



2016-2045 Metropolitan Transportation Plan Update

Appendix E: 2017-2045 MTP Projects

2017-2045 Metropolitan Transportation Plan Projects List

Programmed Projects and Tier 1 Projects

Programmed projects have been funded through MPO's Transportation Improvement Program and/or local funding resources. They are expected to be constructed within the next six years. Programmed projects are not included in project prioritization.

Tiered projects are prioritized in four tiers. Tier 1 Projects are of the highest value to the region and should be advanced as soon as practicable. They could be funded with the currently forecasted state and federal funding for the region between now and the 2045 plan horizon. Tier 1 projects meet at least one of the following criteria:

- The project has undergone major updates since the adoption of 2013 Long Range Transportation Plan.
- The project should be implemented in coordination with I-79 Access Improvements due to their close connections.

The priority of the rest of tiered projects are decided by prioritization scores. Their implementation is largely contingent on the available funding beyond the forecasted state and federal funding for the region.

	Project ID	Project Name	Estimated Cost	Priority	2013 L RTP Priority
Programmed Projects	7	Van Voorhis Rd Improvements	\$10 million	--	Tier 1
	8	Beechurst Ave Improvements	\$7 million	--	Tier 1
	11	West Run Improvements-Western Section	\$12 million	--	Tier 1
	18	Greenbag Rd Improvements	\$15 million	--	Tier 1
	45	Downtown Morgantown Signalization And Street Changes	\$2 million	--	Tier 1
Tier 1 Projects	6	I-79 Access Improvements Phase I	\$110-120 m	1	Tier 1
	33	Grumbein's Island Grade Separation	\$3 million*	2	Tier 2
	12	Stewartstown Rd Improvements	\$12 million	3	Tier 2
	13	West Run Rd Improvements-Eastern Section	\$3 million	4	Tier 1
	21	Earl Core Road (WV 7) -Northern Section	\$9 million	5	Tier 2
	9	University Ave Complete Street Improvements	\$36 million	6	Tier 2
	17	Fairmont Rd/Holland Ave Improvements Phase I	\$11 million	7	Tier 3
	26	North Side Connector Bus Rapid Transit	\$1 million	8	Tier 1
	27	Grant Ave Bicycle/Pedestrian Connector	\$0.9 million	9	Tier 1

Ongoing Projects

Ongoing projects identify improvements at multiple, and in many case non-contiguous, locations and are best implemented through continuous effort. It could also be implemented as a component of another project. Ongoing projects primarily consist of pedestrians and bicycle facility improvements and Transportation Demand Management activities.

Category	Project ID	Project Name	Estimated Cost	Recommended 2016 MTP Tier	2013 L RTP Tier
Ongoing Projects	2	ADA Compliance Projects	\$2 million	Ongoing	Tier 1
	38	Intersection Capacity and Safety Improvement Program	\$31 million	Ongoing	Tier 1
	40	Regional Bikeway Plan Implementation	\$5 million	Ongoing	Tier 1
	41	New Park and Ride Lots	\$1 million	Ongoing	Tier 2
	43	School Route Improvements	\$2 million	Ongoing	Tier 1
	44	Access Management Improvements	\$10 million	Ongoing	Tier 4
	46	TDM Program Expansion	\$10 million	Ongoing	Tier 2
	39	Regional Pedestrian Safety and Sidewalk Connectivity	\$33 million	Ongoing	AFD

Tier 2 to Tier 4 Projects

Category	Project ID	Project Name	Estimated Cost	Recommended 2016 MTP Tier	2013 L RTP Tier
Tier 2	1	WV 705 Corridor (spot improvements)	\$55 million	Tier 2	Tier 3
	6	I-79 Access Improvements Phase II	\$25 million	Tier 2 ¹	Tier 1
	20	Brockway Rodgers/Powell Ave (WV -7)	\$6 million	Tier 2	Tier 3
	28	White Park/Caperton Trail Connection	\$0.5 million	Tier 2 ²	Tier 1
	30	Stewart Street Improvements	\$11 million	Tier 2	Tier 4
	9	University Ave Improvements Phase II	\$10 million	Tier 2	Tier 2
	18	Greenbag Rd Improvements Phase II	\$ 8 million	Tier 2 ¹	Tier 1
	47 ³	Smithtown Rd Improvements	\$12 million	Tier 2	New
	14	Cheat Rd Improvements	\$6 million	Tier 4	Tier 3
	Tier 3	25	Willey St Improvements	\$13 million	Tier 3
15		Willowdale Rd/Grove St/North Av Sidewalk Improvements	\$4 million	Tier 3	Tier 3
34		Riddle Street/Pineview Dr Improvements	\$4 million	Tier 3	Tier 4
17		Fairmont Rd/Holland Ave Improvements Phase II	\$17-25 million	Tier 3	Tier 3
19		Dorsey Ave Sidewalk Improvements	\$4 million	Tier 3	Tier 4
48 ³		I-79 Westover Section Improvements	\$4 million	Tier 3	New
49 ³		I-79 Granville Section Improvements	\$15 million	Tier 3	New
10		Burroughs St Improvements	\$4 million	Tier 4	Tier 4
Tier 4	4	I-79/Chaplin Hill Rd/US-19 Interchange Improvements	\$22 million	Tier 4	Tier 4
	3	Lasselle Union Rd (WV-100) Improvements	\$22 million	Tier 4	Tier 4
	24	Protzman/Falling Run Pedestrian and Bicycle Connector	\$1 million	Tier 4	Tier 4
	23	New Connection-Willey St to Downtown Campus Area	\$6 million	Tier 4	Tier 4
	36	New Connection-Mileground Rd to Hartman Run Rd	\$17 million	Tier 4	Tier 4
	29	Grafton Rd (US 119)	\$5 million	Tier 4	Tier 4
	22	Earl Core Road (WV 7) -Southern Section	\$9 million	Tier 4	Tier 4
	16	Old Cheat Rd/Cheat Rd Bike Lanes	\$7 million	Tier 4	Tier 3

¹ Tier 2 due to budgetary constraints.

² Recommended to a lower tier by updated evaluation criteria including community survey.


³ New project recommended in the Update.

Alternative Funding Dependent (AFD) Projects

These projects are considered of high value to the region but cannot realistically be funded from traditional state and federal funding resources. Other funding avenues such as local taxes and fees, private funding, tax increment financing districts, federal grant programs, and other potential funding sources must be explored for these projects.

