve Traffic Flow
 - Promote Transportation Alternatives
 - Improve Mobility for Pedestrians, Hikers, and Bicyclists
 - Truck Traffic Compatibility

Figure 3: What We Heard on March 26, 2011

June 16, 2011

At the June 16, 2011 meeting, the purpose of the meeting was to summarize the information gathered at the March meeting and ask participants the following questions:

1. What are some features of the US 340 planning area that should be preserved?
2. Are there aspects of the planning area that you feel should change?
3. Looking ahead twenty years, how do you envision the US 340 planning area?
4. What kinds of land uses do you see along this corridor in the year 2030?

Attendees were assigned to different tables and each table had a map of the corridor. They were then asked to draw on the map using the information gathered at the March meeting and questions listed above as guidance as they detailed information on the maps.

What We Heard on June 16, 2011 (Figure 4):

- What are some features of the US 340 planning area that should be preserved?
 - Farms and farmland
 - Historical elements
 - Open spaces
 - Scenic vistas
 - Cultural features (flea market, farm market, etc.)
 - National Park
 - Local small businesses (economic activities)
- Are there aspects of the planning area you feel should change?
 - Improve road safety and traffic congestion
 - Improve / create service roads
 - Build additional parking for commuters and tourists
 - Create pedestrian / bike corridor
 - Promote mixed-use / cluster development
 - Create architectural review board and design standards
 - Vegetative buffers along US 340 with trees, shrubs, grasses, etc.
 - Comprehensive and integrated planning process
 - Uniform application of zoning regulations
- Looking ahead 25 years, how do you envision the US 340 Planning Area?
 - Integrated planning techniques/smart growth
 - Commercial design appropriate for historic and rural context
 - New businesses (entertainment, grocery, office/medical parks, artisans' farmers markets, B&B's, etc.)

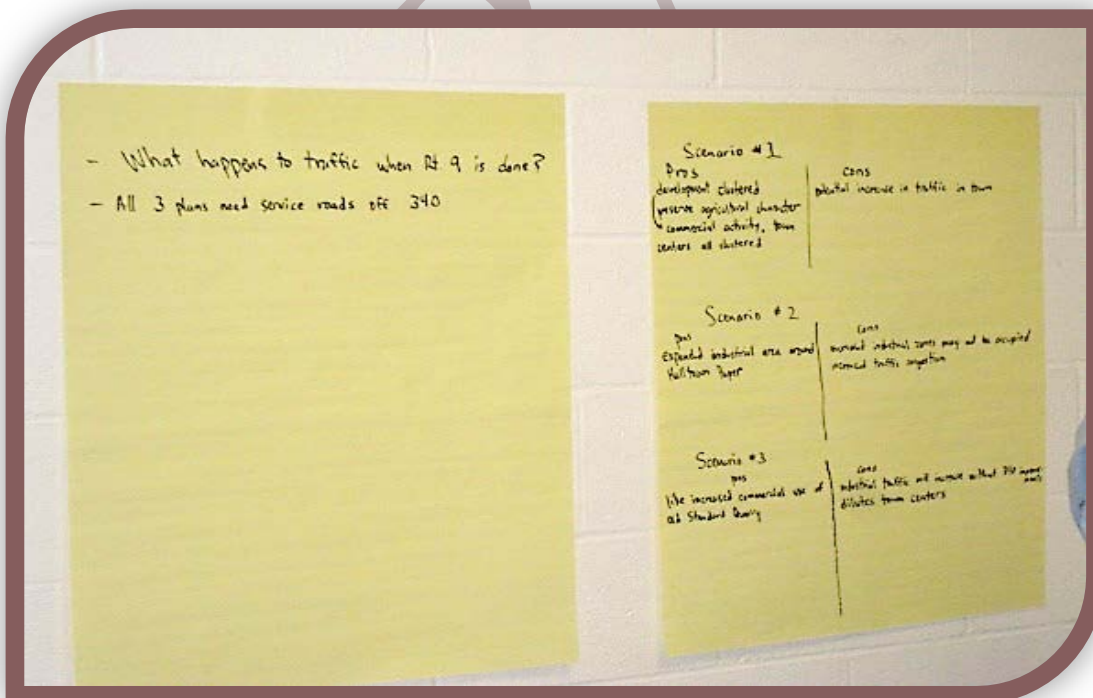
- Renovation of vacant commercial properties
- Development concentrated at major intersections
- Bike and walking trails between Charles Town/Ranson, Harpers Ferry/Bolivar and Shepherdstown
- Enhanced public transportation
- More historical and educational tourism

Figure 4: What We Heard on June 16, 2011

September 17, 2011

In studying public input gathered at the March and June meetings and the MetroQuest online participation tool, three broad land use scenarios were developed. Those scenarios are (1) Growth within the Urban Growth Boundary, (2) Planned Mixed Use and (3) Full Buildout. The goal of this meeting was for the public to respond to the three scenarios developed, choose their preferred scenario and make amendments to their chosen scenario. Additionally citizens were asked to discuss potential transportation and environmental impacts of alternative land use scenarios. Participants were asked the following questions when reviewing the three scenarios:

1. What were the pros and cons of each scenario?
2. Looking ahead 25 years in the future, which of the 3 scenarios best describes your vision of how the US 340 corridor should grow and develop?
3. What changes or modifications would you make to the preferred scenario?



What We Heard on September 17, 2011:

➤ What were the pros and cons of each scenario?

Scenario 1 – Pros • Green space	Scenario 1 – Pros • Development clustered commercial activity, cluster town centers	Scenario 1 – Pros • No traffic increase • Preserves more of the rural character • AG lands maintained
Scenario 2 – Pros • Elements that attract tourists • Planned communities that don't go outside, increasing RT 340 traffic • More realistic • Appreciate existing homeownership • No residential next to industrial	Scenario 2 – Pros • Expanded industrial area around Halltown Paper	Scenario 2 – Pros • Adequate industrial space • More jobs
Scenario 3 Pros - • Commercial close to US 340	Scenario 3 – Pros • Increased commercial (office/employment) use of Old Standard Quarry)	Scenario 3 – Pros • More redevelopment • More jobs from businesses
Scenario 1 – Cons • Unrealistic to current land uses	Scenario 1 – Cons • Potential increase in traffic in town • 3 acres per house is too much land • Max lot size of 1 acre	Scenario 1 – Cons • Must drive further for services • Increased public funding would be necessary
Scenario 2 – Cons • Move low density away from US 340 corridor • Need more frontage roads • Move low density on Old Standard Quarry/commercial interests	Scenario 2- Cons • Increased industrial zones may be occupied • Increased traffic congestion	Scenario 2 – Cons • Not enough AG lands • Traffic increase in proportion to residential • More expensive intersection improvements needed
Scenario 3 - Cons • No residential adjacent to industrial-commercial • Add recreational/commercial to river areas.	Scenario 3 – Cons • Industrial traffic will increase without 340 improvements • Dilutes town centers	Scenario 3 – Cons • Lost unique rural character • Decrease in air quality/environmental degradation • Increase traffic congestion

Figure 5: What We Heard on September 17, 2011 Pros and Cons

- Looking ahead 25 years in the future, which of the three scenarios best describes your vision of how the US 340 corridor should grow and develop?
 - Of the four break out groups, two groups selected the Planned Mixed Use scenario and 2 groups selected the Growth within the Urban Growth Boundary scenario.
- What changes or modifications would you make to the preferred scenario (Figure 6)?

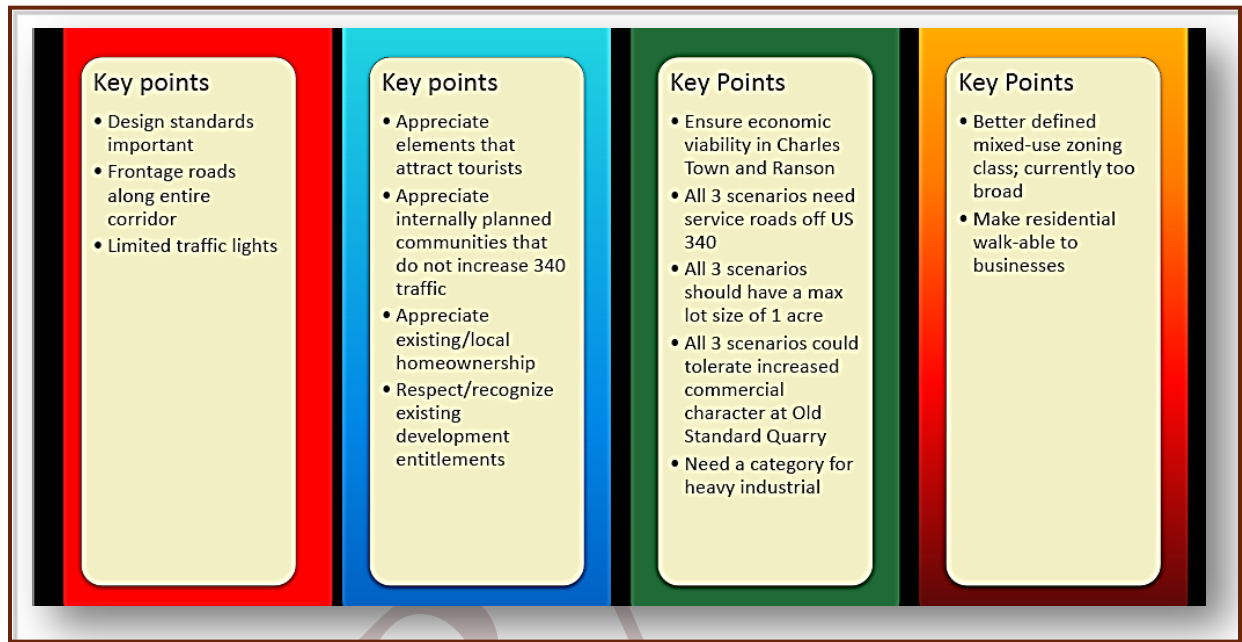


Figure 6: What We Heard on September 17, 2011 Key Points

From this meeting and the use of public comment from the MetroQuest website, the three scenarios were further refined to create one preferred land use scenario, which is discussed below.

The TAC/CAC convened two additional times to discuss an alternative land use scenario and next steps.

December 6, 2011

The purpose of the December 6th meeting was to present one preferred land use scenario, developed from all the public comment received from the previous 3 outreach meetings and the two different versions of the MetroQuest. Attendees were asked to ensure that the preferred land use scenario was in keeping with the public input. The following questions were asked to guide their participation:

1. List any priorities and/or concepts that are MISSING from this Preferred Land Use Scenario map.
2. List any CONCERNS you foresee with this Preliminary Preferred Alternative map.
3. List 2-7 possible PARTNERS that can support the goals of the corridor study (individuals, local groups/schools, nonprofits, local, state, and/or federal agencies; other organizations).

What We Heard on December 6, 2011 (Figure 7):

- Generally, participants stated that the preferred alternative represented previous public input. There were a few minor comments that were suggested and staff made amendments to the preferred land use scenario. Those suggested changes resulted in the Final Land Use Map, discussed in the Land use Recommendations section of this plan. Comments at this meeting included:

- Re-evaluate mixed use density ranges; consider increasing residential and commercial percentages
- Retain existing residential development rights
- Nice balance of proposed land-use throughout the corridor
- Landscape buffers
- Design standards
- Cluster development in residential areas
- Bike/walking trails
- Preservation is needed near Millville Road and US 340

Figure 7: What We Heard on December 6, 2011

consultants to discuss the Final Land Use Scenario, transportation priorities and implications, and recommended action items.

January 19, 2012

This purpose of this meeting was to present the Future Land Use Map that had been developed and refined during the previous ten months of public involvement, and also to present the preliminary transportation recommendations. Michael Baker, Inc., the transportation consulting firm, described results of the preliminary modeling of the corridor and outlined possible solutions. The consultants also discussed potential transportation funding strategies and described how state transportation projects are selected. Attendees were asked to prioritize a list of 30 potential transportation improvements, which were suggested at previous public meetings.



March 8, 2012

The draft US 340 East Corridor Gateway Plan was presented to a joint County Commission and Planning Commission on March 8, 2012.

2.2 Other Outreach Methods

In addition to the public meetings described above, the Outreach Strategy involved three major components:

MetroQuest – A Web-Based Interactive Tool

MetroQuest software platform is a web-based tool (Figure 8) that can be accessed via the internet by stakeholders and the general public. The web-based tool allowed users to share

insights and recommendations regarding the future vision of the corridor. To save costs, the tool utilized concepts and interface designs that MetroQuest had already developed for other clients across the country.

The key components of MetroQuest tool were to (1) allow users to rank key land use and transportation priorities, (2) allow users to provide transportation and land use comments and attach geographically to the map, (3) provide survey questions for transportation and land use.



Figure 8: MetroQuest Web-Based Tool

Media/Website/E-Mail Distribution

The media was used to publicize the planning and public outreach process. It included press release communications to major regional newspapers prior to each of the five public meetings and in-person media interviews. For this project, a website was created to host all public meeting agendas, presentations, maps, and outcomes. An e-mail distribution list was created to communicate repeatedly with interested and new stakeholders. Additionally, over 1,800 post cards were mailed to all property owners within the 1-mile boundary of the US 340 corridor.

Community Events and Public Outreach

Planning and Zoning staff participated in several community events, including Charles Town Heritage Festival, Jefferson County Day and Jefferson County Fair. The Citizen Advisory Committee members provided outreach to friends, family and neighbors. Planning and Zoning staff also attended five public meetings, and led intermittent technical and public advisory committee meetings throughout the planning process.

DRAFT

3.0 Existing Conditions

As part of the background for this plan, staff examined existing conditions for the planning area. Members of the Technical Advisory Committee also assisted in this effort, and the GIS/Addressing Department produced numerous maps relating to specific topic areas.

The following seven topical categories are discussed and organized by alphabetical order. There is no hierarchical order to this list.

3.1 Community Services and Infrastructure

Water and Sewer

The principal water and sewer provider in the US 340 Corridor is the Jefferson County Public Service District (JCPSD). The JCPSD is authorized to service all unincorporated areas of Jefferson County. The JCPSD currently serves areas of Charles Town, Ranson and additional areas along US 340 to Shepherdstown Pike (Rt. 230). There JCPSD does have the ability to expand there service area along the entire corridor. The development of Sheridan Estates, which includes Chickamauga Drive, Lookout Mountain Court and Five Forks Drive is served by Old Standard, LLC. While Old Standard, LLC only services Sheridan Estates, the treatment plant could handle additional capacity. The County Commission appoints the three-member PSD board.

Other water and sewer providers in the US 340 area include the City of Charles Town, the Harpers Ferry Corporation, and Jefferson Utilities (a privately owned, public water utility; does not provide sewer).

Significant wastewater treatment plants near the US 340 corridor are owned by the City of Charles Town (1.75 million gallons per day or MGD); PNG Gaming at Ranson, also known as Hollywood Casino at Charles Town Races (0.225 MGD); and the Harpers Ferry-Bolivar PSD (0.3 MGD). Wastewater from Charles Town, Ranson and the Jefferson County P.S.D. is treated at the Charles Town plant. Additionally, a wastewater plant owned by Old Standard, LLC is located near the south end of the Old Standard Quarry Lake.

It is anticipated that many of these plants will require updates to address increased flows from future developments and to comply with federal Chesapeake Bay requirements.

In recent years, the PSD proposed a major wastewater treatment project known as the Flowing Springs Sewer Project. The proposed project would have entailed a one million gallon per day wastewater treatment plant adjacent to the Halltown paperboard plant to serve the Flowing Springs drainage shed. However, in August, 2011, the West Virginia Public Service Commission ruled against allowing the development of the plant, based on projections of cost and anticipated need for the plant. The plant would have allowed the equivalent of 1,400 homes now receiving treatment at the Charles Town wastewater treatment plant to be diverted to the new plant for treatment. The plant was also intended to serve subdivisions located on Flowing Springs Road.

Wireless Services

There are three cell phone towers within the US 340 Corridor Study Area. One tower is located off Keyes Ferry Road, one is located near Prospect Avenue in Harper's Ferry, WV and one is located off Potomac Street in Harper's Ferry, WV.

Schools

Schools within the study area include two elementary schools (Driswood and C.W. Shipley) and one Middle School (Harpers Ferry). Table 3 below provides enrollment statistics for 2012.

C.W. Shipley Elementary School	• 395 students
Driswood Elementary School	• 501 students
Harpers Ferry Middle School	• 387 students

Table 3: School Enrollment Statistics

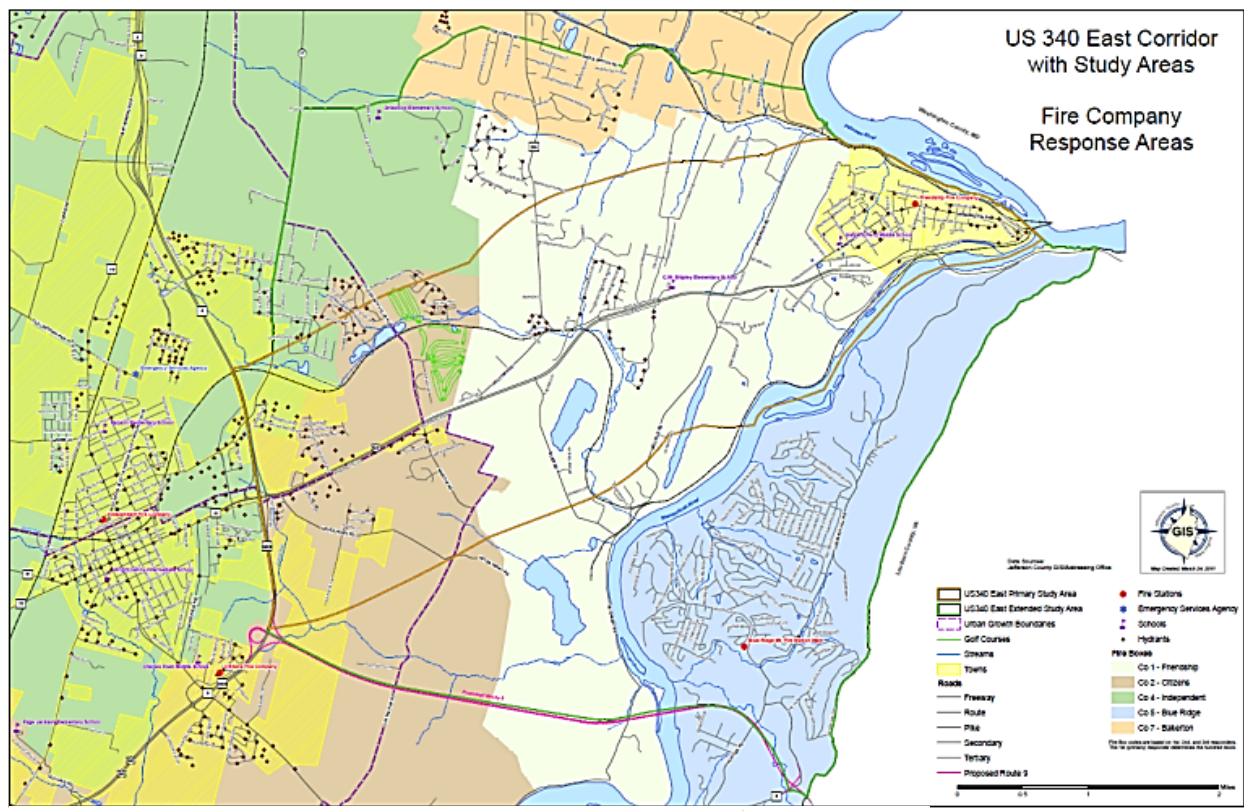
Libraries

The two libraries near the US 340 study area are the Old Charles Town Library (which is funded through a private endowment fund) and the Bolivar-Harpers Ferry Public Library.

Fire

The study area (Map 2) includes portions of the service areas of several volunteer fire companies (Citizens, Blue Ridge, Independent, Friendship, and Bakerton).

Friendship Fire Company in Harpers Ferry is seeking an expanded facility, and plans to build a new fire station on land provided by the US Customs and Border Patrol.



3.2 Economic Conditions

Currently, the US 340 corridor is host to a diverse mix of existing economic activity. The study area is significantly influenced by Jefferson County's role as a tourist destination. The elements of tourism near the corridor include entertainment tourism in the form of the Hollywood Casino at Charles Town Races, heritage tourism involving the Harpers Ferry National Park and other noteworthy historic sites, and recreational tourism associated with the County's natural features and rivers. Jefferson County's tourist activity greatly exceeds tourism levels for any other county in the State of West Virginia in terms of dollars spent on tourism-related activities.

The Federal Government has a strong economic impact on the US 340 corridor, with the notable presence of facilities for the US Customs and Border Patrol and the National Park Service. Additionally, a large, viable and active quarry is located within the one mile study area. Halltown is home to a 130-year-old paper plant that continues to thrive. The corridor is also home to several active farming operations.

A number of commercial uses are also located along the corridor. Much of the commercial space along the corridor is occupied by retail uses, and the majority of this commercial area is located within the Urban Growth Boundaries of Charles Town and Ranson. This area is characterized by a traditional pattern of strip mall development. While most of the commercial developments along the corridor are active, viable uses, there are also opportunities for redevelopment in some locations.

The communities of Bolivar and Harpers Ferry provide a blend of unique destination shops and restaurants. While these services tend to be oriented to tourists at the Harpers Ferry National Park, local residents also benefit from the richness these establishments provide to the County.

While closed at this time, the Hilltop House Hotel in Harpers Ferry has traditionally been a regional attraction for diners and those seeking lodging.

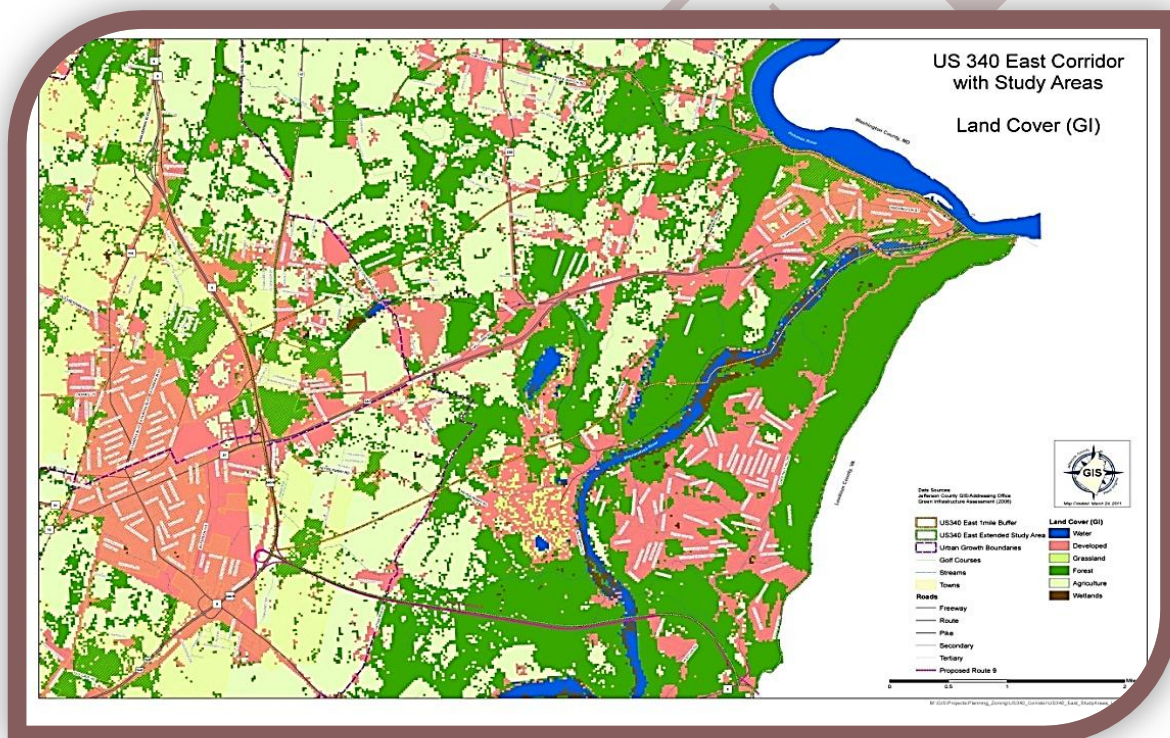
The Brunswick line of the MARC commuter train – with stations located in Harpers Ferry and Duffields – provides another form of connection to the economic opportunities located in the Washington D.C. area.

3.3 Environmental and Natural Resources

Existing conditions data for the County's environmental and natural resources was acquired through coordination with the Technical Advisory Committee. Two Jefferson County Commission projects provided the land cover data used to analyze existing landscape conditions; the Green Infrastructure Study (Freshwater Institute, 2007) and the Urban Tree Canopy (UTC) and Land Cover Assessment (University of Vermont, 2010).

Green Infrastructure

The US 340 East Corridor Study Area Land Cover Green Infrastructure (GI) (Map 3) illustrates an aerial picture of this part of Jefferson County, West Virginia. It was created using data from a 2006 Green Infrastructure (GI) Assessment funded by the Jefferson County Commission. This map of the US 340 Corridor Study Area divides land cover into six categories: Water, Developed, Grassland, Forest, Agriculture, and Wetlands.



Map 3: Land Cover (Green Infrastructure), Source: Jefferson County, WV GIS/Addressing

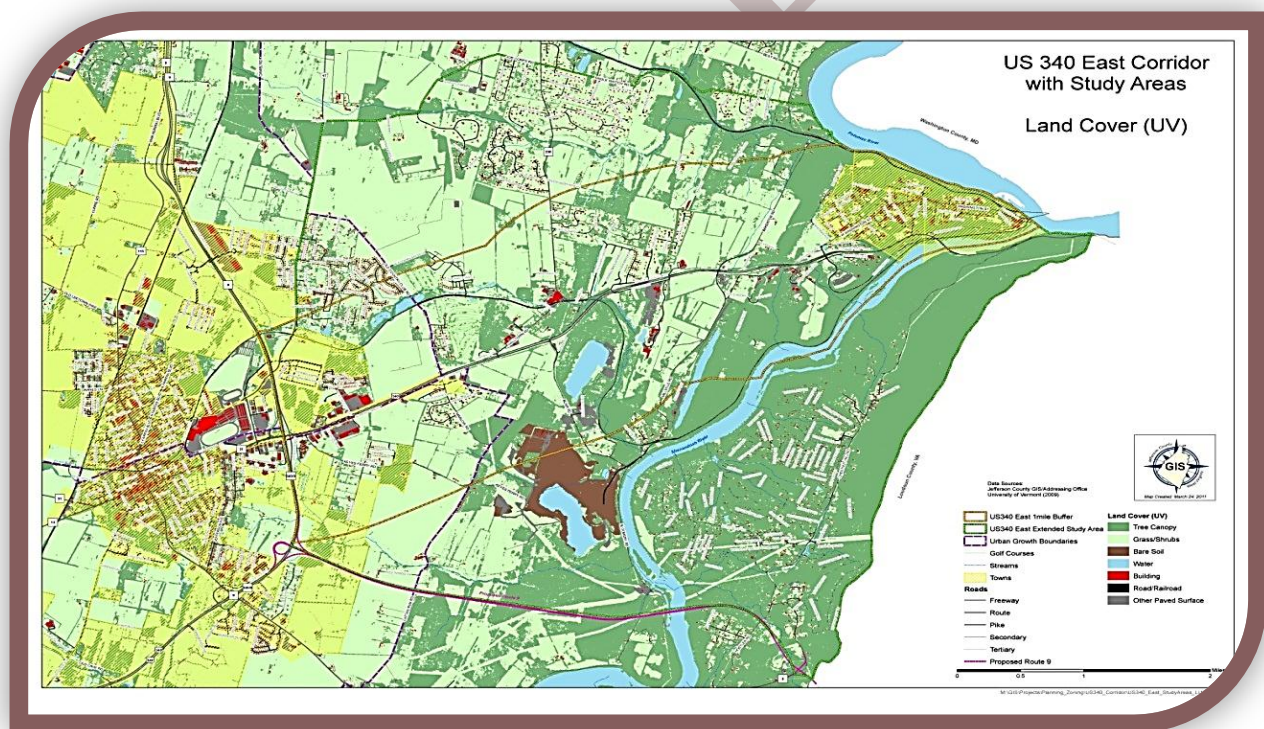
The majority of the study area is covered in Agriculture. The next largest category of land cover is Developed land. The third most expansive land cover type in the US 340 Corridor Study area is Forest followed by Wetlands and Water.

Land Cover

A Jefferson County Urban Tree Canopy (UTC) assessment was completed by the University of Vermont's (UVM) Spatial Analysis Laboratory in January 2010, while under contract to Jefferson County. This County-wide study, the largest of its kind in the U.S. at that time, utilizes the U.S. Forest service's premier UTC assessment protocol.

The US 340 Corridor East Gateway Study Area is the location of a variety of land cover types. The Land Cover (Map 4) was created using data collected by the University of Vermont in 2009. Land cover types found within the US 340 Corridor Study area are:

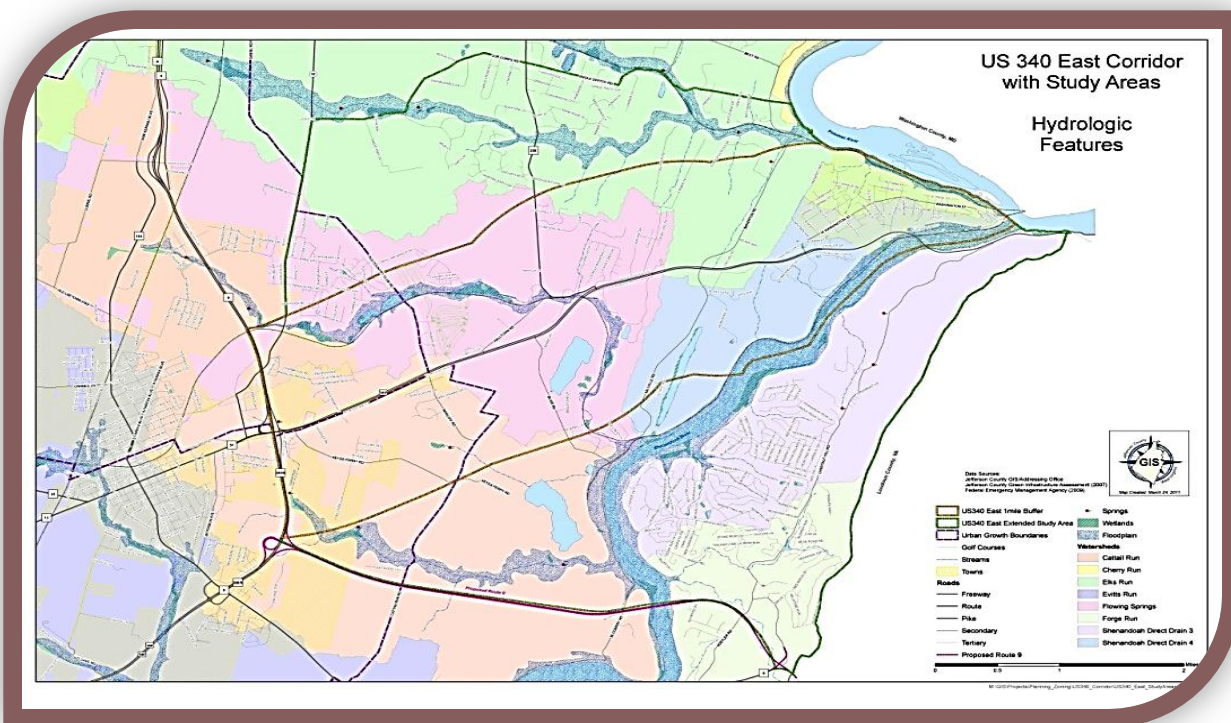
- Tree Canopy
- Grass and Shrubs
- Bare Soil
- Water
- Building
- Road and Railroad
- Other Paved Surface



Map 4: Land Cover (University of Vermont), Source: Jefferson County, WV GIS/Addressing

The most expansive land use type is the Grass and Shrubs category. This reflects the historical land use which was agrarian based. The second largest land cover group is Tree Canopy. Bare Soil, Water, Building, Road and Railroad, and Other Paved Surface are distributed fairly evenly over the County.

The geology of Jefferson County is distinct karst topography. Karst is a geologic formation shaped by soluble bedrock. One of the major features of karst topography is the presence of limestone caverns, formed by groundwater cutting through the rock. Other features include vertical shafts, sinkholes, reappearing springs, inconsistent surface water flow, and tendency for a decline in water quality due to lateral movement of water from many sources.



Map 5: Hydrologic Features, Source: Jefferson County, WV GIS/Addressing

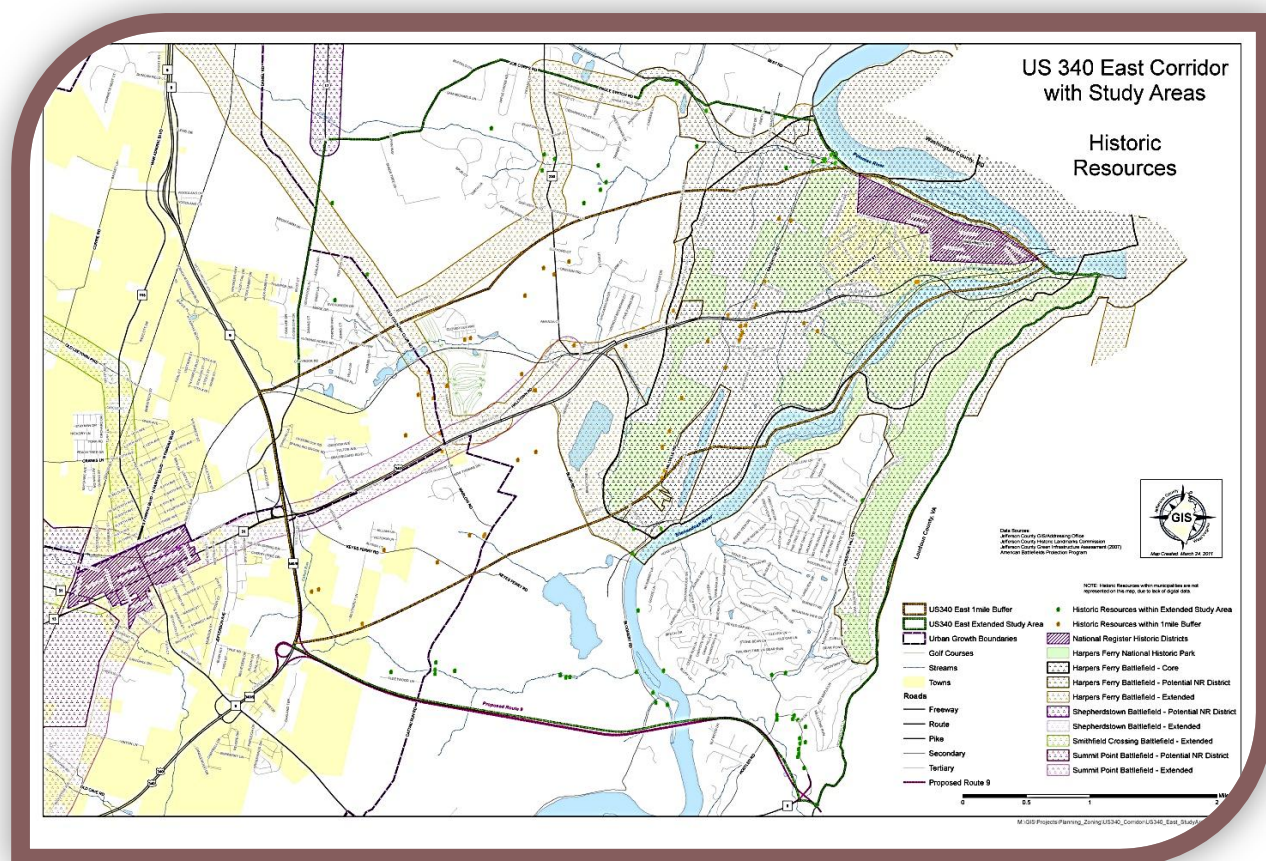
Hydrology

The hydrologic features (Map 5) of the US 340 Corridor East Study Area consist of springs, wetlands, floodplain, and several watersheds. There are four known springs found within the primary study area and seven known springs found within the Extended Study area. Four of the watersheds are found within the primary study area, while two are found within the extended study area.

