

Chapter 7 – The Transportation Plan

The Transportation Plan Goal

The transportation plan focuses on providing an efficient and well maintained transportation system to maximize the accessibility and safe movement of people and goods by cooperative transportation planning with Berkeley County; Jefferson County; Morgan County; Washington County, MD; Frederick County, VA; the State of West Virginia; the State of Maryland, and the Commonwealth of Virginia. The following related objectives are based upon the goals identified in the 2006 Comprehensive Plan.

Objectives

- Work with West Virginia Division of Highways (WVDOH) and appropriate agency representatives from surrounding regions to ensure completion of existing and planned highway projects that will improve mobility throughout Berkeley County.
- Coordinate with the Hagerstown Eastern Panhandle Metropolitan Planning Organization (HEPMPO) in developing a Long Range Transportation Plan that considers all modes of transportation.
- Work with government agencies, the public and private groups to relieve congestion throughout the roadway system to improve commuter and freight movement.
- Encourage alternative forms of transportation by creating livable communities through the implementation of workable communities and transit oriented communities.
- Assist with corridor planning for improvements to WV Route 9 from Virginia to US 522 and WV Route 51 from Charles Town to WV45 and onto US 522. Explore alternative ways of obtaining the necessary rights-of-way needed for improvements, when acquisition is a challenge, to lower the costs of the projects.
- Pursue gaining authority to issue transportation bonds for needed road improvements.
- Continue working with legislative leaders and the WVDOH to prioritize the completion of identified projects.

Transportation Profile Summary

Berkeley County's transportation system consists of roads, bridges, rails, public transportation, airports, and bicycle and pedestrian facilities. The majority of the system is comprised of roadways, which are the responsibility of the WVDOH. One of the most notable impacts of the county's residential and economical growth has been an increase in traffic congestion along the roadway system. As population, housing and businesses have grown substantially in Berkeley County over the last 25 years, improvements in the county's transportation system have also occurred. However, there continues to be a challenge to serve the ever increasing traffic flow needs throughout the county. In addition, to the increasing traffic, many of the local roads are not designed to handle current volumes and are physically deteriorating. The responsibility for maintenance of these local roads (privately owned and not part of the WVDOH maintained roadways) falls on the surrounding property owners, which adds another variable to consider in the prioritization of road improvements. Residents are increasingly frustrated about the situation, as private automobile is by far the dominant mode of travel for county residents. Over 95 percent of residents use an automobile to travel to work and to other activities (Figure 7-1). With the current and projected population growth, management of Berkeley County's transportation network is critical. The purpose of this profile is to identify the key facilities that compose the transportation network and highlight some trends concerning its use.

Transportation Challenges Profile

There are a number of constraints that limit the county's ability to improve the transportation system. First, there are no roads or bridges within Berkeley County that are owned or maintained by the county. Secondly, the WVDOH owns and maintains many of the roads in the county, which means that improvements must be programmed, funded and implemented at the state level through an established process. Thirdly, roads that are not maintained by the state are the responsibility of the property owners or a Homeowners Association if within a development. Fourth, there are limited requirements within the county's subdivision and land development ordinance to access and mitigate impacts of new developments. The ordinance is also limited in its ability to require one development to assist with maintenance of roads in another development when roads are being used by residents of both. Finally, the entire Eastern Panhandle is a treasure of history and natural beauty. Efforts to protect these resources can contribute to lengthy delays on highway project development. The delay on improvements to WV9 is an example of this.

Transportation Planning and Decision-Making Agencies Profile

Highway and roadway planning for Berkeley County is conducted by the WVDOH and the HEPMPO. The HEPMPO also carries out system wide, multimodal transportation planning for Berkeley County and is the federally designated metropolitan planning organization for the region.

West Virginia Department of Transportation Division of Highways (DOH)

WVDOH is responsible for planning, engineering, right-of-way acquisition, construction, reconstruction, traffic regulation and maintenance on the state's highways. This agency also develops short, medium and long term planning documents that guide its roadway construction and maintenance priorities. This agency produces three documents that outline the state's ongoing highway projects and future roadway investments: 1) The short term Statewide Transportation Improvement Program (STIP) outlines federal-aid projects anticipated to occur in a three-year period; 2) The medium term Six-Year Highway Improvement Program bridges the gap between projects ready for immediate construction and those that achieve broader strategic goals; 3) The state's long range transportation plan, the Statewide Transportation Policy Plan, provides overall guidance for strategic transportation planning. In addition, each DOH District Office identifies a listing of projects under construction, or immediately planned, for the region. Berkeley County is a part of DOH's District 5. More information about the WV Department of Transportation DOH can be found on its website: www.transportation.wv.gov/highways.

Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO)

HEPMPO is the federally-designated metropolitan planning organization that includes Berkeley County within its region and evaluates and plans for short term and long term improvements for the entire transportation system. HEPMPO includes DOH's current and anticipated projects as part of its planning process. The HEPMPO is responsible for the development and updating of the Transportation Improvement Plan (TIP) and the Long-Range Transportation Plan (LRTP). This region includes Berkeley County, WV, Jefferson County, WV, Washington County, MD and a small portion of Franklin County, PA. HEPMPO comprises representatives from the West Virginia and Maryland counties, West Virginia DOT, Maryland DOT, and the USDOT's Federal Highway Administration and Federal Transit Administration. The mission of the HEPMPO is to provide a forum to facilitate a cooperative decision-making process for transportation planning and programming for the region and acts as the pass-through agency for federal transportation funds. Transportation planning for Morgan County is carried out by the West Virginia Department of Transportation. More information about the HEPMPO can be found on their website: www.hepmo.net.