Category	Project ID	Project Name	Estimated Cost	Recommended 2016 MTP Priority	2013 L RTP Priority
Alternative Funding Dependent Projects	5	Business district connecting roadway-West of Granville	\$18 million	AFD	AFD
	31	PRT Extension-Univ. Health Center to Mon General Hospital	\$57 million	AFD	AFD
	32	PRT Extension-Mon General Hospital to Glenmark Centre	\$103 million	AFD	AFD
	35	PRT Connection New Business Park to Evansdale Campus	\$80 million	AFD	AFD
	37	Extension of Airport Industrial Rd to WV-7 in Sabraton	\$12 million	AFD	AFD
	42	Enhanced Bus Service	\$88 million	AFD	AFD

2017-2045 Metropolitan Transportation Plan Projects Description

Project/Corridor	Description	
<p>1</p>  <p>WV-705 Corridor (Patteson/ Van Voorhis/ Chestnut Ridge) Improvements</p>	<p>Location: WV-705 from Monongalia Boulevard to Stewartstown Road</p> <p>Purpose: Improve traffic/people carrying capacity in the region’s most heavily traveled corridor.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add one lane of through capacity in each direction – The additional lane could be a High Occupancy Vehicle (HOV) lane that only buses and automobiles with 3 or more occupants could legally use (2 occupants or less would have to use other 2 general purpose lanes). The purpose of the HOV lane is to add vehicular capacity in this over-capacity corridor in a way that also gives a distinct travel time advantage to transit and vanpooling/carpooling. This would maximize total person trips that can be handled in the corridor. ■ Upgrade existing sidewalks where needed to provide continuous attractive facilities for pedestrian traffic and to create an enhanced environment for transit users. ■ Improved pedestrian crossings. ■ Provide improved bike facilities either in the form of bike lanes or shared HOV lanes. ■ Improve access management in areas where currently deficient. ■ Increase automobile capacity at key intersections with priority given to buses/HOV. This could involve improvement to side streets. ■ Provide bus stops and shelters at key locations. ■ Improve multimodal access to the Suncrest Towne Centre (2017 Update) ■ Improve multimodal access to the WVU Ruby Memorial Hospital and Mon General Hospital area (2017 Update) ■ Improve the timing of traffic lights on WV 705 from Pineview Dr to Van Voorhis Rd (2017 Update) ■ Improve signage and wayfinding signs (2017 Update) ■ Provide traffic calming treatments at the appropriate locations (2017 Update) <p>First implementation action: A preliminary engineering study of the corridor to comprehensively evaluate the benefits, feasibility and cost of these improvements – crash data, peak hour traffic forecasts, bike and pedestrian facility needs and options, right-of-way and access impacts, pedestrian crossing locations, and other factors should be evaluated. The study process should engage key stakeholders, property owners, and users (the public) to obtain input and to build local buy-in and support of the recommendations of the study. The study could identify a phased approach where intersection capacity improvements, widening in key areas, key access improvements, signalization improvements, and bus queue jumps could be prioritized and constructed over several years.</p> <p>Key implementation factors: Local acceptance, acceptable property impacts, acceptable impacts to access, pedestrian crossings, and construction feasibility. Careful planning of pedestrian crossings with the widened roadway is a critical consideration. Grade separated options should be considered.</p>	<p><u>Estimated Cost</u> \$55,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,4,5,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,3,4,5,6,7,8</p>
<p>2</p> <p>ADA Compliance Projects</p>	<p>Location: Region-wide</p> <p>Purpose: To complete accessible walkway connections to provide safer and more convenient routes for pedestrian travel, particularly for those with disabilities.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Repair and replace existing deficient sidewalks. ■ Construct sidewalk connections in key locations. ■ Improve curb ramps. ■ Improve key pedestrian crossings. <p>First implementation action: Determine priority locations and apply for funding.</p> <p>Key implementation factors: Local agreement on priority locations.</p>	<p><u>Estimated Cost</u> \$2,000,000</p> <p>Primary Travel Modes <u>Improved</u> Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>




<p>3</p> <p>Lazzelle Union Road (WV-100) Improvements</p>	<p>Location: US-19 to PA state line.</p> <p>Purpose: To provide a bike commuter and recreational route west of the Monongahela River. To improve roadway for freight movement/truck traffic.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Repair truck damage to pavement. ■ Widen roadway to provide bike lanes or other bike accommodations. ■ Improve pedestrian facilities on WV-100 in Westover and Granville (2017 Update) <p>First implementation action: Detailed engineering review and cost estimates.</p> <p>Key implementation factors: Addition of bike lanes should be achieved as an enhancement to a maintenance project when repairing the roadway pavement.</p>	<p><u>Estimated Cost</u> \$22,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,4,6</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,8</p>
<p>4</p> <p>I-79/Chaplin Hill Road/US-19/Lazzelle Union Road Interchange and Access Improvements</p>	<p>Location: The system includes:</p> <ul style="list-style-type: none"> ■ The interchange of I-79 and Chaplin Hill Road. ■ The intersection of Chaplin Hill Road and University Town Center Boulevard. ■ The intersection of Monongahela Boulevard (WV-7/US-19) and Chaplin Hill Road. ■ The intersection of Monongahela Boulevard and Boyers Avenue. <p>Purpose: To improve traffic capacity and safety.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Reconfiguration of the interchange ■ Grade separation of Chaplin Hill Road from University Town Center Road ■ Lane additions to increase capacity ■ Upgrade of Monongahela Boulevard and Chaplin Hill Road intersection ■ Upgrade of US-19 and Boyers Avenue intersection ■ Signal system coordination and optimization ■ Integrate bicycle/pedestrian improvements <p>First implementation action: Perform comprehensive preliminary engineering study to evaluate alternatives to improve this interchange and access system. New and innovative options for the interchange and connectivity should be explored to minimize construction costs and negative impacts in the study area.</p> <p>Key implementation factors: Optimal solution could vary significantly based on other factors such as potential land use and interchange changes (TIF district improvements) and the potential connection from the interchange to Patteson Boulevard.</p>	<p><u>Estimated Cost</u> \$22,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit</p> <p>LRTP Goals <u>Directly Supported</u> 1,3,4,7,8</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,3,4,5,6,7,8</p>
<p>5</p> <p>Business district connecting roadway-West of Granville</p>	<p>Location: Approximately halfway between the existing I-79 interchanges at Chaplin Hill Road and Fairmont Road (US-19)</p> <p>Purpose: To support economic development and to provide an additional point of access to I-79 (reduce demand at current interchanges).</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ New interchange in conjunction with the proposed business park development ■ Access roadways including a connection to University Town Center ■ New access roadway located west of I-79 through new business park connecting to Chapel Hill Road ■ Park and ride lot <p>First implementation action: Interchange Justification Study to evaluate design needs of new interchange and internal roadways.</p> <p>Key implementation factors: Legislative approval of TIF and coordination with local agencies for roadway connections.</p>	<p><u>Estimated Cost</u> \$18,000,000 (2017 Update) TIF District</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,4,5,8</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,3,4,5,6</p>

<p>6</p> <p>I-79 Access Improvements</p>	<p>The recommended alternative has two phases. Phase I include improvements on Van Voorhis Rd, connecting the West Run area to WV 100, and the new interchange on I-79. Phase II include connecting roadway from Van Voorhis Rd to Point Marion Rd through the Bakers Ridge Rd R area.</p> <p>Consult the MPO's I-79 Access Study for the information of this project.</p>	
<p>7</p> <p>Van Voorhis Road Improvements</p>	<p>Location: From WV-705 to West Run Road</p> <p>Purpose: To provide improved multimodal connectivity from the campus area to the residential areas to the north in a way that incentivizes transit usage and reduces automobile demand.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Improve traffic lanes (pavement, drainage, width) ■ Provide bicycle and pedestrian connectivity from WV-705 to White Oak Drive ■ Provide bus-only lane southbound with priority traffic signal phase for buses at WV-705 intersection ■ Provide bus stops at key locations <p>First implementation action: Preliminary engineering study of feasibility of bus lane and appropriate length, options for providing bicycle and pedestrian connectivity such as: 15 foot wide lane on northbound side, sidewalk on one or both sides, and/or a parallel multiuse trail. Logical limits of improvements based on walkable/bikeable slopes should also be verified.</p> <p>Key implementation factors: Coordination with MLTA to ensure utilization of proposed bus lane.</p>	<p><u>Estimated Cost</u> \$10,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>8</p> <p>Beechurst Avenue Improvements</p>	<p>Location: From Foundry Street to 8th Street</p> <p>Purpose: To improve automobile capacity and travel time and maintain pedestrian and bicycle traffic through corridor</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Additional lanes/turn lanes to improve capacity ■ Access management ■ Replace sidewalks ■ Provide bus stops with shelters at key locations ■ Widen 3rd St, providing an alternative route between University Ave and Beechurst Ave to reduce congestion near the Beechurst Ave and Campus Dr intersection. (2017 Update) <p>First implementation action: Perform a planning and preliminary engineering study of corridor that will include an assessment of capacity and safety needs, a detailed review of existing right-of-way, and the use and value of adjacent properties. The study must evaluate a comprehensive set of potential alternatives that maximizes traffic capacity and maintains acceptable</p>	<p><u>Estimated Cost</u> \$7,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p>


