

# City of New Castle Transportation Plan

2022 Transportation Plan Update and Planning and Environmental Linkage (PEL) Report  
October 11, 2022



**City of New Castle  
Transportation Plan Update  
and  
Planning and Environmental Linkage (PEL) Report**

**Final Report**

**October 11, 2022**

**Endorsed by WILMAPCO on September 8, 2022**

**WILMAPCO (Wilmington Area Planning Council)**

**City of New Castle**

**DeIDOT (Delaware Department of Transportation)**

Prepared by:



## Contents

Executive Summary.....	5
Introduction .....	7
Project Description and Purpose & Need .....	7
Existing Conditions .....	9
Land Use and Zoning.....	9
Historic Resources.....	10
Parks and Open Space.....	11
Wetlands, Flooding, Stormwater, Sea Level Rise.....	13
Public Involvement .....	15
Improvement Options – Evaluated, Recommended & Prioritized .....	16
Citywide Speed Reductions and Traffic Calming.....	16
Capacity Enhancements.....	18
Strategic Intersections .....	19
Bicycle and Pedestrian Improvements .....	32
Parking .....	43
Flooding.....	46
Gateways.....	47
Summary of Recommendations.....	49

## List of Figures

Figure 1: Project Location .....	7
Figure 2: Study Area.....	8
Figure 3: Land Cover .....	9
Figure 4: Zoning .....	10
Figure 5: Historic Markers.....	11
Figure 6: Battery Park .....	11
Figure 7: Parks, Open Space & Monuments .....	12
Figure 8: Wetlands & High Water Marks .....	13
Figure 9: Sea Level Rise .....	14
Figure 10: Speed Reductions.....	17
Figure 11: SR 273 Traffic Volumes .....	18
Figure 12: US 13/SR 273 Intersection & SR 273 Corridor .....	18
Figure 13: Strategic Intersections .....	19
Figure 14: Existing SR 273/SR 141 Intersection .....	19
Figure 15: Concept 1: Free Right Turn .....	20
Figure 16: Concept 2: Signal Controlled Right Turn .....	21
Figure 17: Concept 3: Protected Intersection.....	21
Figure 18 - Existing Delaware Street/Ferry Cut Off Street Intersection .....	22
Figure 19: Concept 1: Existing Condition with Multiuse Path .....	22
Figure 20: Concept 2: Gateway Addition .....	23
Figure 21: SR 9 Delaware Street Railroad Crossing Project .....	24

Figure 22: Existing Ferry Cut Off Street/E. 6th Street/Chestnut Street Intersection.....	25
Figure 23: Concept 1: Separated Roads .....	26
Figure 24: Existing DART Bus Route 15 Stop.....	26
Figure 25: Proposed DART Bus Route 15 Stop.....	26
Figure 26: Concept 2: Dutch Left .....	27
Figure 27: Concept 2: Dutch Left Thru-Traffic .....	28
Figure 28: Concept 2: Dutch Left Traffic Into Town .....	28
Figure 29: Concept 2: Dutch Left Traffic Out of Town .....	28
Figure 30: Dutch Left Emergency Access .....	29
Figure 31: Existing W. 7th Street/Washington Street Intersection .....	30
Figure 32: Concept 1: Signing.....	31
Figure 33: Concept 2: Washington Street Sweep .....	32
Figure 34: E. Basin Road Multiuse Path .....	34
Figure 35: Delaware Street/Ferry Cut off Street Multiuse Path – Segment 1 .....	35
Figure 36: Delaware Street/Ferry Cut off Street Multiuse Path – Segment 2 .....	35
Figure 37: Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 3.....	36
Figure 38: Delaware Street/Ferry Cut off Street Multiuse Path – Segment 4 .....	36
Figure 39: Wilmington Road Multiuse Path – Segment 1.....	37
Figure 40: Wilmington Road Multiuse Path – Segment 2.....	37
Figure 41: Wilmington Road Multiuse Path – Segment 3.....	38
Figure 42: Wilmington Road Multiuse Path – Segment 4.....	38
Figure 43: Wilmington Road Multiuse Path – Segment 5.....	39
Figure 44: Washington Street Multiuse Path.....	39
Figure 45: Dobbinsville Multiuse Path .....	40
Figure 46: South Street Multiuse Path.....	41
Figure 47: Bicycle and Pedestrian Improvements .....	33
Figure 48: Existing Cherry Street.....	42
Figure 49: Cherry Street Sidewalk.....	43
Figure 50: Chestnut Street Parking Lot .....	44
Figure 51: Wilmington Road Parking Lot .....	45
Figure 52: SR 9/River Road Flood Remediation .....	47
Figure 53: Gateway Locations.....	48
Figure 54: Purpose Matrix.....	49

## List of Photos

Photo 1: Historic Marker - William Penn's First Steps on American Soil .....	7
Photo 2: Historic Town Hall and Market House.....	10
Photo 3: New Castle Common .....	10
Photo 4: SR 9/River Road Flood Remediation .....	46



## Executive Summary

The Wilmington Area Planning Council (WILMAPCO), City of New Castle, Delaware, and the Delaware Department of Transportation (DelDOT) developed the City of New Castle Transportation Plan Update to update the 1999 City of New Castle Transportation Plan and will further analyze issues raised in the City of New Castle Comprehensive Development Plan. The study area includes the entire municipality and also considers transportation transitions to surrounding areas within New Castle County as appropriate. Improvements were developed and evaluated to address the following:

- An improved multimodal transportation network which provides connectivity to communities and trails, enhances health and livability, reduces illegal truck traffic within the City, and improves overall safety for pedestrians, bicyclists and vehicles.
- Understand and address the impacts flooding and sea-level rise have on land use and access to major transportation corridors.
- Improve gateways, with specific attention to the historic elements of the City.
- Enhance bicycle and pedestrian connections and facilities.
- Clarify regional and local traffic patterns.
- Redesign streets and intersections to reduce speeding and cut-through traffic while improving pedestrian safety in all neighborhoods.
- Formalize and optimize the existing parking supply.

All recommendations were developed with an understanding of the rich cultural history of the City of New Castle, as well as other community facilities and natural resources located within the study area. Additionally, other area projects were identified to avoid potential conflicts, ensure consistency, and eliminate duplication of efforts.

Recommendations were categorized based on costs, suggested timing, and priority using the criteria.

Cost	Term	Priority
Low Less than \$250,000	Short Within 3 years	Low – Less immediate need or community support
Moderate \$250,000-\$1,000,000	Moderate 3 – 8 years	Moderate – Some need and community support
High Greater than \$1,000,000	Long Beyond 8 years	High – Strong need and community support

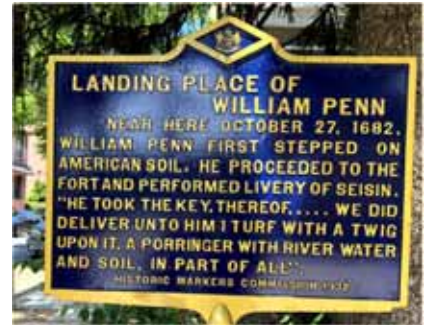
As the City has diverse transportation concerns, a holistic and multifaceted approach to developing improvements was used. Recommendations were based on their ability to satisfy identified transportation goals, objectives, and needs; avoidance of sensitive historic and natural resources, consideration of context sensitivity, and community support. The following improvements are recommended to move forward for detailed study and implementation if feasible:

PROJECT	COST	TERM	PRIORITY
<b>Speed Management</b>			
Citywide Speed Reductions and Traffic Calming	Low	Short	High
<b>Strategic Intersections</b>			
US 13/SR 273	High	Long	High
SR 273 Widening	High	Future evaluation	Low
SR 273/SR141 Intersection <i>Concept 3: Protected Intersection</i>	Moderate	Moderate	Low
Delaware Street/Ferry Cut Off Street Intersection <i>Concept 2: Gateway Addition</i>	Moderate	Moderate	High
Ferry Cut Off Street/E. 6 <sup>th</sup> Street/Chestnut Street Intersection <i>Concept 2: Dutch Left</i>	High	Long	High
W. 7 <sup>th</sup> Street/Washington Street Intersection <i>Concept 1: Signing</i>	Low	Short	High
W. 7 <sup>th</sup> Street/Washington Street Intersection <i>Concept 2: Washington Street Sweep</i>	High	Long	High
<b>Bicycle and Pedestrian Improvements</b>			
E. Basin Road Multiuse Concept	Low	Moderate	High
Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 1	Low	Moderate	High
Delaware Street/Ferry Cut Off Street Multiuse Path– Segment 2	Low	Short	High
Delaware Street/Ferry Cut Off Street Multiuse Path– Segment 3	Low	Moderate	High
Delaware Street/Ferry Cut Off Street Multiuse Path– Segment 4	Moderate	Moderate	High
Wilmington Road Multiuse Path Segments 1-5	Moderate	Moderate	High
Washington Street Multiuse Path	Low	Short	High
Dobbinsville Multiuse Path	Low	Short	High
South Street Multiuse Path	Low	Moderate	High
Bicycle and Pedestrian Improvements	Moderate	Moderate	High
Cherry Street Sidewalk	Low	Low	Moderate
<b>Flooding and Other</b>			
SR 9 River Road Flood Remediation	High	Moderate	High
Wilmington Road Parking Lot	Low	Short	Low
Gateways	Low	Moderate	Low

## Introduction

Founded in 1640, the historic City of New Castle is situated along the Delaware River in New Castle County, Delaware. Its geographical position as a port city made it a desirable location for early European settlers, and Aboriginal inhabitants before them. Dutch, Swedish, and English governments each claimed the colony throughout its history. In 1682 New Castle was the landing place for William Penn's first steps on American soil. *See Photo 1.* By 1704 New Castle broke from Pennsylvania and became the County seat of the colonial government.

Today, while its location along the Delaware River still influences many of its land use and economic decisions, modern transportation factors are critical to the City's future. An improved multimodal transportation network, bicycle and pedestrian facilities, updated traffic patterns, and provisions for truck traffic are all critical components to enhancing the health and livability of the City of New Castle. *See Figure 1.*



**Photo 1: Historic Marker - William Penn's First Steps on American Soil**

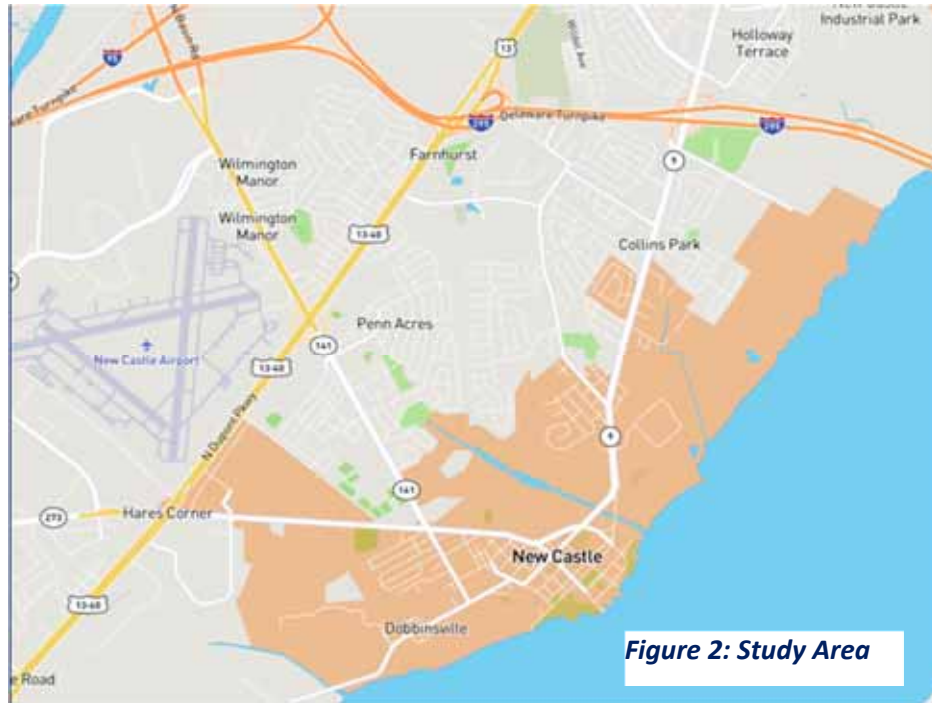
## Project Description and Purpose & Need

The purpose of this study was to develop an updated Transportation Plan for the City of New Castle. The new Plan builds upon the 1999 *City of New Castle Transportation Plan*, provides additional analyses, and expands on many of the issues identified in the *City of New Castle Comprehensive Development Plan*.

The study area includes the entire City of New Castle, but some of the transportation solutions address, and/or are affected by, traffic conditions beyond the corporate boundaries as improvements transition to adjacent areas within New Castle County. *See Figure 2.*



**Figure 1: Project Location**



Improvements were developed mindful of the study's purpose and need, and the desired goals and objectives the City of New Castle strives to achieve.

Those include:

- An improved multimodal transportation network which provides connectivity to communities and trails, enhances health and livability, reduces illegal truck traffic within the City, and improves overall safety for pedestrians, bicyclists and vehicles.
- Understand and address the impacts flooding and sea-level rise have on land use and access to major transportation corridors.
- Improve gateways, with specific attention to the historic elements of the City.
- Enhance bicycle and pedestrian connections and facilities.
- Clarify regional and local traffic patterns.
- Redesign streets and intersections to reduce speeding and cut-through traffic while improving pedestrian safety in all neighborhoods.
- Formalize and optimize the existing parking supply.

The scope of this Plan encompasses transportation improvements throughout the entire City of New Castle. Since the study area is large and the transportation needs are both diverse and complex, improvements were developed holistically and strategically to address multiple needs and key portions of the City.

**Appendix A** identifies issues, opportunities, and constraints within the study area.

This document has been developed in a Planning and Environmental Linkages (PEL) report format. PEL studies are a collaborative and integrated approach to transportation decision-making that considers environmental, community, and economic issues early in the planning process.