West Virginia Eastern Panhandle Transportation Authority (WVEPTA)

The WVEPTA acts in an advisory capacity to promote mobility, economic development and tourism investments in the panhandle, in support of the activities of the Hagerstown/Eastern Panhandle Metropolitan Planning Organization and the Region 9 Eastern Panhandle Regional Planning and Development Council. WVEPTA was created by an act of the West Virginia Legislature in 2004 to coordinate transportation planning decisions among the three West Virginia eastern panhandle counties of Berkeley, Jefferson and Morgan. The authority promotes and advances highway construction projects in conjunction with the counties and municipalities that comprise the eastern panhandle and advocate for economic development and tourism investments in the region. A specific focus of the authority has been to organize local input on improvements for West Virginia Route 9 and other highways that serve the area. The organization also helps build momentum for projects to be funded by HEPMPO or other state and local agencies. More information about the WVEPTA can be found on its website: www.eptawv.com.

Transportation Roadways Profile

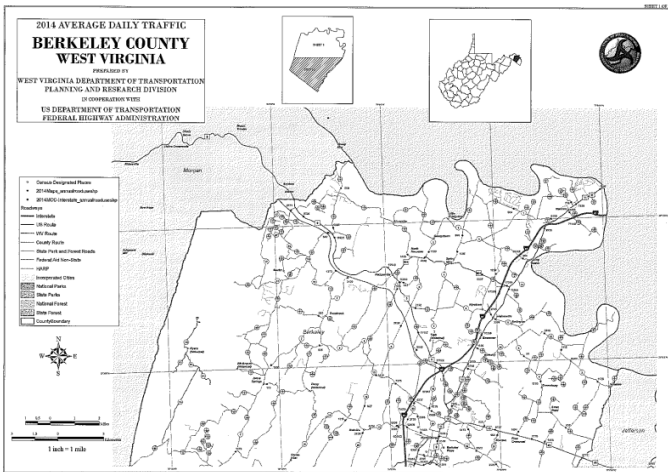
Interstate 81

I-81 is a fully controlled highway with twenty-six miles and seven interchanges in Berkeley County, with the span from Exit 12 to exit 23 is provided six (6) lanes of travel. Also known as the West Virginia Veterans Memorial Freeway, I-81 runs through the eastern part of Berkeley County and provides connections to major cities to the north and south. Average daily traffic on I-81 through Berkeley County has increased from approximately 45,000 vehicles per day in 2006 to 76,000 vehicles per day, according to 2015 state transportation agency traffic data. There are two welcome centers on I-81 within Berkeley County. The I-81 interchange areas present many challenges with regard to access management. Expanding commercial land uses in these areas cause access management to be very important.

US 11

US Route 11 is a north/south roadway generally parallel to Interstate 81. This roadway connects Martinsburg to Williamsport, MD, to the north, and Frederick County, Virginia, to the south. According to a 2004 report average daily traffic exceeded 7,000 vehicles per day. Average daily traffic on US 11 has nearly doubled, based upon 2014 traffic data. The 2014 traffic volume numbers range from the low end of 7,600 near the Virginia border and 7,300 near the Maryland border to nearly 12,700 at the WV 901 Spring Mills intersection and nearly 16,000 vehicles per day at the Apple Harvest Drive/Route 9 intersection. Average Daily Traffic Volumes for Route 11 and other roadways can be found using tools such as the map illustrated in Figure 7-1 below or through the WVDOH website and the WVDOH Planning Division.

Figure 7-1 2014 Image of Average Daily Traffic Data for the Northern Portion of Berkeley County



Source: HEPMPO website, maps and data section

WV Route 9

This corridor is an essential link in the Eastern Panhandle and the need for improvements was originally identified in 1978. The route was divided into segments for planning purposes: 1) Charles Town to the Virginia state line (completed); 2) Martinsburg to Charles Town (completed); 3) The Martinsburg bypass; and 4) Berkeley Springs to Martinsburg. Delays in the construction of segments 3 and 4 have been primarily related to the potential impact on the environment and historic resources. Segment 2 provides access to the Veterans Affairs Medical Center and the US Coast Guard Operations System Center.

State Route 45 (WV 45)

Route 45 is a predominantly east/west road that connects Martinsburg to Shepherdstown to the east and to the more rural areas of southern and western Berkeley County.

State Route 901 (WV 901)

This route is an east/west road that links WV 9 and US 11. This route has an interchange with I-81 that allows access to the Falling Waters area, Spring Mills Business Park, and Falling Waters Industrial Center.

County Route 13 (CR 13)

This route intersects I-81 at Exit 14. It is also known as Dry Run Road west of the interchange and Tennessee Ave to the east into Martinsburg. Lost Road, which connects Dry Run Road with King Street west of the interstate, is also marked as CR13.

County Route 15 (CR 15)

This route connects I-81 with downtown Martinsburg. CR 15 becomes King Street within the boundaries of Martinsburg and ends at Queen Street in Martinsburg.

State Route 51 (WV 51)

This route intersects with I-81 in the southern portion of the county, the southernmost interchange with I-81 within Berkeley County. It also links US 11 and WV 45.

The George Washington Heritage Trail Byway

Sections of State Secondary Roads 9, 45, and 51 in Berkeley County are designated as the George Washington Heritage Trail Byway, which follows the footsteps of America's first president. The Byway completes a loop through Jefferson, Berkeley, and Morgan Counties. In Berkeley County, the Byway goes through Martinsburg, Hedgesville, Inwood, Gerrardstown and Shanghai. Scenic byway designation can help to preserve scenic locations and corridors making the designated road segments eligible for federal funds for improvements.