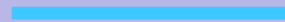


	<p>bicycle and pedestrian movement through the corridor. Access management options should be explored. The study should include an extensive public/stakeholder/property owner involvement process that identifies potential partnership opportunities in redeveloping properties along the corridor and providing needed right-of-way. To-scale mapping based on ground survey and right-of-way research must be included.</p> <p>Key implementation factors: Identifying a cost feasible alternative that has acceptable impacts to adjacent properties, increases automobile capacity in the corridor, and maintains acceptable levels of service for bicycles and pedestrians.</p>	<p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>9</p> <p>University Avenue Improvements</p>	<p>Location: From Boyers Avenue to Fayette Street</p> <p>Purpose: To provide a bicycle and pedestrian focused corridor and improve traffic capacity.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Provide completed sidewalks on both sides of street for entire length ■ Provide 15-foot lanes in uphill direction for bicycle climbing by widening and/or restriping: ■ Boyers Avenue to Congress Avenue ■ Mulberry Street to Laurel Street ■ Koontz Ave to Patteson Boulevard ■ Include bicycle route signing and marking in corridor ■ Improve pedestrian crossings throughout corridor ■ Improve automobile capacity (turn lanes, improved intersections, etc.) and safety (pedestrian crossings, sight distance, etc.) at key intersections (i.e. law school, Patteson Blvd., Collins Ferry) ■ Provide identifiable bus stop locations and shelters at key locations <p>First implementation action: The University Ave Complete Street Study provided an update to this project. University Ave complete street improvement is from Fayette Street intersection to Patteson Dr.</p> <p>Key implementation factors: Property impacts and costs related to widening of roadway/right-of-way.</p>	<p><u>Estimated Cost</u> \$20,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>10</p> <p>Burroughs Street</p>	<p>Location: From Collins Ferry Road to WV-705/Van Voorhis Road</p> <p>Purpose: To increase capacity to address existing capacity deficiency.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Improve automobile capacity at intersections with Collins Ferry Road and WV-705 ■ Provide left turn lanes at key intersection/driveways ■ Limit and/or combine access points ■ Maintain and widen sidewalk on south side of street ■ Add sidewalk to north side of street <p>First implementation action: Perform preliminary engineering analysis to determine most critical needs, potential solutions, and impacts in corridor.</p> <p>Key implementation factors: Acceptance of improvements by residents along corridor. Potential property impacts of widening for turn lanes and/or sidewalks.</p>	<p><u>Estimated Cost</u> \$4,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,3,4,5,6,7</p>
<p>11</p> <p>West Run Improvements Western Section</p>	<p>Location: From VanVoorhis Road to Stewartstown Road</p> <p>Purpose: To increase traffic capacity and to improve pedestrian and bike traffic flow.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add capacity through key turn lane additions and intersection improvements ■ Widen lanes to 15 feet on inclines for adequate bicycle overtaking width ■ Improve geometry (sight distance, curvature, lane widths, shoulders, etc.) ■ Explore potential for parallel multiuse path in corridor 	<p><u>Estimated Cost</u> \$12,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals</p>

	<p>First implementation action: Engineering study of needed turn lane additions and intersection upgrades, lane widening, and geometric improvements that includes property impacts and costs. Feasibility study for parallel multiuse path in corridor.</p> <p>Key implementation factors: Impacts to adjacent properties and cost.</p>	<p>Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>12</p> <p>Stewartstown Road Improvements</p>	<p>Location: From WV-705 to Point Marion Road (US-119)</p> <p>Purpose: To provide additional people moving capacity from I-68 to campus area and employment areas north of WV-705.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add one through traffic lane in each direction, from WV-705 to West Run Road ■ Provide turn lanes where appropriate ■ Implement a defined access management corridor plan ■ Rightmost lane between West Run Road and WV-705 to be HOV lane and/or provide bus queue jump at WV-705 ■ Limit access points to one full movement intersection between WV-705 and West Run Road ■ Limit access points to two full movement access points between West Run Road and Point Marion Road ■ Construct outside lanes 15 feet wide on inclines for adequate bicycle overtaking width ■ Construct sidewalk on west side of street <p>First implementation action: Preliminary engineering study to determine intersection and capacity needs, access management concepts, HOV feasibility and benefits, costs, right-of-way and environmental impacts.</p> <p>Key implementation factors: Acceptance of any negative impacts versus benefits, HOV benefits and acceptability, maintaining adequate access.</p>	<p><u>Estimated Cost</u> \$12,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Pedestrian</p> <p>LRTP Goals <u>Directly Supported</u> 1,3,5</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>13</p> <p>West Run Road Improvements - Eastern Section</p>	<p>Location: From Stewartstown Road to Point Marion Road</p> <p>Purpose: To increase traffic capacity and to improve transit, pedestrian, and bike traffic flow.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add capacity through key turn lane additions and intersection improvements ■ Widen lanes to 15 feet on inclines for adequate bicycle overtaking width ■ Improve geometry (sight distance, curvature, lane widths, shoulders, etc.) ■ Explore potential for parallel multiuse path in corridor ■ Explore providing queue jump lanes at intersections for expedited bus service <p>First implementation action: Engineering study of needed turn lane additions and intersection upgrades, lane widening, and geometric improvements that includes property impacts and costs. Feasibility study for parallel multiuse path in corridor.</p> <p>Key implementation factors: Impacts to adjacent properties and cost.</p>	<p><u>Estimated Cost</u> \$3,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,8</p>
<p>14</p> <p>Cheat Road Improvements</p>	<p>Location: from the West Run Rd intersection to the N Pierpont Rd intersection (2017 Update)</p> <p>Purpose: Improve traffic/people carrying capacity in heavily traveled corridor. To encourage transit use, and van/carpooling from the proposed park and ride at Glenmark Centre.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add one lane of through capacity in each direction – the additional lane would be a HOV lane that only buses and automobiles with 3 or more occupants could legally use (2 occupants or less would have to use other 2 general purpose lanes). The purpose of the HOV lane is to add vehicular capacity in this over-capacity corridor in a way that also gives a distinct travel time advantage to transit and vanpooling/carpooling to maximize total person trips that can be handled in the corridor. ■ Explore option of far right lane as an HOV lane ■ Improve signal with Glenmark Center to provide bus priority ■ Add bicycle facilities, including bike lanes, paved shoulders, and sharrows/BMUFL signs (2017 Update) ■ Roadway widening between N Pierpont and S Pierpont. (2017 Update) 	<p><u>Estimated Cost</u> \$6,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p>

