

# Downtown Dover Pathways Plan



June 2024 **DRAFT**



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# Section 1: Introduction

## Section 1: Introduction

The Dover / Kent County Metropolitan Planning Organization (the MPO) joined forces with the Downtown Dover Partnership (DDP) to develop this Downtown Dover Pathways Plan. The plan identifies means to better connect key activity centers within Downtown Dover by walking, bicycling, scooter, and other active transportation and micromobility options. The proposed active transportation connections are built upon recent planning efforts, such as DDP's 2023 *Transforming Downtown Dover: Capital City 2030* plan, and previous infrastructure investments, like the Capital City Trail and Senator Bikeway. This planning effort was conducted over the course of one year from August 2023 to July 2024.

The overall goal of this project is to *create continuous, accessible north-south and east-west bicycle facilities through Downtown Dover and fill gaps in the Downtown pedestrian network*. The following plan objectives were developed in coordination with interested parties and the Dover community:



Create a continuous, low stress bicycle network.



Fill sidewalk and crosswalk gaps to improve pedestrian comfort.



Reduce vehicular speeds and eliminate pedestrian and bicyclist crashes.



Connect activity centers and spur economic development.



Identify fundable projects and establish a framework for implementation.

## Context

Founded in 1683 by William Penn, Dover is both a haven for history and an important economic and political driver for the state of Delaware. The capital city is anchored by Downtown Dover, which is home to several key places that act as both economic and civic activity centers. Dover is diverse community with respect to race, ethnicity, and income. Many government, hospital, and education workers are employed in Downtown. Rich in history, the City of Dover is poised to move forward and adapt to the future needs of residents, workers, and visitors.

The key activity centers considered as part of this effort include Delaware State University Downtown, the Legislative Mall area, the new Family Court building, Bayhealth Hospital Kent Campus, and the Dover Transit Center. Delaware State University Main Campus and Dover Air Force Base are located some distance from Downtown but are also notable activity centers for the City of Dover and Kent County more broadly. Connections were considered between these activity centers and the Downtown core. These key activity centers are described in more detail below and shown in Figure 1 and Figure 2.

## Key Activity Centers

***Downtown Core*** – The Downtown Dover core surrounds Loockerman Street from around Queen Street to State Street. Restaurants, shops, and small businesses populate the historic city center.

***Delaware State University*** – Delaware State University (DSU) is a state-assisted Historically Black College/University (HBCU) with a total enrollment of just over 6,000 students. DSU has two campuses in Dover: Main Campus, which is located off US 13/Dupont Highway north of Downtown Dover, and the Downtown Campus, located north of Division Street. The Downtown Campus, formerly Wesley College, was acquired by DSU in 2021.

***Legislative Mall*** – The Legislative Mall area is home to several civic anchors including Legislative Hall (Delaware’s capitol building), Kent County Courthouse, government buildings, museums, and The Old State House. The Legislative Mall area is located east of Federal Street and west of the St. Jones River in Downtown Dover.

***Family Court Building*** – The new Kent County Family Court building is under construction in Downtown Dover at the corner of Governors Avenue and Water Street. The new three-story building will be 106,711 square feet – more than three times the size of the existing courthouse.

***Bayhealth Hospital*** – Bayhealth serves central and southern Delaware with a wide range of healthcare services, including two hospitals. One of those hospitals, Bayhealth Hospital Kent Campus, is located between Governors Avenue and State Street in Downtown Dover.

***Transit Center*** – Dover Transit Center serves as a park-and-ride lot as well as a bus terminal for bus service provided by Delaware Transit Corporation (DTC, operating as “DART First State”). These bus services provide connectivity throughout Dover and Kent County, as well as to other parts of the state. Dover Transit Center is located south of Water Street between West Street and Queen Street in Downtown Dover. While DART is reimagining transit service in Dover, it is anticipated that the Transit Center might remain a multimodal hub.

***Dover Air Force Base*** – Dover Air Force Base is a United States Air Force base that is home to the U.S. Department of Defense’s largest aerial port. The base is home to approximately 11,000 Airmen, joint service members, civilians, and families. Dover Air Force Base is located east of Delaware Route 1 southeast of Downtown Dover.

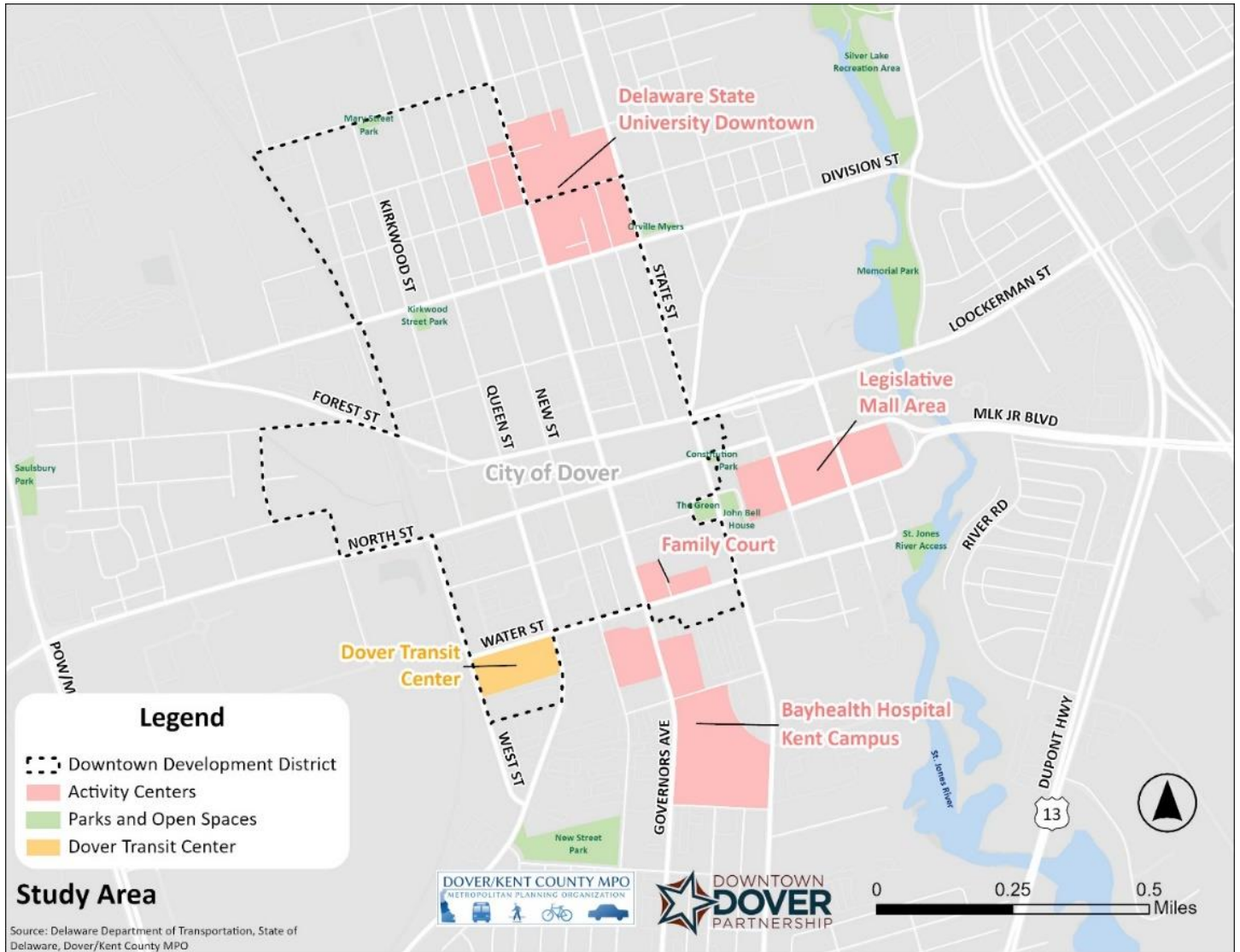


Figure 1: Key Activity Centers in Downtown Dover

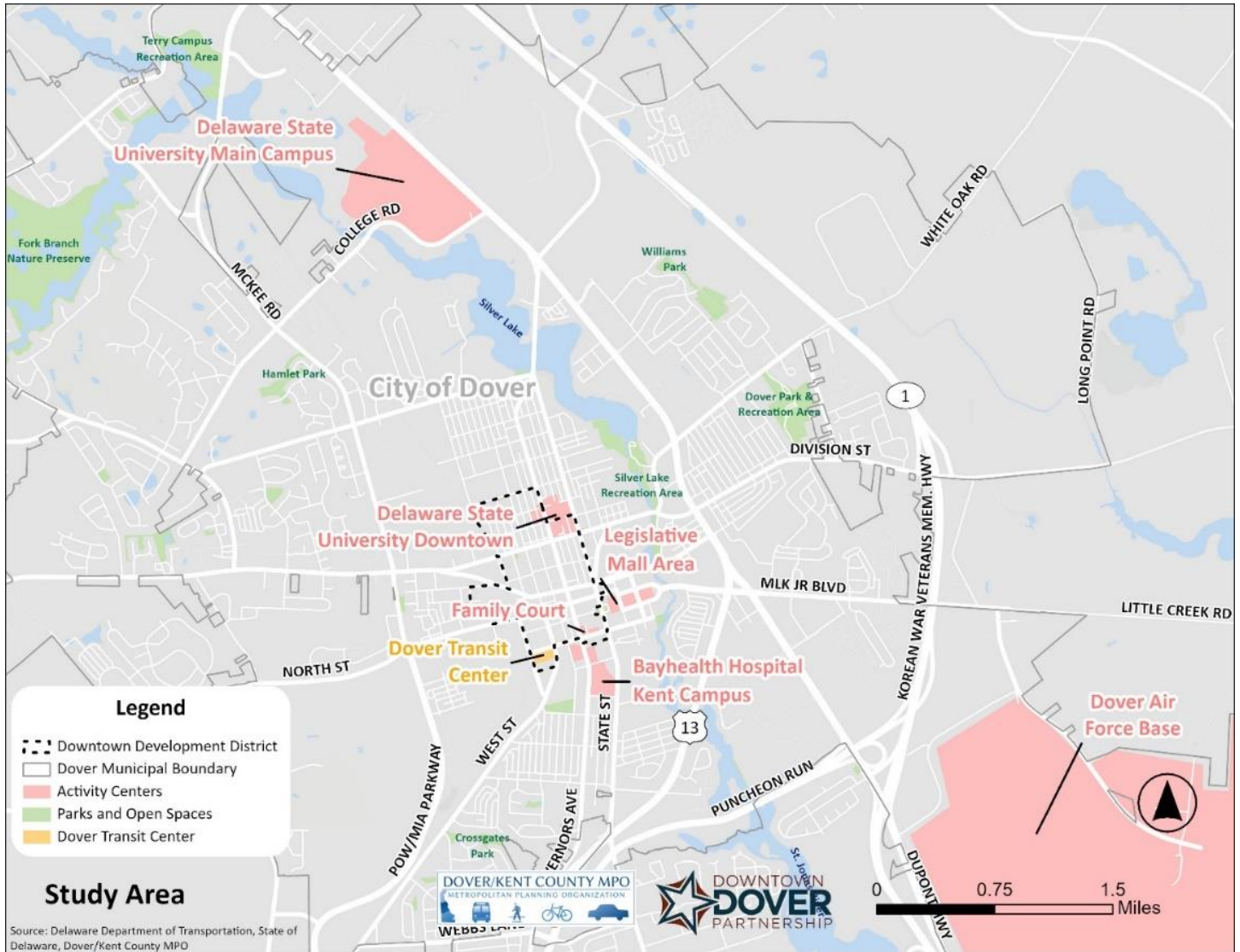


Figure 2: Key Activity Centers in Dover

### Purpose and Need

To be eligible for Federal funding, a project must have a defined “purpose and need.” Federal Highway Administration (FHWA) requires this documentation to understand why a project is being undertaken and how the needs of the traveling public may be addressed by project alternatives.