**Appendix B** provides a Planning and Environmental Checklist (PEL) for this study.

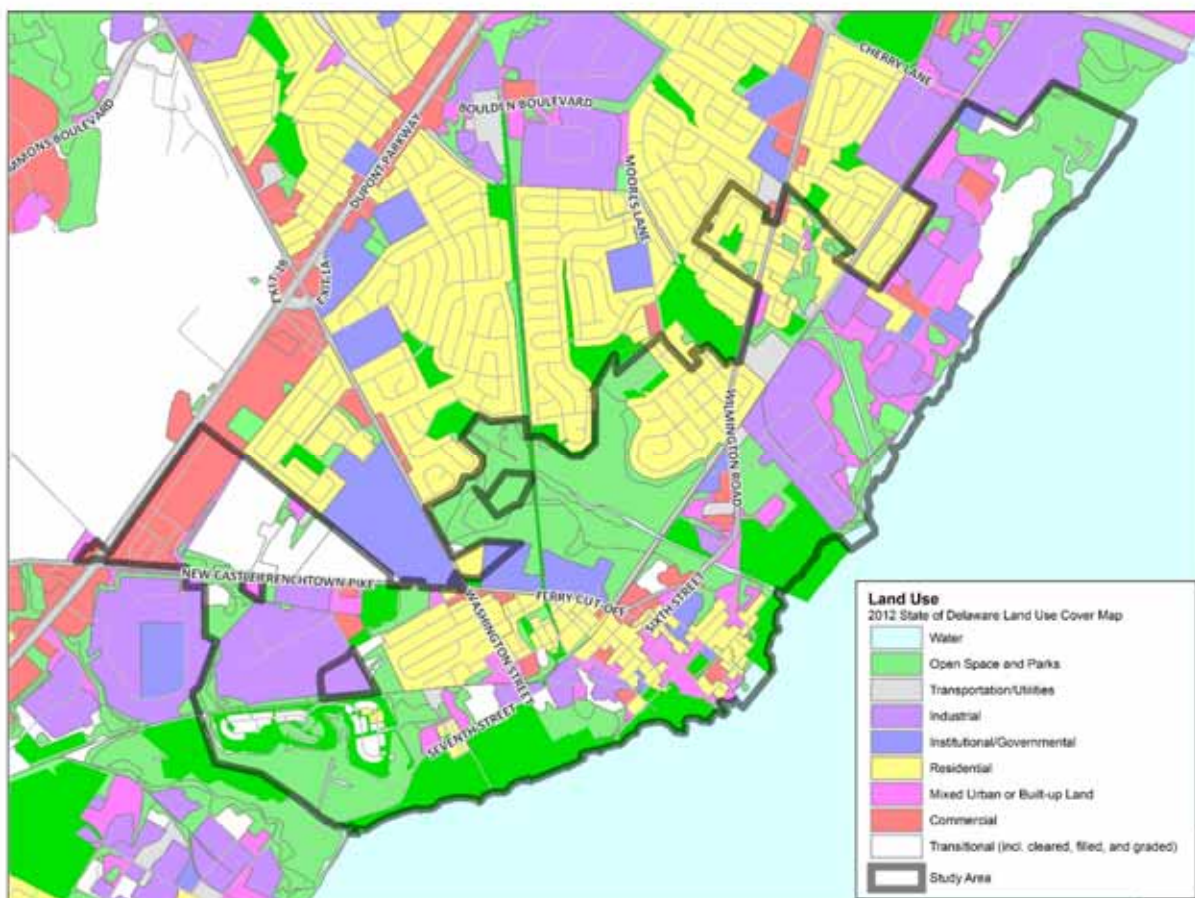


## Existing Conditions

### Land Use and Zoning

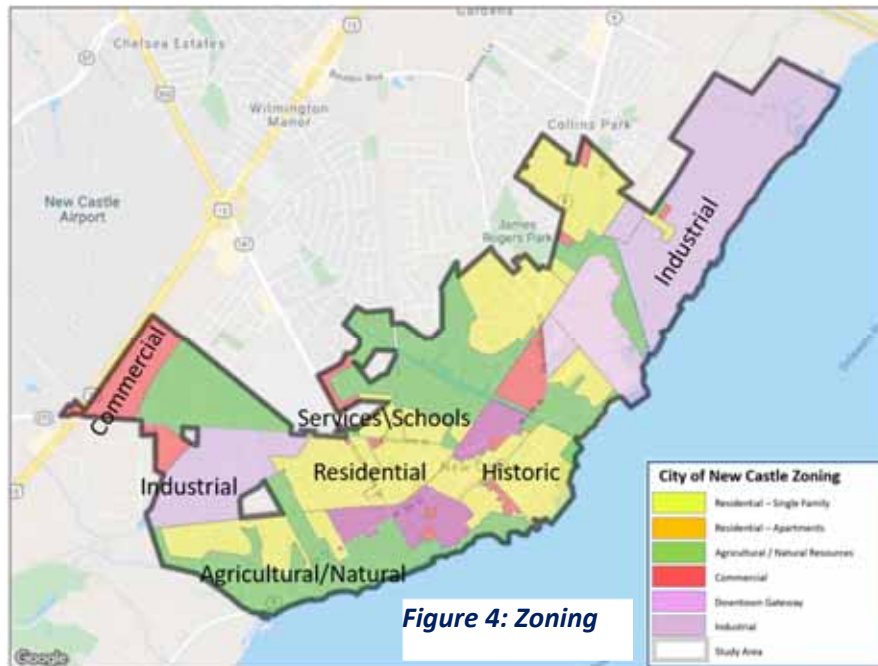
The City of New Castle is situated between I-295 to the north, the Delaware River to the east, US 13 to the west and Army Creek to the south. The City of New Castle contains a mix of land uses, dominated by open space, residential, and industrial. Approximately 46 percent of the City's land cover is open space which includes wetlands, forest, agriculture, and parks, contributing to its character as a green, waterfront community. Approximately 23 percent of the land cover is residential uses, including modern apartments, historic row homes, and single-family homes which account for the largest share of 43 percent. The remaining 31 percent of the City contains mixed-use, industrial, commercial, institutional, or utility uses.

*See Figure 3.*



**Figure 3: Land Use**

Land uses throughout the City are diverse and generally follow zoning codes, with residential areas focused in the internal core and industrial lands, commercial uses, and open space on the periphery of the City. *See Figure 4.* The downtown core is also where the majority of the historic structures are located.



**Figure 4: Zoning**

## Historic Resources

The City of New Castle is rich in history dating back to 1640 and is the location where William Penn landed in America in 1682. The City is proud of its preserved heritage, as evidenced by the numerous historic buildings and landmarks throughout the City. *See Photo 2.* As many as 25 historic markers are spread throughout New Castle, the majority of which are located in the downtown core of the City. These markers identify a variety of resources, primarily from America's Colonial era and include the courthouse, jail, churches, private homes, and farms. *See Photo 3.* While these historic resources are local treasures and national landmarks, they also serve as attractions and points of interest for visitors, tourists, school children, and others. The traffic they attract can often burden the transportation network of the City. It is with this context in mind that improvements were considered and developed.



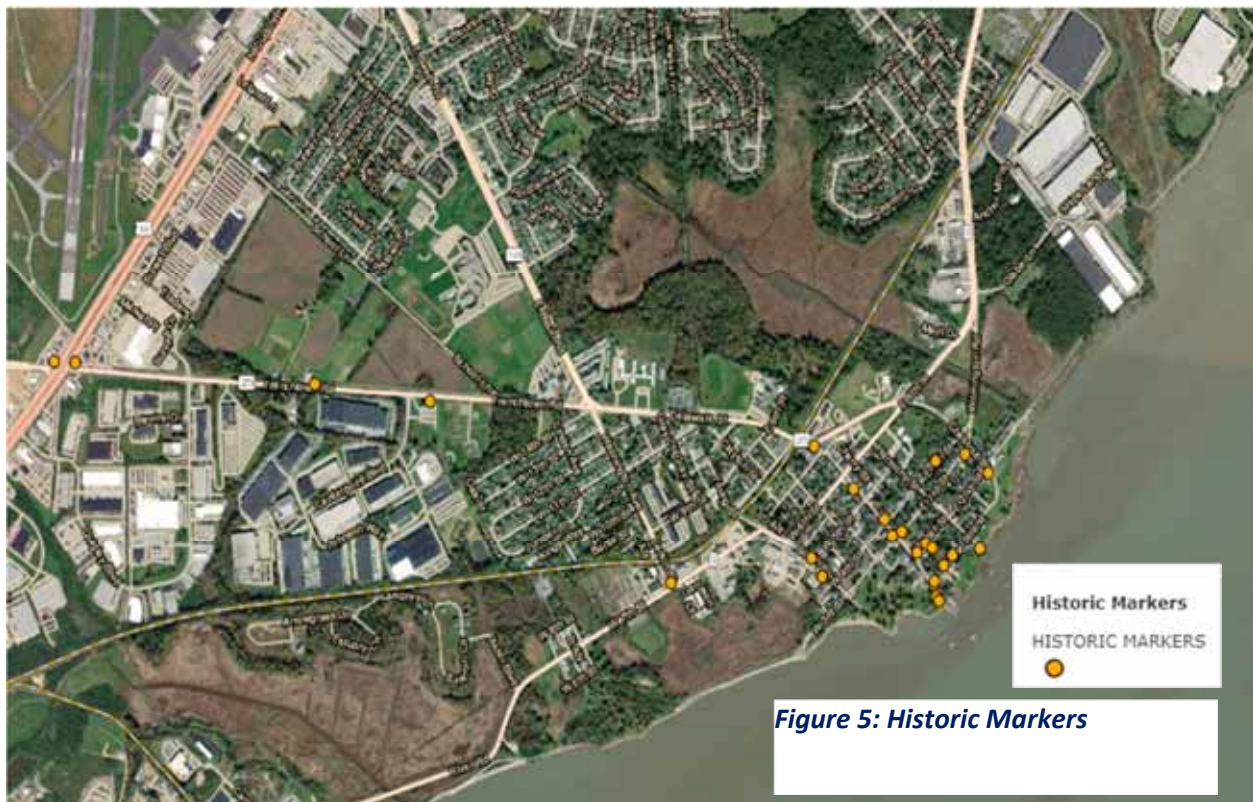
**Photo 2: Historic Town Hall and Market House**



**Photo 3: New Castle Common**



Improvements were developed to accommodate the traffic drawn by these resources and with a respect for their integrity. It was also important to encourage all modes of transportation particularly pedestrian and bicycle mobility, and to accommodate the parking needs in these areas. *See Figure 5.*



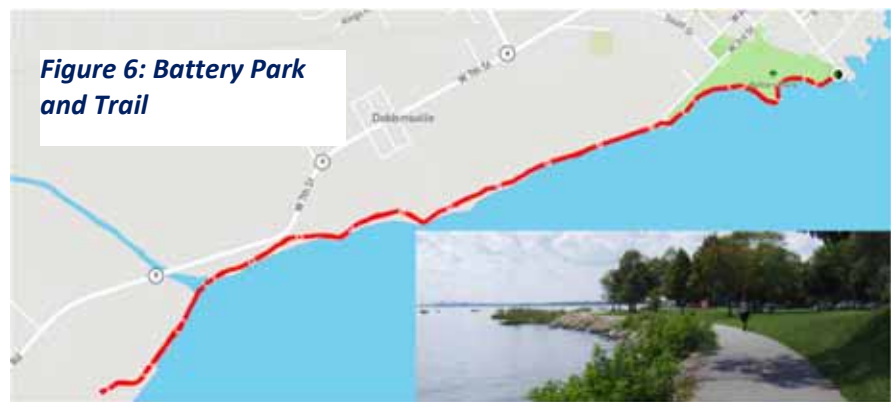
**Figure 5: Historic Markers**

Any impact to or use of cultural resources as a result of any of the proposed recommendations will require coordination with the DE SHPO to satisfy Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the USDOT Act of 1966.

## Parks and Open Space

Approximately 46 percent of the City's land cover, open space includes wetlands, forest, agriculture, and parks, contributing to its character as a green, waterfront community. Battery Park stretches along the Delaware River for approximately 11,000 feet and is the setting for many events. *See Figure 6.*

Open space to the east of Delaware Street along the Delaware River is a combination of lands owned by the City and private landowners but not designated as parkland. Further west of Penn Street, outside of the boundaries of Battery Park are non-regulated low marsh areas. Some regulated wetlands are in these areas as well.

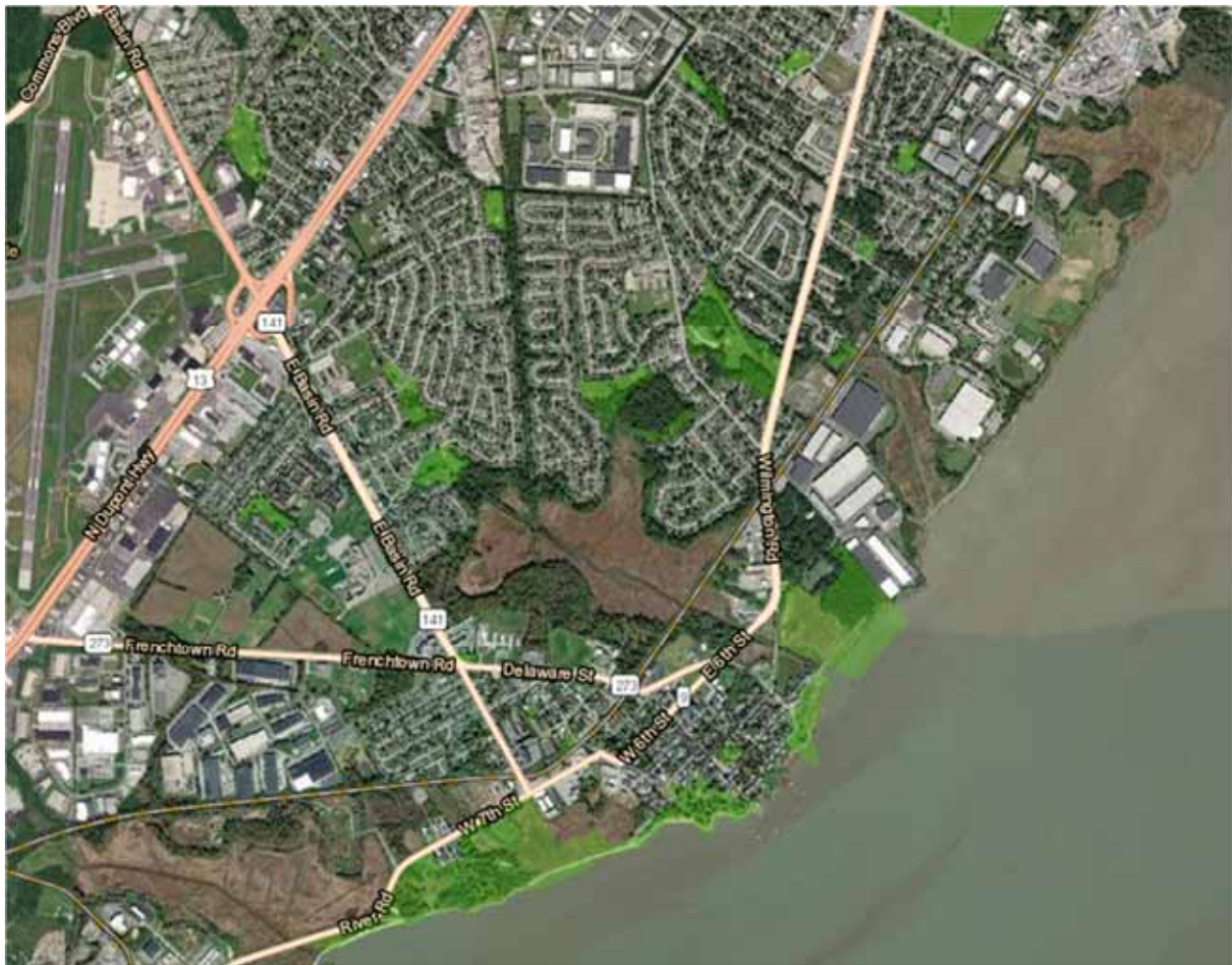


**Figure 6: Battery Park and Trail**

The City is home to the First State National Historic Park and a national historic district, including numerous historic and natural sites of national and regional significance. The Park's headquarters is located at the New Castle Court House Museum. Two Delaware Byways, the Delaware Bayshore Byway and Harriet Tubman Underground Railroad Byway, pass through the City. Battery Park is enjoyed by local and regional visitors, one of the few recreational destinations along the Delaware River in New Castle County. In addition, there are several smaller parks and other public open spaces throughout the City. *See Figure 7.* These areas include:

- Dobbinsville Park
- Susi Park
- New Castle Entrance Park
- Young Street Park
- The Green
- First State National Monument
- Trustees of New Castle Commons Park
- New Castle Veterans Triangle
- Bull Hill Park
- Penn Valley Park
- Fort Casimir Memorial Park
- Van Dyke Park

Any impact to or use of public parks, recreation areas, or other public open space as a result of any of the proposed recommendations will require coordination with FHWA to satisfy Section 4(f) and possibly Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965.



