



Morgantown Monongalia MPO  
**Morgantown Industrial Park Access Study**

Final Report

October, 2018

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## Recommendations

This study identified and evaluated seven alternative ways to access the Morgantown Industrial Park. Upon reviewing the findings from the study process, the MPO staff recommends amending the MPO's Metropolitan Transportation Plan to include a project to enhance accessibility to the Morgantown Industrial Park. The MPO staff further recommends that all alternatives identified in the study should be considered in future access studies. The MPO staff does not recommend a preferred alternative in this study.

A project to enhance access to the Morgantown Industrial Park should address the following issues:

Project Name	Morgantown Industrial Park Access Improvements
Project Purpose	<ul style="list-style-type: none"> <li>• Reducing the impact of truck traffic on Fairmont Rd and DuPont Rd in Westover.</li> <li>• Supporting future expansion of the Morgantown Industrial Park.</li> <li>• Improving the accessibility to communities along River Rd in the west side of I-79.</li> <li>• Providing alternative access to the Morgantown Industrial Park in event of an emergency.</li> </ul>
Project Location	<p><b>Option A1-</b> uses existing overpass to create a full diamond interchange at River Rd on I-79 and use River Rd as the access to the Industrial Park.</p> <p><b>Option A2-</b> uses existing overpass to create a full diamond interchange at River Rd on I-79 and use River Rd as the access to the Industrial Park. Uses new access road in the park to provide a direct access to I-79.</p> <p><b>Option B-</b> construct a new connecting road between River Rd and S Dents Run Rd, using an existing under-pass under I-79. Specific roadway alignment requires future investigation for this option.</p> <p><b>Option C-</b> construct a new connecting road between River Rd and S Dents Run Rd on the west side of I-79 between the Price Hill Rd intersection and S Dents Run Rd.</p> <p><b>Option D-</b> construct a bridge across the Mon River connecting the DuPont Rd and the Don Knotts Blvd near the BFS gas station.</p> <p><b>Option E-</b> construct a bridge across the Mon River connecting connecting the Industrial Park to the Greenbag Rd/Don Knotts Blvd intersection.</p> <p><b>Option F-</b> Repair and improve the capacity of River Rd between DuPont Rd and the Westover Bridge</p>
First Implementation Action	Conduct a study to identify the preferable alternative. If new interchange on I-79 is proposed, the study should fulfill the requirement of an Interchange Justification Report (IJR) required by the Federal Highway Administration.
L RTP Goals Directly Supported	1, 2, 3, 4, 5, 6, 8
FHWA Planning Factors Supported	a, b, c, d, e, f, g
Estimated Cost	15 million to 40 million, depending on the Option.

# Introduction

## Background

The Morgantown Industrial Park approached the Monongalia County Commission and the City of Westover to discuss the need for better access to the Industrial Park. The Industrial Parks concerns are based on the Industrial Parks plans to expand and the problems the Division of Highways has been having with maintaining River Road. The current closure of River Road has led to increased industrial traffic on DuPont Road in Westover. The closure also raises concerns about emergency services access to the industrial park in the event of an emergency.

The County Commission and the City of Westover asked MPO staff to study ways to improve access to the Industrial Park. The MPO staff proposed to identify possible ways to access the industrial park to ensure that as many cost effective means for addressing the concerns above are provided to future decision makers.

## Purpose

The purpose of the MPO Industrial Park Access Study is to identify and evaluate alternative ways to access the Morgantown Industrial Park. It is a planning level study focusing on assessing the viability of adding a Morgantown Industrial Park Access Project to the MPO's Metropolitan Transportation Plan.

The alternative access intends to address the following three issues:

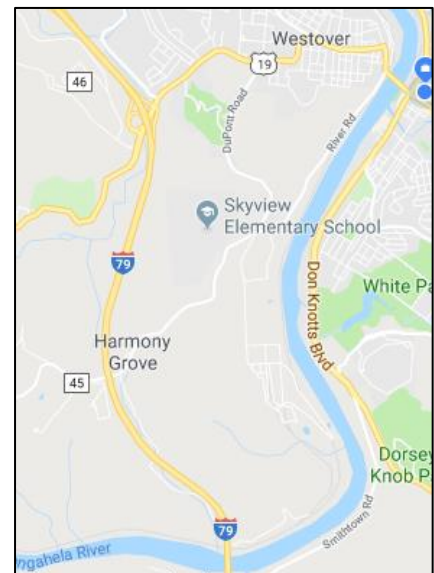
- The negative impact to Westover caused by increasing truck traffic using DuPont Rd and Fairmont Rd to access I-79.
- DuPont Road is currently the only effective access to the park due to the closure of River Road between DuPont Rd and Holland Rd. Limited access raises concerns about accessibility to the park in event of an emergency.
- The future expansion of the park may require enhanced access from the park to I-79.

## Study Area

The study area includes the City of Westover, the Morgantown Industrial Park, and the west side of I-79 between the Exit 152 and Exit 148. The major street network consists of the following streets:

- River Rd from Price Hill Rd to Holland Ave
- Fairmont Rd from River Rd to the east of Mall Rd
- DuPont Rd
- S Dents Run Rd
- Westover Bridge

The study area is shown in the map on the right.



## Study Process

### Study Components

The study consists of three components: 1) providing a venue for coordination and discussion among stakeholders relating to Morgantown Industrial Park accessibility issues. 2) using the MPO’s Travel Demand Model to conduct an operational evaluation on the transportation network impact of proposed alternatives; and 3) conducting a planning level analysis on the impact of proposed alternatives on land use, socioeconomics, and natural environment.

### Timeline

The study follows the timeline as shown below:

	July	August	September	October
Scope of Work	X			
Data Collection	X	X		
Travel Demand Model Development		X	X	X
Alternative Development and Evaluation		X	X	X
Steering Committee Meeting		X		X
Public Meeting			X	X
Draft Report				X

### Steering Committee

A steering committee was established to provide guidance and oversight of study process. The committee consists of representatives from the following entities:

- The City of Westover
- Monongalia County Commission
- Monongalia County Planning Commission
- Monongalia County Development Authority
- Morgantown Industrial Park
- Mountain Line Transit Authority
- WV DOT-Division of Highways

### Public Meeting

The MPO held two public meeting for this study. The first meeting was held at the Westover City Hall at September 20<sup>th</sup>, 4 PM-7 PM. About 30 residents attended this meeting. The second meeting was held at the conference room of the MPO’s office. The second meeting was held jointly with the MPO’s Citizens Advisory Committee meeting on October 11, 2018.

During the public meeting, participants were asked to indicate their preferred alternatives on a displaying board by putting a dot near the preferred alternatives.

A significant majority of participants indicated the Alternative A1 and A2 as their favorable alternatives. Detailed documentations of the public meetings are included in Appendix A.



*Council Chambers*

**Morgantown Monongalia MPO  
Morgantown Industrial Park Access Study | Alternative Evaluation**

Alternative	Description	Location	Access	Access	Access	Access	Access	Access	Access	Access	Morgantown Monongalia MPO	
											Access	Access
A1	...	...	...	...	...	...	...	...	...	...	...	...
A2	...	...	...	...	...	...	...	...	...	...	...	...
A3	...	...	...	...	...	...	...	...	...	...	...	...
A4	...	...	...	...	...	...	...	...	...	...	...	...
A5	...	...	...	...	...	...	...	...	...	...	...	...