	<p>First implementation action: Engineering study to determine required widening and potential use of existing shoulder for HOV/BRT use in lieu of widening.</p> <p>Key implementation factors: HOV benefits and acceptability.</p>	<p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>15</p>  <p>Willowdale Road/ Grove Street/North Avenue Sidewalk Improvements</p>	<p>Location: From University Avenue to WV-705</p> <p>Purpose: To provide a convenient/inviting corridor for pedestrians.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Complete sidewalk connections on both sides of street ■ Improve pedestrian crossing on Willowdale Rd from Northwestern Ave to Grove St (2017 Update) ■ Provide traffic calming treatment at appropriate locations (2017 Update) <p>First implementation action: Preliminary engineering investigation of the preferred locations for sidewalk additions, impacts, and costs.</p> <p>Key implementation factors: Acceptability of property impacts and cost feasibility.</p>	<p><u>Estimated Cost</u> \$4,000,000</p> <p>Primary Travel Modes <u>Improved</u> Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,8</p>
<p>16</p>  <p>Old Cheat Road / Cheat Road Bike Lanes</p>	<p>Location: From Cheat Lake bridge to western intersection of Cheat Road and Old Cheat Road</p> <p>Purpose: To provide a more inviting bike route for commuters from the Cheat Lake area.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Widen roadway to provide bike lanes <p>First implementation action: Engineering study to determine the required widening needs and costs.</p> <p>Key implementation factors: Identification of funding.</p>	<p><u>Estimated Cost</u> \$7,000,000</p> <p>Primary Travel Modes <u>Improved</u> Bicycle</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6</p>
<p>17</p>  <p>Fairmont Rd/Holland Ave Complete Street Improvement</p>	<p>Location: Through Westover from the I-79 (Westover) interchange to the Westover Bridge</p> <p>Purpose: To improve automobile traffic capacity and safety and increase travel by pedestrians and bicyclists.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Improve access management by reducing and consolidating access points ■ Improve intersections and traffic signal timings and coordination ■ Provide additional turn lanes where beneficial ■ Provide 15-foot wide lanes or bike lanes on inclines and other difficult areas for adequate bicycle overtaking width ■ Provide complete sidewalks on both sides of the street ■ Provide bus stops and shelters at key locations ■ Make the project two phases. Phases I: from the I-79 interchange to Westover Bridge (not including the bridge). Phase II: Westover Bridge. the estimated cost of the Westover Bridge replacement/widening (17-25 million) (2017 Update) ■ The Westover-Granville Pedestrian Study provides pedestrian facility improvement recommendations for this project. (2017 Update) <p>First implementation action: Perform preliminary engineering study to identify optimal solutions for the corridor that includes crash analysis, traffic forecasts and capacity analysis, pedestrian and bicycle safety and flow needs, identification of access management deficiencies, locations for bicycle climbing lanes, right-of-way and cost impacts of solutions, etc.</p> <p>Key implementation factors: Property impacts and costs related to widening of roadway/right-of-way.</p>	<p><u>Estimated Cost</u> \$11,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>

<p>18</p>  <p>Greenbag Road Improvements</p>	<p>Location: From Don Knotts Boulevard (US-119) to Sabraton Avenue (WV-7)</p> <p>Purpose: To enhance route as an attractive alternative for automobiles and especially trucks (in lieu of traveling downtown). To increase travel by pedestrians and bicyclists.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Improve intersection of Earl Core Road (WV-7) and Greenbag Road to better accommodate truck turns ■ Improve intersections in corridor ■ Widen roadway to a minimum of two 11-foot lanes with 4- to 5-foot paved shoulders including wider (15 feet wide) lanes on inclines for adequate bicycle overtaking width ■ Construct sidewalks in targeted locations (focused on key sidewalk network connections) ■ Consider bike and pedestrian safety improvements at intersection with Decker’s Creek Trail ■ Provide bus stops with shelters at key locations ■ Strengthen pavement where needed ■ Include truck route signage <p>First implementation action: The Greenbag Rd Corridor Study provided an update to this project.</p> <p>Key implementation factors: Property impacts and costs related to widening of roadway/right-of-way.</p>	<p><u>Estimated Cost</u> \$15,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,4,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>19</p>  <p>Dorsey Avenue</p>	<p>Location: High Street to Greenbag Road</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Complete the sidewalks on at least one side of the street <p>First implementation action: Preliminary engineering investigation of the preferred locations for sidewalk additions, impacts, and costs.</p> <p>Key implementation factors: Acceptability of property impacts and cost feasibility.</p>	<p><u>Estimated Cost</u> \$4,000,000</p> <p>Primary Travel Modes <u>Improved</u> Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,8</p>
<p>20</p>  <p>Brockway Rodgers/Powell Avenues (WV-7)</p>	<p>Location: Walnut Street to Deckers Creek Road (Old Rte 7)</p> <p>Purpose: To provide pedestrian and bike connectivity from Sabraton to downtown.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Improve connections to Deckers Creek Trail ■ Improve and complete sidewalk connections ■ Provide bus stops with shelters at key locations <p>First implementation action: Preliminary engineering study to determine most appropriate locations to provide/improve trail connections, to improve sidewalk connectivity, and to determine right-of-way impacts and costs.</p> <p>Key implementation factors: Acceptability of property impacts and cost feasibility.</p>	<p><u>Estimated Cost</u> \$6,000,000</p> <p>Primary Travel Modes <u>Improved</u> Bicycle Pedestrian Transit</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>21</p>	<p>Location: Deckers Creek Boulevard (Old Rte 7)to I-68</p> <p>Purpose: To provide pedestrian and bike connectivity from Sabraton to downtown, to improve traffic flow and safety, and to provide attractive truck access to Greenbag Road.</p> <p>Improvements:</p>	<p><u>Estimated Cost</u> \$9,000,000</p> <p>Primary Travel Modes <u>Improved</u></p>