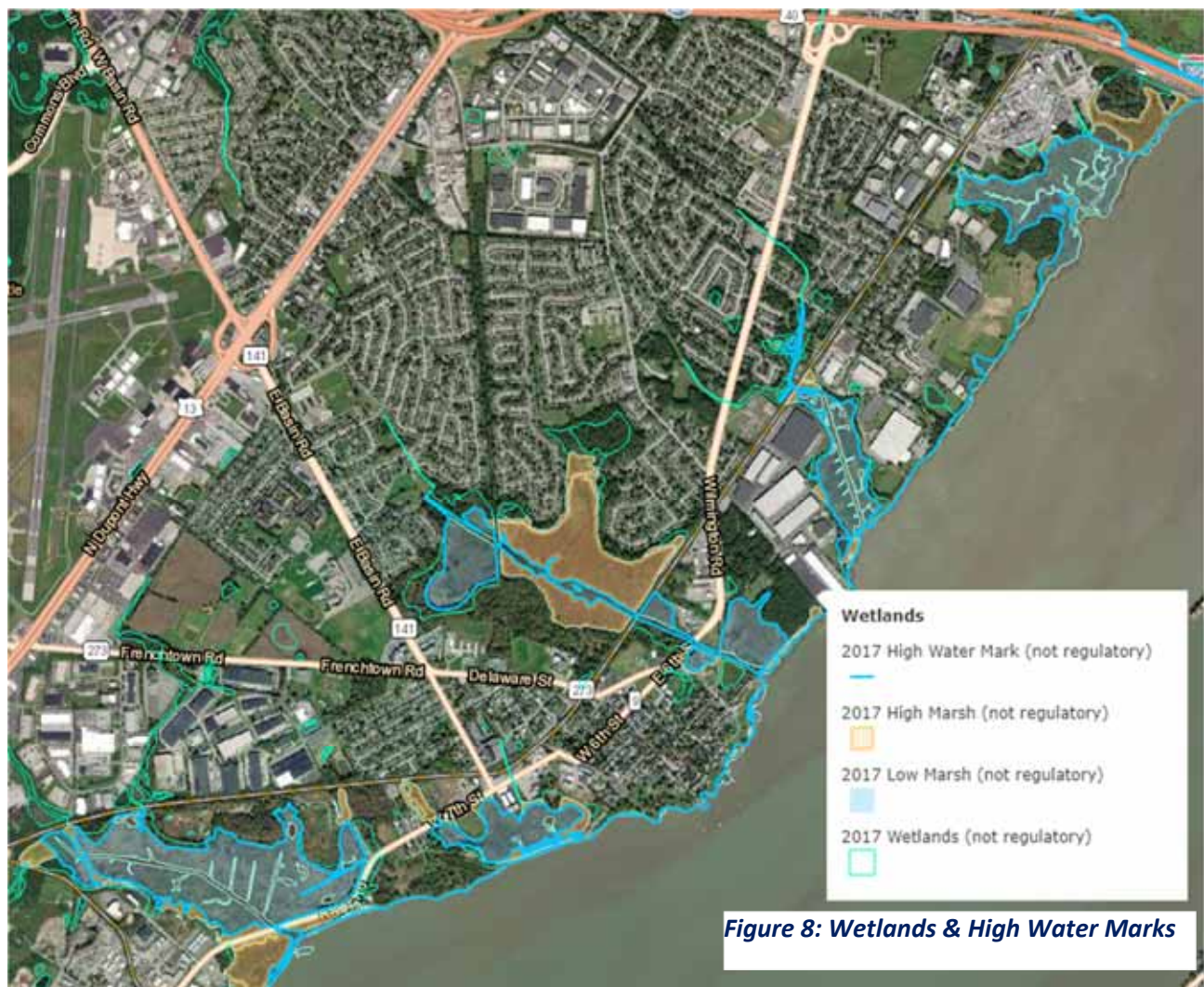
**Figure 7: Parks and Open Space**

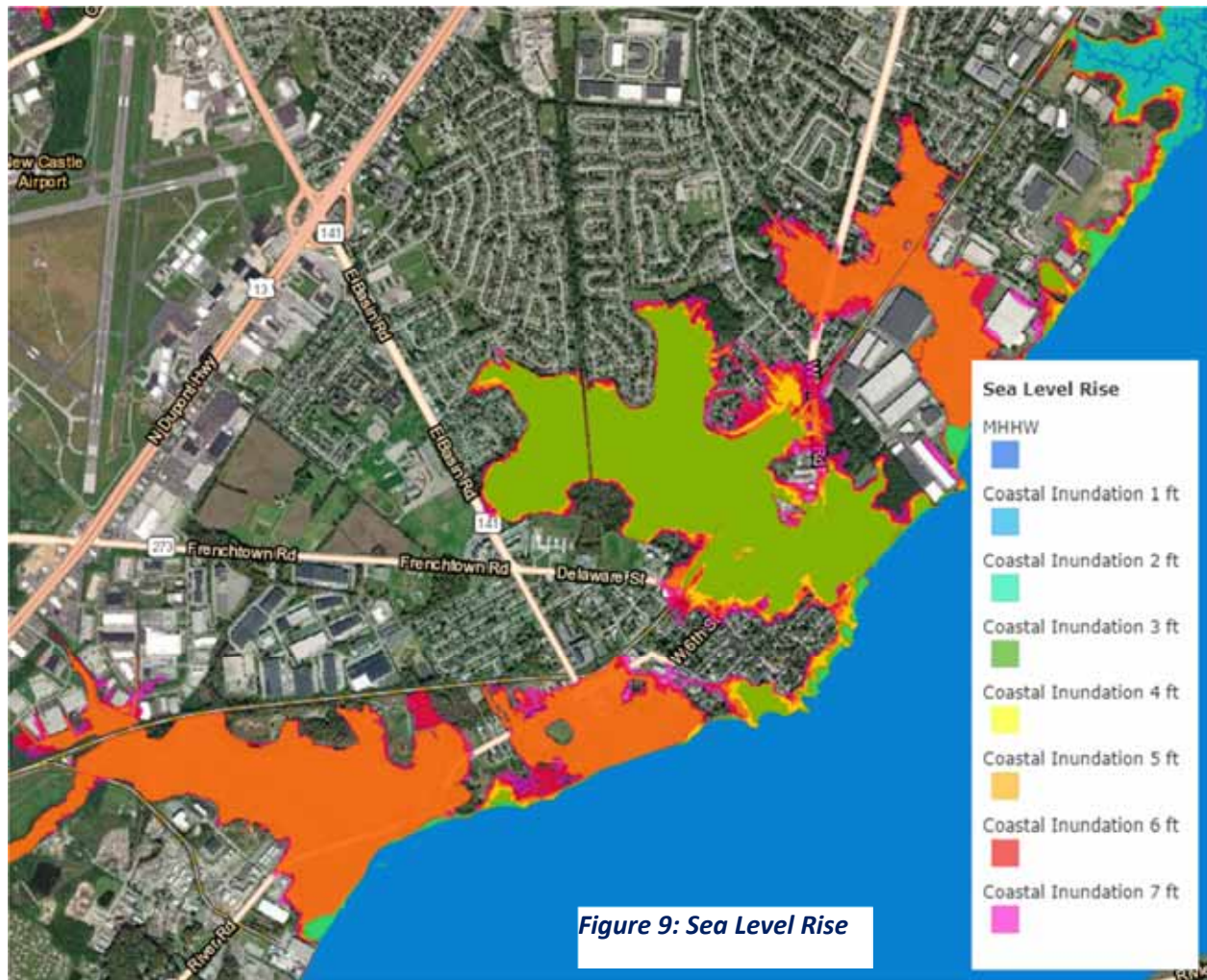


## Wetlands, Flooding, Stormwater, and Sea Level Rise

Environmental constraints are present throughout much of the study area. Wetlands comprise much of the City, including the 41-acre Gambacorta Marsh and 210-acre Broad Dyke Marsh, which form a natural barrier between the City's historic center and newer development. These have been improved through DNREC rehabilitation programs.

As a low-lying, riverfront community, many roads and neighborhoods experience storm-related flooding and have projected Sea Level Rise impacts. The 2018 Vulnerability Assessment and Adaptation Plan is a community-based plan to minimize the risks associated with flooding. Conservative projections suggest an increase in sea level and flood elevations of 2 feet or more, with the neighborhoods of Buttonwood, Van Dyke Village, New Castle Manor, Bull Hill, the Strand, and Dobbinsville particularly impacted. The intersections of Delaware Street and Ferry Cut-Off, 6th Street (Route 9) and Ferry Cut-Off/Chestnut Street, and 7th Street (Route 9) and Washington Street are at risk of flooding and Sea Level Rise impacts, blocking access to emergency evacuation routes. *See Figure 8 and Figure 9.*





**Figure 9: Sea Level Rise**

Any filling, impact to, or use of any regulated wetlands or waterways will require coordination with the US Army Corps of Engineers and DE Department of Natural Resources and Environmental Control to ensure that all necessary permits are acquired before such action is taken.



## Public Involvement

Public involvement and community outreach were important components of the New Castle Transportation Plan Update Study. Residents, the business community, as well as state and local stakeholders were engaged throughout the Study. The following provides a summary of the public involvement and outreach that occurred throughout the study and helped guide the development of improvement alternatives:

### Community Workshop 1

February 10, 2021

- Via Zoom with 56 Attendees
- Discussion: Existing Conditions, Data Collected
- 2 Polling Questions Asked and Tabulated
- 3 Live and Interactive Breakout Sessions Conducted
  - Breakout Session 1 - Bicycle/Pedestrian & Transit
  - Breakout Session 2 - Traffic/Freight & Parking
  - Breakout Session 3 - Environment, Flooding, Streetscape & Electric Vehicles
- See **Appendix C** for Workshop 1 Summary Report

### Pop Up Workshop

July 28, 2021

- Held in Battery Park in conjunction with Summer Concert Series
- Opportunity for public to provide comments
- Discussion: Data Gathering, Existing Conditions
- See **Appendix D** for Pop Up Workshop Comments received

### Community Workshop 2

September 13, 2021

- Via Zoom with 37 Attendees
- Discussion: Goals and Objectives, Public Comments, Improvement Options Developed
- 16 Polling Questions Asked and Tabulated
- 52 Questions Asked and Answered
- 6 Post Workshop Survey Questions Asked and Tabulated
- 17 Post Workshop Comments/Messages Received and Documented
- See **Appendix E** for Workshop 2 Summary Report

### Community Workshop 3

November 9, 2021

- Live – City Council Meeting with 70+ Attendees (43 sign-ins)
- Discussion: Improvement Options Developed
- 16 Polling Questions Asked and Tabulated
- 5 Additional Workshop Questions Asked and Tabulated
- 2 Post Workshop Comments/Messages Received and Documented
- See **Appendix F** for Workshop 3 Summary Report

In addition to the community workshops, two Planning Partner Meetings, two Advisory Committee meetings, and a meeting with the City of New Castle Fire and Police Chiefs were conducted.

## Improvement Options – Evaluated, Recommended & Prioritized

The City of New Castle’s transportation and mobility goals require a broad range of solutions. The planning team used a complete streets approach to ensure all modes of transportation and all types of users were taken into account. For many identified locations with challenges, several concepts were evaluated and shared with the community for their feedback. The following section summarizes the concepts that were evaluated and highlights those recommended for implementation.

Recommended improvements are categorized based on costs, suggested timing, and priority. The criteria for these categories are provided below. Priorities are suggested based on feedback from Advisory Committee Meetings, Public Workshops, and existing conditions analyses. Recommendations are categorized as low, moderate, and high cost and short-term, moderate-term, and long-term.

Cost	Term	Priority
Low Less than \$250,000	Short Within 3 years	Low – Less immediate need or community support
Moderate \$250,000-\$1,000,000	Moderate 3 – 8 years	Moderate – Some need and community support
High Greater than \$1,000,000	Long Beyond 8 years	High – Strong need and community support

Projects that require DelDOT implementation will be prioritized by WILMAPCO for inclusion in the long-range Regional Transportation Plan and the four-year Transportation Improvement Program. In addition, DelDOT will evaluate projects for inclusion in the Capital Transportation Program (CTP). Timing of project implementation will depend on project priority and available resources. Future priorities may shift in response to traffic, land use, or other changes.

## Citywide Speed Reductions and Traffic Calming

Cut-through traffic, particularly large trucks, and speeding in the City’s downtown core area were identified as a concern by many residents. Cut-through traffic most often occurs when the City’s primary routes (SR 273, Ferry Cut Off Street, and SR 9) are congested, often as a result of drivers avoiding congestion on nearby regional highways (US 13, I-95, and I-295). Speeding and cut-through traffic use local streets including 6<sup>th</sup> Street, 3<sup>rd</sup> Street, South Street, and 7<sup>th</sup> Street to travel through the City.