Aviation Profile

The Eastern West Virginia Regional Airport/Shepherd Field

This Airport is located off US 11, south of Martinsburg. The airport is open to the public but there are no scheduled flights. It serves as an important source of transportation for a variety of industries in the area. This airport is designated as a foreign trade zone which allows products/items to be exempt from duties. However, the foreign trade zone is not activated as of the writing of this plan. The West Virginia Air National Guard currently has a unit based at the airport. The installation consists of approximately 205 acres and 34 buildings totaling 347,441 square feet. During peak surges, the installation population is approximately 1500 personnel. Expansion plans for a new terminal were completed in 2005 widening the runway to 200 feet, adding stormwater management improvements, a parallel taxi-way, and a new hangar complex. In 2009, Runway 26 was extended from 7,000 to 7,815 feet and Runway 8 was extended for 7,000 to 8,815 feet. An Airport Master Plan is expected to be completed late 2016.

A final Environmental Impact Statement was prepared by the U.S. Air Force in 2004 as part of the change of mission for the air guard unit from C-130 to C-5 aircraft. In response, a runway protection ordinance was prepared and adopted by the Berkeley County Council in September 2004 that provides for designated runway protection zones, noise contours, and the restriction of development height and dwelling type (no home dwellings or high occupancy buildings).

Located within the airport complex is the John D. Rockefeller IV Science and Technology Center which is home to Aero-Smith Aircraft Management Co. (formerly Tiger Aircraft), DC Corporation (formerly Ralph Lauren) which is a start-up IT company and Action Aviation (formerly Sino-Swearingen) which is an 82,000 square foot hangar and office complex available for sale or lease as of the writing of this plan. Adjacent to the Science and Technology center is the Arcadia hangar and office complex. The hangar is 20,000 square feet and the office complex is 3,500 square feet. The facility is home to Health Net, an air ambulance helicopter service and is also for sale or lease.

Washington Dulles International Airport

The closest major airport to Berkeley County is Washington Dulles International Airport in Sterling Virginia, approximately 72 miles from Martinsburg. Dulles provides nonstop service to approximately 125 destinations (46 international) and served 21.9 million passengers in 2013. (Metropolitan Washington Airports Authority, 2015)

Bicycle and Pedestrian Transportation Profile

The Tuscarora Trail extends south from Pennsylvania through West Virginia and into Virginia and is used for hiking purposes. In Berkeley County, the Tuscarora Trail goes through Sleepy Creek Wildlife Management Area. This trail is a side trail of the Appalachian Trail. Residents of Berkeley County have expressed a clear desire to be able to walk and bike safely In Berkeley County, both for recreational purposes and as an alternative to driving. The WV 9 bicycle path was completed in 2010 along the corresponding section of the WV 9 roadway.

Railroad Profile

Railroad Freight Lines

CSX Transportation and Winchester & Western Railroad are the two freight railway companies that operate in Berkeley County. Winchester & Western is a short line partner of CSX Transportation. In Berkeley County, CSX has sidings at Cumbo Yard Industrial Park and General Motors. Winchester & Western has sidings at Tabler Station Business Park and Berkeley County Industrial Park. Products shipped by CSX through West Virginia include coal, grain, automobiles, chemicals, sugar, produce and limestone. The Winchester & Western operates 54 miles of railroad through West Virginia in Frederick County, VA, Berkeley County, WV and Washington County, MD. The Winchester & Western has connections with both CSX Transportation and Norfolk Southern. Through a partnership with H.H. Omps Trucking, Winchester & Western is able to provide bulk transloading in Winchester, Virginia.

Railroad Passenger Lines

Amtrak: Amtrak's "Capitol Limited" is a passenger rail line that operates daily between Washington, DC and Chicago. Martinsburg is the only stop for this rail line within Berkeley County. The one eastbound trip leaves at 11:01 AM and the one westbound trip leaves at 5:45 PM.

MARC: The Maryland Transit Administration operates commuter rail service between Martinsburg and Washington, DC, Monday through Friday on the MARC Brunswick Line. The AM rush hour trips, beginning in Martinsburg for Washington's Union Station, have increased from two to three trips per day. The return trips, from Washington to Martinsburg in the PM rush hour, have increased from three to four trips per day. No midday commuter rail trips serve Martinsburg. The West Virginia State Rail Authority maintains the station in Martinsburg. According to the MARC 2013 WV Statewide Rail Plan the overall number of riders boarding in Berkeley County on the Brunswick Line has increased since 2006. The average daily ridership boarding in Martinsburg has risen from 184 in 2006 to 208 in 2011 and has consistently been the highest ridership of the West Virginia stations. Ridership numbers peaked in 2008 at 223 riders for the Martinsburg station and a total of 547 riders for all of the West Virginia stations. A fare surcharge was implemented in January of 2009 which might have influenced the drop in West Virginia ridership in 2009.

Table 7-1 West Virginia MARC Ridership (12-Month Rolling Average Daily Ridership)

Station	2006 Comp Plan	Feb 08-Jan 09	Feb 09-Jan 10	Feb 10-Jan 11	Feb 11-Jan 12
Martinsburg	184	223	190	194	208
Duffields	164	184	157	152	164
Harpers Ferry	139	140	125	98	117
Total	487	547	472	444	489

Source: 2013 MARC West Virginia State Rail Plan

Bus Services Profile

EPTA

Local panhandle bus service is provided by the Eastern Panhandle Transit Authority. In 2006 approximately 65 percent of EPTA's ridership was comprised of trips made by Shepherd University students to and from the University located in Jefferson County, WV. EPTA ridership has observed gains among the general public and, as of 2014, the relatively consist number of Shepherd University riders constitutes only about 48 percent of the total number of EPTA riders. According to projections in the 2015 EPTA Transit Development Plan, EPTA non-Shepherd University ridership is anticipated to increase from 71,578 to 112,499. The distribution of these riders among the various routes is listed in Table 7-2

below. EPTA is planning to split the Red Route into Red North and Red South and adding a Yellow Route and a Green Route.

