

WV 2 Improvements—New Cumberland Madison and Chester Streets Intersection Environmental Assessment

Hancock County, West Virginia

State Project: U315-2-6.20 00
Federal Project: NFA-2317(027)D

**U.S. Department of Transportation
Federal Highway Administration**



**West Virginia Department of Transportation
Division of Highways**



April 2019; Revised May 2019 and July 2019

State Project Number: U315-2-6.20 00
Federal Project: NFA-2317(027)D

WV 2 Improvements—New Cumberland
Madison and Chester Streets Intersection
Hancock County, West Virginia

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332(2)(c) by the U.S. Department of Transportation, Federal Highway Administration
and the West Virginia Department of Transportation - Division of Highways

7-31-19

DATE OF APPROVAL

James W. Miller, P.E.
FOR WEST VIRGINIA DIVISION OF HIGHWAYS

8-14-19

DATE OF APPROVAL

John E. Hark
FOR FEDERAL HIGHWAY ADMINISTRATION

The following persons may be contacted for additional information concerning this document.

Mr. Jason Workman Director - Program Development Federal Highway Administration 154 Court Street Charleston, WV 25301	Mr. Ben Hark Environmental Section Head, Engineering Division West Virginia Division of Highways West Virginia Department of Transportation 1334 Smith Street Charleston, WV 25301
---	---

Comments on this Environmental Assessment are due by _____ and should be sent to:

Mr. RJ Scites, P.E.
Director, Engineering Division
West Virginia Department of Transportation
1334 Smith Street
Charleston, WV 25301

EA TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
HOW HAS THE PUBLIC BEEN INVOLVED IN THE PROJECT?.....	2
WHAT IS THE PURPOSE AND NEED FOR THIS PROJECT?.....	3
Geometric Conditions	4
Safety	5
IS THE PROJECT CONSISTENT WITH OTHER AREAWIDE PLANS?	6
WHAT ALTERNATIVES WERE CONSIDERED?	8
No-Build	8
Alternative 1	8
Alternative 2	4
Alternative 3	13
Alternative 4	15
Alternative 5A	17
TSM Alternative	19
Mass Transit Alternative	20
Comparison of the Build Alternatives.....	20
WHAT ARE THE POTENTIAL IMPACTS OF THE PROJECT?	24
HOW WILL THE ALTERNATIVES IMPACT SECTION 4(F) RESOURCES?	47
Alternative 1	47
Alternative 2	48
Alternative 3	48
Alternative 4	49
Alternative 5	51
WILL THERE BE SECONDARY OR CUMULATIVE IMPACTS FROM THE PROJECT?	52
MITIGATION OF IMPACTS FOR ALTERNATIVES 4 AND 5A	56

CONCLUSION	71
RESOURCE AGENCY COORDINATION	71
REQUIRED PERMITS	71
REFERENCES	72
LIST OF PREPARERS AND REVIEWERS.....	74
DISTRIBUTION LIST.....	75

LIST OF TABLES

1 Build Alternatives Summary Matrix.....	21
2 Analysis of Purpose and Need	22
3 Potential Impacts of Alternatives 1, 2, and 3	33
4 Potential Impacts of Alternatives 4, 5A, and No-Build	40
5 Mitigation Commitments Associated with Alternative 1	57
6 Mitigation Commitments Associated with Alternative 2	60
7 Mitigation Commitments Associated with Alternative 3	62
8 Mitigation Commitments Associated with Alternative 4	65
9 Mitigation Commitments Associated with Alternative 5A.....	68
10 Agency Distribution List.....	75

LIST OF FIGURES

1 Alternative 1.....	10
2 Alternative 2.....	12
3 Alternative 3.....	14
4 Alternative 4.....	16
5 Alternative 5A	18
6 Environmental Features and Alternative 1.....	25
7 Environmental Features and Alternative 3.....	26
8 Environmental Features and Alternative 2.....	28
9 Environmental Features and Alternative 4.....	30
10 Environmental Features and Alternative 5A	32

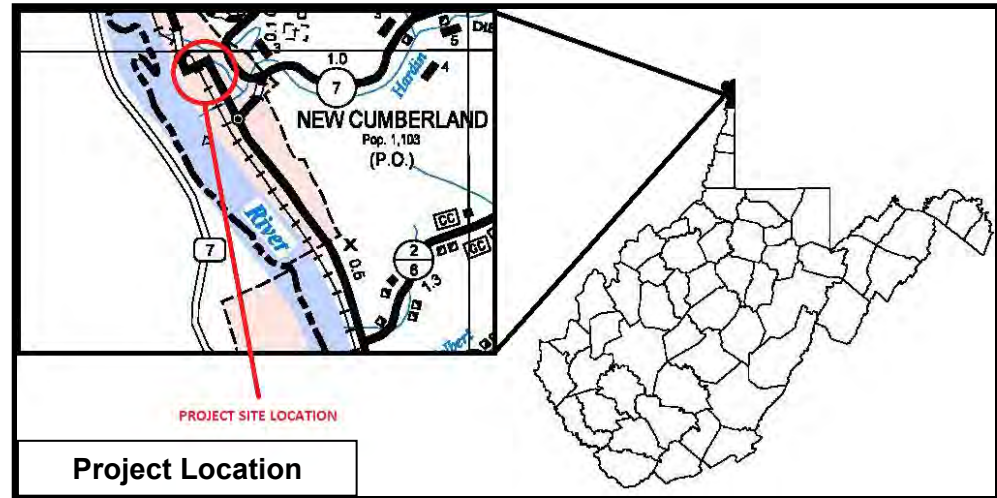
PHOTOS AND ILLUSTRATIONS

Project Location	1
Public Meeting at John D. Rockefeller IV Career Center	2
WV 2 Looking North toward the Madison and Chester Streets Intersection	4
STIP 2016-2021	7
Looking East on Madison Street.....	9
Rail Crossing and Closed Automotive Repair Shop on Madison Street.....	11
First National Bank/Graham Building	13
Entrance to New Cumberland City Park.....	15
Chester Street Playground.....	19
S. Widening – Typical Section	24
New Construction – Typical Section.....	27
Cross Section – Alternatives 4 and 5A.....	29
Pride Park.....	47
New Cumberland City Park Playground	50

APPENDIX A – PUBLIC INVOLVEMENT MATERIALS
APPENDIX B – DESIGN AND FEASIBILITY REPORT
APPENDIX C – ENVIRONMENTAL JUSTICE ANALYSIS
APPENDIX D – AGENCY CORRESPONDENCE
APPENDIX E – NOISE ANALYSIS
APPENDIX F – PHASE I ESA

INTRODUCTION

The West Virginia Division of Highways (WVDOH), in cooperation with the Federal Highway Administration (FHWA), proposes to improve WV 2 at the intersection of Madison and Chester streets in the City of New Cumberland. New Cumberland is located in West Virginia's northern panhandle and is the Hancock County seat. As it passes through New Cumberland, WV 2 functions as both a through-route for heavy truck traffic and a local street for the city. This mixing of different functional traffic has caused many transportation conflicts between local and regional traffic.



This Environmental Assessment (EA) is being prepared by the WVDOH, in conjunction with the FHWA, to fulfill requirements of the *National Environmental Policy Act of 1969* (NEPA) and related transportation planning development laws. NEPA requires that the potential for environmental impacts be assessed for every federal action that *could significantly affect the quality of the human environment*. WVDOH determined that the project will result in residential and business displacements and may impact historic resources and community facilities. The significance of the potential impacts was unclear early in the study process, however, and the project was advanced with an EA. An EA is the appropriate NEPA document when the significance of the potential environmental impact is not clearly established.

HOW HAS THE PUBLIC BEEN INVOLVED IN THE PROJECT?

The community was introduced to the project at a public meeting held on May 29, 2014, at the John D. Rockefeller IV Career Center, just north of New Cumberland. The purpose of the meeting was to help identify areas along WV 2 that could benefit from transportation improvements. Approximately 25-30 people attended the meeting and offered comments. Over half of the comments received were in favor of an alternative that used some combination of S. Chester Street, Pottery Road, and Industrial Park Road. Copies of the materials presented to the public at this meeting are included in this EA as Appendix A.

A second public informational meeting for the project was held on July 12, 2017, also at the John D. Rockefeller IV Career Center, to specifically address the intersection of Madison and S. Chester streets in New Cumberland. The goal of the meeting was to present current information on the project, answer questions from the public, and listen to ideas or concerns from community residents and businesses. Both meetings complied with the public involvement requirements of NEPA and Section 106 of the *National Historic Preservation Act*.

Approximately 50 people attended the second public informational meeting where the WVDOH presented five potential alternatives for the project. The alternatives are described further in this EA. All information presented at the meeting was also available online at the WVDOH project website (<http://go.wv.gov/dotcomment>).

At the second meeting, written comments were received from 28 individuals or businesses, either at the meeting, through subsequent correspondence, or from online forms. People providing comments offered engineering ideas for project alternatives; voiced their preferences for specific



alternatives; or expressed concern about current levels of truck traffic, future traffic movements, environmental conditions, and residential and commercial displacements. Copies of the materials presented to the public at this meeting are included in this EA as Appendix A. A third public meeting at a location and date to be announced will be held to allow agency representatives, local residents, business owners, and public officials an opportunity to comment on the EA. All substantive comments will be addressed in the environmental document.

Special purpose meetings have also occurred between WVDOH staff and New Cumberland officials in 2014 and 2017. During these meetings, information, ideas, and concerns were shared between the City and WVDOH on current truck traffic, safety issues, and the status of preliminary plans for the intersection.

WHAT IS THE PURPOSE AND NEED FOR THIS PROJECT?

Studies to improve WV 2 were first initiated in 2004. WV 2 carries approximately 7,000 vehicles per day through the City of New Cumberland. Over 10 percent of these vehicles are trucks, many of them tractor trailers and other types of large, over-the-road vehicles. The efficiency of traffic flow is hindered by two 90-degree turns on Madison and Chester streets.

The steep grade and tight width on Madison Street also compound traffic movement through New Cumberland, creating an undesirable condition for motorists and pedestrians.

The section of road of most concern extends from Jefferson Street to Court Street following WV 2. This section of WV 2 is approximately 1,200 feet long and is located between mileposts 7.85 and 8.08.

As a result of the WVDOH transportation planning efforts, project scoping, and public comments, a specific purpose and need was established for the project. WV 2 is the principal north-south route in Hancock County and the major access route for the northern panhandle. The project is needed to correct inadequate geometric conditions, and address safety concerns.

Geometric Conditions

The inadequate geometric layout of the roadway is compounded by the narrow lane width of WV 2 within the city limits, the traffic mix of large trucks and smaller vehicles, and the steep conditions of Madison Street and Ridge Avenue. Some segments of WV 2 are four lanes in Hancock County, but the section that passes through New Cumberland remains two lanes. New Cumberland is a small town along the Ohio River. Similar to other towns in West Virginia's northern panhandle, WV 2 serves as a local street. Although functionally classified as a Rural Principal Arterial, WV 2 at this location also carries much local traffic and provides access to adjacent buildings and property. Based on FHWA transportation planning criteria, rural arterials generally serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel; connect urbanized areas; and provide an integrated network of continuous routes (FHWA 2018). Local streets, however, are not intended for use in long distance travel due to their need to provide direct access to abutting land.



The speed limit on WV 2 in New Cumberland is 25 mph. Traffic consists of all types of vehicles including cars and passenger trucks, long-haul commercial carriers, buses, and delivery trucks. In 2016, the Average Daily Traffic (ADT) on WV 2 in the vicinity of this

intersection was 6,630 vehicles per day with truck traffic as high as 10 percent of the traffic. During peak hours, truck traffic is as high as 4 percent of the total volume. Traffic is expected to grow by 10 percent to approximately 7,300 vehicles per day by the year 2033 (WVDOH 2016a).

Vehicles using WV 2 encounter two 90-degree reverse turns while driving through New Cumberland. The first is at the intersection of Madison and Chester streets and the second is east on Madison Street where it transitions to Ridge Avenue. Roadway curves make it difficult for trucks to navigate through the area without driving onto the sidewalks. Trucks passing through the intersection of Madison and Chester streets often swing wide to make their turn, creating a traffic bottleneck in both directions. The large tractor-trailers that use WV 2 also tend to “jump the curb” as they pass through the intersection. The existing geometric conditions are documented in detail in the project’s feasibility report (WVDOH 2017). A copy of that report is attached to this EA as Appendix B.

Safety

Heavy trucks going south on WV 2 from Chester to Madison Street tend to climb the sidewalk on the south side of Madison Street. While trucks heading north from Madison to Chester Street are usually able to navigate the turn without jumping the curb, the north corner of Madison and Chester streets shows evidence that this does occasionally happen. The area sees a considerable amount of pedestrian traffic due to the proximity of the Hancock County Courthouse and related government buildings and restaurants in the New Cumberland business district. Many workers from the county buildings walk from their jobs to the restaurants at lunch time, and these areas can be difficult to negotiate even when pedestrians use the designated crosswalks or sidewalks (WVDOH 2017).

Farther south on Madison Street the width of the roadway is only 16 feet. When two trucks pass on this narrow road, southbound trucks will often ride the sidewalk to allow room for northbound trucks to pass. At the same time, northbound trucks tend to cross the centerline in this area, creating an unsatisfactory condition for pedestrians on the sidewalk and passenger vehicles alike.

Vehicles and pedestrians also encounter two at-grade railroad crossings on WV 2. The first is at the top of Madison Street and the second is on Chester Street at the northern edge of the business district. Neither of the two rail crossings on WV 2 in New Cumberland is gated. While there is limited train traffic through town and trains observe a 10 MPH speed limit, the stacking of truck and car traffic waiting for trains on a through-highway increases the chances of non-train collisions at these locations. Non-train collisions include rear end collisions when a stopped vehicle at a crossing is hit from the rear; collisions with fixed objects such as signal equipment or signs; and non-collision accidents in which a driver loses control of the vehicle. Non-train collisions at rail crossings are a particular concern to the WVDOH and FHWA, especially with regard to the transportation of hazardous materials by truck and the transportation of passengers, particularly on school buses (FHWA 2007).

Crash data for the three-year period from April 2010 to April 2013 show that there have been 11 crashes in the project area. While crashes decreased to five for the following three-year period from April 2013 to 2016, there was one fatal accident during the second period as well as two other accidents that resulted in personal injuries (WVDOH 2018).

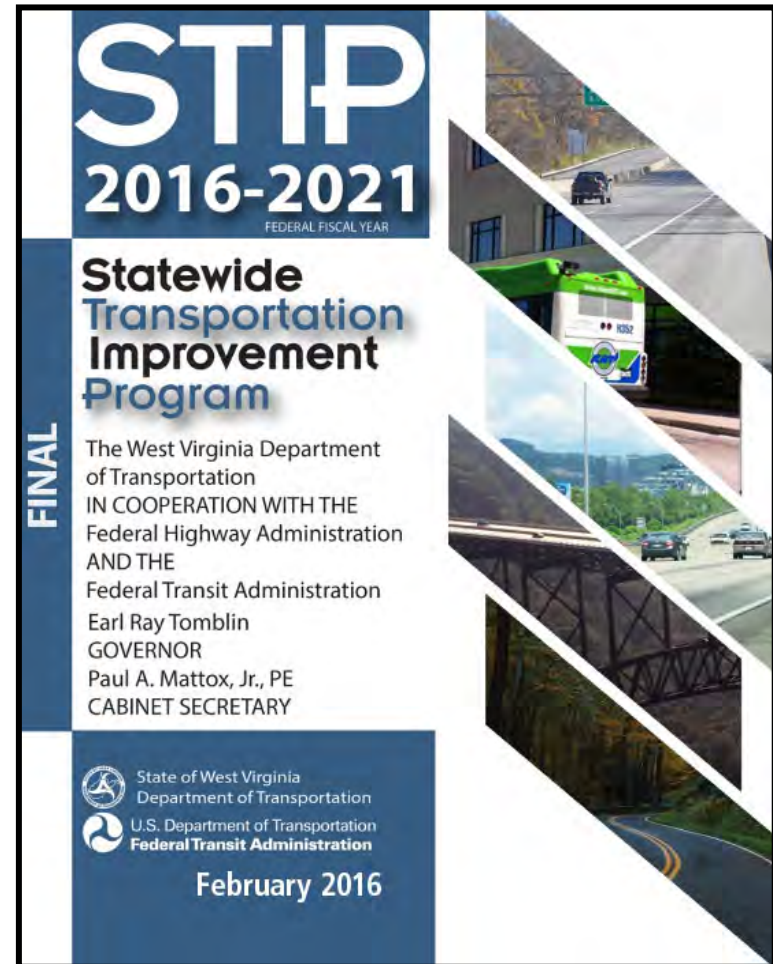
IS THE PROJECT CONSISTENT WITH OTHER AREAWIDE PLANS?

The proposed project is consistent with the *West Virginia Multi-Modal Statewide Transportation Plan* (WVDOH 2010), West Virginia's principal long-range transportation planning document. The *West Virginia Multi-Modal Statewide Transportation Plan* is a policy document that evaluates current needs, revenue, and expenditures across all transportation modes. One of the major goals of this plan is to develop a modern transportation system that supports economic development goals and serves the needs of West Virginia citizens.