Reduced speed limits are recommended to improve safety, could promote walking and bicycling, and discourage cut-through travel. **See Figure 10.** Figure 10 illustrates the recommended, citywide speed reductions. Current speed limits are shown above with proposed speed limits shown below in parentheses. It is recommended that local streets designated by the yellow color have a 15 MPH posted speed. Streets designated in blue will maintain the current 10 MPH posting. To help encourage through vehicles to use the “loop” roads the speed on Washington Street and W. 7<sup>th</sup> Street will be maintained at 25 MPH. SR 273 (Delaware Street and Ferry Cut Off Street) is recommended to be posted at 30 MPH.





Speed reductions can be incremental, starting with the most strategic streets such as East and West 3<sup>rd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> Streets which are common cut-through routes. The City should coordinate with DelDOT regarding the feasibility of lowering posted speed limits. Municipal code changes may be required for posted speed limit changes on local streets.

Citywide speed reductions are publicly supported:

- Public Workshop 2 Poll Results showed 67% support.
- Public Workshop 3 Poll Results showed 94% support.

**Cost:** Low

**Term:** Short

**Prioritization:** High

Lowering posted speed limits is rarely enough to slow speeding traffic alone. They work best when combined with increased enforcement and traffic calming. In addition to lowered speed limits, the City may wish to collaborate with the community to explore traffic calming. Traffic calming uses physical design and other measures to improve safety for motorists, pedestrians, and cyclists and to slow speeding traffic. The [Delaware Traffic Calming Design Manual](#) provides a useful resource for these types of measures.

Where possible, it can be helpful to test traffic calming designs using temporary materials prior to implementation. This can allow for better community feedback and an assessment of how effective the proposed traffic calming is likely to be. [Hosting a Pop Up Traffic Calming Demonstration](#) provides a useful resource.

## Capacity Enhancements

### DUALIZING SR 273, FRENCHTOWN ROAD, DELAWARE STREET, FERRY CUT OFF STREET

Throughout the planning process, stakeholders raised concerns about traffic congestion on SR 273, Frenchtown Road, Delaware Street and Ferry Cut Off, and its impacts on travel time and cut-through traffic on local streets. A frequent suggestion from participants has been to widen the corridor to four lanes.

However, before widening a road to four lanes, traffic volumes must typically exceed 25,000 average daily traffic (ADT). ADT volumes from 2018, 2019 and 2020 are well below that volume. *See Figure 11.* Therefore, it is not a recommendation of this study to widen SR 273, Frenchtown Road, Delaware Street, and Ferry Cut off Street. Instead, the Plan recommends optimizing signal timing and improving intersections to improve traffic flow and reduce and manage congestion. Traffic volumes and future land use changes should be monitored, and this recommendation may be revisited if conditions change.



**Cost:** High

**Term:** Future evaluation

**Prioritization:** Low

### US 13/SR 273 INTERSECTION

The US 13/SR 273 intersection has been identified in DelDOT's Safety Program as a high-crash location prompting DelDOT to conduct a feasibility study for a grade-separated intersection at this location. *See Figure 12.* Since traffic congestion at this intersection is the cause of much of the congestion along the SR 273 corridor it is expected that improving this intersection, particularly grade separating it, would improve congestion and reduce crashes along US 13 corridor and reduce the demand to use the SR 273, Frenchtown Road, Delaware Street and Ferry Cut Off Street Corridor as an alternative to US 13. This Plan recommends the implementation of improvements as identified by DelDOT's analysis.



**Figure 12: US 13/SR 273 Intersection & SR 273 Corridor**

Recommendations from DelDOT's US 13/SR 273 Feasibility Study are publicly supported:

- Public Workshop 3 Poll Results showed 79% support (no polled at Workshop 2).

**Cost:** High

**Term:** Long

**Prioritization:** High



## Strategic Intersections

Four strategic intersections were identified to address traffic congestion, cut-through traffic, bicycle and pedestrian mobility, and safety. *See Figure 13.* Improvements at these intersections would improve pedestrian and bicycle crossings at the intersection and would help traffic flow throughout the City.



### SR 273/SR 141 INTERSECTION

The SR 273/SR 141 intersection was improved in 2013 (T200200104 Washington Street, New Castle from SR273, Frenchtown Road/SR141, Basin Road to SR 9, Sidewalk and Intersection Improvements) and includes pedestrian crosswalks and refuge islands and sidewalks. *See Figure 14.* However, pedestrian and bicycle crossing of SR 273 is indirect, narrower than the surrounding pathway, and requires people crossing to take refuge on one of the islands and wait as the signal phasing returns to green allowing them to proceed safely. Several concepts were developed to address the issues at this intersection. Each of the concepts considered both pedestrian and bicycle safety and mobility, as well as vehicle travel needs.



*Figure 64: Existing SR 273/SR 141 Intersection*

### Concept 1: Free Right Turn

*Concept 1: Free Right Turn*, refreshes and standardizes crosswalks on all legs of the SR 273/SR 141 intersection, and would cul-de-sac W. 14<sup>th</sup> Street at SR 273. *See Figure 15*. While this concept slightly improves crossings for pedestrians and bicyclists, it would still allow vehicles free right turns causing potential conflicts. This concept would work in conjunction with the proposed multiuse paths along Basin Road, Delaware Street and Washington Street. The original intent of a cul-de-sac at W. 14<sup>th</sup> Street was to reduce traffic volumes at the SR 273/SR 141 intersection by eliminating one leg and vehicles access W. 14<sup>th</sup> Street via Bellanch Street. However, further review of traffic patterns at this intersection revealed that traffic volumes from SR 273 (Delaware Street) were relatively low, and therefore eliminating this leg would not provide enough added benefit to justify this change. Additionally, property owners along W. 14<sup>th</sup> Street expressed concerns with this configuration which further supported not recommending this change.

This concept was not supported by workshop attendees:

- Public Workshop 2 Poll Results showed 40% support.
- Public Workshop 3 Poll Results showed 45% support.



### Concept 2: Signal Controlled Right Turn

*Concept 2: Signal Controlled Right Turn* is similar to Concept 1 with the addition of *No Turn on Red* signs at each leg of the intersection. *See Figure 16*. These signs would better control vehicular traffic turning movements and would thereby increase pedestrian and bicycle safety.

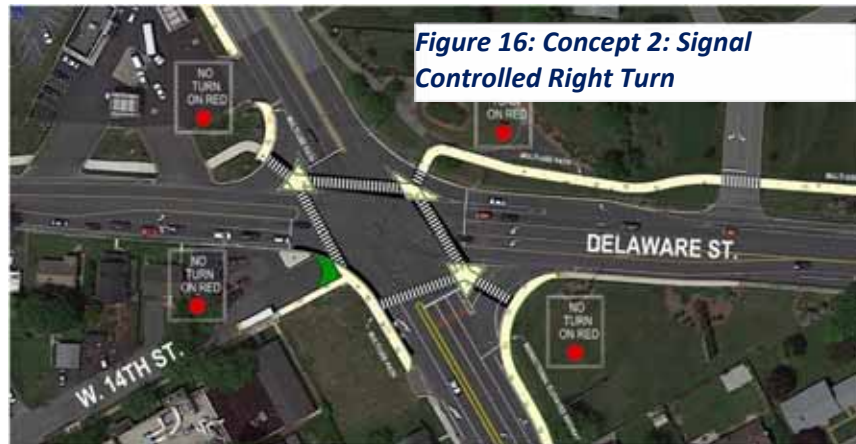
This concept was not supported by workshop attendees:

- Public Workshop 2 Poll Results showed 40% support.
- Public Workshop 3 Poll Results showed 33% support.

While both *Concept 1: Free Right Turn* and *Concept 2: Signal Controlled Right Turn* would improve safety for pedestrians and bicyclists at the SR 273/SR 141 intersection, neither provides optimal safety, and therefore a third concept was developed.

Neither *Concept 1: Free Right Turn* or *Concept 2: Signal Controlled Right Turn* are recommended to move forward for further study.





**Figure 16: Concept 2: Signal Controlled Right Turn**

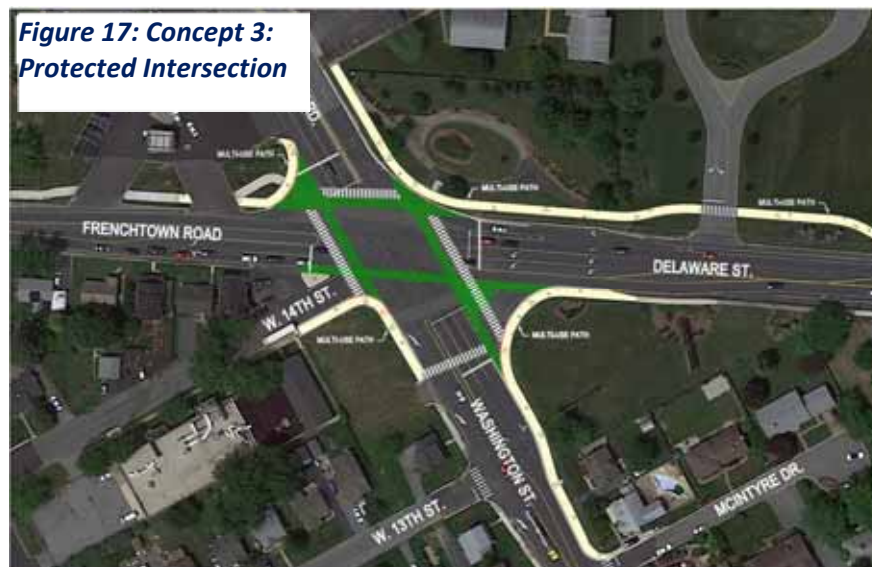
### **Concept 3: Protected Intersection**

*Concept 3: Protected Intersection* provides direct and linear separate pedestrian crosswalks and bicycle lanes on all legs of the SR 273/SR 141 intersection, eliminates refuge islands, provides extended green time for pedestrians and bicyclists, and would include *No Turn on Red* signs at each leg of the intersection. Additionally, there would not be a cul-de-sac at W. 14<sup>th</sup> Street. *See Figure 17.*

Like Concepts 1 and 2, Concept 3 would work in conjunction with the proposed Multiuse paths along Basin Road, Delaware Street and Washington Street.

This concept was not supported by workshop attendees:

- Public Workshop 3 Poll Results showed 36% support.



**Figure 17: Concept 3: Protected Intersection**

While Concept 3 did not have community support, it best addresses concerns raised by stakeholders. Therefore, the concept recommended to move forward for further study is **Concept 3: Protected Intersection**.

**Cost:** Moderate

**Term:** Moderate

**Prioritization:** Low

## DELAWARE STREET/FERRY CUT OFF STREET INTERSECTION

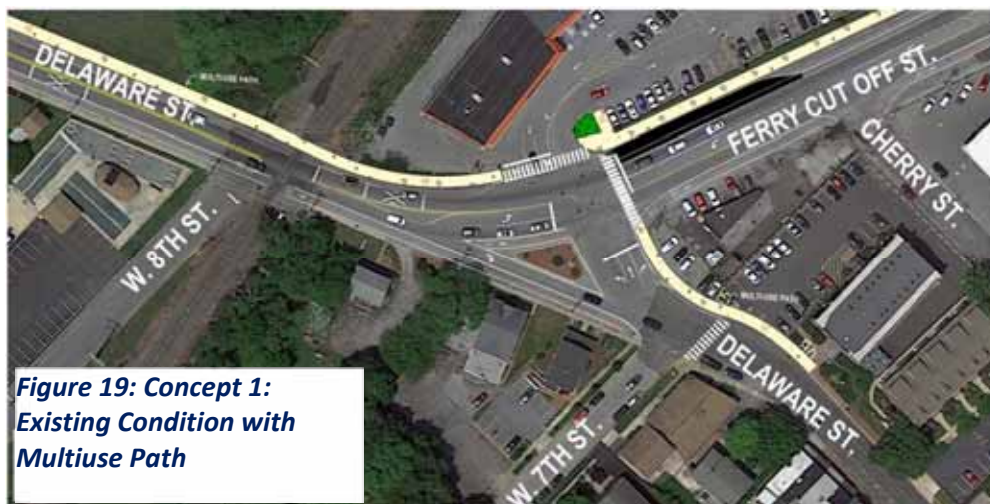
The Delaware Street/Ferry Cut Off Street intersection serves as a gateway to the downtown historic core and a critical pedestrian link to newer commercial areas. *See Figure 18.* The current layout of the intersection can be confusing to those unfamiliar with the area. Regional traffic, including truck traffic, approaching from the west may inadvertently continue straight on Delaware Street and those travelling to the historic district lack a gateway and signage. Additionally, pedestrians and bicyclists find it difficult to cross this intersection between Delaware Street and the Ferry Cut Off commercial corridor.



**Figure 18 - Existing Delaware Street/Ferry Cut Off Street Intersection**

### *Concept 1: Existing Condition with Multiuse Path*

*Concept 1: Existing Condition with Multiuse Path* maintains the existing layout, and would function similarly, as the existing intersection with the addition of a multiuse path for improved pedestrian and bicycle mobility. The proposed multiuse path would be on the west side of Delaware Street, would cross at the Ferry Cut Off Street intersection, and would tie into the existing crosswalk on the north side of Ferry Cut Off Street at the entrance to the River Plaza Shopping Center. *See Figure 19.*



**Figure 19: Concept 1:  
Existing Condition with  
Multiuse Path**



*Concept 1: Existing Condition with Multi Use Path* would facilitate pedestrian and bicycle safety and mobility at this intersection; however, it does not address regional traffic inadvertently continuing on Delaware Street into the downtown core of the City rather than following Ferry Cut Off Street to points east and out of the City.

This concept was not supported by workshop attendees:

- Public Workshop 2 Poll Results showed 34% support.
- Public Workshop 3 Poll Results showed 30% support.

*Concept 1: Existing Condition with Multi Use Path* is not recommended for future study.

### **Concept 2: Gateway Addition**

*Concept 2: Gateway Addition* addresses pedestrian and bicycle safety and mobility like *Concept 1 Existing Condition with Multi Use Path* by providing a multiuse path from the west side of Delaware Street across Ferry Cut Off Street. Additionally, *Concept 2: Gateway Addition* also creates a right-turn at a new gateway to clarify access the historic downtown. *See Figure 20.*



Traffic approaching the intersection from the west would have clearer instructions regarding through travel or access to the historic district. A right-turn lane for local traffic would require drivers to make the purposeful decision of entering a right-turn lane to continue on Delaware Street and would make the through movement on Ferry Cut Off Street more direct and intuitive for regional traffic. *Concept 2: Gateway Addition* would effectively split local and regional traffic just prior to entering the Delaware Street/Ferry Cut Off Street intersection creating a more desirable condition for both types of traffic.

*Concept 2: Gateway Addition* also provides an area for a potential gateway location and green space as the primary entrance into the downtown core of the City of New Castle. A full analysis of potential gateway locations is presented later in this report.