Table 7-2 Annual Number of Riders in 2014 and Annual Projection

Route	2014		Annual Projection
Red	26,053	Red North	17,544
	n/a	Red South	12,440
Blue	28,895	Blue	24,279
Orange	14,331	Orange	15,801
	n/a	Yellow	24,597
	n/a	Green	13,378
Purple	2,299	Purple	4,460
TOTAL	71,578		112,499
Shepherd	66,407		not projected

Source: 2015 EPTA Transit Development Plan

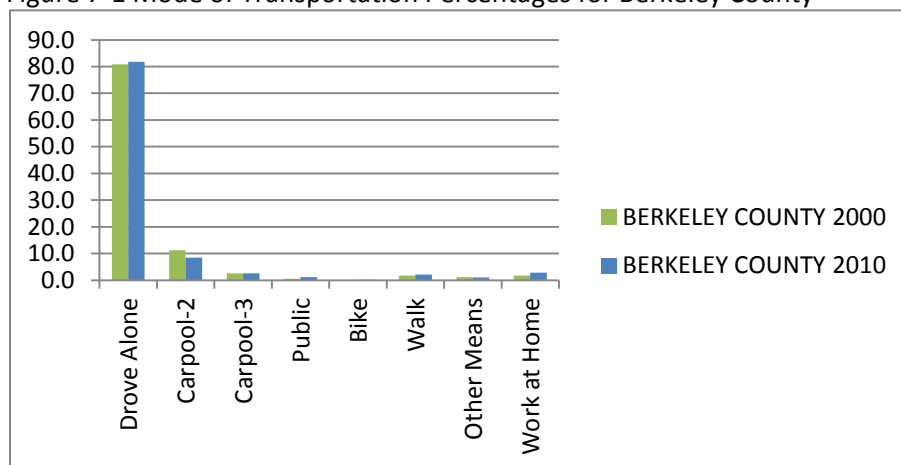
Transportation Trends Profile

The Hagerstown/Eastern Panhandle Metropolitan Planning Organization Long Range Transportation Plan Update (July 2014) prepared by the Hagerstown/Eastern Panhandle MPO indicates that traffic in the region will continue to increase from 2010 through 2040. Between 2010 and 2040, HEPMPO projects a 30 percent population increase and a 36 percent employment increase for Berkeley County. For the HEPMPO three-county region (Berkeley & Jefferson Counties, WV, and Washington County, MD), overall population and employment are expected to increase by 33 percent and 30 percent, respectively. (HEPMPO, Long-Range Transportation Plan Update for the Hagerstown/Eastern Panhandle Metropolitan Area, 2014)

Choice of Mode for Work Travel

Commuter data provides helpful information about how the transportation network is used because trips to and from work comprise the majority of trip-making. Commuter trends in Berkeley County are consistent with what is observed throughout the region.

Figure 7-1 Mode of Transportation Percentages for Berkeley County



Source: US Census Bureau

Berkeley County Comprehensive Plan Update June 2016

Table 7-3 Mode of Transportation to Work in 2000 (Percentages)

Municipality	Drove Alone	Carpool (2-person)	Carpool (3-person)	Public	Bike	Walk	Other Means	Work at Home
USA	75.7	9.4	2.8	4.6	0.4	2.9	1.0	3.3
West Virginia	80.3	10.3	2.4	0.7	0.1	2.9	0.9	2.4
BERKELEY COUNTY	80.8	11.2	2.6	0.6	0.0	1.7	1.2	1.7
City of Martinsburg	73.9	12.3	4.4	0.8	0.2	5.2	2.1	1.0
Clarke County, VA	77.3	8.4	2.5	0.5	0.1	4.7	0.8	5.8
Frederick County, VA	83.4	9.3	2.5	0.2	0.0	1.3	0.4	2.8
Jefferson County, WV	72.1	12.8	5.0	2.6	0.2	3.4	0.6	3.4
Morgan County, WV	76.4	15.2	3.0	0.4	0.1	1.9	0.9	2.0
Washington County, MD	80.6	9.4	2.5	0.7	0.1	2.1	1.3	3.3

Source: US Census Bureau

Table 7-4 Mode of Transportation to Work in 2010 (Percentages)

Municipality	Drove Alone	Carpool (2-person)	Carpool (3-person)	Public	Bike	Walk	Other Means	Work at Home
USA	76.0	8.0	2.4	4.9	0.5	2.8	1.2	4.1
West Virginia	81.3	8.7	2.1	0.9	0.2	2.9	1.0	2.9
BERKELEY COUNTY	81.8	8.4	2.6	1.2	0.2	2.1	1.0	2.8
City of Martinsburg	71.7	10.0	3.4	3.5	0.7	7.1	1.0	2.7
Clarke County, VA	82.6	7.8	1.9	0.6	0.0	1.6	0.8	4.7
Frederick County, VA	84.3	7.5	2.2	0.2	0.0	1.2	1.4	3.2
Jefferson County, WV	73.3	10.8	2.2	3.7	0.1	3.3	1.6	4.9
Morgan County, WV	83.6	8.5	2.6	0.3	0.0	0.5	1.1	3.5
Washington County, MD	80.5	9.1	3.0	1.5	0.1	1.5	1.1	3.1