Watersheds within the Primary Study Area include Cattail Run, Elks Run, Evitts Run, and Flowing Springs. Watersheds in the Extended Study Area include Cherry Run and Forge Run.

3.4 Historic Resources and Viewshed

History is a major contributor to the current culture and landscape of Jefferson County, West Virginia. There are many Historic Resources found within both the primary study area and the secondary study area (Map 6). The US 340 Corridor East primary study area is home to approximately fifty historic resources. The US 340 Corridor East secondary study area contains an additional fifty-four historic resources.



Map 6: Historic Resources, Source: Jefferson County, WV GIS/Addressing

As the Comprehensive Plan notes, “In term of environmental resources, Jefferson County suffers from an embarrassment of riches.” and “It (Jefferson County) has arguably been referred to as the most historic rural county in America.” The area consisting of US 340 East Corridor Gateway Plan embraces those characteristics. Notably, the scenic entrance into West Virginia and Jefferson County on US 340 is through the Potomac Water Gap. As travelers continue to the west, they crest the hill near the Quality Inn, also commonly referred to as Cliffside Inn, and the picturesque view emerges over the valley. From this vantage point, visitors to the State and County get their first impression of the region.

The Potomac Water Gap is the lowest crossing of the Blue Ridge Mountains, providing a path of least resistance to those traveling west. The Town of Harpers Ferry is notable for being an early location for the US Armory and Arsenal, C&O Canal traversing the opposing river edge,

John Brown's Raid, and Civil War battles for control of the town. Due to the rich history of the town, there are two national parks, the Harpers Ferry National Historic Park and the Chesapeake and Ohio Canal National Historic Park, surrounding the community. The Appalachian National Scenic Trail traverses the Town of Harpers Ferry.

Several historic resources have undergone rehabilitation along the corridor.

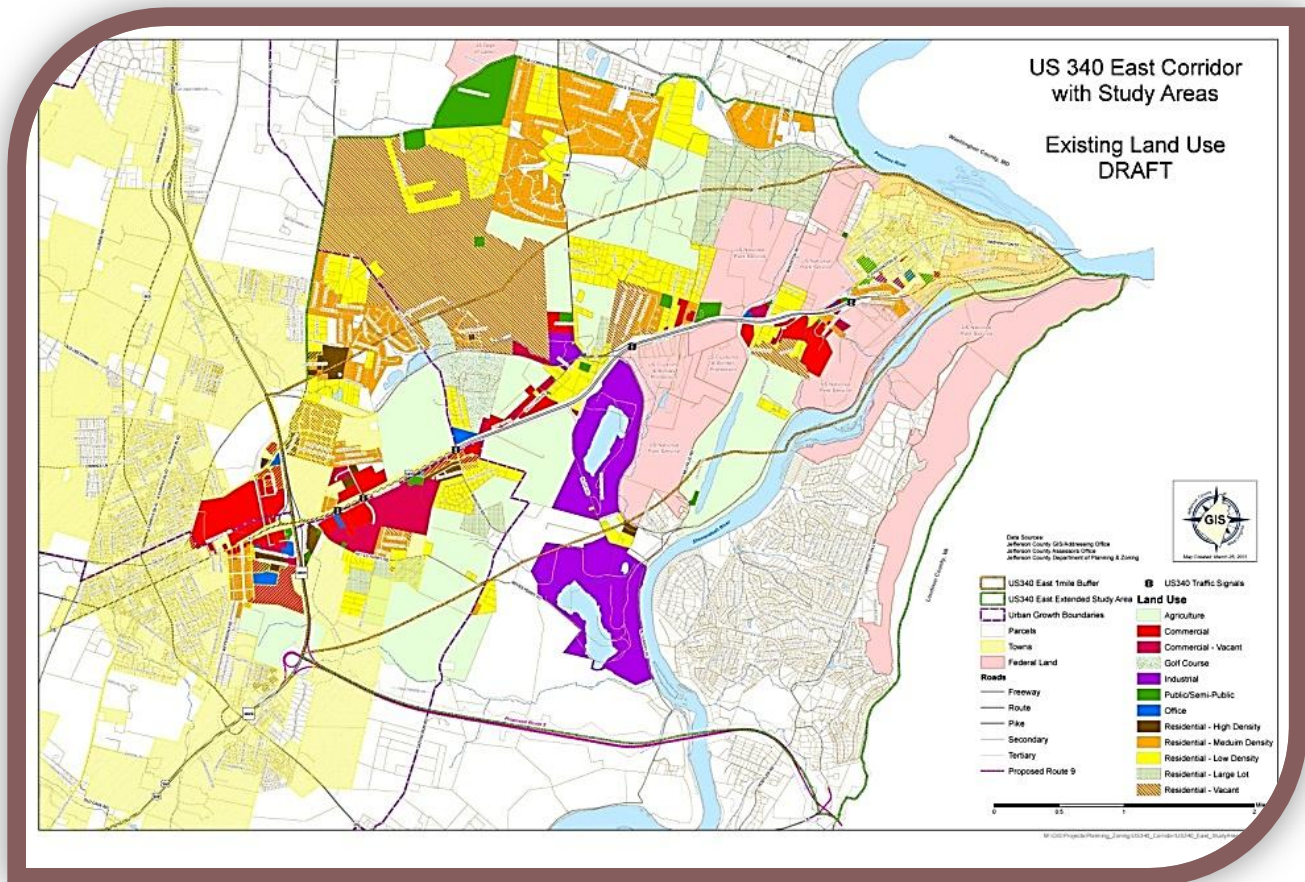
A historic Washington Family plantation known as Beallair is being developed into a residential subdivision. During development of the property, care has been taken to improve and maintain the historic Beallair house for use by the Homeowners Association. At least two large farm properties are on the property. The community of Halltown has its own assorted collection of historic resources.

DRAFT

3.5 Land Use and Zoning

Land Use

The existing land use (Map 7) in the corridor is a patchwork of suburban development, both residential and commercial, industrial uses, underutilized commercial buildings and farm land.



Map 7: Existing Land Use, Source: Jefferson County, WV GIS/Addressing

The land uses along this corridor have either been established prior to the adoption of zoning in 1988 or have been permitted under the zoning districts that were created in 1988.

As a main gateway into the State and corridor in the County, development pressures have historically been present along this route. Over time, the corridor itself has been realigned. This is most visible in Halltown, where US 340 went directly through the Halltown community and now the corridor bypasses the community, leaving commercial uses disconnected from the current alignment.

Commercial and Industrial – Existing Land Uses

In the study area, along the western edge of the corridor, there are two large shopping plazas situated diagonally across US 340 from each other. This area is within the Urban Growth Boundary of both the cities of Charles Town and Ranson. The intersection at Old Country Club Rd/Marlow Road and US 340 in the last 5 years has seen increased commercial development. New commercial developments include Aldi's, Sheetz, Tractor Supply and additional lots for commercial development.

In the Halltown area, there are older and underutilized buildings that have the potential for redevelopment. In recent years a small plaza has been built in that location and has the ability to expand. Halltown is home to a 140 year old paper mill processing plant. This industrial operation is the hallmark of the unincorporated community. Near Shipley Elementary School, there has been an expansion of commercial uses.

Along Blair Road is an active quarry operation. Near the intersection of US 340 and Blair Road there is a quarry that is no longer active. These industrial mining operations have little visual or noise impact upon US 340.

The intersection of Millville Road/Bakerton Road and US 340 has seen an expansion of existing activity. Two properties with historic resources at this intersection have been rezoned recently. The outdoor flea market continues to be a weekly attraction, being a regional landmark. River Riders continues to flourish and attracts over 35,000 visitors per year, with much of the visitors arriving during the summer season. Within this location, Quality Inn and KOA have provided lodging and rest to visitors for decades.

On Millville Road, there is an inactive quarry that has not been used in several decades. The site is commonly referred to as Old Standard Quarry. It is located on a 407 acre lot with a long linear quarry which has been subject to different proposed developments. None of those developments have received local approval. In 2010, under a Brownfield Redevelopment Act, the West Virginia Development Office permitted the ability for site development on the property. With approximately 1.5 billion gallons of cool fresh water in quarry, the water provides options energy options depending upon the needs of the facility. This development proposal is bound by a statutory deadline.

In summary, this section of the corridor has seen new businesses, expansion of existing businesses and pressure for additional commercial and industrial operations in the past decade.

Housing – Existing Land Uses

Both within the 1-mile study area and scenic viewshed boundary, there are existing subdivisions, subdivisions in progress and housing developments that have been approved but construction has not yet started. Many of the older subdivisions prior to 2000, tend to be located north of US 340 and most gain access from secondary roads extending off of US 340. Generally the lots are greater than 3/4 of an acre and the housing stock within these developments is well maintained. The few residential developments that take direct access to US 340 are located behind Wal-Mart on Patrick Henry Way, such as Jefferson Terrace, an existing development near Shipley School.

Since 2000, there has been a significant increase in housing development along the corridor, particularly along the secondary roads of Flowing Springs Road, Old Country Club Road and Shepherdstown Pike. A substantial land area in the vicinity of these roads has been developed

into subdivisions, partially started and now delayed by the economy or have preliminary approval for development. Traversing along the above mentioned roads, a traveler may only see vacant land or farm fields; however, much of that property has vested rights for development at this time.

In addition to the commercial node that has developed at Old Country Club Road/Marlow Road and US 340, a townhome development has been constructed in that location. Toward Shipley School, additional residential development activity has taken place.

Many of the post 2000 residential developments have lots that are less than 1 acre in size.

As discussed above, the unincorporated community Halltown has its own unique history of development. The community is a mix of commercial and residential structures. Many of the residential structures are pre-1950 and many have favorable architectural elements. However, the passage of time has resulted in a number of these structures needing improvements.

Federal Lands – Existing Land Uses

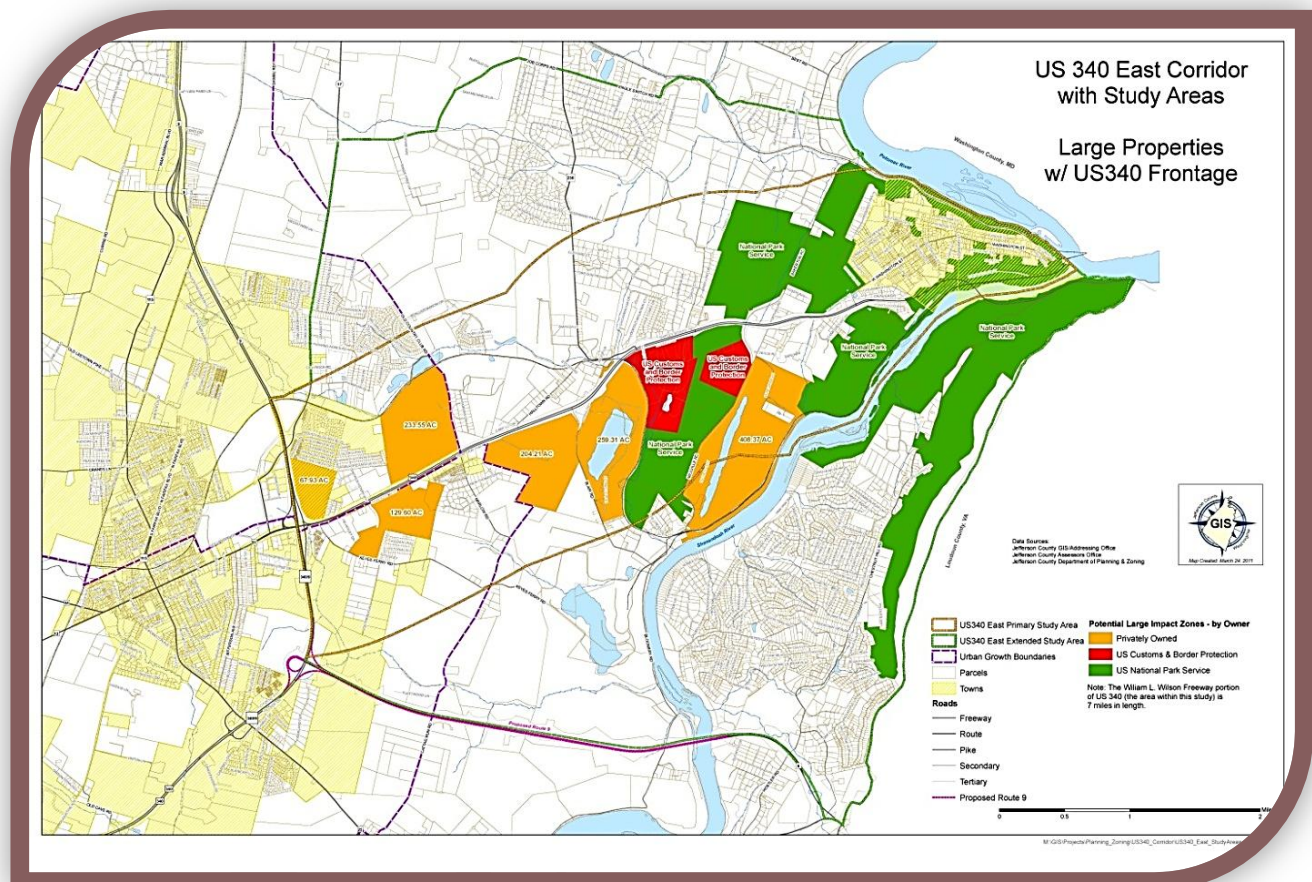
A significant presence along the corridor, particularly on the eastern section, is the considerable amount of land owned by the National Park Service and the U.S. Customs and Border Patrol. Since 2000, the National Park Service has expanded through a series of acquisitions of large tracts of land and the Custom and Border Patrol has established itself on the corridor. A majority of the Federal land is under the control of the National Park Service and is open space. The area under control of the park service is roughly from the Virginia state line down the mountain, across the Shenandoah River, encircling both Bolivar and Harpers Ferry and stretches across Bakerton Road to the North and across Millville Road to the South. The property under control of the Customs and Border Patrol located across from the residential developments near Shipley Elementary School. The property is bound by US 340 to the north, railroad tracks to the west and National Park Service property to the south and east. The following map depicts the Federal lands in green. Currently the site is under extensive construction. A sizable berm and landscaping plan is proposed to screen the Custom and Border Patrol from public view.

The meaningful impact of the Federal lands upon the US 340 corridor is that the intersection of Millville Road/Bakerton Road and US 340 and the few remaining private properties at that intersection are surrounded by Federal Lands which are not anticipated to be developed. As a result, this area is disconnected from the towns of Bolivar and Harpers Ferry, and existing and potential development to the west.

Farmland and Vacant Parcels –Existing Land Uses

Along the corridor there are five or six large tracts of land (Map 8) that are either vacant or farmed and there is the possibility the current uses could change. Collectively these tracts consist of 1299.6 acres. Three of the parcels are located to the west of Old Country Club Road/Marlow Road and US 340. These tracts are adjacent to existing commercial centers. As previously noted, this area is within the Urban Growth Boundary of Charles Town and Ranson. On south side of the corridor, near Halltown, there is a parcel that is currently farmed and another containing the Shenandoah quarry. The last remaining parcel is the property known as Old Standard.

In addition there are a number of smaller parcels which are either vacant or underutilized in this area which could potentially be assembled into a larger tract and converted into other use(s). While initially appearing to be less of an impact, an assemblage of these smaller parcels could have a real impact upon the corridor.

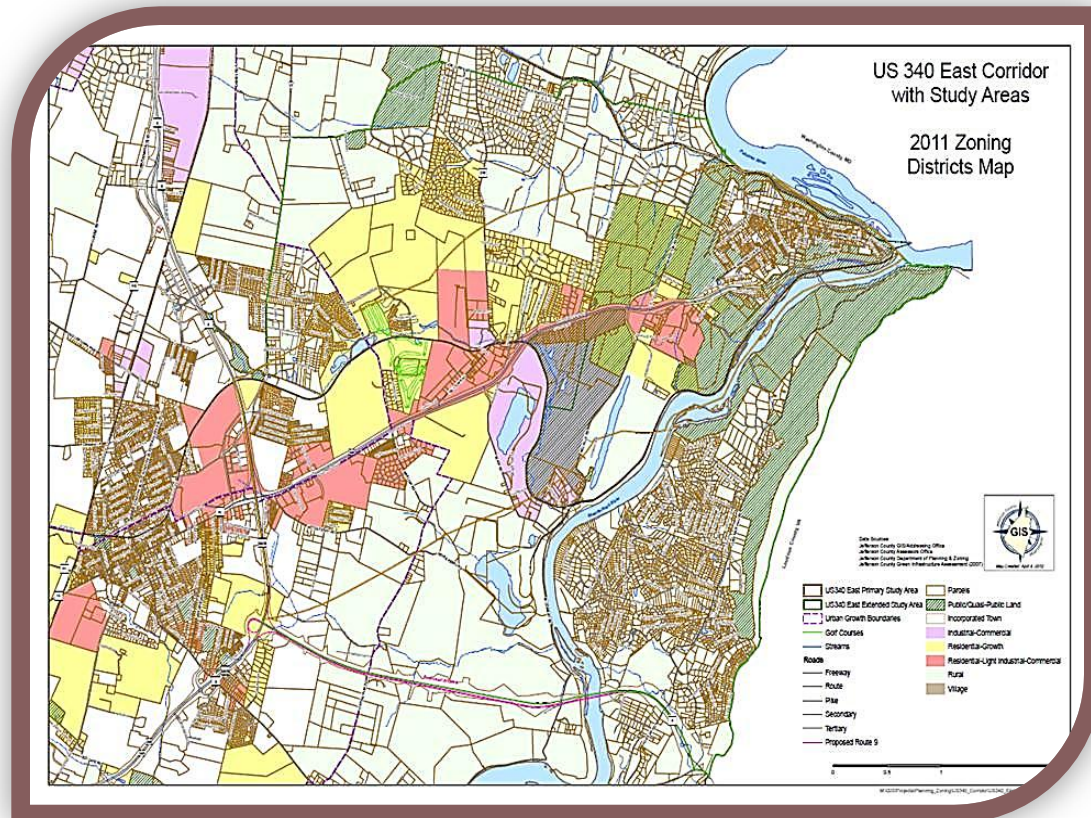


Map 8: Large Properties along US 340, Source: Jefferson County, WV GIS/Addressing

Zoning

Zoning within the US 340 Corridor Study Areas is divided into five unique districts (Map 9):

- The Industrial-Commercial zoning district
- The Residential Growth zoning district
- Industrial-Commercial zoning district
- The Rural zoning district
- Village zoning district



Map 9: 2011 Zoning Map Jefferson County, WV, Source: Jefferson County, WV GIS/Addressing

Nearly all of the current zoning classifications along the corridor were established in 1988. As such, the development that has occurred could have and should have been expected. Only very recently have there been Zoning Map amendments along the corridor.

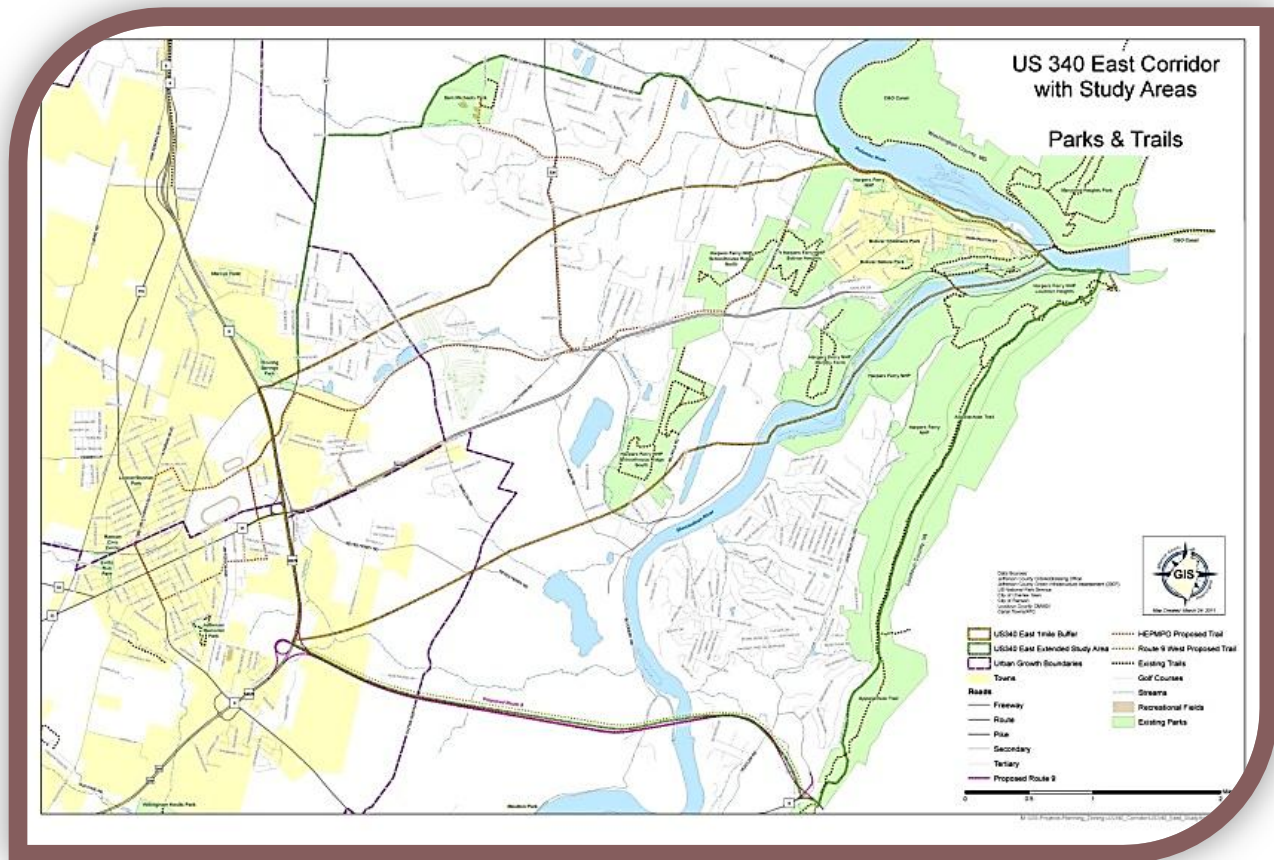
The majority of land located south of U.S. Route 340 is within the Rural zoning district. The next prominent zone is the Residential-Light Industrial-Commercial zoning district followed by the Industrial-Commercial zoning district and the Residential Growth zoning district.

North of US 340, the majority of land is falls into the Residential Growth zoning category. The remainder of property falls into the Residential-Light Industrial-Commercial zoning district, then the Rural Zoning district and then the Industrial-Commercial zoning district.

3.6 Parks, Trails and Greenways

The Jefferson County Parks and Trails system (Map 10) plays an important role in the US 340 Corridor Study Area.

The US 340 Study Area includes three parks, as shown on the map below.



Map 10: Parks and Trails, Source: Jefferson County, WV GIS/Addressing

1. Flowing Springs Park (City of Ranson)
The 29.7 acre Flowing Springs Park is located between Home Depot and Flowing Springs Road, adjacent to WV 9. According to the City's website, the park is intended "to provide wildlife viewing areas, a pedestrian trail network, a bike route, and interpretive markers, while maintaining a more natural environment in this future urban area."
2. Sam Michael's Park (Jefferson County Parks & Recreation)
3. This 131-acre park, located south of Job Corps Road, features the Jefferson County Community Center as well as a public picnic pavilion, including picnic tables, kitchen, and grill. The park also contains little league fields, a playground, horseshoe pits, and a sand volleyball court; and has a ½ mile walking trail and dog park area.
4. Harpers Ferry National Historical Park
This nearly 4,000 acre park is managed by the National Park Service and includes the historic town of Harpers Ferry. Restored 19th century buildings in the Lower

Town Historic District provide space for several historical museums. The Appalachian Trail runs through Harpers Ferry. A footbridge across the Potomac River connects trail users to the continuation of the trail in Maryland, as well as to the C&O Canal. Nearly half a million people visit the Harpers Ferry National Historical Park annually.

The US 340 Corridor Study Area contains at least nine individual trails. These trails are located in the primary and secondary study areas. In addition to current existing trails, the Parks and trail map shows both the proposed WV 9 East trail and the HEPMO trail.

Trails found within US 340 Study Corridor include:

- Appalachian National Scenic Trail
- Harpers Ferry Schoolhouse Ridge
- Loudoun Heights
- Murphy Farm
- Bolivar Heights
- Bolivar Nature Park Trail



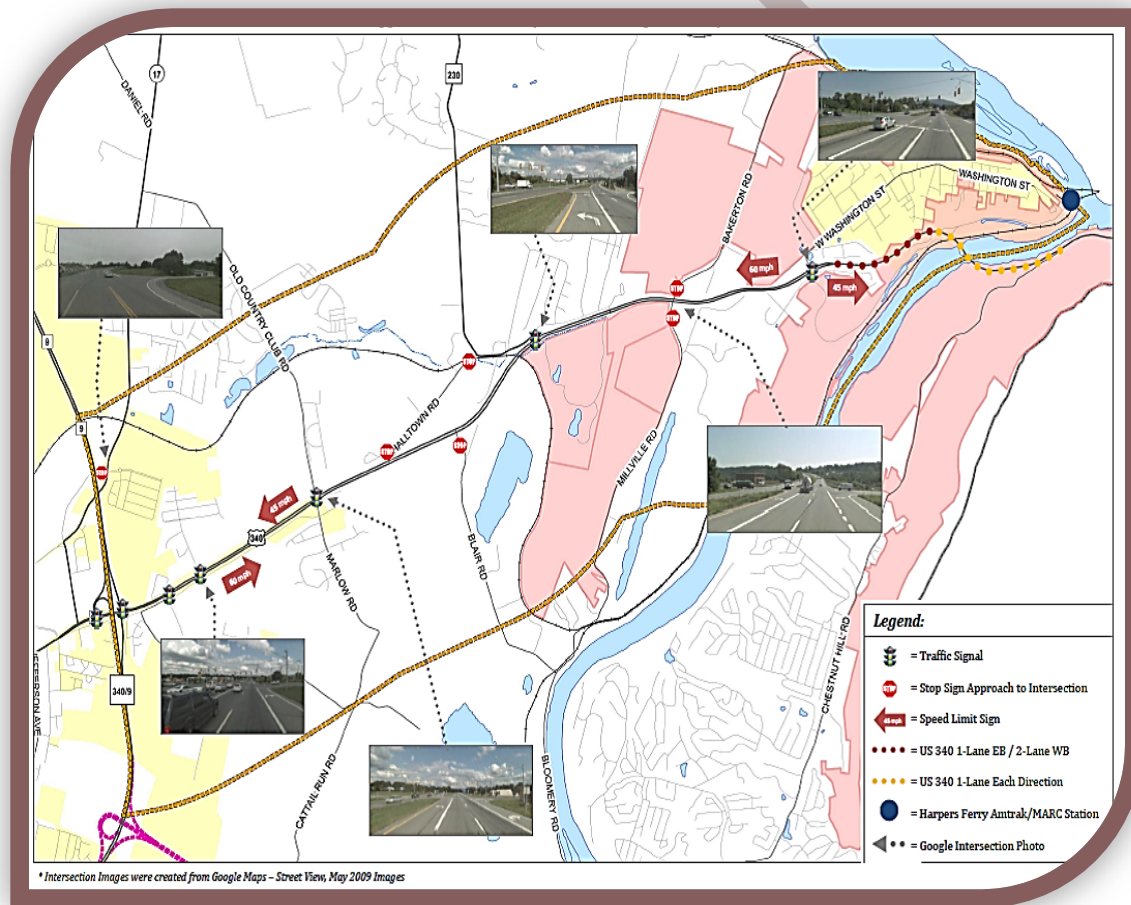
Source: Joe Liles



3.7 Transportation

This section discusses the transportation system (Map 11) within the US 340 East Gateway corridor including key roadways and available transit bus and rail service. Although they can have an impact on regional transportation, bike and pedestrian trails are not addressed within this section. Such improvements and associated discussions are included within the *Parks, Trails and Greenways* section of this study.

Data was collected from available sources such as aerial photos, land use information, roadway geometry and land configurations, truck percentages, posted speed and operating speed limits, traffic signal and other traffic device parameters, and available traffic volume data. Speed observations from 2008-2010 along the corridor was collected from TomTom GPS (Global Positioning System). Consultants also conducted field visits and worked closely with County staff to collect key observations and insights regarding corridor congestion and future corridor traffic volume growth. Regional travel modeling was used to assess traffic volume growth and intersection turning movements along the corridor. The model utilized the latest version of the HEPMPO regional 3-county travel demand model (includes Washington County, MD; Berkeley County, WV; Jefferson County, WV).



Map 11: Transportation System, Source: Baker

Summary Brief of this Section

The following existing conditions have been identified:

- US 340 is the primary route through the corridor and carries on average between 29,000-38,000 vehicles per day
- US 340 serves many travel purposes including regional throughfare, seasonal and recreational, and work commute travel.
- A large number of corridor residents work in Maryland and Virginia.
- Regional transit service within the corridor is provided by PanTran, MARC and AMTRAK; however service schedules are limited.

The following transportation issues and concerns have been identified:

- There are significant safety concerns at un-signalized approaches to US340 that will become an even greater concern with future corridor development.
- The bridge crossing capacity deficiencies result in significant weekday and weekend traffic congestion that impacts eastern portions of the corridor.
- US 340 congestion and safety concerns exist on western portion of the corridor near the Patrick Henry Way intersection due to existing and future growth in commercial development.
- Future development will continue to degrade corridor operations and safety during peak periods.
- Viable transportation options including bike, pedestrian and transit modes must be improved within the corridor to reduce vehicular travel and promote a more livable community.

The Transportation System (Map 11) illustrates key roadways, signalized intersections, speed limits and travel lanes along US 340, the primary roadway within the corridor and part of the U.S. Highway System. The highway links Frederick County, Maryland and Loudoun County, Virginia with Harpers Ferry and Charles Town and continues south to the West Virginia/Virginia state border. The east-west stretch of US 340 between Charles Town and Harpers Ferry is designated the William L. Wilson Freeway, although it does not share the same characteristics as a traditional freeway and includes traffic lights, at-grade intersections, and speed limits ranging from 45-60 miles per hour (mph). Within the East Gateway corridor, US 340 is primarily a four-lane facility; however, there are key capacity constraints at the eastern and western termini. On the western side, a partial-cloverleaf interchange facilitates the movements between US 340, WV 9, and WV 51.

On the eastern side of the corridor, US 340 crosses the Shenandoah River at the Harpers Ferry Bridge. The bridge crossing and roadway sections in Virginia and Maryland currently have two travel lanes. The north-south roadways within the East Gateway Corridor are provided by lower class roadway facilities. CR 17 (Flowing Springs Road) and WV 230 (Shepherdstown Pike) provide connections from Shepherdstown in the north to WV 9 and US 340 respectively. Other north-south roadways provide access from residential and rural areas within the corridor to commercial development along US 340.

The East Gateway corridor includes access to several transit alternatives. The Duffields station lies just north of the corridor on the MARC Brunswick line and includes nearly 300 parking spaces. The MARC train service is a commuter rail system whose service areas include counties in West Virginia, Maryland, and Washington D.C. The MARC train service only operates Monday through Friday. The Brunswick Line (Table 4) operates between Brunswick, Maryland and Washington Union Station. This line also includes an extension to Frederick,

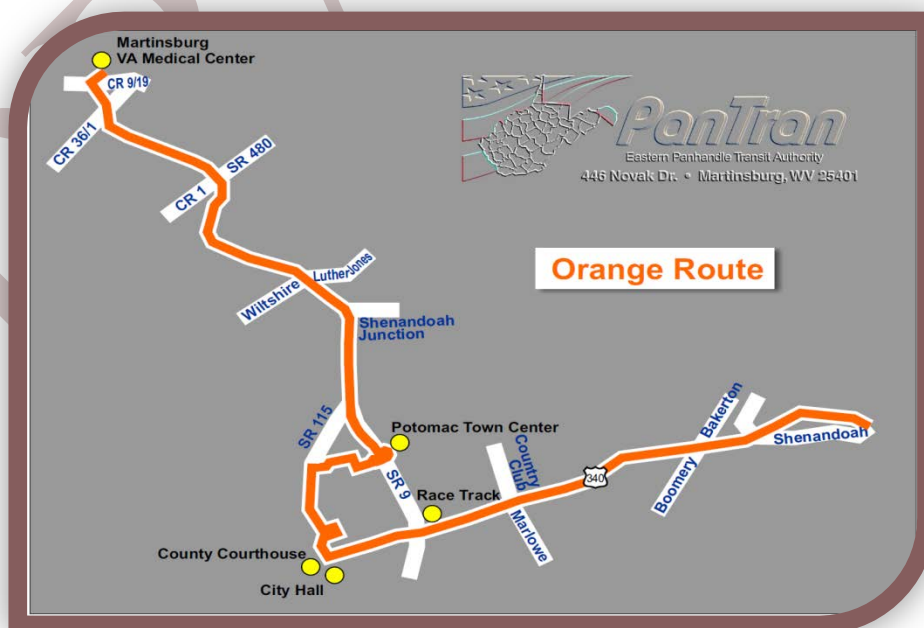
Maryland and Martinsburg. The Harpers Ferry station (on Potomac Street) also provides access to the MARC Brunswick line as well as AMTRAK's Capital Limited train. The Capitol Limited train runs daily between Washington, D.C. and Chicago. These trains typically stop only once per day at the station and are not useful for daily commuting or shopping trips to Maryland or Washington, D.C. The National Park Service may initiate special train service during peak seasonal periods to assist in accessing the Harpers Ferry

BRUNSWICK LINE EASTBOUND Monday through Friday only										
TRAIN NUMBER	AR/DP	P870 S/Q	P890 Q	P872 Q	P874 S/Q	P892 S/Q	P876 Q	P878 S/Q	P894 S/Q	P880 S/Q
City/AM-PM	DP	AM	AM	AM	AM	AM	AM	AM	AM	AM
Martinsburg, WV	DP				5:25			6:30		
Duffields	DP				5:41			6:46		
Harpers Ferry, WV	DP				5:51			6:56		
Brunswick, MD	DP	6:00		5:38	6:02		6:33	7:07		7:40
Frederick	DP		5:12			6:05			7:10	
Monocacy	DP		5:18			6:11			7:16	
Point of Rocks	DP	5:10		5:48	6:13		6:43	7:17		7:50
Dickerson	DP		5:43				6:51			7:58
Barnesville	DP	5:21		5:58		6:39	6:55		7:44	8:03
Boyd's	DP		5:51				7:02			8:09
Germantown	DP	5:30	5:56	6:08	6:33	6:49	7:07	7:36	7:54	8:14
Metropolitan Grove	DP	5:35	6:01	6:13	6:39	6:55	7:13	7:42	8:00	8:20
Galtersburg	DP	5:41	6:06	6:18	6:43	7:01	7:19	7:47	8:06	8:26
Washington Grove	DP			6:21			7:22			8:29
Rockville	DP	5:49	6:13	6:26	6:52	7:08	7:28	7:58	8:13	8:34
Garrett Park	DP	5:54				7:13	7:33			8:40
Kensington	DP	5:58		6:33		7:17	7:38		8:21	8:44
Silver Spring	DP	L6:06	L6:27	L6:42	L7:08	L7:27	L7:47	L8:14	L8:29	L8:54
Washington Union Station	AR	6:25	6:45	7:00	7:28	7:45	8:05	8:30	8:47	9:12

Table 4: Brunswick Line Eastbound Monday through Friday only

National Park.

