1. Transportation Facilities and Characteristics

Regional Highway System

Interstates

I-64, I-77, and I-79, intersecting in Charleston, are the three major interstates in the region. They carry nearly 50.0% of Kanawha County traffic and approximately 35.0% of all Putnam County traffic and are critical in the movement of goods throughout the region (and the U.S.).

US Routes

The following US routes also play a prominent role in the region's transportation infrastructure:

US 60: US 60 is a key regional corridor, paralleling I-64 through Putnam County and much of Kanawha County. From County Route 46 (Putnam County) to the Patrick Street Bridge (connecting Charleston and South Charleston), US 60 is referred to as MacCorkle Avenue. At Chelyan, in southeast Kanawha County, US 60 moves east (as Midland Trail), providing access to the Gauley River National Recreation Area and the New River Gorge National River.

US 119 (Corridor G): US 119, part of the Appalachian Development Highway System, was completed in 1992 and runs from Kentucky to Pennsylvania. Corridor G provides key access to commercial centers (Trace Fork, Southridge, and Dudley Farms).

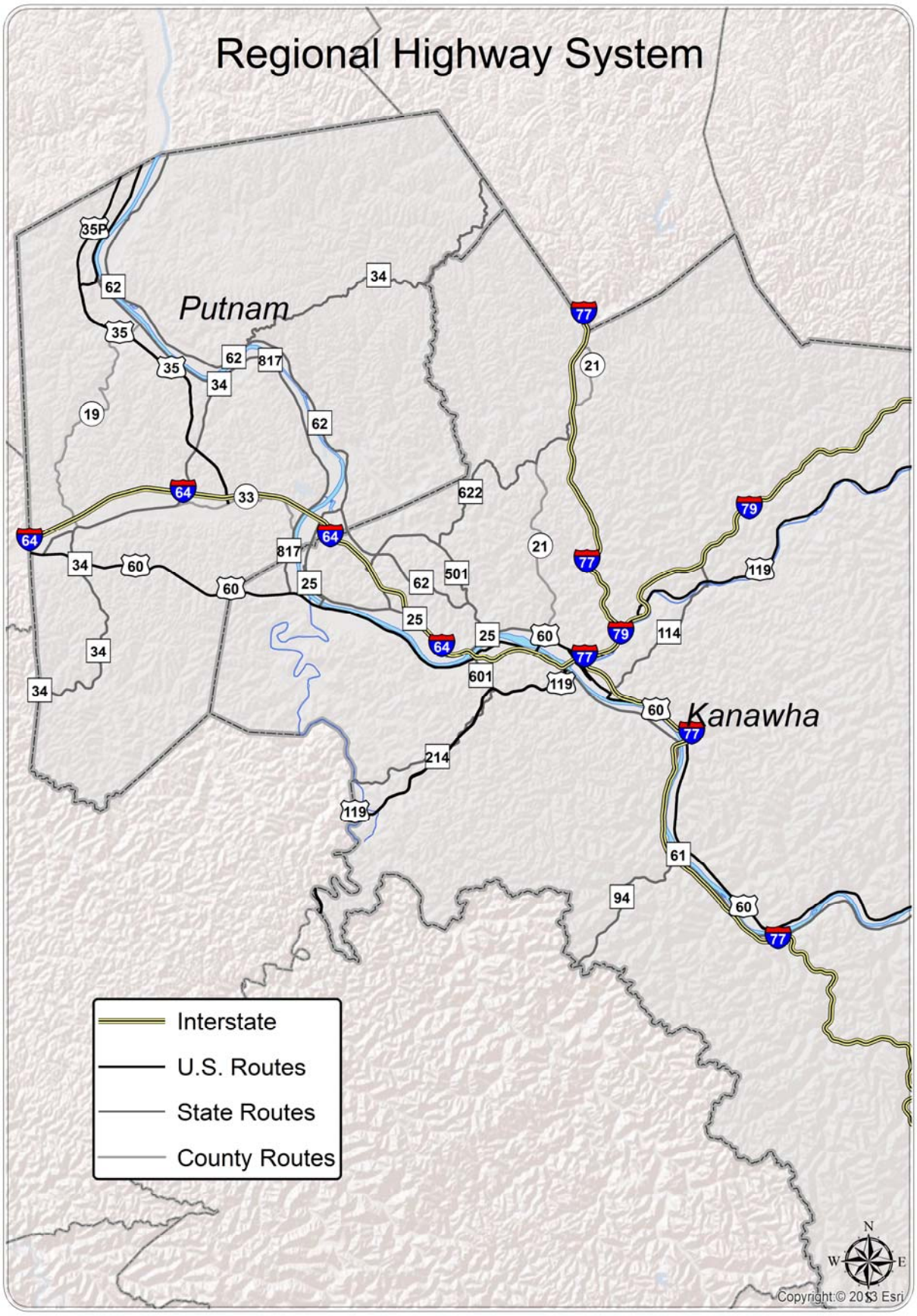
US 35: US 35 is a north-south highway, connecting the Charleston Metro Area with Ohio and northern Indiana. The highway is a four-lane facility from I-64 to the Buffalo Bridge (near the Toyota engine and transmission plant). To complete the planned four-lane facility, the segment from Buffalo to Beech Hill in Mason County needs to be widened/upgraded; this may be funded with a public-private partnership.

State and County Routes

State and county roadways also play prominent roles in moving people and goods throughout the region. The following state and county routes, most of which contain segments with over 7,500 vehicles per day, play a prominent role in the region's transportation network.

WV 25 (1st Avenue/Fairlawn Avenue/Dunbar Avenue/7th Avenue)
WV 34 (Teays Valley Road/Midland Trail)
WV 61 (MacCorkle Avenue)
WV 62 (Cross Lanes Drive/Washington Street West)
WV 94 (Lens Creek Road)
WV 601 (Jefferson Road)
WV 622 (Goff Mountain Road/Big Tyler Road/Rocky Fork Road)
WV 817 (Winfield Road)
Putnam CR 19 (Hurricane Creek Road)
Putnam CR 33 (Teays Valley Road)
Kanawha CR 21 (Sissonville Drive)

Figure 1: Regional Highway System



Current Conditions

Average Annual Daily Traffic (AADT) describes the level of vehicle traffic on a given roadway. Using 2010 WVDOT traffic volume data, the following discussion provides an overview of daily traffic volumes in the Kanawha-Putnam region. The discussion addresses three key roadway types: interstates, US routes and WV/county routes.

Interstates: As expected, the interstates, particularly in the immediate vicinity of Charleston, account for some of the region's highest traffic volumes. AADT volumes on I-64 range from 32,500 vehicles per day (near Hurricane), to over 100,000 on the Eugene A. Carter Memorial Bridge in Charleston, which has the highest daily traffic volume in the state. Average daily traffic on I-77 is consistently above 20,000 vehicles per day, with the highest volumes occurring east of the I-77 and I-64 merge. Recorded traffic volumes on I-79 tend to be lower, ranging from 16,000 (between Exit 9 and Exit 19) to 25,500 (between I-77 and Exit 1).

The Eugene A. Carter Bridge between South Charleston and Charleston

US Routes: AADT has increased considerably on select US Routes since the last long range plan update was published in 2009. In particular, US 119, just south of Jefferson Road (WV 601), recorded approximately 46,200 vehicles per day in 2010. Average daily traffic volumes on US 60 ranged from 3,000 (0.1 miles west of WV 25) to 27,593 at Chestnut Street in Spring Hill (South Charleston). Meanwhile, the recently-upgraded portion of US 35 typically serves between 10,500 and 18,800 vehicles per day, depending on the roadway segment.
West Virginia Routes and County Routes: Jefferson Road (WV 601), known for its congestion, recorded over 20,000 vehicles per day in 2010. The east and west gateways to Kanawha City (WV 61/MacCorkle Avenue), in close proximity to various segments of I-64, had over 20,000 vehicles per day in 2010.

Meanwhile, traffic volumes on WV 34 in Teays Valley often exceed 20,000, with a high of 29,900 near the I-64 interchange. CR 19 (Hurricane Creek Road) serves as many as 20,900 vehicles per day; the highest volumes are located just north of WV 34.

Vehicle Miles Traveled

The Highway Performance Monitoring System (HPMS) provides estimates of daily vehicle miles traveled (VMT) by county and roadway type. VMT is not only useful in evaluating travel trends, but can also help measure emissions and project future roadway usage and conditions.

On a typical day, there are 6.5 million VMT in Kanawha County and 1.7 million VMT in Putnam County. Interstates account for nearly one-half (48.0%) of VMT in Kanawha County, but only 34.0% in Putnam County. Conversely, West Virginia routes account for approximately 15.0% of VMT in Kanawha County and 35.0% in Putnam County.