Source: US Census Bureau

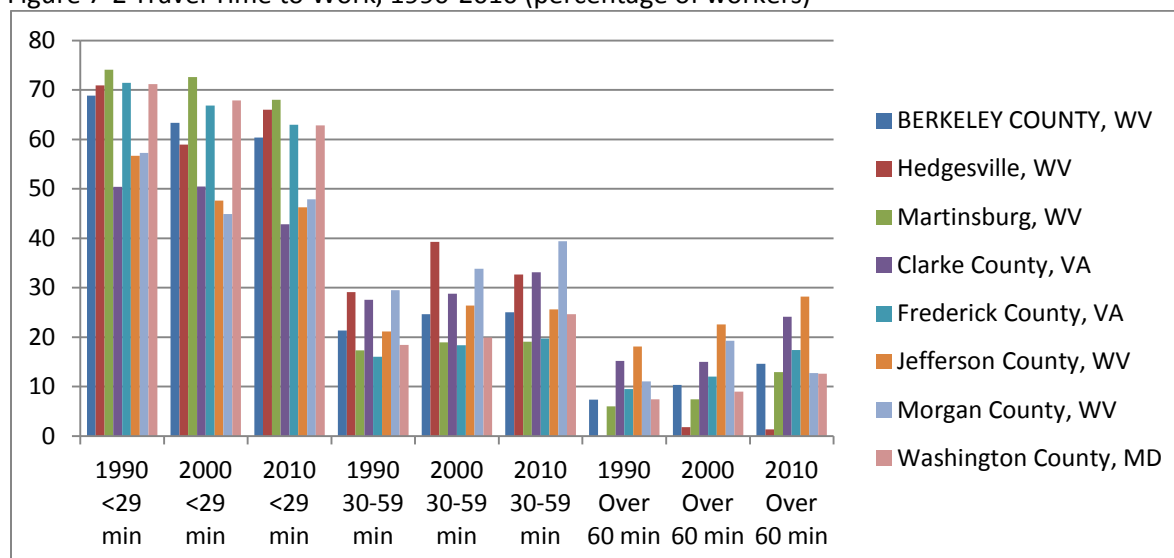
As illustrated in Figure 7-1, single-occupancy commuting continues to rise in Berkeley County and as of 2010 it had reached 81.8 percent of workers driving alone to work. This trend was seen in each of the neighboring counties as well with the exception of Washington County, MD where driving alone dropped by 0.1 percent. In Berkeley County the percentage of workers choosing to use public transportation, bike, walk and work at home also increased in the last 10 years, while the 2-person carpool percentage continues to drop. Table 7-3 and 7-4 list these percentages along with those of other neighboring counties.

Travel Time to Work

Commute times are continuing to get longer for Berkeley County workers. The percentage of commuters traveling fewer than 29 minutes to work dropped from 68.81 percent down to 60.38 percent. At the same time, the percentage of commuters traveling from 30 to 59 minutes and over 60 minutes both continued to increase. Jefferson County, WV has the longest commute times in the region. Additional analysis will be needed to determine how much of this increase in travel time is impacted by distance and how much is impacted by traffic congestion.

Berkeley County Comprehensive Plan Update June 2016

Figure 7-2 Travel Time to Work, 1990-2010 (percentage of workers)



Source: 2006 Comprehensive Plan and www.bestplaces.net commuter data

Table 7-5 Travel Time to Work, 1990-2010 (percentage of workers)

County	< 29 min			30-59 min			Over 60 min		
	1990	2000	2010	1990	2000	2010	1990	2000	2010
BERKELEY COUNTY, WV	68.81	63.31	60.38	21.35	24.62	25.05	7.33	10.36	14.58
Hedgesville, WV	70.89	58.93	65.98	29.11	39.29	32.66	0.00	1.79	1.36
Martinsburg, WV	74.10	72.57	68.01	17.32	18.97	19.05	6.01	7.42	12.95
Clarke County, VA	50.38	50.45	42.81	27.55	28.76	33.10	15.17	14.99	24.09
Frederick County, VA	71.44	66.80	62.94	16.00	18.35	19.71	9.50	12.02	17.36
Jefferson County, WV	56.68	47.61	46.22	21.12	26.40	25.58	18.13	22.54	28.21
Morgan County, WV	57.27	44.92	47.86	29.50	33.80	39.39	11.03	19.26	12.73
Washington County, MD	71.14	67.86	62.81	18.43	19.88	24.61	7.45	8.95	12.57

Source: www.bestplaces.net commuter data

Table 7-6 Top Commuter Destinations, 1990-2010

	1990		2000		2010	
	# of Commuters	% of Total	# of Commuters	% of Total	# of Commuters	% of Total
Berkeley County, WV	16,758	62.1	20,031	56.2	23,923	51.4
Washington County, MD	2,522	9.3	4,696	13.2	5,851	12.6
Jefferson County, WV	2,161	8	3,158	8.9	3,931	8.4
Frederick County, VA	1,703	6.3	1,534	4.3	2,488	5.3
Loudon County, VA	421	1.6	604	1.7	1,819	3.9
Frederick County, MD	567	2.1	1,079	3	1,535	3.3
Winchester City, VA	267	1	1,135	3.2	1,468	3.2
Montgomery County, MD	576	2.1	470	1.3	1,318	2.8
District of Columbia	305	1.1	503	1.4	787	1.7
Fairfax County, VA	313	1.2	365	1	748	1.6
Other Destinations	1280	5	2,015	6	2,659	5.7
Total	25,593	100	33,575	100	46,527	100