The Eastern Panhandle Transit Authority (EPTA), known more popularly as "PanTran," operates bus routes (Map 12) in Martinsburg and in surrounding Berkeley and Jefferson counties. PanTran's Orange "Charles Town" route includes several



Map 12: Pan Tran Orange Route

service stops in or near the East Gateway corridor including the Hollywood Casino at Charles Town Races, Walmart (Patrick Henry Way) and the Harpers Ferry rail station. Bus service

headways vary by the service stop location but typically range from 2-3 hours with no available nightly service.

Travel Characteristics

Understanding the current regional travel patterns is important in evaluating and addressing future transportation improvements in the corridor. The West Virginia Department of Highways (WVDOH) will be conducting future studies to identify operational issues and travel usage characteristics along the US 340 corridor, including an origin-destination survey. These studies and results will further improve the planning and evaluation process as they become available. Until then, other available data sources can be used to provide insights into regional travel patterns. The Longitudinal Employment Household Dynamics On-the-Map (LEHD-OTM) tool synthesizes the home to work commuting patterns for specified areas based on the Quarterly Census of Employment and Wages (QCEW) records. This data has some documented inaccuracies but can still serve as a valuable tool in understanding commuting patterns at levels lower than the county. Table 5 provides a summary of the LEHD-OTM data and illustrates that only a small share of work commuting includes both origins and destinations within the East Gateway Corridor. Future growth within the corridor may significantly alter these results as more jobs may become available for residents within the corridor.

Worker Inflow/Outflow for the East Gateway Corridor

Category	Share (%)
INFLOW	
Employed in the Corridor but Living outside Corridor	95.8%
Employed and Living in the Corridor	4.2%
Total	100%
OUTFLOW	
Living in the Corridor but Employed outside Corridor	96.5%
Living and Employed in the Corridor	3.5%
Total	100%

Table 5: Worker Inflow/Outflow for East Gateway Corridor, Source: US Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2009)

In October 2002, the HEPMPO conducted a cordon survey at select border locations in the 3-county MPO area (Berkeley and Jefferson counties in West Virginia, and Washington County in Maryland). The survey was developed to support regional planning and the development of the MPO travel demand model. A video data collection and mail out survey was conducted at the Harpers Ferry Bridge to identify characteristics of travelers using US 340 during a sample weekday. For this location, 860 surveys were obtained and used to estimate vehicle occupancies, trip purposes, and the amount of trips “thru” the MPO (3-county) area. Figure 9 summarizes the survey results.

HEPMPO US 340 Corridor Survey (October 2002)

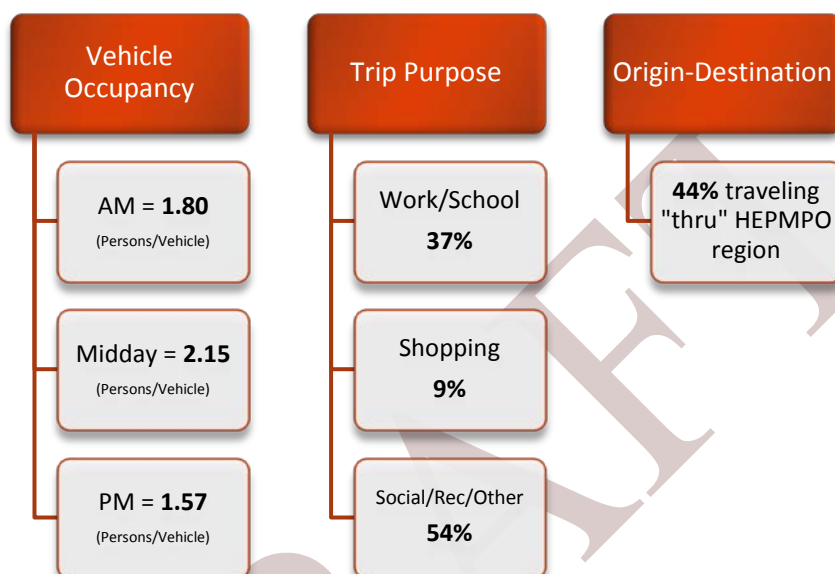


Figure 9: HEMPO US 340 Corridor Survey, Source: Chapter 3.3 from the Long-Range Multimodal Transportation Plan, HEMPO March 2005

The origin-destination information from the above survey does not provide sufficient detail to estimate the number of US 340 travelers driving “thru” the East Gateway Corridor. The information does indicate that nearly 45% of US 340 travelers at this location have both an origin and destination outside of Berkeley and Jefferson counties. Of these travelers most are traveling long distances to/from the southern end of US 340 and I-81 at the West Virginia/Virginia border. Based on these results, it may be inferred that a much greater percentage of travelers are simply traveling “thru” the East Gateway Corridor section of US 340. As expected, recreational and social trips are a high percentage at this location due to the various recreational opportunities and the Harpers Ferry National Park. In addition, work commuters are using US 340 on a daily basis, with the primary work destinations being outside the East Gateway Corridor.

As part of this study, public input was obtained using an interactive web site. The website included several questions to obtain travel characteristics of those who responded to the survey (approximately 160 responses obtained) including the location of residence/work and travel frequencies within the corridor. The results of these survey questions are summarized in Table 6. The majority of survey respondents regularly travel on US 340 and provided useful comments and corridor improvement recommendations that have been integrated within other sections of this plan document.

Summary of East Gateway Study Survey Responses

Where do you live?	Which option best describes where you live?	Percent of Total Responses
	<i>Within the East Gateway Corridor</i>	30%
	<i>In Jefferson County</i>	58%
	<i>In West Virginia</i>	6%
	<i>Outside of West Virginia</i>	5%
Where do you work?	Which option best describes where you work?	Percent of Total Responses
	<i>Along the 340 East Gateway cor</i>	8%
	<i>In Jefferson County</i>	26%
	<i>In West Virginia</i>	7%
	<i>Outside of West Virginia</i>	59%
Travel frequency	How often do you travel within the East Gateway Corridor?	Percent of Total Responses
	<i>5 or more days / week</i>	60%
	<i>1 to 4 days / week</i>	26%
	<i>Less than once / week</i>	9%
	<i>Less than once / month</i>	4%
	<i>Never</i>	1%

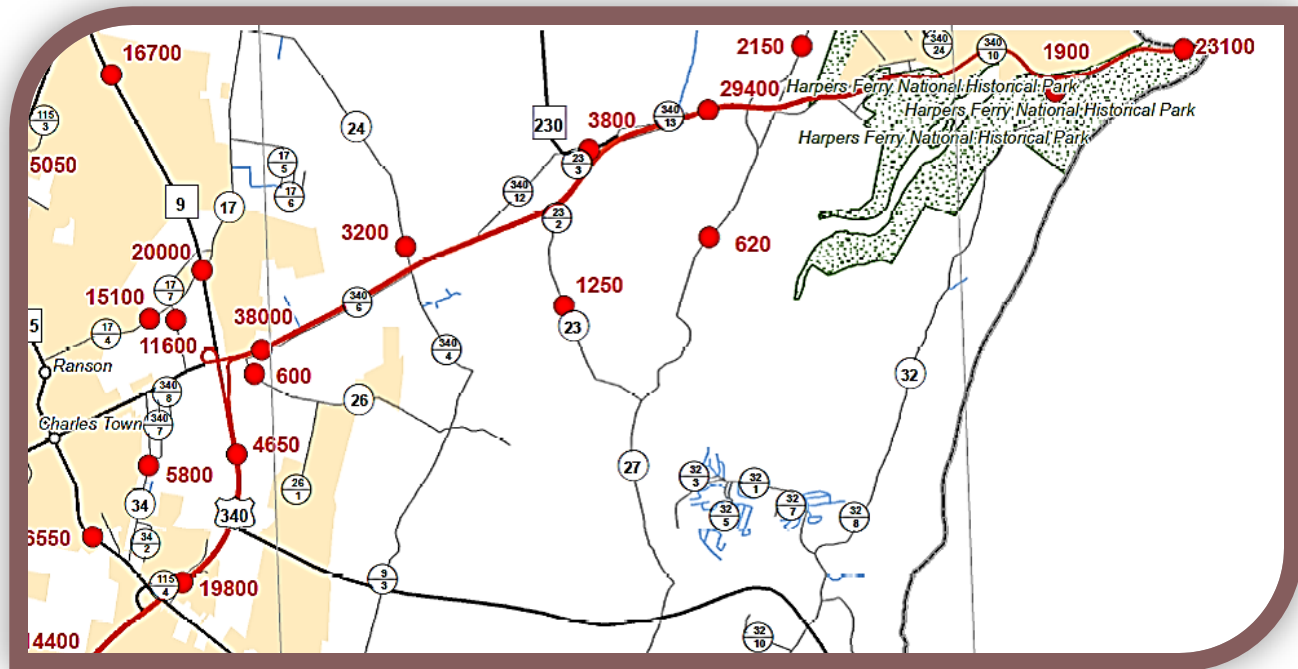
Table 6: Summary of East Gateway Study Survey Responses, Based on input received from 2011 interactive MetroQuest-based study website

Current Traffic Conditions

As illustrated in Map 13, the East Gateway Corridor section of US 340 has the highest traffic volume as compared to any other roadway in Jefferson County. Just east of the interchange with WV 9, US 340 carries its highest traffic volume, approximately 38,000 average daily traffic (ADT). This section is influenced by a high level of commercial traffic (e.g. Walmart, strip malls, etc.) mixed with regional “thru” travel. On the eastern sections of the corridor, US 340 carries approximately 29,000 ADT and is influenced heavily by traffic at the National Park especially during peak seasonal periods. These high traffic volumes, mixed with at-grade signalized intersections and lane reductions west of the Harpers Ferry Bridge, cause congestion and queuing during peak hours both on weekdays and weekends. Traffic volumes on the north-south roadways within the corridor are much lower than on US 340 and are generally lower than 4,000 ADT.

As part of this study, intersection traffic counts for weekday peak periods were also collected for all key intersections on US 340. These counts were used for traffic analyses. This included WVDOH intersection counts and several consultant counts at select intersection locations. The highest US 340 PM peak period count is at the Patrick Henry Way intersection, where the hourly count is over 2,600 vehicles per hour (about 7% of the daily volume) with truck percentages less than 5% of the total traffic. At this same intersection during the AM peak period, US 340 hourly counts are about 1,500 vehicles per hour. An evaluation and analysis of traffic count data is discussed in later sections within this study.

Existing Average Daily Traffic Volumes



Map 13: Existing Average Daily Traffic Volumes, Source: WVDOH, 2008 Average Daily Traffic Volumes from Portable Cnt. Machines,
www.transportation.wv.gov/highways/programplanning/preliminary_engineering/traffic_analysis/trafficvolume/dists_4_5_6/

TomTom GPS speed data (2008-2011) was obtained for US 340 from Charles Town to the state border as an alternative to conducting travel time runs. The speed data was used to assess current congestion and served as a primary data source for the calibration of traffic analysis tools. The nearly 25,000 observations obtained from TomTom allowed for the assessment of travel speed variations across the corridor by season, day and time period. In addition, the level of detail of the data allowed for the evaluation of typical traffic queue lengths at individual intersections.

Figure 10 illustrates the variances of the average corridor speed on US 340 by season and time period. For the eastbound direction, the highest travel times (lowest speeds) typically occur during the summer weekends between 4-7 PM. This includes extensive traffic queuing from the Harpers Ferry Bridge back to as far as the Millville/Bakerton intersection. During weekdays, worst case conditions typically occur during the Fall PM Peak period. The TomTom data did not indicate substantial queuing during this period as averaged over the 2008-2011 years. However, public comments indicated that significant traffic queues often do occur on the weekday and may extend back to the W. Washington Street intersection.

For the US 340 westbound direction, the highest travel times within the corridor occurred during midday hours on summer weekends. The travel times are significantly better than the eastbound direction since much of the traffic queues occur outside of the corridor. Typical traffic queues on the weekend can extend back to the interchange with MD 67 in Frederick County, Maryland. Similar conditions occur during peak weekday conditions in the Fall PM Peak periods. For those time periods traffic queues have also typically extended east of the MD67 interchange.

Summary of US 340 Traffic Speeds by Season and Time Period

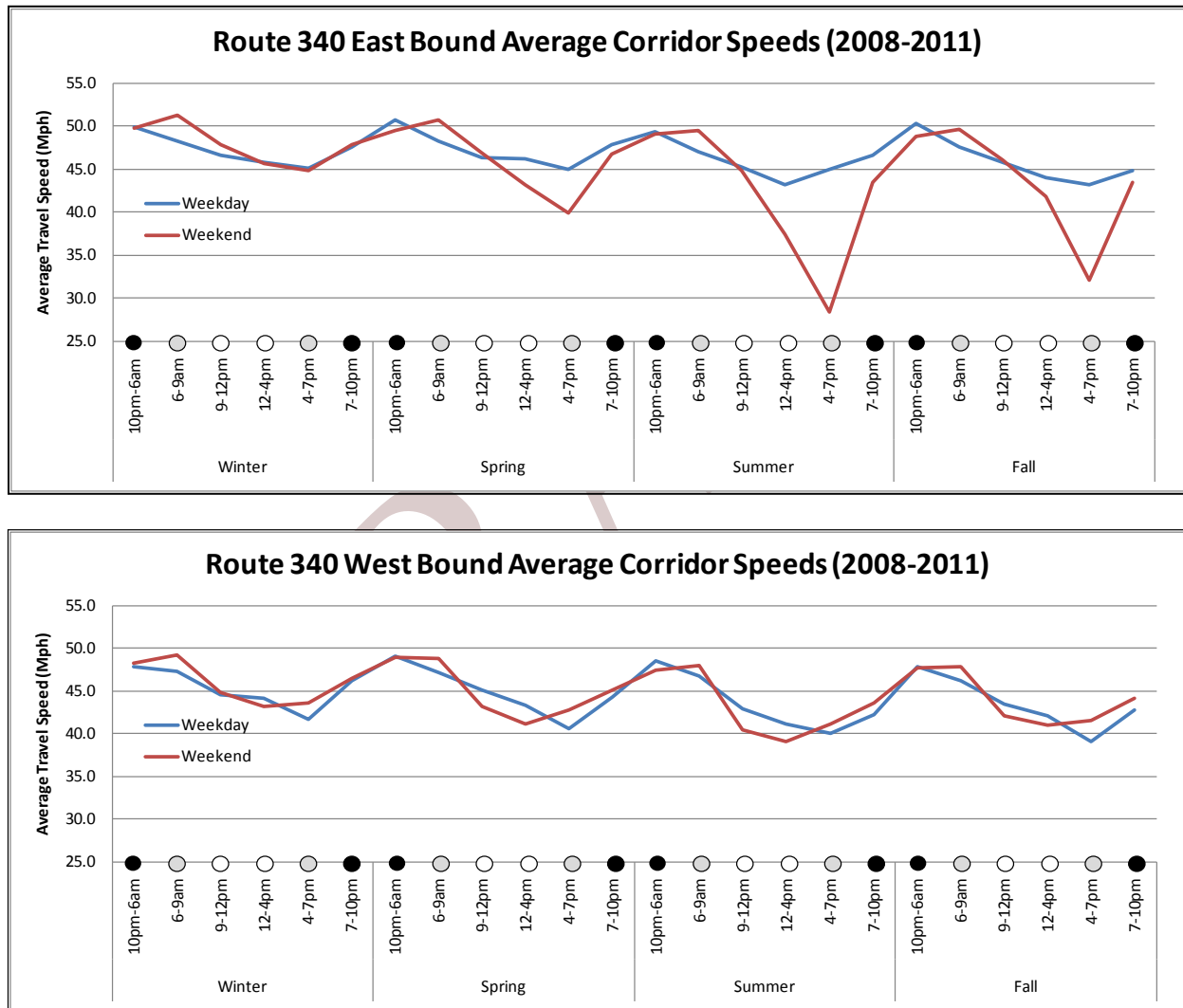


Figure 10: Summary of US 340 Traffic Speeds by Season and Time Period, Based on TomTom Traffic Stats Custom Travel Times (2008-2011 average conditions)

Assessing Current Conditions

An evaluation of the current transportation system is an important first step in identifying potential transportation needs and projects. This section has reviewed the transportation network, typical travel patterns, travel demand, and typical travel congestion in the corridor. The following sections of this study will evaluate these current conditions with future forecasts of demand and congestion based on the land use vision for the corridor. Those assessments will lead to an evaluation of transportation needs and priorities within the US 340 Corridor East Corridor.

Overview

This section discusses key operational issues and needs as related to the transportation system within the US 340 Corridor East Gateway. The transportation needs have been identified based on input from key stakeholders, public involvement meetings, interactive website responses, and technical traffic analyses. Issues are addressed for both current and future conditions based on the corridor land use vision. The traffic analyses have been conducted using existing traffic count data, assumptions on regional demographic growth, forecasts from the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) regional travel demand model, and other traffic analysis and simulation tools. Future efforts to be conducted by the WVDOH will supplement the analyses and recommendations provided in this report. Such efforts include a tri-state (West Virginia, Maryland, Virginia) US 340 operational study that will focus on operational needs along the entire stretch of US 340 including the 2-lane portion between the bridge crossings. This will include evaluating and addressing capacity restraints at the bridge crossings and at-grade intersections with Chestnut Hill Road and Virginia State Route 671. Discussion of improvements to the 2 lane section is in the preliminary stages. A resolution to this situation is not expected in the near future.

Prioritizing transportation needs ultimately depends on weighing factors that include the importance of addressing current and future congestion, providing access to regional employment and commercial sites for residents within the corridor, safety issues, meeting the capacity needs of special events and peak seasonal traffic, reducing vehicle trips within the region, and preserving the character of the corridor. In this section, transportation needs for the East Gateway corridor have been prioritized into the levels as illustrated in Table 7. These general priority levels may also be used to assist in evaluating the priority and timing of potential regional transportation projects as identified in the recommendations section of this report.

Priority Levels for Transportation Needs

Priority Level	
1	Short Term Safety Needs
2	Existing Congestion & Access Issues
3	Future Congestion

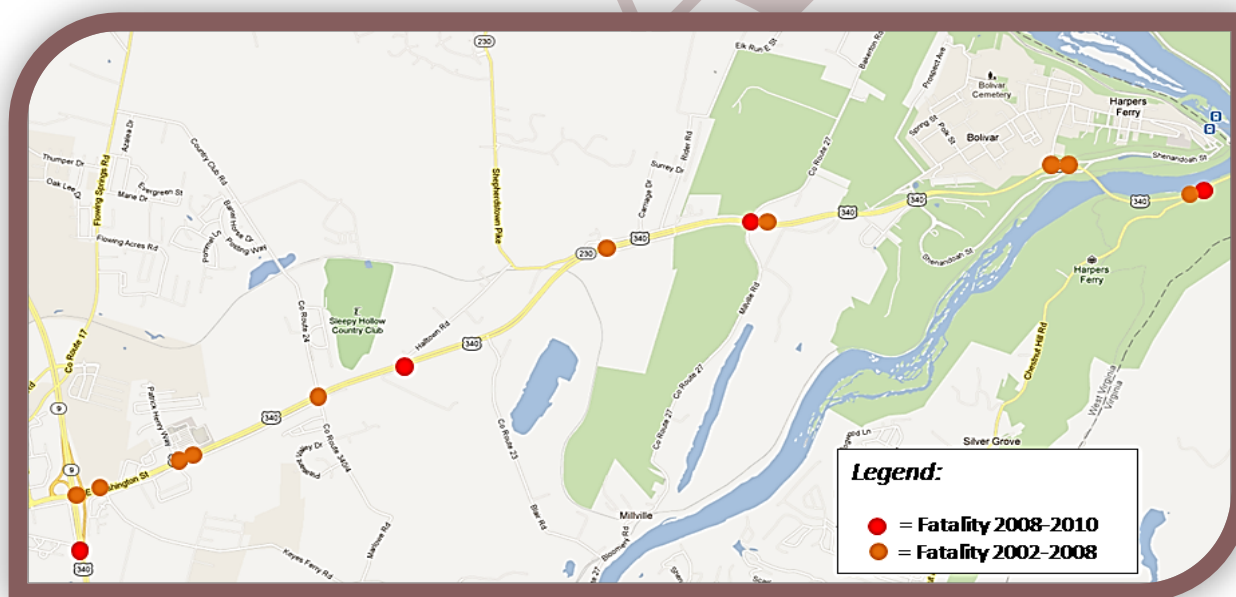
Table 7: Priority Levels for Transportation Needs

Transportation Safety

Increasing the safety of the transportation system for motorized and non-motorized users is one of the eight planning factors required for metropolitan transportation planning, and is a component of the regional HEMPO Long Range Transportation Plan (LRTP). The rate and type of vehicle traffic incidents are important transportation system performance measures that are directly affected by the design and construction of the transportation system. Vehicle crashes represent a major source of congestion, are a major health concern, and result in significant costs to society.

As a condition for obligating federal Highway Safety Improvement Program (HSIP) funds, states are required to prepare an annual report to FHWA that describes public road locations exhibiting the most severe safety needs (top 5 percent). In 2007, WVDOH listed US 340 as a high priority need noting safety concerns due to excessive speeds, aggressive driving and at-grade intersections. In addition, the US 340 intersection with Chestnut Hill Road (outside the East Gateway study area) was also noted as a significant safety concern. These roadway sections were each highlighted as safety priority sections within the HEPMPPO LRTP, *Direction 2035*. Map 14 illustrates a summary of fatality information from the National Highway Traffic Safety Administration (NHTSA) within the East Gateway Corridor. The fatalities have primarily occurred at or near intersections along the corridor. Recent fatalities (since 2008) have occurred at US 340 intersections with Halltown, Millville, and Chestnut Hill roads.

Fatalities within the US 340 Corridor East Gateway



Map 14 : Fatalities Within the US 340 Corridor East Gateway, Source: Google Maps; Accident data from NHTSA Fatality Analysis Reporting System (FARS),
www-nrd.nhtsa.dot.gov/departments/nrd30/ncsa/stsi/54_WV/2010/West%20Virginia_Map_11_GIS_DATA_200HTM;
[www://map.itoworld.com/road-casualties-usa](http://www.itoworld.com/road-casualties-usa)

As part of this land use vision study and associated public input, the study team has worked to identify specific safety concerns that may need to be addressed with short-term solutions until larger capacity enhancement projects can be planned, designed and completed. Supporting technical analyses have been developed using accepted traffic tools (e.g. Highway Capacity Software, SYNCHRO) and current traffic volume turning movements to assess intersection and approach level-of-services (LOS) during peak periods. LOS is a measure used by traffic engineers to determine the effectiveness of elements of transportation infrastructure. At intersections, LOS equates to acceptable vehicle delays corresponding with safe driving conditions. LOS is measured on a qualitative scale from A (best) to F (worst). Based on an assessment of current conditions, several key areas of concern have been identified:

- ***US 340 Westbound Approaching Patrick Henry Way Intersection*** – According to observations and technical analyses, the intersection of US 340 and Patrick Henry Way is the most congested intersection in the study area due to commercial areas in the vicinity of the intersection. US 340 westbound traffic queues typically extend from WV 9 back to east of the intersection. Although, the speed limit is reduced on US 340 westbound to 45mph (just west of Country Club Road), aggressive driving in combination with the roadway down-slope create dangerous conditions approaching vehicle traffic queues. Local residents have stressed the need for better speed control in the area or possible flashing signs warning of the approaching intersection.
- ***Un-signalized Intersection Approaches to US 340*** - With high traffic volumes and speeds (60mph speed limit) on mainline portions of US 340, most of the un-signalized intersections create potential safety concerns during peak periods. Although the side road approaches to these intersections do not have significantly high traffic volumes, there is often limited traffic “gaps” needed to make left-turns, which require crossing two lanes of US 340 and merging with on-coming vehicles. Additional concerns also exist for vehicles turning right out of these intersections due to the speed of approaching vehicles and some locations of limited sight distance. The un-signalized approaches of concern include those in Table 8 .

Un-Signalized Intersection Approaches of Concern

US 340 Intersection Approach	PM Peak Approach LOS	Primary Concerns
Halltown Road	F	Left turns
Blair Road	E	Left turns
Frontage Road (East of US 340 / US 230 Intersection)	F	Left turns
Shipley School Road* (Left turns currently prohibited)	----	Right turns due to high speeds of oncoming traffic; school buses
Bakerton / Millville Roads	E/C	Left turns Millville has increased turning movements during summer weekends
Access to Quality Inn*	----	Left turns
Union Street	F	Left turns, no merge lane for right turns up hill
Shenandoah Street	D	Left turns

Table 8: Un-Signalized Intersection Approaches of Concern, noted intersections were not specifically analyzed due to limited data

The above safety concerns currently exist during peak periods of travel. The technical analyses were conducted for a typical weekday PM peak period but some intersections (e.g. Millville northbound approach to US 340) encounter greater turning movements during the summer peak season due to the recreational opportunities in the region.

Existing Traffic Congestion

Traffic congestion is a key concern for residents within the region and those traveling US 340 for other purposes. As described in the existing conditions section, significant traffic queuing occurs during the PM peak periods and during summer season weekends. The congestion during these time periods can be significant. Map 15 illustrates the average 2008-2011 queue lengths that have been estimated from TomTom GPS travel time data. Based on an assessment of current conditions, several key areas of concern have been identified:

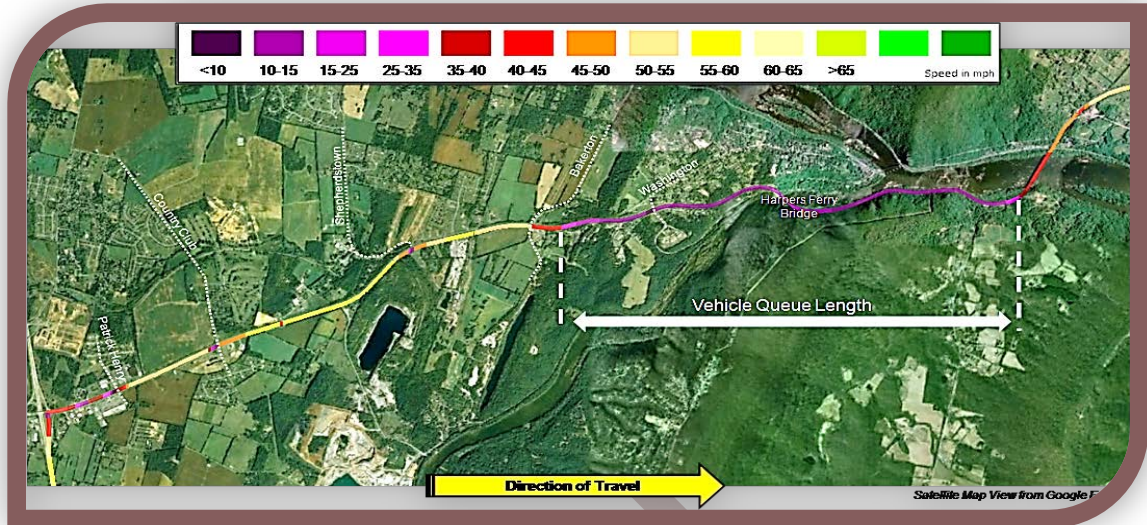
- **US 340 River Crossings** - A primary bottleneck affecting traffic operations in the East Gateway corridor are the bridge crossings over the Shenandoah and Potomac rivers. The bridges and the stretch of US 340 between them consist of two lanes of travel (1-lane per direction). The remaining sections of US 340 both in Maryland and West Virginia operate as a four lane facility. Within this section of roadway (outside of the East Gateway study area), several intersections also affect US 340 operations: Chestnut Hill Road (in West Virginia) and State Route 671 (in Virginia).



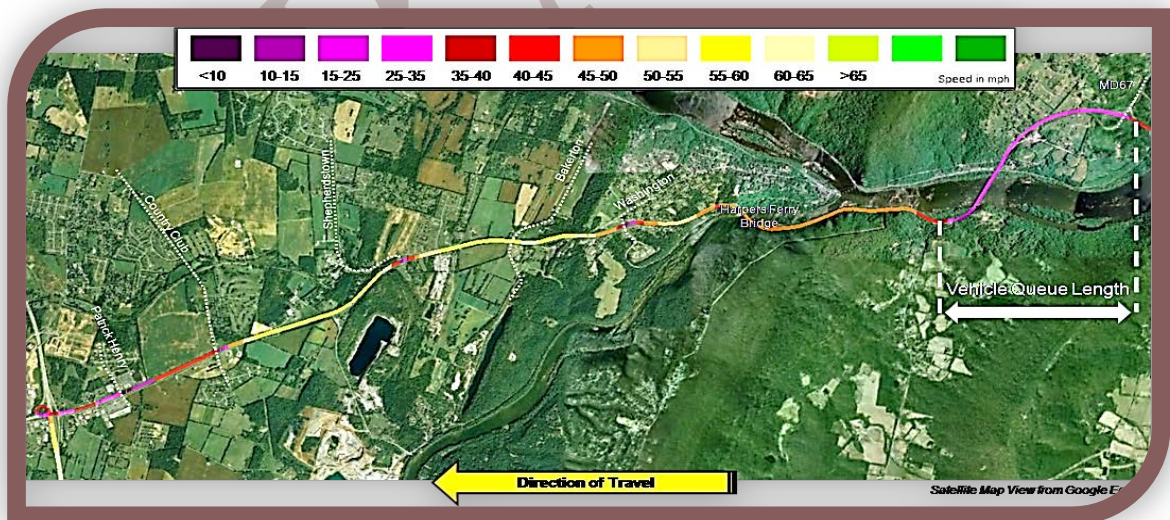
Source: Bill Cannon

Peak Congested Speeds and Traffic Queuing on US 340

US 340 Eastbound Summer Weekend (4-7pm)



US 340 Westbound Fall Weekday (4-7pm)



Map 15: Peak Congested Speeds and Traffic Queuing on US 340

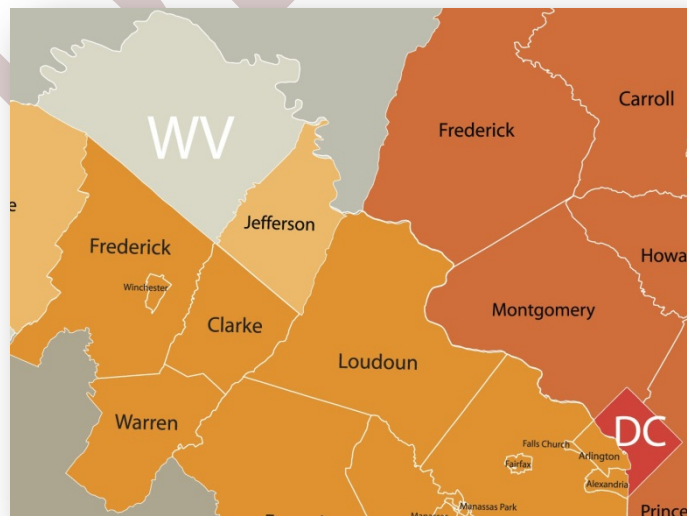


- **US 340 between WV 9 Interchange and Patrick Henry Way** –Patrick Henry Way is currently the most congested intersection within the corridor. During peak period traffic queues can extend from this intersection west to the WV 9 off/on-ramp signals in both directions. Both Patrick Henry Way and the intersection at Jefferson Terrace are used to access commercial and shopping destinations including Walmart. The commercial traffic when combined with regional “thru” travel on US 340 can create delays within the section.
- **Alternative Parallel Roadways and Access to Commercial Areas** – The current transportation system in the East Gateway corridor provides limited alternatives to US 340. Access to existing commercial areas require utilizing the western portions of US 340 during congested time periods. Although, portions of US 340 have frontage roads, an integrated system of roads does not exist that would allow residents to travel east-west through the corridor without accessing US 340. An integrated frontage road system would also provide options for eliminating left turns at un-signalized approaches within the corridor.

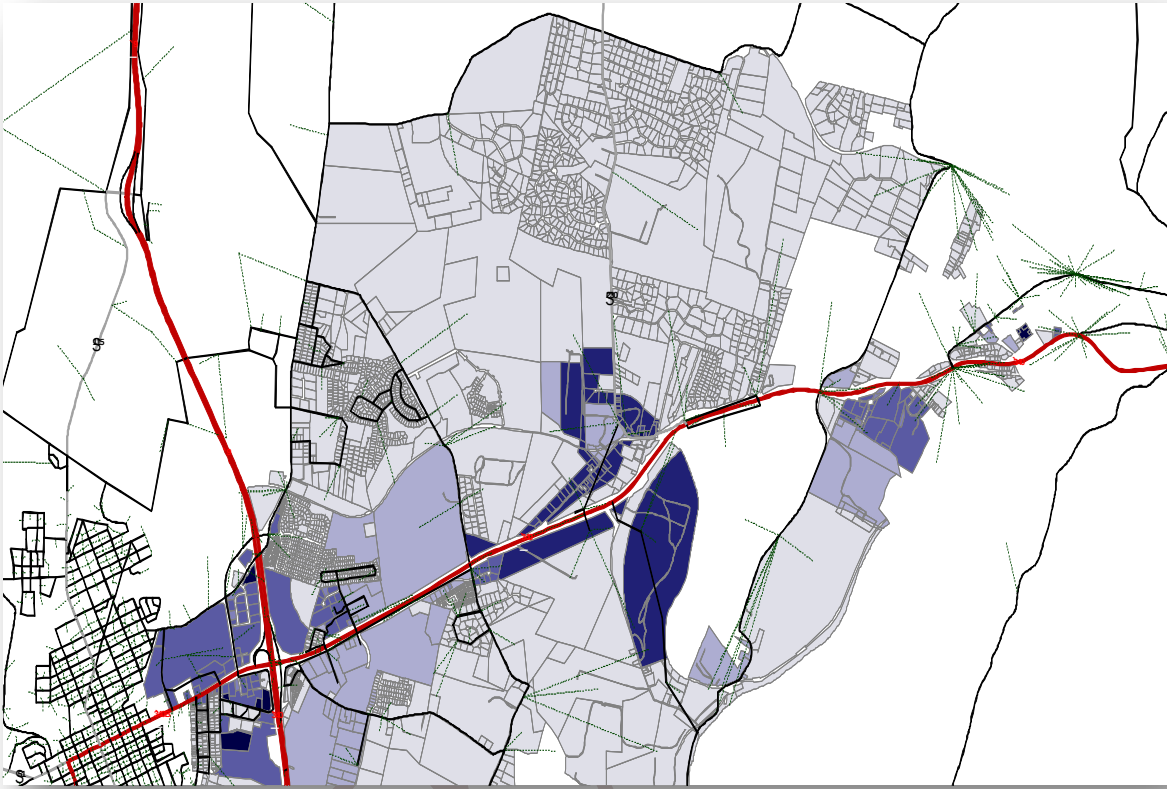
Future Traffic Congestion

Estimating future congestion is a difficult exercise considering the unknowns related to the type and timing of future development. A modeling exercise has been conducted to evaluate the ability of existing intersections in the study area to handle potential traffic growth if significant development were to occur.

Based on the land use vision for the corridor, land use types were translated to future demographics (e.g. population and employment) and input to the HEPMPO regional travel demand model (as illustrated in Map 16). Analyses were conducted for a 2035 horizon year assuming a 60% build-out of the land use areas. The travel model estimates vehicle trips based on the forecasted land use and assigns them to the highway network. The future scenario also includes growth outside the East Gateway corridor and a continued growth in regional “external” traffic from/to Maryland and Virginia.