#### Purpose

The purpose of the Downtown Dover Pathways Study is to create continuous and accessible multimodal facilities through Downtown Dover that connect to key activity centers and encourage the use of a safe roadway network for all modes of transportation. Multiple large employers (Delaware State Government, Bayhealth Hospital, Delaware State University Downtown) and a lively commercial core on Lookerman Street create demand for short trips between key destinations in Downtown Dover.

#### Need

The recommendations of the Downtown Dover Pathways Plan are needed for three primary reasons:

1. Many existing sidewalks, curb ramps, crosswalks, and other pedestrian facilities do not meet current standards, limiting the comfort of people walking among Downtown activity centers.
2. Most Downtown streets do not meet FHWA guidelines for low-stress bicycle facilities, limiting the comfort of people bicycling Downtown and increasing reliance on motor vehicles.
3. There is a significant concentration of pedestrian and bicyclist crashes in Downtown Dover, including two pedestrian deaths and one bicyclist death between 2018 and 2023.

## Section 2: Engagement



## Section 2: Engagement

Community engagement was a priority throughout the plan development process. The project team gathered diverse perspectives and ideas to inform the development of the Downtown Dover Pathways Study such that it reflects the unique needs and desires of the Dover community.

The public engagement plan included a variety of platforms for sharing information and receiving feedback both individually online and through in-person events. Objectives and outcomes for each touchpoint are provided below.

### Interested Parties

One key aspect of this study was to engage interested parties, community leaders, and key planning partners. Below is a list of the local organizations that have served as community and agency resources throughout this planning effort. This list has evolved through the plan development. This group provided local context, advised the project team on community outreach approaches, and delivered feedback for context-sensitive decision making.

- Dover / Kent County MPO
- Downtown Dover Partnership
- City of Dover
  - City Manager
  - Department of Planning & Inspections
  - Department of Public Works
  - Fire Department
  - Police Department
- Kent County
- Kent Economic Partnership
- Delaware Department of Transportation (DelDOT)
- Delaware Transit Corporation (DTC, operating as DART)
- Delaware State University (DSU)
- Bayhealth Hospital
- Central Delaware Chamber of Commerce
- Delaware Division of Facilities Management
- Dover Air Force Base/Air Mobility Command
- Friends of Old Dover
- Habitat for Humanity
- NeighborGood Partners (formerly NCALL)
- Colonial Parking
- Committee of 100
- Heart of Dover
- Downtown business / property owners
- Citizens

### Meeting #1 and Field Walk

A meeting and field walk with the interested parties was held on September 22, 2023, to provide an overview of the Downtown Dover Pathways effort, collect feedback on the existing conditions analysis, evaluate the project's approach to engagement, and discuss performance measures. During the field walk through Downtown Dover, meeting attendees were tasked with thinking about the safety, comfort, and convenience of existing bicycle and pedestrian facilities in Downtown Dover. There were approximately 15 attendees present at the meeting and field walk.

#### Objectives:

- Engage with interested parties.
- Collect feedback on the existing conditions analysis, approach to community engagement, and direction on performance measures.
- Conduct a field walk.
- Think critically about existing bicycle and pedestrian facilities.

#### Outcomes:

- Identified specific areas of opportunity and concern.
- Attendees help validate or provide additional context around the data collected and mapped.
- Key takeaways include:
  - Most Downtown streets have sidewalks, but they are often narrow, without planting strips, and comprised of inconsistent materials.
  - The bicycle network does not serve all ages and abilities.
  - Some intersections and streets are missing multimodal facilities like crosswalks and ADA ramps.
  - Security in Downtown Dover is a challenge. Some streets do not feel safe to walk or bike along.
  - Emergency access and truck routing are important.
  - Speeding and aggressive driving are concerns throughout Downtown.
- Identified ongoing infrastructure and development projects, including those in the Downtown Dover Plan and the ongoing DART Reimagined effort.

Additional meetings were held with Delaware State University and the Committee of 100. The Delaware State University meeting provided key context for how members of the University community travel throughout the City of Dover and access the Downtown Campus. The Committee of 100 provided useful information on workforce development initiatives and youth/family engagement in Downtown Dover. The information gathered during these meetings helped to inform the development of potential alternatives for walking and biking in Downtown Dover.

### Meeting #2 and Bus Tour

On January 24, 2024, the project team hosted a student pop-up at DSU and then conducted a bus tour and meeting with interested parties. During these events, attendees discussed potential alternatives and narrowed down recommendations for further evaluation. The DSU pop-up event provided insight into the commuting patterns of DSU students and how they access the Downtown campus. The bus tour circulated through Downtown Dover and stopped at key intersections, including New Street/Water

Street, New Street/Reed Street, and Division Street/Bradford Street. There were approximately 28 attendees present at the bus tour and meeting.

### Objectives:

- Engage with DSU students.
- Consider the tradeoffs associated with improvement alternatives.
- Present and discuss potential alternatives.

### Outcomes:

- Key student takeaways:
  - Most students drive between the two DSU campuses.
  - Most students do not have a bike.
  - Most students do not walk from the Downtown campus to Lookerman Street because they do not feel safe doing so and they do not know of destinations in Downtown that would appeal to them.
- Key takeaways from the bus tour and meeting:
  - There was mixed feedback on what the best north/south bicycle route might be.
  - There were suggestions for improvements to the following intersections:
    - Division Street / West Street
    - State Street / Kings Highway
    - Lookerman Street / Bradford Street
    - Governors Avenue / Water Street
  - Attendees favored the curb extensions at Division Street / Bradford Street.
  - Attendees were excited about options to improve safety and access along Lookerman Plaza.
  - Attendees offered ideas for connecting the two DSU campuses.
  - There was openness to shared micromobility ideas.

### Meeting #3

The third meeting with interested parties occurred virtually on June 6, 2024. The project team recapped the study process and reviewed proposed recommendations, which had been modified with respect to the feedback received. Implementation was also a focus in this meeting, to ensure the project team understood potential opportunities and pitfalls.

### Objectives:

- Recap project and engage partners before making presentations to the MPO Council.
- Verify changes made to recommendations and consider any additional feedback.
- Discuss potential implementation opportunities, challenges, and strategies.

### Outcomes:

- The north/south bicycle route options all have tradeoffs. There might be a need to further evaluate options based on context at the time of implementation.
- Attendees were generally in agreement with recommendations and implementation strategies. They were excited about future project outcomes.

## Online Comment Map

As part of the first phase of engagement, the project team created an online comment map for community feedback. Citizens made comments about where multimodal connections and improvements are most needed and where they feel uncomfortable walking or biking.

### Objectives:

- Gather public comments on mobility and connectivity issues/opportunities in Downtown Dover.
- Identify gaps in connectivity between the key activity centers and the Downtown core.
- Use comments received to identify needs, potential improvements, and priorities.

### Outcomes:

- 64 comments identifying opportunities for multimodal improvements in Downtown Dover.
- Key takeaways:
  - Improve crossing visibility.
  - Improve interconnectedness of bicycle facilities throughout Downtown.
  - Consider alleys for multimodal connectors.
  - Multiple locations for specific safety improvements where there are high volumes of pedestrian and bicyclist activity.
  - Improve sidewalk maintenance.
  - Signage, enforcement, and education should be incorporated with infrastructure improvement.
- There were some comments for outside of the study area, which can be logged for future consideration.

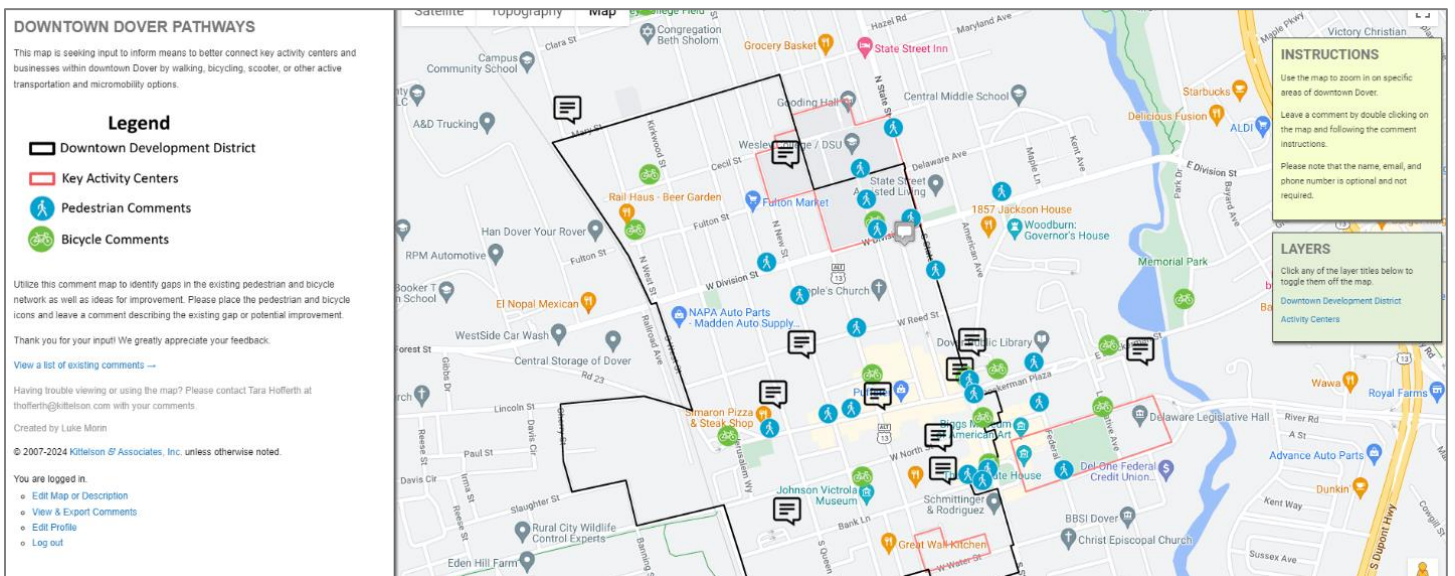


Figure 3. Online Comment Map

Notes from the above meetings and events are provided in Appendix A.

### Public Workshop

The first public engagement event, a workshop, was held on October 26, 2023, from 4:30 pm to 6:30 pm at the Dover Public Library. During the event, attendees were presented with an overview of the existing conditions and were engaged in discussions around the key activity centers and bicycle and pedestrian safety in Downtown. There were approximately 34 attendees present at the workshop.

#### Objectives:

- Provide an interactive listening session where community members can share their experiences accessing or utilizing non-auto modes (walking, bicycling, scooter, other active transportation, or micromobility) in Downtown Dover.
- Engage with community members to understand barriers or opportunities to better connect the key activity centers.
- Hear from community members on how they see improved mobility options in Downtown Dover facilitating economic growth, a live/work environment, and improved public health.

#### Outcomes:

- Collected specific comments related to areas of safety concern and opportunities for bicycle and pedestrian facility improvements. These areas were prioritized for bicycle and pedestrian safety improvements.
- Identified community assets in Downtown Dover that should be prioritized when considering alternative alignments.
  - Bayhealth Hospital Kent Campus
  - Dover Transit Center
  - Loockerman Street
  - Legislative Mall Area
  - Dover Public Library
  - DSU Downtown Campus
- Confirmed safety concerns at locations with high bicycle/pedestrian crash frequencies in Downtown Dover.
  - Loockerman Street / Governors Avenue
  - Loockerman Street / Queen Street
  - Queen Street / Division Street
  - Water Street / New Street
  - State Street / Division Street

Notes from the public workshop are provided in Appendix A.