*Note: Red dots on the table indicate preferred alternatives.*

## Data Collection and Analysis

### Traffic Volume

As part of the MPO’s annual vehicle traffic count on Aug 29 and Aug 30. MPO staff added several new count locations to better understand the traffic pattern in the study area. Traffic volume and locations are shown in the table below:

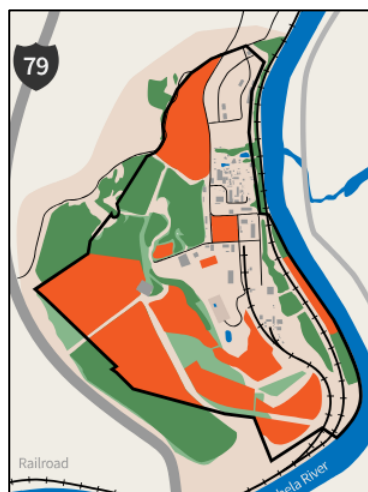
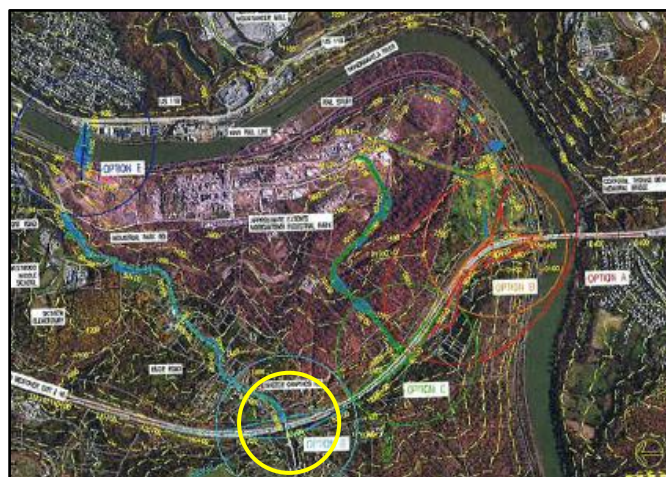
Station #	Location	Total Daily Volume	Northbound or Eastbound (Truck Traffic)	Southbound or Westbound (Truck Traffic)
69	DuPont Rd South of Fairmont Rd	7,455	3,961 (483)	3,886 (426)
89*	DuPont Rd North of River Rd	5,729	2,950 (413)	3,125 (429)
86*	River Rd, West of DuPont Rd	3,635	1,956 (110)	1,871 (78)
84*	Industrial Park Rd, South of DuPont Rd	2,050	1,065 (307)	1,093 (310)
83	Fairmont Rd, West of Commercial Dr	16,946	8754 (605)	9,084 (784)
74	Fairmont Rd, East of Mall Rd	15,702	8,396	8,133
87*	River Rd, East of River Rd Bridge over I-79	1,999	1,684	420

Newly added traffic count locations to the MPO’s regular annual traffic count.

It was noted that River Rd was closed during the traffic count period, and it was estimated that DuPont Rd was carrying the traffic that otherwise could be on River Rd. More information about traffic volume are provided in the Appendix D.

### Document Review

The MPO staff reviewed the Morgantown Industrial Park Preliminary Access Study prepared by the DOH in 2016. The study identified five alternatives to provide additional access the Morgantown Industrial Park. Among the these five alternatives, Option D-I 79 River Road Full Diamond Overpass & Road Rehabilitation was identified as the most preferable alternative.



The Industrial Park provided an estimated trip generation from the expected development of the park. The MPO staff also reviewed the Land Use section of Westover’s Comprehensive Plan adopted in 2013, and the available properties and sites information on the Morgantown Industrial Park website. Land use information provide key input to modify the MPO’s travel demand model for the purpose of this study.