Source: www.bestplaces.net commuter data

Key Commuter Destinations

The top 10 commuter destinations for Berkeley County residents remained the same for 1990, 2000 and 2010. Berkeley County continued to remain the top commuter destination; however, the percentage of Berkeley County Commuters who remained within the county decreased from 62.1 percent to 56.2 percent in 2000 and down to 51.4 percent in 2010. Berkeley, Washington (MD), Jefferson (WV), and Frederick (VA) Counties retained their rank as the first, second, third, and fourth commuter destinations for Berkeley County residents from 1990 to 2010. Over the 20-year period the percentage of commuters to Loudon County, VA; Frederick County, MD; and the District of Columbia continued to increase. While over the same period the percentage of commuters driving to work destinations within Berkeley County has steadily declined from 62.1% in 1990 to 56.2% in 2000 to 51.4% in 2010. These data indicate that Berkeley County is experiencing a shift in the percentage of overall commuter destinations from within the county to outside the county. In 1990, 37.9 percent of commuters left the county for work and in 2010 this has increased to 48.6 percent. This will likely increase to more than 50 percent of commuters traveling outside of the county over the next 10 years.

2006 Summary of Transportation Action Strategies

Adopt the County Priority Transportation Network

Traffic congestion is a major issue in Berkeley County. An officially recognized multi-modal network shows a commitment to providing transportation choices to Berkeley County residents and businesses. It prioritizes regional and local facilities within the areas targeted for growth, thus supporting the goals of the growth management plan. The network also provides a basis for developing specific requirements for traffic impact studies and access management requirements as part of the subdivision and land development process to ensure that roadway facilities are adequate. The 2006 Priority Transportation Network Map illustrated the proposed Priority Transportation Network in Berkeley County.

Minor or Feeder Roads

In addition to the major roads, the secondary roads in the county also need to be addressed. With the growth within the county, these roads are becoming increasingly congested.

Bicycle and Pedestrian Transportation

- Incorporate bicycle and pedestrian facilities into new development by requiring them within the subdivision and land development ordinance.
- Effectively link bicycle and pedestrian facilities with transit operations in the county to provide some relief to increasingly congested roadways, particularly in targeted growth areas.
- Develop a regional trail network by combining the development of bicycle and pedestrian facilities with the protection of the county's streams. This network would provide alternative travel connections among the county's town and village centers as well as the neighborhoods and other special places. Along the stream corridors, the trails would incorporate native landscaping to filter runoff, also known as riparian buffers, yet still allow for hiking and biking. Mill Creek, Back Creek, Opequon Creek and Tuscarora Creek would be prime candidates for initial inclusion, with others added over time. This effort will require the development of strong public/private partnerships at many levels throughout the county. Many of the county's stream corridors are adjacent to private property and there are legitimate concerns about trespassing, littering, and even safety. However, with careful planning and community commitment this network could become a true source of pride. It could also be another attraction that would draw visitors to the area.

PanTran and MARC

PanTran and MARC are also integral elements of the county-wide transportation network. They provide service to segments of the population that do not drive or commuters with specific needs. Their ability to capture a larger share of the commuter and employment market would greatly assist in reducing the congestion along key corridors, especially during peak travel times. This could be accomplished by improving the linkages to the MARC stations, including Park and Ride facilities and providing adequate parking. Emphasis should also be given to extending service west to Hancock, MD. Preliminary recommendations from PanTran's evaluation prior to the 2006 comprehensive plan included a restructuring of the existing route system into a Hub and Spike System with Demand Response Service. This would serve key village centers of Inwood and Hedgesville, as well as key employment centers along WV9 and 45. Regionally, the spokes travel outward to Shepherdstown and Charles Town. Other recommendations included providing a downtown shuttle and linking more effectively with MARC facilities in both Berkeley and Jefferson Counties. The evaluation also included recommendations for a bus replacement program, benches, and shelters for stops, and other physical plant improvements. Finally, cleanliness and reliability are essential to increasing ridership.

Subdivision and Land Use Ordinance

- Adopt and enforce good access management principles. Access management is defined by the Transportation Research Board (TRB) as "the systematic control of the location, spacing and design and operation of driveways, median openings, interchanges and street connections to a roadway. The purpose of the access management is to provide vehicle access to land development in a manner that preserves the safety and efficiency of the transportation system."
- Work with WV DOH to incorporate design solutions that fit with the rural areas, including planting street trees and other landscaping elements because residents have expressed a desire to maintain the rural character of Berkeley County as it grows.
- Emphasize the need to construct complete streets that accommodate vehicles, non-motorized bikes, transit and pedestrians during the subdivision and land development process. These facilities would be most appropriate in the high density growth areas, including the town and village centers.
- Develop sign regulations for Berkeley County that will determine the location, height and bulk of billboards along state highways. This can be accomplished by adopting a separate sign ordinance. Work with the West Virginia Division of Highways to implement regulations to ensure consistency with WVDOH regulations regarding the permitting of billboards along state highways, especially I-81.

Funding

- Federal Funding: Funding for transportation improvements continues to be a major problem in Berkeley County. The FAST Act (Fixing America's Surface Transportation) of 2015 is a potential source for Federal funding. More information is available at <http://www.fhwa.dot.gov/fastact/>
- State Funding: Limited state funds, which are the "local" share for the projects has also been a factor. There are very limited state funds that can be accessed to build roads. It was recommended in the 2006 plan that funding could possibly be pursued through a legislative change which would allow growth counties to keep more of the gasoline taxes that a county pays or legislative guarantees. For example, if a county raises funds through impact fees or bonding, perhaps matching state funds would follow.
- Local Funding: Chapter 7-20 of the West Virginia Code provides for the assessment and collection of impact fees to offset the cost of road improvements needed to accommodate traffic associated with commercial and residential development within counties. In order for this to be feasible, one

document Berkeley County would need to draft and adopt is a comprehensive zoning ordinance to meet criteria needed to implement this strategy. This would provide the county with some control over much needed roadway improvements to accommodate traffic associated with new development. However, since the community has repeatedly voted against zoning options, this does not appear to be a viable solution at this time.