The project is in the *Statewide Transportation Improvement Program* (STIP) 2016-2021. The STIP is the state's plan of action for funding transportation projects. It includes a wide variety of projects such as roadway, bridge, bicycle, pedestrian, safety, and public transportation (transit) projects (WVDOH 2016b).

At the regional level, the project is also consistent with the *2040 Regional Transportation Plan* and the *2018-2021 Transportation Improvement Program* (TIP). The regional transportation plan has been developed by the Brooke-Hancock-Jefferson Metropolitan Planning Commission to identify the projects and programs needed to provide an efficient, effective, and functional transportation system to serve residents, businesses, and visitors (BHJ 2016). The relocation of WV 2 through New Cumberland is listed as a priority project in the plan. The Brooke-Hancock-Jefferson Metropolitan Planning Commission is the area's designated metropolitan planning organization (MPO) for transportation project development. The project is also listed on the region's TIP (BHJ 2017). Like the STIP, projects to be funded with state and federal money must be listed on the TIP before they can be advanced. The Brooke-Hancock-Jefferson Metropolitan Planning Commission is responsible for transportation project development within the three-county area that includes Hancock County.

At the local level, the project is consistent with the Brooke-Hancock Regional Planning and Development Council's *Comprehensive Economic Development Strategy*. This planning strategy was developed specifically for the two West Virginia counties that are part



of the MPO. It cites the need to address commercial truck traffic travelling through New Cumberland on WV 2 as a priority (BHPDC 2014).

WHAT ALTERNATIVES WERE CONSIDERED?

Several alternatives were evaluated throughout the course of the project, including a No-Build option, five build alternatives, a transportation systems management (TSM) alternative, and a mass transit alternative. The following is a description of each of them.

No-Build

Under the No-Build option, routine maintenance and minor safety improvements will continue on Madison and Chester streets, but no geometric changes to the intersection will occur. Due to the current geometry of the intersection, the No-Build option will not correct any of the problems associated with the deficiencies of the intersection, traffic movement through it, or the two at-grade rail crossings. Because of that, it is not considered a viable option. The No-Build option, however, is carried through the entire environmental and project development processes for comparison purposes.

Alternative 1

Alternative 1 (Figure 1) improves the 90-degree turns by widening the existing alignment and improving the intersection at Madison and Chester streets. Chester Street is tapered outward to make a wider intersection at Madison Street. This creates a 52-foot-wide entrance onto Chester Street from Madison Street, creating an offset intersection for vehicles traveling south on Chester Street. The edge of the northbound lane is shifted approximately 8 feet from the existing curb. This allows northbound trucks a greater turning radius to avoid running on the sidewalk on the northeast corner of the intersection. The majority of the widening is on the inside of the turn. There is no change to either of the two railroad crossings so traffic will still encounter periodic stoppages as the trains move through town.

Alternative 1 requires a complete taking of the McNeil Building on S. Chester Street. This building is eligible for the National Register of Historic Places (NRHP). The first floor of the McNeil Building is vacant but is set up for two businesses. The second floor and rear of the building have four occupied apartments. With the demolition of the McNeil Building, Alternative 1 would also have an indirect adverse effect on the NRHP-listed First National Bank/Graham Building on N. Chester Street.

Alternative 1 will require taking a six-unit apartment building on Madison Street. It will also require sliver property takes from another apartment building and a closed automotive repair shop on Madison Street, and two houses and a funeral home on N. Chester Street. It also impacts four potentially hazardous waste sites. There will be no impacts to streams or wetlands with Alternative 1. The estimated cost of Alternative 1 is \$3.1 million, including engineering, right-of-way acquisition, utility relocation, environmental analysis, permitting, and construction costs.





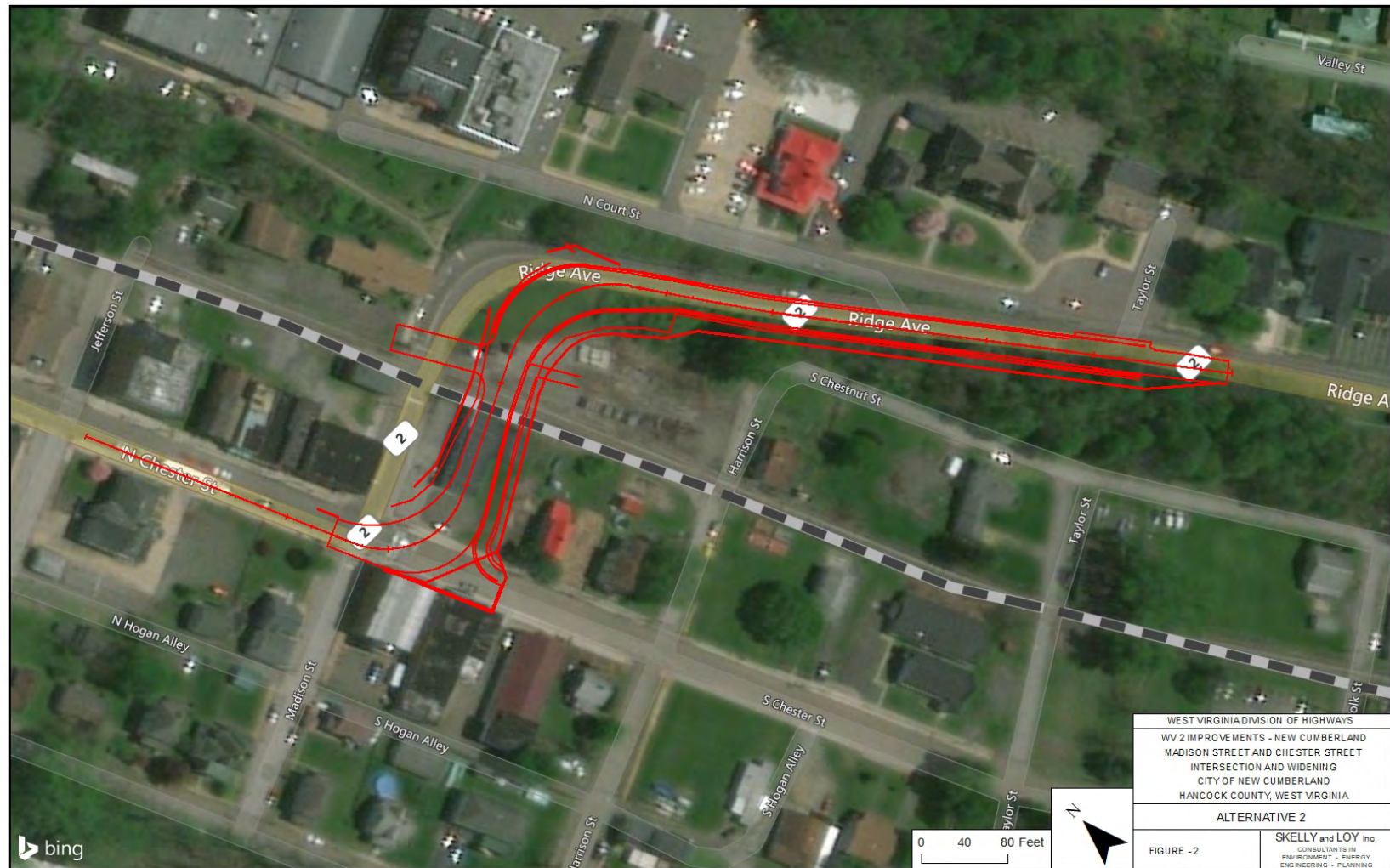
Alternative 2

Alternative 2 (Figure 2) improves the 90-degree turns by shifting the road between them approximately 70 feet to the south and widening the Madison and Chester streets intersection. This provides northbound trucks a greater turning radius. A 55-foot wide travelway is provided in the center of this new curve. The second 90-degree curve leading up to Ridge Avenue is widened to 52 feet to help trucks navigate this curve without crossing the centerline.

Alternative 2 also maintains a perpendicular crossing at the railroad tracks on Madison Street, but at a new location about 40 feet to the east. The rail crossing on N. Chester Street remains at its present location. As a result, there will continue to be periodic stoppages of vehicular traffic to allow rail movements through town.

Alternative 2 will require the taking of the closed automotive repair shop on Madison Street (one of four potentially hazardous waste sites impacted by this alternative) as well as a house on S. Chester Street. There will also be sliver takes of vacant land on the west side of Ridge Avenue. There will be no impacts to streams or wetlands. Alternative 2 will have an indirect adverse effect on the NRHP-eligible McNeil Building on S. Chester Street.





The estimated cost of Alternative 2 is \$3.4 million, including engineering, right-of-way acquisition, utility relocation, environmental analysis/permitting, and construction costs.

Alternative 3

Alternative 3 (Figure 3) is very similar to Alternative 1, but instead of creating a skewed intersection and widening to the south, Alternative 3 improves the inside radius at the intersection of Madison and Chester streets. This will provide northbound trucks a greater turning radius, thereby allowing trucks to stay in the intersection and not jump onto the northeast corner's sidewalks. The next 90-degree curve on Madison Street where it transitions to Ridge Avenue is widened to 52 feet to help trucks navigate this curve without crossing over the centerline.

Alternative 3 maintains the perpendicular crossing of the railroad tracks on Madison Street and the crossing on N. Chester Street (WV 2) at their current locations. As a result, this alternative will neither eliminate nor lessen the daily bottleneck caused by rail operations in town.

Alternative 3 requires a complete taking of the First National Bank/Graham Building, a NRHP-listed resource. Both floors of the building are vacant. This alternative would also result in an indirect adverse effect on the NRHP-eligible McNeil Building on S. Chester Street. Alternative 3 will require the complete taking of three vacant row businesses attached to the north side of the bank building and an apartment building containing two units on Madison Street just west of





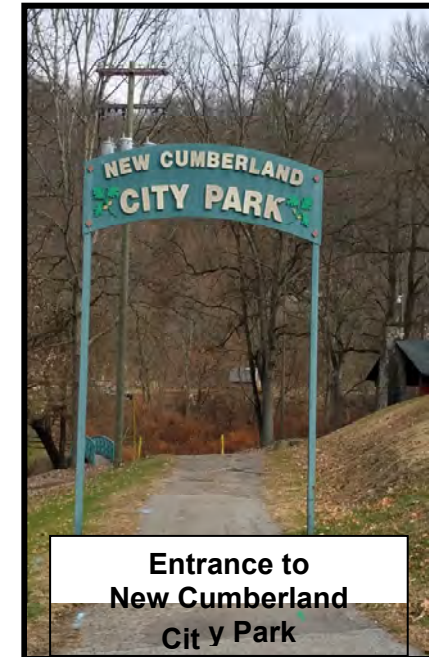
the railroad tracks. It will also require taking a six-unit apartment building on Madison Street on the east side of the railroad tracks. There will also be sliver takes of vacant land on the west and northeast sides of Ridge Avenue and impacts to two potentially hazardous waste sites. There will be no impacts to streams or wetlands.

The estimated cost of Alternative 3 is \$4.1 million, including engineering, right-of-way acquisition, utility relocation, environmental analysis/permitting, and construction costs.

Alternative 4

Alternative 4 (Figure 4) improves the existing 90-degree turns by creating a short bypass of the existing road to the east of the commercial district. This new segment begins near Hardin Run on the north, parallels existing railroad tracks, and ends on Ridge Avenue just north of the Swaney Memorial Library. This new road begins at the south end of an existing bridge on N. Chester Street (WV 2), continues southeast, and runs parallel to the railroad tracks for approximately 1,200 feet until it connects to Ridge Avenue. Alternative 4 eliminates both at-grade railroad crossings and both 90-degree turns.

Alternative 4 requires the complete taking of three businesses (Raiders Grill, Family Touch Hair Salon, and a tanning parlor) and two houses on Park Place, as well as the six-unit apartment building on Madison Street. It will also impact the New Cumberland City Park, a Section 4(f) and Section 6(f) resource, and a city wastewater pumping station located on park property.





The alternative will likely displace the playground in the park, but the playground could be relocated away from the new road at an approximate cost of \$100,000 (Playcore 2018). There is also an impact to four potentially hazardous waste sites. Although there will be no impacts to streams or wetlands, the northern terminus of Alternative 4 is very close to Hardin Run.

The estimated cost of Alternative 4 is \$6.9 million, including engineering, right-of-way acquisition, utility relocation, environmental analysis, permitting, and construction costs.

Alternative 5A

Alternative 5A (Figure 5) shifts WV 2 traffic from its existing route through New Cumberland to a permanent, separate route located along the S. Chester Street corridor. The route utilizes existing city streets and a new alignment beginning at the existing intersection of Madison and S. Chestnut streets south of New Cumberland. The new roadway follows the general alignment of S. Chester Street for approximately 3,000 feet and then crosses the existing Norfolk Southern Railroad tracks with a new at-grade crossing. It then follows the alignment of S. Chestnut Street and Industrial Park Road to a new intersection at Ridge Avenue. The at-grade rail crossing at N. Chester Street would remain at its current location.

Alternative 5 was modified slightly to create Alternative 5A. The modifications were made to provide better transportation geometry and to avoid the industrial complex located at the south end of New Cumberland. Alternative 5A displaces two NRHP-eligible properties, the McNeil Building and the Daniels House (a single-family dwelling located at 607 S. Chester Street), and has an indirect adverse effect on the NRHP-listed First National Bank/Graham Building on N. Chester Street.



Alternative 5A also impacts the S. Chester Street Playground (a Section 4(f) resource), one business (a 34-unit storage facility), three vacant businesses in the 100 block of S. Chester Street, a Columbia Gas transmission station, 12 residential units, three privately owned baseball fields (two of which no longer appear to be in use) that are owned by the Northern Panhandle Baseball Association, and the city's wastewater treatment plant. Some of the homes in the area are owned or rented by low-income families and individuals based on conversations with local officials, likely creating an environmental justice impact.



Alternative 5A does not impact any streams, but does impact two small wetlands. It also impacts 12 potentially hazardous waste sites. The total length of this proposed route is approximately 1.2 miles, or 6,450 feet.

The estimated cost of Alternative 5A is \$15.9 million, including engineering, right-of-way acquisition, utility relocation, environmental analysis/permitting, and construction costs.

TSM Alternative

Besides the build alternatives, conceptual TSM scenarios were considered early in the transportation development process. Through better management of the existing transportation system, TSM improvements may provide better operational control of existing levels of congestion. Often erroneously considered to always be a low-cost improvement, TSM alternatives can, in fact, be quite expensive. Typically, they include grade separations, widening shoulders, minor realignments, signalization, channelization,

pavement striping, and/or adding turning lanes. They can also include improvements related to ridesharing, bicycling, or pedestrian access. Capital improvements are often combined with other transportation enhancements to provide better overall transportation than any individual improvement strategy can achieve.

The geometric constraints of the existing roadway limit the types of TSM measures that could be used in the area. Consequently, the TSM Alternative was judged not to meet the project's purpose and need and was eliminated from further consideration.

Mass Transit Alternative

Public bus service in Hancock County is limited to the immediate Weirton area. None of the regularly scheduled Weirton fixed-route bus services extend as far as New Cumberland. A limited amount of paratransit, however, is provided by social service agencies for senior citizens, behavioral health clients, and persons with disabilities (BHJ 2016). Paratransit in the area is restricted to clients of specific social service agencies and does not serve the general public.

With no community plans to expand bus service or paratransit, a mass transit alternative was not considered for the project. Even if transit service is established in New Cumberland, it does not address the geometric conditions at the intersection of Madison and Chester streets. In fact, additional bus traffic through the intersection will aggravate the situation rather than help it.

Comparison of the Build Alternatives

Utilizing conceptual engineering design and the environmental data collected for the project, the build alternatives were screened for potential impacts and their ability to meet the project's purpose and need. Table 1 provides a comparison of the potential impact for all five build alternatives.

Table 1
Build Alternatives Summary Matrix

Resource or Element	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5A
NRHP-Listed or Eligible Resources (Direct Adverse Effect)	1	0	1	0	2
NRHP-Listed or Eligible Resources (Indirect Adverse Effect)	1	0	1	0	1
Archaeology Potential	Yes	Yes	Yes	Yes	Yes
Publicly-owned Parks	0	0	0	1	1
Public Wastewater Facilities	0	0	0	1	1
Private Recreation Facilities	0	0	0	0	3
Streams	0	0	0	0	0
Wetlands	0	0	0	0	2
Operating Businesses	0	0	0	3	1
Vacant Businesses	2	1	4	0	3
Residences (total takes)	10	1	8	8	12
Environmental Justice Impacts	No	No	No	No	Yes
Potentially Hazardous Waste Sites	4	4	4	4	12
Cost	\$3.1 million	\$3.4 million	\$4.1 million	\$6.9 million	\$15.9 million

The build alternatives were then compared to one another and the No-Build option to determine if they met the project's purpose and need and gauge how effective they will be as a transportation solution. Table 2 shows the results of that comparison.