Figure 2

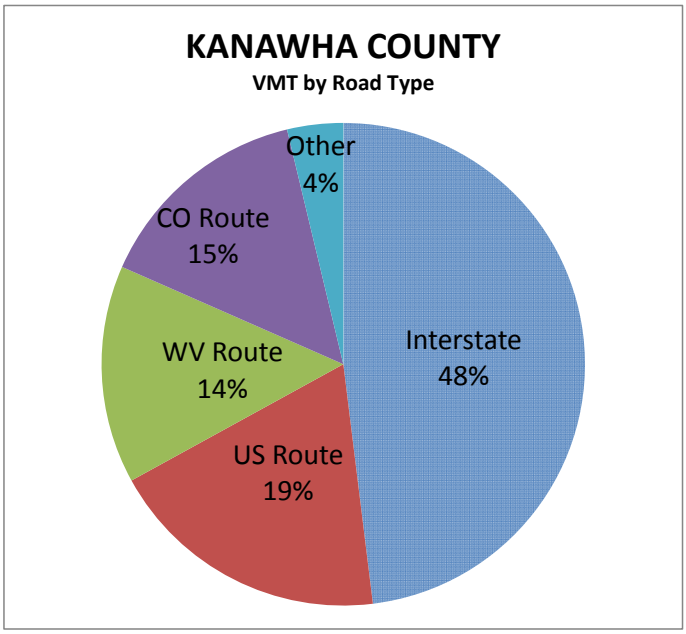
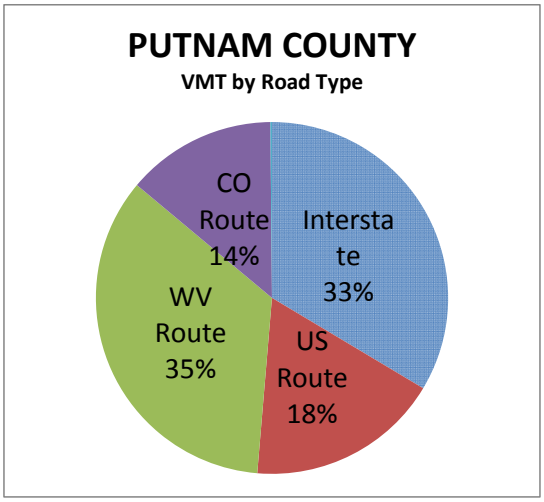


Figure 3



With 1998 used as a base year VMT trends are compared to county population and employment growth in Figures 4 and 5. Population and employment both declined by approximately 5.0% in Kanawha County, but increased by approximately 10.0% and 13.0%, respectively, in Putnam County over the same period. Meanwhile, VMT increased in both counties before eventually declining. The reductions were likely responses to deteriorating economic conditions and rising fuel costs.

Figure 4

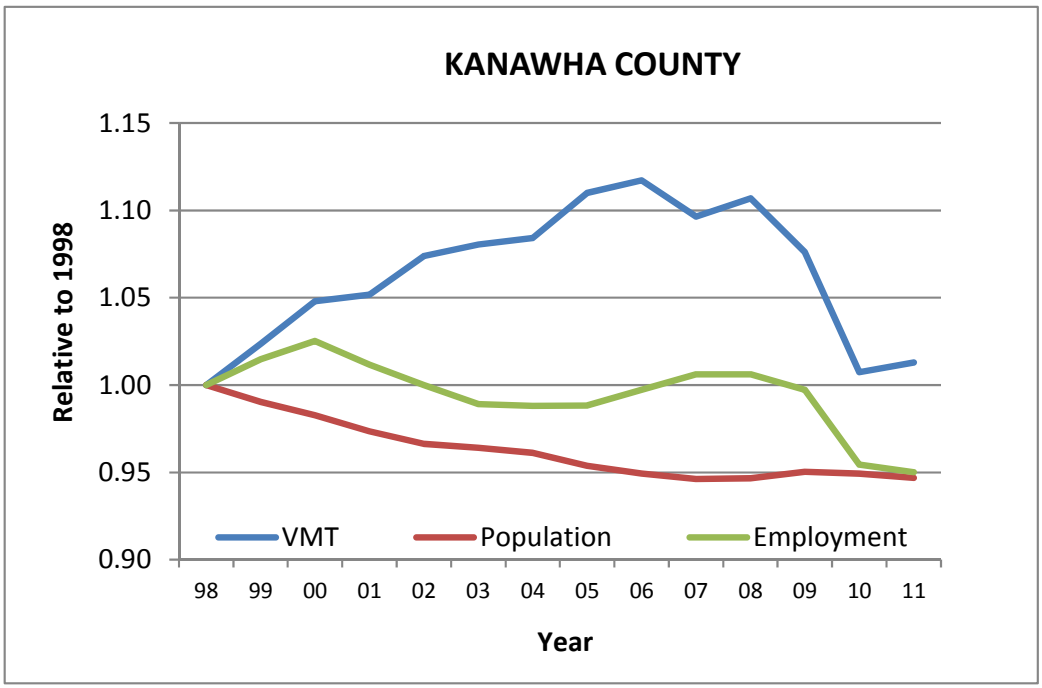
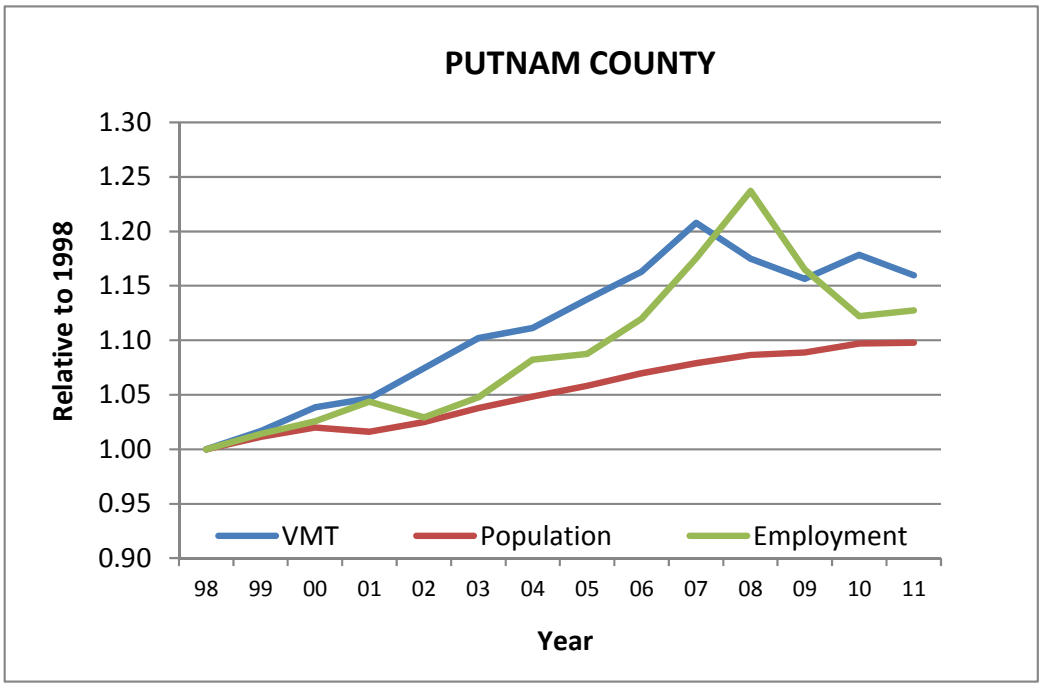


Figure 5



Level of Service (LOS), comparing a roadway's traffic volume to its capacity (based on functional classification and the number of lanes), can help identify congested roadway segments. The various LOS classifications are described below.

Table 1: Level of Service

LOS A	Excellent Conditions with light traffic and free flow speeds. Motorists are unaffected by traffic.
LOS B	Good conditions with light to moderate traffic, but mostly free flow speeds.
LOS C	Fair conditions with moderate to heavy traffic and a decline in free flow speeds.
LOS D	Poor conditions with heavy traffic at or near roadway capacity. Speeds severely reduced.
LOS E	Bad conditions with heavy traffic above roadway capacity. Speeds severely reduced.
LOS F	Extremely bad conditions with heavy traffic above roadway capacity. "Stop-&-go" conditions result.

Table 2 shows total roadway miles broken into LOS classifications. This shows the overall condition of roads in Kanawha and Putnam Counties. The majority (96.4%) of the region's roadways operate at "good" or "excellent" levels of service. Meanwhile, approximately 1.9% (42 miles) of the region's roadways can be considered "deficient" (LOS E or F) from a capacity perspective.

Table 2: Regional LOS Distribution (2013)

LOS	Miles	Percent of Roads
A	373.6	17.2%
B	1,722.1	79.3%
C	26.5	1.2%
D	8.8	0.4%
E	11.6	0.5%
F	30.3	1.4%
Total	2,172.9	100.0%

Note: total roadway mileage does not necessarily reflect WVDOT's roadway network

*The 2010 data may not entirely reflect the I-64 improvements between Teays Valley and the Crooked Creek interchanges, as well as the I-64 bridge improvements between South Charleston and Dunbar.

Several Kanawha County roadway segments stand out as having exceptionally deficient levels of service (E or F). Facilities with E or F levels of service include, but are not limited to:

- WV 622, from I-64 to Rocky Fork Road (Cross Lanes)
- *I-64 through Dunbar, South Charleston, and Charleston
- WV 601, from US 60 to US 119 (South Charleston)
- US 119

Currently, capacity deficiencies are evident at the following locations in Putnam County:

- *I-64, from the WV 34 interchange (Exit 39) to the Nitro interchange (Exit 45
- WV 34, from Hurricane to Harmon's Branch Road (just north of the intersection of WV 34 and US 35).

Although congestion is perhaps less severe in Putnam County than in Kanawha County, Putnam County's anticipated population and employment growth will likely put additional strains on the county's highway network.

Future Conditions

During the recent update of the long range transportation plan, the travel demand model was updated to include the current roadway network, anticipated population and employment projections, and forecast traffic volumes. The analysis, comparing future volumes to roadway capacity, shows where relative congestion will potentially exist in the year 2040 (assuming that capacity stays the same). In other words, the analysis illustrates a worst-case scenario, showing how future traffic looks without the development of any additional projects.

The model estimates the number of trips produced by and attracted to each of the region's Traffic Analysis Zones (TAZs), as well as vehicle miles of travel (VMT) by roadway type. Figure 6 and Figure 7 show the increases in VMT by county and roadway type. Note that VMT is roughly 2.5 times higher in Kanawha County than in Putnam County.