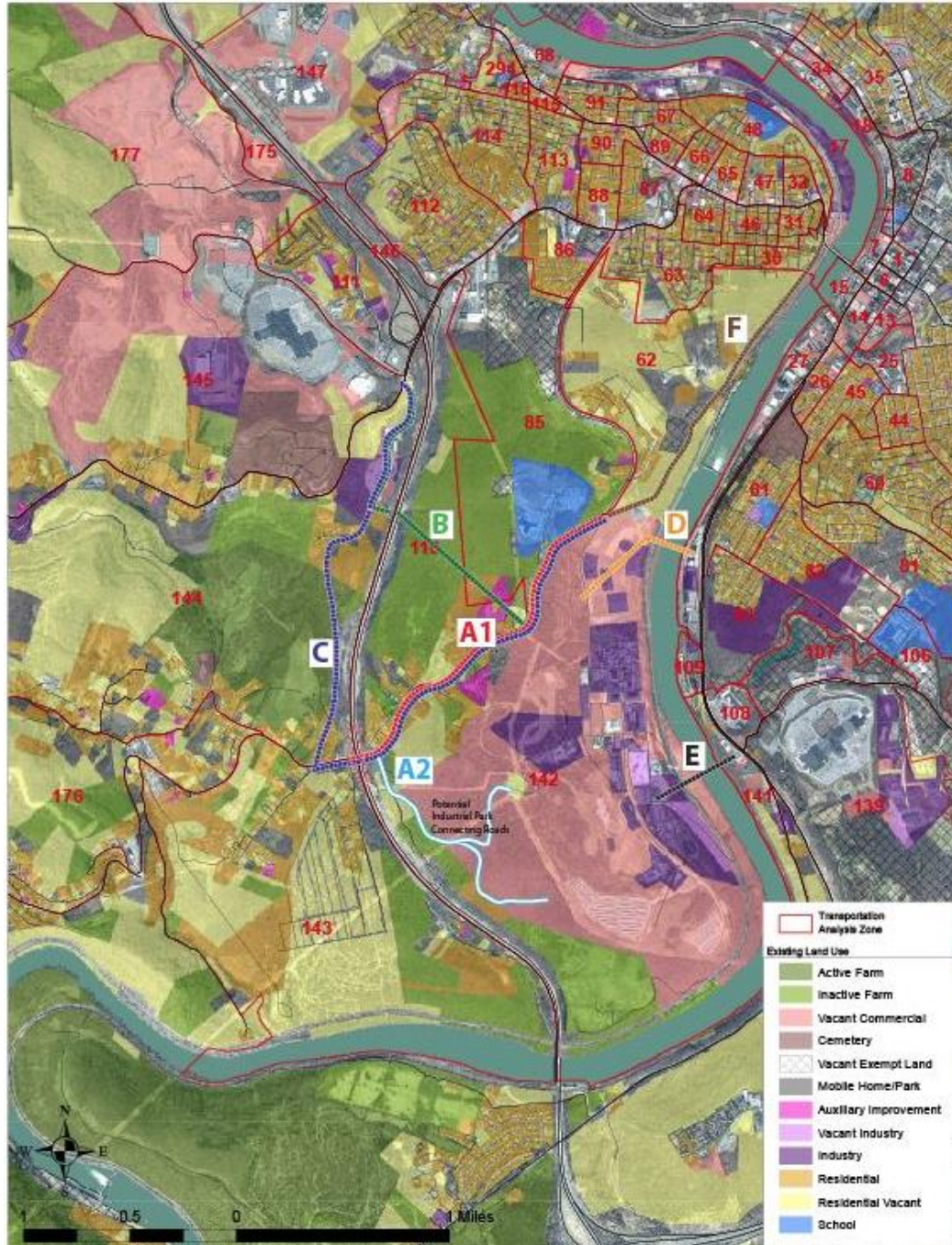


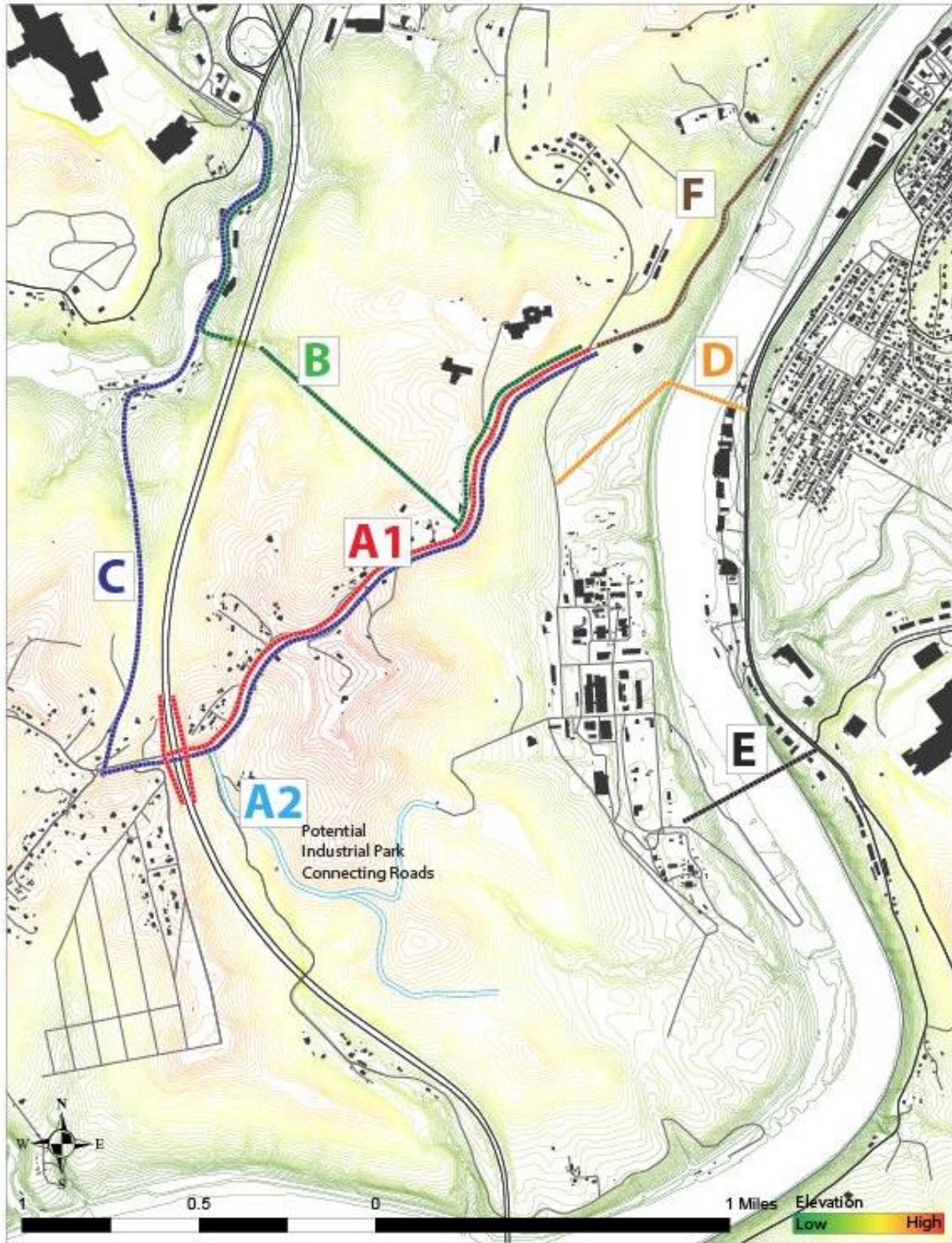
The map on the right shows the preferred location for the industrial park access, as identified in the DOH's study (in yellow circle). The map on the left shows the current available sites (shown in orange)

### Current Land Use and Topography

The Monongalia County GIS database provides parcel level land use information and 10 feet contour information in the study area. The MPO used the information as basis to understanding basic condition surrounding the Morgantown Industrial Park.

The maps below show the current land use and topographic information in the study area. Identified alternatives are illustrated in the map. Information of alternative are provided in the next section of the report.





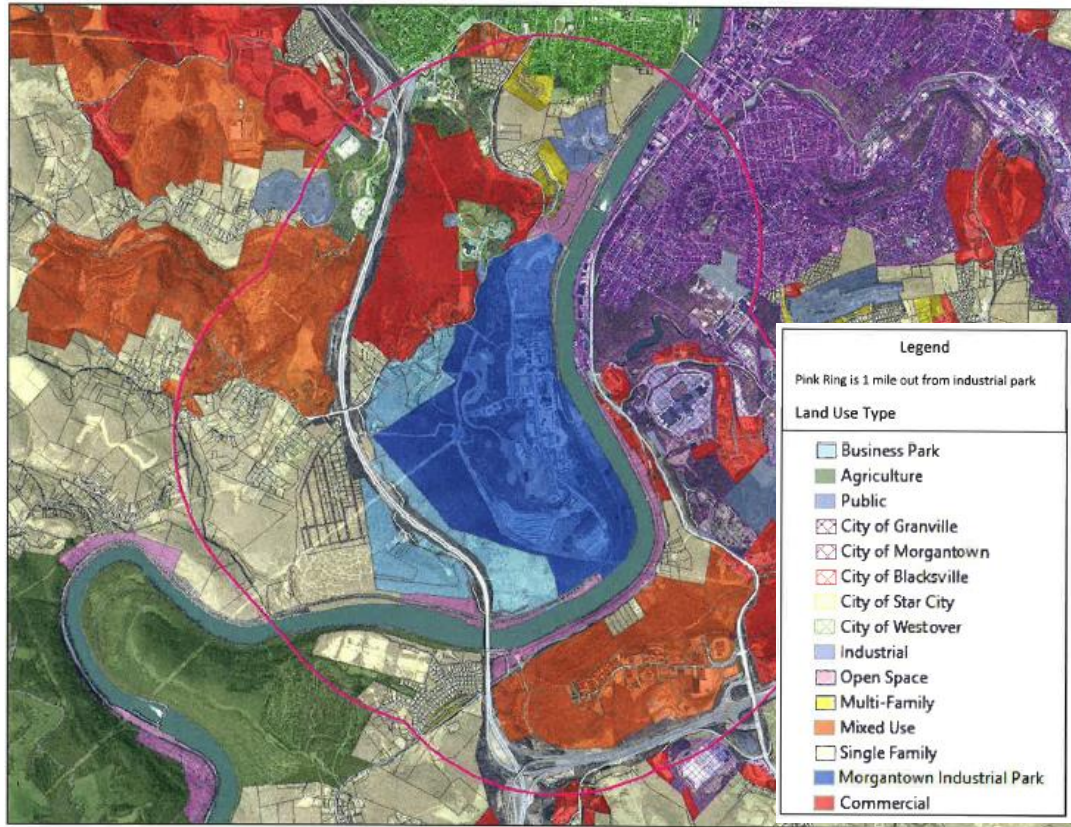
### Trip Generation and Future Land Use

In order to estimate the travel demand in the area staff received an estimate of the Morgantown Industrial Parks future trip generation as developed by their consultant. The subject area also includes a portion of Monongalia County. Monongalia County planning staff prepared a rough estimate of the future land use that may develop in this area. MPO Staff developed trip generation estimates of these potential land uses to assist in estimating the demand for enhanced transportation facilities in the area. The following tables summarizes the estimated trip generation for the Industrial Park and undeveloped portions of the County upon build out.

	Area (Acre)	Developable Area (Acre)	Weekday		AM Peak		PM Peak	
			In	Out	In	Out	In	Out
Residential	645	194	2560	2560	124	275	350	180
Business Park	281	84	6300	6300	1336	254	327	1093
Mixed Use	706	212	4958	4958	152	540	569	306
Morgantown Industrial park*	Weekday AM Peak (vph)		Weekday PM Peak (vph)					
	In	Out	In	Out				
Total Trips	281	42	115		188			

\*Source: MIP-Thrasher Engineering

### Potential future Land Use



Map created by Patricia Booth, AICP, Monongalia County Planning Commission

## Alternative Development and Evaluation

The MPO identified and evaluated seven alternatives. The maps on page 6 and 5 illustrate the location of these alternatives. The seven alternatives and their major advantages and disadvantages are:

**Alt. A1**-this option was identified in DOH's Morgantown Industrial Park Preliminary Access Study, conducted in 2016. Option A1 uses existing overpass to create a full diamond interchange at River Rd on I-79 and use River Rd as the access to the Industrial Park.

Major advantages of this option are:

1. Utilizing existing overpass as part of the proposed interchange on I-79.
2. Opening up development potential for the west side of I-79 on River Rd.

Major disadvantages or concerns of this option are:

1. The proposed ramps to the interchange are feasible (5-6% grade), but require substantial earthwork and ROW acquisition. It may also require potential relocation of an existing gas pipeline.
2. Interchange is located in rural area as defined in 2010 US Census map. The spacing is below the minimum interchange spacing requirement for a rural area, according to FHWA's highway design standard. It is expected that the interchange location will be classified as in the urban area in 2020, and the spacing will then meet the FHWA interchange spacing requirement.
3. Widening River Rd could be costly due to the topography and proximity of residences in River Rd the corridor.

**Alt. A2**-this option was identified based on the Industrial Park Master Plan developed by the Industrial Park. This option is similar to A1, except that it uses a new access road in the park to provide a direct access to I-79. River Rd improvement is not relevant to this alternative.

This option has all the advantages of Option A1. In addition, it

1. Provides the most direct access to the industrial park.
2. Requires no existing road upgrade except for the River Rd Bridge over I-79.

Major disadvantages or concerns of this option are:

1. The proposed ramps to the interchange are feasible (5-6% grade), but require substantial earthwork and ROW acquisition. It may also require potential relocation of an existing gas pipeline.
2. Interchange is located in rural area as defined in 2010 US Census map. The spacing is below the minimum interchange spacing requirement for a rural area, according to FHWA's highway design standard. It is expected that the interchange location will be classified as in the urban area in 2020, and the spacing will then meet the FHWA interchange spacing requirement.
3. Require substantial new road construction within the industrial park.