HEMPO Regional Travel Demand Model



Map 16: HEMPO Regional Travel Demand Model

Zonal Employment Density

Low

High

The growth in traffic volumes forecast from the travel demand model were used to grow existing turning movement traffic counts for each intersection along US 340. These forecasted intersection counts were analyzed using available analysis tools (Highway Capacity Software, SYNCHRO, and SIMTRAFIC) to identify key LOS and operational criteria for the PM peak period. Table 9 summarizes the results of the analyses. As discussed for existing conditions, LOS is measured on a qualitative scale from A (best) to F (worst).

Analysis Results of Future Traffic Growth Scenario

Intersection Capacity Analysis – Future No-Build PM Peak (2035)

ID	INTERSECTION with US 340	Sig/ Unsig	Approach LOS				Intersection	
			EB	WB	NB	SB	LOS*	Delay**
1	Shenandoah St		C	-	-	F	F	2.6
2	Union Street		C	-	-	F	F	15.9
3	W. Washington St / Shoreline Dr		F	A	E	E	E	57.9
4	Bakerton Rd / Millville Rd		C	B	F	F	D	-
5	Co Rt 340/13 / Shipley School Rd		C	B	F	F	F	-
6	Shepherdstown Pike / S. Frontage		B	C	D	E	C	21.4
7	Blair Rd		-	B	F	-	D	1144.3
8	Halltown Rd / Rion Hall Farm		D	D	F	F	F	-
9	Old Country Club / Marlow Rd		F	F	F	E	F	138.5
10	Patrick Henry Way		F	F	F	F	F	221.2
11	Jefferson Terrace Rd		B	C	F	C	E	78
12	Ramps to/from NB WV9		E	A	F	-	D	48.2
13	Ramps to/from SB WV9		F	C	-	F	F	111.7
14	Flowing Springs Rd & E. Wash.St		B	A	D	D	B	18.6

* Signalized Intersection LOS = HCM; Unsignalized Intersection LOS = ICU (Synchro)

** Average delay in seconds per vehicle averaged over all approaches

Simulation Travel Speeds – Future No-Build Peak (2035)

ID	INTERSECTION with US 340	Sig/ Unsig	Simulation Travel Time (sec)			
			Eastbound		Westbound	
			AM	PM	AM	PM
1	Shenandoah St		40	32	46	28
2	Union Street		40	28	41	31
3	W. Washington St / Shoreline Dr		43	25	24	24
4	Bakerton Rd / Millville Rd		55	51	56	57
5	Co Rt 340/13 / Shipley School Rd		53	59	51	52
6	Shepherdstown Pike / S. Frontage		29	34	22	28
7	Blair Rd		53	57	57	52
8	Halltown Rd / Rion Hall Farm		48	53	52	51
9	Old Country Club / Marlow Rd		8	34	10	12
10	Patrick Henry Way		16	17	28	18
11	Jefferson Terrace Rd		16	4	31	23
12	Ramps to/from NB WV9		26	5	30	34
13	Ramps to/from SB WV9		17	7	17	20
14	Flowing Springs Rd & E. Wash.St		24	10	21	26

Table 9: Analysis Results of Future Traffic Growth Scenario

The analysis of future year conditions indicates several key issues that should be considered in planning for future longer term transportation improvements within the corridor:

- **Increase in North-South Vehicle Trips** – Continued growth in residential developments will significantly increase traffic on many of the corridor’s north-south roadways. Un-signalized intersections, which are already considered a safety concern during peak periods, will not have the capacity to handle the future demand, resulting in significant delays. The timing and location of future development will determine which intersections will be of the most concern over the next 10 years. Identified commercial development south of US 340, including that at the Old Standard Quarry, could dramatically increase the traffic at the Millville and Blair Road intersections, which currently have very low traffic volumes. Signalized intersections will also be impacted by future growth. The intersection at Old Country Club Road may see future traffic growth that may alter signal timings creating less capacity on the US 340 mainline.
- **More Turning Vehicles on US 340** – Increased development within the East Gateway Corridor will create more turning vehicles for those traveling on US 340. This, in turn, will require signal timing changes that will degrade mainline “thru” operations. During peak periods, additional capacity or alternative parallel roadway facilities (e.g. frontage roads) may be needed to provide access to commercial areas along US 340.

Other Transportation Modal Needs

Addressing the transportation needs related to future land use growth should consider other modal options including transit, walking and biking. The potential benefits of transportation options within the East Gateway corridor are summarized in Table 10 .

Benefits of Transportation Options	
Benefit	Description
Traffic Congestion Reduction	Helps reduce traffic congestion, facility costs, and environmental impacts.
Consumer Benefits	Provides consumers with choices to choose the most efficient option for each trip.
Equity	Allows transportation options for people who are physically, economically or socially disadvantaged.
Livability	Helps communities become more “livable”, resulting in increased property values and commercial activity.
Security and Resilience	Results in a more diverse and flexible transportation system that can accommodate variable and unpredictable conditions.

Table 10: Benefits of Transportation Options, Source: Victoria Transport Policy Institute (TDM Encyclopedia)

PanTran is the public transportation service of the Eastern Panhandle Transit Authority serving Berkeley and Jefferson counties. PanTran operates two different bus services – flex-route service and demand-response service. PanTran's Orange "Charles Town" route includes several service stops in or near the East Gateway corridor including the Hollywood Casino at Charles Town Races, Wal-Mart (Patrick Henry Way) and the Harpers Ferry rail station. Bus service headways vary by the service stop location but typically range from 2-3 hours with no available nightly service.

The HEPMPO LRTP, *Direction 2035* includes a transit component that has identified key regional transit needs for PanTran. For the LRTP, various transit demand estimation techniques were used to determine overall existing and future transit needs. Additional needs have been identified through stakeholder and public input. Key issues that relate to the East Gateway Corridor include the following:

- **No Demand-Response Service** – The East Gateway Corridor is not currently covered by Pan Tran's demand response service. The primary service coverage only includes areas in Berkeley County.
- **Limited Fixed-Route Service to Activity Centers** – PanTran's Orange Route has a long route length since it is functioning both as a regional service and local route. Key issues include headways greater than 45 minutes (considered ideal), limited weekend service, running delays, and limited stops at major employment and shopping centers.
- **Limited Fixed-Route Service to Regional Rail and Commuter Bus Service** – The PanTran Orange route does provide service to Harpers Ferry Station, though additional service runs and reduced headways would allow for more connections with MARC and AMTRAK service schedules. There is currently no PanTran service that provides connections to other bus services in Maryland and Virginia.
- **Additional MARC Service and Possible Station Relocation** – Future residential and commercial development in the corridor will increase demand for additional MARC service from Martinsburg to Washington, D.C. This may include expansion of midday service schedules. The relocation of the existing Duffields train station has been included in long range planning efforts for the City of Ranson to improve regional access and promote transit-oriented development.

In addition to transit, bike and pedestrian trails/paths have been identified as an important need within the East Gateway Corridor. Although covered under separate sections in this report, they potentially serve as an alternative transportation option that can reduce vehicle trips within the region, especially in combination with compact and mixed-use development. Specific needs related to this mode include:

- **Integrated Bike/Pedestrian Trail System from Charles Town to Harpers Ferry** – An integrated east-west bike and pedestrian trail has been indicated as a primary need within the corridor. The trail would serve recreational purposes but also provide access to Harpers Ferry, key commercial areas along US 340, and the casino/racetrack. Spur trails/paths with linkages to key residential areas may be useful in reducing peak hour vehicle trips, improving air quality and promoting a healthy lifestyle.
- **Bike and Pedestrian Access to Transit Stations and Stops** - In city after city, transit agencies are rediscovering that good bicycle and pedestrian access is a critical component of the success of the transit system. Walking is the most environmentally friendly and low–

cost way to get people to and from public transportation. When given sidewalks, “traffic-calmed” streets to walk along, safe and convenient ways to cross streets, and a comfortable and attractive environment, most people are willing to walk farther to reach public transportation.

DRAFT

4.0 Goals and Objectives

A key element of any land use planning document is the development of a statement of realistic goals and objectives which lay the groundwork for the implementation strategies of the vision. For the purposes of the US 340 Corridor East Gateway Plan, these goals and objectives are focused on the seven topical areas, six of which were discussed at each of the five public meetings held in 2011-12 regarding this plan. The seventh category was created due to public comments related to Natural and Environmental Resources that were not adequately addressed in other categories. The topic categories are: Land Use, Transportation, Parks / Trails / Greenways, Environmental and Natural Resources, Community Services / Infrastructure, Economic Opportunities, and Historic Resources.

It should be noted that a land use plan such as this generally covers a twenty year planning horizon and as a result, the goals are intended to reach beyond current physical, political and institutional constraints. The process of developing goals commenced with examining existing conditions related to each of the categories listed above and the analysis of issues and opportunities within the corridor. Input from the five public meetings and periodic meetings with the TAC and CAC also influenced the refinement of these goals and objectives.

Note: Present constraints such as existing right-of-ways, funding, and agency/department policy were considered but were not the overriding factors when developing the goals and objectives.

4.1 Community Services and Infrastructure

Goal:

Preserve community service/infrastructure capacity by coordinating future land use and development approvals with the locations of existing community services, including, but limited to, water and sanitary sewer service, schools, libraries, parks, emergency services, broadband and cell service.

Objective: Enhance Emergency Services

Strategies:

- Enhance existing firefighting capacity by providing permanent, full time fire services
- Ensure availability and adequacy of fire hydrants
 - o Provide hydrants in underserved areas, using dry hydrants at ponds and streams or other means
 - o Improve hydrant water pressure
 - o Ensure that standards and testing of hydrants are adequate
- Consider County funding of Harpers Ferry police for provision of first-responder services for accidents on 340 between the bridges
- Develop a long-range funding plan for area Fire and EMS services

Objective: Utilize and Enhance Existing Water / Sewer Service

Strategies:

- Enhance existing water and sewer service
 - o Protect private well and septic systems
 - o Ensure availability and affordability of adequate water and sewer capacity prior to approval of new development
 - o Upgrade Harpers Ferry water system
- Develop future water and sewer infrastructure
 - o Expand availability of water and sewer services in the US 340 corridor
 - o Promote public ownership of water and sewer services
- Improve quality and safety of area water
 - o Area water providers should ensure safety of water
 - o Develop a countywide comprehensive clean water plan
 - o Improve water treatment
 - o Limit the amount of new development served by septic systems

Objective: Enhance Area Schools and Libraries

Strategies:

- Work with the Jefferson County Board of Education to ensure that area schools are adequately funded
- Develop safe routes for children to walk and bike to school
- Encourage programs promoting environmental awareness, school gardens and beautification projects (similar to Page Jackson school model – available for public use during non-school times)
- Improve school organization, communication with the local community, and site planning
- Improve public library access/technical access for those persons without internet access
- Promote use of libraries as community centers

Objective: Promote Expanded Health Services

Strategies:

- Increase availability of mental health services
- Expand WVU Health & Wellness Association with Jefferson Hospital toward Route 340
- Promote quality of local medical and dental care

Objective: Improve Wireless Service in the 340 Corridor

Strategies:

- Work with service providers to improve service between bridges, in Harpers Ferry, and in Halltown area
- Work with service providers to improve broadband capacity throughout corridor
- Work with community stakeholders to identify facility designs compatible with the historic and rural character of the corridor

4.2 Economic Opportunities

Goal:

Encourage and promote business creation and retention within the County's urban growth areas and at key intersections identified on the Future Land Use Map where utilities and appropriate access are in place or planned for.

Objective: Promote Economic Development along the US 340 Corridor

Strategies:

- Improve appearance of corridor (design of development, litter, wayfinding signage)
- Address traffic congestion (especially on weekends)
- Review the adequacy of current impact fee structure
- Create parking for recreational/tourism sites as well as for commuters
- Retain scenic beauty, historic resources and farming to promote natural and heritage tourism opportunities
- Weekend train between Harpers Ferry and DC and between Harpers Ferry and Charles Town
- Promote additional tourism and entertainment opportunities
- Encourage Harpers Ferry restaurants to stay open later in the evenings

Objectives: Promote Business Development and Retention

Strategies:

- Promote the development of a wide variety of types of businesses, including but not limited to:
Small businesses, "Green" jobs, tourism / entertainment, high tech / data centers, white collar (professional, IT, clerical), medical office, agri-business and agri-tourism, and retreat/training/convention center
- Retain existing businesses
- Promote the creation of businesses that support Appalachian Trail, C&O Canal, and bike path users

- Achieve a balance of retail, federal, industrial and historical/tourism job opportunities
- Enhance educational opportunities and workforce development
- Identify incentives to encourage employment opportunities in historic facilities, and review the efforts of other communities in achieving this objective

4.3 Environmental and Natural Resources

Goal:

Protect environmentally sensitive areas such as ecological corridors, agricultural lands, wetlands, streams, inland lakes, steep slopes, and groundwater recharge areas from impacts of incompatible development.

Objective: Preserve Sensitive Natural Resources from the Negative Impacts of Development

Strategies:

- Preserve natural features, such as scenic beauty, rural viewsheds, significant tree stands, green infrastructure, the Shenandoah River and other water resources.
- Recognize the importance of trees in the suburban environment by encouraging the retention of existing native trees and the establishment of street and shade trees in residential neighborhoods and commercial developments (land use regulations amendments may be required).
- Incorporate Chesapeake Bay Watershed standards into development requirements
- Protect Karst geology
- Require vegetative buffers along US 340 in key areas to promote a parkway-like character along the corridor
- Protect the Elks Run Watershed, water source for Harpers Ferry and Bolivar
- Guide new development in a manner that conserves natural features and environmentally sensitive areas and meets the long term needs of the community.
- Encourage the integration of wetlands, woodlands and meadows into site development as aesthetics and functional features.
- Encourage the retention of agricultural lands, forest lands and ecological corridors through available mechanisms such as open space and farmland conservation easements, as well as zoning incentives.
- Encourage the use of native plant species and naturalized landscape designs, where appropriate, to enhance the communities' existing character.
- Preserve topography such as slopes, valleys and hills by limiting the amount of cut and fill during site development.

Objective: Preserve and improve the scenic quality along the corridor including rural/agricultural and scenic/natural areas.

Strategies:

- Amend local land use regulations to address plan recommendations such as setbacks, signs, billboards, parking lots, screening, greenbelts, landscaping, lighting, deteriorating structures and dangerous buildings.
- Enforce regulations related to size and location of signs and billboards to minimize clutter, confusion, aesthetic degradation, and limit traffic hazards.
- Implement open space residential and commercial development design standards to preserve scenic views, rural character, farmland, meadows, woodlands, steep slopes and wetlands with a target of preserving characteristics within a development.
- Develop a species list of acceptable street trees to be planted on both public and private properties when development and redevelopment occurs.

4.4 Historic Resources and Viewshed

Goal:

Protect historic properties, buildings and sites from impacts of incompatible development.

Objective: Protect Historic Structures/Resources

Strategies:

- Identify existing historic resources within the US 340 Corridor
- Assist local, state and federal entities in their efforts to retain historic resources within the context of their original setting
- Educate land owners about the benefits of historic properties and the process for seeking listing on the National Register of Historic Places
- Educate and assist landowners with structures on the National Register of Historic Places regarding available funding mechanisms for the restoration and/or maintenance of historic resources
- Update current Zoning Ordinance requirements regarding development adjacent to historic resources
- Consider establishing a review process for demolition permits for historic structures
- Encourage rehabilitation and redevelopment of historic resources
- Create standards that require preservation of historic structures if land is developed

Objective: Enhance Cultural/Heritage Activities

Strategies:

- Promote heritage and recreational tourism near Harpers Ferry, including sites such as the location of the Battle of Harpers Ferry
- Coordinate with "Journey through Hallowed Ground" on tree planting along Corridor (part of National program)
- Explore opportunities for additional cultural events, including music- and food-related festivals
- Establish pedestrian trails to connect historic resources such as those sites along the Washington Heritage Trail

Objective: Protect the Rural and Historic Viewshed/Landscape

Strategies:

- Identify existing historic and rural landscapes, vistas and viewsheds in the Corridor and develop regulations to retain the same
- Prohibit neon, blinking signs or electronic message signs that are not static for a certain period of time
- Install landscaping buffers adjacent to existing development
- Establish standards to prevent light pollution
- Promote a variety of land uses to discourage duplication of services such as gas stations and small shopping centers

Objectives: Create Gateway/Entrance

Strategies:

- Encourage appropriate rural/historic design for new or redeveloped public buildings in the corridor
- Install historic signage at appropriate locations along the US 340 Corridor, such as the location of the Visitors Center
- Minimize development along the US 340 frontage in the vicinity of the battlefield, to preserve a prominent gateway feature for the entry into West Virginia
- Improve US 340 Corridor aesthetics by creating a continuous green gateway landscaped with native species providing all-season color, developed in cooperation with community groups, governments, schools, religious organizations, etc.

4.5 Land Use and Zoning

Goal:

Preserve, protect and enhance the character of the corridor, property values and the economic viability along the corridors by managing for growth and development.

Objective: Retain Open Space and Land in Agricultural Use

Strategies:

- Promote development that adequately balances the protection of key historic, agricultural and natural features with high-quality development
- Establish a Transfer of Development Rights program
- Work with National Park Service and residents to prioritize areas for land acquisition
- Identify mechanisms to allow for productive and profitable agri-businesses and agri-tourism.

Objective: Encourage Development within Existing Urbanized Areas and at Specific Commercial Nodes

Strategies:

- Provide development incentives for properties within the UGBs
- Develop new zoning categories in order to implement areas identified for mixed-use development at major intersections or along arterial roads within UGBs
- Identify areas for low- to high-density residential development within UGBs
- Establish design standards for new development (layout, facades, signage, lighting) that reflect a town center character to create a sense of place
- Use design standards to reduce typical strip commercial development image that lacks a sense of place
- Develop ordinance amendments that will enable mixed use developments to result in dense walkable communities based on New Urbanist/Smart Growth design principles

Objective: Permit Mixed-Use Development in Targeted Areas

Strategies:

- Develop a new mixed use zoning district that promotes quality mixed employment development (light industrial, wholesale, retail, office) with design standards
- Amend the current mixed use zoning district to eliminate industrial uses and to create a true mixture of uses based on New Urbanist/Smart Growth principles
- Allow properties to rezone to mixed-use development at key intersection
- Encourage mixed-use zoning for properties within the Urban Growth Boundaries
- Require commercial development to be blended within a mixed use context to achieve a balance between retail and residential uses
- Plan for a limited section of the Old Standard Quarry property to develop as a mixed use development

Objective: Encourage Appropriate Development Opportunities in Rural Areas

Strategies:

- Promote cluster development to preserve open space
- Identify additional agriculture-related land uses appropriate for the Rural District
- Allow flexible standards (such as gravel driveways and Low Impact Stormwater Design) for Rural land uses
- Promote heritage and recreational tourism and agritourism
- Establish design standards for any new development in the Rural District (layout, facades, signage, lighting) that replicates the architectural and contextual features found in rural settings
- Provide design elements that allow for view of mountains to not be blocked
- Protect the quality of life elements that are important to Jefferson County residents and visitors
- Establish standards to provide efforts to minimize blight control, deteriorating structures, and dangerous buildings

Objective: Improve Planning Coordination with Other Agencies

Strategies:

- Increase awareness of the historic and rural character of the US 340 Corridor in all planning phases (i.e. Comprehensive Plan, etc.)
- Collaborate with Federal agencies located in the County regarding “greening” of Jefferson County & energy use reduction
- Develop a consistent approach to development and signage specifications in this corridor (i.e. water treatment facility next to historic property)
- Explore options for applicability of local codes to Old Standard Quarry property
- Ensure coordination between appropriate agencies for the creation of a true Gateway transition
- Refer all proposed developments within designated UGBs or adjacent to incorporated areas to the municipality for comment and coordination of development
- Coordinate with the West Virginia Division of Highways to establish a master plan for the approval of new entrances onto US 340 and intersecting state roads
- Coordinate with local utility providers to establish standards for approval of water line and sewer line extensions
- Plan for urban level of service for police, fire, and school resources within the UGBs

4.6 Parks, Trails and Greenways

Goal:

Preserve, protect and enhance the park facilities and trails within the US 340 corridor, and enhance parkway-like characteristics to provide a more enjoyable traveling experience.

Objective: Improve Existing Trail Network

Strategies:

- Provide trail connectivity for health, exercise, recreation, ecotourism and access purposes in areas such as, but not limited to:
 - o Between Harpers Ferry and Charles Town
 - o Between Harpers Ferry and WV 9 trail
 - o Across US 340 from Bolivar to HFNPS resources such as Murphy Farm
 - o Between rivers along Millville/Bakerton Roads
 - o Linking parks, athletic fields and neighborhoods
 - o Develop Greenways on the Blue Ridge that connect with the valley, and along the Shenandoah and Potomac Rivers
- Provide new connecting trails with all new development
- Provide trailhead parking
- Consider developing trails on “paper streets” (platted, unbuilt rights-of-way) in incorporated areas
- Provide Shenandoah River access at southern end of Old Standard Quarry property for recreational opportunities
- Upgrade bridge and C&O Canal / Harpers Ferry for easier bike portage to C&O Canal towpath.

Objective: Beautify the US 340 East Corridor

Strategies:

- Retain existing landscaping and create additional landscape design along 340 to create a continuous “parkway” aesthetic
- Plant low maintenance native plant species along the US 340 corridor
- Plant trees along the corridor, such as a variety of flowering trees that change color at different times of the season to provide for continuous color change.
- Protect historic views
- Improve appearance of corridor by creating standards for the design of new development and signage and by reducing extraneous signage

Objective: Develop Additional Parks and Enhance Existing Parks

Strategies:

- Create new parks to serve a variety of users (such as passive recreation, sports, and dog parks)
- Improve access to rivers for fishing and recreation
- Restore recreational activities to lower Harpers Ferry (including picnics, swimming, fishing)
- Provide additional park/recreation resources on the Blue Ridge Mountain

Objective: Improve Signage and Mapping

Strategies:

- Provide “wayfinding” signage along the corridor and trails which indicate historic sites in addition to nearby shops, restaurants, towns, etc.
- Improve online availability of trail maps on the County’s website, in addition to websites of other organizations
- Use Google Maps to upload trail information
- Utilize National Park Service education programs to build community awareness of County trails

Objective: Identify Financial Resources for Passive and Active Recreational Opportunities

Strategies:

- Identify public and private funding sources for trails, bike paths, parks and greenways

4.7 Transportation

Goal:

Preserve roadway capacity and the useful life of US 340, reduce crashes and crash potential/promote safety, decrease travel time and congestion, coordinate land use and transportation decisions by regulating safe and reasonable access between public roadways and adjacent land.

Objective: Maintain and enhance the efficiency and capacity of the developed and undeveloped segments of the corridor.

Strategies:

- Promote a land use pattern that is consistent with the capacity of roadway networks.
- Regulate the number, location and type of access points by implementing access management standards.
- Remove local traffic from through traffic lanes through the use of frontage and/or other parallel routes to reduce the speed differential of through traffic lanes.

- Increase the connectivity between existing and proposed neighborhoods and commercial developments to allow increased dispersion of local traffic
- Minimize the delay impact of traffic signals at intersections by setting the phase timing of the traffic signals to maximize capacities.
- Collaborate with HEPMPO and WVDOH on long range funding for improvements to the corridor.

Objective: Promote Traffic Safety

Strategies:

- Reduce the number of potential conflict points, particularly at unsignalized intersections, through the use of raised medians, underpasses, controlled left turn lanes, right turn lanes, combined access points, frontage roads and/or rear access drives, and connected parking facilities.
- Improve safety at signalized intersections along the 340 corridor through the coordination of signals
- Improve safety at all intersections by considering alternative design options
- Support the development of safe pedestrian & bike facilities through the use of medians and median islands, and bike lanes within and outside the right of way.
- Reduce the speed of traffic in urbanized areas with traffic calming practices such as green buffers with sidewalks, landscaping, green median islands, and street trees plantings.
- Enhance enforcement of speeding and red-light running

Objective: Improve Traffic Flow

Strategies:

- Build frontage (service) roads or other parallel interconnected roads adjacent to US 340, to allow for separation of through traffic and local traffic
- Improve existing intersections to enhance capacity
- Develop connectivity, interconnectivity and improve other existing roads to divert traffic from 340
- Evaluate any needed improvements to Cattail Rd./Marlow Rd. following the opening of the new WV 9
- Minimize installation of new traffic lights
- Coordinate transportation improvements with US Customs & Border Patrol development
- Improve directional signage
- Improve access to US 340 from Bolivar (especially on weekends)
- Ensure that any required improvements to US 340 and surrounding roads occur concurrent with development activity
- Consider a variety of solutions to improve traffic flow, if recommended by transportation engineers, including, but not limited to, traffic circles ("roundabouts");

underpasses/overpasses (particularly at Route 27); eliminate “no turn on red” restriction at various intersections; synchronize stoplights, especially on weekends;

- Improve Potomac Street to connect to Bakerton Road and work with CSX and other appropriate agencies to re-establish connection
- Develop western or northern bypass around Charles Town and Ranson

Objective: Promote Transportation Alternatives

Strategies:

- Increase the availability and frequency of Public Transit Connections
- Consider development of a Park and Ride/Commuter Lot
- Increase rail access to Charles Town and Ranson
- Provide weekend train service from Harpers Ferry to Washington, D.C., both directions

Objective: Develop an Access Management Strategy in Conformance with State Law

Strategies:

- Adopt zoning and access management standards compatible with the plan recommendations that regulate access points and encourage shared access through frontage roads, rear service drives, shared driveways and connected parking lots.
- Coordinate access management with local land use planning.
- Discourage strip commercial development along highways and direct development to commercial nodes with managed access points by inclusion in comprehensive plan and land use regulations.
- Educate local units of governments, businesses and general public on importance of coordinating access management with land use planning.

Objective: Improve Mobility for Pedestrians, Hikers, and Bicyclists

Strategies:

- Connect existing hike/bike routes, such as the C&O Canal path, the Ranson Flowing Springs Trail (under construction) and the WV 9 path; and construct new hike/bike routes
- Install pedestrian/bike crossings at intersections along US 340
- Build sidewalks in areas with pedestrian traffic
- Install speed bumps near area schools

Objective: Provide Safe and Convenient Transportation Opportunities

Strategies:

- Coordinate improvements to US 340 within the UGB to accommodate additional traffic volumes associated with new development
- Provide interconnectivity within and between developments to create a more continuous street network, including connections between neighborhoods and commercial areas where appropriate
- Coordinate improvements to US 340 outside the UGB to handle existing traffic and expected incremental increases in traffic volumes

DRAFT

5.0 Plan Recommendations

Based on public comment received during public meetings and from the MetroQuest online survey, staff has provided recommendations for the following 7 topic areas: Community Services/Infrastructure; Economic Conditions; Environmental and Natural Resources; Historic Resources and Viewshed; Land Use and Zoning; Parks, Trails and Greenways; and Transportation. Transportation recommendations were developed by the consulting firm, Michael Baker, Inc.

Due to public input received, the preferred growth scenario for the US 340 Corridor East Gateway is based on the original “rural landscape with development in the urban growth boundary (UBG)” alternative with specific modifications that include acknowledging the development rights of the residential growth area northeast of Ranson (bordering Flowing Springs Road, Job Corps Road, and Old Country Club Road) and including specific commercial nodes along the US 340 Corridor.

This scenario supports the concept of the highest intensity development being concentrated inside the Charles Town and Ranson UGBs, where growth can be served by existing utilities and transportation infrastructure, but allows for limited, high-quality development to occur along the US 340 Corridor. The preferred scenario supports the concept that the area outside of these growth boundaries and the noted commercial nodes should be retained in agricultural land, open space, or low-density residential uses. This preferred growth scenario acts as the vision for this planning document.

5.1 Community Services and Infrastructure

Utilize and Enhance Existing Water / Sewer Service

Properties within the US 340 corridor planning area obtain water and sewer service by a combination of centralized water and sewer systems from a variety of public and private service providers, as well as on-site septic tanks and wells.

During the corridor planning process, stakeholders identified the need to enhance existing water and sewer service. Specific suggestions were made regarding the following:

- Ensuring availability of adequate water and sewer capacity prior to approval of new development
- Protecting private well and septic systems
- Upgrading the Harpers Ferry water system
- Ensuring affordability of water and sewer services

Participants also recommended the development of additional infrastructure to expand the availability of water and sewer services in the US 340 corridor. The provision of centralized water and sewer services for urban level density is a reasonable request for the protection of local water resources. Some participants expressed an interest in encouraging public ownership of water and sewer services. There is currently some concern locally regarding the number of

private package treatment plants that are approved by the Public Service Commission which result in the need for the Home Owners Associations (HOAs) or other private entities to operate and maintain them for years into the future. At times, the Jefferson County Public Service District (PSD) receives requests by the private operator of take over operation of these older private plants resulting in considerable upgrade costs. The local elected officials and Planning Commission, in cooperation with the PSD staff and Board, should review local land development regulations to consider a requirement that all potential private wastewater operators enter into an agreement with the PSD to ensure that all private plants are built to a standard that can be managed by the PSD if that is necessary in the future.

Comments received during the planning process indicated that residents of some areas felt that the quality and safety of area water supplies could be improved. Ideas expressed included improvements to water treatment, requiring area water providers to ensure the safety of water, and limiting the amount of new development served by septic systems. Additionally, stakeholders recommended the development of a countywide comprehensive clean water plan.

Improve Wireless Service in the 340 Corridor

Currently, there are some cellular antenna facilities in the US 340 corridor study area; however, participants in the planning process indicated that service is insufficient in some locations such as Harpers Ferry, the Halltown area, and the section of US 340 between the bridges. Public safety concerns were also expressed regarding the ability of river users to make calls to emergency services personnel. Additionally, some stakeholders recommended an expansion of broadband capacity throughout the 340 corridor area, to allow for high-speed wireless Internet access for residents and employers.

It should be noted that the US 340 corridor includes many historic resources, including the Harpers Ferry National Historic Park. Recent changes to the Jefferson County Zoning Ordinance may provide adequate protection to historic areas while providing incentives for antenna co-location with other cellular facilities that do not require construction of a tower.

Provision of cellular antennas is primarily a private-sector function; however, the County plays a significant role in the review and approval of wireless facility applications. It will be important for wireless service providers, community stakeholders, and the County to work together to identify facility designs compatible with the historic and rural character of the corridor.

Enhance Area Schools and Libraries

Participants in the planning process recognized the high quality of Jefferson County public schools and expressed appreciation for the area's library resources. Additionally, participants identified the following opportunities to improve existing school resources and services:

- Work with the Jefferson County Board of Education to ensure that area schools are adequately funded
- Develop safe routes for children to walk and bike to school
- Encourage programs promoting environmental awareness, school gardens and beautification projects (similar to Page Jackson school model – available for public use during non-school times)
- Improve school organization, communication with the local community, and size planning vis-à-vis planned residential development yields
- Improve public library access/technical access for those persons without internet access

- Promote use of libraries as community centers

Enhance Emergency Services

As the population of the US 340 corridor grows, the demand for emergency and fire services will increase as well.

The Jefferson County Emergency Services Agency (JCESA) is the County Commission's designated agency responsible for overseeing the county's fire suppression and emergency medical services (EMS), and ensuring the efficient delivery of these services to the residents of Jefferson County. The JCESA also establishes funding priorities among the county's seven member fire companies and administers the funding appropriations and allocations provided through the County Commission's annual budget and the county's impact fee program, as well as other funding resources.

JCESA's EMS/Fire and Rescue Five-Year Strategic Plan provides recommendations for maintaining and improving fire and EMS services in the County – services which are operated on an all-volunteer basis. The plan notes that “the fire companies continue to face ever-increasing challenges in their service delivery capabilities. Such challenges are centered on the recruitment and retention of qualified volunteers and the extreme financial burdens associated with maintaining and operating capital-intensive fire and EMS services.”

Participants in the US 340 corridor planning process echoed this concern, and suggested that existing volunteer-based firefighting capacity could be enhanced by the provision of permanent, full time fire services. It was also suggested that a long-range funding plan for area Fire and EMS services be developed.

Stakeholders also expressed concern regarding the long-term adequacy of first-responder services for accidents on the section of US 340 located between the two bridges, and recommended consideration of County funding of Harpers Ferry police for provision of emergency services in this area.

Additionally, participants recommended ensuring the availability and adequacy of fire hydrants in the 340 corridor planning area, including the following recommendations:

- Providing hydrants in underserved areas, using dry hydrants at ponds and streams or other means
- Improving hydrant water pressure
- Ensuring that standards and testing of hydrants are adequate

Although participants in the planning process made recommendations related to fire suppression and EMS service provision within the 340 corridor planning area, it should be noted that these services are County-wide in scope, and any changes should be considered in the context of broader JCESA planning efforts.

Promote Expanded Health Services

Jefferson County is fortunate to be the location of the WVUH-East Jefferson Memorial Hospital, which is situated in near the US 340 Corridor in downtown Ranson. A new hospital will be built on property located near the intersection of WV 9 and US 340. Other health care providers within the corridor include Jefferson Urgent Care and Harpers Ferry Family Medicine.

During the planning process, stakeholders generally expressed support for enhancing existing health services in the County, including expansion of WVUH-East Jefferson Memorial Hospital services and increasing the availability of mental health services. Other comments made included the importance of promoting the quality of local medical and dental care.

5.2 Economic Opportunities

The US 340 corridor between Harpers Ferry and Charles Town is the principal business corridor in Jefferson County. Many participants in the planning process identified ways that the economic vitality of the corridor – as well as the County as a whole – could be strengthened.

The future land use plan for the corridor – which recommends additional areas for office and commercial opportunities – provides numerous options for expansion of economic activity. Some of these areas of opportunity are described below:

- **Potential redevelopment areas.** Some sections of the corridor are appropriate for commercial uses, but are not currently fully utilized. These areas include the Halltown area and the Shenandoah Quarry.
- **Properties within the Urban Growth Boundaries.** The land located inside the Urban Growth Boundaries of Charles Town and Ranson is the most appropriate area for development within the corridor.
- **Parcels near the intersection of Millville/Bakerton Road.** Where Millville and Bakerton Roads intersect US 340, mixed-use development at an urban level of density is recommended. Additionally, the northern section of the Old Standard Quarry property could be appropriate for mixed residential and commercial development.
- **Millville.** The unincorporated community of Millville is shown recommended for designation as Residential/Commercial Mixed Use to allow for redevelopment of existing uses, permit existing uses, and provide for opportunities not permitted in the current zoning classification. This area could be considered as a possible location for future Village District zoning.

The proposed land use categories provide a level of predictability for existing land owners, both residential homeowners and business owners, and allow potential business owners an understanding of what is permitted and how the corridor will develop. It is also envisioned that some of these areas would have design standards.

The following three objectives summarize comments heard regarding economic development during the planning process:

1. Promote Business Development and Retention in the US 340 Corridor
2. Promote Tourism and Entertainment Opportunities
3. Promote Economic Development Countywide

Regarding business development, participants identified several types of businesses and industries for potential location within the corridor. These include:

- Tourism / historical / entertainment
- High tech / data centers
- White collar (professional, IT, clerical)
- Additional Federal offices
- Telecommuting
- Industry
- Agri-business and Agri-tourism
- Medical office
- Retreat/training/convention center
- "Green" jobs
- Small businesses (generally)

Some of the business types listed above are currently represented along the US 340 corridor. Participants in the planning process emphasized the importance of retaining these existing businesses.

Because of Jefferson County's location within the Washington Metropolitan area as well as its distinctive historical and natural resources, the US 340 corridor has the potential to be the location of a variety of distinctive niche business types. Overall, diversity of business and employment types was identified as an important objective during the planning process, both within the corridor generally as well as within commercial developments.