Agency Communication

- The current exchange of information between the WVDOT and the Berkeley County Planning Commission has improved since the 2006 plan. The Planning Commission and WVDOH hold quarterly meetings to evaluate the impact of increased traffic on the planned development and coordinate requirements and steps to provide adequate traffic flow. A county wide transportation plan must address the minor or feeder roads and offer solutions before they become overly congested.
- County and municipal leaders need to continue to work within the existing HEPMPO to prioritize projects. They should also continue to work with both elected and appointed officials to find additional funding sources for transportation improvements.
- The county should work closely with both PanTran and MARC to maintain and improve their services to Berkeley County residents. Key actions that can support increased usage of these two modes of travel include development and adoption of land management ordinances that allow for “transit-friendly” design and establishing dedicated funding sources for continued improvements to the system.

2016 Berkeley County Transportation Highlights

The number of Berkeley County residents driving alone to work has risen to 81.8 percent, however, the percentage of workers choosing to use public transportation, biking, walking or working at home has also increased. The percentage of residents commuting fewer than 29 minutes to work has steadily dropped while the percentage of residents commuting over 60 minutes has steadily risen over the last 20 years. Berkeley County is experiencing a shift in the percentage of overall commuter destinations from within the county to destinations outside the county. As of 2010, 48.6 percent of residents left the county for work, which is also reflected in the longer commute times. This is an increase of 10.7 percent since 2006. Commuter travel via single-occupant vehicle is anticipated to increase, therefore volumes along existing highways will increase. Expansion of existing transportation system to increase capacity is challenging.

2016 Priority Transportation Network

This network will need to be incorporated into the MPO’s Long Range Transportation Plans in order to have the items included for funding by the federal and state government. As part of the process the county has been working with WVDOH to obtain more and better information concerning development impacts prior to approvals. One factor complicating the process is the fact the county does not have the ability to control where all development locates and as a result, new developments are developed that create additional transportation needs in their vicinity.

- WV Route 9: In 2010 construction of the first and second segments was completed. The remaining segments around Martinsburg and west of I-81 to US 522, which may have the greatest impact on the residents of the county, are still a number of years in the future. The Martinsburg Bypass between WV9 and I-81, segment 3, is shown in the 2014 update of the HEPMPO Long Range Transportation Plan with an estimated cost of \$47.7 million in 2013 dollars.

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- Tabler Station Connector: This five-lane facility between I-81 and US 11 has been constructed and is open to traffic. The extension of Development Drive from Tabler Station Road to Corning Way is under contract and is scheduled to be completed in 2016.
- Tabler's Station Multi-Modal Hub: A significant amount of acreage was sold by the Berkeley County Development Authority to Procter & Gamble. The completion of the relocation project for Tabler Station road has improved the ability to handle additional traffic in the area generated by the area's development, but additional improvements will be required as time progresses to ensure adequate capacity in the future.
- WV 51 Inwood Bypass: WVDOT held a public meeting in December 2014, outlined the project alternate options, specified the preferred alternate option and shared a project schedule which indicated an estimated construction start in spring 2016.
- Raleigh Street Extension: In 2013 the Raleigh Street Extension was completed between West Race Street and the intersection of US11 and WV9 near Old Courthouse Square.
- I-81: Average daily traffic on I-81 through Berkeley County has increased from approximately 45,000 vehicles per day in 2006 to 76,000 vehicles per day. Widening has been completed north of Martinsburg to US 11 interchange and south of Martinsburg to the WV 45 interchange. Widening of I-81 from the US 11 interchange to the Potomac River Bridge is scheduled to start in 2016.
- US 11: Average daily traffic on US Route 11 through Berkeley County continues to be just over 7,000 vehicles per day in the northern and southern portions of the county but has increased to just under 12,700 near the WV 901 intersection and almost 16,000 vehicles per day where it intersects with WV 45/Apple Harvest Drive.

Aviation

- In 2009, Runway 26 was extended from 7,000 to 7,815 feet and Runway 8 was extended from 7,000 to 8,815 feet.
- The Eastern Panhandle Inland Port Coalition, Inc. was formally organized in 2010. Its mission is to establish an intermodal transportation facility centered on the Eastern Regional Airport, which would be a designated port of entry with U.S. customs agents to accommodate import/export business.

Bicycle and Pedestrian Transportation

- The bicycle path along WV 9 was completed in 2010.
- A regional bike study was initiated through the Hagerstown Eastern Panhandle MPO in 2015.
- A North Martinsburg Area Pedestrian Plan was prepared in March of 2012 and facilitated by the HEPMPO.

Railroads

- MARC commuter services on the Brunswick Line have increased by one trip in each direction to and from Washington DC.

Subdivision and Land Use Ordinance

- WV DOH entrance permit requirements and a Manual of Street Standards have been included in the 2009 Subdivision Ordinance.

Funding

The Transportation Plan focuses on improving the county's ability to facilitate improvements to the transportation system through the development of the Metropolitan Planning Organizations Long

Range Transportation Plan (LRTP). This LRTP is developed recognizing the major role that the West Virginia Department of Transportation and Division of Highways plays in addressing transportation issues in the county. The plan incorporates the county's growth management plan through the identification of a multi-modal network that will provide choices to residents, while connecting the county's town and village centers together, as well as to the region at large. The LRTP also considers current funding constraints and proposes strategies to work more efficiently within the existing framework for identifying, programming, funding and completing needed improvements. This plan and other transportation related information can be found at http://www.hepmpo.net/planning_docs/index.shtm.