**Alt. B**-this option is to construct a new connecting road between River Rd and S Dents Run Rd, using an existing under-pass under I-79. The specific roadway alignment requires future investigation for this option.

Major advantages of this option are:

1. Improving system connectivity without a new interchange on I-79. Avoiding any complications associated with modifying the interstate system.
2. Opening up S Dents Run to development, which has been identified in the Westover Comprehensive Plan as an area for commercial development.

Major disadvantages or concerns of this option are:

1. Indirect access to I-79. Dubious benefits for route efficiency over current route on Fairmont Rd.
2. Requiring significant earthwork for the connecting road.

**Alt. C-** this option is similar to Option B, except that it proposes a connecting on the west side of I-79 between the Price Hill Rd intersection and S Dents Run Rd.

1. Major advantages of this option are similar to Option B. Compared with Option B, Option C has better road alignment flexibility and uses existing bridge as an overpass on I-79.
2. Major disadvantages or concerns of this option are similar to Option B. In addition, it requires widening River Rd, same as Alt. A1.

**Alt. D-** this option was identified in DOH's Morgantown Industrial Park Preliminary Access Study, conducted in 2016. It proposes a bridge across the Mon River.

Major advantages of this option are:

1. Improving system connectivity without a new interchange on I-79. Avoiding any complications associated with modifying the interstate system.

Major disadvantages or concerns of this option are:

2. Low feasibility due to steep grade of the proposed bridge location.
3. Indirect access to I-79. Dubious benefits for route efficiency over current route on Fairmont Rd.
4. Active commercial structure acquisition and demolition.

**Alt. E-** this option proposes a bridge across the Mon River, connecting the Industrial Park to the Greenbag Rd/Don Knotts Blvd intersection.

Major advantages of this option are:

1. Improving system connectivity without a new interchange on I-79. Avoiding any complications associated with modifying the interstate system.

Major disadvantages or concerns of this option are:

2. Indirect access to I-79. Dubious benefits for route efficiency over current route on Fairmont Rd.
3. Active commercial structure acquisition and demolition.

**Alt. F-** non build scenario. This scenario includes upgrading River Road to preclude recurring problems with slides.

The table on the following page shows the estimated impact of each alternative. Detailed travel demand model analysis are included in the Appendix B.








Alternatives	Construction Feasibility					Land Use Impact		
	Alignment/Ramp Feasibility and Flexibility	Earthwork	ROW Impact	Utility Relocation	Structure Acquisition and Demolition	Development Opportunity	Construction Land Consumption	Existing Residential Impact
<b>A1 River Rd</b>	Feasible with limited flexibility. Ramp ≈ 5-6% grade. 1.6 mile to Exit 152 and 1.8 mile to I-68	Moderate	Moderate - High impact	Substantial utility relocation on River Rd. Potential pipeline relocation at interchange.	Low impact	Connect to West side of I-79 along River Rd.	Low	Low impact
<b>A2. Connecting Road</b>	Feasible. Limited flexibility. Ramp ≈ 5-6% grade.	Moderate	Low impact	Low impact. Potential pipeline relocation at interchange	Low impact	Connect to future development area in the Park	High (considering industrial park area)	Low impact
<b>B. Dents Run Tunnel</b>	Further evaluation required	Significant	Moderate-high impact	Low impact	Moderate impact	Connect to S. Dents Run development area	High	Low impact
<b>C. S Dents Run Road</b>	Further evaluation required	Significant	High impact	Substantial utility relocation	Moderate impact	Connect to S. Dents Run development area	High	Low impact
<b>D. Bridge-Plaza</b>	Low feasibility Bridge ≈ 17% Grade	Significant	Moderate impact	Moderate impact	Significant impact	Low	Low	Low impact
<b>E. Bridge-Greenbag Rd</b>	Bridge ≈ 5 % Grade, Further evaluation required	Significant	Moderate impact	Moderate impact	Moderate impact	Low	Low	Low impact
<b>F. River Rd Improvements</b>	Keep current alignment	Moderate (repairing River Rd)	Low impact	Low impact	Low impact	Low	Low	Low impact







































































Alternatives	Transportation System Impact						
	Major Transportation Network Impact (comparing with non-built option, future year daily total traffic volume, except Alt. F)	System Connectivity	Industrial Park Access to Interstate	Spacing*	New Road Construction	Existing Road Upgrade.	Key Intersection Upgrade
<b>A1 River Rd</b>	<ul style="list-style-type: none"> <li>Significantly Increase the traffic on River Rd on the west side of I-79.</li> <li>Increase the traffic on I-79 between the new interchange and I-68</li> <li>Significantly decrease the traffic on DuPont Rd, and River Rd between DuPont Rd and Westover Bridge</li> <li>Decrease the traffic on Fairmont Rd in Westover</li> <li>Significantly decrease the traffic on Fairmont Rd, west of the Mall Rd intersection.</li> </ul>	Better access along the River Rd Corridor	1.7 miles	1.6 to Exit 152 1.8 mile to I-68	N/A	River Rd	River Rd and DuPont Rd
<b>A2. MIP Connecting Road</b>	<ul style="list-style-type: none"> <li>Similar impact as A1, except decreasing traffic on River Rd between DuPont Rd and the new interchange.</li> </ul>	Better access along the River Rd Corridor	Direct access	1.6 to Exit 152 1.8 mile to I-68	Required as a part of Industrial Park Master Plan	Low impact	River Rd and Master Graphics Rd
<b>B. Dents Run Tunnel</b>	<ul style="list-style-type: none"> <li>Decrease traffic on River Rd between DuPont Rd and River Rd Bridge over I-79.</li> <li>Significantly decrease the traffic on River Rd between DuPont Rd and Westover Bridge</li> <li>Significantly decrease the traffic on DuPont Rd</li> <li>New connecting road to S Dents Run road could carry 3,600 vehicle</li> </ul>	Connect River Rd to Fairmont Rd. No additional interstate access	2.8 miles	N/A	Connect to S Dents Road and Fairmont Rd	S Dents Run Rd, a portion of River Rd	S Dents Run Rd and Fairmont Rd
<b>C. S Dents Run Road</b>	<ul style="list-style-type: none"> <li>Similar impact as Alt. B, except no decrease of traffic River Rd on the west side of I-79.</li> <li>New connecting road to S Dents Run road could carry 4,200 vehicle volume per day.</li> </ul>	Connect River Rd to Fairmont Rd. No additional interstate access	3.8 miles	N/A	Connect to S Dents Road and Fairmont Rd	S Dents Run Rd	S Dents Run Rd and Fairmont Rd
<b>D. Bridge-Plaza</b>	<ul style="list-style-type: none"> <li>Decreasing the traffic on Westover Bridge</li> <li>Significantly decrease of the traffic on River Rd between Westover Bridge and DuPont Rd</li> <li>Significantly increase of the traffic on DuPont Rd</li> <li>New bridge could carry 21, 300 vehicle volume per day.</li> <li>Increase the traffic on Don Knotts Blvd (across the river)</li> </ul>	Connect DuPont Rd to Don Knotts Blvd	4 miles	N/A	New bridge construction (1500 Feet span). Connecting Rd between bridge and DuPont Rd	Low impact	New Bridge and Don Knott Blvd
<b>E. Bridge-Greenbag Rd</b>	<ul style="list-style-type: none"> <li>Similar impact as Alt E, except less impact on Don Knotts Blvd</li> <li>New bridge could carry 14, 500 vehicle volume per day</li> </ul>	Connect to Greenbag Rd	2.5 miles	N/A	New bridge construction (2200 Feet span).	Low impact	New Bridge and Don Knott Blvd and Greenbag Rd
<b>F. No Build</b>	<p>Comparing with based year volume:</p> <ul style="list-style-type: none"> <li>Significant increase of the traffic on River Rd and Fairmont Rd.</li> </ul>	Strengthen the connectivity between Westover Bridge to the industrial park	2.1 miles (current route)	N/A	N/A	River Rd from DuPont Rd to Westover Bridge	River Rd and Westover Bridge intersection

\*The minimum spacing for urban interchanges specified in the AASHTO Interstate Access Guide is 1 mile (3 miles in rural areas). The proposed interchange of A1 and A2 are not in the urbanized area according to the 2010 Census Map. It is in the Metropolitan Statistical Area.