Figure 6: Projected Increases in VMT by Roadway Type (Kanawha County)

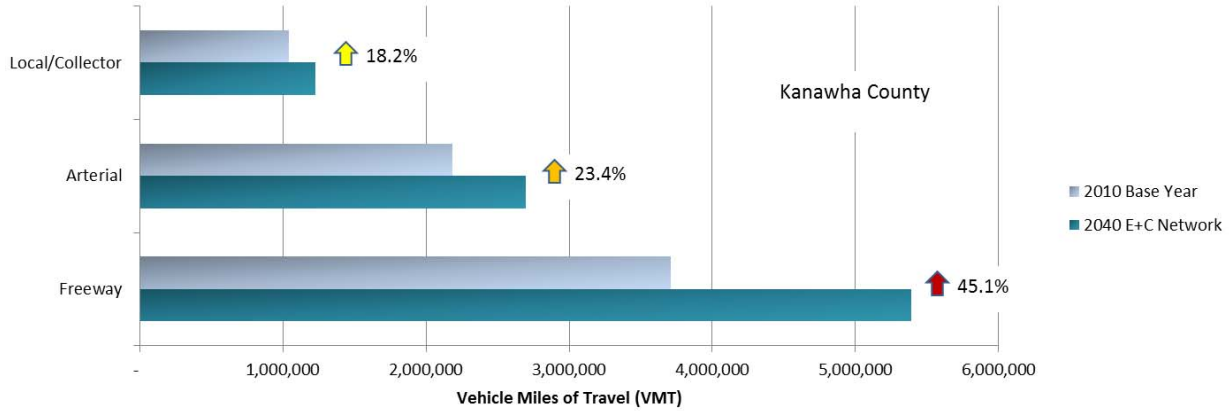
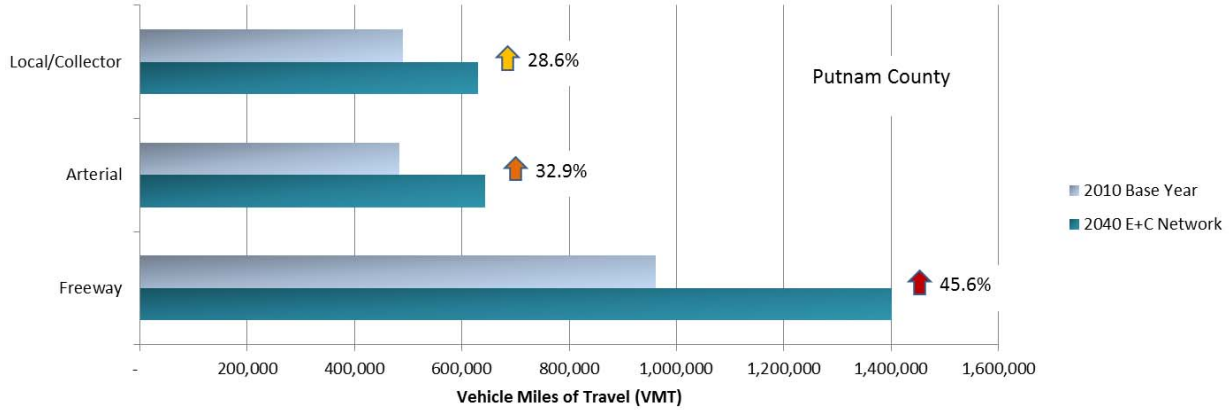


Figure 7: Projected Increases in VMT by Roadway Type (Putnam County)



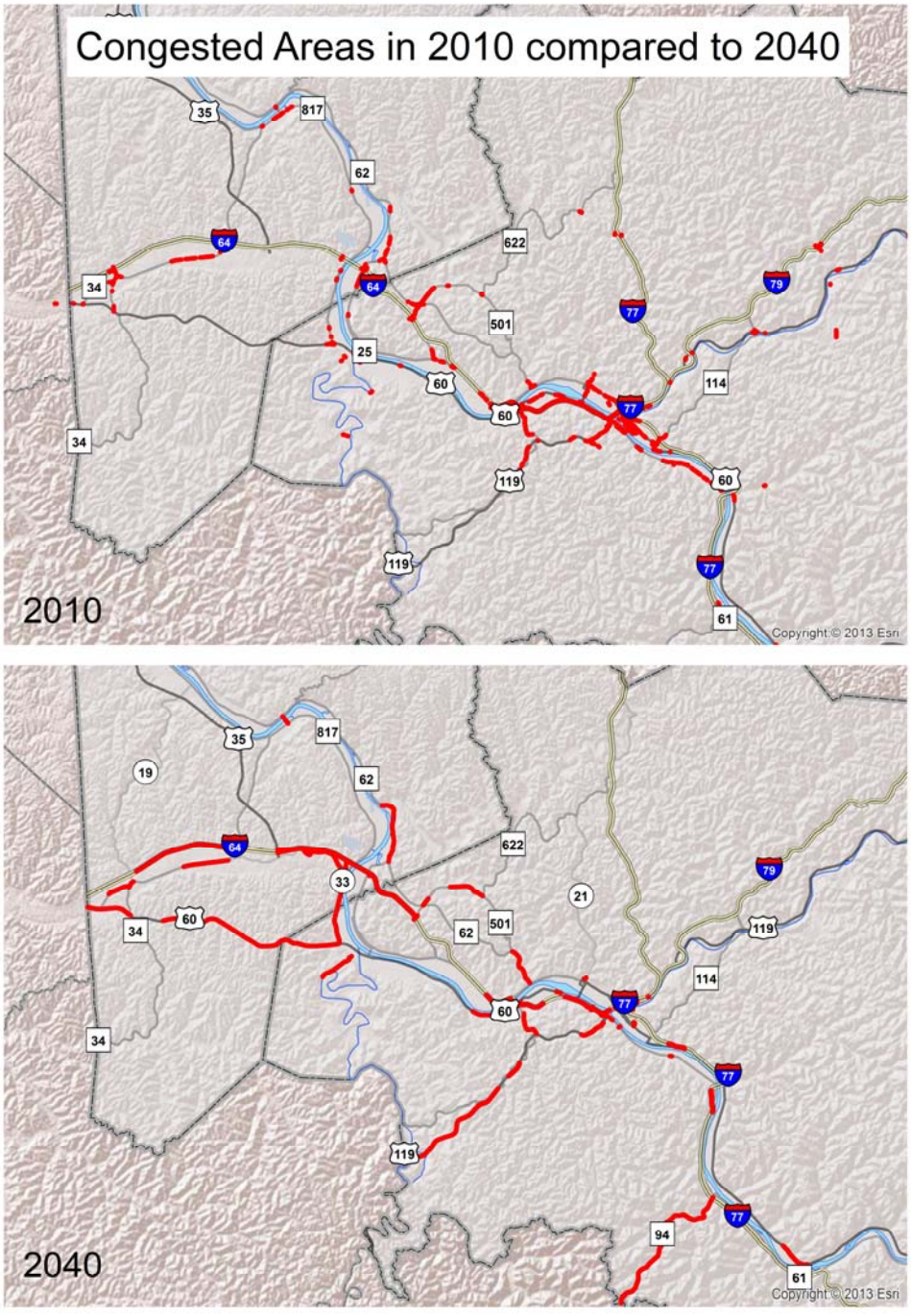
Finally, the travel model can help forecast traffic on specific roadways. Several Kanawha County roadway segments will have deficient levels of service (E or F) in 2040. Facilities with E or F levels of service include, but are not limited to:

- WV 817 (Winfield Road) in St. Albans;
- 3rd Street in St. Albans;
- WV 62 (Cross Lanes Drive), west of WV 622;
- WV 622 in Cross Lanes, with the heaviest congestion expected at the I-64 interchange and at the approaches to WV 62 and Rocky Fork Road (southwest of the intersection);
- WV 62 (Washington Street) in Charleston;

- I-64, from Nitro to Exit 100, in Charleston;
- Kanawha Turnpike at the approach to Jefferson Road;
- US 119 (Corridor G) – volumes are expected to exceed roadway capacity, particularly along the stretch from Oakwood Road to Cantley Drive; and
- US 60, from the Chelyan Bridge to Cedar Grove.

The following maps compare 2010 traffic congestion data to 2040 projected traffic volumes. The 2040 Congestion Map shows estimated traffic volumes with the current roadway network representing a no-build situation.

Figure 8: Congested Areas



Traffic Counts

Traffic counting provides an important base for short and long-range transportation planning in an area. The WVDOH collects and compiles traffic data statewide at 60 continuous locations and over 2500 short duration locations annually. Information collected includes traffic volume data (average daily traffic), vehicle type, and intersection turning movement information.

The RIC keeps a database of historic traffic counts, some dating back to 1998. The following tables and maps display traffic counts along the major US highways and state routes in Kanawha and Putnam Counties. Traffic volumes increase with proximity to downtown areas and shopping centers, while traffic volumes decrease with proximity to suburban and rural areas.