 <p>Earl Core Road (WV-7) Northern Section</p>	<ul style="list-style-type: none"> ■ Improve intersection with Greenbag Road to better accommodate trucks ■ Corridor signal optimization ■ Reduce access conflicts (consolidation of duplicate access points, redesign of driveways) ■ Add continuous sidewalks on both sides of Earl Core Road ■ Improve capacity and safety in corridor ■ Add turn lanes where appropriate ■ Improve connectivity to Deckers Creek Trail at key locations ■ Provide bus stops with shelters at key locations ■ Improve the safety and capacity of WV 7 and Mineral Ave for vehicles, pedestrians, and bicycles. (2017 Update) ■ Improve pedestrian accessibility to Deckers Creek trail from Mineral Ave. (2017 Update) <p>First implementation action: Preliminary engineering study that includes needed intersection capacity and safety improvements based on crash data and traffic volumes, identification of existing access management deficiencies, coordination with local property owners to optimize access design and sidewalk locations, and identification of costs and property impacts.</p> <p>Key implementation factors: Coordination with local property owners for access improvements and sidewalk installation, and potential property impacts for capacity improvements.</p>	<p>Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,4,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>22</p>  <p>Earl Core Road (WV-7) Southern Section</p>	<p>Location: I-68 to Deckers Creek Boulevard</p> <p>Purpose: Improve traffic capacity and flow.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Consolidate and redesign driveways ■ Add turn lanes (potentially a center two-way left turn lane for entire length) ■ Add sidewalks on at least one side of roadway <p>First implementation action: Preliminary engineering study that includes needed intersection capacity and safety improvements based on crash data and traffic volumes, identification of existing access management deficiencies, coordination with local property owners to optimize access design and sidewalk locations, and identification of costs and property impacts.</p> <p>Key implementation factors: Coordination with local property owners for access improvements and sidewalk installation, and potential property impacts for capacity improvements.</p>	<p><u>Estimated Cost</u> \$9,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,8</p>
<p>23</p>  <p>New Road Connection from Willey Street to Downtown Campus Area</p>	<p>Location: From Willey Street approximately ¼-mile south of WV-705 to Protzman Street or Falling Run Road.</p> <p>Purpose: To provide a more efficient connection between Mileground area and downtown campus for autos, buses, bicyclists, and pedestrians. Reduce traffic volumes at WV-705/Stewartstown Road Intersection. Provide a direct route to campus that bypasses downtown.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ New two-lane roadway with 11-foot wide traffic lanes ■ 10-foot wide multiuse trail on one side of roadway ■ Strict access management (no access points allowed) <p>First implementation action: Alignment study to determine best alignment and termination points and treatments, environmental impacts, and costs.</p> <p>Key implementation factors: Providing the transportation connection without violating the communities desire to preserve the “Reserved Open Area” and “Limited Growth” through which the alignment would traverse (see land use concept map from Visioning process). Completing the pedestrian and bicycle connectivity to University Avenue will be important to make this project successful.</p>	<p><u>Estimated Cost</u> \$6,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit Bicycle Pedestrian</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,6</p>
<p>24</p>	<p>Location: From the western terminus of Project #23 to University Avenue.</p>	<p><u>Estimated Cost</u></p>

 Protzman/Falling Run Pedestrian and Bicycle Connector	<p>Purpose: To connect multiuse trail of Project #23 to the downtown campus area.</p> <p>Improvements:</p> <ul style="list-style-type: none"> 10-to 12-foot wide multiuse trail/path parallel to existing streets Sidewalks adjacent to street on one side <p>First implementation action: Engineering study of feasible locations for proposed improvements and impacts/costs.</p> <p>Key implementation factors: Constructability/funding.</p>	<p>\$1,000,000</p> <p>Primary Travel Modes <u>Improved</u> Bicycle Pedestrian</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,8</p>
<p>25</p>  Willey Street Improvements	<p>Location: From High Street to WV-705</p> <p>Purpose: To increase traffic capacity of Willey Street and to improve auto capacity and pedestrian and bike traffic flow from neighborhoods to downtown and the Mileground.</p> <p>Improvements:</p> <ul style="list-style-type: none"> Add capacity through key turn lane additions and intersection improvements Add key connections to complete the sidewalks Widen lanes to 15 feet on inclines for adequate bicycle overtaking width Improve geometry (sight distance, curvature, lane widths, shoulders, etc.) Provide bus stops and shelters at key locations. <p>First implementation actions: Engineering study of needed turn lane additions and intersection upgrades, sidewalk locations, lane widening, and geometric improvements that includes property impacts and costs.</p> <p>Key implementation factors: Impacts to adjacent properties and cost.</p>	<p><u>Estimated Cost</u> \$13,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>26</p>  North Side Connector Bus Rapid Transit	<p>Location: From Evansdale Campus to Downtown Campus</p> <p>Purpose: To improve capacity of transit service.</p> <p>Improvements:</p> <ul style="list-style-type: none"> Designation of combination of WVU and City streets Construct missing roadway sections required for completing the route <p>First implementation action: Evaluate the potential ridership/need for the connector in coordination with WVU as part of the LRTP Planning Strategy – Regional Transit Plan, and an engineering study of the feasibility and cost of the concept.</p> <p>The University Ave Complete Street Study provides an update to this project. (2017 Update)</p> <p>Key implementation factors: Coordination between MLTA, WVU, and the City.</p>	<p><u>Estimated Cost</u> \$1,000,000</p> <p>Primary Travel Modes <u>Improved</u> Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>27</p>  Grant Avenue Bicycle/Pedestrian Connector	<p>Location: From end of Grant Avenue to Riverview Drive</p> <p>Purpose: To provide bicycle and pedestrian connection between Downtown and the WVU Evansdale Campus.</p> <p>Improvements:</p> <ul style="list-style-type: none"> Construct multiuse trail 	<p><u>Estimated Cost</u> \$900,000</p> <p>Primary Travel Modes <u>Improved</u> Bicycle Pedestrian</p>

	<p>First implementation action: Preliminary engineering study to determine the most appropriate alignment, impacts, right-of-way needs, and costs.</p> <p>Key implementation factors: Right-of-way acquisition (if not already publicly owned).</p>	<p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,3,4,5,6</p>
<p>28</p> <hr style="border: 2px solid green;"/> <p>White Park / Caperton Trail Connection</p>	<p>Location: From White Park to Caperton Trail</p> <p>Purpose: To provide connectivity from White Park and adjacent neighborhoods to the regional trail system.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Construct multiuse trail ■ Consider installation of a pedestrian/bicycle bridge over US 119, connecting White Park and Caperton Trail. (2017 Update) <p>First implementation action: Preliminary engineering study to determine the preferred alignment, crossing treatment at Don Knotts Boulevard, impacts, right-of-way needs, and costs.</p> <p>Key implementation factors: Crossing of Don Knotts Boulevard.</p>	<p><u>Estimated Cost</u> \$\$500,000 (2017 Update)</p> <p>Primary Travel Modes <u>Improved</u> Bicycle Pedestrian</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,3,4,5,6</p>
<p>29</p> <hr style="border: 2px solid red;"/> <p>Grafton Road (US-119)</p>	<p>Location: Greenbag Rd to 4 H Camp Rd (Walmart) (2017 Update)</p> <p>Purpose: To increase automobile capacity to address existing capacity deficiency and to provide bike connectivity.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Complete 4-lane roadway ■ Provide turn lanes where appropriate ■ Limit any new full access points to no closer than 2,000 feet from an existing full access point ■ Bike lanes or climbing lanes <p>First implementation action: Preliminary engineering study to identify capacity and delay deficiencies in more detail, impacts, costs, and access point locations.</p> <p>Key implementation factors: Identifying the true need for this improvement in more detailed studies. Establishing access management in short-term to avoid future access problems.</p>	<p><u>Estimated Cost</u> \$5,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,4,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,8</p>
<p>30</p> <hr style="border: 2px solid black;"/> <p>Stewart Street Improvements</p>	<p>Location: From High Street to WV-705</p> <p>Purpose: To increase traffic capacity and to improve pedestrian and bike traffic flow from neighborhoods to downtown and WV-705.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add capacity through key turn lane additions and intersection improvements ■ Add key sidewalk connections to complete the sidewalks ■ Widen lanes to 15 feet on inclines for adequate bicycle overtaking width ■ Improve geometry (sight distance, curvature, lane widths, shoulders, etc.) ■ Provide bus stops and shelters at key locations 	<p><u>Estimated Cost</u> \$11,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>L RTP Goals Directly <u>Supported</u></p>