The table below is a summary of alternative impact in the study area, compared with no-built option, future year daily total traffic volume. Actual traffic volumes are provided in the following pages.

Traffic Impact Key:

 = significant increase  
  = moderate increase  
  = slight increase  
  = no major impact  
  = slight decrease  
  = moderate decrease  
  = significant decrease

	River Rd, west of I-79	River Rd between DuPont Rd and River Rd Bridge over I-79	River Rd between DuPont Rd and the Westover Bridge	DuPont Rd	Fairmont Rd in between DuPont Rd and the I-79 interchange	Fairmont Rd, west of Mall Rd.	Fairmont Rd, between Westover Bridge and DuPont Rd	Westover Bridge	I-79, north of the exit at Fairmont Rd	I-79, south of the exit at Fairmont Rd, north of River Rd Bridge over I-79	I-79, south of River Rd Bridge over I-79	New Construction
Alt. A1-River Rd												
Alt. A2-MIP Connecting Rd												
Alt. B-Dents Run Tunnel												
Alt. C-S Dents Run Rd												
									Don Knotts Blvd, north of the proposed bridge	Don Knotts Blvd, south of the proposed bridge		
Alt. D-Bridge to Plaza												
Alt. E-Bridge to Greenbag Rd												

It is estimated that

- Alt. A1 and A2 will significantly the traffic on River Rd, west of I-79 and I-79, south of the River Rd Bridge, while decreasing or making no major impact on the traffic on other roads in the study area.
- Alt. B and C will generally decrease or making no major impact on the traffic on the roads in the study area.
- Alt. D will significantly increase the traffic on River Rd and DuPont Rd.
- Alt. E has less impact than Alt D, while will significantly increase traffic on DuPont Rd.
- In general, Fairmont Rd in Westover will not be significantly impact by the alternatives identified in the study.

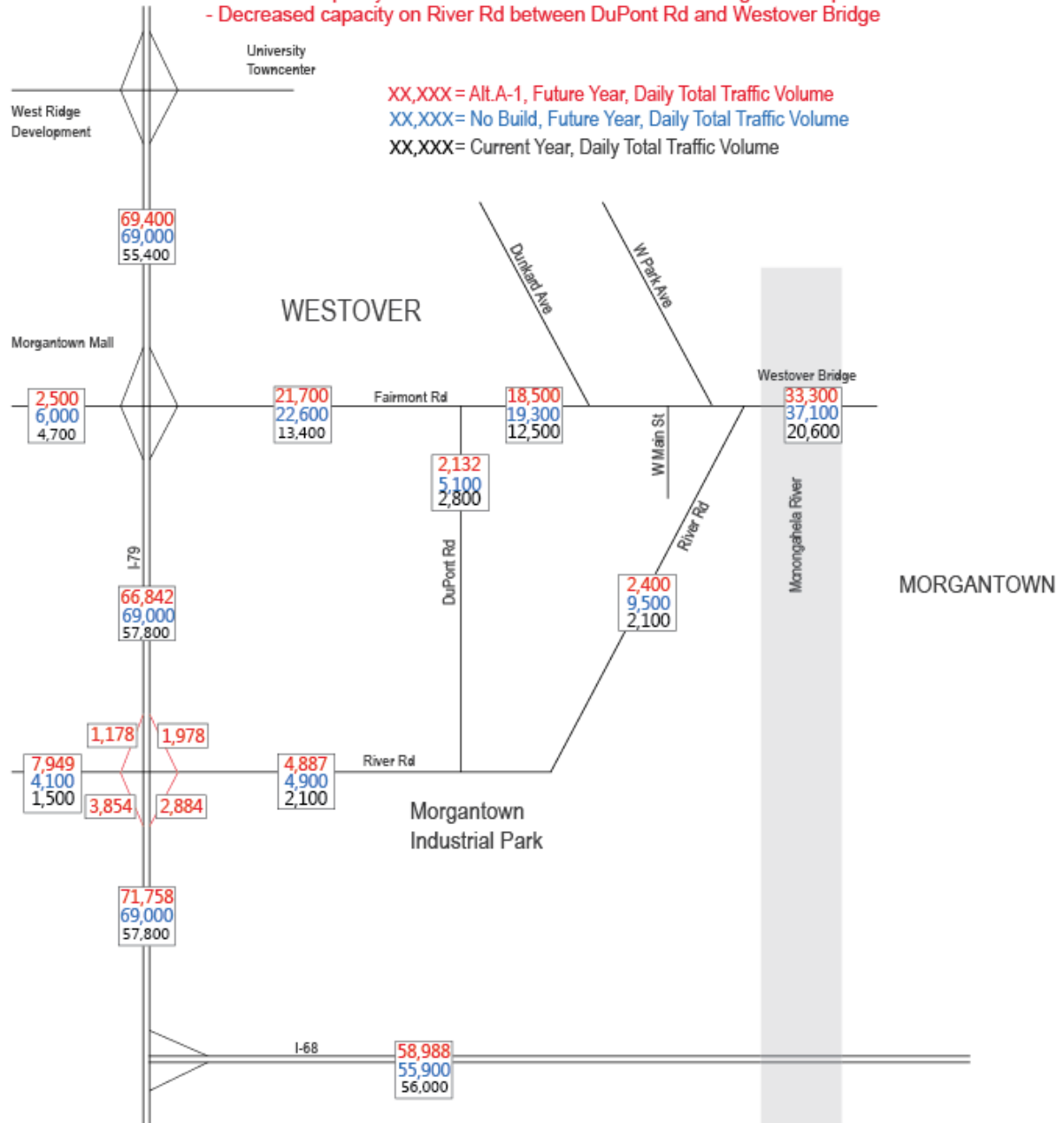




### Alternative A-1 Traffic Impact Evaluation

Alt. A-1 Future Year Network Modification:

- New I-79 interchange at River Rd
- Increased capacity on River Rd between the new interchange and Dupont Rd
- Decreased capacity on River Rd between DuPont Rd and Westover Bridge



Notes: Traffic Model is developed based on the MPO's Travel Demand Model, West Ridge Model-Scenario Widened Mall Road, 2017. Diagram is not to scale