Both Concepts 1 and 2 would work in conjunction with the proposed multiuse paths along Delaware Street and Ferry Cut Off Street.

Concept 2: Gateway Addition is publicly supported:

- Public Workshop 2 Poll Results showed 69% support.
- Public Workshop 3 Poll Results showed 75% support.

**Cost: Moderate      Term: Moderate      Prioritization: High**

**Concept 2: Gateway Addition** at the Delaware Street/Ferry Cut Off Street Intersection should be coordinated with the Railroad Crossing project. The estimated cost for the SR 9 Delaware Street Railroad Crossing project is \$3.2 million.





## FERRY CUT OFF STREET/E. 6TH STREET/CHESTNUT STREET INTERSECTION

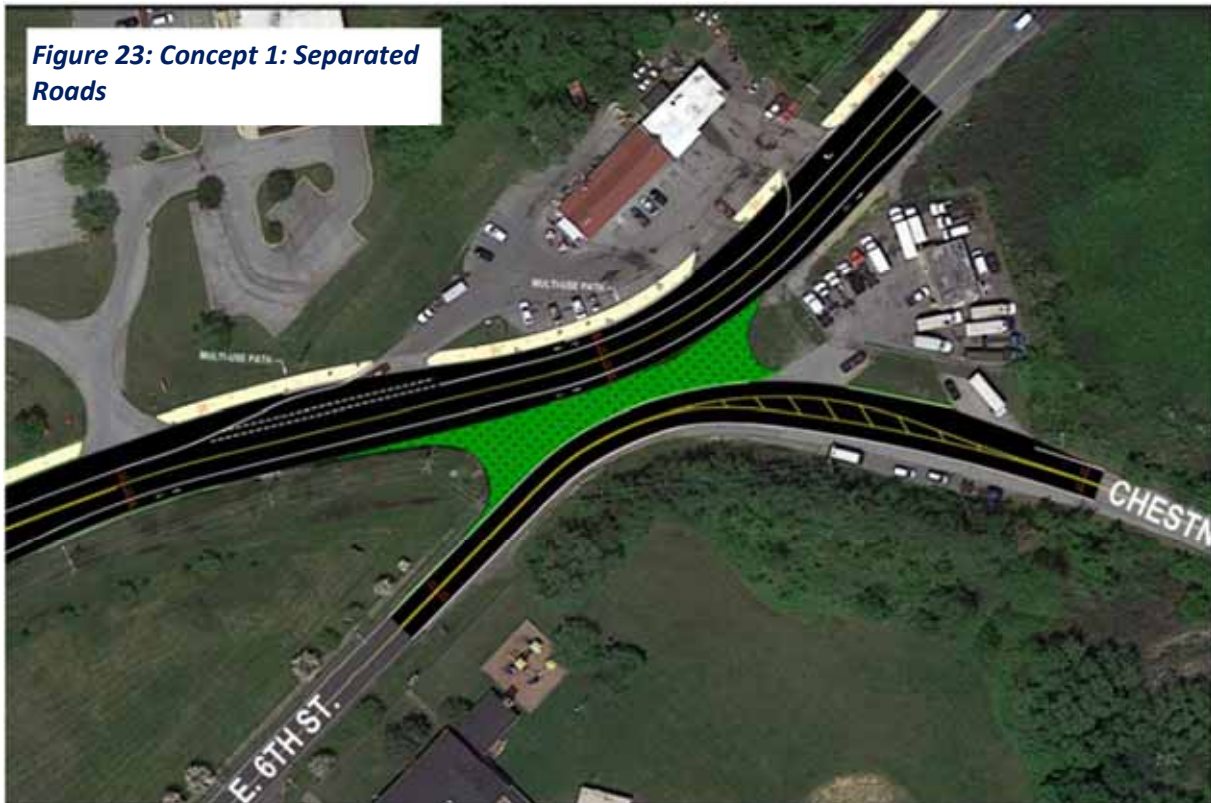
Similar to the Delaware Street/Ferry Cut Off Street Intersection, the geometrics of the Ferry Cut Off Street/E. 6<sup>th</sup> Street/Chestnut Street intersection can be confusing and nonintuitive for drivers unfamiliar with the area. For drivers approaching from the east, E. 6<sup>th</sup> Street appears to function as the through route with Ferry Cut Off Street functioning as a side or local street. *See Figure 22.* Regional traffic on E. 6<sup>th</sup> Street approaching the intersection is meant to bear slightly right to Ferry Cut Off Street and local traffic is meant to continue straight onto E. 6<sup>th</sup> Street. However, due to the existing layout of this intersection, these traffic patterns are not always understood and followed by both regional and local traffic, leading to cut-through traffic on 6<sup>th</sup> Street. Additionally, pedestrians and bicyclists accessing the downtown from the northeast have no crosswalks.



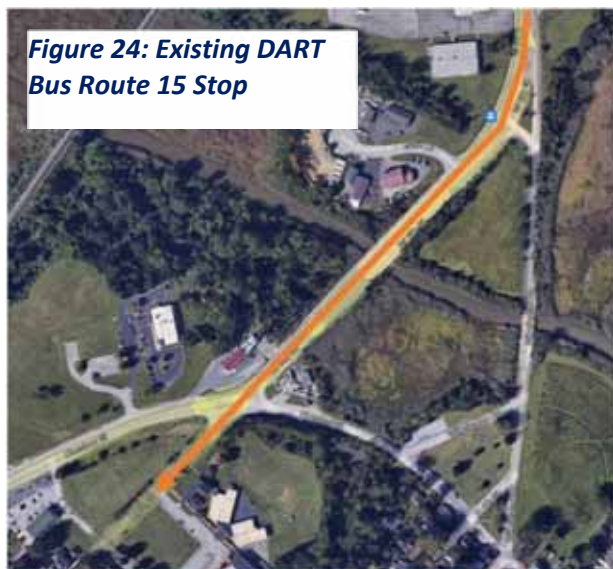
### *Concept 1: Separated Roads*

*Concept 1: Separated Roads* splits through and local traffic prior to the Ferry Cut Off Street/East 6<sup>th</sup> Street/Chestnut Street intersection. *See Figure 23.* This concept provides an uninterrupted route for traffic along SR 9/Ferry Cut Off. Local access to E. 6<sup>th</sup> Street would be shifted west to a new intersection at Harmony Street.

This concept would also impact DART access. Currently, there is a bus stop for DART Bus Route 15 on the north side of E. 6<sup>th</sup> Street at the Wilmington Road intersection. *See Figure 24.* If *Concept 1: Separated Roads* proceeds forward, this bus stop would be relocated approximately 300 feet north on Wilmington Road. *See Figure 25.*



**Figure 23: Concept 1: Separated Roads**



**Figure 24: Existing DART Bus Route 15 Stop**



**Figure 25: Proposed DART Bus Route 15 Stop**

Concept 1 is not publicly supported:

- Public Workshop 2 Poll Results showed 39% support.
- Public Workshop 3 Poll Results showed 46% support.

*Concept 1: Separated Roads* effectively separates regional and through traffic; however, it does not allow for pedestrians or bicyclists to cross from E. 6<sup>th</sup> Street/Chestnut Street to Ferry Cut Off Street/E. 6<sup>th</sup> Street and is therefore not recommended for further study.



### Concept 2: Dutch Left

*Concept 2: Dutch Left* derives its name from the Netherlands, where the design originated. *Concept 2: Dutch Left* splits regional and local traffic through the Ferry Cut Off Street/E. 6<sup>th</sup> Street/Chestnut Street intersection and incorporates the proposed multiuse path on the north side of Ferry Cut Off Street/E. 6<sup>th</sup> Street. **See Figure 26.** Unlike *Concept 1*, *Concept 2* also provides vehicular access to E. 6<sup>th</sup> and Chestnut streets and accommodates pedestrians and bicyclists crossing.

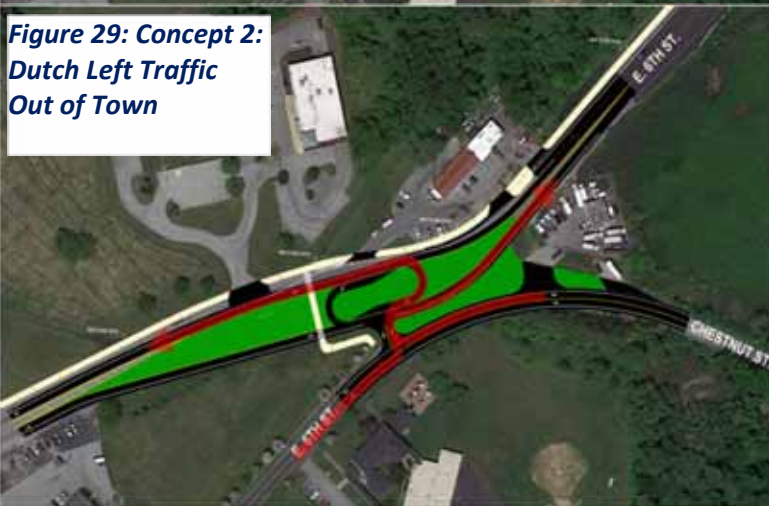
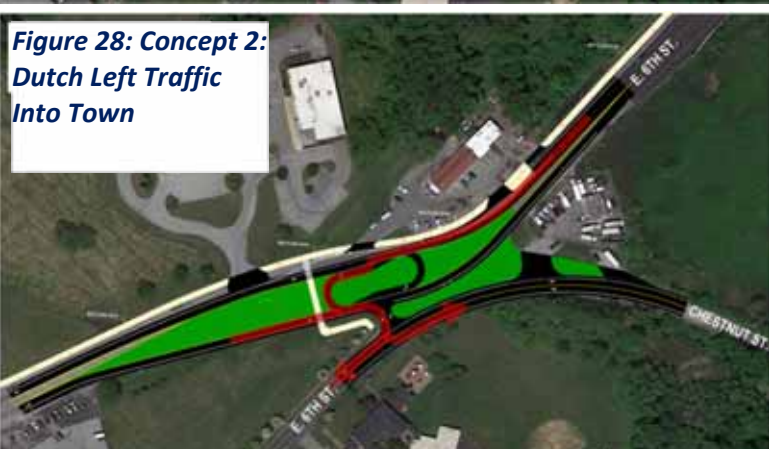
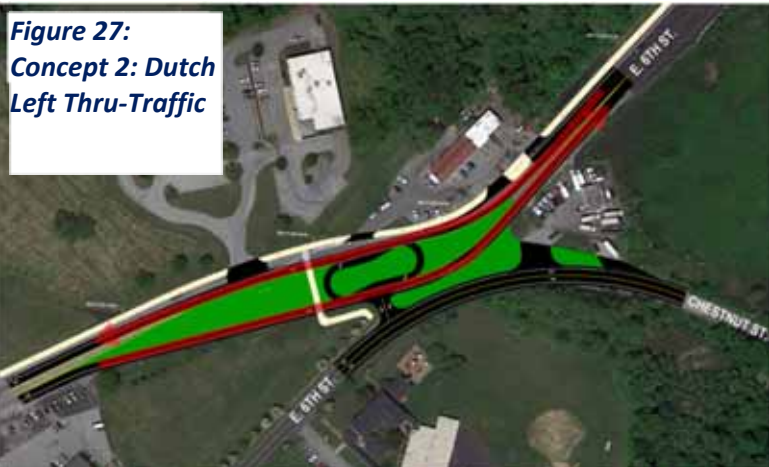


This design provides uninterrupted thru-lanes along Ferry Cut Off Street Traffic accessing or leaving E. 6<sup>th</sup> and Chestnut streets would use a redesigned intersection. Left turns would U-turn at a center median. **Figures 27, 28 & 29** illustrate how through traffic, traffic into the downtown, and traffic out of downtown would use the *Dutch Left* Concept.

Benefits of the *Dutch Left* Concept include:

- No passing Near the Intersection Promotes:
  - Less Speeding Traffic
  - Bigger Gaps in Traffic Flow
- No Traffic Signals Promotes:
  - More Attention to Surroundings
  - Enhanced Driver Alertness
  - Increased Safety
- Less Asphalt Promotes:
  - Lower Maintenance Costs
  - Reduced Stormwater Needs
  - Enhanced Integration in Urban Setting
- Single Lane Lower Speed on Main Route Promotes:
  - Less Severe Crashes
  - Improved Response Times
  - Increased Safety
  - Easier Crossings for Pedestrians and Bicyclists
- Fluid Continuous Traffic Flow on Main Route Promotes:
  - Shorter Travel Times
  - Lower Emissions

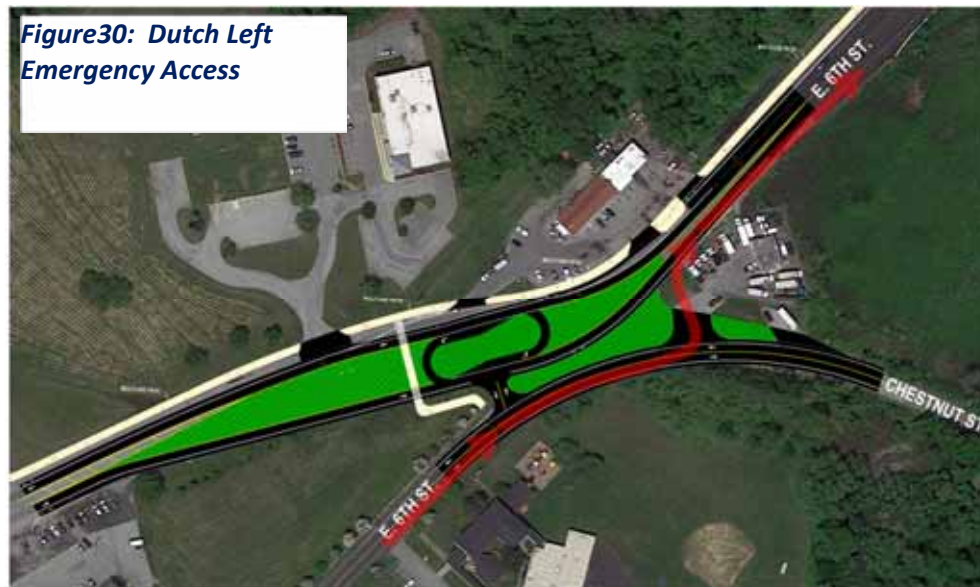




As the area is prone to flooding, improvements here should incorporate stormwater management. In addition to reducing impervious surfaces with Concept 2, DelDOT should assess the feasibility of additional stormwater management using the open field just south of E. 6<sup>th</sup> Street and Chestnut Street intersection.