	<p>First implementation action: Engineering study of needed turn lane additions and intersection upgrades, sidewalk locations, lane widening, and geometric improvements that includes property impacts and costs.</p> <p>Key implementation factors: Impacts to adjacent properties and cost.</p>	<p>1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
<p>31</p> <p>PRT Extension from University Health Services to Mon General Hospital</p>	<p>Location: From University Health Sciences to Mon General Hospital</p> <p>Purpose: To provide high-capacity person moving connection between these locations to reduce automobile traffic demand within the core campus and employment areas.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Extension of PRT system ■ Station at each location ■ Assumes a system that includes wireless communications and self- powered (battery) vehicles (expansion cost greatly reduced over current technology) <p>First implementation action: Alignment study to determine the most cost-effective route.</p> <p>Key implementation factors: Feasibility of construction and cost.</p>	<p><u>Estimated Cost</u> \$57,000,000</p> <p>Primary Travel Modes <u>Improved</u> Transit</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>32</p> <p>PRT Extension from Mon General Hospital to Glenmark Centre</p>	<p>Location: From Mon General Hospital to Glenmark Centre</p> <p>Purpose: To provide high capacity person moving connection between these locations to reduce automobile traffic demand to and from the core campus and employment areas from I-68.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Extension of PRT system ■ Stations at each location ■ Assumes a system that includes wireless communications and self-powered (battery) vehicles <p>First implementation action: Alignment study to determine the most cost-effective route.</p> <p>Key implementation factors: Feasibility of construction and cost.</p>	<p><u>Estimated Cost</u> \$103,000,000</p> <p>Primary Travel Modes <u>Improved</u> Transit</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>33</p> <p>Grumbein’s Island Grade Separation</p>	<p>Location: Grumbein’s Island on University Avenue</p> <p>Purpose: To separate vehicular traffic from pedestrian crossing traffic on University Avenue to improve traffic flow and reduce pedestrian/auto conflicts.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Grade separation of roadway from pedestrian crossing <p>First implementation action: Completion of traffic operations study and prepare final plans based on preliminary engineering report.</p> <p>The University Ave Complete Street Study provides an update to this project. Three alternatives were identified. (2017 Update)</p> <p>Key implementation factors: Coordination between WVU, City, and State.</p>	<p><u>Estimated Cost</u> \$10,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Pedestrian Transit</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,7,8</p>
<p>34</p>	<p>Location: From WV-705 to West Run Road</p>	<p><u>Estimated Cost</u></p>

<p>Riddle Street/ Pineview Drive Improvements</p>	<p>Purpose: To improve pedestrian and bike traffic flow from neighborhoods to WV-705.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Add sidewalk to at least one side of street ■ Widen lanes to 15 feet wide lanes on inclines for adequate bicycle overtaking width ■ Provide bus stops and shelters at key locations <p>First implementation action: Engineering study of most desirable sidewalk locations and lane widening that includes property impacts and costs.</p> <p>Key implementation factors: Impacts to adjacent properties and cost.</p>	<p>\$4,000,000</p> <p>Primary Travel Modes <u>Improved</u> Pedestrian Bicycle Transit</p> <p>LRTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,8</p>
<p>35</p> <p>PRT Connection New Business Park to Evansdale Campus</p>	<p>Location: From proposed park and ride lot in TIF district business park to Coliseum parking lot, to Evansdale Campus.</p> <p>Purpose: To provide a transit connection to the park and ride at new interchange to reduce vehicular demand into the core.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ New PRT track integrated with the construction of the new roadway and bridge connection ■ Station at business park - park and ride ■ Station at Coliseum parking lot ■ Station near Evansdale Campus Drive ■ Connection to Engineering PRT station <p>First implementation action: Preliminary engineering study of potential ridership and implementation cost and feasibility.</p> <p>Key implementation factors: Likely not feasible with current PRT system infrastructure, but could become feasible if system moves to self-powered vehicles with wireless controls. Cost then would only include cost of guideway, vehicles, and station. This estimated cost included in this description. Alternative alignments could be explored depending on the selected location of a new river crossing (see Project #6).</p>	<p><u>Estimated Cost</u> \$80,000,000</p> <p>Primary Travel Modes <u>Improved</u> Transit</p> <p>LRTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7</p>
<p>36</p> <p>New Roadway Connection from Mileground Road to Hartman Run Road</p>	<p>Location: From intersection of WV-705 and Mileground Road to Hartman Run Road near Fulmer Street</p> <p>Purpose: To provide an efficient alternative route for traffic from the Mileground to Sabraton for all modes, including trucks.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ New 2-lane roadway with turn lanes at appropriate locations ■ Sidewalk on one side ■ Multiuse trail on one side ■ Bus stops and shelters at key locations <p>First implementation action: Alignment and feasibility study for the roadway connection</p> <p>Key implementation factors: Construction feasibility, property impacts, public acceptance, and cost.</p>	<p><u>Estimated Cost</u> \$17,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>LRTP Goals Directly <u>Supported</u> 1,2,3,4,5,6</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4</p>
<p>37</p>	<p>Location: From terminus of planned industrial road east of airport to WV-7 in Sabraton</p> <p>Purpose: To provide an efficient alternative route for traffic from Cheat Road to Sabraton</p>	<p><u>Estimated Cost</u> \$12,000,000</p>

<p>Extension of Airport Industrial Road to WV-7 in Sabraton</p>	<p>Improvements:</p> <ul style="list-style-type: none"> ■ New 2-lane roadway with turn lanes at appropriate locations. <p>First implementation action: Alignment and feasibility study for the roadway connection.</p> <p>Key implementation factors: Construction feasibility, property impacts, public acceptance, and cost.</p>	<p>Primary Travel Modes <u>Improved</u> Auto</p> <p>LRTP Goals <u>Directly Supported</u> 1,3,4,5</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4</p>
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Project/Program	Description	
<p>38</p> <p>Intersection Capacity and Safety Improvement Program</p>	<p>Location: Numerous intersections throughout the region</p> <p>Purpose: To systematically improve capacity and/or safety at key intersections in the region.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Short- to medium-term improvements to intersections to reduce crashes and to increase system capacity and automobile travel efficiency. The improvements could include: <ul style="list-style-type: none"> - Traffic signal optimization through additional and improved detection, improved control equipment and software, optimized phasing, and timing - Addition of turn lanes and/or through lanes. - Correction of geometric deficiencies - Change in traffic control (roundabout, traffic signal, stop sign, yield) - Improved pedestrian crossings - Improved bicycle accommodations <p>The preferred improvements could but would not necessarily have to be developed as part of a larger corridor study. The intent of this plan item is to develop feasible short to medium term improvements that can be implemented quickly to improve safety and capacity.</p> <p>First implementation action:</p> <ul style="list-style-type: none"> ■ Prioritization of intersections in the region based on a comprehensive study of: <ul style="list-style-type: none"> - Crash data including rankings based on number of crashes, crash rates, and severity (injury/fatality) rates - Existing congestion levels (delay per vehicle, backups) - Detailed safety and congestion studies of the top 5 to 10 intersections each year. These studies should evaluate crash data and operational data in detail to identify contributing factors, potential countermeasures, intersection improvement alternatives, short- and long-term needs, etc. Preferred alternatives should then be programmed and implemented. - Coordination with the findings of the Downtown Signalization Study (RTI/WVU), which is exploring options for some of the key intersections listed below. <p>Proposed priority intersection improvement are included in the Intersection Improvement List at the end of this document. (2017 Update)</p> <p>Key implementation factors:</p> <ul style="list-style-type: none"> ■ Prioritizing locations ■ Identifying short- to medium-term solutions that also fit within the long term needs of the corridor ■ Acceptable impacts to adjacent properties <p>Initial intersection list for safety and congestion studies:</p> <ul style="list-style-type: none"> ■ Monongahela Boulevard / Patteson Drive ■ Patteson Drive / Laurel Street ■ University Avenue / Collins Ferry Road 	<p><u>Estimated Cost</u> \$32,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,7,8</p>