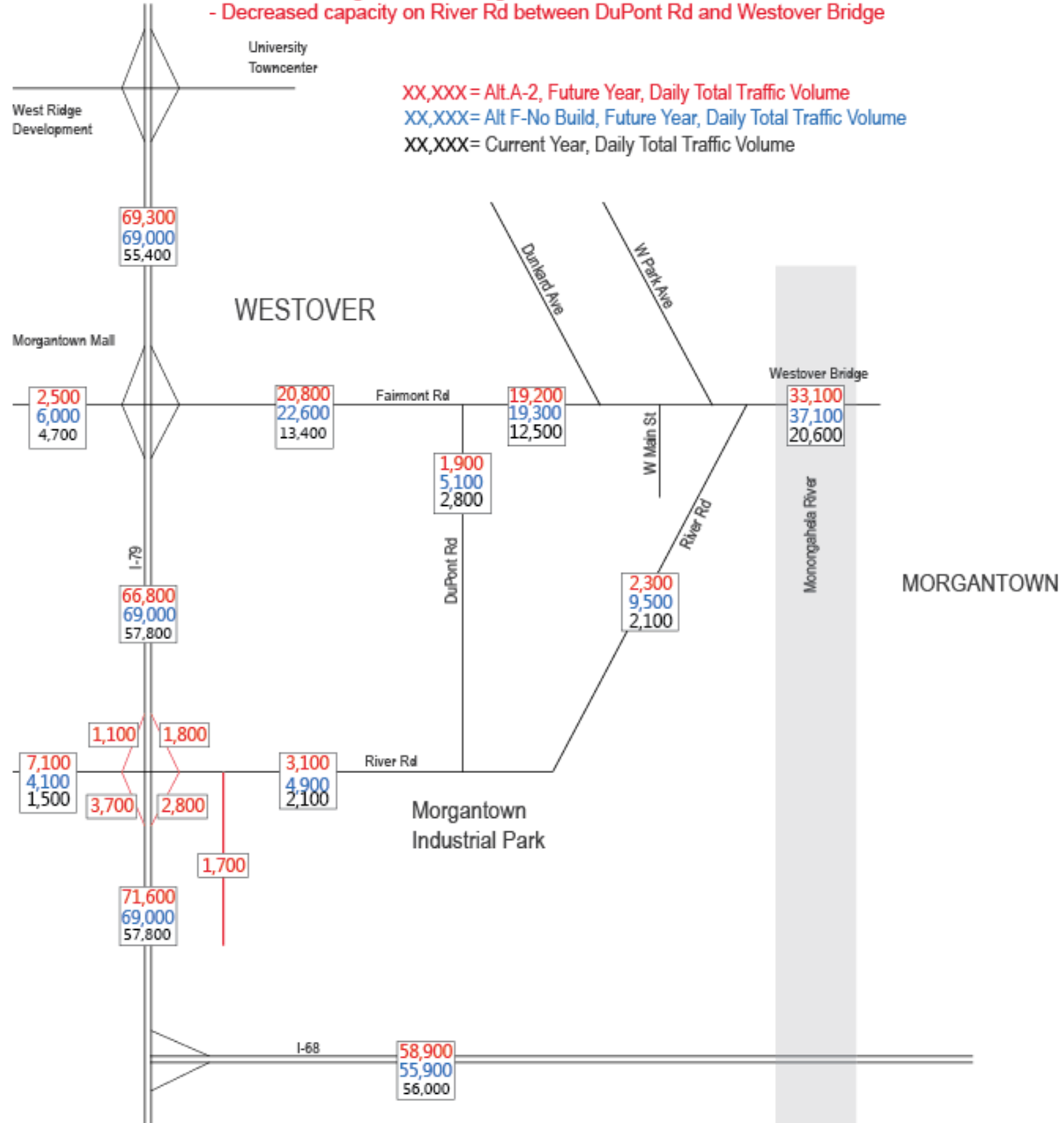


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Morgantown Industrial Park Access Study | Alternative Evaluation-Traffic Impact

### Alternative A-2 Traffic Impact Evaluation

Alt. A-2 Future Year Network Modification:

- New I-79 interchange at River Rd
- New connecting road from Morgantown Industrial Park
- Decreased capacity on River Rd between DuPont Rd and Westover Bridge



Notes: Traffic Model is developed based on the MPO's Travel Demand Model, West Ridge Model-Senario Widened Mall Road, 2017. Diagram is not to scale

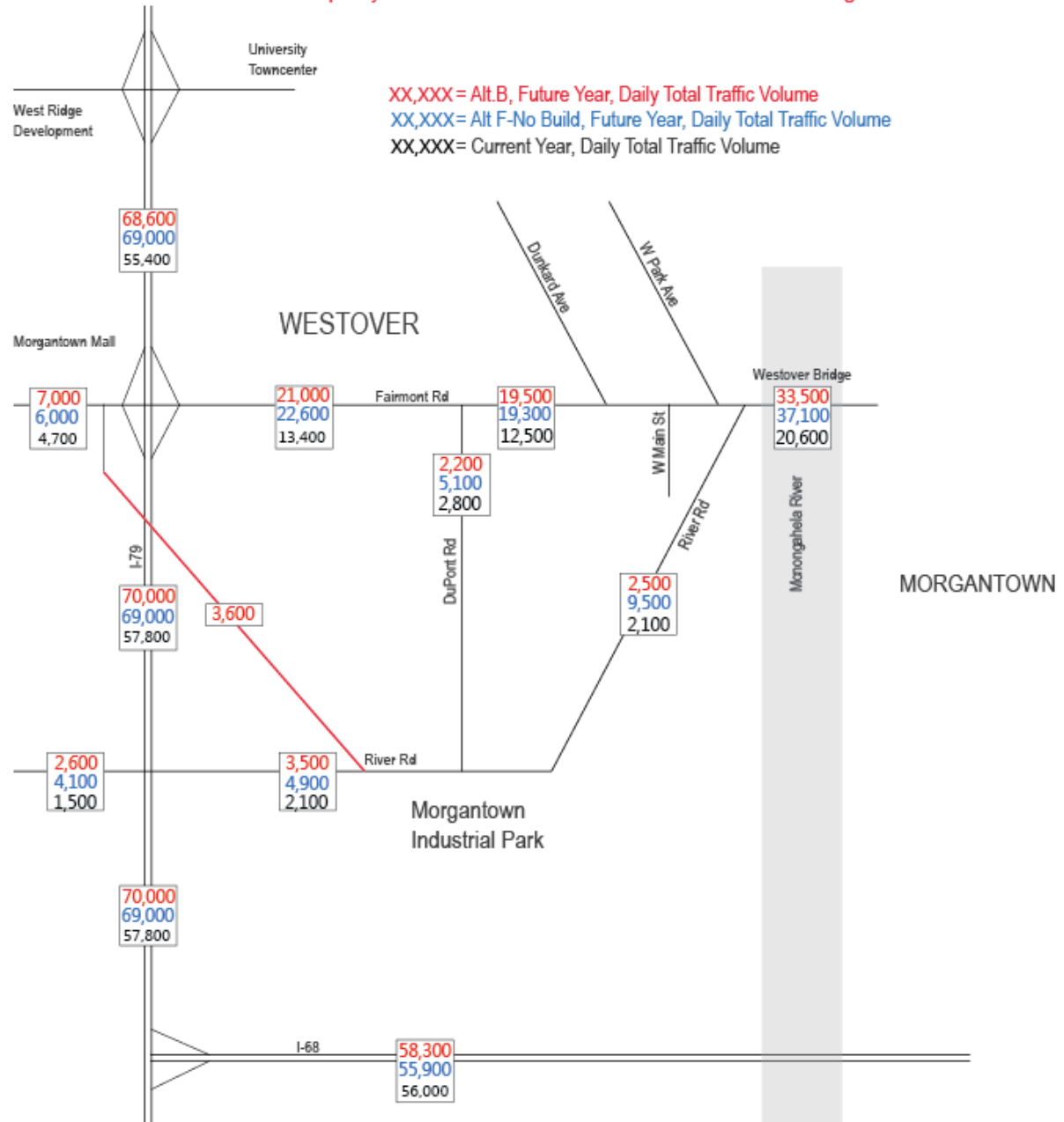


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Morgantown Industrial Park Access Study | Alternative Evaluation-Traffic Impact

### Alternative B Traffic Impact Evaluation

Alt. B Future Year Network Modification:

- New connecting road from River Rd to S Dents Run Rd across I-79
- Decreased capacity on River Rd between DuPont Rd and Westover Bridge



Notes: Traffic Model is developed based on the MPO's Travel Demand Model, West Ridge Model-Senario Widened Mall Road, 2017. Diagram is not to scale