Participants also identified numerous recommendations regarding tourism and entertainment opportunities. For example, some suggested the creation of businesses that support the Appalachian Trail, the C&O Canal, and trail/bike path users. Such businesses could take the form of a bed and breakfast; a lodge; a supply store dedicated to campers, hikers and bikers; or a hostel.

Recommendations include:

- Retaining the corridor's scenic beauty, historic resources and agricultural legacy in order to promote natural and heritage tourism opportunities
- Promoting the creation of businesses that support Appalachian Trail, C&O Canal, and bike path users
- Creating parking for recreational/tourism sites (as well as for commuters)
- Encouraging Harpers Ferry restaurants to remain open later in the evenings
- Improving the overall appearance of corridor, through improvements to the design of developments, cleanup of litter, and allowing appropriate commercial signage
- Installing directional signs and/or a welcome sign in order to greet and orient visitors

Many of those who contributed comments during the planning process expressed concerns that traffic congestion in the corridor may be a barrier to economic development, in addition to hindering the quality of life of area residents. To address weekend traffic congestion in particular, some participants recommended establishing weekend train service to Harpers Ferry from Washington, DC, as well as train service from Harpers Ferry to Charles Town. More recommendations that address congestion are included in the Transportation section of this chapter.

Participants in the planning process also noted potential actions to improve economic development on a countywide basis. These recommendations include:

- Enhancing educational opportunities and workforce development
- Identifying incentives to encourage employment opportunities in historic facilities, and review the efforts of other communities in achieving this objective
- Lessening regulatory barriers to development such as site plan review times
- Reviewing the current impact fee structure

Implementation of these recommends should take place in coordination with the Jefferson County Economic Development Authority

5.3 Environmental and Natural Resources

Participants in the planning process recommended that the County consider amending its development standards to preserve and enhance Jefferson County's scenic beauty, rural viewsheds, and significant tree stands. Meeting attendees and survey respondents also advocated for the protection of the Shenandoah River, the Potomac River, and other water resources.

The overall goal related to this element that emerged from the planning process is:

Protect environmentally sensitive areas such as ecological corridors, agricultural lands, wetlands, streams, inland lakes, steep slopes, and groundwater recharge areas from impacts of incompatible development.

The two objectives related to this goal are:

1. Preserve Sensitive Natural Resources from the Negative Impacts of Development
2. Preserve and improve the scenic quality along the corridor including rural/ agricultural and scenic/natural areas.

Some of the significant strategies related to these objectives include:

- Preserve natural features, such as scenic beauty, rural viewsheds, significant tree stands, green infrastructure, the Shenandoah River and other water resources.
- Recognize the importance of trees in the suburban environment by encouraging the retention of existing native trees and the establishment of street and shade trees in

residential neighborhoods and commercial developments (land use regulations amendments may be required).

- Require vegetative buffers along US 340 in key areas to promote a parkway-like character along the corridor
- Protect the Elks Run Watershed, water source for Harpers Ferry and Bolivar
- Encourage the integration of wetlands, woodlands and meadows into site development as aesthetics and functional features.
- Encourage the retention of agricultural lands, forest lands and ecological corridors through available mechanisms such as open space and farmland conservation easements and conservation easements, as well as zoning incentives.
- Implement open space residential and commercial development design standards to preserve scenic views, rural character, farmland, meadows, woodlands, steep slopes and wetlands with a target of preserving these characteristics within a development.

The full list of recommended strategies appears in the Goals and Objectives section of this plan.

5.4 Historic Resources and Viewshed

As the existing character of the corridor changes, care needs to be taken to address the historic resources and natural resources. Historic resources provide a sense of place and heritage that fosters a connection to the community and has important economic, social, and education benefits. The aim of historic resource protection, therefore, is to retain the heritage and identity of a community or region as reflected in its natural and built environment and to ensure that the community's history and unique character, and the benefits they afford, are preserved for future generations. While the original setting of the historic resources may be diminished, it is hoped that the structures themselves can be saved. It is possible to incorporate significant resources into new developments. As noted above, the Beallair development has shown this to be possible.

The mechanism to achieve the balance between growth and preservation of community resources can occur in a number of ways. First there is a need to work with the local historical groups to identify and document historic resources in the corridor. Once resources have been identified, there should be an efforts made to encourage methods which allow the resources to be protected.

The Zoning Ordinance and Subdivision Regulations could provide incentives and standards to protect historic resources and natural resources when development occurs adjacent to such resources. Permitting adaptive reuse of historic resources should be encouraged. Incentives could include increasing the intensity of the property for protecting and preserving resources valued by the community. Transferring the density and/or intensity could occur on the same property or be transferred to another site. This could apply not only to historic resources, but for other resources, such as the preservation of mature wood lands or a riparian buffer protecting a water resource.

In many historic buildings, non-conformities routinely exist, as they were built before current zoning ordinance provisions were enacted. As a result, some historic properties have never

been in strict compliance with the zoning ordinance. As such they would remain “legally nonconforming.” However, owners of such properties should be encouraged to not only preserve their historic buildings, but also to adapt them for other uses when the original use has become obsolete. A provision could be included for legally nonconforming historic structures. For example, administratively, there could be a 40% variance on code requirements for setbacks, lot size, green space, expansion of existing parking and or/loading requirements. Examples also include signage that has taken on a historic character such as Texaco, Coca-Cola and Mail-Pouch signs.

For home owners who have structures on the National Register of Historic Places, providing information and assistance of funding mechanisms available to them to restore and/or maintain historic resources would allow for the continued use of the resources. The State of West Virginia does have a program that assists private home owners in receiving assistance for repairs to their home that comply with Secretary of the Interior's Standards for the Treatment of Historic Properties so long as a public benefit for the repairs can be established.

Historic resources and natural resources could be promoted as community amenities for the developments in which they are located. The promotion of nominating historic structures on the National Register of Historic Places could possibly allow for financial incentives.

When historic properties are used for commercial purposes there are state and federal tax incentives to counterbalance the expense invested into the property. If permitted by the state taxation code, a reduction in land assessment may be an opportunity for historic resources that are protected during and after development. Conservation easements either in the form of farmland, historic or natural easement is an alternative option for protection.

Where historic resources are protected and conserved in a development, the area around the structure should retain an area that provides some context of the structure. This could be accomplished by establishing buffers that enhance the historic landscape and utilizing compatible screening material such as a wide lawn, existing vegetation, appropriate walls or fences, supplemental native trees and hedgerows. Enhancing the historic landscape could also occur by utilizing a site design that enhances views, such as the use of natural features, surface planes, building materials, design that compliments the existing resource, and unobtrusive parking areas.

In the area surrounding Towns of Bolivar and Harpers Ferry, there may be the opportunity for the National Park Service to prioritize areas for land acquisition.

5.5 Land Use and Zoning

Future Land Use Scenario

The following Preferred Land Use Scenario was developed after significant public participation and input resulted in the refinement of the 3 proposed growth scenarios. The 3 scenarios were (1) Growth within the Urban Growth Boundary, (2) Planned Mixed Use, and (3) Full Build Out. Each scenario has different land use implications and transportation impact on the corridor. (The 3 growth scenarios are discussed in Appendix C of this document). The urban growth boundary for Charles Town, as it applies to this study begins at the south side of US 340 just east of Marlow Road, and runs to the southeast following various properties, then returns to Cattail Road and continues south to the current two-lane WV 9 (Charles Town Road).

Background: Development of the Preferred Land Use Scenario

The Preferred Land Use Scenario was developed in an iterative process that included multiple public meetings. This process began with a public meeting on June 16, 2011 at which attendees were asked to describe their land use vision for the corridor. Based on the information gathered at this meeting, staff developed three alternative land use scenarios.

The September 17, 2011 meeting was the first opportunity for the public to comment on the 3 scenarios. From the September meeting and the public comments gathered from the MetroQuest website, the three scenarios were further modified to create one Preferred Land Use Scenario, which is described below. The three growth scenarios were designed to represent a projected 25 year build out.

Those who attended the September meeting were asked to comment on the 3 scenarios, to select their preferred growth scenario, and to recommend any changes they thought were necessary. There were four groups that went through this exercise. Two of the groups chose "Growth within the Urban Growth Boundary" and two groups chose "Planned Mixed Development". Each group made adjustments to their scenario. Those who chose "Growth within the Urban Growth Boundary" made changes to allow some additional growth outside the UGB. Those who chose "Planned Mixed Development" made changes to reduce the area of some of the development locations and mitigate some development impacts.

After this meeting the MetroQuest online tool went public and collected public feedback until mid-November 2011. The results that developed using MetroQuest were similar to the feedback received at the September meeting. While the "Growth within the Urban Growth Boundary" scenario was chosen most frequently on the online tool, comments provided by users indicated some additional growth outside the urban growth boundary was appropriate. Of those who chose a land use scenario on MetroQuest, the results of the 3 land use scenarios are 46% for "Growth within the UGB," 34% for "Planned Mixed Use," and 20% for "Full Build Out."

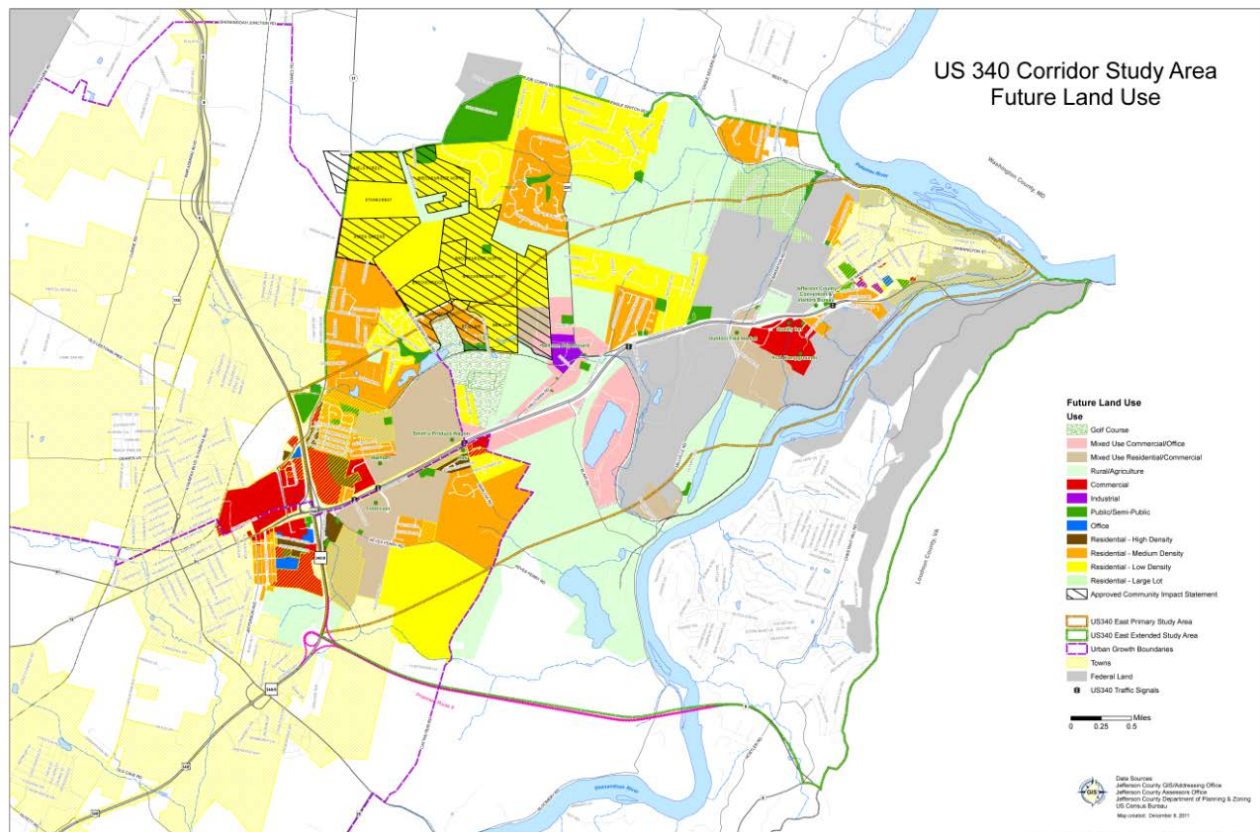
At the December 6, 2011 meeting, the preferred land scenario was presented to the public to ensure that their input had been accurately represented. This meeting gave the public one last

opportunity to hone the Preferred Land Use Scenario before a final land use scenario was publicly presented. Overall, there were very minimal changes suggested to the preferred land use. Changes that were considered and amended on the preferred land use map were near the Halltown Plant and Alstadts Corner, in addition to a more clear delineation of those properties that have an approved Community Impact Statement (CIS) but are not yet built out.

After the December 6th meeting and subsequent changes to the Preferred Land Use Scenario, the Final Land Use Map was finalized and presented to the public on January 19, 2012. There were no suggested changes to the land use option at the meeting.

Future Land Use Map

The Future Land Use Map (Map 17) is an attempt to strike a balance by allowing additional growth beyond the urban growth boundary, while also respecting the area's rural character, environment, and history. The scenario combines commercial, housing, rural development, and employment.



Map 17: Future Land Use, Source: Jefferson County, WV GIS/Addressing

The Future Land Use Map shows urban level density within the Urban Growth Boundary. For the underdeveloped parcels within the Urban Growth Boundary, much of the land use is shown as Residential/Commercial Mixed Use and Medium Density Residential. It is anticipated that development, particularly in the residential/commercial mixed-use area would be walkable, landscaped and architecturally attractive. In order to allow such uses, design standards would

play an important role in site development. For example, a typical suburban style retail center disjointed from a mix of housing types is not envisioned.

Generally, to the north and east of the Ranson Urban Growth Boundary, oproperties are shown as Low and Medium Density Residential. The residential land use designation reflects the existing land use rights and entitlements in that are currently in place.

The proposed land uses along the north side of the corridor from Old Country Club Road to Halltown Road recognize the existing land uses in that location and provide a small area of Commercial/Office Mixed Use on the corner of Old Country Club Road and US 340. On south side of the corridor from Marlow Road to Blair Road, the existing land uses are recognized near Marlow Road while the existing large farm on the south side of US 340 near Blair Road allows Commercial/Office Mixed Use along the front of the property. Permitting this Commercial/Office area would achieve two purposes. First, such an intense land use would provide for the extension of a frontage road to be built with the development. Second, this level of development would allow the rear of the property to retain its rural character, including possible allocation for future agriculture use, recreational opportunities, or a residential cluster development. This is an example of allowing greater land use intensity in one location to offset a less intense development pattern elsewhere.

Located to the south and east of the US 340 and Blair Road intersection is a vacant quarry. It is envisioned that the area surrounding the quarry could be an office and commercial area. A section of this property has been shown as Rural in order to preserve some of the woodlands to retain the natural landscape and viewshed, and to provide a less developed feel to the corridor. While the active quarry along Blair Road is shown as Rural, this proposed land use designation will not and does not affect the ability to mine that area.

The land uses in the Halltown area includes maintaining the Halltown paper plant's designation as Industrial/Commercial. The area surrounding the plant and along Halltown Road is shown as Commercial/Office Mixed Use. The commercial and office designations are intended to provide for and promote redevelopment opportunities. There are a few historic resources within the unincorporated Halltown community that should be protected during any redevelopment. On the Future Land Use Map, there is a small strip of shown as Rural between US 340 and the Commercial/Office uses proposed on Halltown Road. The purpose for this area is to protect the woodlands that would act as a buffer to the uses on Halltown Road, to retain the natural landscape and viewshed, and to provide a less developed feel to the corridor.

The node at Bakerton/Millville is proposed as a Residential/Commercial Mixed Use area, and is buffered by existing residential uses. This future land use category is also shown on northern section of the Old Standard Quarry property. This designation would facilitate some development of the property while retaining the remaining portion in its current Rural designation. Additionally, the viewshed on the remaining Old Standard Quarry property would not be affected as a result of this dual land use designation. However, there has been some feedback, particularly on the part of the National Park Service, that development should occur between Millville Road and the quarry lake. This would retain the viewshed on the higher elevations, reduce development cost by locating commercial activity on more level topography, and provide greater road frontage for businesses. The existing land use for the area near the

Quality Inn is recognized in the Future Land Use Map. Much of this property is designated as commercial use and currently supports recreational opportunities.

The federal land areas made up of the US Customs and Border Patrol property and the Harpers Ferry National Park represent land uses that are so amalgamated into the fabric of the County that it is easy to take them for granted. There may be options for the Harpers Ferry National Park to acquire additional property. The US Customs and Border Patrol are in the process of major site construction during which an extensive landscape berm is proposed to be in place along the front of that site when construction is complete. While the US Customs and Border Patrol serve a different need than the Harpers Ferry National Park, there may be opportunities for land acquisition as well.

It is acknowledged that additional development may result in a reduction in some of the area's rural character, environment, and historic resources. However, some elements may be counterbalanced. For example, a historic home may require continued maintenance that can be costly, but allowing for some development around the structure could yield an infusion of funding for the maintenance of the structure, which could be a feature of the development. While the context of a home located on an open farm would be lost, the structure could still be saved.

A key component of this Future Land Use Plan is to couple these proposed land uses with design standards. Such standards will assist in reducing the impact on natural and scenic views. A key recommendation of this plan is to establish design standards for new development (layout, facades, landscaping, signage, lighting) that reflect a town center character to create a sense of place. Further, a key comment voiced at many public outreach meetings was that the proposed land uses would be palatable County residents, provided that the design is appropriate to the context of the area. It should be noted that design standards do not imply reduced density or intensity of use. These standards are to be developed in the implementation stage.

The types of development shown in the Future Land Use Plan would allow for some private funding of road improvements, parks, pedestrian and bike paths as development occurs. Where there is development, there may be a need for transportation improvements to maintain current levels of service. With the nature of growth and development in this case, the extension of trails and parks through the various developments could be provided.

In carrying out the objectives of the Future Land Use Plan, it may be necessary to refer all proposed developments within designated UGBs or adjacent to incorporated areas to the municipality for comment and coordination of development.

Use of the Future Land Use Map

It should be noted that the Future Land Use Map represents an advisory document to be used by Jefferson County's staff, boards, commissions, and elected officials in making land use recommendations. The map does not constitute a proposal to rezone properties. Following adoption of this plan, all properties within the planning area will retain their existing zoning.

Land Use Goal and Objectives

In addition to providing input regarding the land use map scenarios for the US 340 corridor, participants in the planning process also offered other comments related to land uses in the corridor. These comments resulted in the overall land use vision for this plan (below).

- Preserve, protect and enhance the character of the corridor, property values and the economic viability along the corridors by managing for growth and development.
- Many participants in the planning process expressed the importance of preserving the County's agricultural heritage. In addition to maintaining the viability of working farms and preserving open spaces, many comments also emphasized the importance of rural economic development.
- Based on comments received at public meetings, as well as results from the MetroQuest online surveys, the plan recommends that new development should be concentrated either within the Urban Growth Boundaries of Charles Town and Ranson, or located at major intersections on US 340. Generally, it is preferable for growth to occur in locations where it can be served by existing infrastructure. New development should have design and layout characteristics that allow for walkability and create a sense of place.
- Mixed-use development is recommended in various locations along the corridor. In contrast to development that contains either solely residential or commercial uses, mixed-use development allows for a reduction in car trips, lower levels of road congestion, and an improved quality of life for residents of these developments. Mixed-use developments are typically characterized by a pedestrian-oriented design, and are sited to provide an attractive streetscape area located between a development and the street on which it fronts.
- The County has an existing mixed-use district, but it is lacking in the standards that would result in a quality mixed-use development. As such, this plan proposes new mixed-use districts that would require a percentage of both commercial and residential development types, allow for an appropriate list of permitted uses, allow for pedestrian-oriented site design, and would include design standards.
- Where there is an opportunity for development in properties designated Rural on the corridor plan, such uses should have appropriate standards that are compatible with that land use. There may be site standards that are tailored to the needs of rural activities. The design elements in this environment may reflect traditional agricultural character. Site standards may be less conventional in this setting to retain the rural atmosphere. Potential rural development may include, but not be limited to cluster developments, agri-business and agri-tourism and other forms of tourism that is in keeping with the rural environment. Encouraging and permitting such uses would provide a mechanism to promote the rural quality of life that is valued in Jefferson County.

- Just as this plan has been undertaken with coordination and cooperation of several other organizations and agencies, such efforts should continue and improvements made where possible. It is through such collaboration that ideas and solutions can be found to improve both the quality of the corridor and the quality of life in Jefferson County. There will be further opportunity for coordination in the future as elements of this plan are implemented.

Vested Rights

Along the corridor there are existing vested rights in the form of approved developments that have not yet started construction and properties with existing zoning. The former land use rights are the biggest concern among property owners. Particularly there are residential developments on Flowing Springs Road and Old Country Club Road that have approval for development of homes. One of the concerns of the property owners is that the proposed density shown in this plan is less than their existing zoning allows. However, the density proposed in this plan would allow for their developments to be built. While the owners of the property are appreciative that the density permitted in the corridor plan does allow for their projects to be constructed, they would like some assurances that some level of change can be permitted in their developments. Ultimately the zoning in place will govern density. Staff has stated that under the proposed plan, density could be rearranged on the site. For example, if the applicant is allowed 3 units per acre, the development could be in the form of townhomes, single family or apartments. The overall density of the property should not be greater than 3 units to the acre.

Design Guidelines and Standards

Design guidelines are a set of standards that aims to maintain a certain level of quality and architectural or historic character, addressing features such as building facades, public spaces, or landscaping. The goal is to address form-based standards, or building height and size elements rather than only by zoning classifications. In addition to building standards, the street design impacts the form of the development. Street guidelines and standards related to travel-lane width, bike lanes, on-street parking, medians, sidewalks, landscaping, lighting, crosswalks, pedestrian refuge islands, and accessibility ramps.

One of a few mechanisms to carry out the design guidelines is a zoning overlay district which is a set of zoning ordinances, optional or required, specifying land use and/or design standards for a designated portion of the underlying zoning within a defined district; typically used to keep architectural character and development form consistent, make adjacent uses compatible, and/or accelerate the conversion of non-conforming land uses. It is possible that there may be incentives for using the design standards, with or without the creation of an overlay district.

A real potential and advantage of the design standards for a developer is that with reduced setbacks, greater building height, and increased commercial intensity and residential density, there are financial compensations over traditional development patterns.

Major guidelines and standards covered include, but are not limited to:

Major guidelines and standards	
• Building Setbacks	• Building Height
• Lot Dimension	• Parking
• Building Orientation	• Building Materials
• Architectural Detailing	• Building Style and Form
• Landscaping	• Grading
• Site Amenities	• Preservation of Natural and Cultural Features
• Pedestrian and Vehicular Access and Circulation	

Encouraged Design



Encouraged Design: Single Family Residences



Encouraged Design: Quality Design and sense of place



Discouraged Design



Promoted design: Rear loaded garages and structures having a street presence



Discouraged design: Townhomes with front loading garages



Encouraged Design: Example of a commercial boulevard in a development of a double loaded frontage road



Promoted Designs: Commercial buildings oriented to the street



Promoted Design: Encourages a mix of uses along the street and residential units above



**Promoted Designs:
Keeping with the
purpose of the plan**



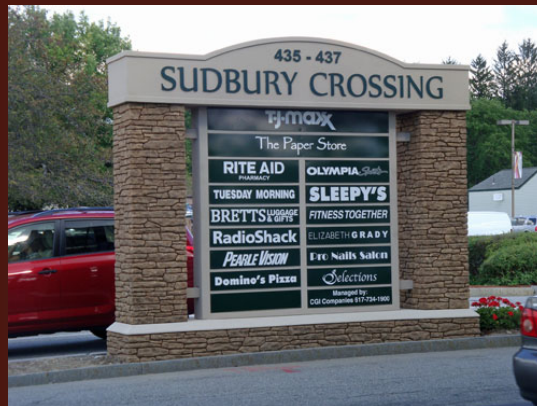
**Discouraged Designs:
Lacks quality of place**



**Encouraged Design:
Low signage for individual businesses**



**Encouraged Design:
Entrance signage for multiple businesses and services**



Encouraged Design:
Signage that is uniform and designed well



Discouraged Designs:
Signage that lacks uniformity and design



**Promoted Designs:
To blend essential services into the development pattern**



Promoted Design Example:

While the street fronts of structures offer as sense of place and quality street presence, the rear of the structures, when screened from view or not seen from a public right-of-way, can be functional and less detailed.



5.6 Parks, Trails, Greenways

Many participants in the planning process identified parks and trails as an important element for enhancing transportation choices, recreational options, and overall quality of life for Jefferson County residents and visitors. Stakeholders identified the following goals for enhancing parks, trails and greenways in Jefferson County:

1. Improve the existing trail networks
2. Beautify the US 340 East Corridor
3. Develop Additional Parks and Enhance Existing Parks
4. Improve Signage and Mapping
5. Identify Financial Resources for Passive and Active Recreational Opportunities

These goals are described in more detail below.

Improve the existing trail networks.

Although some trails currently exist within the US 340 corridor study area, improvements to the trail system are needed to achieve connections between trails and between destinations. Based on stakeholder comments during the planning process, priority areas for improved trail connectivity include:

- between Harpers Ferry and Charles Town
- between Harpers Ferry and WV 9 trail
- across Route 340 from Bolivar to park resources such as Murphy Farm
- linking trails to commercial areas
- connection between rivers along Millville/Bakerton Roads
- trails linking parks, athletic fields and neighborhoods

Other comments included the importance of creating new trails concurrent with new development. Local planning and zoning regulations should be amended to require the dedication of or reservation for trail easements in conjunction with proposed residential and/or commercial development and/or redevelopment plats and plans. It was also noted that roadways should be accompanied by adjacent bike lanes to provide additional transportation options. The appropriate regional and state transportation planning entities should be made aware of the proposed trails plan so that it can be utilized as a part of the design of future road improvements. Another suggested location for trails was “paper streets” (platted and un-built rights-of-way). An upgraded bridge connection between Harpers Ferry and C&O Canal was also suggested, to facilitate bike portage. Sufficient parking should also be provided for trail users.

Members of the Eastern Panhandle Trailblazers, a non-profit organization dedicated to facilitating “walking, running, bicycling and wheeling opportunities” in West Virginia’s Eastern Panhandle, attended public meetings for the US 340 Corridor Plan and contributed comments regarding trails. Input received related to proposed trail connections and new trails in the 340 Corridor have been compiled in draft format on a proposed future trails and park/open space map as a part of this Plan (Map ____)(to be inserted by June 12, 2012). Amendments to the local

planning and zoning regulations related to provisions of trails should be tied to the proposed trail alignments and future park sites found on this Map, within the current or future Comprehensive Plan, and/or within a Parks Master Plan.

Beautify the US 340 East Corridor

Many sections of the US 340 Corridor are notable for their scenic beauty and rural landscapes. However, participants in the planning process identified several opportunities to maintain and enhance the attractiveness of the US 340 Corridor.

Preserving and improving landscaping is a key element for beautifying the corridor. In addition to preserving the existing landscaping, stakeholders recommended designing a landscaped area along 340 to create a “parkway” aesthetic. This would include the planting of trees as well as low maintenance native plant species. Such a tree planting effort would further support the locally adopted Urban Tree Canopy Plan and should be coordinated with the Division of Forestry’s tree planting efforts. This is a unique opportunity for a collaborative effort between the WV Department of Transportation, the WV Department of Environmental Protection, the WV Department of Forestry and local officials interested in tree canopy restoration and enhancement efforts. The Urban Tree Canopy Plan qualifies the Canopy for some grant resources that may be useful in implementing this goal.

Another important factor is protecting the historic and rural character of the corridor. This element includes the protection of historic and rural views as well as the adoption of standards to create aesthetic continuity along the corridor. Such standards would address the design of new development and signage, and would encourage the reduction of extraneous signs.

Develop Additional Parks and Enhance Existing Parks

The US 340 Corridor – East Gateway Plan study area includes three park areas (Flowing Springs Park, Sam Michael’s Park, and the Harpers Ferry National Historical Park). Participants in the US 340 Corridor planning process indicated a need for additional parks and improvements to existing parks. Parks should serve a variety of functions, such as recreational parks, sports parks, and dog parks. The Blue Ridge Mountain was identified as an area where additional park/recreation resources are needed. Improved access to the two rivers for fishing and other recreational activities was also identified as a need. Local planning and zoning regulations do currently require the dedication of parkland in future neighborhoods. These provisions should be reviewed to enable coordination with proposed future park sites found on Map ____, within the current or future Comprehensive Plan, and/or within a Parks Master Plan.

(It should be noted that, currently, the Jefferson County Parks and Recreation Department is considering the feasibility of conducting a master plan for the Jefferson County parks system, including both public and private facilities. The Department intends to conduct a needs assessment during the coming year, and subsequently conduct a master planning process.)

Improve Signage and Mapping

Improvements to signage and mapping will allow residents and visitors to locate and enjoy trails, parks, and other recreational opportunities in Jefferson County. Suggested enhancements to signage and mapping include:

- Ensuring that trail signage indicates historic sites in addition to nearby shops, restaurants, towns, etc.
- Improving online availability of trail maps on the County's website, in addition to websites of other organizations
- Using Google Maps (and similar services) to make trail information available to the public
- Utilizing National Park Service education programs to build community awareness of County trails
- Providing "way finding" signage

Identify Financial Resources for Passive and Active Recreational Opportunities

Funding will be required for the acquisition and development of land for trails, bike paths, and parks. The County and other organizations should identify public and private funding sources for trails, bike paths, parks and greenways. In some cases, trails or trail easements may be provided in association with new developments. Local regulations should be amended to incorporate this requirement to tie it to proposed alignments in locally adopted land use and recreation plans.

5.7 Transportation

This section provides transportation improvement projects that address the transportation goals presented in Section 4.7 including future safety, congestion and transportation mobility needs within the East Gateway Corridor. Specific recommendations for trails and bike paths are not provided in this section, but will ultimately play a key role in providing alternative transportation options that can address mobility and congestion needs. The projects were identified through a collaborative process involving regional planning staff, public involvement, and consultant recommendations.

The projects outlined in this section are intended to serve as key input to future local and regional planning efforts, initiate further discussions and evaluations of project alternatives, and lead to more detailed project-level feasibility studies. Several of the projects are conceptual in nature, particularly the recommendations for new roads. Although alignments have been provided on maps, more detailed examination will be needed to address difficulties associated with right-of-way, environmental considerations, and other public concerns. Some of these key issues are discussed for certain projects based on input received during the public involvement process for this study.

The projects identified, as a whole, represent a significant financial cost that exceeds the past amount of federal and state transportation funds that have been allocated to this corridor. As a result, a prioritization process is useful to evaluate which projects are most important to the residents and travelers within the corridor. For this study, a preliminary effort has been conducted to gain stakeholder and public input into project priorities and needs. Such information has been used to classify projects into short- and long-term categories.

Summary Brief of this Section

- Local planning efforts and public input are important to ensuring that corridor improvements make it to the regional long range transportation plan.
- Future studies will be needed to address improvement alternatives and environmental issues at the current river crossings between West Virginia, Virginia and Maryland.
- Short term improvements are needed to address key safety concerns along the US 340 corridor.
- An integrated east-west frontage road system would provide options to traveling on US 340, improve traffic congestion due to existing and future development, and can be designed to integrate with other transportation modes and to preserve the attractiveness of the corridor.
- New transit service connections and service levels will provide more transportation options to local residents within the corridor.

The Project Development Process

The transportation recommendations provided in this study will serve as key inputs to other regional and state planning processes. Figure 11 illustrates the key steps in the transportation planning process.

At the state level, the West Virginia Department of Transportation (WVDOT) is required to develop and maintain a statewide, multimodal transportation planning process. Broad

categories of highway improvement needs are defined based, primarily, on ongoing examinations of roadway pavement conditions and estimates of current and future traffic demand. The state selects improvement projects based on regional long range plans and includes them in the Statewide Transportation Improvement Program (STIP).

State efforts are supplemented in urbanized areas through the metropolitan transportation planning process. The Hagerstown Eastern Panhandle Metropolitan Planning Organization (HEPMPO) is responsible for developing a regional Long Range Transportation Plan (LRTP) for Berkeley, Jefferson and Washington (Maryland) counties. The LRTP is updated every four years incorporating the latest data and information. The next update is anticipated in the Spring of 2014. The plan not only defines the region's multimodal transportation needs, but also identifies the funding sources that will be needed to implement the identified projects. The HEPMPO also uses this information to prepare a shorter, more detailed listing and prioritization of projects for which work is anticipated within the next 3 to 5 years. The listing of these projects is referred to as the Transportation Improvement Program (TIP), which becomes incorporated into the STIP.

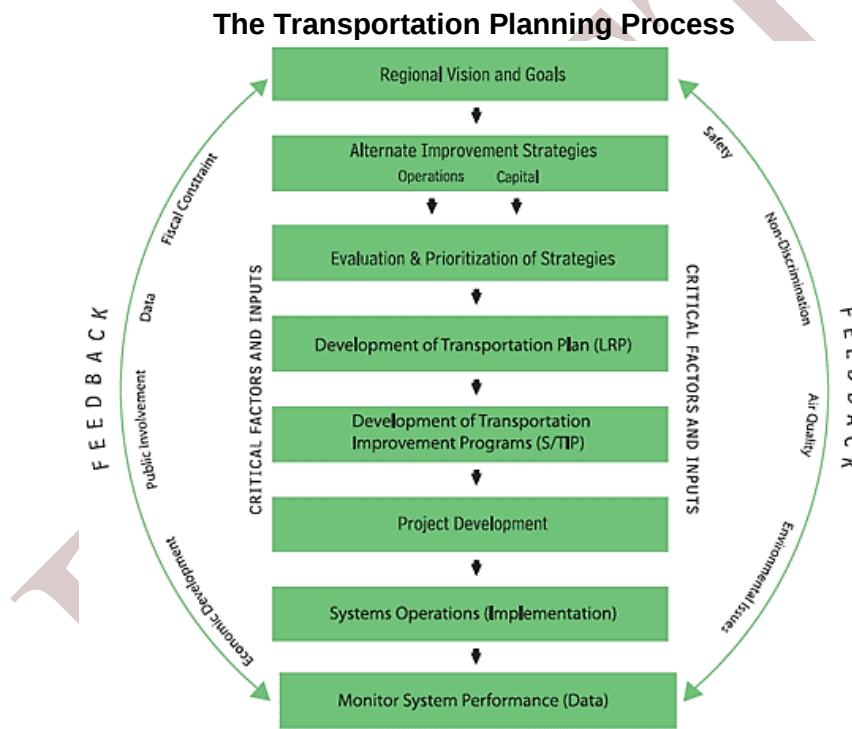


Figure 11: The Transportation Planning Process, Source: The Transportation Planning Process: Key Issues, FHWA-HEP-07-039

This county initiated land use study provides a local level assessment of transportation needs within the US 340 Corridor East Gateway. The study and its recommendations do not represent a commitment or obligation of funds by either the HEPMPO or WVDOT; however, it will serve as key input to future regional and state planning efforts including the update of HEPMPO's LRTP.

Process for Identifying Conceptual Projects

Strategies have been developed to address the transportation needs identified within the US 340 Corridor East Gateway (see the Issues Identification and Concerns section of this report).