### Neighborhood Meetings

During the month of April 2024, the project team met with various housing and community groups to better understand potential needs and opportunities in Downtown Dover. Attendees included Interfaith Mission, NeighborGood Partners, Habitat for Humanity, and the Dover Police Department. The purpose of these touchpoints was to better understand the security challenges in Downtown Dover and to make recommendations that equitably move the city forward. The project team also engaged with the community during an event on April 13, 2024.

### Dover Days

In place of a traditional public workshop, the second community engagement event was conducted during Dover Days on May 4, 2024. During the rainy day, we chatted with about 20-30 people about proposed recommendations using display boards. We also distributed survey flyers at the event.

#### Objectives:

- Seek feedback on proposed multimodal tools and project ideas.
- Encourage survey participation.
- Ask residents to identify preferred north/south bicycle route.
- Compare connections between the DSU campuses.
- Gauge interest in micromobility.
- Seek any additional feedback before finalizing study recommendations.

#### Outcomes:

- There was support for the DSU connection via US 13.
- Preference was expressed for a north/south bicycle facility on Queen Street.
- There were concerns about red-light running, narrow sidewalks on Division Street, speeding on State Street, and sidewalk maintenance.

### Online Survey

An online survey was available in May 2024. It was advertised through flyers, social media, and the project website. The flyers were distributed at Dover Days. There were 14 survey responses.

#### Objectives:

- Seek feedback on intersections and tools for pedestrian improvement.
- Ask residents to identify a preferred north/south bicycle route.
- Compare connections between the DSU campuses.
- Gauge interest in micromobility.
- Seek any additional feedback before finalizing study recommendations.

#### Outcomes:

- Most respondents were excited about the recommendations and did not have additional suggestions for pedestrian improvements.
- Additional intersections and tools to consider include:
  - Improve visibility at Loockerman Plaza at Federal Street / Library.
  - Water Street and State Street.
  - Improve along West Street.
  - Improve Division Street and Pennsylvania Avenue.
  - Provide a flashing beacon at Division Street and Queen Street.
  - Level existing brick sidewalks.
  - Improve pedestrian safety along North Street.
  - Increase police enforcement.
  - Provide wider sidewalks.
  - Improve sidewalks along Division Street.

- Additional bicycle improvements to consider include:
  - Provide covered bicycle parking at the transit center.
  - Install additional bicycle parking near Lookerman Street, at DSU Downtown, and near the Green
  - Provide a bikeway along West Street to Rail Haus.
  - Implement signs and enforcement that prioritize bicyclists.
  - Improve the Senator Bikeway on Cecil Street and provide connectivity to proposed bicycle boulevards.
- 11 of the 14 participants suggested that the north/south bicycle facility be along Governors Avenue.
  - 3 of the 14 participants suggested that the north/south bicycle facility be along Queen Street.
- Respondents most preferred Option 2 for connectivity between the DSU campuses.
  - Respondents least preferred Option 1 for connectivity between the DSU campuses.
- There were suggestions for improved wayfinding, path improvements, and intersection safety improvements along the trail connecting to the Air Force Base.
- 8 of the 14 participants anticipate that they would not use a shared micromobility vehicle while 6 of the 14 participants anticipate that they would use a shared micromobility vehicle in Downtown Dover.
- People emphasized the need for improved wayfinding and mapping of destinations, improved lighting, cleaning up litter, enforcement of traffic laws, more secure bicycle parking, wider sidewalks, walking police officers, and more education for pedestrians, bicyclists, and drivers.

## Section 3: Existing Conditions



## Section 3: Existing Conditions

Existing conditions were analyzed to better understand current land use, infrastructure, and safety in Downtown Dover. The project team reviewed previous plans, analyzed demographic and land use data, inventoried existing multimodal infrastructure, and documented historic crash data. This analysis was discussed with the Dover community to place it in the context of lived experiences.

### Previous Plan Review

Several notable plans provide important context for improving active transportation connectivity to key activity centers in Downtown Dover. Most significant of these plans is the recently completed *Transforming Downtown Dover: Capital City 2030* plan prepared by DDP, which identifies key anchors in Downtown and proposes an initial set of multimodal improvements. *Transforming Downtown Dover* highlights residents' concerns that the identified community anchors are not well connected to the Downtown area. Several recommendations were provided with the vision of improving multimodal connectivity. These recommendations are summarized below.

### Key Themes from Local/Regional Plans

#### *2023 Transforming Downtown Dover: Capital City 2030*

- Connect community anchors to Downtown core.
- Develop and expand alternate modes of transportation.
- Revive Loockerman Street.
- Create multimodal access along Governors Avenue.
- Build upon existing built-out sidewalk network.
- Build upon previous bike facility investments.

#### *2021 Innovation 2045: MTP Dover/Kent County MPO*

- Identifies projects to “safely move people and commodities efficiently on connected and reliable transportation networks.”
- Strives to integrate multi-modal transportation improvements with local land use decisions.

#### *2020 Dover Bicycle and Pedestrian Plan – City of Dover*

- Introduces Bicycle Level of Traffic Stress (LTS) methodology.
- Identifies priority bicycle improvements based on “gaps” in the existing bike network.
- Identifies and prioritizes 29 bicycle and pedestrian facility improvement projects.

#### *2019 Comprehensive Plan – City of Dover*

- Comprehensive plan documenting Dover’s strengths, weaknesses, and opportunities for improvement.
- Development of four goals to improve the transportation network:
  - Preserve and maintain the existing transportation system.
  - Increase coordination with agencies.
  - Develop and expand alternate modes of transportation.
  - Update and implement the bicycle and pedestrian transportation plans.

### *2011 Dover Transit Center Neighborhood Plan – Dover/Kent County MPO*

- Provides Dover with a design and planning strategy for development around Dover Transit Center.
- Other strategies for transportation improvements throughout Downtown Dover are also included.

### **Key Themes from Statewide Plans**

#### *2024 DART Reimagined – DTC*

- Identifies opportunities to reconfigure the bus network and future service to “provide a more sustainable and equitable statewide transit system.”
- Reevaluation of all DART First State transit systems, including bus (fixed route, flex route, intercounty, seasonal beach buses, micro-transit), paratransit, and commuter transit service contracted through SEPTA.

#### *2023 Draft Complete Streets Design Guide – DeIDOT*

- Developed for state, county, and local transportation staff in Delaware to provide design guidance for creating “comfortable and viable Complete Streets transportation facilities.”
- Provides context sensitive tools and methods for implementing Complete Streets “to support safer, more connected, and livable communities.”

#### *2022 Pedestrian Action Plan – DeIDOT*

- Outlines steps toward creating a pedestrian network on state-maintained roadways that is safe, equitable, and accessible for all.
- Develops goals to promote land use and transportation facilities that encourage active transportation, incorporate Complete Streets concepts into pedestrian improvements, and develop sustainable funding mechanisms for pedestrian facilities and safety education.

#### *2018 Blueprint for a Bicycle Friendly Delaware – DeIDOT*

- Intended to create a shared vision for bicycling among a wide range of stakeholders.
- Provides recommendations to foster bicycling culture, improve bicycling safety and confidence, and develop a connected bicycle network.

#### *2010 DeIDOT Complete Streets Policy – DeIDOT*

- Purpose is to ensure DeIDOT roadway modifications are “routinely planned, designed, constructed, operated, and maintained in a way that enables safe and efficient access for all users.”
- Policy states that any project in state right-of-way that is “considered road reconstruction, widens pavement width, or allows for the inclusion of facilities for all users,” will consider all transportation modes and accommodate needs accordingly.

## Demographics and Land Use

Downtown Dover’s existing demographics and land use were explored to identify opportunities for connectivity to important places as well as serve communities that would benefit the most from improved multimodal facilities. All data utilized in the demographic and land use analysis was accessed from the U.S. Census Bureau’s American Community Survey (ACS) 5-Year estimates for 2021 or Delaware FirstMap – Delaware’s enterprise Geographic Information System (GIS). Delaware FirstMap allowed access to up-to-date data provided by DelDOT and other State of Delaware agencies.

### Key Places

While the key activity centers act as the focal point for multimodal connectivity in Downtown Dover, the study area includes numerous other civic and commercial destinations. Public schools near Downtown Dover include South Dover Elementary, Booker T. Washington Elementary, Central Middle School, and William Henry Middle School. Holy Cross Elementary School is a private school located within the study area. Dover Fire Department and the Dover Police Department headquarters are both located within Downtown. The Legislative Mall, Old State House, and Legislative Hall act as a hub for civic activity including the Legislative Hall Library, Biggs Museum of American Art, Dover Public Library, Delaware Public Archives, and the Delaware Division of Historical and Cultural Affairs. Multiple shopping centers and grocery stores are accessible across the St. Jones River via Division Street, Loockerman Street, and Martin Luther King, Jr. Boulevard.

Community leaders discussed other key community resource centers both within and outside of the Downtown core, including the Blue Hen Corporate Center, the Greater Dover Boys and Girls Club, Delaware Technical and Community College, and Wilmington University’s Dover campus. Johnston Hall was highlighted as an important destination for DSU students. The new Rail Haus beer garden, Spence’s Bazaar, and the Eden Hill Medical Campus are other key places that people might walk and bike to.



### Land Use and Development

Existing land use in Downtown Dover indicates a significant number of parcels devoted to institutional and government land uses, to be expected in a state capital. There is a particularly large amount of land for institutional use located in the eastern half of Downtown Dover near the Legislative Mall area. Residential land use in Downtown Dover is primarily small-lot single-family homes located north and west of Downtown. Lookerman Street, North Street, and State Street serve as the commercial core of Downtown Dover.

### *Projects in Development*

There are also several ongoing, large development projects in Downtown Dover that are primarily located north of Lookerman Street. These ongoing projects include:

1. New construction of five new single-family homes on North New Street for homeownership.
2. New construction of a three-story, LEED certified, and handicap accessible office building.
3. New construction of five new single-family homes on South Kirkwood Street for homeownership.
4. New construction of three duplex units or six homes on Reed Street.
5. New construction of a medical office building on a vacant parcel.
6. New Family Court building.
7. Old Dover post office commercial redevelopment with an outdoor courtyard space.
8. 120 Governors Avenue multi-use development with grocery store, parking structure, outdoor amenity space, and residential units.

Habitat for Humanity is also building several single-family houses in Dover.