Table 3: AADT Along U.S. 60 in Kanawha and Putnam Counties

Selected Points	2004	2007	2010
A	5,400	6,200	5,500
B	6,100	6,400	13,100
C	17,800	N/A	19,700
D	10,300	9,300	5,000
E	19,100	18,100	18,200
F	13,200	12,200	13,000

U.S. Route 60 (highlighted in red in the map below) is a highly traveled facility providing an alternate to interstate travel. Highest AADT at almost 20,000 to the lowest at 5,000

Figure 9

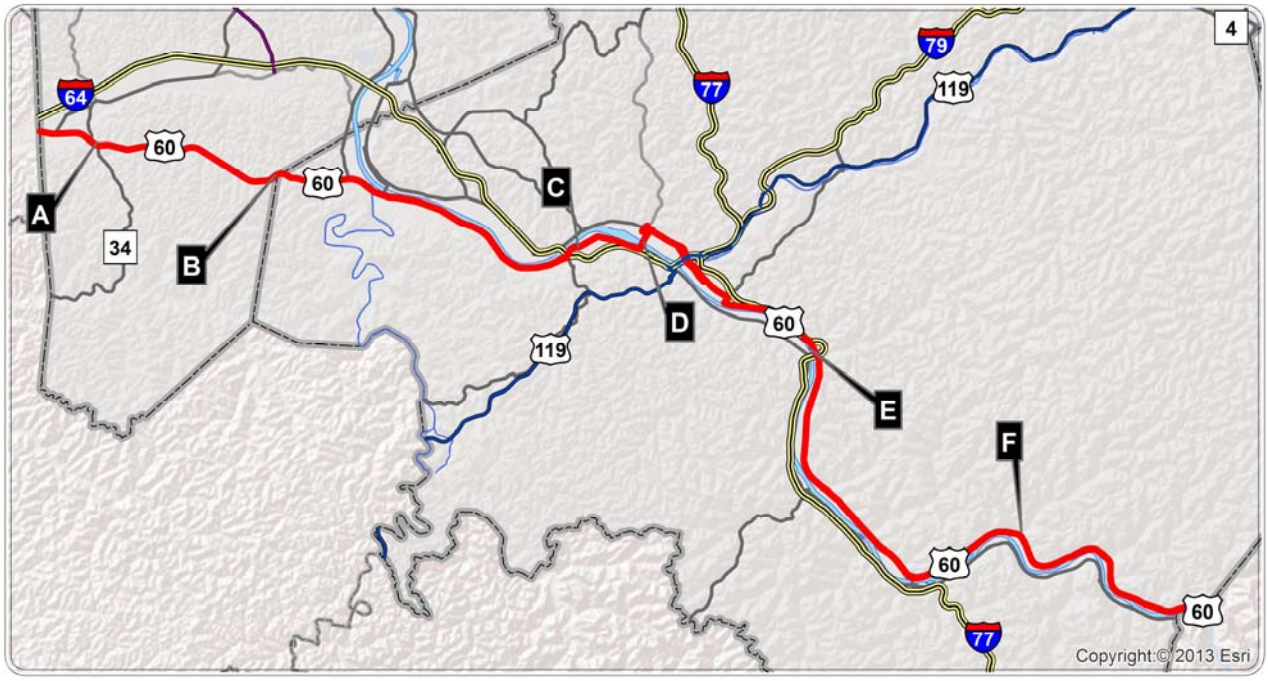


Table 4: AADT Along U.S. 119 in Kanawha County			
Selected Points	**2004**	**2007**	**2010**
A	6,000	5,500	5,700
B	4,800	4,600	4,200
C	40,700	31,500	23,800
D	39,300	N/A	36,100
E	35,800	47,200	45,900
F	22,700	N/A	20,700

U.S. Route 119 (highlighted in red in the map below) is a highly traveled facility that is a part of the Appalachain Highway System. Highest AADT is 45,000 to the lowest at 4,200.

Figure 10

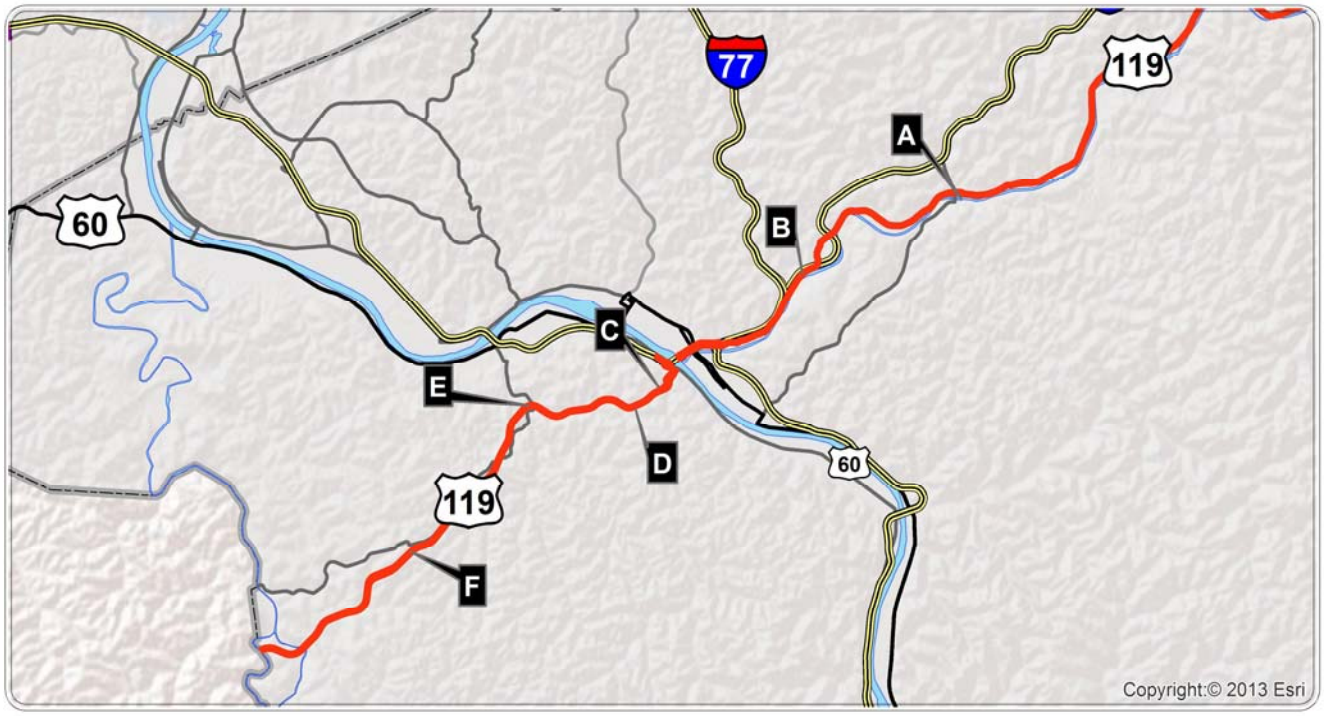


Table 5: AADT Along WV 25 in Kanawha and Putnam Counties			
Selected Points	**2004**	**2007**	**2010**
A	17,000	14,800	14,100
B	16,700	15,900	13,800
C	18,900	17,900	16,800
D	17,300	10,600	15,900
E	18,600	10,400	11,100
F	13,400	13,900	12,900

WV Route 25 (highlighted in red in the map below) is a well traveled highway. Highest AADT is 16,000 to the lowest at 11,000 in 2010.

Figure 11

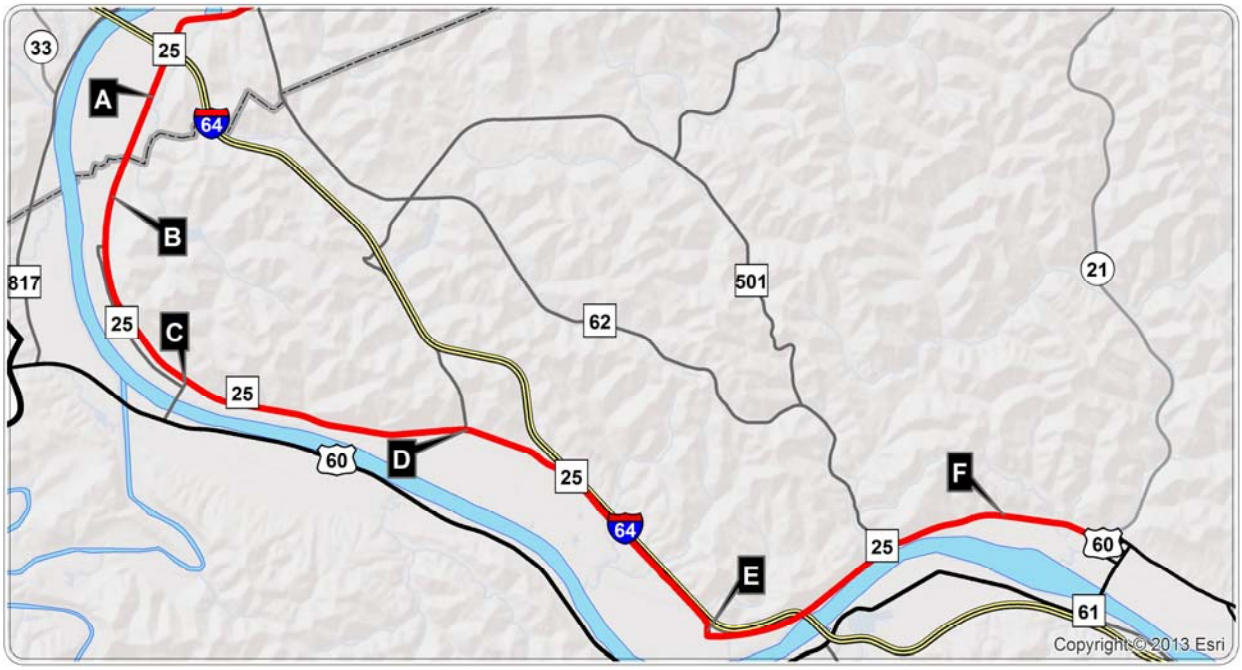


Table 6: AADT Along WV 34 in Putnam County			
Selected Points	**2004**	**2007**	**2010**
A	9,000	10,100	8,000
B	20,700	19,300	29,900
C	14,500	17,200	9,000
D	6,600	7,400	6,100

WV Route 34 (highlighted in red in the map below) is a well traveled highway. Highest AADT is almost 30,000 in 2010.