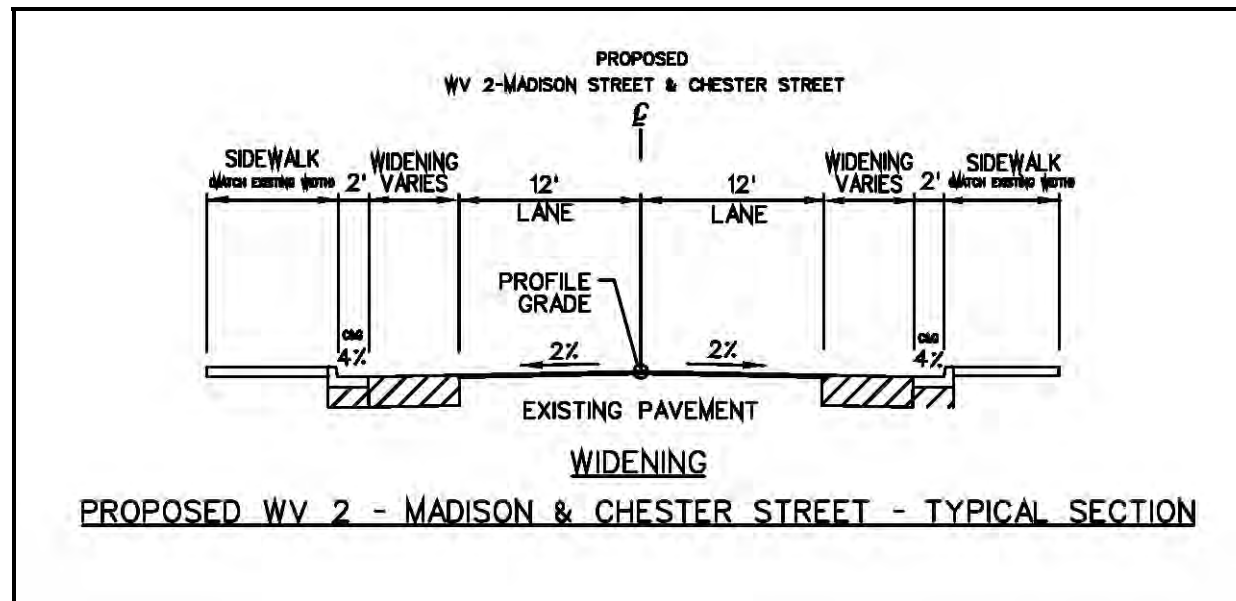
**Table 2
Analysis of Purpose and Need**

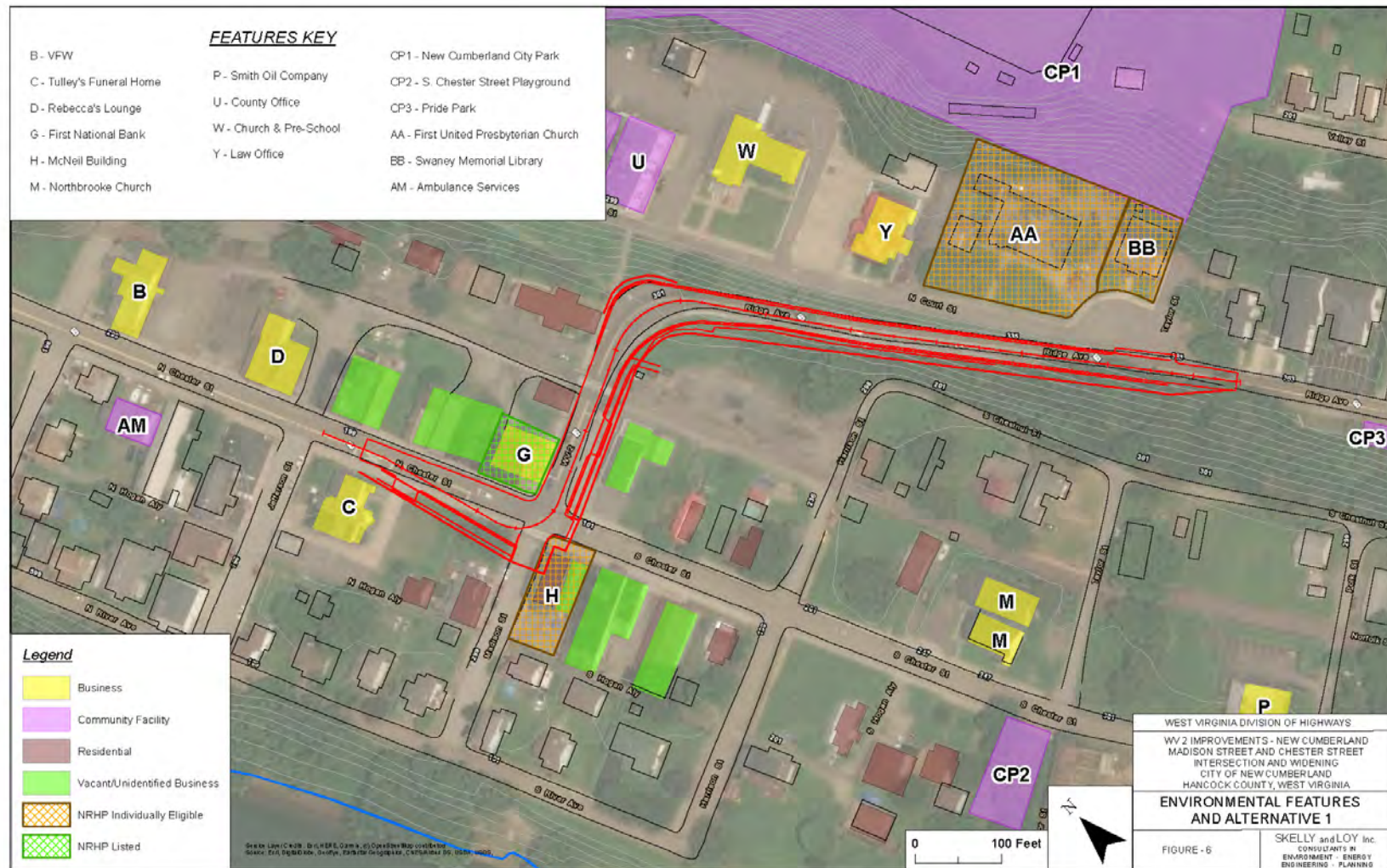
Alternative	Geometric Conditions	Safety	Meets Purpose and Need
No-Build	With no changes to the existing roadway geometry, conditions at the intersection of Madison and S. Chester streets will continue as is. Congestion and vehicle conflicts will continue causing traffic backups and on-going safety concerns.	No change in existing conditions.	No
1	The alternative will not reduce traffic volumes through the project area, which are projected to increase. There will be some improvement to the current geometric conditions at the intersection of Madison and S. Chester streets, but neither 90-degree turn will be eliminated and truck traffic will continue to have to negotiate them and the steep grade from Madison Street to Ridge Avenue, which can produce congestion. Traffic flow will be marginally better through New Cumberland.	May eliminate trucks climbing the curb and sidewalks and crossing the centerline, but the potential for pedestrian/vehicular conflict remains and the two at-grade railroad crossings are not eliminated.	Yes
2	The alternative will not reduce traffic volumes through the project area, which are projected to increase. There will be some improvement to the current geometric conditions at the intersection of Madison and S. Chester streets, but neither 90-degree turn will be eliminated and truck traffic will continue to have to negotiate them and the steep grade from Madison Street to Ridge Avenue, which can produce congestion. Traffic flow will be marginally better through New Cumberland.	By shifting the roadway to the south on Madison the alternative should eliminate trucks climbing the curb and sidewalks and crossing the centerline, but the potential for pedestrian/vehicular conflict remains and the two at-grade railroad crossings are not eliminated.	Yes
3	The alternative will not reduce traffic volumes through the project area, which are projected to increase. There will be some improvement to the current geometric conditions at the intersection of Madison and S. Chester streets, but neither 90-degree turn will be eliminated and truck traffic will continue to have to negotiate them and the steep grade from Madison Street to Ridge Avenue, which can produce congestion. Traffic flow will be marginally better through New Cumberland.	May eliminate trucks climbing the curb and sidewalks and crossing the centerline, but the potential for pedestrian/vehicular conflict remains and the two at-grade railroad crossings are not eliminated.	Yes

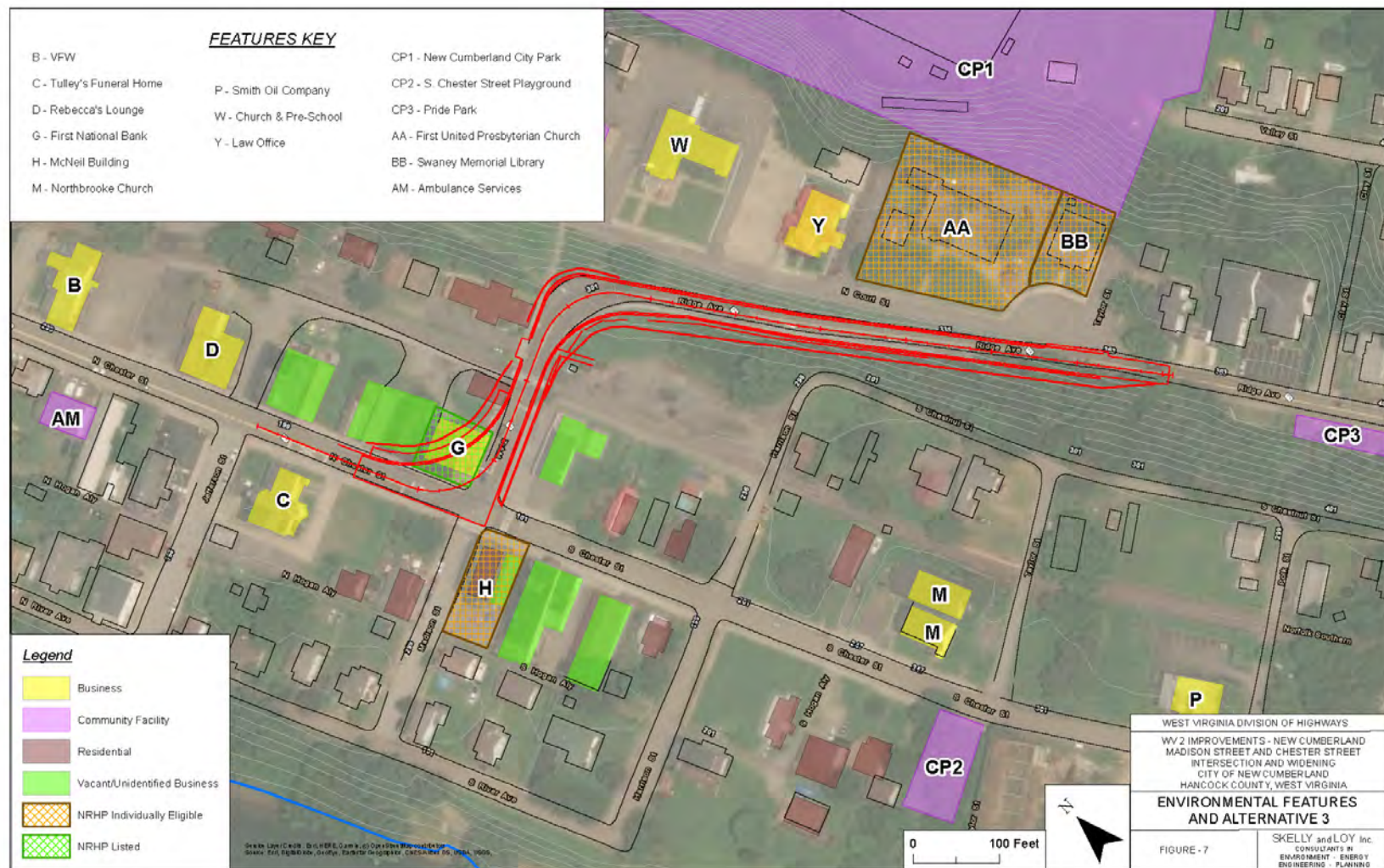
4	Both 90-degree turns will be removed, bringing the roadway up to current engineering standards. By removing truck traffic from the intersection, there will be unrestricted access for through traffic on WV 2 and unimpeded local vehicular and pedestrian traffic in New Cumberland's business district.	Safety will be improved. By eliminating the 90-degree turns truck traffic will no longer jump the curb, use the sidewalks, or cross the center line; potential pedestrian/vehicular conflict and the two at-grade railroad crossings will be eliminated.	Yes
5A	Both 90-degree turns will be removed, bringing the roadway up to current engineering standards. By removing truck traffic from the intersection, there will be unrestricted access for through traffic on WV 2 and unimpeded local vehicular and pedestrian traffic in New Cumberland's business district.	Some traffic conflicts will be reduced and safety improved. By eliminating the 90-degree turns truck traffic will no longer jump the curb, use the sidewalks, or cross the center line, but there will still be two at-grade rail crossings.	Yes

WHAT ARE THE POTENTIAL IMPACTS OF THE PROJECT?

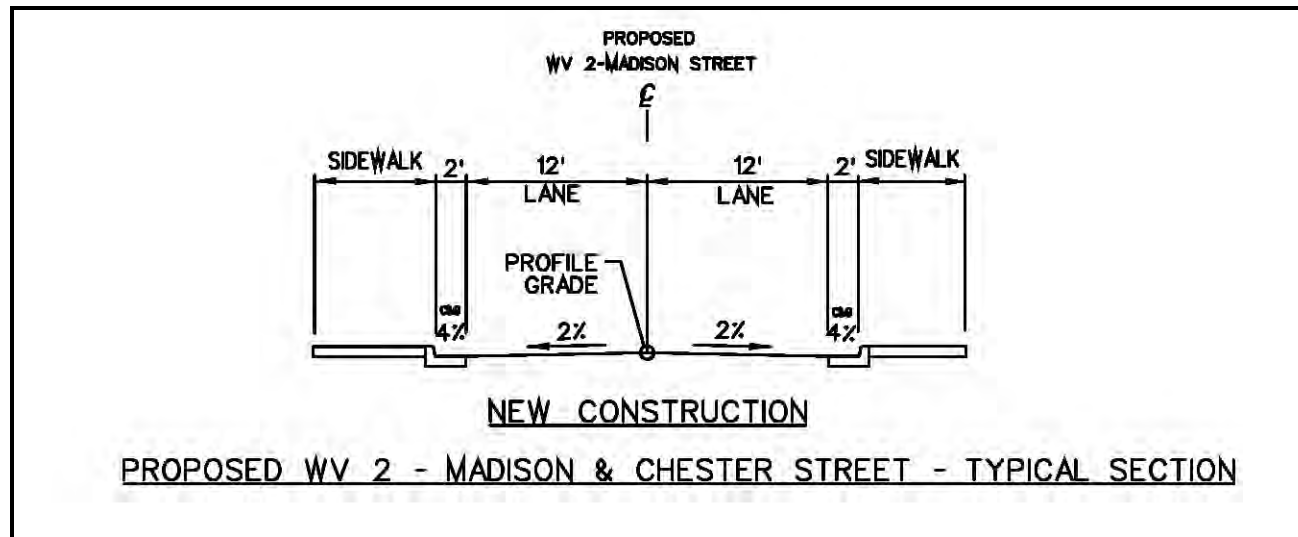
Alternatives 1, 2, and 3 are upgrades to the existing street system in New Cumberland. Alternatives 1 and 3 involve widening portions of Madison and Chester streets. A cross section is shown below. A plan view of Alternative 1 illustrating environmental features is shown on Figure 6. A plan view of Alternative 3 illustrating the environmental features is shown on Figure 7.