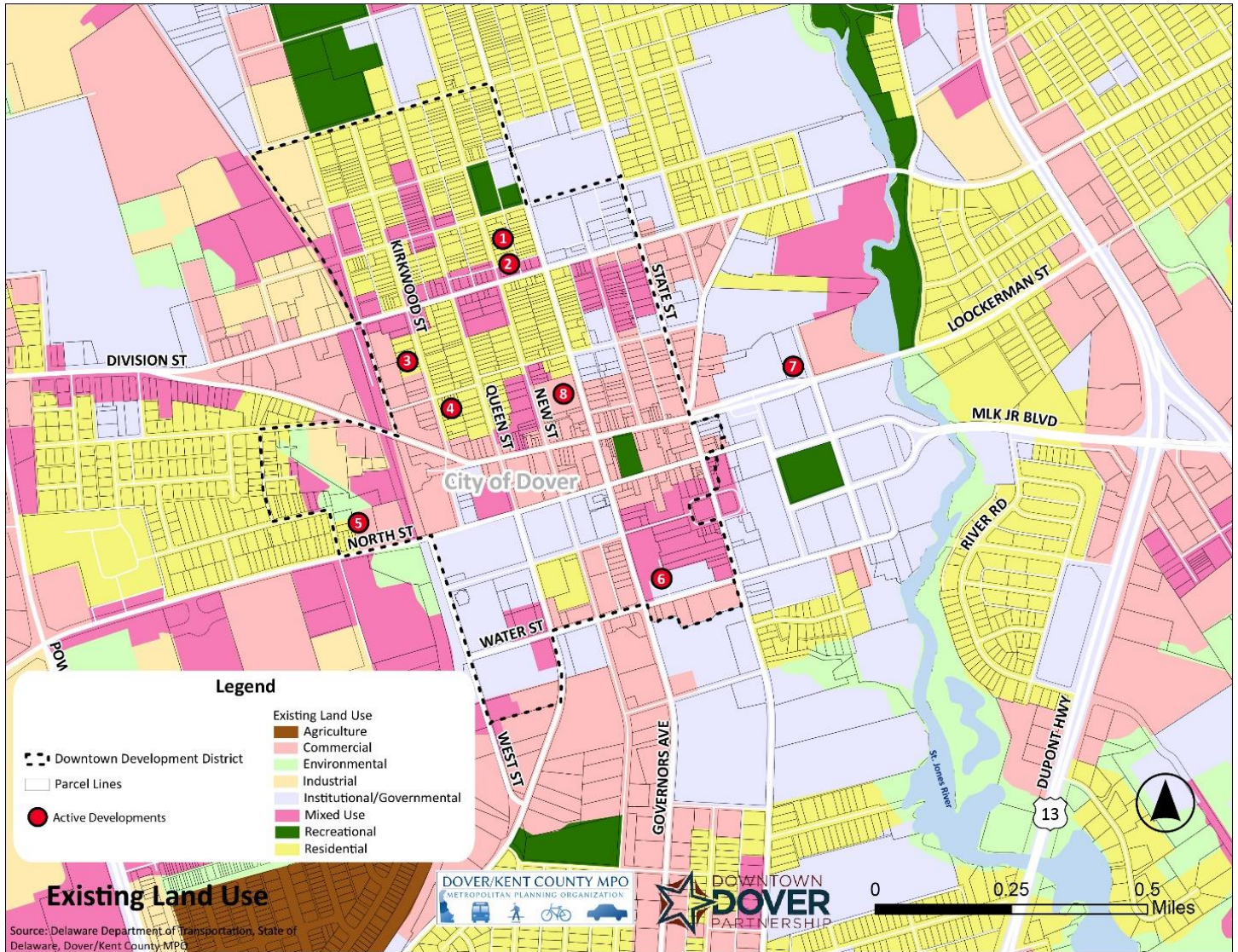


Figure 5: Existing Land Use in Downtown Dover

### Population Density

The City of Dover is home to about 40,000 residents, many of whom live within or near Downtown Dover. Population densities are greater east and northeast of Downtown Dover. These areas of Downtown contain a significant number of small-lot single-family homes that contribute to the high degree of population density. While not as dense as the neighborhoods east and northeast of Downtown, a notable number of single-family homes and some multi-family housing contribute to greater population densities west of Governors Avenue and north of Division Street.

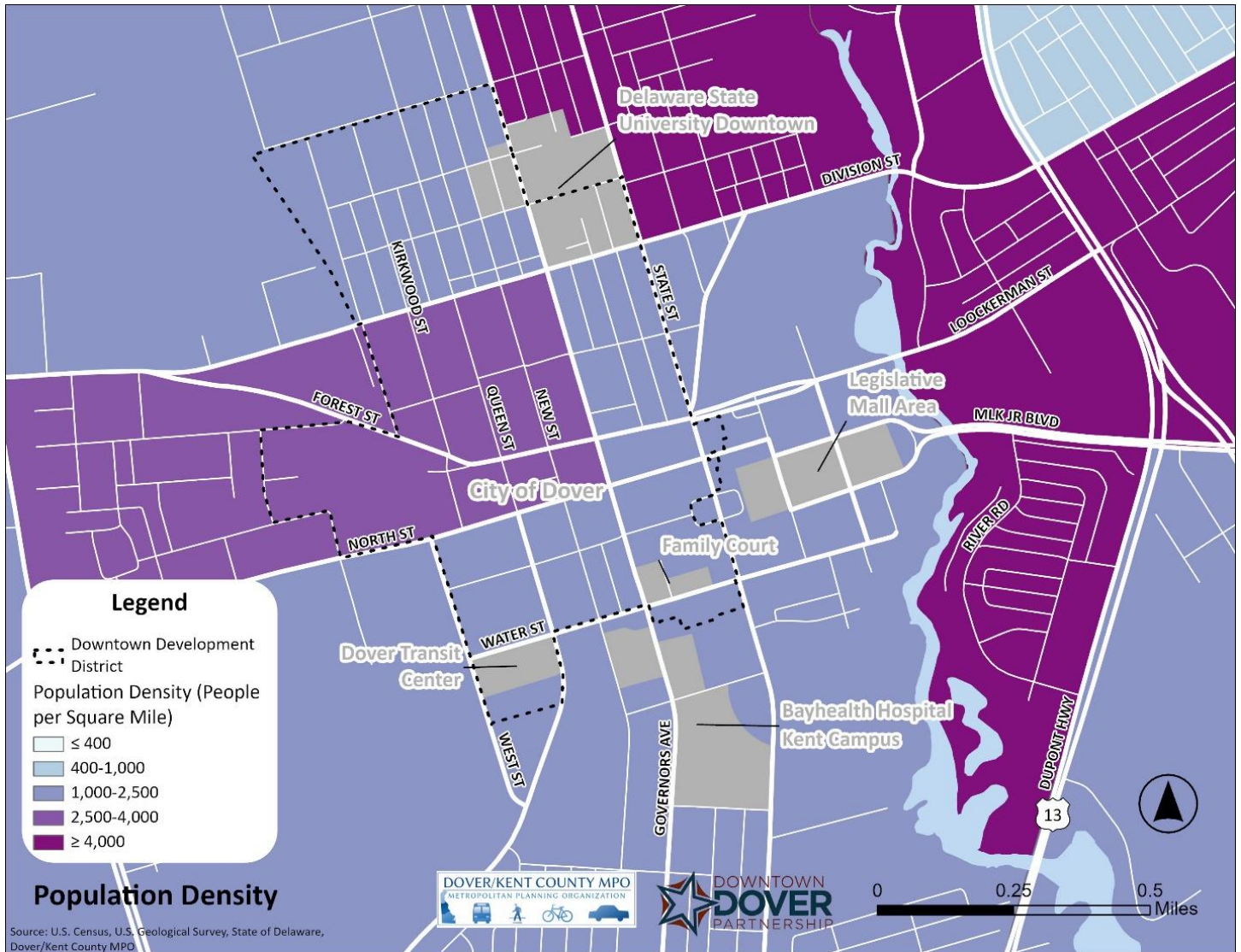


Figure 6: Population Density in Downtown Dover



### Black, Indigenous, and Persons of Color

The City of Dover is a majority Black, Indigenous, or Persons of Color (BIPOC) community with 42% of Dover’s population identifying as Black or African American, 8% Hispanic, 3% Asian, and 1% Native American. (*Transforming Downtown Dover*). BIPOC populations are greater on the west side of Downtown and east of Dupont Highway across the St. Jones River.

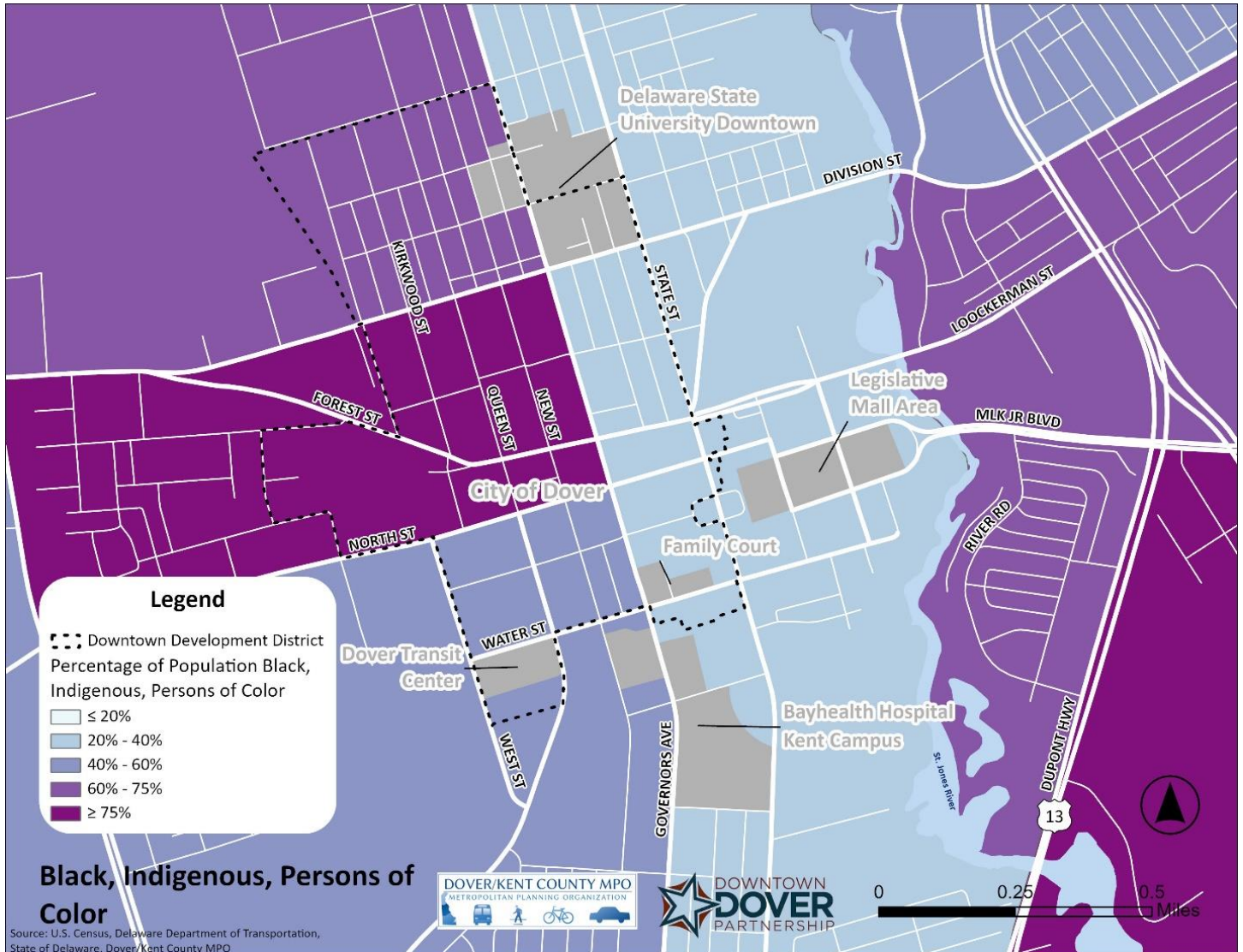


Figure 7: Share of Black Indigenous, and Persons of Color (BIPOC) in Downtown Dover



### Poverty

Dover’s city-wide poverty rate is approximately 22%, but there are notable variations to this average in and around Downtown Dover (*Transforming Downtown Dover*). The Census Block Group encompassing the Legislative Mall and the Lookerman Street retail area has lower rates of poverty, but this area is less residential relative to other Block Groups near Downtown Dover. Poverty rates are generally higher north and west of Downtown as well as east of the Legislative Mall across the St. Jones River. Overall, a high proportion of Downtown residents are low-income – especially in comparison to suburban Dover.