	<ul style="list-style-type: none"> ■ University Avenue / Patteson Drive ■ Van Voorhis Road / Chestnut Ridge / Burroughs Street ■ Van Voorhis Road / Christy Street ■ Van Voorhis Road / West Run Road ■ Van Voorhis Road / Elmer Prince ■ WV-705 / Stewartstown Road ■ West Run Road / Stewartstown Road ■ Stewartstown Road / Point Marion Road ■ Point Marion Road / West Run Road ■ University Avenue / Campus Drive ■ University Avenue / Beechurst Avenue / Fayette Street ■ University Avenue / 8th Street ■ Beechurst Avenue / Campus Drive ■ Greenbag Road / Don Knotts Boulevard ■ Greenbag Road / Dorsey Avenue ■ Greenbag Road / Diamond Avenue ■ Greenbag Road / Earl Core Road ■ Tyrone Road / Tyrone Avery Road ■ Cheat Road / Tyrone Avery Road ■ Hartman Run Road / Hart Field Road (north intersection) ■ Hartman Run Road / Hart Field Road (south intersection) ■ Stewart Street / Hoffman Street / Van Guilder Street ■ Spruce Street / Walnut Street ■ Spruce Street / Pleasant Street ■ Fayette Street / High Street ■ High Street / Willey Street ■ High Street / Pleasant Street ■ Walnut Street / University Avenue 	
<p>39</p>	<p>Regional Pedestrian Safety and Sidewalk Connectivity</p> <p>Location: Region-wide</p> <p>Purpose: To complete sidewalk connectivity to provide safer and more convenient routes for pedestrian travel.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Repair and replace existing deficient sidewalks ■ Widen and improve key sidewalk sections ■ Construct new sidewalks in key locations ■ Improve safety at locations of high pedestrian crashes ■ Improve key pedestrian crossings <p>Proposed priority intersection improvement are included in the Intersection Improvement List at the end of this document. (2017 Update)</p> <p>Initial intersections identified for pedestrian crossing and safety improvements:</p> <ul style="list-style-type: none"> ■ Foundry Street / University Avenue (US-119) ■ Pleasant Street / University Avenue (US-119) ■ Walnut Street / University Avenue (US-119) ■ Spruce Street / Walnut Street ■ High Street / Willey Street ■ University Avenue / College Avenue ■ Willey Street / Prospect Street ■ Spruce Street / Pleasant Street ■ Beechurst Avenue / Campus Drive 	<p><u>Estimated Cost</u> \$33,000,000</p> <p>Primary Travel Modes <u>Improved</u> Pedestrian</p> <p>LRTP Goals <u>Directly Supported</u> 1,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8,</p>

	<ul style="list-style-type: none"> ■ Beechurst Avenue / 3rd Street ■ Beechurst Avenue / 6th Street ■ Chestnut Ridge Road / Van Voorhis Road ■ High Street / Walnut Street ■ High Street / Fayette Street ■ University Avenue / Prospect Street <p>First implementation Action: Extend the City of Morgantown Connecting Network Sidewalks (CNS) plan to include the rest of the region. Develop an action plan that includes identifying potential funding sources, sponsoring agencies, design responsibilities, etc.</p> <p>Key implementation factors: Identifying local funding sources and defining implementation responsibilities.</p>		
40	Regional Bikeway Plan Implementation	<p>Location: Region-wide</p> <p>Purpose: To implement a logical and interconnected bikeway system for the region.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Bike lanes ■ Multiuse trails ■ Bike route pavement markings ■ Bike route signage ■ Intersection of trails with roadways (i.e. crossings with Old Route 7, Green Bag Road, Summer School Road, etc.) ■ Trail lighting <p>First implementation action: Complete the Regional Bikeways Plan as described in the non-mapped strategies.</p> <p>Key implementation factors: Identification of funding.</p>	<p><u>Estimated Cost</u> \$5,000,000</p> <p>Primary Travel Modes <u>Improved</u> Bicycle</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
41	New Park and Ride Lots	<p>Location: As indicated on map</p> <p>Purpose: To provide locations for commuters and visitors to park and carpool, use transit, or bike.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Sign existing parking areas (public-private partnership) that are underutilized on weekdays during work hours ■ New construction not expected <p>First implementation action: Approach private owners and discuss terms.</p> <p>Key implementation factors: Reaching agreements with owners. Promote and increase awareness of the locations and advantages of utilizing them.</p>	<p><u>Estimated Cost</u> \$1,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit</p> <p>L RTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,4,5,6,7,8</p>
42	Enhanced Bus Service	<p>Location: Region-wide</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Provide 10 to 15 minute headways for the following three identified transit routes (see Figure 9-2 for illustration of routes): <ul style="list-style-type: none"> - East-West Corridor - North-South Corridor - West Run, Mountaineer Station Loop ■ Provide identifiable and attractive bus stop locations ■ Provide convenient connections to Mountaineer Station and Walnut Street PRT Station (requires some construction) 	<p><u>Estimated Cost</u> \$88,000,000</p> <ul style="list-style-type: none"> - \$3M/yr for operations - \$4M capital cost for connections to PRT Stations and bus stop improvements <p>Primary Travel Modes <u>Improved</u></p>

	<p>First implementation action: Identify funding sources beyond current federal sources.</p> <p>Key implementation factors: Public support for additional local funding. Develop an appropriate implementation phasing plan.</p> <p>The MLTA Route Efficiency and Vehicle Maximization Study provides an update to this project</p> <p>See Section 9.5 for a summary of modeling analysis performed on the potential transportation system impacts of this project and Appendix D for details related to the traffic modeling related to the analysis.</p>	<p>Auto Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>	
43	School Route Improvements	<p>Location: All K-8 schools</p> <p>Purpose: To enhance safety and personal health of school children. To reduce automobile trips due to a greater number of children walking and/or biking to school.</p> <p>Improvements: Would primarily focus on elementary schools and improvements could include:</p> <ul style="list-style-type: none"> ■ Sidewalk improvements ■ Traffic calming and speed reduction improvements ■ Pedestrian and bicycle crossing improvements ■ On-street bicycle facilities ■ Off-street bicycle and pedestrian facilities ■ Secure bicycle parking facilities ■ Traffic diversion improvements in the vicinity of schools <p>First implementation action: Establish SRTS plan by working with safe routes to school committee (see non-capital improvements strategy). The Pedestrian Safety Board’s plan can be used as a significant resource since it addresses pedestrian needs in the vicinity of many schools. Apply for Transportation Alternatives (MAP-21) funding.</p> <p>Key implementation factors: Prioritization and funding of improvements. Identification of local matching funds (potential 20% match required).</p>	<p><u>Estimated Cost</u> \$2,000,000 80% State/Federal 20% Local</p> <p>Primary Travel Modes <u>Improved</u> Bike Pedestrian</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,8</p>
44	Access Management Improvements	<p>Location: Region-wide</p> <p>Purpose: To improve multimodal safety, capacity, and to improve property values and attractiveness of development areas.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Removal and consolidation of excess access points ■ Improved driveway designs ■ Addition of turn lanes at key locations ■ Medians to restrict turning movements ■ U-turn locations <p>First implementation action: Complete Access Management Study (see non-mapped strategies).</p> <p>Key implementation factors: Coordination with property owners and stakeholders during the study phase.</p>	<p><u>Estimated Cost</u> \$10,000,000 80% State/Federal 20% Local</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6</p> <p>FHWA Planning Factors <u>Supported</u> 2,4,5,6,7,8</p>
45	Downtown Morgantown Signalization and Street Changes	<p>Location: Morgantown Central Business District (CBD)</p> <p>Purpose: To improve multimodal safety, capacity, and the attractiveness of downtown area.</p>	<p><u>Estimated Cost</u> \$2,000,000 80% State/Federal</p>