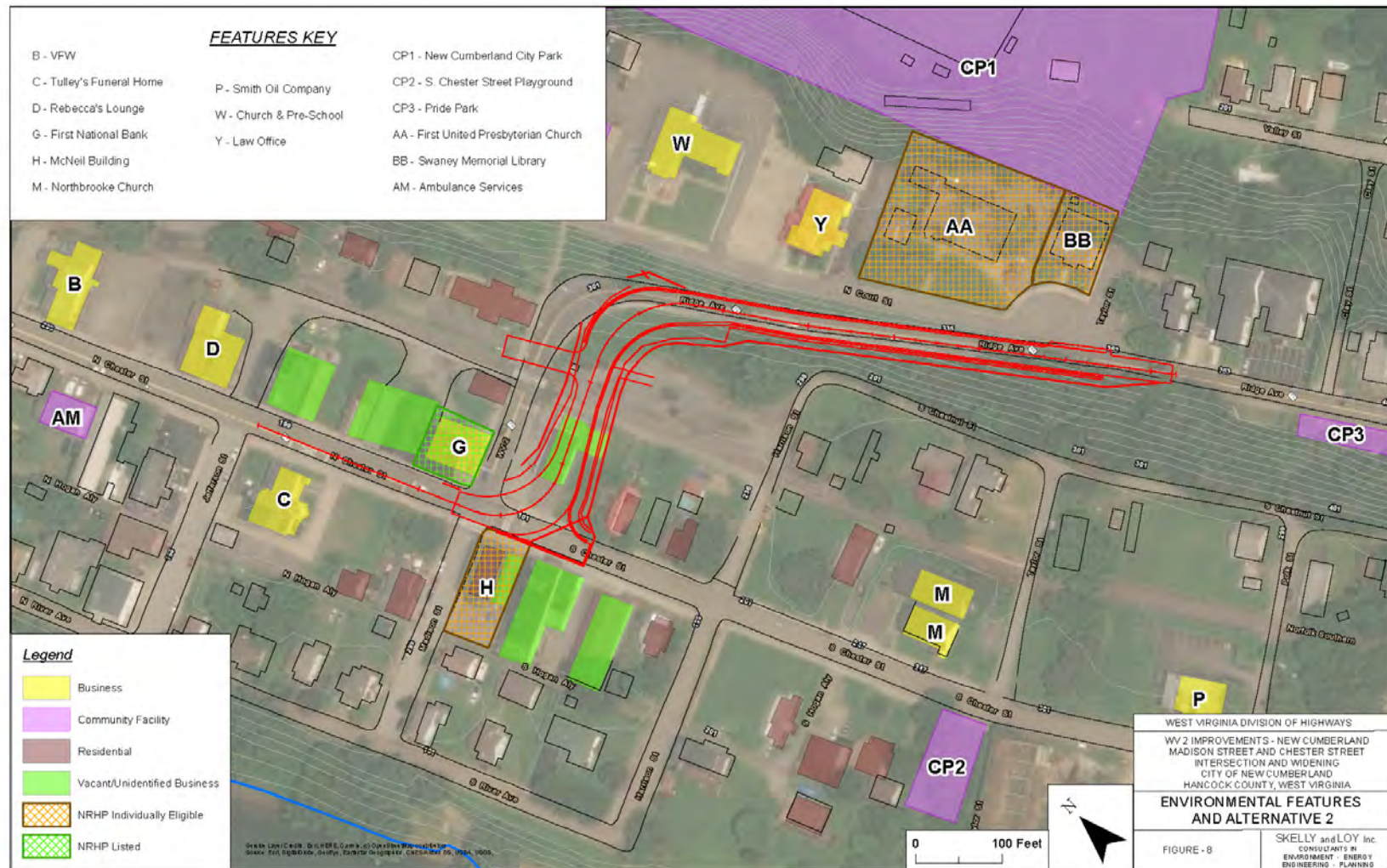




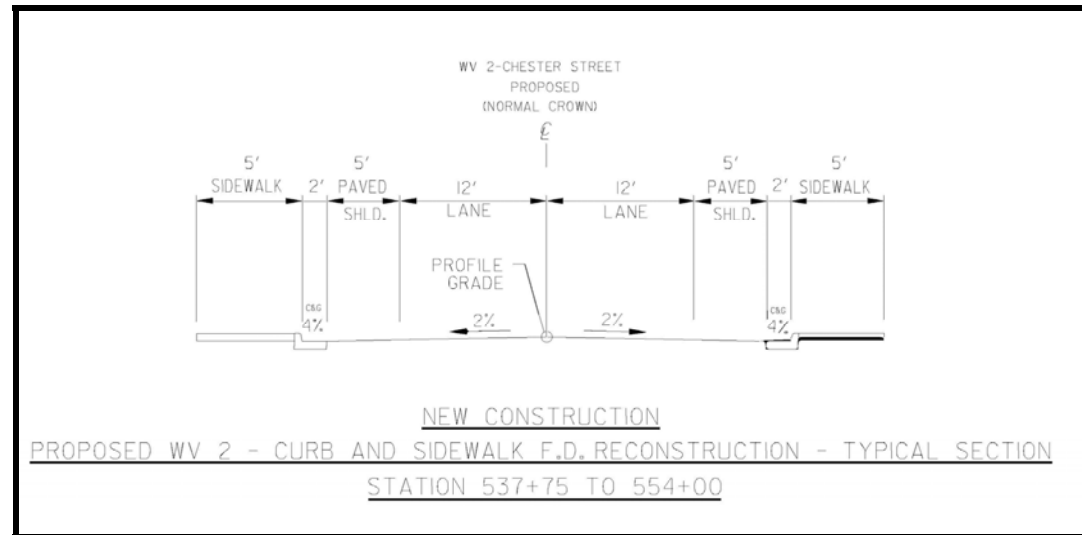


Alternative 2 involves shifting the roadway approximately 70 feet to the south. A cross section for the new construction is shown below. A plan view of Alternative 3 illustrating the environmental features is shown on Figure 8.

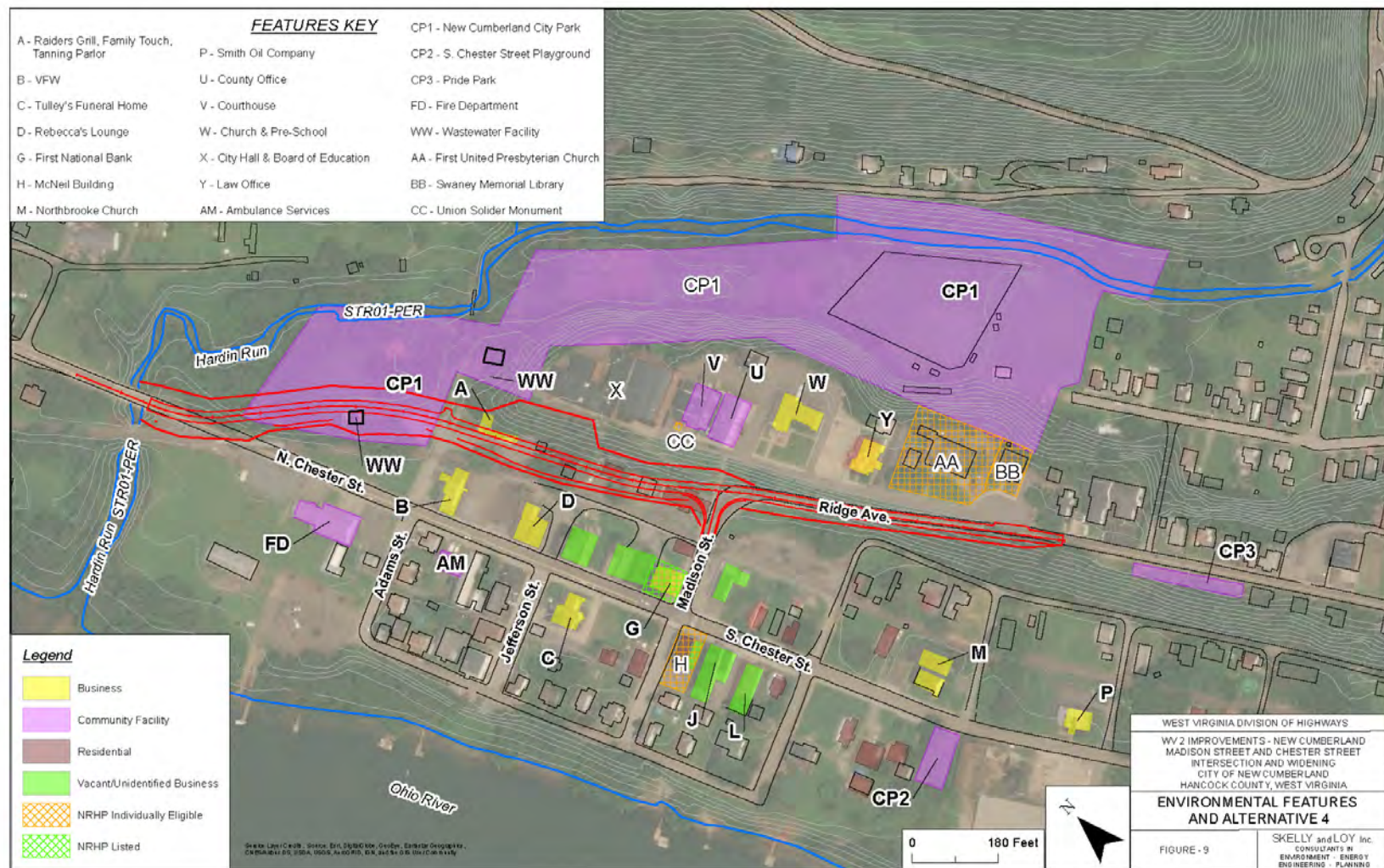




Alternatives 4 and 5A will involve construction of new roadway. A cross section for Alternative 4 and Alternative 5A is shown below.



Alternative 4 will provide a new two-lane road on the east side of the railroad tracks. Initially, those portions of the project closest to Ridge Avenue were to be built with 2-foot curb and gutter sections but as the road approaches New Cumberland City Park and tapers out, 4-foot shoulders were planned instead. The use of shoulders on the northern reaches of the road would improve drainage and provide a natural, context-sensitive setting within sight of Hardin Run, but require additional park property to construct. In an effort to minimize impacts to the park, the 2-foot curb and gutter section will be carried through the entire length of the roadway. Sidewalks will also be incorporated into the project. The sidewalks will be context-sensitive and allow pedestrians greater access to the park and businesses in the commercial district. They will also provide safer movement of pedestrians between the civic buildings on and around Court Street and the business district. A plan view of Alternative 4 illustrating the environmental features is shown on Figure 9.



Alternative 5A will provide a new two-lane road on a new alignment from Chester Street to the existing terminus of Industrial Park Road. Slight alterations to the alignment of existing Chester Street will also be required. This alternative will improve the existing 90-degree turns by creating a bypass of this portion of WV 2. The realigned WV 2 will remove through traffic and trucks from existing Ridge Avenue and Madison Street and will direct the traffic along the new alignment. Alternative 5 was modified slightly to create Alternative 5A. The modifications were made to provide better transportation geometry and to avoid the industrial complex located at the south end of New Cumberland. A plan view of Alternative 5A illustrating the environmental features is shown on Figure 10.

Table 3 provides a summary of the potential impacts of constructing Alternatives 1, 2, and 3. Table 4 provides a summary of the potential impacts of constructing Alternatives 4 and 5A, as well as the impact the No-Build alternative would have. Additional information and supporting documentation on the impacts analysis are included in this EA as appendices.

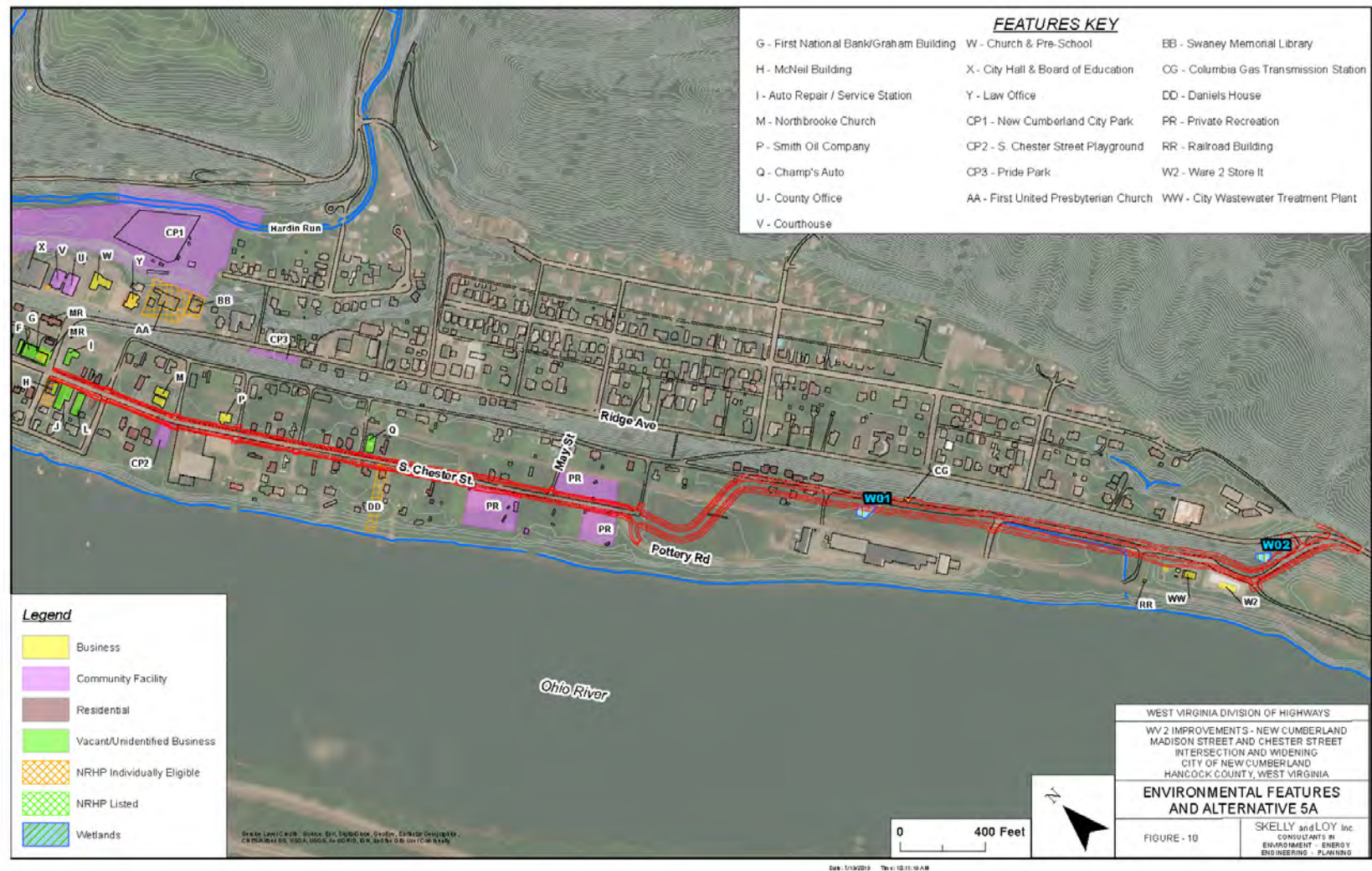


Table 3
Potential Impacts of Alternatives 1, 2, and 3

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
Environmental Justice	Executive Order 12898 of February 11, 1994, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations</i> , requires that the proposed project be assessed to determine whether or not it will have a disproportionately high impact on minority or low-income populations within the area.	The minority population within the project study area does not exceed the screening threshold of Hancock County. Although there is a high percentage of low-income individuals in the study area, the project will eliminate a traffic bottleneck in New Cumberland with minimum impact on the community. By improving local transportation patterns, it will enhance community cohesion for all residents. Thus, the effects of the project are considered positive and will be shared by all populations within the area equally. A complete environmental justice analysis is included in this EA as Appendix C.	The minority population within the project study area does not exceed the screening threshold of Hancock County. Although there is a high percentage of low-income individuals in the study area, the project will eliminate a traffic bottleneck in New Cumberland with minimum impact on the community. By improving local transportation patterns, it will enhance community cohesion for all residents. Thus, the effects of the project are considered positive and will be shared by all populations within the area equally. A complete environmental justice analysis is included in this EA as Appendix C.	The minority population within the project study area does not exceed the screening threshold of Hancock County. Although there is a high percentage of low-income individuals in the study area, the project will eliminate a traffic bottleneck in New Cumberland with minimum impact on the community. By improving local transportation patterns, it will enhance community cohesion for all residents. Thus, the effects of the project are considered positive and will be shared by all populations within the area equally. A complete environmental justice analysis is included in this EA as Appendix C.
Tax Base	Taxable land will be converted to a transportation use. For Fiscal Year 2017-2018, property tax revenues for Hancock County are estimated to be \$4.4 million (WVSAO 2018). The average annual tax per property in the county is less than \$750 (DUSA 2018).	There will be an initial decrease of property tax revenues in Hancock County as a result of converting some taxable property to a public use. Based upon the small percentage of the total assessed value that would be lost from construction of the proposed alternative (0.006 percent), the associated property tax losses would be negligible. Furthermore, this loss would be temporary if displaced residents and businesses relocate within the same county. Tax revenues temporarily lost would be regained upon relocation of residences and businesses.	There will be an initial decrease of property tax revenues in Hancock County as a result of converting some taxable property to a public use. Based upon the small percentage of the total assessed value that would be lost from construction of the proposed project (0.004 percent), the associated property tax losses would be negligible. Furthermore, this loss would be temporary if displaced residents and businesses relocate within the same county. Tax revenues temporarily lost would be regained upon relocation of residences and businesses.	There will be an initial decrease of property tax revenues in Hancock County as a result of converting some taxable property to a public use. Based upon the small percentage of the total assessed value that would be lost from construction of the proposed project (0.008 percent), the associated property tax losses would be negligible. Furthermore, this loss would be temporary if displaced residents and businesses relocate within the same county. Tax revenues temporarily lost would be regained upon relocation of residences and businesses.

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
Displacements	Land use in the project area is “in-town urban.” It is a mixture of residential and commercial development typical of a city the size of New Cumberland.	Alternative 1 will permanently displace the McNeil Building, which houses four occupied apartments, and a six-unit apartment building.	Alternative 2 will permanently displace a closed automobile repair shop and a house.	Alternative 3 will permanently displace the First National Bank/Graham Building, a vacant commercial building, three vacant row businesses to its north, and a two-unit and a six-unit apartment building.
Community Facilities and Services	The New Cumberland City Park, Pride Park, S. Chester Street Playground, three baseball fields, and three municipal wastewater facilities are located within the project area. Police service is provided by the New Cumberland City Police Department. The New Cumberland VFD responds to fire calls and the New Cumberland Ambulance Service responds to medical emergencies. Both the VFD and ambulance response time are directly affected by the poor geometric conditions of the Madison Street and Chester streets intersection and rail traffic through town. Police service is also affected and can encounter problems when mobility is restricted.	No community facilities will be taken. Traffic flow may be marginally better due to the improved curve radii and eight foot shift in the northbound lane, but traffic volumes through the project area are projected to increase. Truck traffic, which is also projected to increase, will continue to have to negotiate the two 90-degree turns and the steep grade from Madison Street to Ridge Avenue, which can produce congestion. The alternative also will not eliminate the two railroad grade crossings on Madison or S. Chester streets, which have the potential to stop traffic. There will be no alternate route for emergency services vehicles if congestion at the intersections or train traffic block through-traffic.	No community facilities will be taken. Traffic flow should be marginally better due to the widened and shifted road and better curve radii, but traffic volumes through the project area are projected to increase. Truck traffic, which is also projected to increase, will continue to have to negotiate the two 90-degree turns and the steep grade from Madison Street to Ridge Avenue, which can produce congestion. The alternative also will not eliminate the two railroad grade crossings on Madison or S. Chester streets, which have the potential to stop traffic. There will be no alternate route for emergency services vehicles if congestion at the intersections or train traffic block through-traffic.	No community facilities will be taken. Traffic flow may be marginally better due to the better curve radii and widening to the south, but traffic volumes through the project area; they are projected to increase. Truck traffic, which is also projected to increase, will continue to have to negotiate the two 90-degree turns and the steep grade from Madison Street to Ridge Avenue, which can produce congestion. The alternative also will not eliminate the two railroad grade crossings on Madison or S. Chester streets, which have the potential to stop traffic. There will be no alternate route for emergency services vehicles if congestion at the intersections or train traffic block through-traffic.