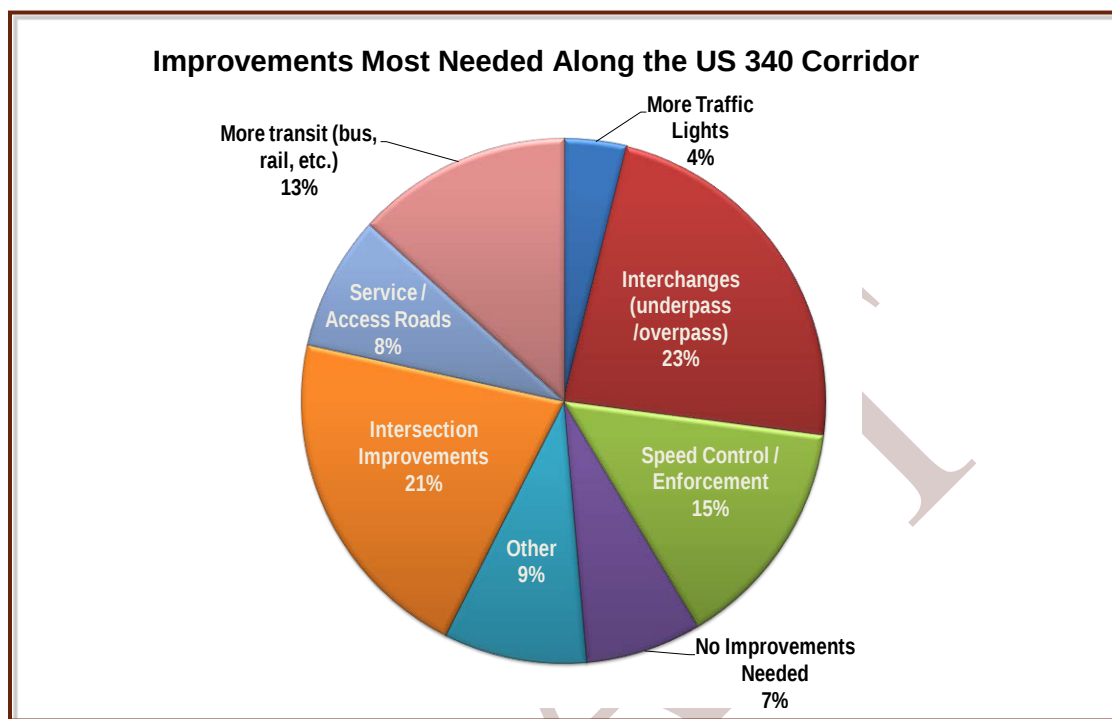


Figure 12: Improvements Most Needed Along the US 340 Corridor

The process used to identify these strategies included input from local and regional planning agencies, consultant staff and public involvement activities. This has included an assessment of regional priorities, the development of an interactive website to collect insights on transportation needs and improvement strategies, a January 19th public work session to identify transportation strategies, and a prioritization worksheet aimed at identifying what projects are most important to the region.

The website data surveys and public work session were valuable in obtaining important insights on general strategy recommendations and specific comments regarding safety concerns, right-of-way issues, and the alignments of proposed new roads. Figure 12 illustrates input on recommended strategy types obtained through the website. An evaluation of the public responses was conducted and used to identify a final project list. Some identified project types, like US 340 roundabouts, were not considered due to high traffic volumes, high speed limits, right-of-way issues and safety concerns with double-lane roundabouts. Additional analyses were conducted by the consultant to determine alternative intersection configurations to address the possible removal of left-turns to improve immediate safety concerns at key locations.

Strategy Recommendations - Overview

As indicated in the transportation needs section, the US 340 river crossings are primary bottlenecks just outside the East Gateway Corridor study area. The existing two-lane bridges (Figure 13 shows the Harpers Ferry Bridge) are a source of significant peak period congestion that affects regional access. Although very important to corridor operations, studies of alternative bridge crossings, which require substantial data collection efforts and a detailed assessment of environmental and construction options, were beyond the scope of this land use vision plan. West Virginia will be working with Maryland and Virginia in conducting future studies to address these, and other operational issues along US 340. Due to the excessive costs and environmental concerns, such projects, even if planned, may not be built for many years.



Figure 13: Harpers Ferry Bridge at Shenandoah River, Source: Google Maps

This study focuses on addressing key transportation operation, safety and mobility options within the East Gateway Corridor as related to future land use growth. Recommended transportation strategies were identified for the corridor. These strategies include lower-cost safety improvements, intersection signalization and reconfiguration, additional lanes on existing facilities, new road construction to improve regional connectivity and transit service improvements. A short description of each specific roadway improvement project is provided in Table 11. These roadway improvement projects are also summarized on Map 18. Transit projects are discussed and summarized in a separate section below. Strategies focused on bike and pedestrian trails are a key priority in this corridor with significant public support. These strategies are discussed in the *Parks, Trails and Greenways* portion of this document, though it is expected that these modes will need to be addressed in the design and upgrade of the roadway system and intersections within the corridor.

In addition to the specific projects presented in Table 11, other more general strategies are recommended to address identified transportation and mobility goals for the corridor. These include future efforts to develop access management standards, speed control options to improve safety, and highway beautification to promote and preserve the nature of the corridor.

Summary of Recommended Roadway Improvement Projects

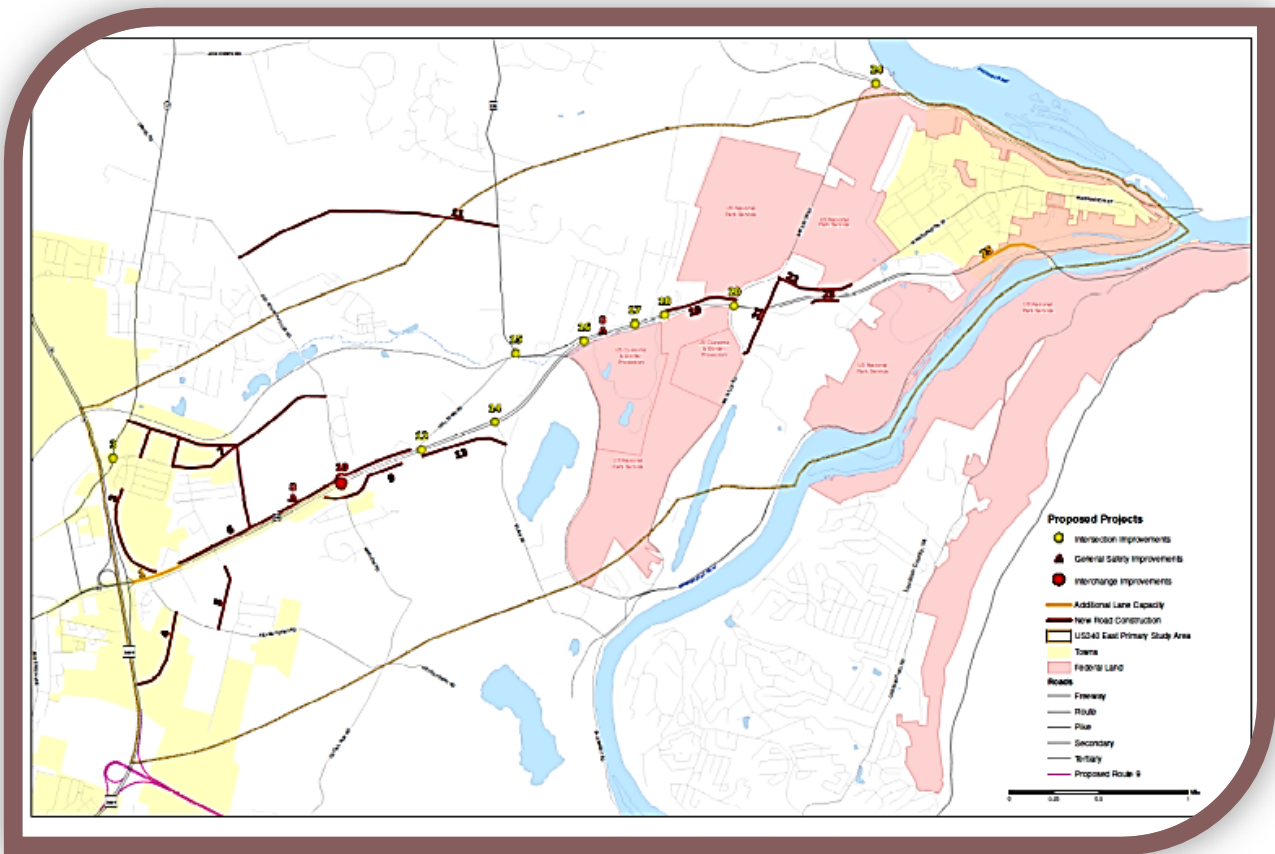
Projects ID Relates to Location in Corridor (Numbering Starts on Western Portion)

Project ID is not based on project ranking or priority

Project ID	Project Type	Project Description
1	Roadway Widening	Extension of turn lanes on US 340 between the WV 9 interchange and Jefferson Terrace Road.
2	New Road Construction	North-South roadway from Shenandoah Springs development connecting to Jefferson Terrace Road.
3	Intersection Improvement	Improvements at Flowing Springs Road / WV 9 / WV 9 Ramp. Includes possible signalization and merge lanes.
4	New Road Construction	North-South roadway connecting US 340 (south of WV 9 interchange) with Keyes Ferry Road.
5	New Road Construction	North-South roadway connecting Keyes Ferry Road to Somerset Blvd.
6	New Road Construction	East-West frontage road on northern side of US 340 from Jefferson Terrace Road to Halltown Road.
7	New Road Construction	Road connections from Shenandoah Springs to Old Country Club Road and Walmart.
8	Safety Improvement	Signal flashers warning of approaching intersection on west-bound US 340 approaching Patrick Henry Way and Shepherdstown Pike (230).
9	New Road Construction	East-West frontage road on southern side of US 340 from Marlow Road to Rion Hall Farm entrance.
10	New Interchange	Construct interchange at US 340 and Old Country Club Road. Interchange may be located west of current intersection requiring roadway reconfiguration.
11	New Road Construction	East-West road north of the rail line connecting Old Country Club Road and Shepherdstown Pike.
12	Intersection Improvement	Intersection reconfiguration and/or signalization at US 340 and Halltown Road. Address concerns for left-turn vehicles during peak periods.
13	New Road Construction	East-West frontage road on southern side of US 340 from Rion Hall Farm entrance to Blair Road.
14	Intersection	Intersection reconfiguration and/or signalization at US 340

	Improvement	and Blair Road. Address concerns for left-turn vehicles during peak periods.
15	Intersection Improvement	Intersection signalization at Halltown Road and Shepherdstown Pike.
16, 17, 18	Intersection Improvement	Intersection reconfiguration and signalization at intersections in vicinity of the US Customs & Border Protection relocated entrance.
19	New Road Construction	East-West frontage road from Shipley School Road to Bakerton Road.
20	Intersection Improvement	Intersection reconfiguration and/or signalization at US 340 and Bakerton-Millville Roads. Address concerns for left-turn vehicles during peak periods.
21	New Road Construction	North-South roadway from Alstadts Hill Road to Bakerton Road. The roadway includes an underpass under US 340.
22	New Road Construction	East-West frontage road on northern side of US 340 from Bakerton Road to W. Washington Street.
23	New Road Construction	East-West frontage road on southern side of US 340 from Alstadts Hill Road to Old Taylor Lane.
24	Railroad Underpass	Widening of Bakerton Road railroad underpass.
25	Roadway Widening	Extension of US 340 westbound truck climbing lane from Shenandoah Street to the existing two lane section.

Table 11: Summary of Recommended Roadway Improvement Projects



Map 18: Proposed Projects, Source: USCBP, Source: Michael Baker Corporation

Short Term Highway Project Recommendations

Several corridor safety and operational concerns were identified as priority needs that will only worsen with future traffic growth. These include aggressive driving approaching signalized intersections on US 340, left-turns and through movements at un-signalized intersections on US 340, and intersection improvements to accommodate the proposed entrance relocation for the US Customs & Border Protection (USCBP) Advanced Training Center. These concerns were identified through analytical analyses, field observations and public involvement efforts associated with this study.

Intersection Approach Warnings

Aggressive driving and high speed limits on portions of US 340 create safety concerns at several signalized intersections along the corridor. In particular, westbound approaches to both the Patrick Henry Way and Shepherdstown Pike intersections were highlighted as major concerns by the public. Vehicles approach these particular intersections at high speeds, resulting in quick decelerations. This becomes an even greater concern as traffic queues develop during peak periods from WV 9 to east of the Patrick Henry Way intersection. Quick truck decelerations also create noise disturbances in and around these intersections.

Low-cost solutions, including the addition of signage, may assist in addressing these safety concerns. Advance-warning flashers, as illustrated in Figure 14, can forewarn drivers when a traffic signal is about to change to the yellow and red phases. These warning signs can also be operated to flash continuously, and in these cases do not need to be connected to the signal controller. Research indicates that warning flashers are effective in reducing approach speeds to intersections and reducing accidents.

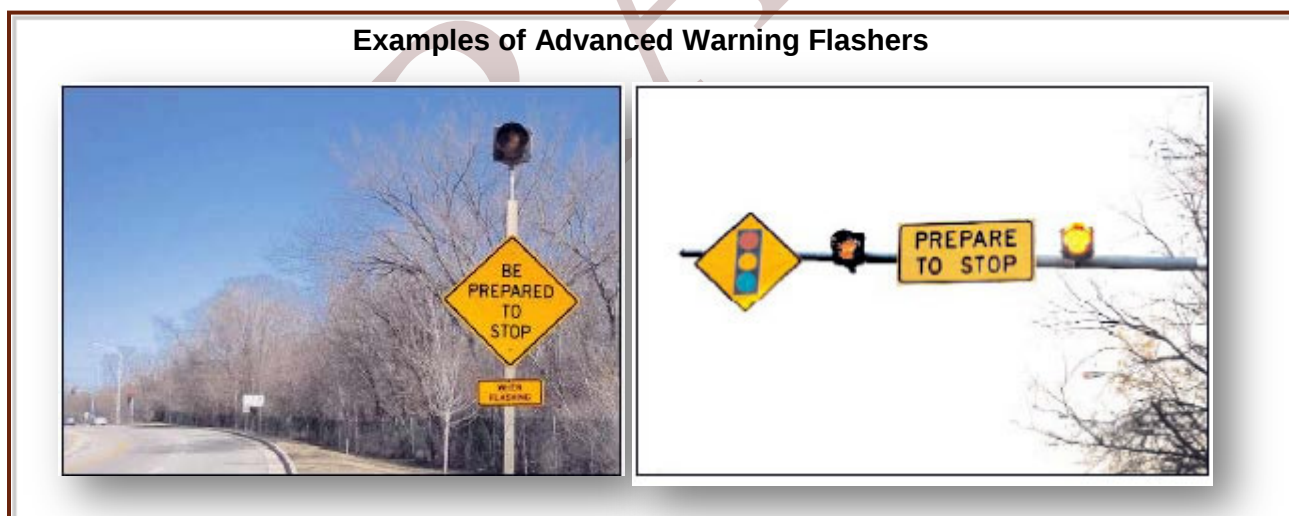


Figure 14: Examples of Advanced Warning Flashers, Source: Making Intersections Safer: A Toolbox of Engineering Countermeasures to Reduce Red-Light Running; ITE 2003

Intersection Improvements at Un-Signalized Locations

During peak periods, making left-turns or through movements at the un-signalized intersection approaches to US 340 becomes very difficult and even un-safe. Key un-signalized approaches which allow such movements include Blair Road, Halltown Road, and Millville-Bakerton Road. Although these approaches to US 340 do not carry significant traffic volumes, limited gaps and

high speeds (e.g. 60mph speed limit) on US 340 make it difficult to safely conduct such movements.

Improvement projects at the US 340 and Millville/Bakerton Roads intersection were rated as the highest priority projects in the corridor (per public input received from meetings and website). This intersection has higher traffic volumes during the summer season as it is used for access to river recreation opportunities and the outdoor flea market. Future growth along Millville Road, including Old Standard Quarry, will severely degrade intersection operations.

As shown in Table 12 , several project types were considered as possible improvements for the un-signalized intersection locations. At the US 340 and Millville/Bakerton Roads intersection, an underpass is identified as a solution to increase safety. However, public comments have stressed that if funding is not currently available for an underpass, then shorter term options should be considered until such a project can be completed.

DRAFT

Improvement Project Types for Un-Signalized Intersections

Project Type	Positive	Negative
Signs to Prohibit Left-Turns / Through Movements	Low-Cost	Does not prohibit illegal movements; Requires U-Turn downstream of intersection
Signalization	Low-Cost; Safe Left Turn and Through Movements	Degrades traffic flow on mainline US 340
Intersection Reconfiguration (RCUT)	Clearly directs vehicles ; separates movements for additional safety	Medium Cost; Requires U-Turn downstream of intersection
Underpass / Overpass	Restricts Left-turns; Safe through movements	High Cost Completion Schedule

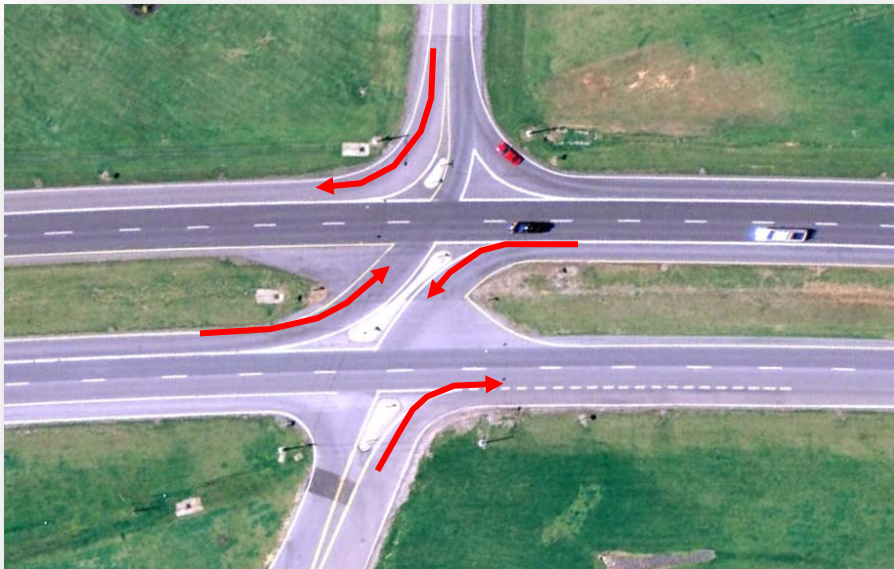
Table 12: Improvement Project Types for Un-Signalized Intersections

Restricted Crossing U-Turn (RCUT) intersection design has been successfully used for conditions similar to US 340 (e.g. arterial roadways with more dominant flows on the major road). The RCUT intersection works by redirecting left-turn and through movements from the side street approaches. Instead of allowing those movements directly through the intersection, as in a conventional design, a RCUT intersection accommodates those movements by requiring drivers to turn right onto the main road and then make a u-turn either at the next downstream intersection or at a one-way median opening 400-1,000 feet downstream. If traffic volumes warrant signalization, traffic signal control on a RCUT intersection requires fewer phases to accommodate higher movement of vehicles. Figure 15 provides several examples of RCUT intersections including one with additional median openings to accommodate u-turns.

A traffic analysis was conducted at the US 340 intersections with Millville and Blair roads based on forecast turning movements related to the land use vision growth scenario. The analysis eliminated left turns at each intersection forcing travelers to make a U-turn at the next downstream intersection. The results indicated that downstream intersection operations were not significantly worsened by these additional U-turns, indicating that an additional median opening on US 340 may not be required.

Example RCUT Intersections

RCUT in Emmitsburg, MD



RCUT in Troy, MI

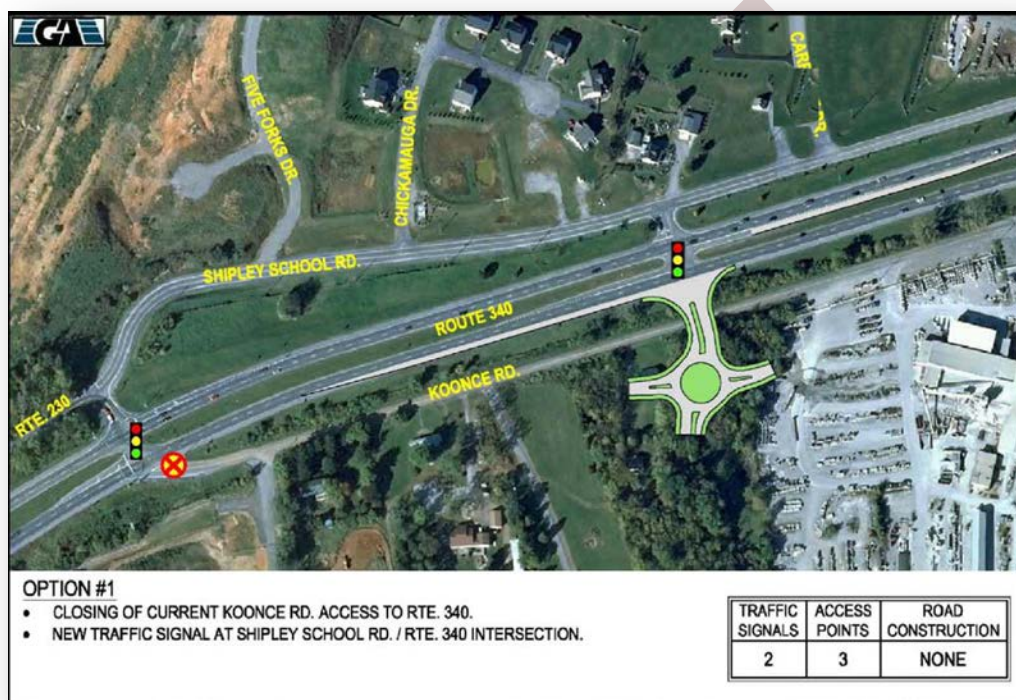


Figure 15: Examples of Restricted Crossing U-Turn (RCUT) Intersections, Source: Google Earth

US 340 Improvements at US Customs & Border Protection (USCBP) Entrance -

A recent study, conducted by USCBP, examines transportation improvement strategies for the US 340 intersections near the proposed entrance to the USCBP training center. Operational and safety concerns are forecasted at the current un-signalized intersection based on projected peak hour traffic volumes. Map 19 illustrates one of the four options that were examined. All of the options included the addition of a new traffic signal at the USCBP access location. The improvements are focused on providing safe access to US 340 from the expanded training facility and from the Shipley School Road approach. Additional alternatives are being evaluated for traffic routing options for Shipley School Road.

US Customs & Border Protection Proposed Intersection Improvements: Option 1



Map 19: US Customs & Border Protection Intersection Improvements: Option 1, Source: USCBP Transportation Alternatives Assessment, July 15, 2011; Kittleson & Associates, Inc.

Improvements may also be considered just east of the new USCBP access intersection where Shipley School Road intersects with US 340 near the elementary school. At this location, left turns are currently prohibited due to limited sight distance and high speeds on US 340. A new downstream traffic signal may also warrant closing this intersection for right turns.

Recommendations for Additional Travel Lanes

Traffic demand will increase with new residential and commercial development and more capacity will be needed along the US 340 corridor to address peak period demand. However, the addition of through lanes has not been recommended for the entire stretch of US 340 within the East Gateway Corridor. The primary reasons include:

- The benefits of any end to end US 340 mainline capacity increases would be diminished until the bridge crossing capacity is addressed.
- There is limited right-of-way for US 340 expansion near the Patrick Henry Way intersection to the west.
- The largest projected increase in traffic movements will be turning vehicles on US 340. Addressing such demand could include intersection reconfiguration, signalization or the possible integration of a frontage road system.
- Additional travel lanes on mainline US 340 may degrade the character of the corridor.

However, several sections of US 340 were identified for possible capacity expansion. Further studies may be needed to identify key right-of-way and construction issues with each conceptual project. Map 20 illustrates the possible extension of existing turning lanes between WV 9 and Jefferson Terrace Road.

US 340 Turning Lane Extension (WV 9 to Jefferson Terrace Road)



Map 20: US 340 Turning Lane Extension (WV 9 to Jefferson Terrace Road), Source: Background Map Google Earth

This project would provide additional capacity for turning movements and may provide some reduction in vehicle queuing between the two intersections. Further considerations may include carrying these additional turn lanes through to the intersection with Patrick Henry Way. This may be particularly valuable for the westbound direction, allowing a dedicated lane from Patrick Henry Way to the US 340 ramp to WV 9 North.

An additional travel lane may also be considered on the section of US 340 westbound just after the Harpers Ferry Bridge crossing. An existing truck climbing lane starts about 0.3 miles after Shenandoah Street. Field observations and public comments have noted slow truck speeds ascending the hill and resulting in some traffic queuing. A project is included to extend the truck climbing lane back to the Shenandoah Street intersection. Key issues regarding available right-of-way and the possible need for a turning lane at Union Street may affect the viability of this project.

Recommendations for New Integrated Road System

In lieu of capacity increases on US 340, many stakeholders and public comments have expressed support for an integrated frontage road system. The recommended new roads primarily provide additional east-west options to travel through the corridor. A frontage road system may also be important in providing access to regional commercial and employment centers during peak hours, providing more flexibility to limit left turns at un-signalized intersections with safety concerns, and integrating with a bike and pedestrian trail system.

Through the project identification and evaluation process for this study, all parties have stressed the need for attractive street design. These designs can be integrated with frontage roads as illustrated in Figure 16. Following the *Complete Streets* concepts being stressed by the City of Ranson, new roads should focus on roadway connectivity and allow everyone, whether on foot, bike, or public transportation, to reach community focal points. Those types of roadway designs will ensure that new roads help communicate the community's vision and ensure a safe, accessible, and attractive transportation system.

Stressing Options and Attractiveness for New Roadway Design

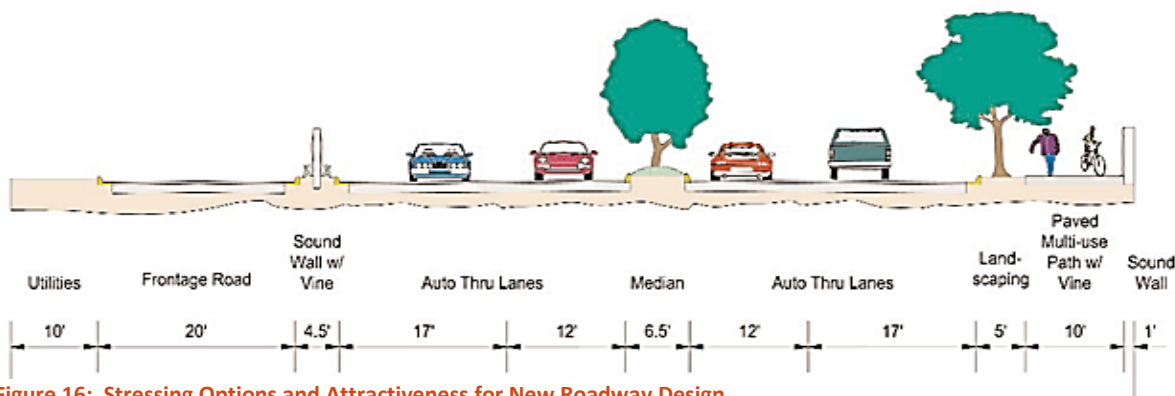


Figure 16: Stressing Options and Attractiveness for New Roadway Design
(Source: Jessop Parkway Concept Plan, Solano Transportation Authority)

Such road designs may require a large amount of right-of-way especially when integrated with frontage roads and multi-use paths. The example provided in Figure 16 illustrates a design requiring about 115 feet of right-of-way. Figure 17 illustrates a portion of US 340 near Patrick Henry Way. This particular section (as illustrated by the red line in the figure) has about 280 feet of width, which may allow for frontage roads on each side of US 340 and beautification efforts. Future planning and design efforts will need to assess existing property lines and state-owned right of way associated with the US340 corridor.

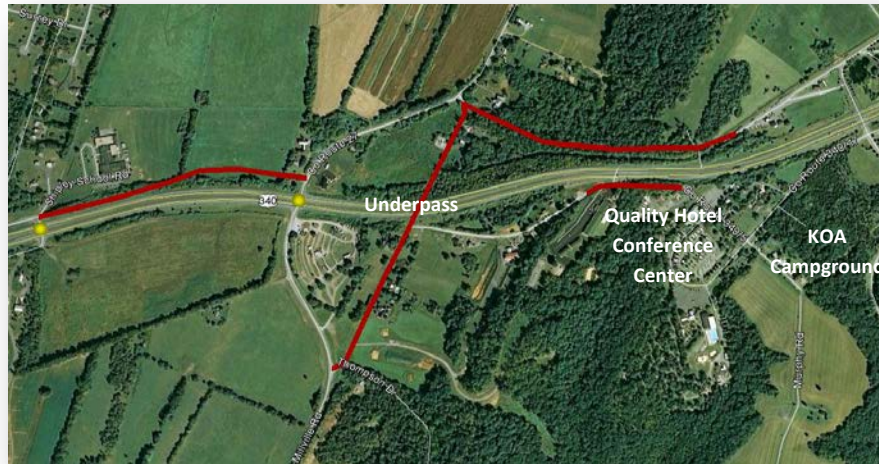


Figure 17: US 340 Right-of-Way

Bakerton-Millville Road Connections

Map 21 illustrates proposed new roadways near the intersection with US 340 and Millville/Bakerton Road. This intersection and the associated projects were the highest prioritized projects at the January 19th public work session. Short term improvements have already been discussed for this intersection.

Recommended Improvements Near US 340 and Millville-Bakerton Roads Intersection



Map 21: Recommended Improvements Near US 340 and Millville-Bakerton Roads Intersection, Source: Google Earth

Longer-term solutions include constructing a new portion of Millville Road as an underpass connecting to Bakerton Road. This would allow for the elimination of left turns and through movements at the current at-grade intersection and provide a safe north-south connection under US 340. There are several optional alignments for the underpass and further studies may be needed to identify potential costs and right-of-way issues with each alternative.

New frontage road connections from Bakerton Road east to W. Washington Street and west to Shipley School Road provide alternative access to Bolivar and Harper Ferry. With these connections, traffic to/from areas north or south of the corridor can access Bolivar and Harpers Ferry without traveling on US 340. Portions of these east-west frontage roads border on National Park Service property.

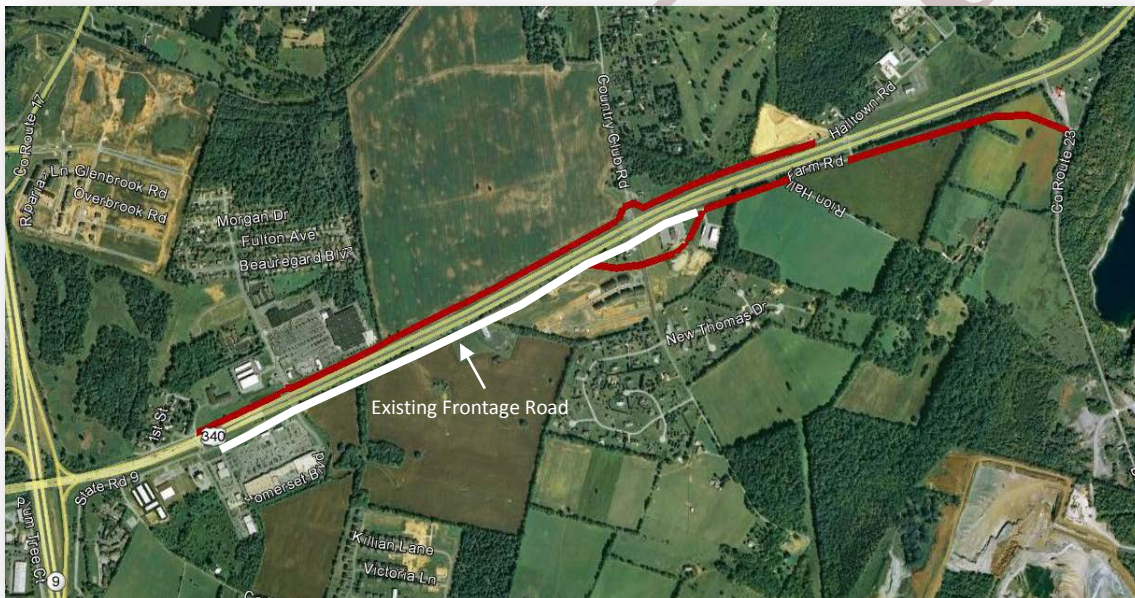
A frontage road linkage is also recommended to connect Alstadts Hill Road and Old Taylor Lane near the Quality Inn and KOA Campground. This connection would provide alternative access to the Millville Road underpass and Harpers Ferry National Park. Several public comments have addressed the safety concerns in making left turns out of the Quality Inn parking lot onto US 340 westbound. These safety concerns could be alleviated by providing alternative access options.

Frontage Roads on Western Portion of US 340

As part of the land use vision for the corridor, much of the corridor's future commercial, office and mixed use development will be focused on the western portion of US 340 (west of Blair Road). To ensure accessibility and to provide congestion relief on existing portions of US 340, a frontage road system has been recommended.

The existing (Somerset Blvd.) and recommended frontage roads are illustrated in Map 22. Frontage roads currently exist on the southern side of US 340 from Jefferson Terrace Road to just east of Old Country Club Road. A recommended project is to extend the existing frontage road to Blair Road. The extension may also include a relocation of existing portions of the roadway. This frontage road extension would provide additional access to land use growth along the corridor and provide some alternative intersection strategies at Blair Road. For example, the new frontage road would provide options for access to the US 340 and Old Country Club Road intersection if left-turns were restricted at Blair Road.

Additional Frontage Roads on Western Portion of US 340



Map 22: Additional Frontage Roads on Western Portion of US 340, Source: Google Earth

A frontage road is also recommended on the northern side of US 340 based on the corridor land use vision. The frontage road would extend from Patrick Henry Way and connect to Halltown Road providing an east-west route parallel to US 340. The design and construction of this frontage road may include a portion of the bike and pedestrian trail from Charles Town to Harpers Ferry.

The design and operation of these frontage roads may serve as an important access to existing commercial development near Patrick Henry Way. This road may serve an even greater importance if larger scale investments are made to construct an interchange near the existing US 340 and Old Country Club Road intersection (as discussed later). That scenario could

include closing the US 340 at-grade intersections at Patrick Henry Way and Jefferson Terrace Road, while providing access directly from the frontage roads.

Other New Road Connections

Other new roads were recommended to provide residential linkages to commercial areas and to support regional access. A connection between Old Country Club Road and Shepherdstown Pike is recommended on the northern section of the East Gateway Corridor, as illustrated in Map 23. This new road would provide an east-west connection to support future development and to provide alternatives to the frontage road system along US 340. During the public workshops there were some discussions on creating an east-west route to Harpers Ferry along the northern section of the corridor. This incorporated the use of existing roadways including, Oregon Trail, Surrey Drive, Old Rider Road and Elk Run Estates Drive. However, such alignments are not currently recommended strategies and would need additional study and evaluation.

Alternative East-West Roadway Linkages in Northern Sections of Corridor



Map 23: Alternative East-West Roadway Linkages in Northern Sections of Corridor, Source: Google Earth

Connecting Keyes Ferry Road to US 340 and to Somerset Boulevard



Map 24: Additional Roadways Connecting Keyes Ferry Road to US 340 and to Somerset Boulevard, Source: Google Maps

Additional roadways connecting Keyes Ferry Road to US 340 (South of the WV 9 interchange) and to Somerset Boulevard (Map 24) would provide access to commercial areas on the western portion of the corridor. These projects could provide some traffic congestion reductions at the WV 9 interchange and the US 340 intersections with Jefferson Terrace Road and Patrick Henry Way.

Shenandoah Springs is a large development of townhouses and single family homes on the western portion of the corridor. Map 25 provides several new roads that are recommended to provide direct access from this development to commercial areas on US 340. This includes a north-south roadway abutting WV 9 that would connect to Jefferson Terrace Road. In addition, a recommendation is provided for an east-west roadway connecting to Old Country Club Road.