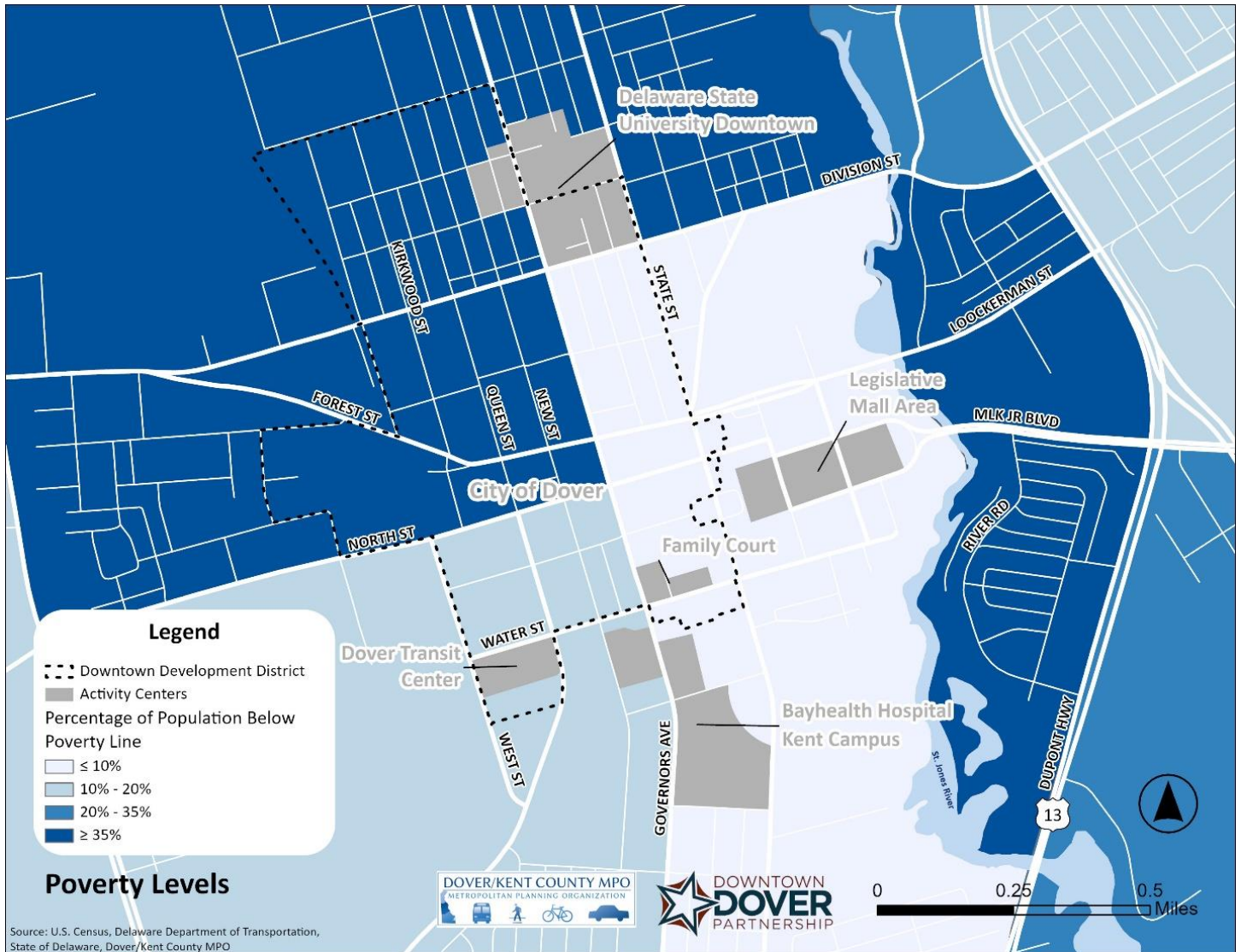


Figure 8: Poverty Rates in Downtown Dover

### Zero Vehicle Households

Access to a private vehicle can significantly improve personal mobility and increase access to essential services and job opportunities. While Downtown Dover is more pedestrian- and bicycle-friendly than many other areas of the City, identifying neighborhoods with reduced access to private vehicles can focus efforts on improving multimodal infrastructure. There are higher densities of households without access to a private vehicle west of Governors Avenue in Downtown Dover.

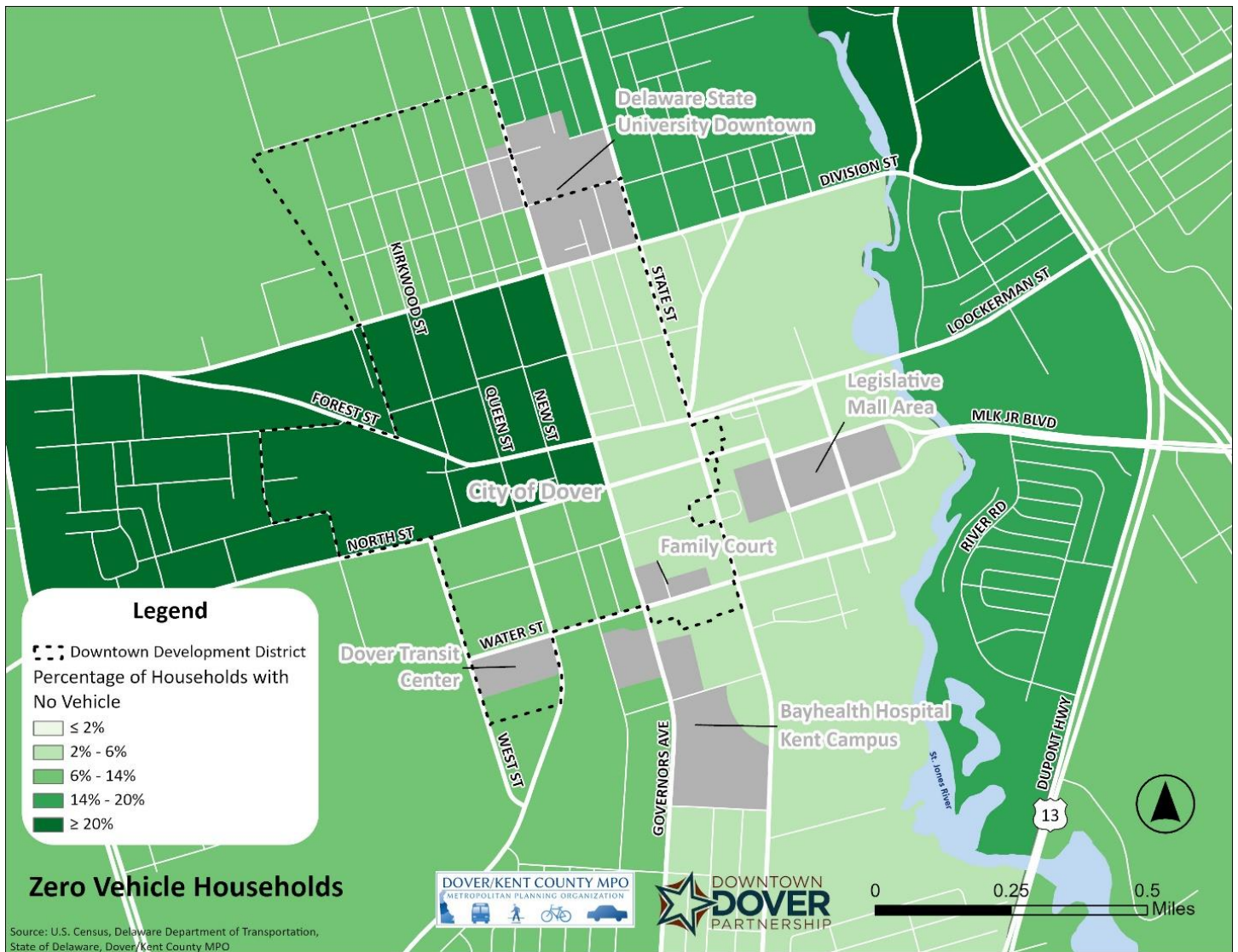


Figure 9: Rate of Households Owning No Vehicle in Downtown Dover



### Job Density

Large concentrations of jobs can be found at the Bayhealth Hospital Kent Campus as well as near the Legislative Mall area. There is some job density in the Downtown core around Lockerman Street, State Street, and North Street that can be attributed to the large number of service industry jobs in this area. Additionally, there is a concentration of warehouse jobs northwest of Downtown. Previous plans have noted that despite the location of the Capitol in Downtown Dover, public administration is only part of employment characteristics. The dominant employment sectors in Downtown are healthcare, retail, and education.

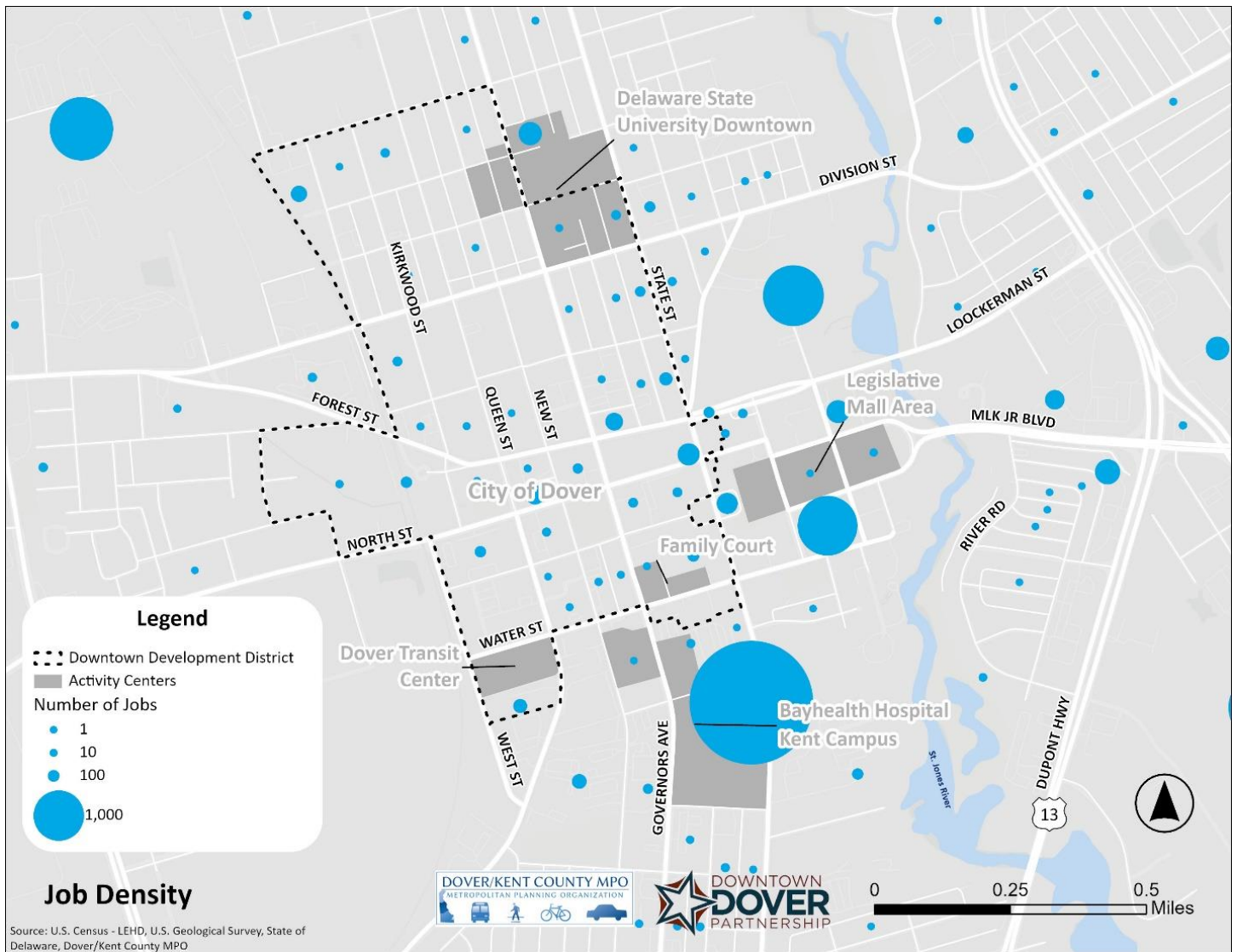


Figure 10: Job Density in Downtown Dover

## Infrastructure

Downtown Dover’s existing multimodal facilities (roadway, pedestrian, bicycle, transit) were identified to provide an understanding of how potential transportation improvements might leverage Dover’s existing network. Additionally, speed limits, traffic volumes, and bicycle Level of Traffic Stress (LTS) provide context for the comfort of Downtown streets for bicyclists, pedestrians, and other people traveling without motor vehicles.