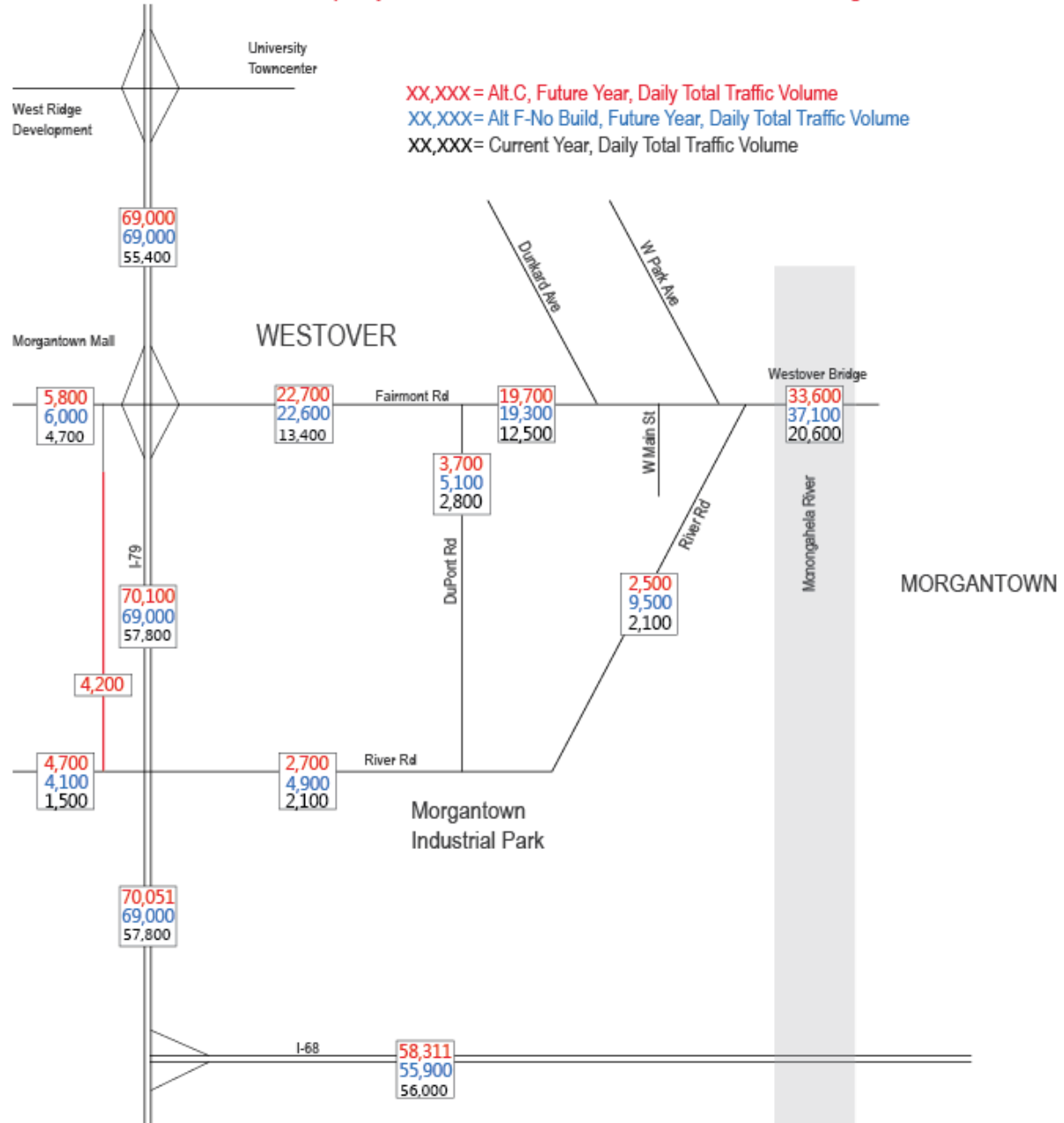


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Morgantown Industrial Park Access Study | Alternative Evaluation-Traffic Impact

### Alternative C Traffic Impact Evaluation

Alt. C Future Year Network Modification:

- New connecting road from River Rd to S Dents Run Rd across I-79
- Decreased capacity on River Rd between DuPont Rd and Westover Bridge



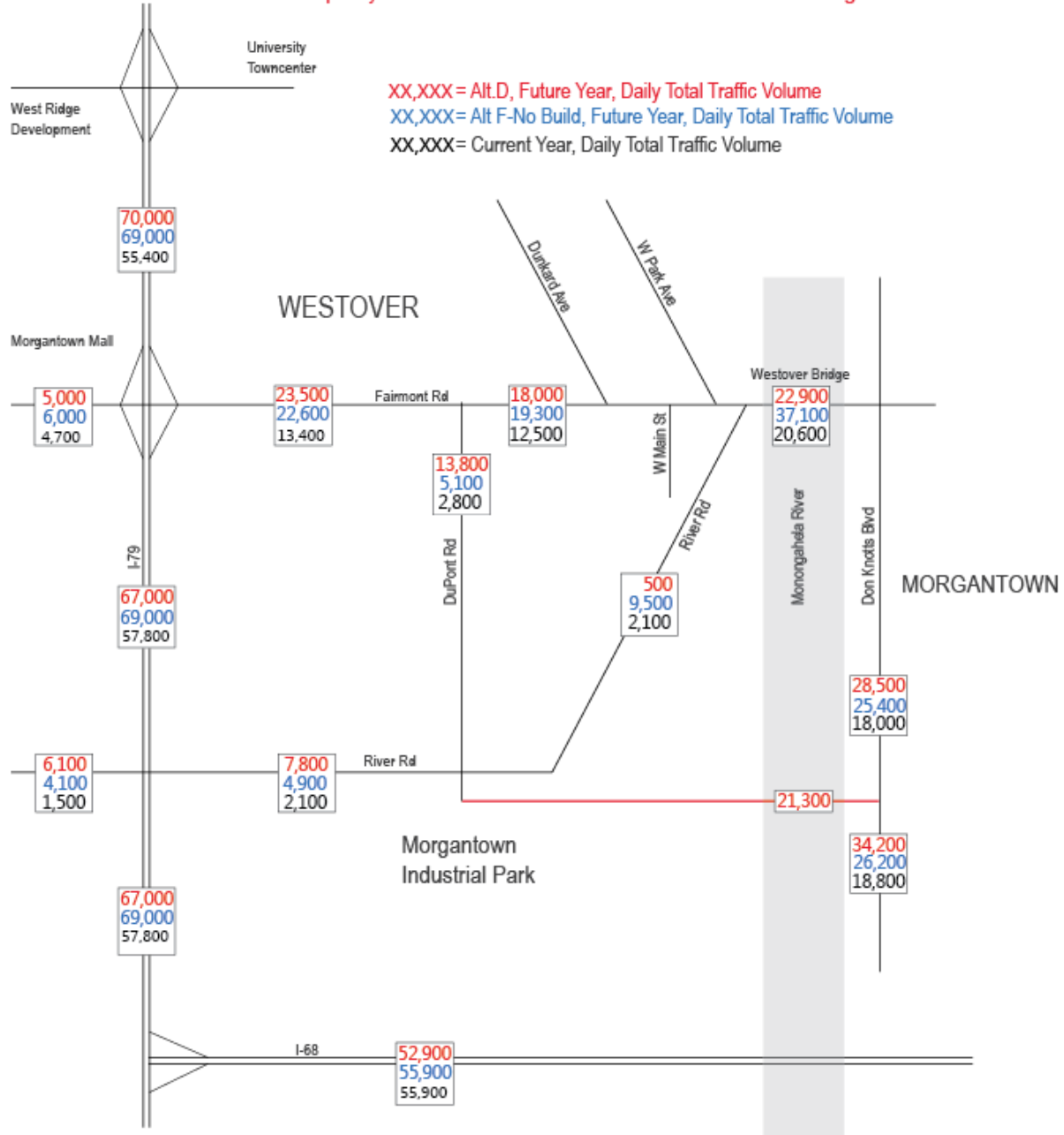
Notes: Traffic Model is developed based on the MPO's Travel Demand Model, West Ridge Model-Scenario Widened Mall Road, 2017. Diagram is not to scale



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Morgantown Industrial Park Access Study | Alternative Evaluation-Traffic Impact

### Alternative D Traffic Impact Evaluation

- Alt. D Future Year Network Modification:**
- New bridge connecting DuPont Rd to US 119 near the BFS gas station
  - Decreased capacity on River Rd between DuPont Rd and Westover Bridge



Notes: Traffic Model is developed based on the MPO's Travel Demand Model, West Ridge Model-Scenario Widened Mall Road, 2017. Diagram is not to scale