Figure 12

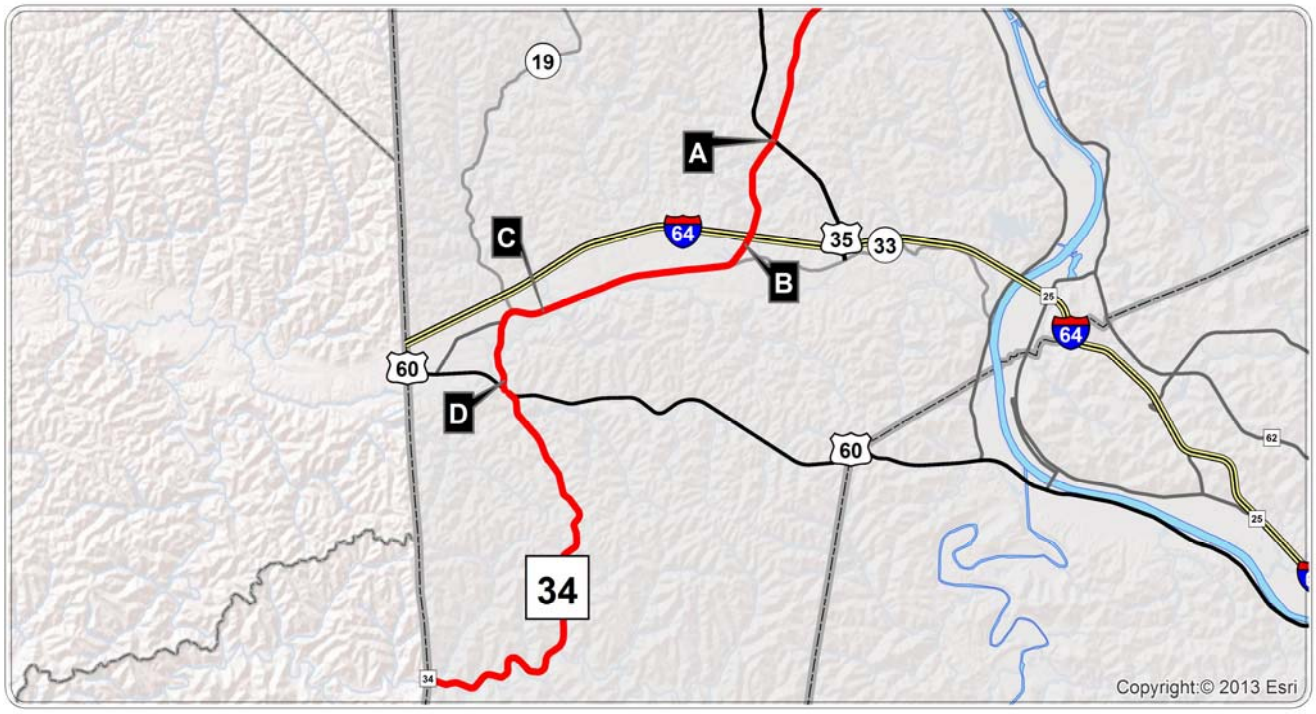
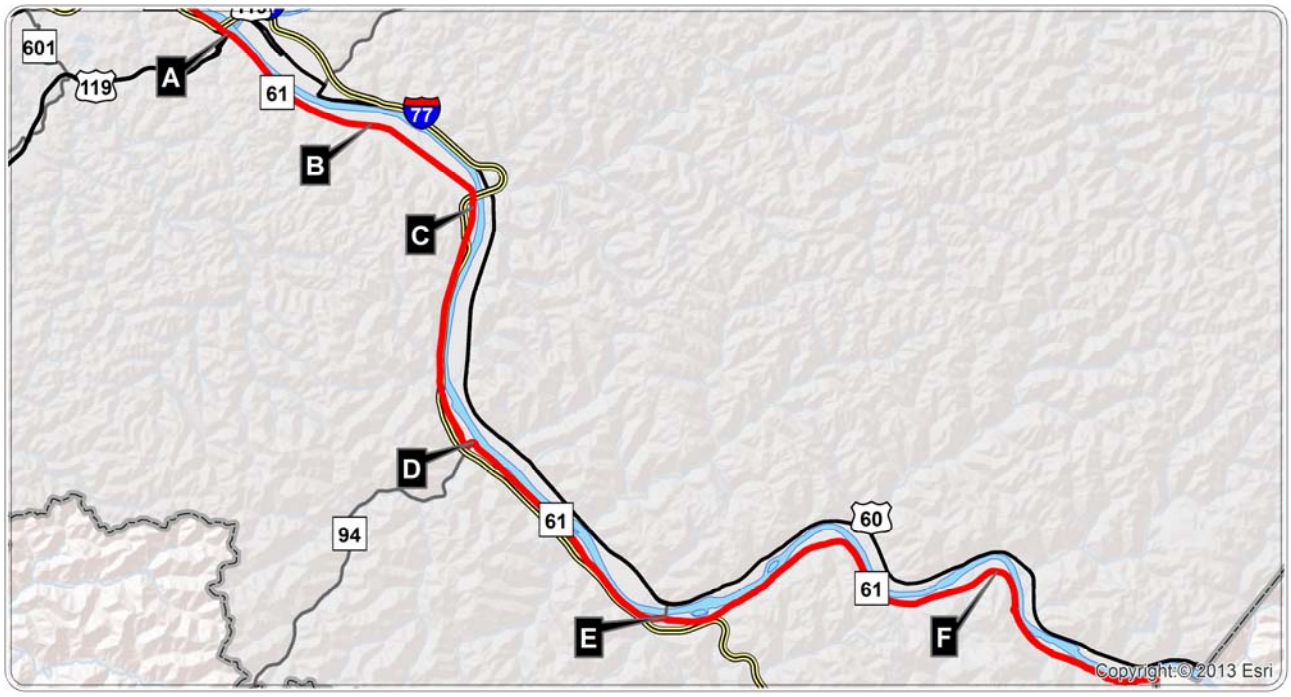


Table 7: AADT Along WV 61 in Kanawha County			
Selected Points	**2004**	**2007**	**2010**
A	25,800	19,400	26,600
B	26,100	N/A	26,500
C	12,200	11,100	19,000
D	10,700	8,600	8,100
E	6,600	5,100	4,500
F	2,400	2,800	2,800

WV Route 61 (highlighted in red in the map below) is a well traveled highway connecting downtown Charleston just south of the Kanawha River. Highest AADT is 26,500 to the lowest at 11,000 in 2010.

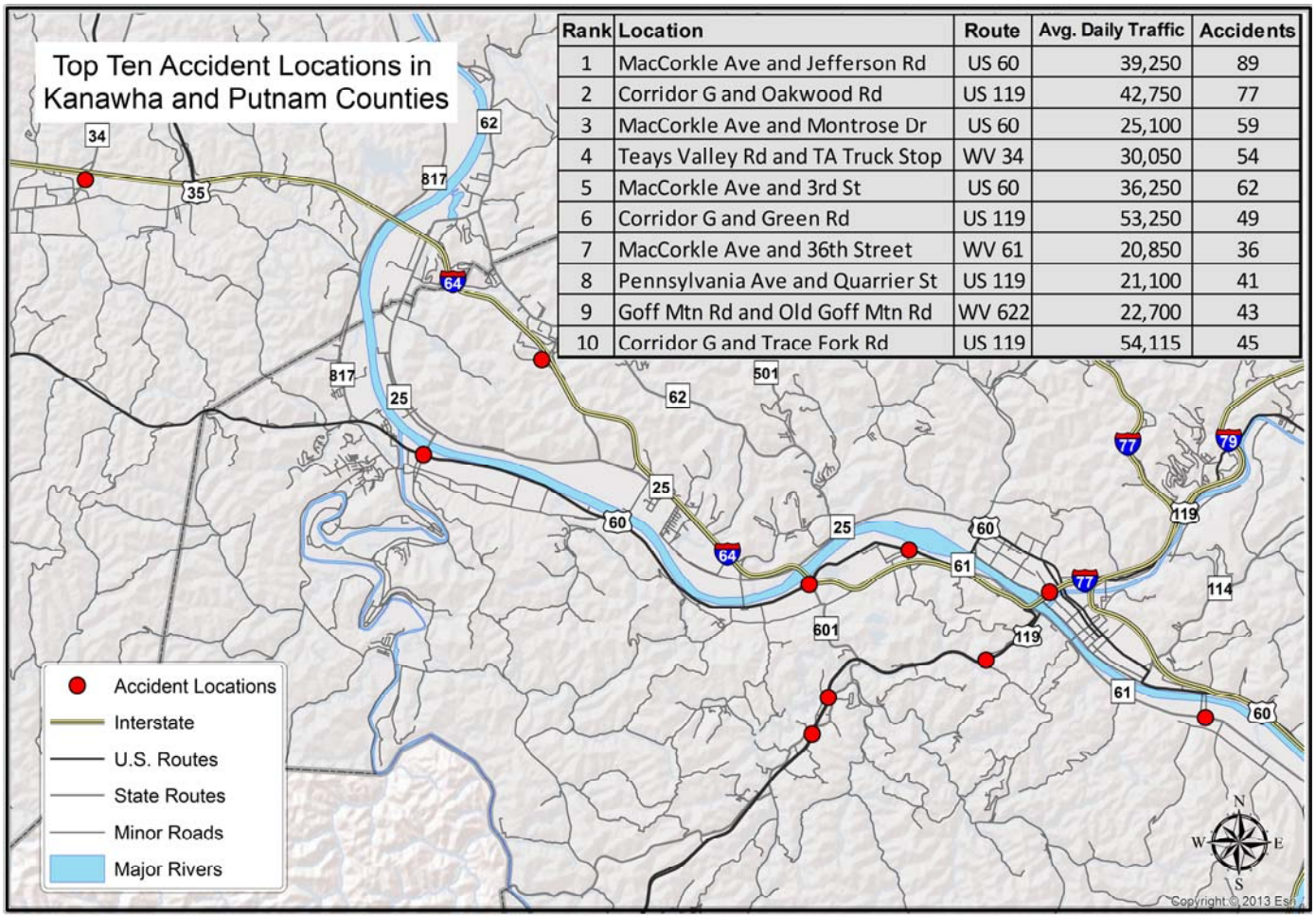
Figure 13



Accidents

Traffic accidents are often used as additional measures of deficiencies in the highway network. The West Virginia Division of Highways maintains a database of traffic accidents based on accident reports filed with the West Virginia Division of Motor Vehicles. The database provides a useful working tool to accurately review the most current accident records in order to determine whether safety issues are present and to find solutions to reduce the potential for future accidents. RIC has developed a ranking system that combines AADT, the number of accidents per million vehicles, and the severity of accidents; Figure 14 shows the top ten accident locations in Kanawha and Putnam.