## Roadway Classification

Roadway classifications in Downtown Dover indicate the major routes providing vehicular connectivity to and within the study area. There are several minor arterials and major collectors that carry higher volumes of vehicular traffic throughout Downtown Dover, but especially near the commercial core – these roadways are identified below. Additionally, a network of Downtown local streets primarily serves to facilitate mobility between residential districts of Downtown Dover.



Figure 11: Roadway Functional Classification in Downtown Dover

*Notable Minor Arterials*

- Loockerman Street
- Division Street
- US 13/Dupont Highway
- Forest Street
- State Street
- Governors Avenue

*Notable Major Collectors*

- Martin Luther King, Jr. Boulevard
- Legislative Avenue
- Water Street
- West Street
- North Street
- Kings Highway
- Queen Street



### Speed Limits

Speed limits in the core of Downtown Dover are universally low on all roadways regardless of classification. Downtown streets are predominantly 25 mph both in residential and commercial districts, but some speed limits do increase when traveling outside of Downtown (on North Street, Queen Street, Lookerman Street, and Governors Avenue). US 13/Dupont Highway is the only roadway near the study area with portions that have a speed limit greater than 45 mph. Residents have expressed that on many Downtown streets, drivers are often going faster than the speed limit.

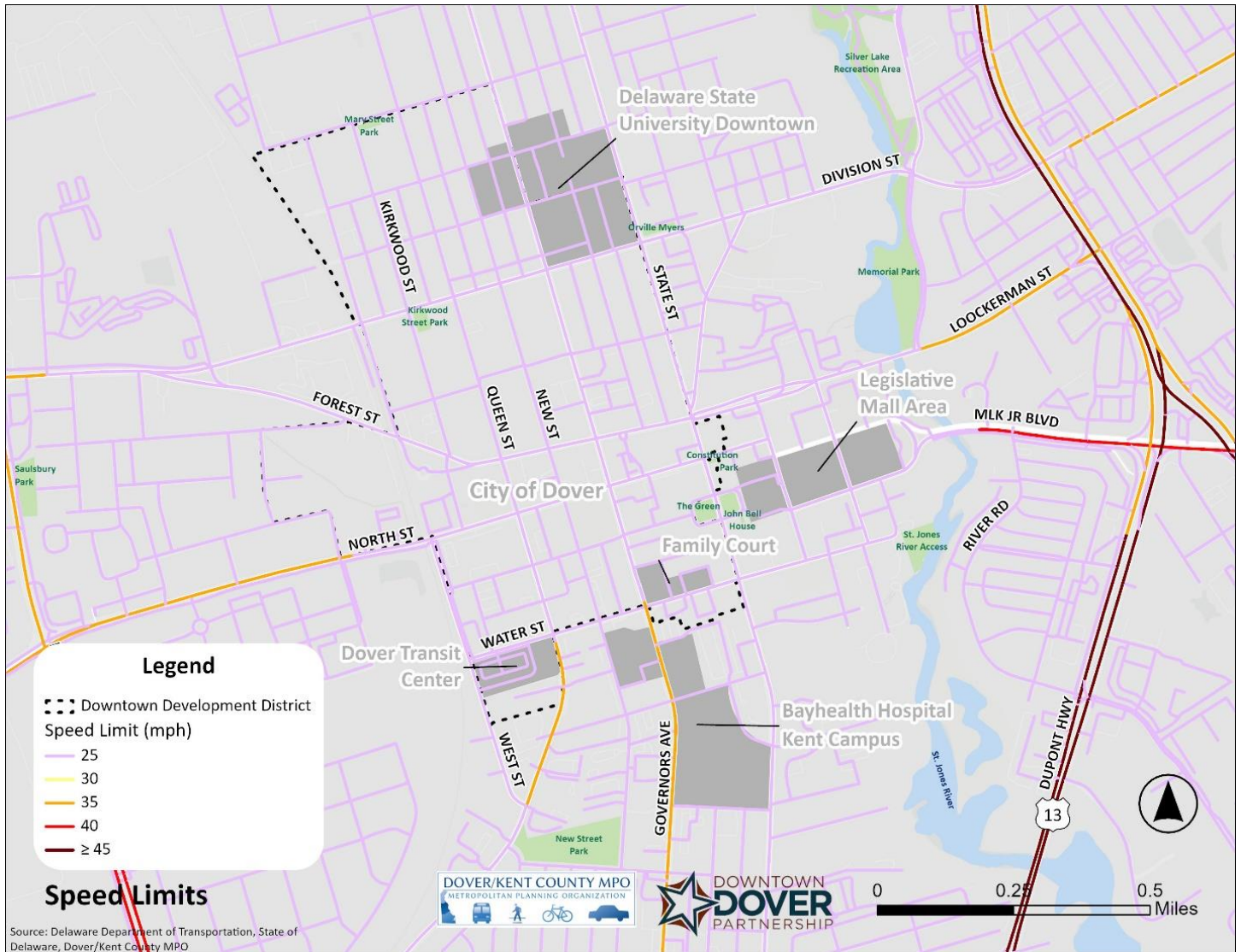


Figure 12: Speed Limits in Downtown Dover

### Traffic Volumes

Traffic volumes in Downtown Dover do not exceed 12,000 vehicles per day. Roadways that carry the highest volume of traffic are the minor arterials and major collectors that provide connectivity into and out of Downtown Dover. Traffic volumes increase outside of Downtown, especially along US 13/Dupont Highway where annual average daily traffic (AADT) exceeds 20,000.

#### Primary Roadways Carrying Traffic Through Downtown Dover

- Division Street
- Lookerman Street/Forest Street
- North Street
- Martin Luther King, Jr. Boulevard
- State Street
- Water Street between Governors Avenue and Queen Street
- State Street
- Governors Avenue south of Lookerman Street
- Queen Street south of North Street
- West Street

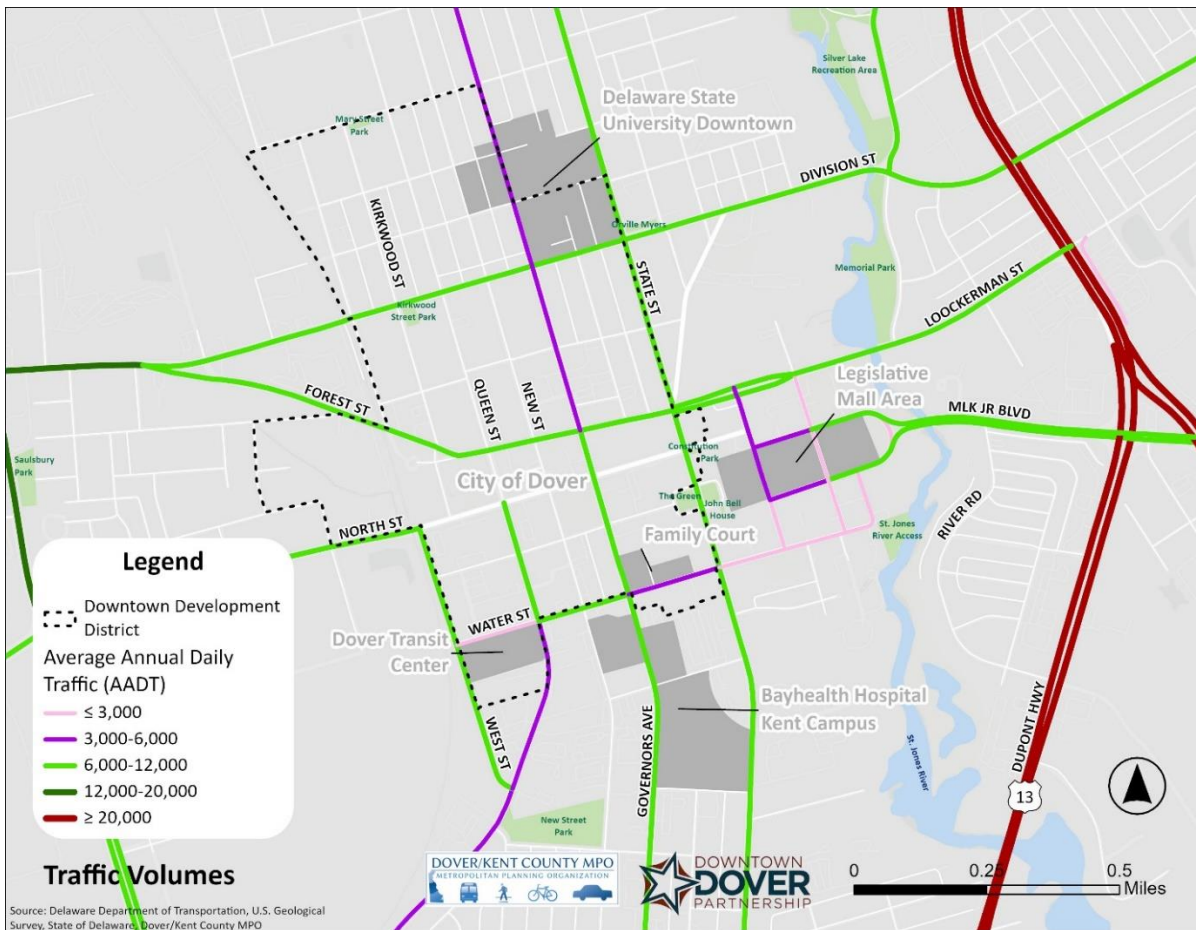


Figure 13: Traffic Volumes in Downtown Dover



### Bicycle Level of Traffic Stress

Bicycle Level of Traffic Stress (LTS) quantifies the perceived comfort of bicycling along roadways for the average cyclist. Very Low Stress (LTS 1) facilities are considered the safest for cyclists with limited bicycling experience and are likely low speed, low volume roadways and may include separated bicycle infrastructure. Stressful facilities often carry higher volumes of vehicular traffic at higher speeds and may not provide separated bicycle infrastructure.