A focus group was held with the City of New Castle's Fire and Police Chiefs on November 18, 2021 to review concerns at this intersection specific to emergency response. Concerns primarily involved access

to northbound SR 9 from E. 6<sup>th</sup> Street and Chestnut Street through the *Dutch Left* concept and response times answering calls. Several potential adjustments to this concept, particularly providing a shoulder or passing space for emergency northbound access, were discussed and will be more fully evaluated if this Concept moves forward for further study. *See Figure 30.*



See **Appendix G** for the full *Fire and Police Chiefs Meeting Report*.

Concept 2: Dutch Left is publicly supported:

- Public Workshop 2 Poll Results showed 68% support.
- Public Workshop 3 Poll Results showed 53% support.

Based on the analyses conducted at this intersection, the concept that best addresses the issue of through traffic inadvertently entering the downtown portion of the City and addresses pedestrian and bicycle mobility and safety is **Concept 2: Dutch Left** and is therefore recommended to move forward for further study.

**Cost:** High

**Term:** Long

**Prioritization:** High

## W. 7TH STREET/WASHINGTON STREET INTERSECTION

The W. 7<sup>th</sup> Street/Washington Street intersection is a key junction in the City of New Castle. W. 7<sup>th</sup> Street provides access to the Dobbinsville community, a community that has historically at times felt disconnected from the rest of the City. W. 7<sup>th</sup> Street provides access to numerous industrial and commercial sites, including auto repair, marine, welding and fabrication, marble and granite, and fleet services companies, to the west of the City along River Road (SR 9). Washington Street provides access to the properties to the east and west of the road which are primarily residential. Washington Street is also the primary link to the SR 273/SR 141 intersection. The SR 273/SR 141 intersection is an important junction for accessing several important regional highways including US 13, US 202, US 40, I 295, I 95, SR 9 and SR 141. Regional traffic, including regional truck traffic, depend on this link to access these regional routes, and use of this link also eliminates the use of local streets by regional traffic.

The current configuration of the W. 7<sup>th</sup> Street/Washington Street intersection can be confusing to traffic unfamiliar with the area. *See Figure 31.* Regional traffic approaching the intersection from the west, on



W. 7<sup>th</sup> Street may inadvertently continue on W. 7<sup>th</sup> Street rather than turning left onto Washington Street. This regional traffic must then weave through local streets to access regional routes. This creates undesirable and potentially unsafe conditions for residents, pedestrians, and bicyclists on local streets, and difficulties for the regional traffic trying to negotiate local streets. These issues are intensified when this regional traffic is truck traffic. Additionally, although the turning radius at this intersection meets current design standards, it can be a little tight for some trucks. In addition, this intersection is often difficult for pedestrians and bicycles to negotiate.



### **Concept 1: Signing**

*Concept 1: Signing* is a simple, but potentially effective means of directing regional traffic to turn left from W. 7<sup>th</sup> Street to Washington Street to access the regional roadway network. *See Figure 32.* Signs can include “To” signs, directing traffic to use Washington street to access regional highways, “Arrow” signing directing traffic to the appropriate lanes, and “No Truck Traffic” signs preventing trucks from continuing straight on W. 7<sup>th</sup> Street if the City desires.





Concept 1: Washington Street Signing was not publicly supported:

- Public Workshop 2 Poll Results showed 43% support.
- Public Workshop 3 Poll Results showed 23% support.

However, *Concept 1: Signing* is a low-cost improvement and potentially effective short-term option to provide wayfinding for regional traffic and is therefore recommended to move forward for further study. However, it does not improve the turning radius at the intersection, nor does it improve safety or mobility for pedestrians and bicyclists. Therefore, it is recommended that this improvement be implemented as a short-term option in addition to the implementation of Concept 2.

**Cost: Low**

**Term: Short**

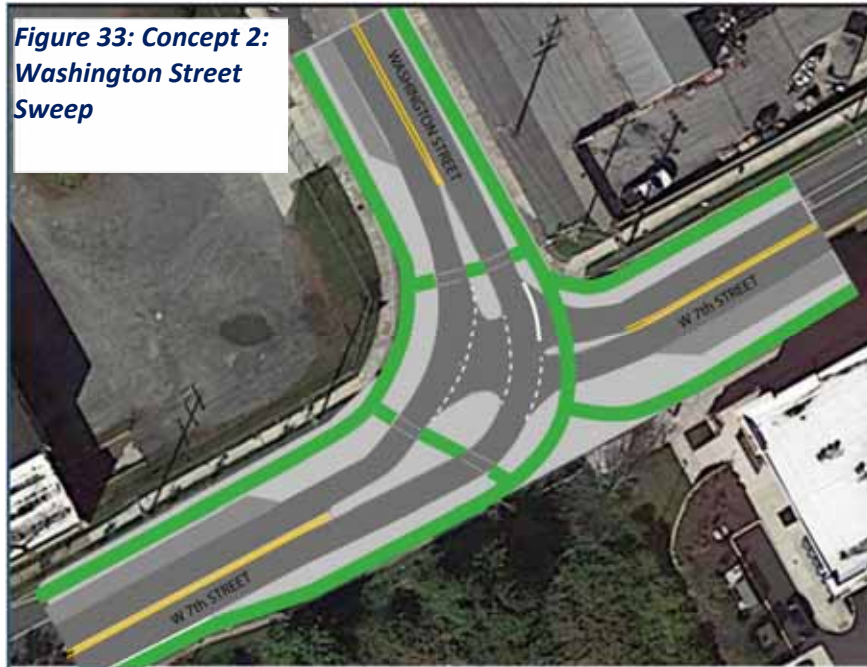
**Prioritization: High**

### **Concept 2: Washington Street Sweep**

*Concept 2: Washington Street Sweep* reconfigures the W. 7<sup>th</sup> Street/Washington Street intersection with a “sweep” design that facilitates the W. 7<sup>th</sup> Street to Washington Street traffic through the intersection. **See Figure 33.** Traffic would still be able to continue on W. 7<sup>th</sup> Street through the intersection, but drivers would bear slightly right from the sweep.

*Concept 2: Washington Street Sweep* also incorporates pedestrian and bicycle multiuse paths and refuge islands across the intersection, and if necessary, expands the existing sidewalk on those streets to a consistent 10-foot width.

**Figure 33: Concept 2:  
Washington Street  
Sweep**



Concept 2: Washington Street Sweep is publicly supported:

- Public Workshop 2 Poll Results showed 75% support.
- Public Workshop 3 Poll Results showed 77% support.

Based on facilitating regional traffic to use Washington Street, improving the configuration of the intersection, and improving pedestrian and bicycle safety **Concept 2: Washington Street Sweep** is recommended to move forward for further study.

**Cost:** High

**Term:** Long

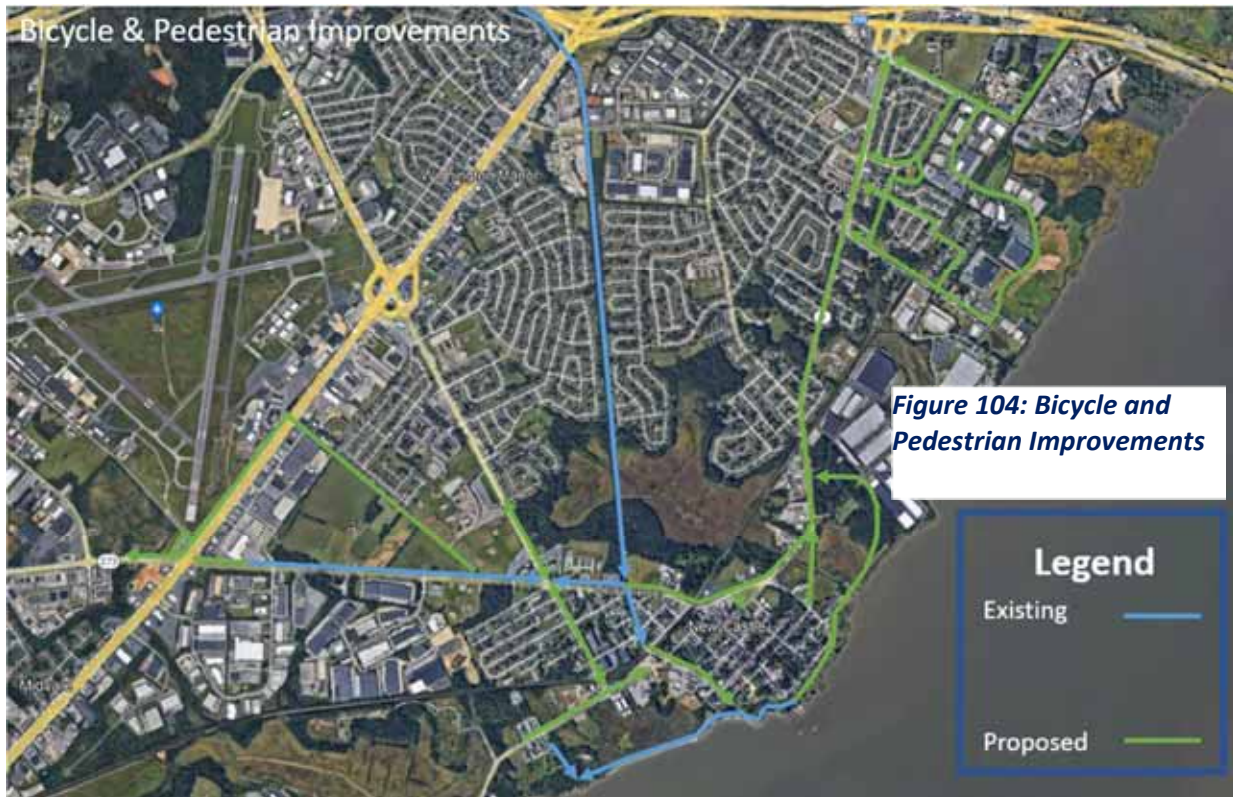
**Prioritization:** High

## Bicycle and Pedestrian Improvements

The City of New Castle has an extensive bicycle and pedestrian network extending throughout the City, including numerous sidewalks, The long distance East Coast Greenway, September 11<sup>th</sup> National Memorial Trail, and US Bicycle Route 201 traverse the City. Regional routes include the Jack Markell Trail and Battery Park Path. **Figure 34** shows existing and proposed routes.







#### Bicycle and Pedestrian Improvements



Citywide Bicycle and Pedestrian Improvements are publicly supported:

- Public Workshop 2 Poll Results showed 93% support.
- Public Workshop 3 Poll Results showed 73% support\*.

\* All non-motorized improvements including bicycle and pedestrian facilities and Multiuse paths were polled as one question at Public Workshop 3.



However, there are opportunities to expand this network including additional connections and new multiuse paths, trails, and sidewalks. The graphics depicts the City's existing bicycle and pedestrian network and identifies proposed additions to this network.

Currently, the School Lane Path Project is funded for design and construction by DelDOT. The project proposes a 2,150-foot bike trail from Frenchtown Pike to School Lane within the city limits of New Castle. The path will act as a connector route to the Jack Markell Trail.

An enhanced Citywide bicycle and pedestrian network was an identified goal of both the 1999 *City New Castle Transportation Plan* and the 2009 *City of New Castle Comprehensive Development Plan*, therefore the proposed **Bicycle and Pedestrian Improvements** are recommended to move forward for further study.

**Cost:** *Moderate*

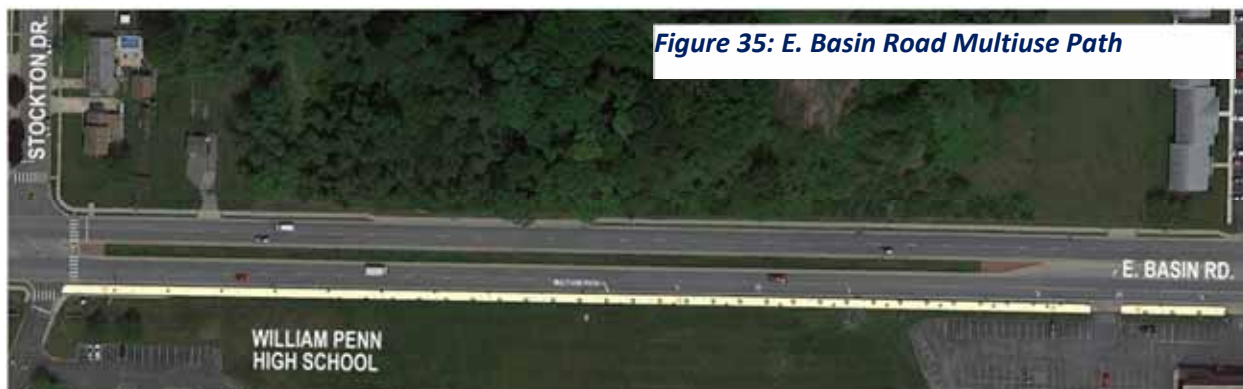
**Term:** *Moderate*

**Prioritization:** *High*

Specific bicycle and pedestrian improvements are as follows.

#### **E. BASIN ROAD MULTIUSE PATH**

The Basin Road Multiuse Path consists of a 10-foot path along the west side of E. Basin Road from Stockton Drive to the SR 273/SR 141 intersection. *See Figure 35.* This proposed path would provide a link between William Penn High School, First Baptist Church, Valero Gas Station, and from the SR 273/SR 141 intersection. A five-foot sidewalk currently exists in this area but is not consistent with the most current standards for a Multiuse path to accommodate both pedestrians and bicyclists.



**Figure 35: E. Basin Road Multiuse Path**

Based on the projected pedestrian and bicycle safety and mobility benefits the **E. Basin Road Multiuse Path** would provide it is recommended to move forward for further study.

**Cost:** *Low*

**Term:** *Moderate*

**Prioritization:** *High*

#### **DELAWARE STREET/FERRY CUT OFF STREET MULTIUSE PATH**

**Segment 1** consists of a 10-foot multiuse path from the SR 273/SR 141 intersection on the north side of the road and extends in a westerly direction. *See Figure 36.* A Multiuse path already exists along most of this segment. The remainder of this recommendation is to extend the path the length of SR 9 from SR 141 to Wilmington Road.



Based on the projected pedestrian and bicycle safety and mobility benefits the **Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 1** would provide it is recommended to move forward for further study.

**Cost:** Low

**Term:** Moderate

**Prioritization:** High

**Segment 2** consists of a 10-foot multiuse path from the limits of Segment 1 to the limits of the Delaware Street/Ferry Cut Off Street intersection. This Segment ties into the Jack Markell Trail. [See Figure 37.](#)



Based on the projected pedestrian and bicycle safety and mobility benefits the **Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 2** would provide it is recommended to move forward for further study.

**Cost:** Low

**Term:** Short

**Prioritization:** High

**Segment 3** consists of a 10-foot multiuse path from the Delaware Street/Ferry Cut Off Street intersection on the north side of the road and extends in a westerly direction in front of the River Plaza Shopping Center to M&T Bank. *See Figure 38.*



*Figure 38: Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 3*

Based on the projected pedestrian and bicycle safety and mobility benefits the **Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 3** would provide it is recommended to move forward for further study.