Figure 14: Top Ten Accident Locations



Rank	Location	Route	Avg. Daily Traffic	Accidents
1	MacCorkle Ave and Jefferson Rd	US 60	39,250	89
2	Corridor G and Oakwood Rd	US 119	42,750	77
3	MacCorkle Ave and Montrose Dr	US 60	25,100	59
4	Teays Valley Rd and TA Truck Stop	WV 34	30,050	54
5	MacCorkle Ave and 3rd St	US 60	36,250	62
6	Corridor G and Green Rd	US 119	53,250	49
7	MacCorkle Ave and 36th Street	WV 61	20,850	36
8	Pennsylvania Ave and Quarrier St	US 119	21,100	41
9	Goff Mtn Rd and Old Goff Mtn Rd	WV 622	22,700	43
10	Corridor G and Trace Fork Rd	US 119	54,115	45

Prior to the passage of MAP-21, states were required to prepare an annual report to FHWA that described public road locations exhibiting the most severe safety needs (the top 5.0%) in order to receive Highway Safety Improvement Program (HSIP) funds. The legislation required these reports to include an assessment of potential remedies at the locations identified, the estimated costs of the remedies, and impediments to their implementation other than costs. While MAP-21 will not require states to submit a transparency report describing a state's highway locations exhibiting the most severe safety needs, the recent

historical reports can still be used to help indicate crash locations, remedies, and anticipated costs. Table 8 describes the five percent locations in Kanawha and Putnam Counties with potential remedies and cost estimates.

Table 8: "5 Percent" Locations in Kanawha and Putnam Counties (2009-2011)

Route	Potential Remedies	Year	Est. Costs
Kanawha County			
US 60 WB	Upgrade pavement markings and review signal phasing	2011	$575,000
WV 601	Upgrade signals, review signal phasing, and upgrade pavement markings	2010	$225,000
CR 21/28	Trim vegetation, regrade ditch line, add guardrail, and add warning signs	2010	$65,000
CR 3/3	High friction surface treatment, add curve warning signs, RPMs, and ELRS	2010	$110,000
CR 5/2	Trim vegetation, add advisory speed warning, and regrade shoulders	2010	$63,000
CR 9	Trim vegetation, add curve warning signs, and high friction surface treatment	2010	$75,000
CR 11	Trim vegetation, add curve warning signs, and high friction surface treatment	2010	$55,000
CR 17/1	Oversize Sign and Upgrade Pavement Markings	2010	$25,000
CR 28	Pave shoulders, add curve warning signs, and trim vegetation	2010	$35,000
CR 21/24	High friction surface treatment and add curve warning signs	2010	$150,000
CR 79/1	High friction surface treatment, add curve warning signs, and RPMs	2010	$75,000
CR 5/9	Add curve warning signs, RPMs, and ELRS	2010	$65,000
CR 5/3	Guardrail and speed enforcement	2009	$350,000
Putnam County			
WV 25	Upgrade signals and review signal phasing	2011	$100,000
CR 35/8	High friction surface treatment and add curve warning signs	2011	$40,000
CR 34/16	RPMs and lighting	2010	$145,000

Source: 2011 FHWA "5 Percent Report"
http://sKC-4afety.fhwa.dot.gov/hsip/fivepercent/

Kanawha Valley Regional Transportation Authority

System Characteristics

KVRTA serves Kanawha County and portions of Fayette and Putnam counties. The service area is approximately 913 square miles, and KVRTA serves 2.3 million passengers annually. An estimated 88.0% of Kanawha County's residents live within three-quarters of a mile of a KVRTA route.

KVRTA operates a network of 21 fixed routes oriented around the commercial center of Charleston. With the exceptions of four holidays during the year, KVRTA provides service seven days a week. The earliest routes begin at 4:20 a.m., and service continues until 12:30 a.m. the next day. Complementary paratransit service, known as Kanawha Alternative Transit, or KAT, operates during the same days and hours. In 2009 a CMAQ (Congestion Mitigation and Air Quality) Grant was utilized by KVRTA and TTA (Tri-State Transit Authority in Huntington) to start a commuter route between Huntington and Charleston.

KVRTA uses zoned fares, with a fixed-route base zone fare of $1.00. Fares increase by zone to a maximum of $2.50. Reduced fares are offered during all hours to the elderly, persons with a disability, and Medicare cardholders. The reduced base zone fare is $0.50, with successive fares either exactly half or rounded down. The fares for the paratransit service are twice the fixed-route fares for the respective zones. KVRTA offers discount passes and reduced student fares on all routes. There is a five-mile rubber-tire trolley loop that serves the State Capitol area and major suburban retail centers.

KVRTA operates a fleet of 55 vehicles for fixed-route service. The fleet consists of 30 and 35-feet long transit coaches, minibuses, and five rubber-tired trolleys. KVRTA also has 15 cutaway vans for the KAT complementary paratransit service.

Recent Initiatives

In 2012, RIC and KVRTA conducted a passenger survey, which aimed to collect information about rider demographics and travel behavior. A total of 380 surveys were collected. The most frequent responses are summarized below:

- How do you complete your trip: Walk (60.0%)
- How many blocks: 1 or less (48.0%); 2-5 (42.0%)
- How long have you ridden KVRTA buses: 5+ years (63.0%)
- Trip Purpose: Work (50.0%)
- How many trips per week: 10 or more (35.0%)
- In the last year riders have been riding: About the same (49.0%); more (45.0%)
- Valid Driver's License: No (60.0%)
- Female: (52.0%)
- Age: 45-64 (40.0%)
- Income: $15,000 to $25,000 (33.3%)

Figure 15: KVRTA System Map

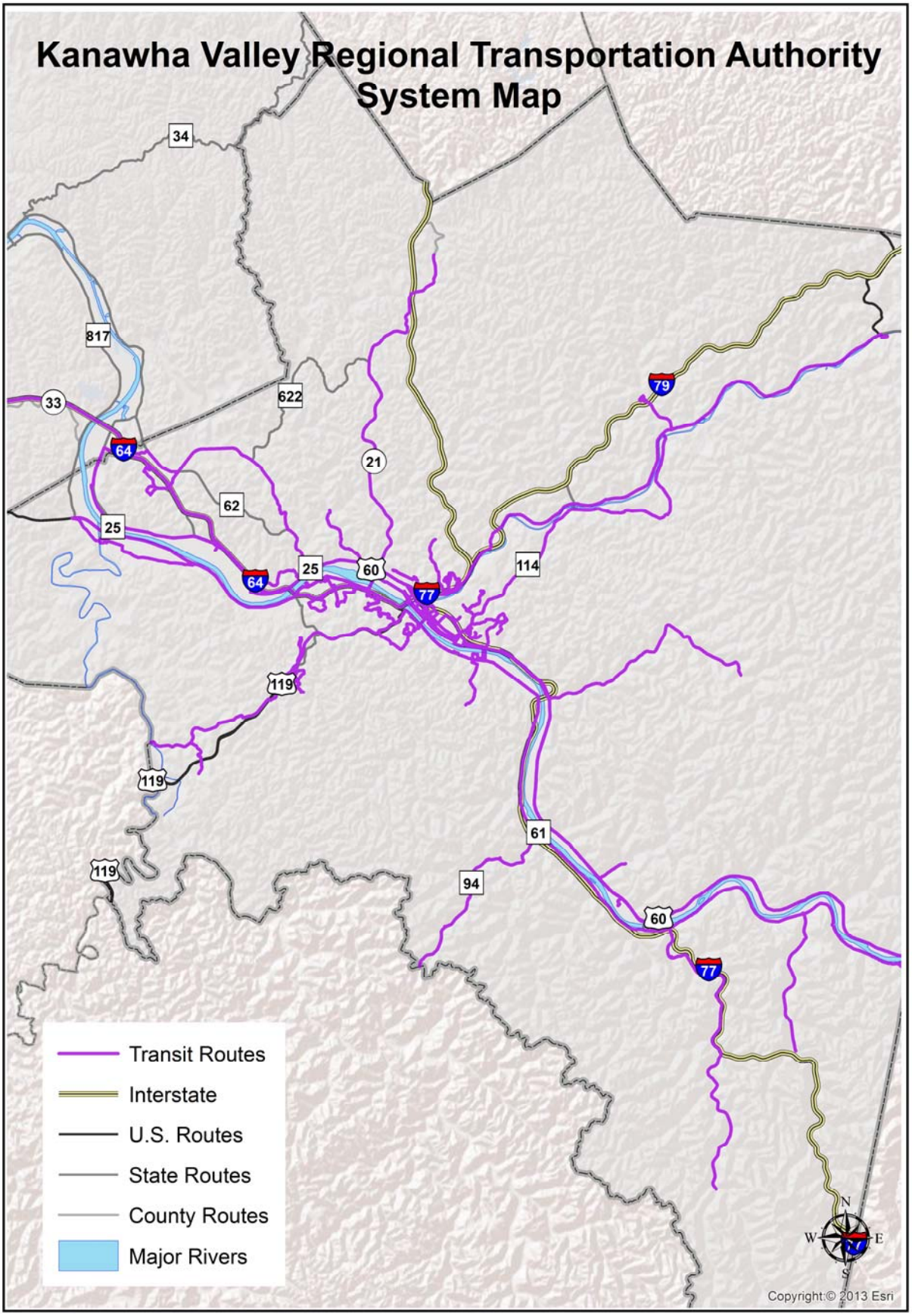


Table 9 - Kanawha Valley Regional Transportation Authority Bus/Trolley Route Descriptions