		<p>Improvements:</p> <ul style="list-style-type: none"> ■ Improved signal system ■ Improved multimodal traffic flows and circulation ■ Improved multimodal safety ■ Improved streetscape <p>First implementation action: Complete ongoing traffic study and selection of preferred improvements.</p> <p>Key implementation factors: Coordination with property owners and stakeholders during the study phase.</p>	<p>20% Local</p> <p>Primary Travel Modes <u>Improved</u> Auto Bicycle Pedestrian Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,7,8</p>
46	TDM Program Expansion	<p>Location: Region-wide</p> <p>Purpose: Reduce the total number of automobile trips in the region (goal of 3% reduction in peak hours) through aggressive Transportation Demand Management (TDM) to reduce congestion and the need for costly infrastructure improvements.</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Expand the Commuter Choices program as a formal transportation management association (TMA) ■ Form strategic partnership between WVU and Commuter Choices ■ Facilitate access to current transit service, both in terms of geographic proximity and with fare payment incentives, to allow MLTA services to play a greater role in meeting commuter transportation needs ■ Develop land use policies and zoning regulations that offer parking reductions, intensity bonuses, or other development incentives to applicants who commit to funding TDM, transit, or other alternative commuting strategies for a given period of time. ■ Develop educational programs targeted at the commuting population of the Morgantown region that illustrate benefits of TDM <p>First implementation action: Identify program funding. Explore taxes or surcharges on public and private parking infrastructure. Levying transportation impact fees on new development to fund multimodal options and services. Explore private and public grants.</p> <p>Key implementation factors: Public agency and private entity buy-in and support.</p>	<p><u>Estimated Cost</u> \$10,000,000</p> <p>10% State/Federal 90% Local</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
47	Smithtown Rd Improvements (2017 Update New Project)	<p>Location: Smithtown Rd (CO 73) from Don Knotts Blvd (US 119) to Goshen Rd (CO 77)</p> <p>Purpose: To improve traffic capacity and safety</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Improve lane conditions to increase safety (pavement, drainage, width) ■ Upgrade the US-119 and CO 73 intersection and the CO 77 and CO 73 intersection ■ Provide wide paved shoulders to accommodate potential bicyclists and pedestrians. 	<p><u>Estimated Cost</u> \$12,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit</p> <p>L RTP Goals Directly <u>Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
48	I-79 Westover Section Improvements	<p>Location: I-79 in the vicinity of mile post 151.0 (southbound)</p> <p>Purpose: To improve traffic capacity and safety</p> <p>Improvements:</p> <ul style="list-style-type: none"> ■ Extend the southbound climbing lane from the I-79 Exit 152 	<p><u>Estimated Cost</u> \$4,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto</p>

	<ul style="list-style-type: none"> ■ Extend the northbound climbing lane from the Uffington Bridge 	<p>Transit</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>
<p>49</p> <p>I-79 Granville Section Improvements</p>	<p>Location: I-79 from Exit 152 to Exit 155</p> <p>Purpose: To improve traffic capacity and safety</p> <p>Improvements:</p> <ul style="list-style-type: none"> • Provide auxiliary lanes on both sides of the highway between Exit 152 and Exit 155 	<p><u>Estimated Cost</u> \$15,000,000</p> <p>Primary Travel Modes <u>Improved</u> Auto Transit</p> <p>LRTP Goals <u>Directly Supported</u> 1,2,3,5,6,7</p> <p>FHWA Planning Factors <u>Supported</u> 1,2,4,5,6,7,8</p>

INTERSECTION IMPROVEMENT PRIORITY LIST

TOP 20 Intersections for Improvements (based all scores received)

Intersections	Preference Score
WV 705/Van Voorhis Rd	368
Grumbein's Island	271
University Ave/Westover Bridge	215
Mileground Rd/Cheat Rd*	211
University Ave/WV 705	185
Collins Ferry Rd/University Ave*	164
WV 7/Greenbag Rd*	147
Mileground Rd/Hartman Run Rd	129
Mileground Rd/WV 705	123
Beechurst Ave/University Ave	114
Mon Blvd/Patteson Dr	96
Stewartstown Rd/Pt. Marion Rd	63
US 119/Smithtown Rd*	61
WV 705/Stewartstown St	56
University Ave/Walnut St	55
Beechurst St/Campus Dr*	53
WV 705/Elmer Prince Dr	49
Spruce St/Walnut St	45
Mon Blvd/Boyers Ave	41
Cheat Rd/Tyrone Rd	Recommended by Steering Committee Member
Cheat Rd/South Pierpont Rd	

TOP 20 Intersections for Overall (car, pedestrian, bicycle) Improvements

Intersections	Preference Score
WV 705/Van Voorhis Rd	292
Mileground Rd/Cheat Rd	204
Collins Ferry Rd/University Ave	164
University Ave/Westover Bridge	145
WV 7/Greenbag Rd	144
Mileground Rd/Hartman Run Rd	129
Mileground Rd/WV 705	123
University Ave/WV 705	121
Beechurst St/University Ave	114
Grumbein's Island	102
Stewartstown Rd/Pt. Marion Rd	63
US 119/Smithtown Rd	61
Beechurst St/Campus Dr	53
WV 705/Stewartstown St	43
Mon Blvd/Boyers Ave	40
WV 705/Mileground Rd	39
Mon Blvd/Patteson Dr	37
Greenbag Rd/US 119	35
University Ave/Walnut St	33
WV 705/Elmer Prince Dr	33

TOP 20 Intersections for Pedestrian and Bicycle Improvements

Intersections	Preference Score
Grumbein's Island	169
WV 705/Burroughs St	76
University Ave/Westover Bridge	70
University Ave/WV 705	64
Mon Blvd/Evansdale Dr (CAC)	31
University Ave/Beechurst St	27
WV 705/Don Nehlen Dr	24
WV 705/Pineview Dr	23
Mon Blvd/Patteson Dr	22
University Ave/Walnut St	22
WV 705/Suncrest Towncenter	21
University Ave/Collins Ferry Rd	20
Spruce St/Walnut St	19
University Ave/Evansdale Dr	18
WV 705/Elmer Prince Dr	16
WV 705/Stewartstown St	13
Don Knotts/Hurley St	12
Walnut St/Chestnut Rd	12
Willey St/High St	12
Campus St/Grant Ave	10

* Intersections programmed for improvements