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
Community Cohesion	“A strong community bond creates a sense of cohesion that can be expressed through the patterns of daily social interaction, the use of local facilities, participation in local organizations, and involvement in activities that satisfy the population's economic and social needs.” (FHWA 1996). Under some circumstances, impacts caused by a transportation project can create changes to community cohesion if they interfere with or change the physical characteristics of a neighborhood or change local transportation patterns to a measurable degree.	With marginally better traffic flow, the alternative will enhance community cohesion.	With marginally better traffic flow, the alternative will enhance community cohesion.	With marginally better traffic flow, the alternative will enhance community cohesion.
Land Cover	Based on a review of U.S. Geologic Survey data, the immediate project area has been classified as <i>Developed and Other Human Use</i> (USGS 2017).	This alternative will impact 3.0 acres of land, all of which is built-up urban.	This alternative will impact 2.8 acres of land, all of which is built-up urban.	This alternative will impact 2.6 acres of land, all of which is built-up urban.
Rare, Threatened, and Endangered (RTE) Species	In a letter dated March 12, 2018, the U.S. Fish and Wildlife Service (USFWS) stated that the project is not likely to adversely affect the Indiana bat and the project take of northern long-eared bat (NLEB) habitat	No impact	No impact	No impact

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
	associated with this project is exempted under the 4(d) rule and no conservation measures are required. Similarly, in an email message dated February 12, 2018, the West Virginia Division of Natural Resources (WVDNR) stated that it does not anticipate any significant wildlife/fisheries issues related to the WV 2 New Cumberland project. Copies of the USFWS letter and the WVDNR email message are found in Appendix D.			
Aquatic Resources	Waters of the US were assessed in accordance with the non-amended 33 CFR 328.3; and guidance provided by the U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE).	No streams will be impacted by Alternative 1.	No streams will be impacted by Alternative 2.	No streams will be impacted by Alternative 3.
Floodplains	Federal guidelines require the use of National Flood Insurance Program maps to evaluate the effect the proposed action may have on 100-year floodplains and the risk of flooding. The Federal Emergency Management Administration (FEMA) has identified floodplains on the Ohio River and Hardin Run.	This alternative falls within the 100-year floodplain Zone AE of the Ohio River, and is subject to a 1 percent chance of inundation during a 100-year flood.	This alternative falls within the 100-year floodplain Zone AE of the Ohio River, and is subject to a 1 percent chance of inundation during a 100-year flood.	This alternative falls within the 100-year floodplain Zone AE of the Ohio River, and is subject to a 1 percent chance of inundation during a 100-year flood.

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
Groundwater	Aquifers are at sufficient depth to be protected from any proposed construction. Public water service is provided throughout the project area.	No impact	No impact	No impact
Air Quality	The project is included in the metropolitan planning organization's 2040 Regional Transportation Plan and the 2018-2021 TIP. Air quality was assessed qualitatively in compliance with the <i>Clean Air Act</i> (CAA) and its amendments, related Federal regulations, and FHWA guidance.	Hancock County is in attainment with <i>National Ambient Air Quality Standards</i> (NAAQS) for all criteria pollutants. By bypassing the intersection of Madison and Chester streets, as well as ridding WV 2 of two at-grade rail crossings, the project will eliminate a hazardous location and feature. As such, it is exempt under the CAA conformity rule under <i>40 CFR 93.126</i> , and from project-level and Regional Conformity Analyses. Furthermore, the project will only shift traffic from Madison and Chester Streets without increasing highway capacity, and, as such, it is exempt from new air quality regulations. Although the project will generate minimal air quality impacts, it has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxic (MSAT) impacts of the project from that of the no-build alternative.	Hancock County is in attainment with <i>National Ambient Air Quality Standards</i> (NAAQS) for all criteria pollutants. By bypassing the intersection of Madison and Chester streets, as well as ridding WV 2 of two at-grade rail crossings, the project will eliminate a hazardous location and feature. As such, it is exempt under the CAA conformity rule under <i>40 CFR 93.126</i> , and from project-level and Regional Conformity Analyses. Furthermore, the project will only shift traffic from Madison and Chester Streets without increasing highway capacity, and, as such, it is exempt from new air quality regulations. Although the project will generate minimal air quality impacts, it has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxic (MSAT) impacts of the project from that of the no-build alternative.	Hancock County is in attainment with <i>National Ambient Air Quality Standards</i> (NAAQS) for all criteria pollutants. By bypassing the intersection of Madison and Chester streets, as well as ridding WV 2 of two at-grade rail crossings, the project will eliminate a hazardous location and feature. As such, it is exempt under the CAA conformity rule under <i>40 CFR 93.126</i> , and from project-level and Regional Conformity Analyses. Furthermore, the project will only shift traffic from Madison and Chester Streets without increasing highway capacity, and, as such, it is exempt from new air quality regulations. Although the project will generate minimal air quality impacts, it has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxic (MSAT) impacts of the project from that of the no-build alternative.

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
Noise	In accordance with FHWA and WVDOH procedures, a noise analysis was undertaken to identify any potential noise impacts resulting from the proposed project (Appendix E).	This alternative will increase noise by 4 dBA to 68 dBA at Pride Park, a small parklet along Ridge Avenue (WV 2). This is considered an impact because it approaches or exceeds 67 dBA.	This alternative will increase noise by 6 dBA to 70 dBA at Pride Park, a small parklet along Ridge Avenue (WV 2). This is considered an impact because it approaches or exceeds 67 dBA.	This alternative will increase noise by 4 dBA to 68 dBA at Pride Park, a small parklet along Ridge Avenue (WV 2). This is considered an impact because it approaches or exceeds 67 dBA. There will also be an increase of 10 dBA to 69 dBA at 200 Madison Street, a residence. This is considered an impact because it approaches or exceeds 67dBA.
Potentially Hazardous Wastes	A Phase I Environmental Site Assessment was conducted to identify any potentially hazardous waste sites in the project area (Appendix F).	This alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Bowens Service Station, and a former dry cleaner.	This alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Bowens Service Station, and a former dry cleaner.	This alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Bowens Service Station, and a former dry cleaner.
Historic Resources	Historic resources surveys were conducted in 2015 and 2017. Six NRHP listed or eligible resources located were identified within the project study area.	In a letter dated February 26, 2018 (Appendix D), the State Historic Preservation Office (SHPO) concurs that Alternative 1 will have an adverse effect on the National Register of Historic Places (NRHP)-eligible McNeil House and an indirect adverse effect on the NRHP-listed First National Bank/Graham Building as the result of a change in its setting.	In a letter dated February 26, 2018 (Appendix D), the SHPO concurs that Alternative 2 would have no adverse effect on NRHP listed and eligible resources.	In a letter dated February 26, 2018 (Appendix D), the State Historic Preservation Office (SHPO) concurs that Alternative 3 will have an adverse effect on the NRHP-listed First National Bank/Graham Building and an indirect adverse effect on the NRHP-eligible McNeil House as the result of a change in its setting.
Archaeological Resources	A Phase IA archaeological constraints survey was conducted in 2015. The soils in an area of about 1 acre in and adjacent to the New Cumberland City Park were of suitable type or material to require further testing.	In a letter dated September 29, 2015, the SHPO requested that Phase IB deep testing be conducted within the area Alternative 1 traverses (Appendix D).	In a letter dated September 29, 2015, the SHPO requested that Phase IB deep testing be conducted within the area Alternative 2 traverses (Appendix D).	In a letter dated September 29, 2015, the SHPO requested that Phase IB deep testing be conducted within the area Alternative 2 traverses (Appendix D).

Resource or Element	Context	Alternative 1	Alternative 2	Alternative 3
Section 4(f) Resources	Transportation projects may not take land from any historic site or public recreation area unless there is no feasible and prudent alternative to the use of that land; and, all possible efforts to minimize harm to the property have been undertaken.	This alternative will result in the use of the NRHP-eligible McNeil House. In addition, the alternative will result in an indirect adverse effect on the NRHP-listed First National Bank/Graham Building due a change in setting; the indirect adverse effect does not constitute a constructive use. Pride Park, a small parklet along Ridge Avenue (WV 2) will not be physically impacted by the new roadway, but there will be a rise in noise impacts; the noise impacts do not meet the criteria of constructive use. More information on the impact of this alternative on Section 4(f) resources is found immediately after Table 4.	Pride Park, a small parklet along Ridge Avenue (WV 2) will not be physically impacted by the new roadway, but there will be a rise in noise impacts; however, the noise impacts do not meet the criteria of constructive use.	This alternative will result in the use of the NRHP-listed First National Bank/Graham Building. In addition, the alternative will result in an indirect adverse effect on the NRHP-eligible First McNeil House as the result of a change in its setting; the indirect adverse effect does not constitute a constructive use. Pride Park, a small parklet along Ridge Avenue (WV 2) will not be physically impacted by the new roadway, but there will be a rise in noise impacts; the noise impacts do not meet the criteria of constructive use. More information on the impact of this alternative on Section 4(f) resources is found immediately after Table 4.
Section 6(f) Resources	No property acquired or developed with assistance from the <i>Land and Water Conservation Fund</i> (LWCF) shall, without the approval of the Secretary of the U.S. Interior Department, be converted to other than public outdoor recreation uses.	No impact	No impact	No impact
Utilities	Electric, water and sanitary sewer, communications, and gas lines are found in the area.	Several utility lines and associated utility components will be impacted.	Several utility lines and associated utility components will be impacted.	Several utility lines and associated utility components will be impacted.
Temporary Construction Impacts	Temporary impacts usually accompany construction projects.	Construction will create short-term impacts such as inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and safety-related construction issues.	Construction will create short-term impacts such as inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and safety-related construction issues.	Construction will create short-term impacts such as inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and safety-related construction issues.

Table 4
Potential Impacts of Alternatives 4, 5A, and No-Build

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Environmental Justice	Executive Order 12898 of February 11, 1994, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations</i> , requires that the proposed project be assessed to determine whether or not it will have a disproportionately high impact on minority or low-income populations within the area.	The minority population within the project study area does not exceed the screening threshold of Hancock County. Although there is a high percentage of low-income individuals in the study area, the project will eliminate a traffic bottleneck in New Cumberland with minimum impact on the community. By improving local transportation patterns, it will enhance community cohesion for all residents. Thus, the effects of the project are considered positive and will be shared by all populations within the area equally. A complete environmental justice analysis is included in this EA as Appendix C.	The minority population within the project study area does not exceed the screening threshold of Hancock County. Based on field observations, conversations with local officials, and the greater number of displacements, Alternative 5A would have the most potential to impact low-income populations. A complete environmental justice analysis is included in this EA as Appendix C.	No impact
Tax Base	Taxable land will be converted to a transportation use. For Fiscal Year 2017-2018, property tax revenues for Hancock County are estimated to be \$4.4 million (WVSAO 2018). The average annual tax per property in the county is less than \$750 (DUSA 2018).	There will be an initial decrease of property tax revenues in Hancock County as a result of converting some taxable property to a public use. Based upon the small percentage of the total assessed value that would be lost from construction of the proposed project (0.18 percent), the associated property tax losses would be negligible. Furthermore, this loss would be temporary if displaced residents and businesses relocate within the same county. Tax revenues temporarily lost would be regained upon relocation of residences and businesses.	There will be an initial decrease of property tax revenues in Hancock County as a result of converting some taxable property to a public use. Based upon the small percentage of the total assessed value that would be lost from construction of the proposed project (0.20 percent), the associated property tax losses would be negligible. Furthermore, this loss would be temporary if displaced residents and businesses relocate within the same county. Tax revenues temporarily lost would be regained upon relocation of residences and businesses.	No impact

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Displacements	Land use in the project area is “in-town urban.” It is a mixture of residential and commercial development typical of a city the size of New Cumberland.	Alternative 4 will permanently displace three businesses and eight residences.	Alternative 5A will permanently displace one business and 12 residences.	No impact
Community Facilities and Services	The New Cumberland City Park, Pride Park, S. Chester Street Playground, three baseball fields, and three municipal wastewater facilities are located within the project area. Police service is provided by the New Cumberland City Police Department. The New Cumberland VFD responds to fire calls and the New Cumberland Ambulance Service responds to medical emergencies. Both the VFD and ambulance response time are directly affected by the poor geometric conditions of the Madison Street and Chester streets intersection and rail traffic through town. Police service is also affected and can encounter problems when mobility is restricted.	Portions of the New Cumberland City Park will be taken as well as one of the wastewater pumping stations. Elimination of the bottleneck at Madison Street and Chester streets, however, will improve traffic capacity and allow for increased mobility within New Cumberland. All vehicles traveling on WV 2 and nearby local streets will operate more efficiently and response times for emergency vehicles will decrease.	Portions of the S. Chester Street Playground and the three baseball fields, (including two dugouts) will be taken, as well as the city’s wastewater treatment plant. Elimination of the bottleneck at Madison Street and Chester streets, however, will improve traffic capacity and allow for increased mobility within New Cumberland. All vehicles traveling on WV 2 and nearby local streets will operate more efficiently and response times for emergency vehicles will decrease.	Emergency response time will increase as traffic grows.
Community Cohesion	“A strong community bond creates a sense of cohesion that can be expressed through the patterns of daily social interaction, the use of local facilities, participation in local organizations, and involvement in activities that satisfy the population's economic and social needs.” (FHWA 1996). Under some circumstances, impacts caused by a transportation project can create changes to community cohesion if they interfere with or change the physical characteristics of a neighborhood or change local transportation patterns to a measurable degree.	Eliminating the bottleneck at the Madison and Chester streets intersection and the two rail crossings will allow for better free-flow of traffic on WV 2 and nearby local streets. Local street traffic, both vehicular and pedestrian, will be improved. As a result, community cohesion will be strengthened.	Eliminating the bottleneck at the Madison and Chester streets intersection and the two rail crossings will allow for better free-flow of traffic on WV 2 and nearby local streets. Local street traffic, both vehicular and pedestrian, will be improved. As a result, community cohesion will be strengthened.	With no changes to the area’s roadway geometry and increases in traffic, traffic congestion will present barriers to community cohesion.

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Land Cover	Based on a review of U.S. Geologic Survey data, the immediate project area has been classified as <i>Developed and Other Human Use</i> (USGS 2017).	This alternative will impact 5.8 acres of land, all of which is built-up urban. This includes 0.65 acres of city parkland.	This alternative will impact 10.6 acres of land, 3.8 acres of which is built-up urban land and 6.8 acres of which is woodland/shrubland.	No impact
Rare, Threatened, and Endangered (RTE) Species	In a letter dated March 12, 2018, the U.S. Fish and Wildlife Service (USFWS) stated that the project is not likely to adversely affect the Indiana bat and the project take of northern long-eared bat (NLEB) habitat associated with this project is exempted under the 4(d) rule and no conservation measures are required. Similarly, in an email message dated February 12, 2018, the West Virginia Division of Natural Resources (WVDNR) stated that it does not anticipate any significant wildlife/fisheries issues related to the WV 2 New Cumberland project. Copies of the USFWS letter and the WVDNR email message are found in Appendix D.	No impact	No impact	No impact
Aquatic Resources	Waters of the US were assessed in accordance with the non-amended 33 CFR 328.3; and guidance provided by the U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE).	No streams will be impacted by Alternative 4.	No streams will be impacted by Alternative 5A. Two small wetlands will be impacted by this alternative. Wetland W01 is approximately 0.08 acre in size and Wetland W02 is approximately 0.06 acre in size. Wetland impacts are anticipated to be <i>de minimis</i> .	No impact
Floodplains	Federal guidelines require the use of National Flood Insurance Program maps to evaluate the effect the proposed action may have on 100-year floodplains and the risk of flooding. The Federal Emergency Management Administration (FEMA) has identified floodplains on the Ohio River and Hardin Run.	This alternative falls within a special flood hazard area for Hardin Run, and is subject to a 1 percent chance of inundation during a 100-year flood.	This alternative falls within the 100-year floodplain Zone AE of the Ohio River, and is subject to a 1 percent chance of inundation during a 100-year flood.	No impact

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Groundwater	Aquifers are at sufficient depth to be protected from any proposed construction. Public water service is provided throughout the project area.	No impact	No impact	No impact
Air Quality	The project is included in the metropolitan planning organization's 2040 Regional Transportation Plan and the 2018-2021 TIP. Air quality was assessed qualitatively in compliance with the <i>Clean Air Act</i> (CAA) and its amendments, related Federal regulations, and FHWA guidance.	Hancock County is in attainment with <i>National Ambient Air Quality Standards</i> (NAAQS) for all criteria pollutants. By bypassing the intersection of Madison and Chester streets, as well as ridding WV 2 of two at-grade rail crossings, the project will eliminate a hazardous location and feature. As such, it is exempt under the CAA conformity rule under <i>40 CFR 93.126</i> , and from project-level and Regional Conformity Analyses. Furthermore, the project will only shift traffic from Madison and Chester Streets without increasing highway capacity, and, as such, it is exempt from new air quality regulations. Although the project will generate minimal air quality impacts, it has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxic (MSAT) impacts of the project from that of the no-build alternative.	Hancock County is in attainment with <i>National Ambient Air Quality Standards</i> (NAAQS) for all criteria pollutants. By bypassing the intersection of Madison and Chester streets, as well as ridding WV 2 of two at-grade rail crossings, the project will eliminate a hazardous location and feature. As such, it is exempt under the CAA conformity rule under <i>40 CFR 93.126</i> , and from project-level and Regional Conformity Analyses. Furthermore, the project will only shift traffic from Madison and Chester Streets without increasing highway capacity, and, as such, it is exempt from new air quality regulations. Although the project will generate minimal air quality impacts, it has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxic (MSAT) impacts of the project from that of the no-build alternative.	Congestion will remain and idling vehicles will contribute to localized air pollution.