Additional Access Roads to Shenandoah Springs



Map 25: Additional Access Roads to Shenandoah Springs, Source: Google Earth

At the public work session, potential options regarding connections to existing roadways within the Patrick Henry Estates development were also discussed. This would provide direct access to the Walmart and other commercial sites on US 340. However, the Patrick Henry Estates Homeowner's Association is opposed to such options and has sued their developer to obtain the deeds to the roads and common areas in the development. The homeowners association is concerned that such access would severely increase traffic and decrease safety on the residential streets in the community. As an alternative, a possible north-south roadway is identified just east of the Walmart. This roadway could link to a future east-west frontage road on US 340 and provide additional access to new development in the area.

Recommendations for a New Interchange

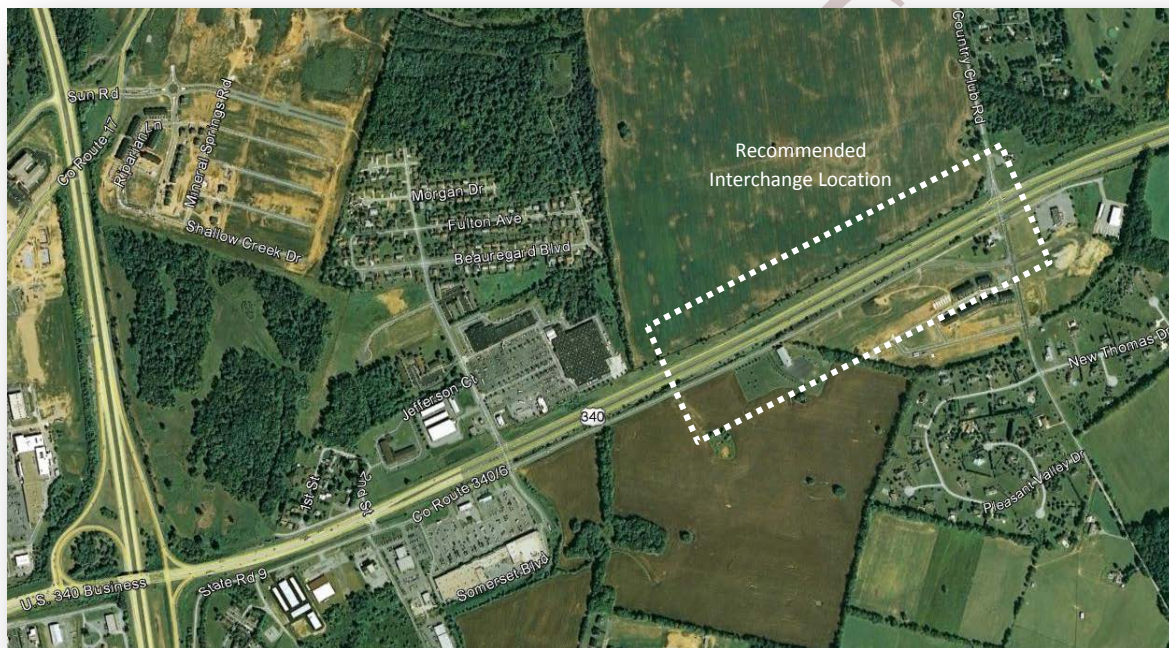
An interchange represents a grade-separated junction of two roads. Along US 340 within the corridor, the only current interchange exists at WV 9. The addition of new interchanges can be valuable in addressing intersection traffic congestion and delays; however, such grade-separated junctions are very space-intensive and costly, due to the need for large physical structures such as tunnels, ramps and bridges.

An interchange is recommended at or near the intersection of US 340 and Old Country Club Road as a replacement to the existing at-grade intersection. Per the land use vision plan, future commercial and other employment growth will be concentrated along the western portions of US 340. The interchange can serve as a valuable basis to develop transportation system options to address future traffic congestion. It can be integrated with other projects including a frontage road system and possible intersection closures to address long-term growth in the region. The

interchange was identified in the past as a long-term transportation need and is included in the financially constrained portion of the HEPMPO LRTP, *Direction 2035*, which was completed in 2010.

If an interchange is determined to be a priority long term need, then efforts must begin now to preserve the right-of-way needed to construct the interchange. Map 26 illustrates potential locations of the interchange near Old Country Club Road. Development has already occurred at corners of the existing intersection limiting the right-of-way needed for construction. It is currently recommended that if relocated, the interchange be placed west of Old Country Club Road to ensure it is in proximity of the primary current and future commercial development along the corridor.

US 340 and Old Country Club Road Intersection



Map 26: US 340 and Old Country Club Road Intersection, Source: Google Earth

With an interchange in place near Old Country Club Road, additional options are available to address future congestion at the Jefferson Terrace Road and Patrick Henry Way intersections. These intersection locations currently have limited right-of-way to make significant improvements and their proximity to WV 9 prohibits an additional interchange being considered. With the addition of frontage roads along US 340, the Jefferson Terrace Road and Patrick Henry Way intersections could be closed and all traffic directed to the interchange. The frontage roads would be used to access the commercial areas. This strategy is often seen in commercial areas near highways. The linkages between the interchange and frontage road system would require additional right of way north and south of US 340.

Recommendations for Other Intersection Improvements

Un-signalized intersection improvements are addressed in the short-term recommendations section. Other key intersection improvements are also recommended. These include the intersection with Flowing Springs Road / WV 9 / WV 9 Ramp, which is impacted by recent and future development within the corridor including Shenandoah Springs. Figure 18 provides images of the current intersection configuration

Flowing Springs Road / WV 9 / WV 9 Ramp

Flowing Springs Road / WV 9 Ramp



WV 9 / WV 9 Ramp



Figure 18: Flowing Springs Road/ WV 9 / WV 9 Ramp, Source: Google Maps Street View

With future increases in traffic on Flowing Springs Road, a traffic signal may be warranted at the Flowing Springs and WV 9 Ramp intersection. Just west of this intersection, WV 9 Ramp intersects with WV 9 northbound as a stop-controlled approach. With future increases in WV 9 traffic and high speeds along this corridor, a merge lane has been recommended. These improvements have also been addressed in long range planning efforts conducted by the City of Ranson.

Future improvements are also recommended for the intersection with Halltown Road and Shepherdstown Pike if an integrated east-west frontage road system is developed. In that case, Halltown Road may experience greater traffic volumes. Currently, Halltown Road has a stop sign at the intersection with Shepherdstown Pike, and there is limited right-of-way to reconfigure the intersection or add lanes. However, a traffic signal may be warranted with increased traffic volumes to ensure safe turning movements and to reduce potential traffic queues at the stop sign.

Another recommended improvement involves addressing the current Bakerton Road railroad underpass in the northeastern section of the East Gateway Corridor. The current underpass is shown in Figure 19 and includes very narrow lanes. As future residential development expands to the north, projected traffic volumes will increase on Bakerton Road. The current railroad underpass represents a significant bottleneck and potential safety concern if such an increase in traffic volume were to occur. The project would need to include a widening of the underpass and the possible reconfiguration of the approaches.

Bakerton Road Railroad Underpass

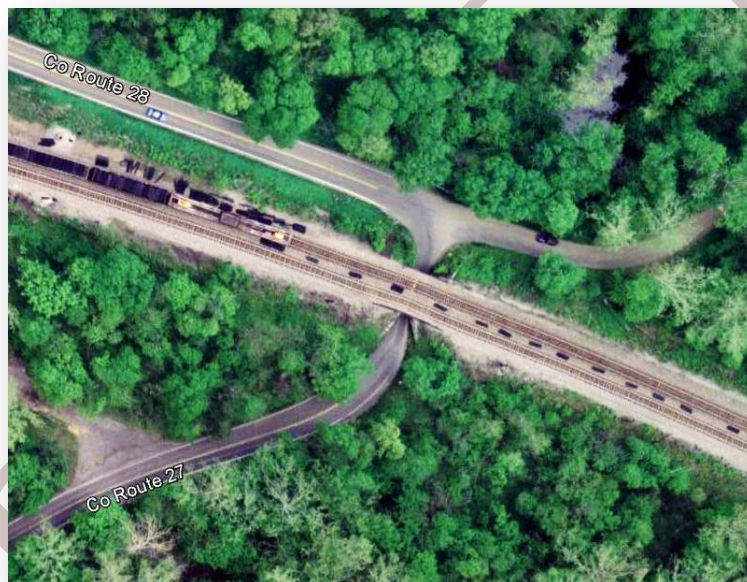


Figure 19: Bakerton Road Railroad Underpass, Source: Google Earth

Recommendations for Transit Improvements

Significant public support was voiced for improving other transportation modal choices within the East Gateway Corridor. Within the Issues Identification and Concerns section of this report, transit needs have been identified. Determining recommended improvement strategies will require close coordination with transit providers including PanTran, MARC and AMTRAK.

PanTran has undertaken planning efforts to identify potential service improvements within Berkeley and Jefferson counties. This study stresses those recommendations that are applicable to the East Gateway Corridor and provides additional strategy ideas obtained through stakeholder and public involvement efforts. The viability of these transit improvement strategies will be affected by available funding, capital investments, and potential ridership. Further

studies will need to be conducted by each transit agency to address these concerns and the details and framework of each conceptual strategy.

Table 13 summarizes transit strategy recommendations for the corridor. Several of these strategies were addressed in the HEPMPO LRTP and in other PanTran service planning efforts. PanTran's existing Orange Route currently has stops at the Walmart (Patrick Henry Way) and the Harper's Ferry Rail station. Future evaluations will be needed to determine if additional stops may be needed. Such stops could include new commercial or office centers within the corridor. Discussions with the USCBP may determine whether a stop at that location may generate transit riders.

Transit Improvement Recommendations

Provider	Strategy / Need Addressed	Addressed in HEPMPO LRTP
PanTran	Add demand-response service for areas within the East Gateway Corridor. / There is currently no demand responsive service in the corridor and other areas of Jefferson County. Provides transportation options for physically, economically or socially disadvantaged.	YES
	Restructure the PanTran Orange Route, improve headways to 45 minutes, and add service to MARC stations. / Current headways range from 2-3 hours. Some MARC train departures are not supported by the Orange Route. In addition, reliability issues due to long route lengths create concerns for meeting train schedules.	YES
	Provide new service linkages to other county commuter bus services in Maryland or Virginia. / Provides additional options for residents working in Maryland or the Washington D.C. region.	NO
MARC	Provide additional MARC service between Martinsburg and Washington D.C. including enhanced midday service schedules.	YES
	Investigate other locations for MARC stations to increase accessibility and promote transit-oriented development.	NO(Addressed in Ranson Planning)

Table 13: Transit Improvement Recommendations

Identifying new potential transit service will provide additional transportation options for the region. Table 14 illustrates typical work locations for residents within the East Gateway Corridor based on the CENSUS Longitudinal Employment Household Dynamics On-the-Map (LEHD-OTM) tool.

Where Workers Are Employed Who Live in East Gateway Corridor

Red = States

Blue = Two Highest Employment Counties in that State

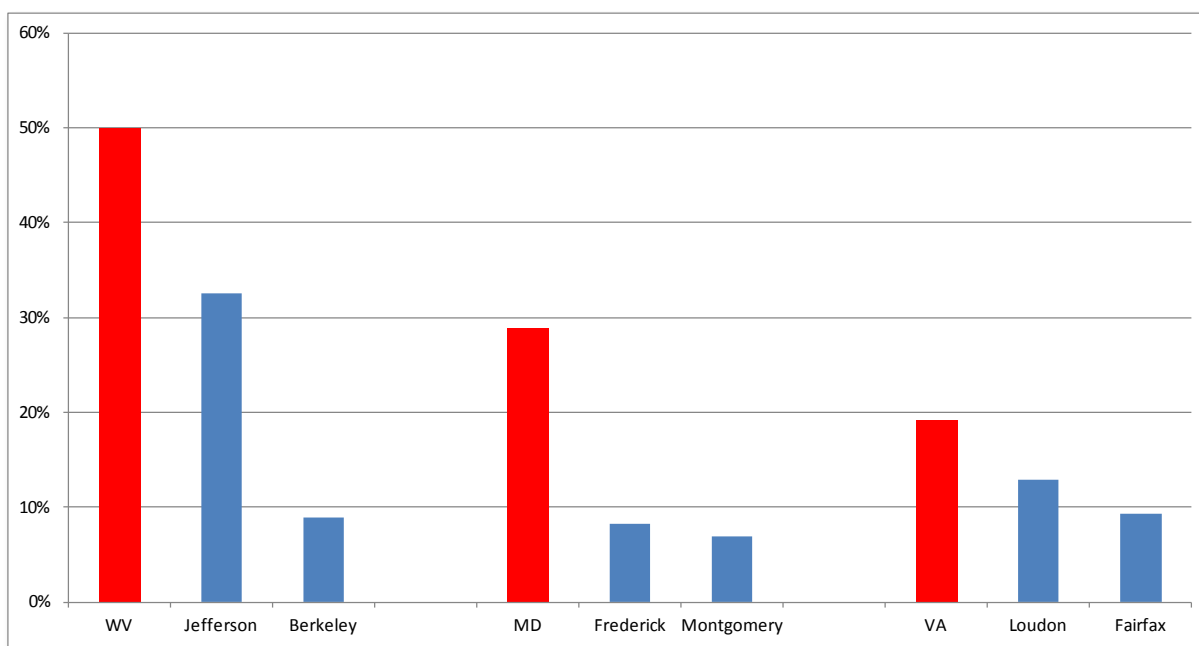


Table 14: Where Workers Are Employed Who Live in East Gateway Corridor, Source: 2009 Work Destination Report; US Census Bureau, OnTheMap Application; Custom area selection based on East Gateway boundary

The data indicates that 50% of the corridor residents work outside of West Virginia, in Maryland and Virginia. Such data supports recommendations for additional transit service linkages to other county bus or regional transit services. For example, Loudon County has an extensive commuter bus system that includes stops from Purcellville, VA to Washington, D.C. Thus, opportunities may exist to coordinate PanTran shuttle service with other available service in nearby counties.

Addressing Access Management

The extent to which the access points (driveways and intersections) are controlled or managed in a corridor dramatically impacts the capacity and character of the roadway. On state-owned roadways (like US 340), the state must balance the requirement to provide access to property with the need to maintain roadway function. The WVDOT provides guidelines for access management, including the spacing of intersections to optimize traffic flow and driveway spacing to avoid reductions in capacity due to traffic turning directly into and out of travel lanes. A variety of strategies, including dedicated turning lanes, signal coordination, and frontage roads, can minimize the negative impacts of new development on existing roads.

In West Virginia, only interstates have full access control and some high-level U.S. or State highways, such as the Route 9 bypass, are designed with partial control of access. Other facilities depend on local planning and development review processes to protect the capacity of existing roads. Adherence to the access management guidelines in the design of new development and in local comprehensive planning can improve the ability of existing roads to serve traffic as development occurs in the future.

Any municipality may, in cooperation and coordination with WVDOT, develop an access management plan for a specified state highway segment for the purposes of preserving or enhancing that highway's safe and efficient operation. Once adopted by the affected agencies, such plans will form the basis for all future access connection locations. The plan should include a combination of policy, design, and improvement actions aimed at achieving access management objectives. A corridor access management plan may include the following elements:

- Existing and future access locations,
- All major access-related roadway design elements,
- Lots or parcels currently having frontage on the highway segment,
- Pedestrian and bicycle amenities and associated safety implication,
- Transit facility considerations; and
- All supporting technical materials, if applicable.

Within this land use vision study, many of the identified transportation projects have focused on limiting additional access points along US 340. This has included an enhanced frontage road system to provide access to current and future residential and commercial developments along the corridor. Several new traffic signals have been identified within the corridor. This includes possible short term improvements at the Millville intersection and intersection improvements related to the new CBP entrance near Halltown Road. However, additional traffic signals and/or new intersection approaches are not recommended west of Old Country Club Road. Longer term solutions including a possible interchange at Old Country Club Road have focused on limiting access to US 340 and providing primary access points to a frontage road system.

Roadway Streetscape and Beautification

The importance of preserving the character and nature of the corridor has been identified as a key priority within the stakeholder and public involvement efforts conducted for this study. Complete Street concepts have been stressed for new roadway designs incorporating landscaping to improve attractiveness and function of the roadway system. Additional comments have focused on improving the landscaping along existing portions US 340.

Enhancements to the existing roadway system may include separate studies to identify the types and locations of streetscape improvements that would promote business growth and community pride within the area and address public safety issues such as drainage, infrastructure, and pedestrian access. Such efforts could include the following principles:

- Implement sustainable practices
- Develop complete streets
- Use cohesive design elements
- Promote security and safety
- Coordinate maintenance awith design and implementation
- Protect and enhance historic character

Figure 20 illustrates examples of key components in streetscape design which will vary based on the location and types of roadways.

- 1 Bus Stop
- 2 Street Trees (shade)
- 3 Coordinated Street Furniture
- 4 Planters
- 5 Median Refuge
- 6 Pedestrian Crosswalk
- 7 Colocating signs
- 8 Bicycle Lane
- 9 Public Art
- 10 Pedestrian Lighting
- 11 On-street parking



Figure 20: Components of Streetscape Design, Source: Omaha Streetscape Handbook

Transportation Project Funding Issues

This plan provides recommendations for a variety of transportation improvement projects. Table 15 illustrates that the estimated cost of all these improvements would exceed \$90 million. These costs are estimates based on typical project costs; and can vary based on right-of-way and excavation issues. In addition, constructing projects with “Complete Street” concepts may escalate costs based on the need to accommodate other modes (bike trails), attractive roadway design, and extensive landscaping.

Estimated Cost of Recommended Improvements

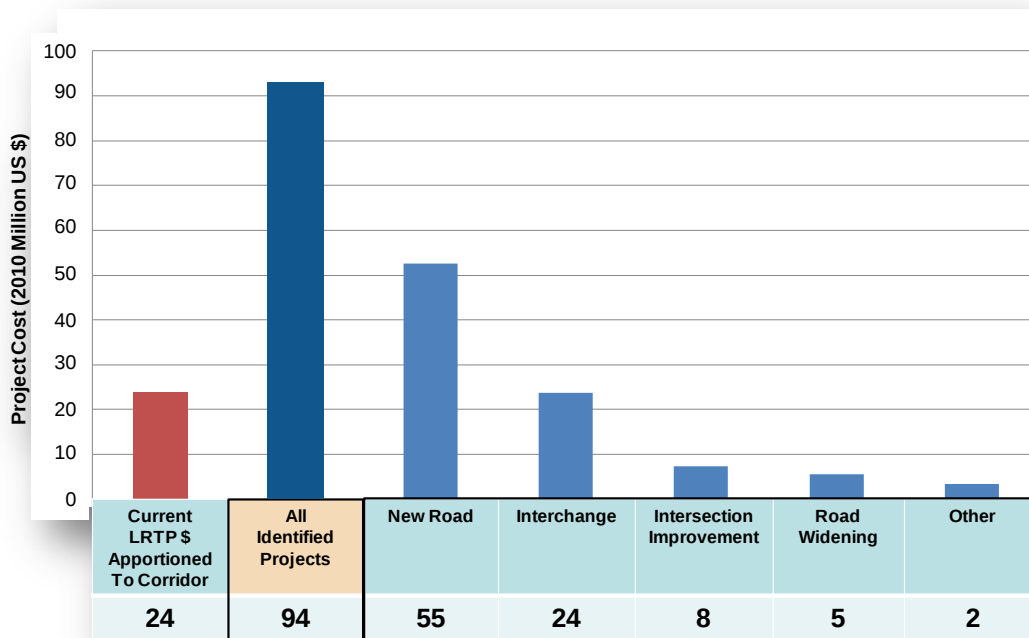


Table 15: Estimated Cost of Recommended Improvements

Only one project within the corridor is included in the financially constrained portion of the current HEPMPO LRTP. That project is the interchange at US 340 and Old Country Club Road, which carries an estimated cost of \$24 million. Total federal and state funding for Berkeley and Jefferson counties (combined) was forecast to be \$354 million. These funding constraints indicate that it may not be possible to fund many of the identified projects. These issues have prompted the HEPMPO to include a more robust prioritization process as part of the LRTP development process. As future updates are made to the LRTP, these project recommendations will be evaluated and prioritized. This process will utilize this study as key input in combination with stakeholder and public comments and other more focused project studies.

As Jefferson County continues to assess regional transportation strategies, other potential funding mechanisms will need to be evaluated. These may include public-private partnerships, developer funded projects or land donation, or development fees and tolls. The County will also need to work closely with WVDOT to identify whether federal and state dollars may be used for certain projects. WVDOT is responsible for many of the state and county routes; however, they may not accept the responsibility for all new roads. As a result, future coordination will be needed as projects are progressed through the planning phases.

6.0 Implementation Strategies

6.1 Introduction

This corridor plan provides a mix of strategies that are mutually reinforcing and consistent with the agreed-upon vision for the Corridor. It provides a set of well-defined goals, objectives and recommendations to carry the strategies forward into implementation.

The implementation section of this plan is the most important and iterative step in the planning process. The most accurate and well developed corridor plan will mean very little unless steps are taken to ensure the realization of its goals and objectives and its specific recommendations. From the point of view of the private sector, the term implementation means “making it happen.” From the public sector point of view, the term means to assist and guide development, both public and private, by reasonable and prudent application of the various land regulatory measures adopted by the local community.

Proper implementation of this plan is important to realize the goals and objectives. A number of existing land use techniques will continue to be used and new techniques or modifications to existing ones should be analyzed to determine if they can be effective in addressing the adopted goals, objectives and strategies. It is important to note that the mere adoption of the Plan, its maps, and other details does not automatically amend the existing zoning ordinance, subdivision regulations and other approved regulatory tools that may be impacted the statements found in this Plan. The intent of this document and in particularly this implementation section is to provide general directions and guidelines to the Planning Commission and County Commission in the review of existing and development of new planning techniques that will most effectively carry out the objectives of the US 340 Corridor East Gateway Plan.

The US 340 Corridor East Gateway Plan recommends improvements in transportation, land use, protection of historical and cultural resources, environmental and natural resources, open space, parks, trails and greenways, community services, and economic development. An implementation section is needed to achieve the vision of the plan, as presented in the Plan Recommendations section.

The Plan addresses these themes and provides development guidance over a 20 year horizon. The US 340 East Gateway Corridor Plan will work with the County's Comprehensive Plan, Zoning Ordinance and the Subdivision Regulations, to provide for the orderly, efficient, and sustainable development of the corridor. This strategic corridor plan includes a package of recommended goals, objectives and strategies designed to ensure that future development is consistent with the intent of this Plan while recognizing the uniqueness of this gateway into Jefferson County.

This will allow will allow the County to identify and coordinate implementation strategies and policies for future land uses by balancing competing social, economic, resource, and environmental factors.

In order to implement the recommendations of this plan, each proposed action will require separate efforts by one or more agencies. Some recommendations may require joint action by

the public and private sectors, as well as non-profit organizations, civic associations, schools, and other local entities.

The Plan outlines implementation strategies for growth opportunities and challenges facing the corridor. The growth opportunities and challenges that are particularly relevant to the corridor include, but are not limited to:

- Highlight the assets of the area in promoting managed economic growth by attracting new businesses, jobs, quality retail and housing in the area
- Land use strategies such as zoning, subdivision regulations, land conservation, and access management must be consistent and compliment the functions of the goals for the Corridor
- Transportation improvements need to occur in conjunction with development and as funds are available.
- There should be close communication and coordination between the local, regional, and state transportation planning authorities
- There should be public involvement with affected property owners and local users of the transportation system
- Development of pedestrian and bikeway linkages in coordination with development as depicted in this and other plans
- Landscaping and preservation of right-of-way
- Management tools and processes such as development guidelines, design guidelines, and plan oversight and monitoring
- Promoting strategic growth concepts to effectively manage the County's future development
- Effective public-private partnerships are critical to encourage development in the area in accordance with the community's vision as well the policies of this plan; and, thus, should be encouraged
- Facilitating high-density, mixed-use development in areas as designated on the Future Land Use Map. Well-designed public amenities and infrastructure will attract development. Infrastructure improvements and other provisions should be made available through mutual cooperation and support. Adequate public facilities and amenities should be in place either in advance of or concurrent with, the development in the priority areas
- Enhancing the linkage between land use and utility providers to provide long term public management of public utilities
- Promoting and maintaining Jefferson County's quality of life

In anticipation of the commercial, residential, office, and tourism likely to increase in the coming years, the US 340 Corridor Plan considered these uses and planned for the appropriate development of these uses. Design standards and guidelines are needed to assure that there is a degree of continuity and compatibility between and among new and existing uses. The regulations should be structured to allow for design flexibility, yet within acceptable limits to meet the objectives of creating quality developments, protecting existing neighborhoods, natural and historic resources, and promoting the concept of the Corridor as an entrance to the County and State.

With this plan, the community has developed a vision of the future of US 340 Corridor East Gateway. Making the community driven vision a reality is possible through mutual cooperation.

All future development and redevelopment proposals in the US 340 Corridor planning area should be reviewed for consistency with the adopted plan.

6.2 Implementation Tools

Zoning

Zoning ordinances are established to ensure orderly and compatible land use development. To this end, the County has zoning districts that are designated throughout the County and illustrated on the County Zoning Map. The official zoning map divides the county into a series of zoning districts, and the zoning text describes the regulations for the use of land within those specified districts. Zoning is typically the primary tool used by local governments to implement various planning policies. The zoning ordinance should be effective at addressing subjects such as permitted uses within specific zoning districts, lot sizes allowed, appropriate setback distances, density standards, and design controls. Zoning also conserves and protects property values by prohibiting objectionable land uses in certain districts. Modern applications of zoning have broadened to provide orderly community growth, enhance and diversify a community's tax base, maintain or achieve beauty and variety in the physical environment, accommodate complex and unique land uses and, in sum, make a community livable.

With the US 340 Corridor East Gateway Plan, there may be an opportunity to create or amend existing zoning districts that would better facilitate the types of activity outlined. An overlay district or similar mechanism could be used on a section or the entire corridor to ensure development patterns is in keeping with the plan. Such a district could include design guidelines or other elements specific to this corridor. The adoption of a PUD (Planned Unit Development) or a mixed use district would provide the applicant an opportunity to create a project that could result in a better development and greater flexibility in design with less regulatory barriers. The community could gain a unique development that is appropriate for its particular setting. Mixed used developments that provide dense walkable communities with New Urbanism/Smart Growth design principles should be encouraged in locations delineate on the Future Land Use Map that is part of this Plan. The zoning ordinance could provide incentives or density/intensity bonus for development plans that preserve key features. All petitions for rezonings should be in conformance with the Plan.

Subdivision Regulations

Subdivision regulations are adopted to provide quality control for public improvements constructed by private development. Subdivision regulations also let a local government require minimum or maximum thresholds for improvements in a subdivision and site plans, such as roads, sidewalks, bike paths, storm water systems, sanitary sewers and open space. While zoning is often considered "what and where can I do an activity", subdivision regulations are considered "how do I build a project."

The 340 East corridor plan promotes efficient layout and design of new sites along the corridor. This permits greater and more intense use of the land. Standards should be established for design guidelines for new development (layout, facades, signage, lighting) that provide a sense of place. Design guidelines achieve a more consistent development by conveying preferences to the applicant for parking, building siting, design and architectural style. This would result in development patterns that are appropriate for the corridor. The Subdivision Regulations should promote road, trail, and sidewalk interconnectivity between and among developments. Active and passive open space standards should be reviewed to ensure proper amount of open space

is being created. The subdivision regulations should encourage development layout patterns that preserve key features, both natural and built, without losing any development rights.

Transportation

This Plan has been drafted with assistance West Virginia Department of Highways (WVDOH), Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) and Michael Baker Corporation. Their assistance has been vital to the analysis of the transportation components found in this Plan. Moving forward to implementation of the transportation improvements, the partners at the WVDOH and HEPMPPO are critical in assisting with funding any projects. If an effort to create a parkway like setting and associated improvements for the corridor is to be implemented, the WVDOH assistance is needed to permit such activity. Both the WVDOH and HEPMPPO are local links to federal transportation funding sources.

Efforts towards purchasing easements is an inexpensive way to protect land for public needs. The property owner retains ownership and use of the property, but the government gains the right to use it and make improvements on it. During development review, the applicant may grant an area or build around future transportation improvements. Such dedications or reservation of future improvement areas should not result in a loss of development rights to the applicant. Such development rights could be exercised elsewhere on the property. Maintain balance between public and private sector responsibility for transportation improvements. Require interconnectivity for roads, sidewalks and trails to other neighboring developments and property.

Jefferson County Development Authority

The Jefferson County Development Authority is a partner in implementing the Plan. If the Plan is a “how to grow” tool, the development community provides the ability to carry out the plan. The Future Land Use Map for the corridor shows significant areas for growth, business and job creation around nodes at transportation intersections. The plan promotes a variety of business expansion and retention opportunities such as retail, small business, office, commercial, and federal agencies. The regulatory agencies should ensure that development review and permitting processes are transparent and predictable for business investment.

State Enabling Legislation

Sections of State Law should be amended to provide for more land use planning tools and greater flexibility in review time frames. Currently the state law has prescriptive time frames that must be met in order to achieve some uniformity across the state for land development review process. While the attempt is well intended, the law has inadvertently resulted in some potentially mutually agreeable development options to not be considered since the mechanism cannot be fit into a rigid time frame or results in a process taking longer since the steps have to be broken into separate segments in order to meet state law. Changes in the State Law do not need to change existing language, but permit for additional options in addition to the codified language. There may be opportunities to amend State Law where the intent of the legislature is achieved, the needs of local community and applicants exercising their development rights are balanced.

Capital Improvement Plan

The Capital Improvement Plan should be used to continue to increase emergency services as growth along the corridor increases. Police, fire and rescue response times would be improved as enhancements are made to these services.

DRAFT

6.3 Table of Recommendations

1. Community Services and Infrastructure

REC. NO.	PAGE	RECOMMENDATION
		Ensure availability of adequate water and sewer capacity prior to approval of new development
		Protect private well and septic systems.
		Upgrade the Harpers Ferry water system.
		Ensure affordability of water and sewer services.
		Develop additional infrastructure to expand the availability of water and sewer services in the US 340 corridor.
		Encourage public ownership of water and sewer services.
		Take steps to enhance the quality and safety of area water supplies, including but not limited to the following: a) Improve water treatment b) Require area water providers to ensure the safety of water c) Limit the amount of new development served by septic systems
		Develop a countywide comprehensive clean water plan.
		Review local land development regulations to consider a requirement that all potential private wastewater operators enter into an agreement with the PSD to ensure that all private plants are built to a standard that can be managed by the PSD if that is necessary in the future.
		Work with the Jefferson County Board of Education to ensure that area schools are adequately funded.
		Develop safe routes for children to walk and bike to school.
		Encourage programs promoting environmental awareness, school gardens and beautification projects (similar to Page Jackson school model – available for public use during non-school times).
		Improve school organization, communication with the local community, and size planning vis-à-vis planned residential development yields.
		Improve public library access/technical access for those persons without internet access.
		Promote use of libraries as community centers.
		Enhance existing volunteer-based firefighting capacity by the provision of permanent, full time fire services.
		Develop a long-range funding plan for area Fire and EMS services.
		Consider County funding of Harpers Ferry police for provision of emergency services for accidents on the section of US 340 located between the two bridges.
		Ensure the availability and adequacy of fire hydrants in the 340 corridor planning area, including the following recommendations: a) Provide hydrants in underserved areas, using dry hydrants at ponds and streams or other means b) Improve hydrant water pressure c) Ensure that standards and testing of hydrants are adequate

2. Economic Opportunities

REC. NO.	PAGE	RECOMMENDATION
		Improve appearance of corridor (design of development, litter, wayfinding signage)
		Address traffic congestion (especially on weekends)
		Review the adequacy of current impact fee structure
		Create parking for recreational/tourism sites as well as for commuters
		Retain scenic beauty, historic resources and farming to promote natural and heritage tourism opportunities
		Weekend train between Harpers Ferry and DC and between Harpers Ferry and Charles Town
		Promote additional tourism and entertainment opportunities
		Encourage Harpers Ferry restaurants to stay open later in the evenings
		Promote the development of a wide variety of types of businesses, including but not limited to: Small businesses, "Green" jobs, tourism / entertainment, high tech / data centers, white collar (professional, IT, clerical), medical office, agri-business and agri-tourism, and retreat/training/convention center
		Retain existing businesses
		Promote the creation of businesses that support Appalachian Trail, C&O Canal, and bike path users
		Achieve a balance of retail, federal, industrial and historical/tourism job opportunities
		Enhance educational opportunities and workforce development
		Identify incentives to encourage employment opportunities in historic facilities, and review the efforts of other communities in achieving this objective
		Improve appearance of corridor (design of development, litter, wayfinding signage)

3. Environmental / Natural Resources

REC. NO.	PAGE	RECOMMENDATION
		Preserve natural features, such as scenic beauty, rural viewsheds, significant tree stands, green infrastructure, the Shenandoah River and other water resources.
		Recognize the importance of trees in the suburban environment by encouraging the retention of existing native trees and the establishment of street and shade trees in residential neighborhoods and commercial developments (land use regulations amendments may be required).
		Require vegetative buffers along US 340 in key areas to promote a parkway-like character along the corridor
		Protect the Elks Run Watershed, water source for Harpers Ferry and Bolivar
		Encourage the integration of wetlands, woodlands and meadows into site development as aesthetics and functional features.
		Encourage the retention of agricultural lands, forest lands and ecological corridors through available mechanisms such as open space and farmland conservation easements and conservation easements, as well as zoning incentives.
		Implement open space residential and commercial development design standards to preserve scenic views, rural character, farmland, meadows, woodlands, steep slopes and wetlands with a target of preserving these characteristics within a development.