**Cost:** Low

**Term:** Moderate

**Prioritization:** High

**Segment 4** continues the 10-foot-wide multiuse path on the north side of E. 6<sup>th</sup> Street past Merit Drive to Wilmington Road. *See Figure 39.* A sidewalk already exists in portions of this area and the proposed path would tie into it, and if necessary, expand it to a consistent 10-foot width.



*Figure 39: Delaware Street/Ferry Cut off Street Multiuse Path – Segment 4*



Based on the projected pedestrian and bicycle safety and mobility benefits the **Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 4** would provide it is recommended to move forward for further study.

**Cost:** *Moderate*

**Term:** *Moderate*

**Prioritization:** *High*

#### WILMINGTON ROAD MULTIUSE PATH

The Wilmington Road Multiuse Path would be a 10 foot bicycle and pedestrian path along SR 9 from Chestnut Street to Landers Lane.

**Segment 1** consists of a 10-foot wide multiuse path and extends along the east side of Wilmington Road from Chestnut Street, across the Broad Dyke Canal to the intersection with Glebe Lane. *See Figure 40.* Sidewalk currently exists only across the bridge over the Canal in this area. The proposed Multiuse path would tie into this sidewalk and extend to the northern and southern limits of Segment 1.



**Figure 40: Wilmington Road Multiuse Path – Segment 1**

Based on the projected pedestrian and bicycle safety and mobility benefits the **Wilmington Road Multiuse Path – Segment 1** would provide it is recommended to move forward for further study.

**Cost:** *Moderate*

**Term:** *Moderate*

**Prioritization:** *High*

**Segment 2** picks up where Segment 1 leaves off and consists of a 10-foot wide multiuse path along the east side of Wilmington Road from Glebe Lane to the intersection with Anchor Mill Road. *See Figure 41.* At this intersection, the path would tie into a pedestrian crosswalk across Wilmington Road to Municipal Boulevard. Segment 2 also consists of a 10-foot wide Multiuse path on the west side of Wilmington Road from Merit Drive, across the New Castle Secondary Rail Line to Baldt Avenue.



**Figure 41: Wilmington Road Multiuse Path – Segment 2**

Based on the projected pedestrian and bicycle safety and mobility benefits the **Wilmington Road Multiuse Path – Segment 2** would provide it is recommended to move forward for further study.

**Cost:** *Moderate*

**Term:** *Moderate*

**Prioritization:** *High*

**Segment 3** consists of a 10-foot wide multiuse path and extends along the west side of Wilmington Road from Baldt Avenue to the intersection with E. Burton Avenue. *See Figure 42.* Sidewalk currently exists in this area and the proposed Multiuse path would tie into this sidewalk, and if necessary, expand it to a consistent 10-foot width.



**Figure 42: Wilmington Road Multiuse Path – Segment 3**

Based on the projected pedestrian and bicycle safety and mobility benefits the **Wilmington Road Multiuse Path – Segment 3** would provide it is recommended to move forward for further study.

**Cost:** *Moderate*

**Term:** *Moderate*

**Prioritization:** *High*

**Segment 4** picks up where Segment 3 leaves off and consists of a 10-foot wide multiuse path along the west side of Wilmington Road from E. Burton Avenue to the intersection with Castle Hill Drive. *See Figure 43.* There is no existing sidewalk in this area.



**Figure 43: Wilmington Road Multiuse Path – Segment 4**

Based on the projected pedestrian and bicycle safety and mobility benefits the **Wilmington Road Multiuse Path – Segment 4** would provide it is recommended to move forward for further study.

**Cost:** *Moderate*

**Term:** *Moderate*

**Prioritization:** *High*

**Segment 5** picks up where Segment 4 leaves off and consists of a 10-foot wide multi use path along the west side of Wilmington Road from Castle Hill Drive and would tie into the existing sidewalk at the Landers Lane intersection. *See Figure 44.* This segment would tie into the planned path along Landers Lane to Glen Ave as identified in the *Route 9 Paths Plan*.





**Figure 44: Wilmington Road Multiuse Path – Segment 5**

Based on the projected pedestrian and bicycle safety and mobility benefits the **Wilmington Road Multiuse Path – Segment 5** would provide it is recommended to move forward for further study.

**Cost:** *Moderate*

**Term:** *Moderate*

**Prioritization:** *High*

#### **WASHINGTON STREET MULTIUSE PATH**

The *Washington Street Multiuse Path* provides an elevated, bidirectional Multiuse path along the east side of Washington Street from W. 9<sup>th</sup> Street to the SR 273/SR 141 intersection. [See Figure 45.](#) Washington Street is primarily residential, and this proposed Multiuse path will provide pedestrians and bicyclists in that area with enhanced safety and mobility. This alternative moves the curb line on the east side of Washington Street and eliminates the current shoulder. This provides the necessary space to construct the full 10-foot Multiuse path and minimizes property impacts.



**Figure 45: Washington Street Multiuse Path**

Based on the projected safety and mobility benefits the **Washington Street Multiuse Path** would provide it is recommended to move forward for further study.

**Cost:** *Low*

**Term:** *Short*

**Prioritization:** *High*



### DOBBINSVILLE MULTIUSE PATH

The *Dobbinsville Multiuse Path* would extend from Clark Street to Washington Street along the south side of W. 7<sup>th</sup> Street. *See Figure 46.* This path would enhance safety and mobility for pedestrians and bicyclists in this area and would provide a connection between the Dobbinsville community and core of the City of New Castle.



Based on the projected safety and mobility benefits, as well as the connection to the rest of the City the *Dobbinsville Multiuse Path* would provide it is recommended to move forward for further study.

**Cost:** Low

**Term:** Short

**Prioritization:** High

### SOUTH STREET MULTIUSE PATH

The *South Street Multiuse Path* would extend from W. 8<sup>th</sup> Street to W. 3<sup>rd</sup> Street along the east side of South Street. *See Figure 47.* As part of this improvement two travel lanes (one in each direction) would be maintained and parking on the east side of the street would be maintained. The existing sidewalk would be replaced with a multiuse path. The multiuse path would be 10-feet wide but in some areas would need to be reduced to 8 or 9 feet to avoid utility poles and potential other conflicts.

The *South Street Multiuse Path* would be developed to tie into proposed multiuse path in Battery Park and would provide enhanced safety and mobility for pedestrian and bicyclists in that area.



**Figure 47: South Street Multiuse Path**

Based on these projected benefits the **South Street Multiuse Path** is recommended to move forward for further study.

**Cost:** Low

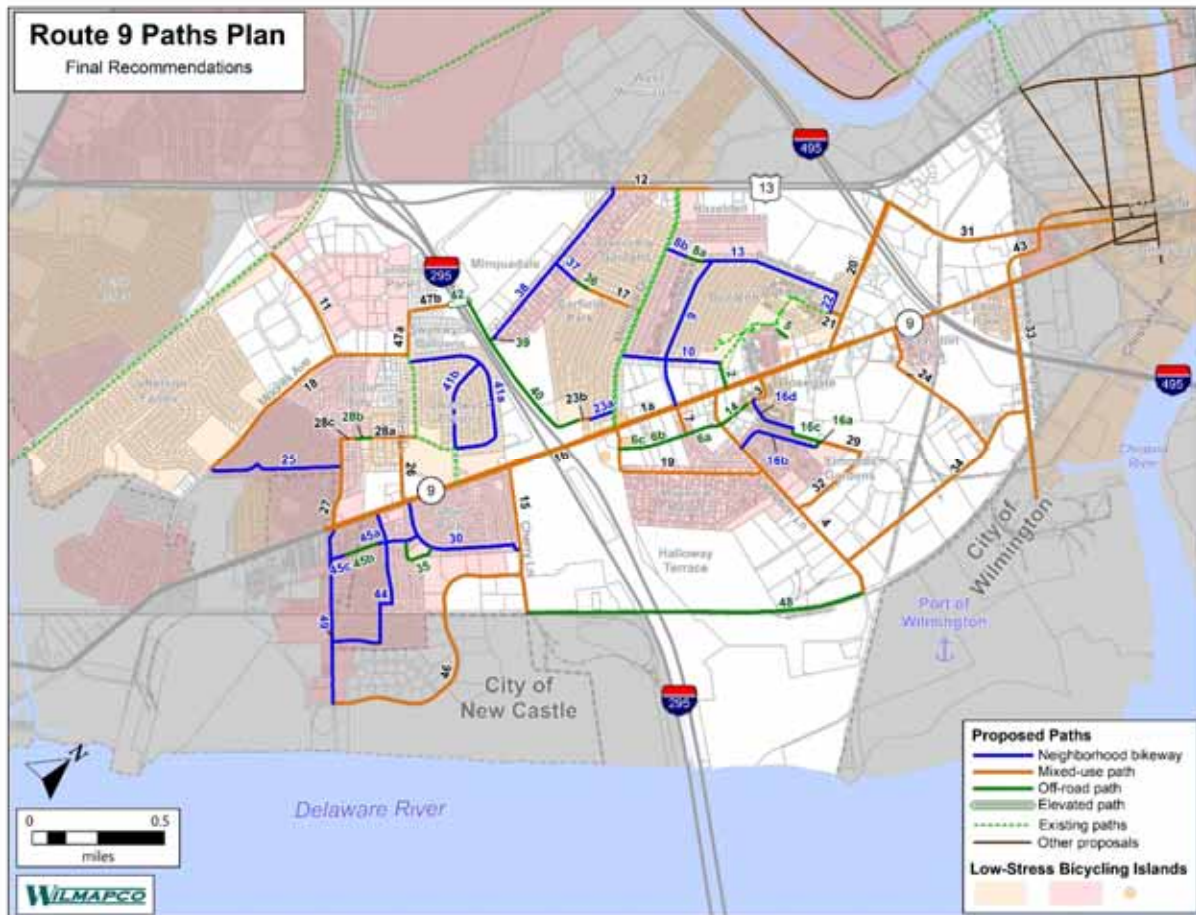
**Term:** Moderate

**Prioritization:** High

#### ROUTE 9 PATHS PLAN IMPLEMENTATION

The *Route 9 Paths Plan* has been endorsed by the WILMAPCO Council in September 2021. The *Route 9 Paths Plan* further developed the concepts for new walking and biking neighborhood pathways proposed in the Route 9 Corridor Master Plan including connections in northeast City of New Castle into the surrounding New Castle County neighborhoods.





**Figure 48: Route 9 Paths Plan**

### CHERRY STREET SIDEWALK

Cherry Street extends north from E. 6<sup>th</sup> Street to Ferry Cut Off Street. **See Figure 49.** From E. 6<sup>th</sup> Street north for about 240 feet Cherry Street is a narrow, one lane street approximately 12 feet wide with sidewalk ranging from 3 to 5 feet wide. There is no formal parking along this stretch, but vehicles often park by straddling the street and sidewalk. For the next 150 feet or so, Cherry Street widens to approximately 30 feet with parking on both sides of the street, but there are no sidewalks.



**Figure 49 Existing Cherry Street**



The proposed improvement to Cherry Street would include a 5-foot sidewalk, curb and a 9- foot parking lane on the west side of the street, and a 15-foot travel lane on the east side of the street. *See Figure 50.* Using these dimensions for this section of Cherry Street would provide mobility and safety for pedestrians in the form a sidewalk, better delineate the travel lane, and maintain parking on the west side of the street.



**Figure 50: Cherry Street Sidewalk**

Based on the projected benefits the **Cherry Street Sidewalk** would provide for pedestrians and parking, as well as better delineating the travel lane, it is recommended to move forward for further study.

**Cost:** Low

**Term:** Low

**Prioritization:** Moderate

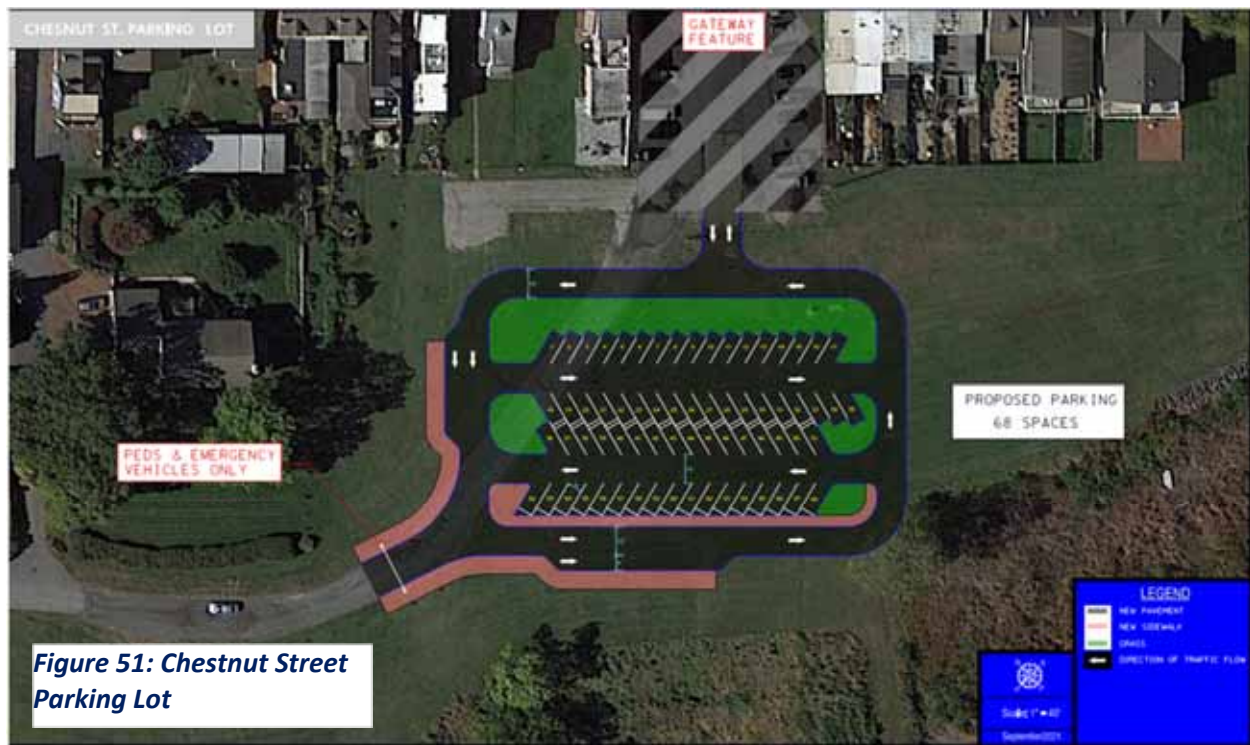
## Parking

Public parking exists throughout the City of New Castle, both on-street parking and numerous parking lots. For the most part, the amount of public parking in the City is adequate. However, during special events additional public parking could be used. Many special events take place in the downtown historic core of the City and/or at Battery Park. While there is public parking in these areas, depending on the event, there is often the need for additional parking or shuttles from remote parking. However, property for additional public parking is limited. Two potential areas within walking distance to the downtown were identified.