Rt. #	Route Name	Operates Between	And
Full Service Radial Fixed-Route Bus Network			
1	St. Albans / West Charleston	Laidley Transit Mall	US 60 & US 35 - St. Albans
2	Cabin Creek / Kanawha City	Laidley Transit Mall	Eskdale / East Bank
3	Dunbar/Institute/Nitro	Laidley Transit Mall	WV 25 & 40th St. - Nitro
5	Cross Lanes / Tyler Mountain	Laidley Transit Mall	WV 25 & 22nd St. - Nitro
11	Oakridge / Wertz	Laidley Transit Mall	Oakridge Dr. & Serene Dr.
12	Garrison Avenue / Hillsdale	Laidley Transit Mall	Elmore St. & Preston St.
13	Beech Avenue	Laidley Transit Mall	Beech Ave. & McQueen St
15	South Hills	Laidley Transit Mall	Ashton Place
16	South Park/CAMC Memorial Hospital	Laidley Transit Mall	South Park Rd. & Alcoa Dr.
21	Alum Creek/Southridge	Laidley Transit Mall	FasCheck - Childress Rd.
22	Montgomery	Laidley Transit Mall	Montgomery turnaround
23	Clendenin	Laidley Transit Mall	Cardinal St. & Maywood Ave. - Clendenin
Limited Service Radial Fixed Route Bus Network			
4	Woodward Drive	Laidley Transit Mall	Shale Dr. turnaround
6	Elkview	Laidley Transit Mall	Elkview K-Mart
7	Campbell's Creek	Laidley Transit Mall	Thomas Grocery
8	Sissonville	Laidley Transit Mall	Sissonville Elementary
18	Fort Hill / Montrose	Laidley Transit Mall	Riverwalk Plaza
28	Hillcrest / Northgate	Laidley Transit Mall	Northgate Business Park
Suburban Cross-town Route Network			
9	Montgomery / Eskdale	Riverside High School - Quincy	Montgomery or Leewood
Downtown Circulator and Shuttle Services			
20	Virginia Street	Laidley Transit Mall	Jefferson Ave. & Washington St.
34	Trolley	Lee St. & Maryland Ave.	California Ave. & Washington St.
	Statehouse Shuttle	Statehouse Parking Lots	State Office Buildings

Fixed Route System Operating and Ridership Trends

For this report, operating and ridership data for the years 2008 to 2013 were examined. During this period, ridership on KVRTA averaged 2.3 million passengers per year.

KVRTA's costs attributable to the bus system increased from $10.9 million in 2008 to $13.1 million in 2013. This is due to the concurrent increase in all types of costs attributed to the fixed route transit system. KVRTA's farebox recovery rate averaged 15.6% during the period.

Table 10 - KVRTA Fixed Route System Operating and Ridership Trends

KVRTA System-level Performance Data - Fiscal Years 2008 to 2012					
	2008	2009	2010	2011	2012
Passengers	2,395,355	2,462,650	2,388,166	2,530,383	2,752,964
Fully-allocated Cost	$ 10,925,779	$ 11,547,196	$ 12,850,801	$ 13,023,457	$ 13,143,639
Revenue	$ 1,778,180	$ 1,955,012	$ 1,845,471	$ 1,926,133	$ 2,034,174
Cost per Revenue Mile	$ 4.71	$ 4.85	$ 5.33	$ 5.40	$ 5.42
Passengers per Revenue Mile	1.03	1.03	0.99	1.05	$ 1.14
Farebox Recovery (%)	16.3%	16.9%	14.4%	14.8%	15.5%

Future Plans for KVRTA

KVRTA increasingly faces the challenge of needing to do more with less. Bus passenger volumes are close to all-time highs while federal funding continues to decline. Simply put, there is insufficient funding to cover KVRTA's capital and operational costs. Under MAP-21 legislation, Section 5339 (Bus and Bus Facilities Program) replaced Section 5309 (Bus Discretionary Fund). The WV Division of Transit will administer Section 5339 and distribute funding to all small-urban areas (8 throughout the state).

In an effort to adapt to the challenging fiscal climate, KVRTA is conducting a system analysis to evaluate potential service expansion and reduction. The study will analyze demographics, conduct passenger surveys, identify the potential for non-traditional and innovative transit service, evaluate the existing route structure, forecast future service levels, and propose future funding strategies.

Paratransit and Taxi Service

As previously mentioned, KVRTA operates a demand-responsive paratransit system for people who, because of disabilities, are unable to use fixed-route service. Kanawha Alternative Transit (KAT) service is provided within the same service area as the fixed-route service, and is designed to comply with the federal Americans with Disabilities Act. The Act requires paratransit service to be provided in the same area as fixed-route public transportation services, so expansion of the two service types must go hand-in-hand.

According to the WV Division of Public Transit's Transportation Providers Directory for the year 2004, there are seven specialized transportation agencies operating in Kanawha County and two in Putnam. In addition, two agencies serve both counties. These are social service agencies serving a particular clientele using primarily passenger vans. Some provide non-emergency Medicaid transportation. According to the same directory, there is one taxi company in the area. It is based in Charleston and serves both counties.

Table 11: Paratransit Providers

Paratransit Providers	Description
Kanawha County	
Kanawha Valley Reg. Transportation Auth. (KRT) Phone: 304-343-3840 KAT Phone: 304-343-0489 Email: kvrta@rideonkrt.com Website: www.rideonkrt.com	General public bus transportation operating in Kanawha County. A fixed route system is used throughout the county. Areas served include: Charleston, Montgomery, Dunbar, Nitro, St. Albans, Clendenin, South Charleston, East Bank and Belle. A comparable demand responsive (ADA) service, Kanawha Alternative Transit (KAT) is
Appalachian Center for Independent Living Phone: 304-965-0376 Email: paxacil@yahoo.com	Social Service agency providing transportation for disabled individuals to various sites. Non-emergency Medicaid transportation provider.
United Way of Central WV Retired & Sr Volunteers Phone: 304-340-3500	Transportation services provided only for R.S.V.P. volunteers in Kanawha County.
Fresh Air Accessible Services Phone: 1-888-660-2233 (Toll-Free) Fax: 1-480-657-9846	This service provides non-emergency Medicaid transportation services in Kanawha, Boone, Clay, and Putnam counties.
Hansford Senior Services Phone: 304-722-4621 Email: hansford@stalbanswv.com Website: www.hansfordcenter.org	Senior Center providing transportation service for seniors and disabled individuals. Primary service to nutrition and medical sites. Non-emergency Medicaid transportation provider.
Kanawha Valley Senior Services, Inc. (KVSS) Phone: 304-348-0707 E-mail: info@kvss.org Website: www.kvss.org	Primarily senior service operating in Kanawha County. Service to nutritional sites, medical care, shopping, and adult day treatment. Non-Emergency Medical transportation provider.

Kanawha County	
Metropolitan Comm. Development Corp., Inc. Phone: 304-342-4775 E-mail: customerservice@mcdcwv.net Website: www.mcdcwv.net	Social Service agency providing transportation for clients to medical and mental health sites. Non-emergency medical transportation provider.
Kanawha County Emergency Ambulance Authority Phone: 304-345-2312 Email: jeffharbour@kceaa.org	This service provides non-emergency Medicaid transportation services to medical appointments and adult day care facilities.
Thomas Hospital Phone: 304-766-4572 Email: justiceps@aol.com Website: www.thomaswv.org	This service provides transportation services for individuals in Kanawha, Boone, Fayette, and Putnam Counties enrolled in the intensive outpatient program at Thomas Memorial Hospital.
C & H Taxi Phone: 344-4902	This service provides non-emergency Medicaid transportation in Kanawha County.
Putnam County	
Putnam County Aging Program, Inc. Phone: 304-755-2385 E-mail: jarthur@putnamaging.com Website: www.putnamaging.com	This service provides transportation for senior citizens in Putnam County, primarily to nutrition sites and is also a Non-emergency Medicaid transportation provider.
Winfield Senior Citizens Phone: 304-586-3497	This service provides transportation for senior citizens to health care sites.
Appalachian Center for Independent Living Phone: 304-965-0376	(see Kanawha County listing for details)
Fresh Air Accessible Services Phone: 1-888-660-2233 (Toll-Free)	(see Kanawha County listing for details)
Express Cab Company Phone: 304-757-3422	This service is a non-emergency Medicaid transportation provider for Putnam County.