4. Historic Resources and Viewshed

REC. NO.	PAGE	RECOMMENDATION
		Identify existing historic resources within the US 340 Corridor
		Assist local, state and federal entities in their efforts to retain historic resources within the context of their original setting
		Educate land owners about the benefits of historic properties and the process for seeking listing on the National Register of Historic Places
		Educate and assist landowners with structures on the National Register of Historic Places regarding available funding mechanisms for the restoration and/or maintenance of historic resources
		Update current Zoning Ordinance requirements regarding development adjacent to historic resources
		Consider establishing a review process for demolition permits for historic structures
		Encourage rehabilitation and redevelopment of historic resources
		Create standards that require preservation of historic structures if land is developed
		Promote heritage and recreational tourism near Harpers Ferry, including sites such as such as the location of the Battle of Harpers Ferry
		Coordinate with "Journey through Hallowed Ground" on tree planting along Corridor (part of National program)
		Explore opportunities for additional cultural events, including music- and food-related festivals
		Establish pedestrian trails to connect historic resources such as those sites along the Washington Heritage Trail
		Identify existing historic and rural landscapes, vistas and viewsheds in the Corridor and develop regulations to retain the same
		Prohibit neon, blinking signs or electronic message signs that are not static for a certain period of time
		Install landscaping buffers adjacent to existing development
		Establish standards to prevent light pollution
		Promote a variety of land uses to discourage duplication of services such as gas stations and small shopping centers
		Encourage appropriate rural/historic design for new or redeveloped public buildings in the corridor
		Install historic signage at appropriate locations along the US 340 Corridor, such as the location of the Visitors Center
		Minimize development along the US 340 frontage in the vicinity of the battlefield, to preserve a prominent gateway feature for the entry into West Virginia
		Improve US 340 Corridor aesthetics by creating a continuous green gateway landscaped with native species providing all-season color, developed in cooperation with community groups

5. Land Use

REC. NO.	PAGE	RECOMMENDATION
		Promote development that adequately balances the protection of key historic, agricultural and natural features with high-quality development
		Establish a Transfer of Development Rights program
		Work with National Park Service and residents to prioritize areas for land acquisition
		Identify mechanisms to allow for productive and profitable agri-businesses and agri-tourism.
		Provide development incentives for properties within the UGBs
		Develop new zoning categories in order to implement areas identified for mixed-use development at major intersections or along arterial roads within UGBs
		Identify areas for low- to high-density residential development within UGBs
		Establish design standards for new development (layout, facades, signage, lighting) that reflect a town center character to create a sense of place
		Use design standards to reduce typical strip commercial development image that lacks a sense of place
		Develop ordinance amendments that will enable mixed use developments to result in dense walkable communities based on New Urbanist/Smart Growth design principles
		Develop a new mixed use zoning district that promotes quality mixed employment development (light industrial, wholesale, retail, office) with design standards
		Amend the current mixed use zoning district to eliminate industrial uses and to create a true mixture of uses based on New Urbanist/Smart Growth principles
		Allow properties to rezone to mixed-use development at key intersection
		Encourage mixed-use zoning for properties within the Urban Growth Boundaries
		Require commercial development to be blended within a mixed use context to achieve a balance between retail and residential uses
		Plan for a limited section of the Old Standard Quarry property to develop as a mixed use development
		Promote cluster development to preserve open space
		Identify additional agriculture-related land uses appropriate for the Rural District
		Allow flexible standards (such as gravel driveways and Low Impact Stormwater Design) for Rural land uses
		Promote heritage and recreational tourism and agritourism
		Establish design standards for any new development in the Rural District (layout, facades, signage, lighting) that replicates the architectural and contextual features found in rural settings
		Provide design elements that allow for view of mountains to not be blocked
		Protect the quality of life elements that are important to Jefferson County residents and visitors
		Establish standards to provide efforts to minimize blight control, deteriorating structures, and dangerous buildings
		Increase awareness of the historic and rural character of the US 340 Corridor in all planning phases (i.e. Comprehensive Plan, etc.)
		Collaborate with Federal agencies located in the County regarding "greening" of Jefferson County & energy use reduction
		Develop a consistent approach to development and signage specifications in this corridor (i.e. water treatment facility next to historic property)

REC. NO.	PAGE	RECOMMENDATION
		Explore options for applicability of local codes to Old Standard Quarry property
		Ensure coordination between appropriate agencies for the creation of a true Gateway transition
		Refer all proposed developments within designated UGBs or adjacent to incorporated areas to the municipality for comment and coordination of development
		Coordinate with the West Virginia Division of Highways to establish a master plan for the approval of new entrances onto US 340 and intersecting state roads
		Coordinate with local utility providers to establish standards for approval of water line and sewer line extensions
		Plan for urban level of service for police, fire, and school resources within the UGBs

6. Parks, Trails and Greenways

REC. NO.	PAGE	RECOMMENDATION
		Provide trail connectivity for health, exercise, recreation, ecotourism and access purposes in areas such as, but not limited to: Between Harpers Ferry and Charles Town Between Harpers Ferry and WV 9 trail Across US 340 from Bolivar to HFNPS resources such as Murphy Farm Between rivers along Millville/Bakerton Roads Linking parks, athletic fields and neighborhoods Develop Greenways on the Blue Ridge that connect with the valley, and along the Shenandoah and Potomac Rivers
		Provide new connecting trails with all new development
		Provide trailhead parking
		Consider developing trails on “paper streets” (platted, unbuilt rights-of-way) in incorporated areas
		Provide Shenandoah River access at southern end of Old Standard Quarry property for recreational opportunities
		Upgrade bridge and C&O Canal / Harpers Ferry for easier bike portage to C&O Canal towpath.
		Retain existing landscaping and create additional landscape design along 340 to create a continuous “parkway” aesthetic
		Plant low maintenance native plant species along the US 340 corridor
		Plant trees along the corridor, such as a variety of flowering trees that change color at different times of the season to provide for continuous color change.
		Protect historic views
		Improve appearance of corridor by creating standards for the design of new development
		Create new parks to serve a variety of users (such as passive recreation, sports, and dog parks)
		Improve access to rivers for fishing and recreation
		Restore recreational activities to lower Harpers Ferry (including picnics, swimming, fishing)
		Provide additional park/recreation resources on the Blue Ridge Mountain

REC. NO.	PAGE	RECOMMENDATION
		Provide “wayfinding” signage along the corridor and trails which indicate historic sites in addition to nearby shops, restaurants, towns, etc.
		Improve online availability of trail maps on the County’s website, in addition to websites of other organizations
		Use Google Maps to upload trail information
		Utilize National Park Service education programs to build community awareness of County trails
		Identify public and private funding sources for trails, bike paths, parks and greenways
		Amend local planning and zoning regulations should be amended to require the dedication of or reservation for trail easements in conjunction with proposed residential and/or commercial development and/or redevelopment plans and plans.
		The appropriate regional and state transportation planning entities should be made aware of the proposed trails plan so that it can be utilized as a part of the design of future road improvements.

7. Transportation

REC. NO.	PAGE	RECOMMENDATION
		Promote a land use pattern that is consistent with the capacity of roadway networks.
		Regulate the number, location and type of access points by implementing access management standards.
		Remove local traffic from through traffic lanes through the use of frontage and/or other parallel routes to reduce the speed differential of through traffic lanes.
		Increase the connectivity between existing and proposed neighborhoods and commercial developments to allow increased dispersion of local traffic
		Minimize the delay impact of traffic signals at intersections by setting the phase timing of the traffic signals to maximize capacities.
		Collaborate with HEPMPO and WVDOH on long range funding for improvements to the corridor.
		Reduce the number of potential conflict points, particularly at unsignalized intersections, through the use of raised medians, underpasses, controlled left turn lanes, right turn lanes, combined access points, frontage roads and/or rear access drives, and connected parking facilities.
		Improve safety at signalized intersections along the 340 corridor through the coordination of signals
		Improve safety at all intersections by considering alternative design options
		Support the development of safe pedestrian & bike facilities through the use of medians and median islands, and bike lanes within and outside the right of way.
		Reduce the speed of traffic in urbanized areas with traffic calming practices such as green buffers with sidewalks, landscaping, green median islands, and street trees plantings.
		Enhance enforcement of speeding and red-light running
		Build frontage (service) roads or other parallel interconnected roads adjacent to US 340, to allow for separation of through traffic and local traffic

REC. NO.	PAGE	RECOMMENDATION
		Improve existing intersections to enhance capacity
		Develop connectivity, interconnectivity and improve other existing roads to divert traffic from 340
		Evaluate any needed improvements to Cattail Rd./Marlow Rd. following the opening of the new WV 9
		Minimize installation of new traffic lights
		Coordinate transportation improvements with US Customs & Border Patrol development
		Improve directional signage
		Improve access to US 340 from Bolivar (especially on weekends)
		Ensure that any required improvements to US 340 and surrounding roads occur concurrent with development activity
		Consider a variety of solutions to improve traffic flow, if recommended by transportation engineers, including, but not limited to, traffic circles ("roundabouts"); underpasses/overpasses (particularly at Route 27); eliminate "no turn on red" restriction at various intersections; synchronize stoplights, especially on weekends;
		Improve Potomac Street to connect to Bakerton Road and work with CSX and other appropriate agencies to re-establish connection
		Develop western or northern bypass around Charles Town and Ranson
		Increase the availability and frequency of Public Transit Connections
		Consider development of a Park and Ride/Commuter Lot
		Increase rail access to Charles Town and Ranson
		Provide weekend train service from Harpers Ferry to Washington, D.C., both directions
		Adopt zoning and access management standards compatible with the plan recommendations that regulate access points and encourage shared access through frontage roads, rear service drives, shared driveways and connected parking lots.
		Coordinate access management with local land use planning.
		Discourage strip commercial development along highways and direct development to commercial nodes with managed access points by inclusion in comprehensive plan and land use regulations.
		Educate local units of governments, businesses and general public on importance of coordinating access management with land use planning.
		Connect existing hike/bike routes, such as the C&O Canal path, the Ranson Flowing Springs Trail (under construction) and the WV 9 path; and construct new hike/bike routes
		Install pedestrian/bike crossings at intersections along US 340
		Build sidewalks in areas with pedestrian traffic
		Install speed bumps near area schools
		Coordinate improvements to US 340 within the UGB to accommodate additional traffic volumes associated with new development
		Provide interconnectivity within and between developments to create a more continuous street network, including connections between neighborhoods and commercial areas where appropriate
		Coordinate improvements to US 340 outside the UGB to handle existing traffic and expected incremental increases in traffic volumes

7.0 APPENDICES

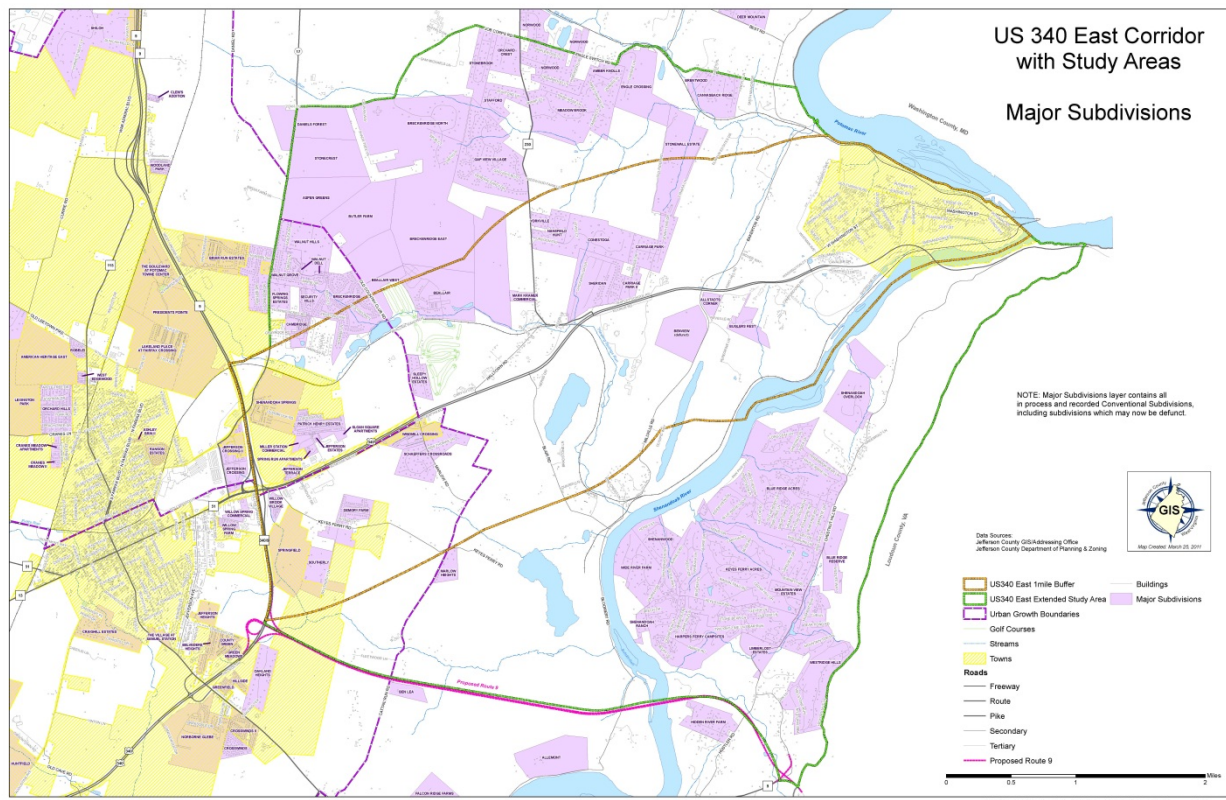
Appendix A	TECHNICAL ADVISORY COMMITTEE AND CITIZENS ADVISORY COMMITTEE
Appendix B	MAJOR SUBDIVISIONS WITHIN CORRIDOR
Appendix C	LAND USE SCENARIOS
Appendix D	COUNTY COMMISSION AND PLANNING COMMISSION MEMBERS
Appendix E	MAP DISCLAIMER AND MAP SOURCES
Appendix F	DEFINITIONS

APPENDIX A: TECHNICAL ADVISORY COMMITTEE AND CITIZENS ADVISORY COMMITTEE

Andrew Lee
Anne Dungan
Bob Gordon
Christopher White
Dave Mills
David Tabb
Douglas Stolipher
Gary Dungan
Helen Dettmer
Jennifer Brockman
Jennifer Myers
Joe Anderson
John Allen
Katie See
Kevin Carden
Laura Whittington
Michael Schwartz
Mike Wiley
Rebecca Harriet
Sarah Kleckner
Steve Barney
Seth Rivard
Sue Lawton
Suzanne Malesic
Todd Fagan
Tony & Dorothy DiGioia
Whitney Burch

APPENDIX B: MAJOR SUBDIVISIONS WITHIN CORRIDOR

The U.S. Route US 340 Corridor Study consists of both a primary and extended study area. There are major subdivisions located within each. According to the 1979 Jefferson County Subdivision Regulations, a Major Subdivision is a subdivision containing more than three lots. The major subdivisions (Map 27) located within the primary study area will have the most impact



Map 27: Major Subdivisions, Source: Jefferson County, WV GIS/Addressing

on traffic. However, it must be acknowledged that the major subdivisions located within the extended study area will have additional impact on U.S. Route 340 traffic flow no matter how minimal. There are twenty four major subdivisions found within the U.S. Route US 340 Corridor Primary Study Area. The Extended Study Area is home to thirty five major subdivisions.

However, not all of the subdivisions are built.

The major subdivisions found with the US 340 Corridor primary study area are:

- Jefferson Terrace Road
- Miller Station Commercial
- Spring Run Apartments
- Patrick Henry Estates
- Jefferson Estates
- Sloan Square Apartments
- Sleepy Hollow Estates
- Mark Kramer Commercial
- Yorkville
- Nansfield Hunt
- Conestoga
- Carriage Park
- Sheridan
- Carriage Park II
- Renview
- Allstadts Corner
- Buglers Rest
- Windmill Cross
- Schaeffer's Crossing
- Demory Farm
- Southerly
- Willow Brook Village

The major subdivisions found inside the US 340 Corridor extended study area are:

- Daniel's Forest
- Stonecrest
- Aspen Green
- Walnut Hills
- Walnut Dell
- Flowing Springs Estates
- Security Hills
- Cambridge*
- Breckenridge*
- Bellair West*
- Butler Farm
- Breckenridge North
- Bellair*
- Breckenridge East*
- Gap View Village
- Stafford
- Stonebrook
- Orchard Crest
- Norwood
- Meadow Brook
- Amber Knolls
- Engle Crossing
- Brentwood
- Cava'sback Ridge
- Stonewall Estate*
- Shenandoah
Overlook
- Blue Ridge Acres
- Blue Ridge Reserve
- Westridge Hills
- Limberlost Estates
- Harpers Ferry Campsites
- Keys Ferry Acres
- Shenanwood
- Wide River Farm
- Shenandoah Ranch
-

*Indicates subdivisions that may be considered to be located in both study areas.

APPENDIX C: LAND USE SCENARIOS

Overview of the Land Use Alternatives

During the public outreach meetings held in March and June of 2011, the public presented their ideas and vision for the corridor. From the extensive public participation and information provided by the public, both at public meetings and from the MetroQuest site, 3 different and distinct land use scenarios began to emerge. Staff developed and refined the 3 scenarios between June and the September 2011 meeting based on input gathered. At the September 17, 2011 meeting the following scenarios were presented at a public meeting:

- (1) Growth within the Urban Growth Boundary
- (2) Planned Mixed Use
- (3) Full Built Out

Each scenario has different land use implications and transportation impact on the corridor. The 3 growth scenarios will be discussed in greater detail below.

The growth scenarios were intended to represent a projected 25 year build out.

The scenarios listed below were intended to:

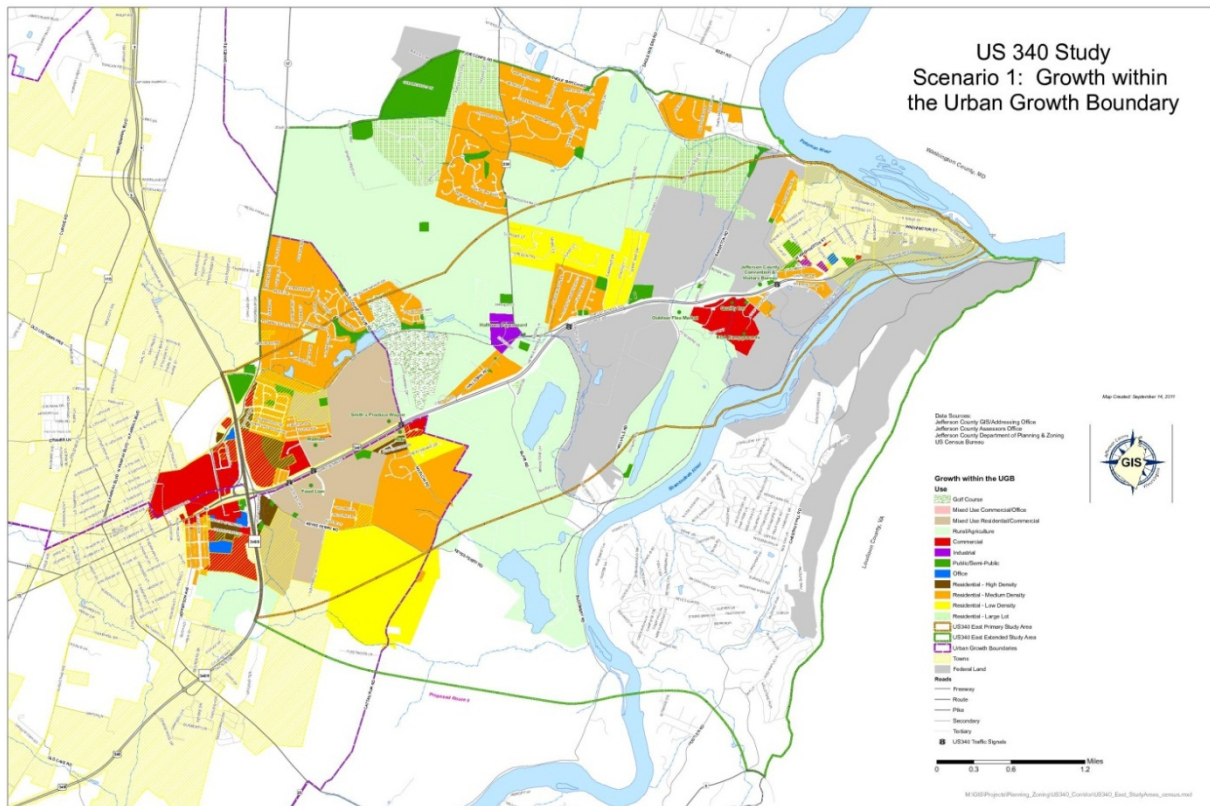
- Represent a broad range of general patterns for different locations along the US 340 Corridor
- Reflect the broad feedback received during the two previous workshops and from the MetroQuest survey
- Show a menu of choices to represent different values and policy choices
- Show general locations of possible future land use activities
- Act as the starting point in the selection of a Preferred Land Use Scenario

The scenarios are not intended to represent a plan to rezone any individual property or locate land uses on individual parcels.

Growth within the Urban Growth Boundary

This scenario proposed commercial and housing growth to be located within the urban growth boundary (Map 28) in order to retain the rural character along the corridor. The urban growth boundary for Ranson, as it applies to this study, is the north side of US 340 to Old Country Club Road, continuing north along Old Country Club Road, thereafter

north on Flowing Springs Road and turning northward onto Daniels Road. The urban growth boundary for Charles town, as it applies this study, is the south side of US 340 just east of Marlow Road, and returns to the south following various properties, then returning to Cattail Road and continuing south to the current two lane WV 9.



Map 28: Alternative Land Use Scenario 1: Growth within the Urban Growth Boundary, Source: Jefferson County, WV GIS/Addressing

The purpose of this scenario is intended to provide urban level services in the defined urban core and retain a rural feel outside the urban growth boundary. For the underdeveloped parcels within the urban growth boundary, much of the land use is shown as residential/commercial mixed use and medium density residential. It is anticipated that development, particularly in the residential/commercial mixed use area would be walkable, landscaped and architecturally attractive. A typical suburban style retail center disjointed from a mix of housing types is not envisioned.

With development retained in the area noted above, the rural, historic and scenic features of the corridor would be maintained. There would be limited pockets of low density residential outside the UGB. The gateway corridor into the county and state that is valued by travelers would be preserved and enhanced.

With growth retained in the urban areas and limited development along the remaining corridor, limited transportation improvements would be expected outside the UGB. It is anticipated that the transportation congestion along the existing corridor would not see a significant decrease outside of the urban growth boundary.

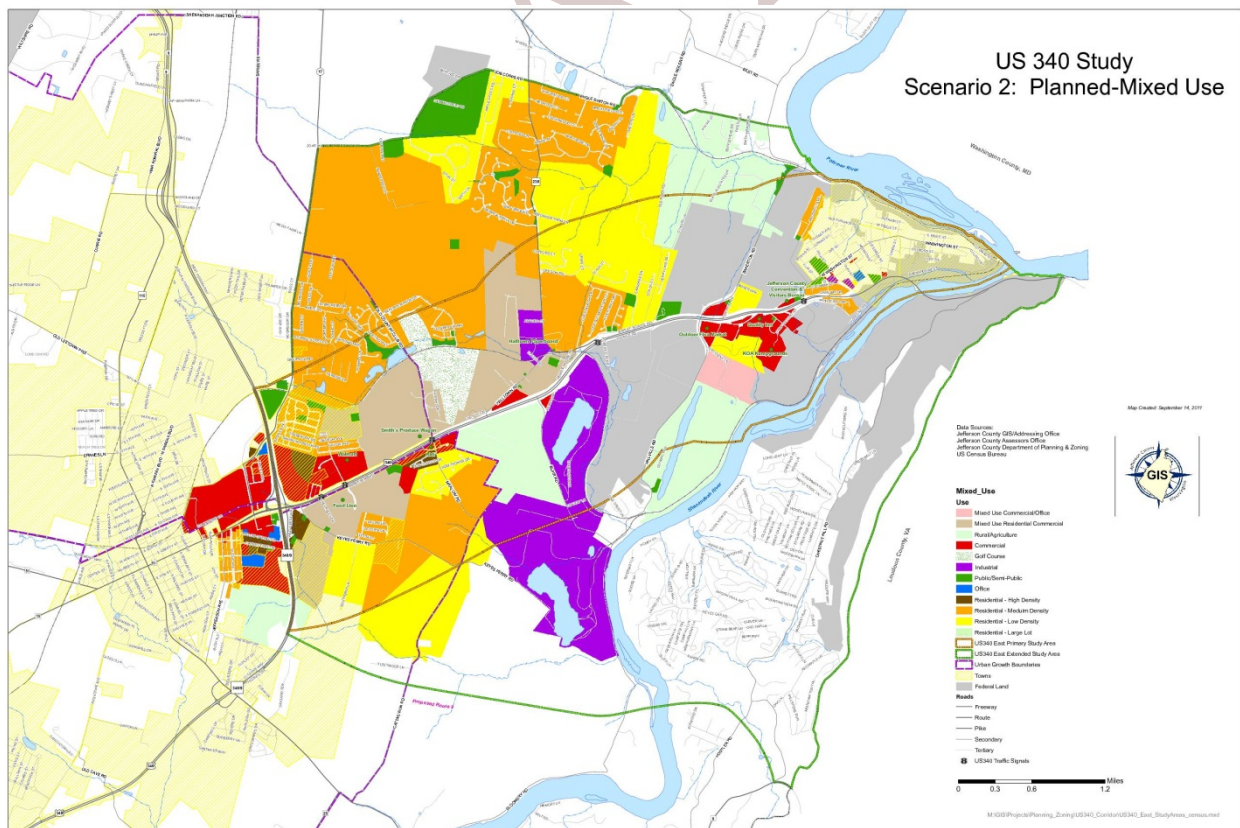
One of the significant challenges with this growth scenario is that broad sections of the corridor are currently zoned for uses greater than those permitted in the

Rural/Agricultural District and there are significant properties that have vested development rights. To be able to maintain the rural feel in this scenario, compensation would be required to those land owners with vest property rights. This could be in the form of a transfer of development rights program, purchasing the development rights – which would most likely require public funding or allowing owners' developments rights to be transferred to another property they own elsewhere in the County.

Additional improvements and amenities along the corridor, such as road improvements and bike paths would likely require public funding to complete those projects.

Planned Mixed Use

The Planned Mixed Use (Map 29) is an attempt to balance additional growth beyond the urban growth boundary, while respecting the area's rural character, environment, and history. The scenario combines commercial, housing, rural development, and employment. It is acknowledged that there may be a reduction in some of the area's rural character, environment, and history. However, some elements may be counterbalanced. For example, a historic home may require continued maintenance that can be costly, but allowing for some development around structure could allow an infusion of funding to the structure and the structure could be a feature of the development. The context of the home on an open farm would be lost and the structure could be saved.



Map 29: Alternative Land Use Scenario 2: Planned Mixed-Use, Source: Jefferson County, WV GIS/Addressing

Proposed land use along the north side of the corridor from Old Country Club Road to Shepherdstown Road is Mixed use Residential/Commercial. As the name indicates, the mixing of residential and commercial is expected. In order to allow such uses, design standards would play an important role in site development. Further to the north and extend to the east down to US 340 is shown as low and medium density residential, which is a departure from the Growth within the Urban Growth Boundary scenario where a rural land use was indicated. The residential land use designation reflects the existing land use rights and entitlements in that are currently in place.

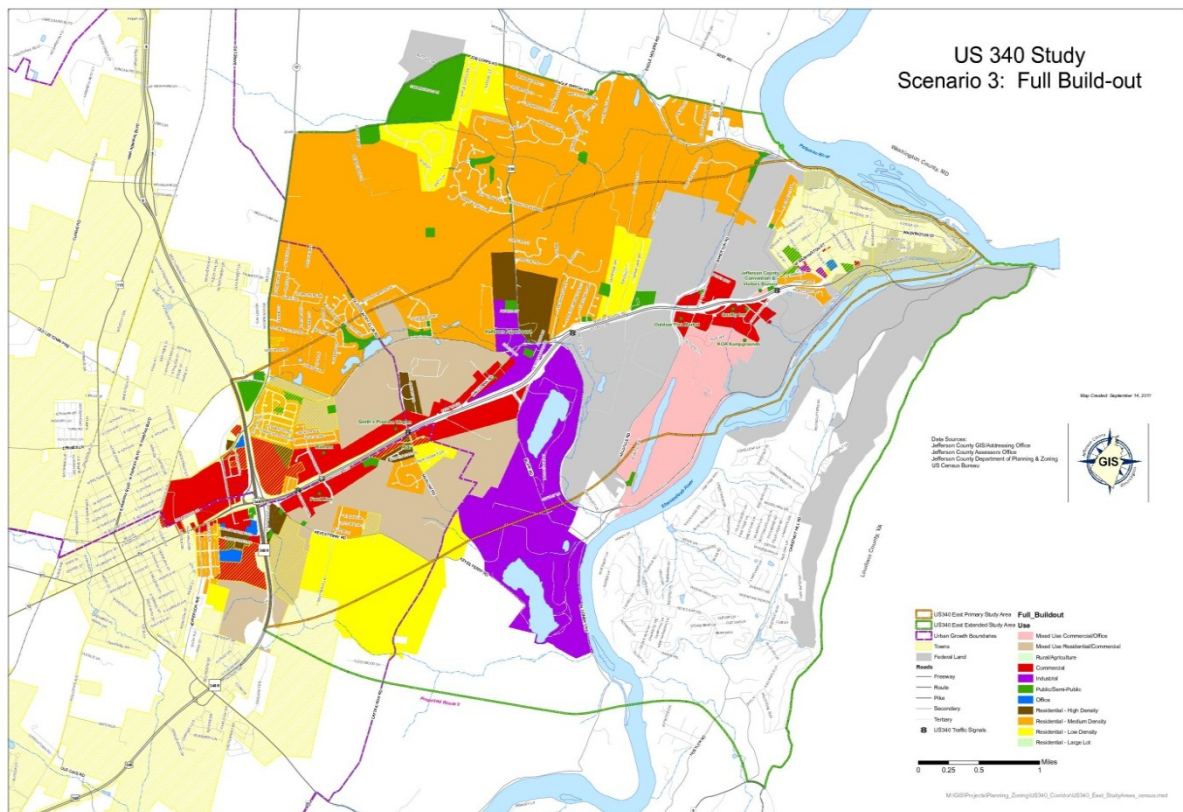
Across from the area mentioned above, a section is shown as rural and an area to the east of Blair Road is shown as industrial. Each of these designations reflects the current land use of each property. The rural designation presented would provide some rural feel to the corridor that is attempted in this scenario. The industrial/commercial would allow office uses and further extraction on the site, as has been done along Blair Road for decades.

The node at Bakerton/Millville proposes traditional highway commercial and is buffered by existing residential. The largest change to this location is showing the Old Standard Quarry with Mixed Use Commercial/Office along the northern section of the property. This would facilitate some development of the property while retaining the remaining portion as rural.

Unlike the scenario 1, this scenario would allow for some private funding of road improvements, parks, pedestrian and bike paths. Where there is development, there may be a need for transportation improvements to maintain current level of service.

Full Build Out

In the Full Build Out Scenario (Map 30), a maximization of the development potential is shown, allowing for a larger area of retail, office, manufacturing, and other types of commercial and industrial land uses. Additionally, this scenario envisions an expanded area for residential development, at higher densities. This scenario will result in high intensity use of the land within the US 340 study area. It is anticipated that there would be rezonings to higher classifications.



Significant portions of the corridor from the Route 340/WV 9 interchange to Blair Road has traditional commercial frontage along both sides of the corridor. To the rear of the commercial is Mixed Use Residential/Commercial. Beyond the Mixed Use Residential/Commercial to the north and extend to the east down to US 340 is shown primarily as medium density residential. As in the Planned Mixed Use scenario, the property to the east of Blair Road is shown as industrial/commercial and would allow office uses and further extraction on the site, as has been done along Blair Road for decades.

The area surrounding Halltown is shown as commercial, industrial and high density housing. With the existing industrial paper plant and small industrial park located behind the plant, it is an opportunity to develop a high density node in that location. This option would allow for reinvestment of the Halltown area.

The land use options at the intersection of Bakerton/Millville Road provide for high intensity uses. The non-federally owned property at that area is shown as either commercial or Mixed Use Office/Commercial. A significant consideration of this area is that all of the Old Standard Quarry is shown as Mixed Use Office/Commercial. The proposed uses are a significant change to this location.

With respect to the natural, scenic and historic resources, in this scenario, those resources would be impacted the most. As noted in scenario 2, historic structures might be saved, but the context would be lost. Natural and scenic views would be greatly diminished and in a number of instances lost.

APPENDIX D: COUNTY COMMISSION AND PLANNING COMMISSION MEMBERS

Jefferson County Commission

Patsy Noland, President

Dale Manuel, Vice President

Walt Pellish, Commissioner

Frances Morgan, Commissioner

Lyn Widmyer, Commissioner

Jefferson County Planning Commission

Paul G. Taylor

Walt Pellish (County Commission Liaison)

Daniel Hayes

Arnold W. Dailey, Jr.

Clifford (Gene) Taylor

Ed Burns

Wm. Kelly Baty

Morgan Etters

Eric Smith

Steve Stolipher

APPENDIX E: MAP DISCLAIMER AND MAP SOURCES

Most maps in this document were generated using a Geographic Information System (GIS). While every attempt is made to portray current and accurate data, no guarantees are made regarding their quality or accuracy. The data is considered fit for geographic analysis of this nature. The geographic data layers comprising these maps come from a variety of source organizations. Data and map sources include the following:

Map Sources	
Jefferson County Assessor	Appalachian Trail Conservancy (ATC)
Jefferson County GIS/Addressing	US National Park Service (NPS)
Jefferson County Planning and Zoning	Eastern Panhandle Transit Authority (EPTA)
Jefferson County Green Infrastructure Assessment	National Highway Traffic Safety Administration (NHTSA)
Jefferson County Historic Landmarks Commission (HLC)	WV Department of Transportation (WVDOT)
American Battlefield Protection Program (ABPP)	US Census Bureau (USCB)
University of Vermont (UVM)	US Customs & Border Protection (USCBP)
Cities of Charles Town and Ranson, WV	Federal Emergency Management Agency (FEMA)
Loudoun County, VA	Google Earth and Google Maps
Canal Towns Partnership	TomTom GPS
Hagerstown/Eastern Panhandle Metropolitan Planning Organization	

APPENDIX F: DEFINITIONS

build-out

A planner's reference to a hypothetical point in the future when all land that can be developed has been developed.

corridor

A street or roadway identified as a principal link or gateway within the community.

density

The permitted ratio of residential units to land area or the permitted ratio of building size to land area.

design standards

Specific criteria and limitations placed on development and uses which are intended to protect the public health, safety, and welfare.

infrastructure

Facilities and services needed to sustain development and land-use activities including but not limited to utility lines, streets, fire stations, parks, schools, and other public facilities.

land use

The type of use activity occurring on a land parcel or within a building situated upon a land parcel.

mixed-use development

A project which integrates a variety of land uses including residential, office, commercial, service, and employment and can result in measurable reductions in traffic impacts.

open space

Any land or area, the preservation of which in its present use would: (1) conserve and enhance natural or scenic resources; or (2) protect streams or water supply; or (3) promote conservation of soils, wetlands, beaches, or tidal marshes; or (4) enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations, or sanctuaries; or (5) enhance recreation opportunities.

overlay zoning district

A special district or zone which addresses special land use circumstances or environmental safeguards and is superimposed over the underlying existing zoning districts. Permitted uses in the underlying zoning districts shall continue subject to compliance with the regulations of the overlay zone or district.

pedestrian-friendly

The density, layout, and infrastructure that encourages walking and biking within a subdivision or development, including short setbacks, front porches, sidewalks, and bike paths.

planning commission

A board of the local government consisting of such [elected and appointed or appointed] members whose functions include advisory or nontechnical aspects of planning and may also include such other powers and duties as may be assigned to it by the legislative body.

quality of life

The attributes or amenities that combine to make an area a good place to live. Examples include the availability of political, educational, and social support systems; good relations among constituent groups; a healthy physical environment; and economic opportunities for both individuals and businesses.

sense of place

Community features that add up to a feeling that a community is a special place, distinct from anywhere else.

site plan

A required submission, prepared and approved, that is a detailed engineering drawing of the proposed improvements required in the development of a given lot.

smart growth

Development that enhances mixes land uses, foster distinctive, attractive communities with a strong sense of place, creates a range of housing opportunities and choices, create walkable neighborhoods, and analyzes site development layout that is sensitive to the natural and built resources.

streetscape

An area that may either abut or be contained within a public or private street right-of-way or accessway that may contain sidewalks, landscaping or trees, and similar features.

traffic, peak period

For any given roadway, a daily period during which traffic volume is highest, usually occurring in the morning and evening commute periods.

transit-oriented development

Moderate- or high density housing concentrated in mixed-use developments that encourage the use of public transportation.

urban growth boundary (UGB)

The boundary or line marking the limit between the urban growth areas and other areas such as rural and resource areas where urban growth is intended to be less intense, as designated by the county in consultation with cities, under the requirements of (state law).

vested property right

The right to undertake and complete the development and use of property under the terms and use of property under the terms and conditions of an approved specific site development plan or an approved phased development plan for a specific time, regardless of changes in the ordinance.

zoning categories

The classification of land by types of uses permitted and prohibited and by densities and intensities permitted and prohibited.

zoning map

A map that geographically shows all zoning district boundaries and classifications within the city, as contained within the zoning code