### CHESTNUT STREET PARKING LOT

Chestnut Street is an existing parking lot is located at E. 2<sup>nd</sup> Street and Chestnut Street with a capacity of about 20 parking spaces. To the South of this lot is a large grass area, which leads to the brush covered banks of the Delaware River, and then the river itself. A concept was developed to expand the Chestnut Street Parking Lot in this location by an additional 68 spaces. *See Figure 51.*

This area is strategically located and would address the need for additional public parking; however, feedback received at numerous public workshops showed a parking lot this location was very controversial. The community expressed their strong desire to keep this area as green open space and requested alternative sites be explored.



**Figure 51: Chestnut Street Parking Lot**

This concept was not publicly supported:

- Public Workshop 2 showed 39% support.
- Public Workshop 3 showed 31% support.

Based on the high level of public opposition to a public parking lot at this location, the *Chestnut Street Parking Lot* is not recommended to move forward for further study.

### WILMINGTON ROAD PARKING LOT

The parcel of land between Wilmington Road, E. 4<sup>th</sup> Street, and Chestnut Street is currently an open area owned by the Trustees of New Castle Commons that is strategically located to the downtown historic core of the City and Battery Park for a potential public parking lot. The parcel is approximately one-acre and could potentially accommodate up to 80 parking spaces. *See Figure 52.* The potential conversion of this parcel to a public parking lot was more acceptable to the community when presented at the November 9, 2021 Council Presentation/Public Workshop than the previously presented Chestnut Street Parking Lot concept.





**Figure 52: Wilmington Road Parking Lot**

Based on the strategic location of this parcel, its ownership status, and the public parking need it would address, the **Wilmington Road Parking Lot** is recommended to move forward for further study.

The Wilmington Road Parking Lot is publicly supported:

- Was developed after Public Workshop 2 in response to lack of support for proposed Chestnut Street Parking Lot.
- Public Workshop 3 showed 59% support.



## Flooding

Given its location, along the banks of the Delaware River, as well as other low-lying areas, parts of the City of New Castle are prone to flooding. While addressing Citywide flooding issues are beyond the scope of this study, any improvements recommended in these flood prone areas will require complete flooding and stormwater analyses if they move forward for detailed study.

### FERRY CUT OFF STREET /E. 6<sup>th</sup> STREET/CHESTNUT STREET INTERSECTION

The Ferry Cut Off Street /E. 6<sup>th</sup> Street/Chestnut Street Intersection is prone to flooding and is also an area where improvement recommendations were made. Two concepts, *Separated Roads*, and *Dutch Left* were evaluated at this intersection and the *Dutch Left* concept is the improvement recommended to move forward for further study. If this concept does move forward a complete flooding and stormwater analysis in this area would be required. As part of this conceptual analysis the infield area between Ferry Cut Off Street/E. 6<sup>th</sup> Street and E. 6<sup>th</sup> Street/Chestnut Street is a potential location for stormwater management.

### SR 9, RIVER ROAD AREA IMPROVEMENTS, FLOOD REMEDIATION

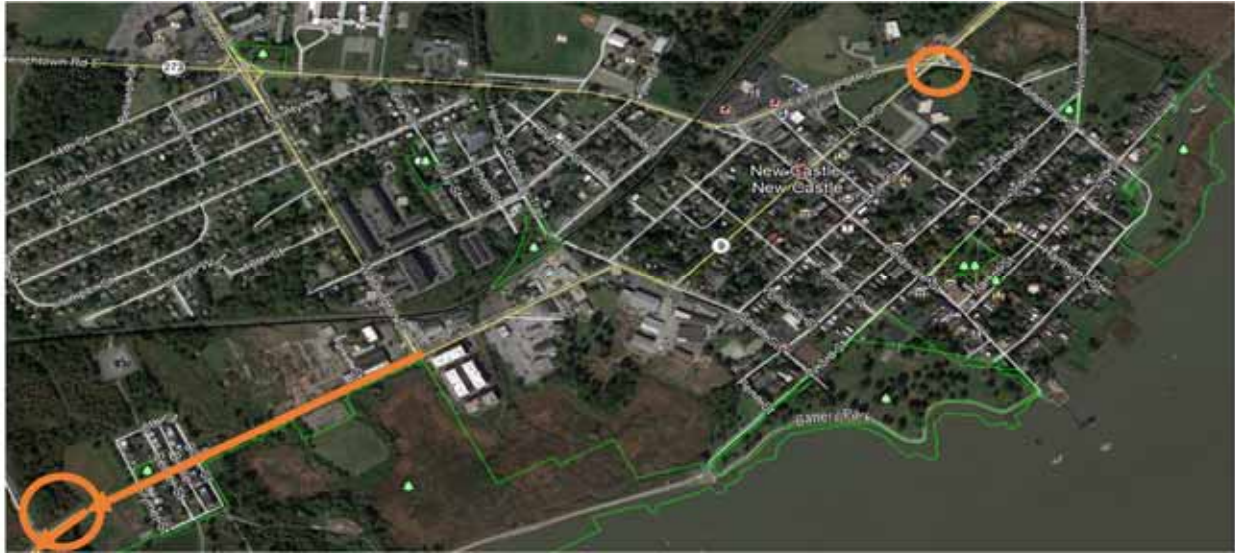
The SR 9/River Road area, to the west/southwest of Dobbinsville is a highly prone to flooding. **See Photo 4.** Water from storm events often floods area roadways creating the need to close off roads until stormwaters recede. Portions of this area are outside of New Castle's City limits, however, flooding and road closures still affect access to and from the City as this road is the primary access in and out of the City.

This area also is the primary access and egress for numerous trucks from the many industrial facilities immediately to the west/southwest of the City along SR 9 and River Road. Flooding and road closures create potentially unsafe conditions and hardships for these trucks and industries.

Mitigating the effects of flooding in this area is beyond the scope of this study; however, DelDOT has programed the *SR 9, River Road Area Improvements, Flood Remediation* for this area to address this issue. **See Figure 53.**

**Photo 15: SR 9/River Road Flood Remediation**





**Figure 53: Flood Remediation**

All work and recommended improvements in this area, as a result of this study, will be coordinated with DelDOT to eliminate duplication of efforts and to ensure compatibility.

Proposed Flood Improvements are publicly supported:

- Public Workshop 2 showed 82% support.
- Public Workshop 3 showed 88% support.

## Gateways

Gateways can address various needs and offer multiple benefits if strategically placed around the City of New Castle. The two primary benefits of gateways, as they relate to this study are, creating a sense of place and traffic calming.

Regional traffic often travels through the City of New Castle, particularly along SR 273, Ferry Cut Off Street and SR 9. As described previously in this report, a common occurrence is some of this regional traffic inadvertently traveling into the downtown core of the City on local roads due to the current configuration of several of the major intersections in the City. Physical improvement recommendations at these intersections are described throughout this report, but they are generally very costly and will most likely take several years to be programmed. Gateways can serve as interim traffic calming measures almost immediately and can work in conjunction with the larger physical improvements when they are implemented.

There are several opportunities for gateways throughout the City of New Castle to alert and direct motorists to the appropriate roadways based on their destinations. *See Figure 54.* The graphic below depicts these locations which have been identified as strategic points for identifying the City to motorists and directing traffic.



Proposed Gateway Locations and other Aesthetic Enhancements are publicly supported:

- Public Workshop 2 showed 90% support.
- Public Workshop 3 showed 94% support.

Based on the sense of place they create, and the traffic calming benefits they provide **Gateway Locations** are recommended to move forward for further study.

**Cost:** Low

**Term:** Low



**Prioritization:** Low





## Summary of Recommendations

A summary of the proposed recommendations, including their purpose, and the need they address is provided below. *See Figure 54.*

**Figure 18: Purpose Matrix**

	Traffic Congestion	Cut-Through Traffic	Truck Traffic	Traffic Calming	Bike/Ped	Parking	Flooding	Gateway
Speed Reductions	○	○	○	●	○			
US 13/SR 273	●	○	○		○			○
SR 273/SR 141	●	○		○	○			○
Ferry Cut Off St/DE St	●	●	○	○	○	○		○
Ferry Cut Off St/Chestnut St	●	●	●	●	○		○	○
W 7 <sup>th</sup> St/Washington Ave	○	●	●	○			○	
<div>  Primary Purpose            Secondary Purpose         </div>								

	Traffic Congestion	Cut-Through Traffic	Truck Traffic	Traffic Calming	Bike/Ped	Parking	Flooding	Gateway
Basin/Delaware/Ferry Cut Off/Wilmington Multimodal				○	●			○
Washington Street Multimodal					●			
South Street				○	●			
Cherry Street				○	●	●		
Chestnut Street Lot	○			○	○	●		○
Dobbinsville Multi Use Path				○	●			
<div>  Primary Purpose            Secondary Purpose         </div>								

Based on numerous criteria including: ability to satisfy identified transportation goals, objectives, and needs; avoidance of sensitive resources, particularly numerous historically significant areas and resources; consideration of context sensitivity; as well as community support, the following improvements are recommended to move forward for detailed study:

PROJECT	COST	TERM	Priority	SUMMARY
<b>Speed Management</b>				
Citywide Speed Reductions and Traffic Calming	Low	Short	High	Coordinate with DelDOT to evaluate lowering posted speed limits to 15 MPH on local streets and 25 – 30 MPH on collector and arterials near the downtown. In addition, coordinate with community stakeholders to evaluate traffic calming measures.
<b>Strategic Intersections</b>				
US 13/SR 273	High	Long	High	DelDOT safety project to evaluate grade separated intersection.
SR 273 Widening	High	Future evaluation	Low	Implementation of widening not currently recommended. Instead, optimize signal timing, implement intersection improvements, and continue to monitor traffic conditions.
SR 273/SR141 Intersection <i>Concept 3: Protected Intersection</i>	Moderate	Moderate	Low	Redesign intersection to include direct and linear separate pedestrian crosswalks and bicycle lanes on all legs, eliminates refuge islands.
Delaware Street/Ferry Cut Off Street Intersection <i>Concept 2: Gateway Addition</i>	Moderate	Moderate	High	Provides multiuse path from the west side of Delaware Street across Ferry Cut Off Street and creates a right-turn at a new gateway to clarify access the historic downtown.
Ferry Cut Off Street/E. 6 <sup>th</sup> Street/Chestnut Street Intersection <i>Concept 2: Dutch Left</i>	High	Long	High	Provides uninterrupted thru-lanes along Ferry Cut Off Street Traffic accessing or leaving E. 6th and Chestnut streets would use a redesigned intersection. Left turns would U-turn at a center median. Includes new crosswalks.
W. 7 <sup>th</sup> Street/Washington Street Intersection <i>Concept 1: Signing</i>	Low	Short	High	Enhances signing to clarify regional and local traffic routes.
W. 7 <sup>th</sup> Street/Washington Street Intersection <i>Concept 2: Washington Street Sweep</i>	High	Long	High	Reconfigures the intersection with a “sweep” design that facilitates the W. 7th Street to Washington Street traffic through the intersection. Traffic would still be able to continue on W. 7th Street through the intersection, but drivers would bearing slightly



PROJECT	COST	TERM	Priority	SUMMARY
				right from the sweep. Also incorporates pedestrian and bicycle multiuse paths and refuge islands.
<b>Bicycle and Pedestrian Improvements</b>				
E. Basin Road Multiuse Path	Low	Moderate	High	10-foot path along the west side of E. Basin Road from Stockton Drive to the SR 273/SR 141 intersection.
Delaware Street/Ferry Cut Off Street Multiuse Path – Segment 1	Low	Moderate	High	As needed, upgrade existing path from the SR 273/SR 141 intersection to JAM Trail on the north side of the road.
Delaware Street/Ferry Cut Off Street Multiuse Path– Segment 2	Low	Short	High	10-foot multiuse path from JAM Trail to Delaware Street/Ferry Cut Off Street intersection.
Delaware Street/Ferry Cut Off Street Multiuse Path– Segment 3	Low	Moderate	High	10-foot multiuse path from the Delaware Street/Ferry Cut Off Street intersection on the north side of the road to M&T Bank
Delaware Street/Ferry Cut Off Street Multiuse Path– Segment 4	Moderate	Moderate	High	10-foot-wide multiuse path on the north side from M&T Bank to Wilmington Road.
Wilmington Road Multiuse Path Segments 1-5	Moderate	Moderate	High	10-foot wide multi use path along the east side of Wilmington Road from Chestnut Street to Landers Lane. This segment would tie into the planned path along Landers Lane to Glen Ave as identified in the Route 9 Paths Plan. Also consists of a 10-foot wide Multiuse path on the west side of Wilmington Road from Merit Drive, across the New Castle Secondary Rail Line to Baldt Avenue.
Washington Street Multiuse Path	Low	Short	High	Provides an elevated, bidirectional Multiuse path along the east side of Washington Street from W. 9th Street to the SR 273/SR 141 intersection.
Dobbinsville Multiuse Path	Low	Short	High	Multiuse Path from Clark Street to Washington Street along the south side of W. 7th Street.
South Street Multiuse Path	Low	Moderate	High	Replace existing sidewalk with Multiuse path on east side of South St from W. 8th Street to W. 3rd Street. The multiuse path would be 10-feet wide but in some areas would need to be reduced to 8 or 9 feet to avoid utility poles and potential other conflicts.
Route 9 Paths Plan Implementation	Low	Short	High	Implement improvements identified in Route 9 Paths Plan.
Cherry Street Sidewalk	Low	Low	Moderate	Install a 5-foot sidewalk, curb and a 9- foot parking lane on the west side of the street, and a 15-foot travel lane on the east side of the street.

PROJECT	COST	TERM	Priority	SUMMARY
<b>Flooding and Other</b>				
SR 9 River Road Flood Remediation	High	Moderate	High	Implement DelDOT SR 9, River Road Area Improvements, Flood Remediation project. Design will include raising the approaches of SR 9 on either side of the Army Creek bridge to prevent further settling and flooding. Retrofits of the tide gates will be pursued by DNREC.
Wilmington Road Parking Lot	Low	Short	Low	Add parking and electric vehicle charging at E. 4th Street and Chestnut Street area. Supplement with wayfinding and pedestrian enhancements.
Gateways	Low	Moderate	Low	Enhance streetscaping and wayfinding at identified locations.

**Appendix H** provides Cost Estimates for each of the recommended improvements.