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Noise	In accordance with FHWA and WVDOH procedures, a noise analysis was undertaken to identify any potential noise impacts resulting from the proposed project (Appendix E).	This alternative will increase noise by 4 dBA to 68 dBA at Pride Park, a small parklet along Ridge Avenue (WV 2). This is considered an impact because it approaches or exceeds 67 dBA.	No noise impacts have been identified with Alternative 5A.	Noise will increase by 3 dBA to 67 dBA at Pride Park, a small parklet along Ridge Avenue (WV 2). This is considered an impact because it approaches or exceeds 67 dBA.
Potentially Hazardous Wastes	A Phase I Environmental Site Assessment was conducted to identify any potentially hazardous waste sites in the project area (Appendix F).	This alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Watson's Sunoco, and the NC Wellfield Site.	This alternative will impact 12 potentially hazardous waste sites: New Cumberland Wastewater Treatment Plant, Norfolk Southern Railroad, Former Pottery Mill, Columbia Gas Transmission Station, Former Poli Oily Wastewater/Buer Oil Collection, Former Standard Oil Station, Former New Cumberland Glass Company, American Industrial Recycling, Smith Oil Company, Champs Auto, Former Dry Cleaner, and Former Bowens Service Station.	No impact
Historic Resources	Historic resources surveys were conducted in 2015 and 2017. Six NRHP listed or eligible resources located were identified within the project study area.	In a letter dated February 26, 2018 (Appendix D), the State Historic Preservation Office (SHPO) determined that Alternative 4 will not impact any properties on or eligible for the National Register of Historic Places.	In a letter dated February 26, 2018 (Appendix D), the SHPO concurs that Alternative 5A will have an adverse effect on the NRHP-eligible McNeil Building and Daniels House. In addition, there will be an indirect adverse effect on the NRHP-listed First National Bank/Graham Building as the result of a change in its setting.	No impact

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Archaeological Resources	A Phase IA archaeological constraints survey was conducted in 2015. The soils in an area of about 1 acre in and adjacent to the New Cumberland City Park were of suitable type or material to require further archaeological testing.	In a letter dated September 29, 2015, the SHPO requested that Phase IB deep testing be conducted within the area Alternative 4 traverses (Appendix D).	In a letter dated September 29, 2015, the SHPO requested that Phase IB deep testing be conducted within the area Alternative 5A traverses (Appendix D).	No impact
Section 4(f) Resources	Transportation projects may not take land from any historic site or public recreation area unless there is no feasible and prudent alternative to the use of that land; and, all possible efforts to minimize harm to the property have been undertaken.	Portions of the New Cumberland City Park (0.8 acre) will be taken, including the playground, a dozen public parking spaces, and an open field. The acquisition of park property constitutes a Section 4(f) use. While not physically impacted by the new roadway, there will be a rise in noise impacts on Pride Park; however, the noise impact does not meet the criteria of constructive use. More information on the impact of this alternative on Section 4(f) resources is found immediately after this table.	A portion of the S. Chester Street Playground (0.02 acre) will be taken, but no playground facilities will be impacted. Two NRHP-eligible resources, the McNeil Building and the Daniels House, will be displaced by Alternative 5A. In addition, the alternative will result in an indirect adverse effect on the NRHP-listed First National Bank/Graham Building due a change in setting. However, the indirect adverse effect does not constitute a constructive use. More information on the impact of this alternative on Section 4(f) resources is found immediately after this table.	There will be a rise in noise impacts on Pride Park, but the noise impacts do not meet the criteria of constructive use.
Section 6(f) Resources	No property acquired or developed with assistance from the <i>Land and Water Conservation Fund</i> (LWCF) shall, without the approval of the Secretary of the U.S. Interior Department, be converted to other than public outdoor recreation uses.	The area of New Cumberland City Park impacted by the project has been improved utilizing LWCF grants (USDOI 1980) and the West Virginia Development Office (WVDO), the state agency administering LWCF grants, has determined that the park is a Section 6(f) resource. This portion of the park is subject to LWCF protection and will result in a conversion of use.	No impact	No impact
Utilities	Electric, water and sanitary sewer, communications, and gas lines are found in the area.	Several utility lines and associated utility components will be impacted	Several utility lines and associated utility components will be impacted.	No impact

Resource or Element	Context	Alternative 4	Alternative 5A	No-Build Alternative
Temporary Construction Impacts	Temporary impacts usually accompany construction projects.	Construction will create short-term impacts such as inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and safety-related construction issues.	Construction will create short-term impacts such as inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and safety-related construction issues.	No impact

HOW WILL THE ALTERNATIVES IMPACT SECTION 4(F) RESOURCES?

Alternative 1

This alternative will result in the demolition of the NRHP-eligible McNeil House, which is a use of a historic site under Section 4(f) regulations. The McNeil Building, at the southwest corner of Chester and Madison streets, is eligible for the NRHP under Criterion A for commerce. It is among the very few commercial buildings remaining from New Cumberland's historic era that retain integrity. There will be no direct impact to the First National Bank/Graham Building. However, Alternative 1 will introduce visual elements that will diminish the setting of the First National Bank/Graham Building by demolishing the NRHP-eligible McNeil Building. A Memorandum of Agreement (MOA) will be developed between the WVDOH and West Virginia State Historic Preservation Office (WVSHPO) to mitigate the impacts to the McNeil Building if Alternative 1 is selected as the preferred alternative. Mitigation measures are anticipated to include the documentation of the building via a state level recordation. Mitigation measures for the First National Bank/Graham Building also will be stipulated in the MOA.

Pride Park, a city-owned parklet located along the west side of Ridge Avenue, is approximately 0.1 acre. It is used for passive recreation and is accessed by foot from the sidewalks on Ridge Avenue. There is no parking at the park nor is on-street parking permitted on Ridge Avenue. Amenities in the park include benches, a community clock, ornamental lampposts, and vegetative plantings.

The alternative will not have a direct impact on Pride Park, but noise levels are projected to increase by 4 dBA.



A change in the noise environment will occur with or without the project. The No-Build Alternative will result in an increase of 3 dBA. The increase associated with Alternative 1 does not meet the criteria of constructive use.

Alternative 2

This alternative will not result in use of any historic properties.

The alternative will not have a direct impact on any city-owned parks. Noise levels are projected to increase by 6 dBA at Pride Park, but a change in the noise environment at Pride Park will occur with or without the project. The No-Build Alternative will result in an increase of 3 dBA. The increase associated with Alternative 2 does not meet the criteria of constructive use.

Alternative 3

This alternative will result in the demolition of the NRHP-listed First National Bank/Graham Building, which is a use of a historic site under Section 4(f) regulations. The First National Bank/Graham Building, at the northeast corner of Chester and Madison streets, is eligible for the NRHP under Criterion A for commerce. It is among the very few commercial buildings remaining from New Cumberland's historic era that retain integrity. There will be no direct impact to the McNeil Building. However, Alternative 3 will introduce visual elements that will diminish the setting of the McNeil Building by demolishing the NRHP-listed First National Bank/Graham Building. A MOA will be developed between the WVDOH and WVSHPO to mitigate the impacts to the First National Bank/Graham Building if Alternative 3 is selected as the preferred alternative. Mitigation measures are anticipated to include the documentation of the building via a state level recordation. Mitigation measures for the McNeil Building also will be stipulated in the MOA.

The alternative will not have a direct impact on any city-owned parks. Noise levels are projected to increase by 4 dBA at Pride Park, but a change in the noise environment at Pride Park will occur with or without the project. The No-Build Alternative will result in an increase of 3 dBA. The increase associated with Alternative 3 does not meet the criteria of constructive use.

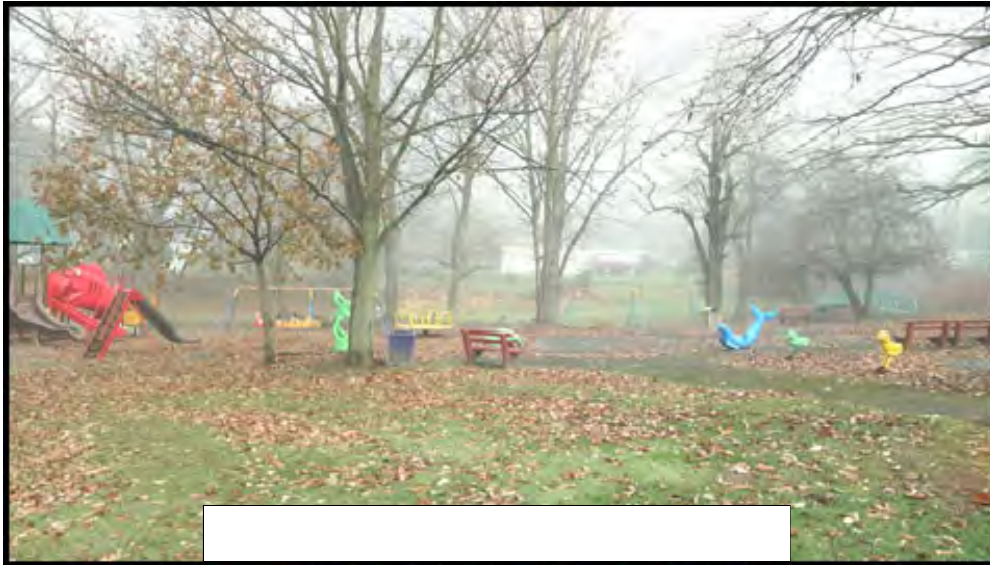
Alternative 4

This alternative will not result in use of any historic properties.

Two city-owned parks will be impacted by Alternative 4. The first park to be impacted, New Cumberland City Park, is an 11.2-acre recreation facility. Park amenities include a playground, baseball fields, basketball and tennis courts, benches, a picnic pavilion, and a walking trail. Entrances to the park are located at Adams Street and Valley Street. A small parking lot with about 12 spaces is located at the Adams Street entrance. New Cumberland City Park was partially funded by the *Land and Water Conservation Fund* (LWCF), making it a Section 6(f) resource as well as a Section 4(f) resource. Approximately 4.5 acres of the park is considered to be a Section 6(f) resource (i.e., 4.5 acres of the park was improved using LWCF grants).

Alternative 4 provides a new two-lane road on the east side of the railroad tracks and uses approximately 0.8 acre at the northwestern edge of the 11.2-acre New Cumberland City Park, including the parking lot along Adams Street. It will also bring the new road close to the existing playground. Initially, those portions of the project closest to Ridge Avenue were to be built with 2-foot curb and gutter sections but as the road approaches New Cumberland City Park and tapers out, 4-foot shoulders were planned instead. The use of shoulders on the northern reaches of the road would improve drainage and provide a natural, context-sensitive setting within sight of Hardin Run, but would require additional park property to construct. In an effort to minimize impacts to the park, however, a curb and gutter section will be carried through the entire length of the roadway. This will provide a sidewalk along the road, to be built in a context-sensitive design, and allow for better pedestrian and bicyclist access to and from the park. The parking area will be relocated. Since the roadway will be moved close to the playground, it will also be relocated. As the project progresses,

WVDOH will work with city officials to determine where. Despite these impacts to the park, it will retain its setting and features.



Acquisition of the park land will be considered a conversion of use under Section 6(f). In accordance with Section 6(f) guidelines, the use of parkland will require replacement property of equal fair market value. The cost to mitigate for these impacts is the responsibility of the WVDOH.

Over the years, the WVDOH has had several meetings with New Cumberland officials to discuss the project. While not always a topic of discussion, the potential impacts to New Cumberland City Park have been reported on occasion. Coordination

between WVDOH and the WVDO (as the state agency administering LWCF grants) has also occurred over the past year.

The LWCF was established to assist states and federal agencies meet outdoor recreation needs. Section 6(f) of the LWCF requires that properties acquired or developed with LWCF grants shall not be converted to a use other than public outdoor recreation without the approval of the Secretary of the Department of the Interior, acting through the National Park Service, and at the request of the state delegate/State Liaison Officer. In West Virginia, the state liaison officer is the WVDO.

In late 2017, the WVDO was informally made aware that the WV 2 Improvements project may require conversion of New Cumberland City Park. If Alternative 4 is selected as the preferred alternative, the WVDOH will prepare a *Proposal Description and*

Environmental Screening Form for review by the WVDO and subsequent submission to the National Park Service. If the WVDOH and WVDO have adequately addressed LWCF requirements, the conversion will be approved (USDOI 2008).

Alternative 4 will have an indirect impact on Pride Park, where noise levels are projected to increase by 4 dBA at Pride Park. However, a change in the noise environment at Pride Park will occur with or without the project. The No-Build Alternative will result in an increase of 3 dBA. The increase associated with Alternative 4 does not meet the criteria of constructive use.

Alternative 5A

The proposed right-of-way for Alternative 5A has been minimized to the greatest extent possible. Alternative 5A provides a new two-lane road on a new alignment from Chester Street to the existing terminus of Industrial Park Road at Ridge Avenue. Alternative 5A will impact the 0.2-acre S. Chester Street Playground, located at the intersection of S. Chester and Taylor streets, but it will only require a sliver take of 0.02 acre and it will not impact the playground equipment. The WVDOH will compensate the City for the loss of property at the S. Chester Street Playground.

Alternative 5A results in the use of two NRHP-eligible resources, the McNeil Building and the Daniels House. The McNeil Building, at the southwest corner of Chester and Madison streets, is eligible for the NRHP under Criterion A for commerce. It is among the very few commercial buildings remaining from New Cumberland's historic era that retain integrity. Located on S. Chester Street, the Daniels House is a two-story, frame, Stick style house eligible for NRHP listing under Criterion C for architecture. The NRHP-listed First National Bank-Graham Building is located at the northeast corner of Chester and Madison streets and is directly across from the McNeil Building. Built in 1903, it is significant under NRHP Criterion A for its role in commerce and trade and Criterion C for its architectural characteristics.

The McNeil Building and Daniels House will both be demolished by Alternative 5A; there will be no direct impact to the First National Bank/Graham Building. However, Alternative 5A will introduce visual elements that will diminish the setting of the First National Bank/Graham Building by demolishing the NRHP-eligible McNeil Building. A MOA will be developed between the WVDOH and WVSHPO to mitigate the impacts to the McNeil Building and Daniels House if Alternative 5A is selected as the preferred alternative. Mitigation measures are anticipated to include the documentation of the buildings via a state level recordation. Mitigation measures for the First National Bank/Graham Building also will be stipulated in the MOA.

WILL THERE BE SECONDARY OR CUMULATIVE IMPACTS FROM THE PROJECT?

Guidelines prepared by the Council on Environmental Quality (CEQ) for carrying out NEPA requirements broadly define secondary impacts as those that are caused by an action and are later in time or further removed in distance but are still foreseeable (CEQ 1978). Secondary impacts can be associated with development that may result from the construction of a facility, such as a transportation improvement project, but differ from impacts directly associated with the construction and operation of the facility itself. Generally, these impacts are stimulated by an initial action and comprise a wide variety of indirect effects, such as changes in land use, development patterns, economic activity, population density, and related impacts on air, water, and other natural systems, including ecosystems. Indirect impacts may result in increased development pressure on open space, farmlands, and other natural resources.

Cumulative impacts, on the other hand, result from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions (CEQ 1997), regardless of what agency, person, or organization undertakes such actions. When considered as a whole and in concert with other foreseeable developments and projects, they can result in a combined effect greater than considering separate elements independently.

Factors that typically induce secondary, or indirect, development are new access to potential development areas, increased roadway capacity, existing development plans, suitable terrain, and economic incentives. The potential for indirect development to occur in any particular area is determined in great part by individual municipal planning objectives. Although secondary impacts may result in increased development pressure on open space and other natural resources, the character and terrain of the project area limits secondary impacts primarily to areas with some infrastructure in place. Availability of land and transportation infrastructure in the project area indicates that limited development will occur along WV 2 north of the intersection but is unlikely to affect the overall regional economy to any measurable degree.