#### Stressful Bicycle Routes

- Division Street
- Lockerman Street/Forest Street
- North Street
- Martin Luther King, Jr. Boulevard
- Water Street
- State Street
- Governors Avenue
- Queen Street south of North Street
- West Street

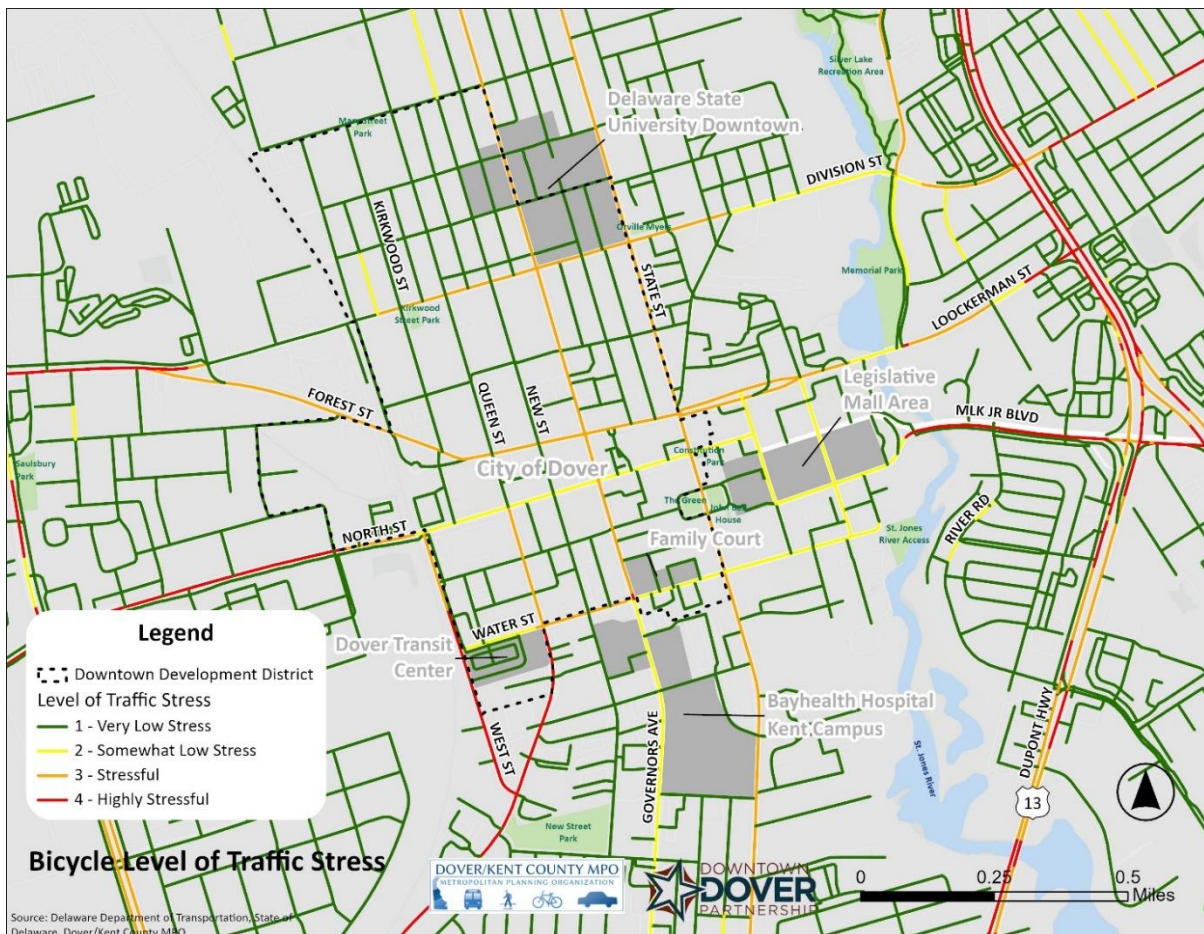


Figure 14: Bicycle Level of Traffic Stress (LTS) on Downtown Dover Streets



## Bicycle Infrastructure

Dover’s most recent bicycle and pedestrian plan was completed in 2020 and outlines several projects that support cycling throughout the city, including Downtown. In the 2020 *Dover Bicycle and Pedestrian Plan*, these projects were categorized as projects for bicyclists and projects for “All Users” that would allow for walking, biking, and micromobility, and support accessibility. All Users projects either call for the construction of a shared use pathway separated from an existing roadway or the introduction of a “Complete Street” design that would redesign the existing roadway to provide a low-stress environment for walking and biking. The bicycle-specific projects either call for improved pavement markings and signage or the construction of facilities that would separate cyclists from traffic. The plan also identifies numerous projects planned in the City of Dover by DeIDOT that are intended to enhance mobility and safety for pedestrians and bicyclists.

Table 1: Projects for All Users

Number	Project	Description	Type
1	E. Division Street Connector (Park Drive to Bayard Avenue)	Complete the shared use pathway on the north side of E. Division Street between Park Drive and Bayard Avenue.	Shared Use Pathway
2	E. Division Street/North Little Creek Road (US 13 to SR 1)	Construct sidewalks and redesign the roadway to provide low-stress bicycle and pedestrian travel along SR 8 between US 13 and SR 1 and address bicycle navigation through the US 13 intersection.	Complete Street
3	Mifflin Road Multi-Modal Improvements (Hazletville Road to Forrest Avenue)	Provide for low-stress bicycle and pedestrian access along Mifflin Road between Hazletville Road and Forrest Avenue.	Complete Street
4	MLK Boulevard Connector (Bay Road to US 13)	Widen the existing sidewalk along MLK Boulevard between Bay Road and US 13 to provide a shared use pathway.	Shared Use Pathway
5	Senator Bikeway Phase II (Forrest Avenue, Dover High School to Mifflin Road)	Construct a shared use pathway on the south side of Forrest Avenue from Mifflin Road to Dover High School.	Shared Use Pathway
6	South Bay Road Pathway (South Little Creek Road to Transportation Circle)	Provide a shared use pathway along the south side of Bay Road between South Little Creek Road and Transportation Circle	Shared Use Pathway
7	St. Jones River Trail	Provide a new trail on the west side of the St. Jones River between Silver Lake Park and Legislative Avenue. A trail crossing will be necessary at Division Street.	Shared Use Pathway

Source: 2020 *Dover Bicycle and Pedestrian Plan*

Table 2: Projects for Bicyclists

Number	Project	Description	Type
16	Bank Lane and The Green (S. West Street to MLK Boulevard)	Install wayfinding marking and signage to highlight the low-stress route along Bank Lane between West Street to MLK Boulevard.	Wayfinding Marking & Signage
17	College Road East (McKee Road to US 13)	Provide low-stress bicycle facilities along College Road between McKee Road and US 13.	Bicycle Facility
18	Kenton Road (Chestnut Grove Road to Denneys Road)	Provide low-stress bicycle facilities along Kenton Road between Chestnut Grove Road and Denneys Road.	Bicycle Facility
19	Kings Highway NE (E. Division Street to US 13)	Provide low-stress bicycle facilities along Kings Highway NE between E. Division Street and US 13.	Bicycle Facility
20	Lakewood Place/N. New Street/S. New Street/Monroe Terrace Bike Boulevard	Explore the viability of a north-south bicycle boulevard through downtown Dover along Lakewood Place/New Street/Monroe Terrace.	Wayfinding Marking & Signage
21	New Burton Road (POW/MIA Parkway to S. West Street)	Evaluate New Burton Road for bicycle improvements.	Study
22	North Little Creek Road (SR 1 to SR 9)	Provide low-stress bicycle facilities along north Little Creek Road between SR 1 and SR 9.	Bicycle Facility
23	North State Street and US 13 Intersection	Improve the approaches and the intersection of N. State Street and US 13 to accommodate bicycle travel.	Bicycle Facility
24	South Little Creek Road (Bay Road to Fox Road)	Provide low-stress bicycle facilities along South Little Creek Road between Bay Road and Fox Road	Bicycle Facility
25	South State Street (Lotus Street to US 13)	Provide low-stress bicycle facilities along South State Street between Lotus Street and the south side of the intersection with US 13	Bicycle Facility
26	Walker Road East (North State Street to Saulsbury Road)	Provide low-stress bicycle facilities along Walker Road between N. State Street and Saulsbury Road.	Bicycle Facility
27	Walker Road West (Saulsbury Road to Kenton Road)	Provide low-stress bicycle facilities along Walker Road between Saulsbury Road and Kenton Road.	Bicycle Facility
28	US 13 Commercial District Bicycle Boulevard	Install wayfinding marking and signage to highlight the low-stress route between Leipsic Road and Dover Mall	Wayfinding Marking & Signage
29	White Oak Road (US 13 to Garrison Oak Drive)	Provide low-stress bicycle facilities along White Oak Road between US 13 and Garrison Oak Drive.	Bicycle Facility

Source: 2020 Dover Bicycle and Pedestrian Plan

Table 3: DeIDOT Projects

Number	Project	Limits	Description
30	HEP KC, SR 8 and SR 15 Intersection Improvements	Carver Road to W. North Street	Construction funded. This project will provide operational, capacity, and safety improvements along with a shared use pathway (east side), a sidewalk (west side) and bike lanes.
31	SR 8, Connector from Commerce Way to SR 8	Commerce Way to SR 8/ Forrest Avenue	Construction funded. This project includes a new connector road from SR 8 to Commerce Way with two travel lanes and accommodation for bicycles and sidewalks and/or shared use pathways for pedestrians.
32	West Street, New Burton Road (Queen Street) to North Street	New Burton Road to North Street (Queen Street)	Construction funded. This project widens West Street to urban collector standards. Included in the project are bike lanes and sidewalks to connect to the Dover Transit Hub.
33	K104, Kenton Road. SR 8 to Chestnut Grove Road	SR 8/ Forrest Avenue to Chestnut Grove Road	Construction funded. This project will provide operational and safety improvements along with a shared use pathway on the east side of the roadway, a sidewalk on the west side of the roadway, and bike lanes in the roadway.
34	College Road	Kenton Road to McKee Road	Construction not funded. This project includes pavement rehabilitation, the construction of shoulders and sidewalks on both sides of the road, and minor intersection improvements to accommodate bicycles
35	Loockerman Street/Forest Street Improvements	Intersection	Construction not funded. This project will include a series of improvements that will encourage economic development and alternate modes of transportation.
36	Scarborough Road C-D Roads	Scarborough Road to Mall Boulevard	Construction not funded. This project includes a new southbound collector-distributor (C-D) road adjacent to SR 1 south of the Scarborough Road interchange.