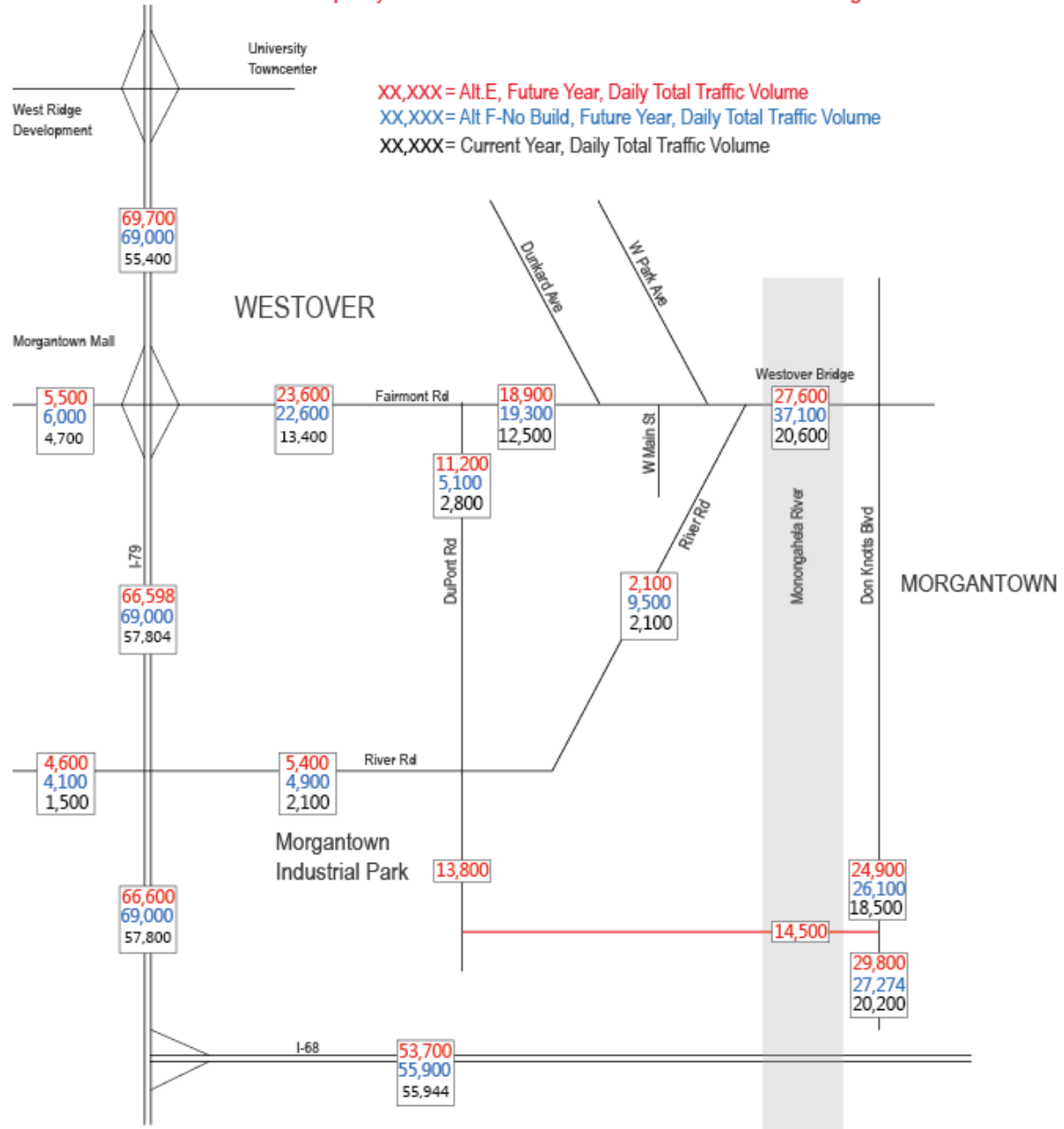


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Morgantown Industrial Park Access Study | Alternative Evaluation-Traffic Impact

### Alternative E Traffic Impact Evaluation

Alt. E Future Year Network Modification:

- New bridge connecting DuPont Rd to US 119 at the Greenbag Rd intersection
- Decreased capacity on River Rd between DuPont Rd and Westover Bridge



Notes: Traffic Model is developed based on the MPO's Travel Demand Model, West Ridge Model-Scenario Widened Mall Road, 2017. Diagram is not to scale

## Traffic Operations Analysis

The regional travel demand modeling conducted for the study shows a significant increase in the traffic on River Rd between DuPont Rd and the Westover under the no build scenario. The model projects that the daily average daily traffic on River Road will increase from 2,100 ADT to 9,500 ADT. In reviewing this finding, MPO staff determined that there should be an operational analysis at the intersection of River Rd and Fairmont Road at the Westover Bridge. The operational study was based on the projected future year AM and PM peak hour volumes at the intersection.

Synchro 9 was used in the traffic operation analysis.

### Data Input

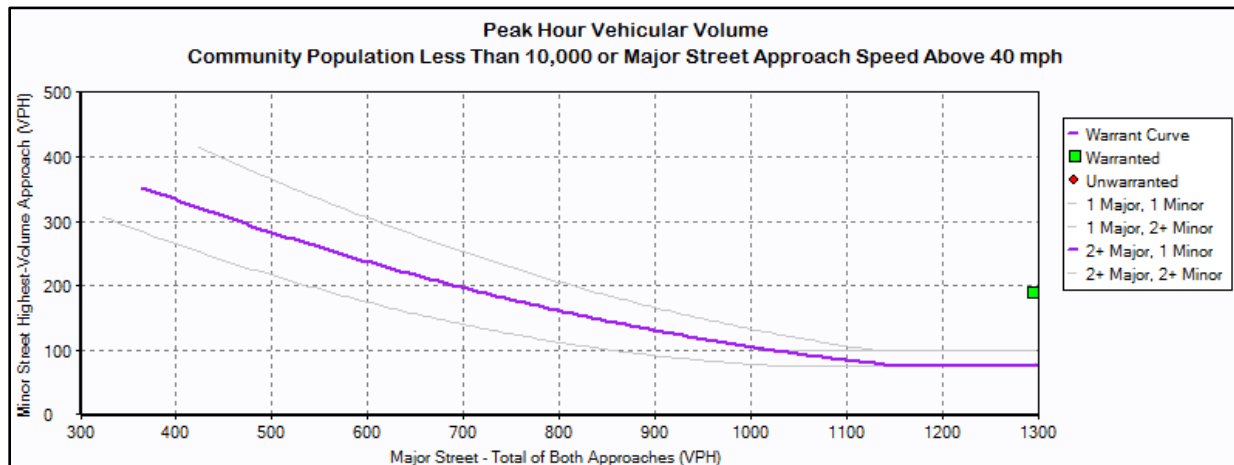
Turning movement volume at the intersection was estimated based on the directional volumes during AM and PM peak hours, projected by the MPO’s regional travel demand model.

	Holland Ave (EB)			Westover Bridge (WB)			River Rd (NB)		
	L	T	R	L	T	R	L	T	R
AM Peak Hour Volume		2,233	46	120	1,874		11		180
PM Peak Hour Volume		3,539	130	200	2,748		20		282

### Analysis outcome

- Both AM and PM peak hour traffic conditions at the intersection meet Federal 2009 Traffic Signal Warrant: Warrant 3-Peak Hour
- Both AM and PM peak hour traffic conditions at the intersection meet Federal 2009 Traffic Signal Warrant: Warrant 8-Roadway Network

The following diagram illustrates the relationship of warrant curve (purple line) to the projected traffic conditions at the intersection (green square):



## Conclusion

This study was conducted to determine the need for an amendment of the Morgantown Monongalia Metropolitan Planning Organizations Transportation Plan to include additional access to the Morgantown Industrial Park. The Study examined seven alternatives including the “no build” option of upgrading River Road to eliminate slides that have limited access to the Morgantown Industrial Park and forced all traffic including heavy truck traffic and emergency services vehicles to exclusively use DuPont Road.

The results of the Study show that there is a significant need to provide reliable access to the Industrial Park. This result is due to the need for reliable emergency services access from at least two different roads and to diffuse truck traffic in Westover proper as well as to accommodate future growth at Morgantown Industrial Park. Any of the “build alternatives” examined in this study could accommodate the future traffic projected for the area and either of the new bridges proposed over the Monongahela River could reduce projected traffic on the existing Westover Bridge. However all of the build alternatives also face concerns about the benefit provided in relation to the potentially high cost of construction. The cost benefit ratios for the new bridge alternatives are of particular concern. Similarly, the alternatives proposing a new interchange with I-79 have concerns with the spacing of the interchanges in the network- if the study area is not reclassified as urban in the next Census a proposed interchange will not meet AASHTO standards, there are also concerns with the potential grades of the ramps on the proposed interchanges.

The no-build alternative could also be made to work with future traffic. However, if the no-build alternative is determined to be the preferred alternative there is a very real concern that the intersection of River Road and Fairmont Road which is in very close proximity to the Monongahela River Bridge could become a serious choke point on the network because the intersection will most likely need to be signalized. This choke point could potentially impact the transportation network on both sides of the river including downtown Morgantown and traffic well into downtown Fairmont.

For the reasons noted above this study is recommending that the Metropolitan Transportation Plan be amended to include additional access to the Morgantown Industrial Park. The study does not recommend any particular alternative because all of the alternatives under consideration have significant concerns that can be addressed, but that are beyond the scope of this study to address. Therefore, this study recommends that a more detailed engineering study addressing these issues be performed to determine a preferred alternative.