Although residential growth could occur almost anywhere, it is constrained by topography and the limits of existing public water and sewer systems. Suitable land, the availability of public water, the availability of public sewer service, and suitable transportation are typically used as appropriate development features that can be used to predict growth (Kulkarni 1976). The opportunity for induced development is strongest when all four elements are in place and almost nonexistent when none of them are. Economic pressures on the local community, coupled with national trends, are also likely to limit development in New Cumberland because the city is constrained by the finite availability of land and the city's existing infrastructure. Thus, development is expected to be limited to infill occurrences. As a result, the likelihood of indirect impacts is minimal and any induced development from the project can be accommodated in an orderly manner. Additionally, secondary development would be an economic benefit to the community.

Taken individually, the impacts from an action may have little effect on the environment. When viewed as a sequence of events, however, different actions may add up to, or cause, additional effects over time. Thus, the cumulative impact may be of more consequence than isolated, individual impacts.

Past projects since 1970 and planned actions through the year 2030 were reviewed to complete a qualitative assessment of cumulative impacts. Primary data sources included interviews with local economic development officials, study area field views, and secondary data sources. Consequently, a qualitative analysis rather than a quantitative trends analysis emerged.

Cumulative impacts or effects are a result of the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions (RFFAs). Cumulative effects can be difficult to understand because they are not clear cut. They can accrue from similar impacts, from multiple actions, or be the product of unrelated impacts from a variety of actions. In addition, some actions may offset the effects of other actions, lessening the overall impact. Cumulative effects can also arise from actions which may only be connected by their common impacts on similar resources, ecosystems, or human communities.

The identification and analysis of RFFAs present many challenges. Proponents of future actions may be reluctant to reveal information for a number of reasons. Plans may be uncertain and project sponsors, both private and public, may not see a benefit in disclosing them. Furthermore, project sponsors may not completely understand the importance of their plans on other projects or understand the potential impact inherent in those plans on others. Detailed design and operational information is generally not available for proposed projects. At the preliminary stage of project development, locations may not be set. Project size and magnitude may not have been determined. Usage estimates or projections may not be sufficiently rigorous. Many factors also affect the timing, location, and design of future actions. If programming and funding requirements have not been finalized, future actions may be delayed, downsized, or modified significantly over time. If definitions of future actions are too liberal, future impacts may be predicted as being too high. If definitions are too conservative, future impacts may be underestimated.

Actions that may contribute to cumulative effects in the area include water and sewer system improvements currently programmed by the City of New Cumberland; other transportation improvements within town and adjacent areas; commercial and industrial development along WV 2 north of New Cumberland; or residential infill within the city limits. These activities could have a cumulative impact on terrestrial habitat, land use, water quality, wetlands, air quality, traffic, and cultural resources.

Development projects would have mixed impacts to most resources. Properly functioning water and waste water treatment systems, regardless of type, can encourage economic growth. When public water is available and a community has adequate sewer facilities

in place, as it does within the project area, public health improves and the community becomes more attractive as a place to live or work. When such systems are not in place, however, or not functioning properly, pollution can result. If not replaced or improved, older systems may not be able to accommodate growth and can result in negative impacts to environmental resources.

Development also can affect wetlands, terrestrial habitat, and sensitive animal and plant species by consuming land and infringing on natural ecosystems. Properly designed development can offset negative impacts, however, and assist in preserving valued elements of the landscape.

Additional development could also increase traffic and subsequently cause air quality problems or require future transportation improvements. The potential effects could be mitigated by the design of future developments and the regulatory environment. Positive effects to recreation and socioeconomic resources would be expected, primarily through improved facilities or better access.

Increased safety, efficiency, and congestion management are the principal reasons for surface transportation projects. Short-term local income and revenues would increase as a result of future transportation projects, including bridge renovations, highway rehabilitations and upgrades, and new roadways. Significant changes to population, property values, local taxes, and existing land use patterns could occur, however, if roadway locations are changed or shifted.

There could be mixed impacts to water quality, wetlands, terrestrial habitat, and sensitive species as a result of converting land to highway use. Effects would be mitigated in various ways, including avoidance, minimization, and replacement.

Effects to air quality, recreation resources, and socioeconomics would be generally positive. Additionally, although the effects of transportation projects on cultural resources are mixed, these projects are tied to federal funding or permitting and, therefore, are subject to Section 106 and Section 4(f) compliance. These regulatory processes ensure that the significance of individual cultural resources is considered during project development. Long-term positive impacts would be associated with improved environmental

conditions guaranteed through the regulatory environment. These regulations are especially important where there are numerous development opportunities with potential threats to the natural environment. Federal, state, and local governments have created laws or programs to address negative effects.

MITIGATION OF IMPACTS FOR EACH ALTERNATIVE

To lessen any permanent or temporary impacts from construction of the project, several mitigation commitments have been proposed by the WVDOH for each alternative. Those commitments are shown in Tables 5 through 9. Additional mitigation measures may be proposed during final design to further avoid and/or minimize any temporary and permanent impacts caused by the project.

Table 5
Mitigation Commitments Associated Alternative 1

Resource or Element	Impact	Mitigation Measures
Displacements	The alternative will permanently displace one combined business/apartment building, four occupied houses, and a six-unit apartment building.	All properties to be acquired, or used temporarily, will be purchased or utilized in accordance with the <i>Uniform Relocation and Real Property Acquisition Policies Act</i> , Title VI of the <i>Civil Rights Act</i> , and applicable West Virginia laws.
Land Cover	Approximately 3.0 acres of built-up land will be converted to highway use.	If necessary, an approved Erosion and Sedimentation Control Plan will be implemented to minimize impacts to the water quality of Hardin Run. Disturbed areas will be revegetated, where necessary, utilizing a native seed mixture and landscaped upon completion of construction.
Floodplains	The alternative falls within a special flood hazard area subject to a 1 percent chance of inundation during a 100-year flood.	All construction within the floodplain will be in compliance with Executive Order 11988, <i>Floodplain Management</i> . Detailed hydrologic and hydraulic analyses will be conducted during final design to determine the magnitude of floodplain encroachments and the appropriate strategies for avoidance and minimization of impacts.
Air Quality	The project will generate minimal air quality impacts. During construction, there will be an increase in emissions by heavy construction equipment and an increase in dust. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone. Impacts from dust would be localized within the immediate area of construction.	USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. An analysis of national trends using USEPA MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (FHWA 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. To address temporary impacts on air quality during construction, the following measures incorporate updated regulations and should be observed. If it is necessary to burn debris, approval by the West Virginia Department of Environmental Protection Secretary or an authorized

Resource or Element	Impact	Mitigation Measures
		representative is required to conduct such burning. Demolition activities are subject to 45CSR15 (asbestos NESHAP at 40 CFR 61, Subpart M). Formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the authorized representative. Approval must be received before commencement of the activities addressed in the Notification. If demolition, excavation, transportation of soil/aggregates, or the handling of materials cause nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.
Noise	Alternative 1 will have a minor noise impact to Pride Park. Construction may temporarily influence sound levels.	Noise mitigation consideration is warranted for Pride Park, but because the park is less than 20 feet wide and immediately adjacent to WV 2 it is not feasible to provide noise mitigation.
Potentially Hazardous Wastes	The alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Bowens Service Station, and a former dry cleaner.	A waste management plan and/or waste-management related provisions will be incorporated into construction bid documents to address potential contamination at hazardous waste sites. Phase II/III Environmental Assessment activities, if necessary, will be conducted at the sites that are determined to be impacted based on final design prior to construction.
Historic Resources	There will be an adverse effect on the NRHP-eligible McNeil Building and an indirect adverse effect on the NRHP-listed First National Bank/Graham Building.	A MOA will be developed between the WVDOH and WVSHPO to mitigate the adverse effects to the McNeil Building. Mitigation measures are anticipated to include the documentation of the building via a state level recordation. Mitigation measures for the First National Bank/Graham Building will be stipulated in the MOA prepared for the project.

Resource or Element	Impact	Mitigation Measures
Archaeological Resources	The SHPO has requested Phase IB archaeological testing within Alternative 1.	Concurrent with final design, Phase IB testing will be conducted on those areas identified in the Phase IA Archaeological Constraints Report. The results of that testing will be sent to SHPO. Further mitigation will be developed after the Phase IB testing has been completed.
Section 4(f) Resources	The McNeil Building will be displaced and the First National Bank/Graham Building will be indirectly impacted.	A MOA will be developed between the WVDOH and WVSHPO to mitigate the adverse effects to the McNeil Building. Mitigation measures are anticipated to include the documentation of the building via a state level recordation. Mitigation measures for the First National Bank/Graham Building will be stipulated in the MOA prepared for the project.
Utilities	Utility relocations will be required as a result of the project.	Coordination with the utility operators will be required throughout the project. Coordination meetings will be held to discuss the need for additional right-of-way, expansion, or relocation easements; impacts to schedules; construction requirements; and any other issues. The WVDOH has detailed procedures for coordinating with impacted utilities. The relocation of utilities will be completed prior to construction with limited inconvenience to the public.
Temporary Construction Impacts	Short-term impacts associated with construction include inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and health and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to residences and businesses will be maintained during construction although temporary disruptions may occur. Construction will be performed to comply with all applicable federal, state, and local laws regarding safety, health, and sanitation. All contractors are required to adhere to Occupational Safety and Health Administration guidelines to protect the lives and health of employees, the safety of the public, and the integrity of adjacent properties.

Table 6
Mitigation Commitments Associated Alternative 2

Resource or Element	Impact	Mitigation Measures
Displacements	The alternative will permanently displace a closed automobile repair shop.	All properties to be acquired, or used temporarily, will be purchased or utilized in accordance with the <i>Uniform Relocation and Real Property Acquisition Policies Act</i> , Title VI of the <i>Civil Rights Act</i> , and applicable West Virginia laws.
Land Cover	Approximately 2.8 acres of built-up land will be converted to highway use.	If necessary, an approved Erosion and Sedimentation Control Plan will be implemented to minimize impacts to the water quality of Hardin Run. Disturbed areas will be revegetated, where necessary, utilizing a native seed mixture and landscaped upon completion of construction.
Floodplains	The alternative falls within a special flood hazard area subject to a 1 percent chance of inundation during a 100-year flood.	All construction within the floodplain will be in compliance with Executive Order 11988, <i>Floodplain Management</i> . Detailed hydrologic and hydraulic analyses will be conducted during final design to determine the magnitude of floodplain encroachments and the appropriate strategies for avoidance and minimization of impacts.
Air Quality	The project will generate minimal air quality impacts. During construction, there will be an increase in emissions by heavy construction equipment and an increase in dust. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone. Impacts from dust would be localized within the immediate area of construction.	USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. An analysis of national trends using USEPA MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (FHWA 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. To address temporary impacts on air quality during construction, the following measures incorporate updated regulations and should be observed. If it is necessary to burn debris, approval by the West Virginia Department of Environmental Protection Secretary or an authorized representative is required to conduct such burning. Demolition activities are subject to 45CSR15 (asbestos NESHAP at 40 CFR 61, Subpart M). Formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the authorized representative. Approval must be received before commencement of the activities addressed in the Notification. If demolition, excavation, transportation of soil/aggregates, or the handling of materials

Resource or Element	Impact	Mitigation Measures
		cause nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.
Noise	Alternative 2 will have a noise impact to Pride Park. Construction may temporarily influence sound levels.	Noise mitigation consideration is warranted for Pride Park, but because the park is less than 20 feet wide and immediately adjacent to WV 2 it is not feasible to provide noise mitigation.
Potentially Hazardous Wastes	The alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Bowens Service Station, and a former dry cleaner.	A waste management plan and/or waste-management related provisions will be incorporated into construction bid documents to address potential contamination at hazardous waste sites. Phase II/III Environmental Assessment activities, if necessary, will be conducted at the sites that are determined to be impacted based on final design prior to construction.
Archaeological Resources	The SHPO has requested Phase IB archaeological testing within Alternative 2.	Concurrent with final design, Phase IB testing will be conducted on those areas identified in the Phase IA Archaeological Constraints Report. The results of that testing will be sent to SHPO. Further mitigation will be developed after the Phase IB testing has been completed.
Utilities	Utility relocations will be required as a result of the project.	Coordination with the utility operators will be required throughout the project. Coordination meetings will be held to discuss the need for additional right-of-way, expansion, or relocation easements; impacts to schedules; construction requirements; and any other issues. The WVDOH has detailed procedures for coordinating with impacted utilities. The relocation of utilities will be completed prior to construction with limited inconvenience to the public.
Temporary Construction Impacts	Short-term impacts associated with construction include inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and health and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to residences and businesses will be maintained during construction although temporary disruptions may occur. Construction will be performed to comply with all applicable federal, state, and local laws regarding safety, health, and sanitation. All contractors are required to adhere to Occupational Safety and Health Administration guidelines to protect the lives and health of employees, the safety of the public, and the integrity of adjacent properties.

Table 7
Mitigation Commitments Associated Alternative 3

Resource or Element	Impact	Mitigation Measures
Displacements	The alternative will permanently displace the First National Bank/Graham Building, a vacant commercial building, three vacant row businesses, and a two-unit and a six-unit apartment building.	All properties to be acquired, or used temporarily, will be purchased or utilized in accordance with the <i>Uniform Relocation and Real Property Acquisition Policies Act</i> , Title VI of the <i>Civil Rights Act</i> , and applicable West Virginia laws.
Land Cover	Approximately 2.6 acres of built-up land will be converted to highway use.	If necessary, an approved Erosion and Sedimentation Control Plan will be implemented to minimize impacts to the water quality of Hardin Run. Disturbed areas will be revegetated, where necessary, utilizing a native seed mixture and landscaped upon completion of construction.
Floodplains	The alternative falls within a special flood hazard area subject to a 1 percent chance of inundation during a 100-year flood.	All construction within the floodplain will be in compliance with Executive Order 11988, <i>Floodplain Management</i> . Detailed hydrologic and hydraulic analyses will be conducted during final design to determine the magnitude of floodplain encroachments and the appropriate strategies for avoidance and minimization of impacts.
Air Quality	The project will generate minimal air quality impacts. During construction, there will be an increase in emissions by heavy construction equipment and an increase in dust. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone. Impacts from dust would be localized within the immediate area of construction.	USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. An analysis of national trends using USEPA MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (FHWA 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. To address temporary impacts on air quality during construction, the following measures incorporate updated regulations and should be observed. If it is necessary to burn debris, approval by the West Virginia Department of Environmental Protection Secretary or an authorized representative is required to conduct such burning. Demolition activities are subject to 45CSR15 (asbestos NESHAP at 40 CFR 61, Subpart M). Formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the authorized representative. Approval must be received before commencement of the activities addressed in

Resource or Element	Impact	Mitigation Measures
		the Notification. If demolition, excavation, transportation of soil/aggregates, or the handling of materials cause nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.
Noise	Alternative 3 will have a minor noise impact to Pride Park. Construction may temporarily influence sound levels.	Noise mitigation consideration is warranted for Pride Park, but because the park is less than 20 feet wide and immediately adjacent to WV 2 it is not feasible to provide noise mitigation.
Potentially Hazardous Wastes	The alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Bowens Service Station, and a former dry cleaner.	A waste management plan and/or waste-management related provisions will be incorporated into construction bid documents to address potential contamination at hazardous waste sites. Phase II/III Environmental Assessment activities, if necessary, will be conducted at the sites that are determined to be impacted based on final design prior to construction.
Historic Resources	There will be an adverse effect on the NRHP-listed First National Bank/Graham Building and an inverse adverse effect on the NRHP-eligible McNeil Building.	A MOA will be developed between the WVDOH and WVSHPO to mitigate the adverse effects to the First National Bank/Graham Building. Mitigation measures are anticipated to include the documentation of the building via a state level recordation. Mitigation measures for the McNeil Building will be stipulated in the MOA prepared for the project.
Archaeological Resources	The SHPO has requested Phase IB archaeological testing within Alternative 1.	Concurrent with final design, Phase IB testing will be conducted on those areas identified in the Phase IA Archaeological Constraints Report. The results of that testing will be sent to SHPO. Further mitigation will be developed after the Phase IB testing has been completed.
Section 4(f) Resources	The First National Bank/Graham Building will be displaced and the McNeil Building will be indirectly impacted.	A MOA will be developed between the WVDOH and WVSHPO to mitigate the adverse effects to the First National Bank/Graham Building. Mitigation measures are anticipated to include the documentation of the building via a state level recordation. Mitigation measures for the McNeil Building will be stipulated in the MOA prepared for the project.
Utilities	Utility relocations will be required as a result of the project.	Coordination with the utility operators will be required throughout the project. Coordination meetings will be held to discuss the need for additional right-of-way, expansion, or relocation easements; impacts to

Resource or Element	Impact	Mitigation Measures
		schedules; construction requirements; and any other issues. The WVDOH has detailed procedures for coordinating with impacted utilities. The relocation of utilities will be completed prior to construction with limited inconvenience to the public.
Temporary Construction Impacts	Short-term impacts associated with construction include inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and health and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to residences and businesses will be maintained during construction although temporary disruptions may occur. Construction will be performed to comply with all applicable federal, state, and local laws regarding safety, health, and sanitation. All contractors are required to adhere to Occupational Safety and Health Administration guidelines to protect the lives and health of employees, the safety of the public, and the integrity of adjacent properties.