Bicycle and Pedestrian Facilities

Existing Facilities

The following bicycle and pedestrian facilities exist in the study area:

- Elk River Rail Trail: This trail, constructed on abandoned railroad right-of-way, connects Barlow Drive in Charleston to Coonskin Park. It is a multi-use facility.
- Hurricane/Valley Park Trail: This bike/ped trail is 3 miles long. Currently it is contained within Valley Park, but plans are to extend it to the Hurricane I-64 Interchange.
- The Kanawha Boulevard Trail: This facility serves both bicyclists and pedestrians from Patrick Street to 35th Street in Charleston.
- The Carriage Trail: This connects from the former Sunrise Museum site to the Southside Expressway.
- Park trails: Various trails exist within public parks and forests, but are recreational in nature and not considered in the transportation plan.
- Local sidewalks: All municipalities have sidewalks serving pedestrians on various local streets.
- Accommodations on area highways: Many routes on the WVDOT highway system have been improved to accommodate bicycles and pedestrians. Often this includes 3 to 5-foot paved shoulders. In Teays Valley and Cross Lanes, sidewalks were added when the highway was upgraded.
- "Share the Road" signs: As an initiative of RIC's bicycle/pedestrian committee in conjunction with the West Virginia Wheelers bicycle club, WVDOT added these signs to many local routes.

Intercity Passenger Service

Passenger Rail

Two long-distance Amtrak lines currently serve West Virginia. The *Capitol Limited*, operating between Washington D.C. and Chicago, IL, stops in Harpers Ferry, WV and Martinsburg, WV. Meanwhile, the *Cardinal* route, providing service from Chicago, IL to New York, NY, stops in Charleston, Huntington and other West Virginia cities. The *Cardinal* route offers three trips per week.

The West Virginia State Rail Plan provides a comprehensive overview of intercity passenger services throughout the state, and is required for West Virginia to be eligible for existing and prospective federal rail financial assistance. As illustrated in Table 12, passenger volumes on the *Cardinal* increased by 7.0% from FY 2008 to FY 2012. As a basis for comparison, passenger volumes on the *Capitol Limited* increased by 5.0% over the same period. Meanwhile, the *Cardinal's* passenger revenue only covers approximately 28.0% of its operating costs, compared to 44.0% for the *Capitol Limited*. The Cardinal's lower fare box recovery (ratio of revenue to operating costs) reflects the less competitive nature of tri-weekly service.

Table 12: Amtrak Ridership Trends, Revenues and Costs (FY 2008-FY 2012)

	Capitol Limited			Cardinal		
Fiscal Year	**Ridership**	**Ticket Revenue (in millions of $)**	**Costs (in millions of $)**	**Ridership**	**Ticket Revenue (in millions of $)**	**Costs (in millions of $)**
FY2008	216,350	$17.40	$36.80	109,195	$6.50	$20.00
FY2009	215,371	$17.60	$40.30	108,614	$6.40	$22.00
FY2010	218,596	$18.60	$45.80	107,053	$6.40	$25.70
FY2011	226,597	$20.30	$46.20	110,923	$7.10	$25.30
FY2012	226,884	$20.50	TBD	116,373	$7.50	TBD

Source: Amtrak Train Earnings/Monthly Performance Report and West Virginia State Rail Plan

According to the 2005 Amtrak Ridership Profile, most passengers on the *Cardinal* (approximately 90.0%) are traveling for leisure purposes. In the future, the *Cardinal* could see an increase in leisure and recreational passenger volumes due to the recently constructed (2012) Summit Bechtel Reserve (SBR) Boy Scout camp. The SBR, located in Fayette County, seven miles from the Amtrak station in Prince, is one of four Boy Scout high adventure camps and permanent home to the National Scout Jamboree (held every four years). In July 2013, the SBR hosted its first jamboree, drawing an estimated 40,000 scouts, venturers, and unit leaders. While 20.0% to 25.0% of scouts and staff typically arrive by train to the Philmont Scout Ranch in New Mexico, limited tri-weekly Amtrak service and poor roadway conditions discouraged scouts and staff from arriving to the SBR by train.

Specifically, the *Cardinal* only runs three times a week, meaning that scouts traveling by train would have to arrive either a day early or two days late to the jamboree. In addition, the Pugh Memorial Bridge, spanning the New River just outside of Prince, is one of the state's most structurally deficient bridges. The bridge has a 3-ton weight limit, prohibiting scouts from traveling between the station and Bechtel by commercial bus. According to the

Jamboree 2013 Staff Guide, "transportation to the Summit via train is discouraged at this time due to road conditions to and from the station."

Assuming the bridge is replaced (plans are in the design stage), increased Scout traffic could also bring additional tourists to the Kanawha-Putnam region and encourage Amtrak to establish daily passenger service on the *Cardinal* – a proposal that Amtrak explored in its FY 2010 Performance Improvement Plan. According to the **West Virginia State Rail Plan**, the establishment of daily *Cardinal* service depends on ridership and revenue increases and improved connectivity to significant passenger generators, such as universities, hotels, and ski resorts. Daily service, if implemented, could likely contribute to a 40.0% increase in service on West Virginia's intercity network.

Air

Yeager Airport in Kanawha County serves five commercial airlines (American, United, Delta, Spirit, and US Airways) and provides direct flights to Dallas, Houston, Chicago, Washington DC, Atlanta, Detroit, Fort Lauderdale, Myrtle Beach, and Charlotte. In 2011, there were 282,704 passenger boardings (enplanements) at the airport, a 6.7% increase from 2010. According to airport officials, the Boy Scout camp could contribute to a 10.0% annual increase in enplanements.

Meanwhile, air cargo service, although available through several parcel companies, remains extremely limited in the region. The Federal Aviation Administration (FAA) did not publish 2011 cargo data for Yeager Airport, likely due to limited activity.

Yeager Airport. Source: Adam Fagen
http://www.flickr.com/photos/afagen/4865489

Bus

Greyhound Bus Lines, located at 300 Reynolds Street, is adjacent to I-64 on the west end of the Charleston CBD, next to the Charleston Civic Center and provides intercity passenger bus service. There is also service to and from Youngstown, Ohio on Lakefront Lines.

Freight

Freight transportation is critical to the region's – and the nation's – economy. Truck traffic is a significant component, and the highway element of Metro Mobility 2040 considers freight needs in the discussion and prioritization of highway recommendations. However, freight is a highly multi-modal sector, with longer and less time-sensitive freight trips made by rail and barge, while the most time-sensitive freight is shipped by air.

Truck

The FHWA's Freight Analysis Framework (FAF3) provides estimates for tonnage, value and domestic-ton miles by region of origin, destination, commodity type, and mode. According to the 2007 FAF3 data (the most recent survey year), the region's interstates (I-64, I-77, I-79) handled the bulk of truck traffic in Kanawha and Putnam counties. While the 2007 FAF3 data does not account for the new US 35 in Putnam County, *WVDOT data indicate that trucks account for as much as 30.0% of* the daily ADT along US 35. Given US 35's connections to major metropolitan areas of Ohio (Dayton and Columbus), it is likely that truck traffic will increase in the future, particularly upon the potential completion of the highway's four-lane expansion project in Putnam and Mason counties.

The interstates carried approximately 82.5% of the region's total truck freight tonnage in 2007. For example, trucks carried approximately 155,000 kilotons of cargo in 2007 on the stretch of I-64 between Dunbar and Charleston. This amount is expected to increase by approximately 60.0%, to 250,000 kilotons, by 2040.

Meanwhile, WV 34 handled 12.8% of the regional truck cargo weight in 2007 and it is anticipated that the stretch north of I-64 will accommodate a 67.7% increase by 2040. However, much of this traffic (as well as some interstate truck traffic) will continue to shift over to US 35.

Rail

Freight rail also plays an important role in the movement of goods throughout the region and the state. CSX Transportation (CSXT) and Norfolk Southern Corporation (NS), the state's two Class I railroads, operate over 2,100 miles of West Virginia's rail infrastructure. CSXT operates a primary route through the region, connecting Charleston to Cincinnati, OH and Richmond, VA. Meanwhile, NS operates a secondary route that connects Charleston, WV to Columbus, OH. These railroads also capitalize on the region's intermodal facilities. CSXT serves the TRANSFLO facility in South Charleston, while NS serves the Allied Warehousing facility in Nitro.

In 2001, a study team explored the possibility of enabling double-stacking (containers stacked two high on railroad cars) along the secondary route as well as the primary NS route, which runs in the southern part of the state. After evaluation, the study concluded that double-stacking was not feasible along the secondary route due to several factors, including:

- A general lack of signals;
- A lack of passing sidings;
- Challenging grades that would significantly impact the horse power necessary to move intermodal trains at sufficient speed; and
- Track alignment obstacles.

Despite double-stacking limitations in the state, West Virginia's primary routes are operating below capacity, equivalent to Level of Service of A, B or C. In addition, FHWA projections indicate that the routes will continue to operate under capacity in the year 2035. This potentially suggests that West Virginia's CSXT and NS lines will maintain efficiency advantages relative to many other routes.

Water

The Kanawha River is essential for the movement and exchange of commercial goods in the region and is the nation's seventh largest inland port based on tonnage (Charleston Area Alliance). The Kanawha River is joined at Charleston by the Elk River, at St. Albans by the Coal River, and at Poca by the Pocatalico River.

The Army Corps of Engineers (USACE) estimates that there are 76 port facilities located throughout the two-county region, 16 of which connect to the region's rail infrastructure. These ports are primarily responsible for the shipment of bulk commodities such as sand, gravel, coal, petroleum products, and chemicals. As fuel prices rise, barge traffic could potentially become a more attractive shipping mode, particularly since barges are approximately 39.0% more fuel-efficient than rail and 272.0% more fuel-efficient than truck (National Waterways Foundation). Barge transit is best suited for commodities that do not have time-sensitive delivery schedules.

The United States Department of Transportation (DOT) recently launched the America's Marine Highways Program as a way to expand the use of waterborne transportation in order to relieve landside congestion and reduce carbon emissions. DOT designated the Ohio River, located 20 miles from the Putnam County line, as one of 11 national marine highway corridors. Additional investment along the Ohio River could also increase throughput tonnage along the Kanawha River.