Agency Communication

There has been much improvement between the WVDOT, in particular the DOH in recent years with regard to the sharing of information with the county as part of their review of projects. In particular, the agencies meet on a quarterly basis to inform all parties of potential projects and problems. In conjunction with the MPO Long Range Plan, it would be beneficial to have a priority plan prepared for making improvements to the secondary roads as well. The largest question to be answered is the source of the money necessary to make the required improvements, especially if they cannot be tied to a particular development.

Looking Forward to 2026

Priority Transportation Network

- The Priority Transportation Network has been updated to reflect eight (8) top transportation priorities for Berkeley County. They are:
 1. Martinsburg Bypass
 2. Re-Align WV 9 West
 3. Inwood Access Road
 4. US 11 Intersections from southern Berkeley County Line to Tabler Station Road
 5. WV 45
 - Widening and realignment of WV 45 (Apple Harvest Drive) from Blue Ridge CTC to WV 9 at Queen St
 - Intersection improvements of WV 45 from WV9 to Shepherdstown Connector
 6. Widen Novak Rd from Us 11 to Airport Dr
 7. Create second access point for The Commons Shopping Center parallel to Interstate-81 near exit 8

Aviation

- An Airport Master Plan is expected to be completed late 2016.

Bicycle and Pedestrian Transportation

- The Hagerstown Eastern Panhandle MPO Bicycle Study began in late 2015 and will assist the county and the region in establishing regional connections among existing bicycle trails and roadways.
- Evaluate The North Martinsburg Area Pedestrian Plan to determine which initiatives have been completed and which initiatives still need to be addressed.

Rail and EPTA

- The Eastern Panhandle Transit Authority forecasts an increase in the annual number of riders and plans to split the red line and add a Yellow Route and a Green Route.

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- An EPTA Bus Transfer Point Study was commissioned by the HEPMPO to evaluate several potential locations to identify an ideal location for a new transfer center. The ideal location would be easily accessible, centrally located and serve municipal, transit provider and rider needs. A final report and recommendations are anticipated to be completed during the summer of 2016.

Funding

- Continue to work with the HEPMPO while also researching other tools and opportunities for funding that could be used to improve Berkeley County roadways. The Hagerstown/Eastern Panhandle Metropolitan Area Long Range Multimodal Transportation Plan, developed by HEPMPO and adopted in April of 2014, is a comprehensive examination of future travel needs. The Plan identifies a number of potential problem areas within the county due to projected population and employment increases and provides recommended improvements. Table 7-7 is a list of proposed projects for Berkeley County from the Direction 2040 HEPMPO Long Range Transportation Plan Update.

Table 7-7 Berkeley County Proposed Projects

Project ID	Facility	Segment	Description	Cost (2013 \$)
4	I-81	Berkeley County Line to WV 45	Widen to six lanes	\$273.7M
13	US 11	Berkeley County Line to Tabler Station Road	Intersection improvements	\$14.7M
14	US 11	Tabler Station Rd to WV 45/9	Widen to four lanes	\$35.3M
16	US 11	Edwin Miller Boulevard to Potomac River	Intersection improvements	\$24.9M
36	WV 9	Morgan County Line to County Route 1	New four lane alignment	\$25.4M
38	WV 9	County Route 1 to Industrial Circle	Widen to six lanes	\$13.8M
40	WV 45	I-81 to WV 9 (Queen Street)	Widen to six lanes	\$19.7M
43	WV 51	Gerrardstown to I-81	Intersection improvements	\$6.4M
45	WV 51	I-81 to US 11	Widen to four lanes	\$12.4M
46	WV 51	US 11 to Tarico Heights	New four lane alignment	\$11.6M
47	WV 51	County Route 26 to W. Washington Street	New two lane alignment <i>Berkeley/Jefferson counties</i>	\$77.5M
51	CR 1	WV 9 to WV 901	Widen to four lanes	\$73.6M
57	WV 901	US 11 to County Route 1	Widen to four lanes	\$32.9M
58	King Street	I-81 to US 11	Intersection improvements	\$3.9M
62	Lutz Avenue Extension	Existing Lutz Avenue to Meridian Parkway	New two lane road	\$3.5M
63	Delmar Orchard Road	Klee Drive to West King Street	Road Reconstruction (2 lanes)	\$19.1M
92	Novak Road	US 11 to Airport Drive	Widen to four lanes	\$22.8M
105	WV 45	I-81 to WV 51	Reconstruction of roadway/safety improvements	\$73.8M
B1	Martinsburg Bypass	I-81 to WV 9	Construct new roadway	\$47.7M
M1	Commercial Drive	Delmar Orchard Road to WV 45	Construct new roadway	\$12.3M
M2	East-West Connector	Klee Drive to Proposed Commercial Drive	Construct new roadway	\$5.7M
M3	North-South Connector	Proposed East-West Connector to Proposed Klee Drive	Construct new roadway	\$2.3M
M4	Commercial Road Connector	Delmar Orchard Road to Proposed Commercial Drive	Construct new roadway	\$2.3M
M5	Main Residential Road	Residential loop connection to Delmar Orchard Road	Construct new roadway	\$11.5M
M6	Residential through Road	Arden-Nollville Road to Delmar Orchard Road	Construct new roadway	\$8.5M

Source: HEPMPO Direction 2040 Long Range Transportation Plan Update