Table 8
Mitigation Commitments Associated Alternative 4

Resource or Element	Impact	Mitigation Measures
Displacements	The alternative will permanently displace three businesses and eight residences.	All properties to be acquired, or used temporarily, will be purchased or utilized in accordance with the <i>Uniform Relocation and Real Property Acquisition Policies Act</i> , Title VI of the <i>Civil Rights Act</i> , and applicable West Virginia laws.
Community Facilities and Services	Portions of the New Cumberland City Park (0.8 acres) will be taken as well as one of the pumping stations.	The WVDOH will work with the City of New Cumberland to relocate the park playground and the wastewater pumping station. It will also compensate the City for the loss of parkland.
Land Cover	Approximately 5.8 acres of built-up land will be converted to highway use.	An approved Erosion and Sedimentation Control Plan will be implemented to minimize impacts to the water quality of Hardin Run. Disturbed areas will be revegetated, where necessary, utilizing a native seed mixture and landscaped upon completion of construction.
Floodplains	The alternative falls within a special flood hazard area subject to a 1 percent chance of inundation during a 100-year flood.	All construction within the floodplain will be in compliance with Executive Order 11988, <i>Floodplain Management</i> . Detailed hydrologic and hydraulic analyses will be conducted during final design to determine the magnitude of floodplain encroachments and the appropriate strategies for avoidance and minimization of impacts.
Air Quality	The project will generate minimal air quality impacts. During construction, there will be an increase in emissions by heavy construction equipment and an increase in dust. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone. Impacts from dust would be localized within the immediate area of construction.	USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. An analysis of national trends using USEPA MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (FHWA 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. To address temporary impacts on air quality during construction, the following measures incorporate updated regulations and should be observed. If it is necessary to burn debris, approval by the West Virginia Department of Environmental Protection Secretary or an authorized representative is required to conduct such burning. Demolition activities are subject to 45CSR15 (asbestos NESHAP at 40 CFR 61, Subpart M). Formal Notification of Abatement, Demolition, or Renovation must be

Resource or Element	Impact	Mitigation Measures
		completed and timely filed with the authorized representative. Approval must be received before commencement of the activities addressed in the Notification. If demolition, excavation, transportation of soil/aggregates, or the handling of materials cause nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.
Noise	Alternative 4 will have a minor noise impact to Pride Park. Construction may temporarily influence sound levels.	Noise mitigation consideration is warranted for Pride Park, but because the park is less than 20 feet wide and immediately adjacent to WV 2 it is not feasible to provide noise mitigation.
Potentially Hazardous Wastes	The alternative will impact four potentially hazardous waste sites: Norfolk Southern Railroad, Former Railway Freight House, Former Watson's Sunoco, and the NC Wellfield Site.	A waste management plan and/or waste-management related provisions will be incorporated into construction bid documents to address potential contamination at hazardous waste sites. Phase II/III Environmental Assessment activities, if necessary, will be conducted at the sites that are determined to be impacted based on final design prior to construction.
Archaeological Resources	The SHPO has requested Phase IB archaeological testing within Alternative 4.	Concurrent with final design, Phase IB testing will be conducted on those areas identified in the Phase IA Archaeological Constraints Report. The results of that testing will be sent to SHPO. Further mitigation will be developed after the Phase IB testing has been completed.
Section 4(f) Resources	Portions of the New Cumberland City Park (0.8 acre) will be taken, including its playground, 12 parking spaces, and an open field.	The WVDOH will work with the City of New Cumberland to relocate the playground and parking areas.

Section 6(f) Resources	The New Cumberland City Park has been improved utilizing LWCF grants.	A copy of the EA and any future relevant environmental studies will be sent to the National Park Service and the WVDO to satisfy the environmental requirements of the LWCF. Coordination will continue with the WVDO as the project progresses.
Utilities	Utility relocations will be required as a result of the project.	Coordination with the utility operators will be required throughout the project. Coordination meetings will be held to discuss the need for additional right-of-way, expansion, or relocation easements; impacts to schedules; construction requirements; and any other issues. The WVDOH has detailed procedures for coordinating with impacted utilities. The relocation of utilities will be completed prior to construction with limited inconvenience to the public.
Temporary Construction Impacts	Short-term impacts associated with construction include inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and health and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to residences and businesses will be maintained during construction although temporary disruptions may occur. Construction will be performed to comply with all applicable federal, state, and local laws regarding safety, health, and sanitation. All contractors are required to adhere to Occupational Safety and Health Administration guidelines to protect the lives and health of employees, the safety of the public, and the integrity of adjacent properties.

Table 9
Mitigation Commitments Associated with Alternative 5A

Resource or Element	Impact	Mitigation Measures
Displacements	The alternative will permanently displace one business and 12 residences.	All properties to be acquired, or used temporarily, will be purchased or utilized in accordance with the <i>Uniform Relocation and Real Property Acquisition Policies Act</i> , Title VI of the <i>Civil Rights Act</i> , and applicable West Virginia laws.
Community Facilities and Services	Portions of the S. Chester Street Playground and three baseball fields will be taken as well as the city's wastewater treatment plant.	The WVDOH will work with the City of New Cumberland to relocate the wastewater treatment plant. It will also compensate the City and the Northern Panhandle Baseball Association, the owner of the baseball fields, for the loss of their properties.
Land Cover	Approximately 10.6 acres of built-up land and woodland/shrubland will be converted to highway use.	An approved Erosion and Sedimentation Control Plan will be implemented to minimize impacts to the water quality of the Ohio River. Disturbed areas will be revegetated, where necessary, utilizing a native seed mixture and landscaped upon completion of construction.
Aquatic Resources	<i>De minimis</i> wetland impacts will occur to two small wetlands.	During final design, measures will be identified that may further minimize any temporary and permanent impacts to wetland resources. Any unavoidable impacts to wetlands will be mitigated through the purchase of the appropriate wetland banking credits or payment into the state's in-lieu fee program.
Floodplains	This alternative falls within the 100-year floodplain Zone AE of the Ohio River, and is subject to a 1 percent chance of inundation during a 100-year flood.	All construction within the floodplain will be in compliance with Executive Order 11988, <i>Floodplain Management</i> . Detailed hydrologic and hydraulic analyses will be conducted during final design to determine the magnitude of floodplain encroachments and the appropriate strategies for avoidance and minimization of impacts.
Air Quality	The project will generate minimal air quality impacts. During construction, there will be an increase in emissions by heavy construction equipment and an increase in dust. Dust and exhaust particulate emissions from heavy equipment operations would temporarily degrade air quality in the immediate construction zone. Impacts from dust would be localized	USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. An analysis of national trends using USEPA MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (FHWA 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. To address temporary impacts on air quality during construction, the

Resource or Element	Impact	Mitigation Measures
	within the immediate area of construction.	following measures incorporate updated regulations and should be observed. If it is necessary to burn debris, approval by the West Virginia Department of Environmental Protection Secretary or an authorized representative is required to conduct such burning. Demolition activities are subject to 45CSR15 (asbestos NESHAP at 40 CFR 61, Subpart M). Formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the authorized representative. Approval must be received before commencement of the activities addressed in the Notification. If demolition, excavation, transportation of soil/aggregates, or the handling of materials cause nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.
Potentially Hazardous Wastes	The alternative will impact 12 potentially hazardous waste sites: New Cumberland Wastewater Treatment Plant, Norfolk Southern Railroad, Former Pottery Mill, Columbia Gas Transmission Station, Former Poli Oily Wastewater/Buer Oil Collection, Former Standard Oil Station, Former New Cumberland Glass Company, American Industrial Recycling, Smith Oil Company, Champs Auto, Former Dry Cleaner, and Former Bowens Service Station.	A waste management plan and/or waste-management related provisions will be incorporated into construction bid documents to address potential contamination at hazardous waste sites. Phase II/III Environmental Assessment activities, if necessary, will be conducted at the sites that are determined to be impacted based on final design prior to construction.

Resource or Element	Impact	Mitigation Measures
Historic Resources	There will be an adverse effect on the NRHP-eligible McNeil Building and Daniels House and an indirect adverse effect on the NRHP-listed First National Bank/Graham Building.	A MOA will be developed between the WVDOH and WVSHPO to mitigate the adverse effects to the McNeil Building and Daniels House. Mitigation measures are anticipated to include the documentation of the buildings via a state level recordation. Mitigation measures for the First National Bank/Graham Building will be stipulated in the MOA prepared for the project.
Archaeological Resources	The SHPO has requested Phase IB archaeological testing within Alternative 5A.	Concurrent with final design, Phase IB testing will be conducted on those areas identified in the Phase IA Archaeological Constraints Report. The results of that testing will be sent to SHPO. Further mitigation will be developed after the Phase IB testing has been completed.
Section 4(f) Resources	A portion of the S. Chester Street Playground (0.02 acre) will be taken. In addition, the McNeil Building and Daniels House will be displaced and the First National Bank/Graham Building will be indirectly impacted.	The WVDOH will compensate the city for the loss of property at the S. Chester Street Playground. A MOA will be developed between the WVDOH and WVSHPO to mitigate the impacts to the McNeil Building and Daniels House. Mitigation measures are anticipated to include the documentation of the buildings via a state level recordation. Mitigation measures for the First National Bank/Graham Building will be stipulated in the MOA prepared for the project.
Utilities	Utility relocations will be required as a result of the project.	Coordination with the utility operators will be required throughout the project. Coordination meetings will be held to discuss the need for additional right-of-way, expansion, or relocation easements; impacts to schedules; construction requirements; and any other issues. The WVDOH has detailed procedures for coordinating with impacted utilities. The relocation of utilities will be completed prior to construction with limited inconvenience to the public.
Temporary Construction Impacts	Short-term impacts associated with construction include inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and health and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to residences and businesses will be maintained during construction although temporary disruptions may occur. Construction will be performed to comply with all applicable federal, state, and local laws regarding safety, health, and sanitation. All contractors are required to adhere to Occupational Safety and Health Administration guidelines to protect the lives and health of employees, the safety of the public, and the integrity of adjacent properties.

CONCLUSION

All alternatives develop for the WV 2 Improvements–New Cumberland, Madison and Chester Streets Intersection project except for the No-Build Alternative meet the project purpose and need. The build alternatives were carried into detailed analysis in this EA. The impacts are summarized in Tables 3 and 4, and the proposed mitigation measures for each alternative are discussed in Tables 5 and 9. A preferred alternative for the project will be selected after circulation of the EA.

RESOURCE AGENCY COORDINATION

Agencies that have taken an active role in the project include the FHWA, the U.S. Fish and Wildlife Service, the West Virginia Department of Environmental Protection, the West Virginia Development Office, the West Virginia Division of Culture and History (the State Historic Preservation Office), the West Virginia Division of Natural Resources, the City of New Cumberland, and the Brooke Hancock Jefferson Metropolitan Planning Commission. Relevant correspondence from these agencies is found in Appendix D. Coordination with these and other agencies will continue as the project progresses.

REQUIRED PERMITS

A National Pollutant Discharge Elimination System (NPDES) Permit from WVDEP will be required prior to construction.

REFERENCES

- Brooke-Hancock-Jefferson Metropolitan Planning Commission. 2016. *2040 Regional Transportation Plan*. Steubenville, Ohio.
- Brooke-Hancock-Jefferson Metropolitan Planning Commission. 2017. *Transportation Improvement Program 2018-2021*. Steubenville, Ohio.
- Brooke-Hancock Regional Planning and Development Council. 2014. *Comprehensive Economic Development Strategy*. Weirton, West Virginia.
- Council on Environmental Quality. 1978. *National Environmental Policy Act – Regulations, Federal Register, Vol. 43, No. 230*. Washington, District of Columbia.
- Council on Environmental Quality. 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. Washington, District of Columbia.
- Data USA. 2018. *Hancock County, WV*. Cambridge, Massachusetts.
- Eisenberg MS, Bergner L, and Hallstrom A. 1979. *Cardiac Resuscitation in the Community: Importance of Rapid Provision and Implications for Program Planning*. Journal of the American Medical Association.
- Federal Highway Administration. 1996. *Community Cohesion*. Washington, District of Columbia.
- Federal Highway Administration. 2007. *Railroad-Highway Grade Crossing Handbook*. Washington, District of Columbia.
- Federal Highway Administration. 2016. *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*. Washington, District of Columbia.
- Federal Highway Administration. 2018. *Planning Processes, Statewide Transportation Planning*. Washington, District of Columbia.
- Kulkarni, Gopal, Ph.D. 1976. *Quantitative Techniques in Geography*. Unpublished lecture notes. IUP. Indiana, Pennsylvania.
- National Fire Protection Association. 2016. *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*. Quincy, Massachusetts.
- Playcore. 2018. *Play and Park Structures Field Guide*. Chattanooga, Tennessee.

United States Department of the Interior. 1980. *Hancock County Park Developments*. Washington, District of Columbia.

United States Department of the Interior. 2008. *Land and Water Conservation Fund State Assistance Program*. Washington, District of Columbia.

United States Geological Survey. 2017. *National Land Cover Data Base*. Washington, District of Columbia. West Virginia Division of Highways. 2004. *WV Route 2 Design Report*. Charleston, West Virginia.

West Virginia Division of Highways. 2010. *West Virginia Multi-Modal Statewide Transportation Plan*. Charleston, West Virginia.

West Virginia Division of Highways. 2016a. *Traffic Counts*. Charleston, West Virginia.

West Virginia Division of Highways. 2016b. *Statewide Transportation Improvement Program*. Charleston, West Virginia.

West Virginia Division of Highways. 2017. *Design and Feasibility Report for WV 2 Improvements*. Charleston, West Virginia.

West Virginia Division of Highways. 2018. *Summary of Crashes Occurring on WV 2*. Charleston, West Virginia.

West Virginia State Auditor's Office. 2018. *County Budgets: Hancock County*. Charleston, West Virginia.

LIST OF PREPARERS AND REVIEWERS

<u>Federal Highway Administration</u>	<u>West Virginia Division of Highways</u>	<u>Skelly and Loy, Inc.</u>	
Jason Workman Program Delivery Team Leader	Traci Cummings Natural Resources Unit Leader	Barbara Gundy, Ph.D. Cultural Resources Lead	Bradley Reese GIS Manager
Matthew Daly Area Engineer	Randy Epperly Project Manager	Jason McCabe Hazardous Wastes Lead	Joseph Romano, AICP Principal Analyst
Austen Balthazar Environmental Protection Specialist	Ben Hark Environmental Section Head	Steve Pernick Natural Resources Lead	Trent Sustich Field Crew Lead
	Sondra Mullins Historical Services Unit Leader	Amy Pinizzotto Former Section 4(f) and 6(f) Lead	Evan Zeiders Noise Analysis Lead
		Gerald Kuncio Senior Project Manager	

DISTRIBUTION LIST

Federal, state, and local agencies with jurisdiction over transportation projects will receive a copy of the approved EA for review and comment. Agencies receiving a copy are shown in Table 10. The EA will be posted on the WVDOH website with hard copies made available for agency and public review. A public meeting will be held to allow agency representatives, local residents, business owners, and public officials an opportunity to comment on the document. The comment period for EAs is usually 30 days but will be extended for 45 days for this project because of the potential Section 4(f) impacts. All substantive comments will be addressed in a follow-up environmental document.

Table 10
Agency Distribution List

Federal Agencies	Tribal Nations	State and Local Agencies	
Barbara Okorn U.S. Environmental Protection Agency Office of Environmental Programs	Larry Heady, Special Assistant Tribal Historic Preservation Office Delaware Tribe of Indians	Austin Caperton Cabinet Secretary West Virginia Department of Environmental Protection	Steve McDaniel, Director West Virginia Division of Natural Resources
Willie R. Taylor Director, Office of Environmental Policy and Compliance U.S. Department of the Interior	Nekole Alligood, Cultural Preservation Director Delaware Nation	Scott G. Mandirola Director, Division of Water and Waste Management West Virginia Department of Environmental Protection	Danny Bennett West Virginia Division of Natural Resources
Michael Hatten Chief, Regulatory Division Huntington District U.S. Army Corps of Engineers	Russell Townsend Tribal Historic Preservation Officer Eastern Band of Cherokee Indians	William F. Durham Director, Office of Air Quality West Virginia Department of Environmental Protection	Dave Brabham District Engineer West Virginia Division of Highways District 6
John Schmidt Supervisor, Elkins Field Office U.S. Fish and Wildlife Service	Robin Dushane Tribal Historic Preservation Officer Eastern Shawnee Tribe of Oklahoma	Patty Hickman Acting Division Director Division of Land Restoration West Virginia Department of Environmental Protection	Richard Blackwell Mayor City of New Cumberland
Norm Bailey Resource Conservationist Natural Resources Conservation Service U.S. Department of Agriculture	Dr. Andrea Hunter Tribal Historic Preservation Officer Osage Nation		Jeff Davis President Hancock County Commission
Mary Ann Tierney Regional Administrator Federal Emergency Management Agency	Micco Emarthia Tribal Historic Preservation Officer Seneca-Cayuga Tribe of Oklahoma	John McGarrity Liaison Officer West Virginia Development Office	Mike Paprocki Executive Director Brooke-Hancock-Jefferson Metropolitan Planning Commission
	Jay Toth Tribal Historic Preservation Officer Seneca Nation of Indians	Susan Pierce Deputy State Historic Preservation Officer West Virginia Division of Culture and History	