Source: 2020 Dover Bicycle and Pedestrian Plan

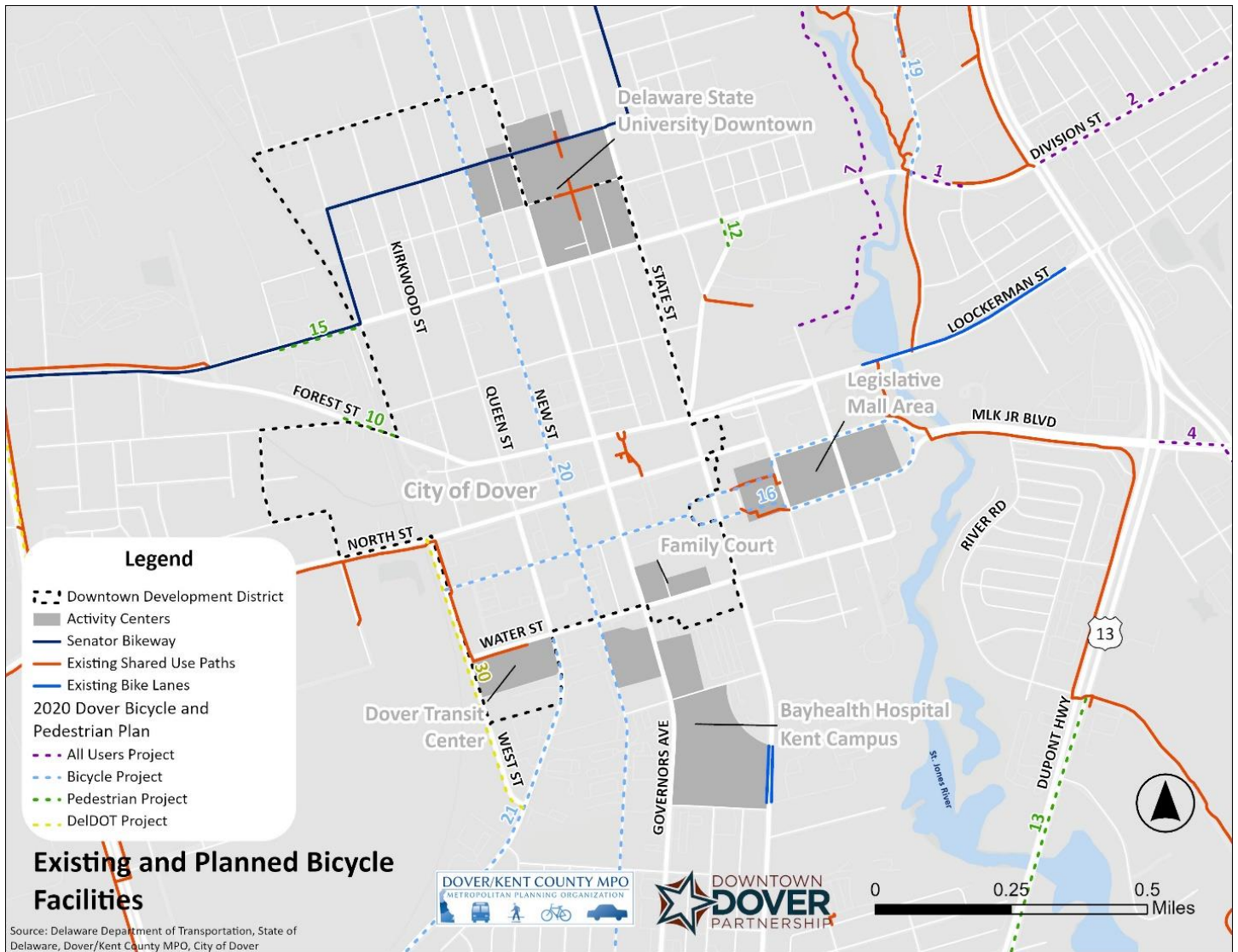


Figure 15: Bicycle Facilities in Downtown Dover



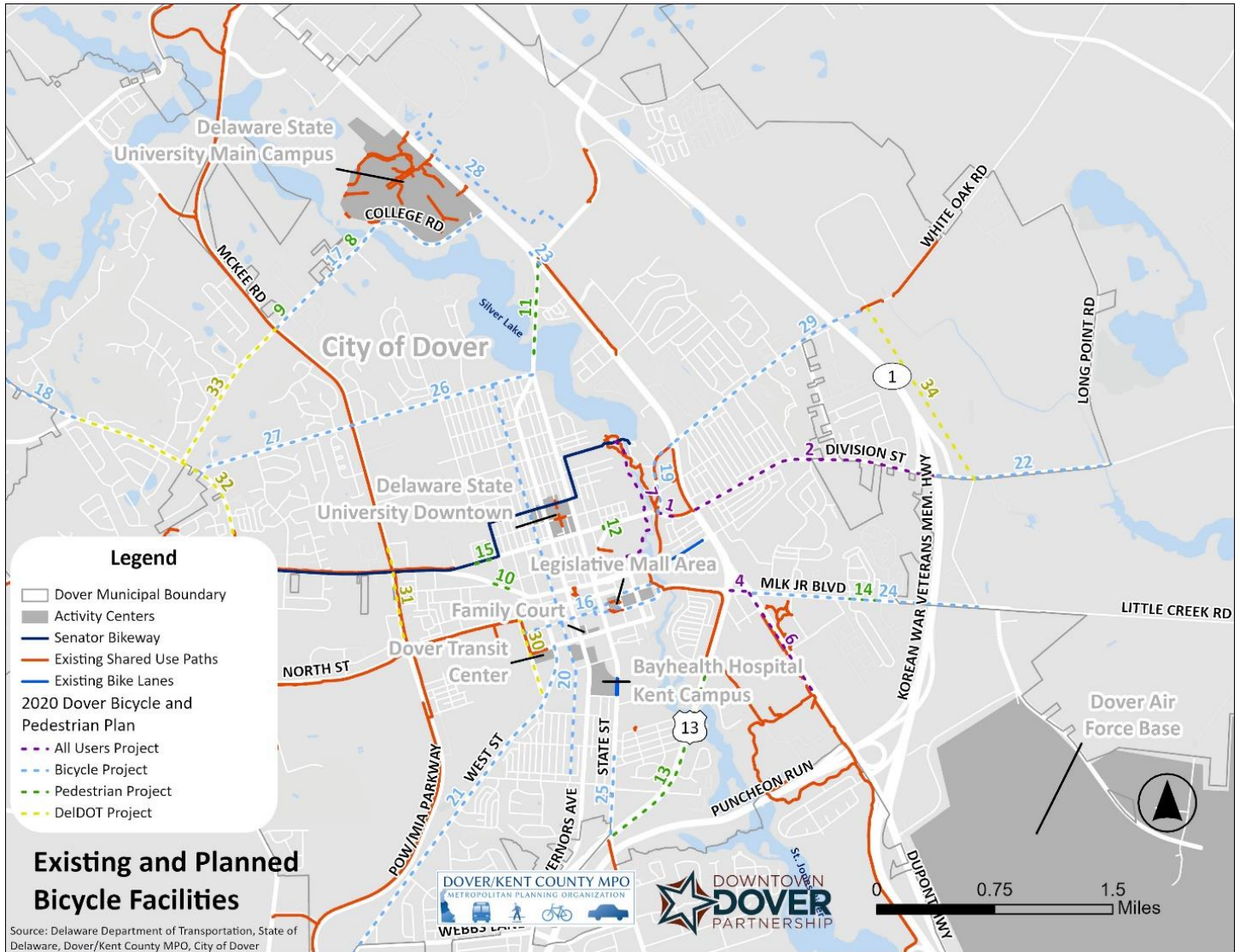


Figure 16: Bicycle Facilities in Dover

### Transit Infrastructure

Downtown Dover is served by 12 DART bus routes operated by DTC. The existing transit system is a hub-and-spoke model where all routes begin and end at Dover Transit Center. This model feeds all routes into Downtown Dover and results in multiple overlapping routes within the study area. Streets with overlapping routes include Water Street, Queen Street, Federal Street, Martin Luther King, Jr. Boulevard, Division Street, and State Street. Figure 17 includes the existing routes as of October 2023. These routes will change due to DART Reimagined, a study conducted by DTC to “identify opportunities to reconfigure the bus network and future service plan” to provide a more sustainable and equitable transit system in Delaware.

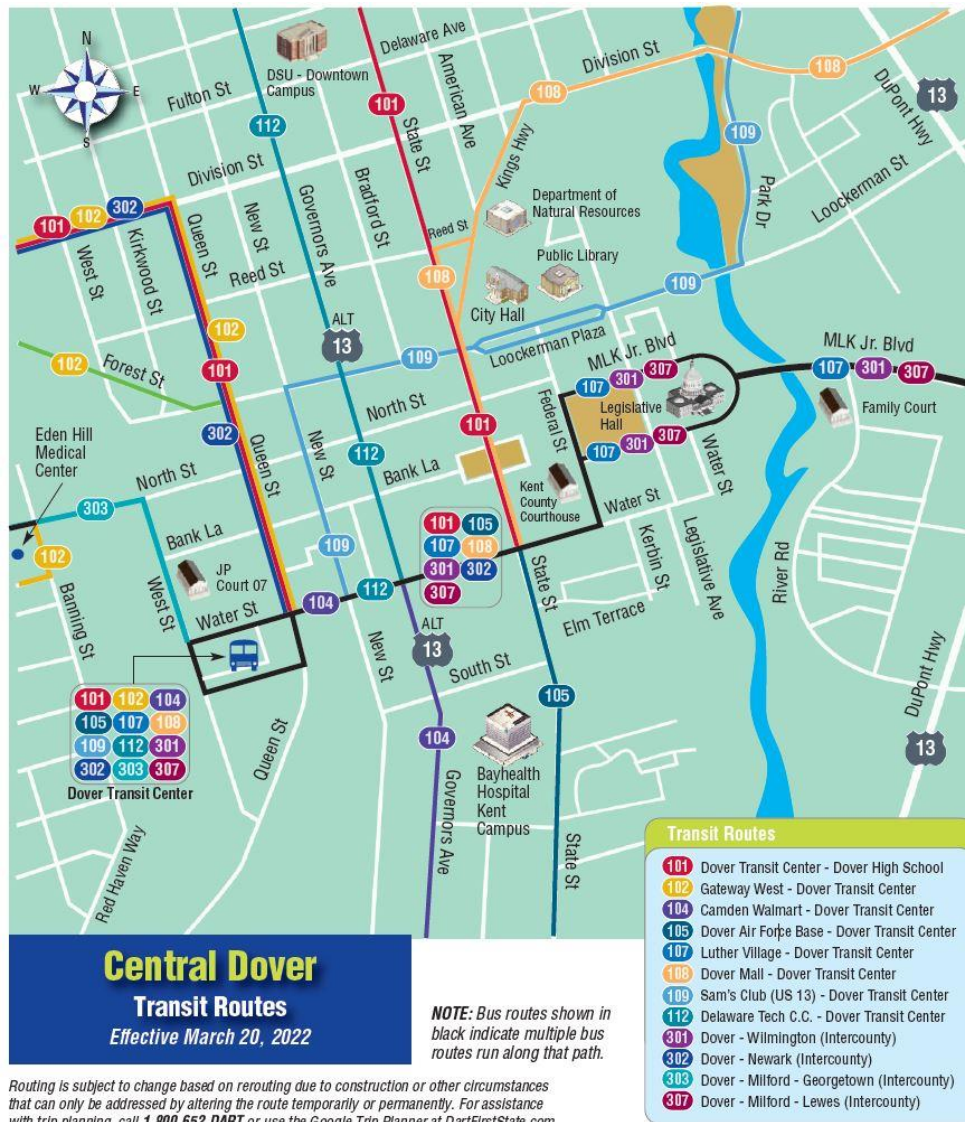


Figure 17: DART First State Routes and Bus Stops Serving Downtown Dover (Effective March 20, 2022)

Source: DTC



## Capital Projects

Every two years, DelDOT develops a Capital Transportation Program (CTP) that outlines anticipated capital roadway improvements on state-maintained facilities. Relevant projects from recent CTPs are summarized below in Table 4 and shown in Figure 18: Capital Transportation Program (CTP) Projects in Downtown Dover.

Table 4: DelDOT Capital Transportation Program Projects within Downtown Dover

Project ID	Phase	Project Title	Project Description
<b>1372</b>	Project Development	Loockerman Street/Forest Street	This project will include a series of improvements through this area of Dover, encouraging economic development and alternative modes of transportation that will improve economic development and alternative modes of transportation.
<b>41606</b>	Construction	Thin Overlay and Resurfacing, Central District, 2010	Patching of existing roadways.
<b>47231</b>	Project Development	Capital City Trail, Leg. Hall to Loockerman Street	Multi-use trail facility between Legislative Hall and Loockerman Street.
<b>47232</b>	Project Development	Capital City Trail, Loockerman Street to Silver Lake Park	Multi-use trail facility from Loockerman Street to the Silver Lake Park trail system.
<b>48694</b>	Construction	HEP KC, SR 8 & SR 15 Intersection Improvements	Intersection improvements.
<b>51401</b>	Construction	Division Street Pavement and Rehabilitation	Pavement improvements along Division Street east of US 13/Dupont Hwy
<b>54612</b>	Project Development	Bridge Concept Design	Funding for initiating design of new projects.
<b>64938</b>	Project Development	Pavement and rehabilitation of State Street and Little Creek Road	The proposed improvements will consist of pavement milling, bit. Asphalt patching, ADA upgrades, asphalt mix overlay and pavement markings.
<b>65064</b>	Project Development	Martin Luther King, Jr. Blvd. Safety Improvements, River Rd. to Bay Rd.	This project is planned to improve safety and operational improvements along Martin Luther King, Jr. Blvd. from River Road to Bay Road (US 13).

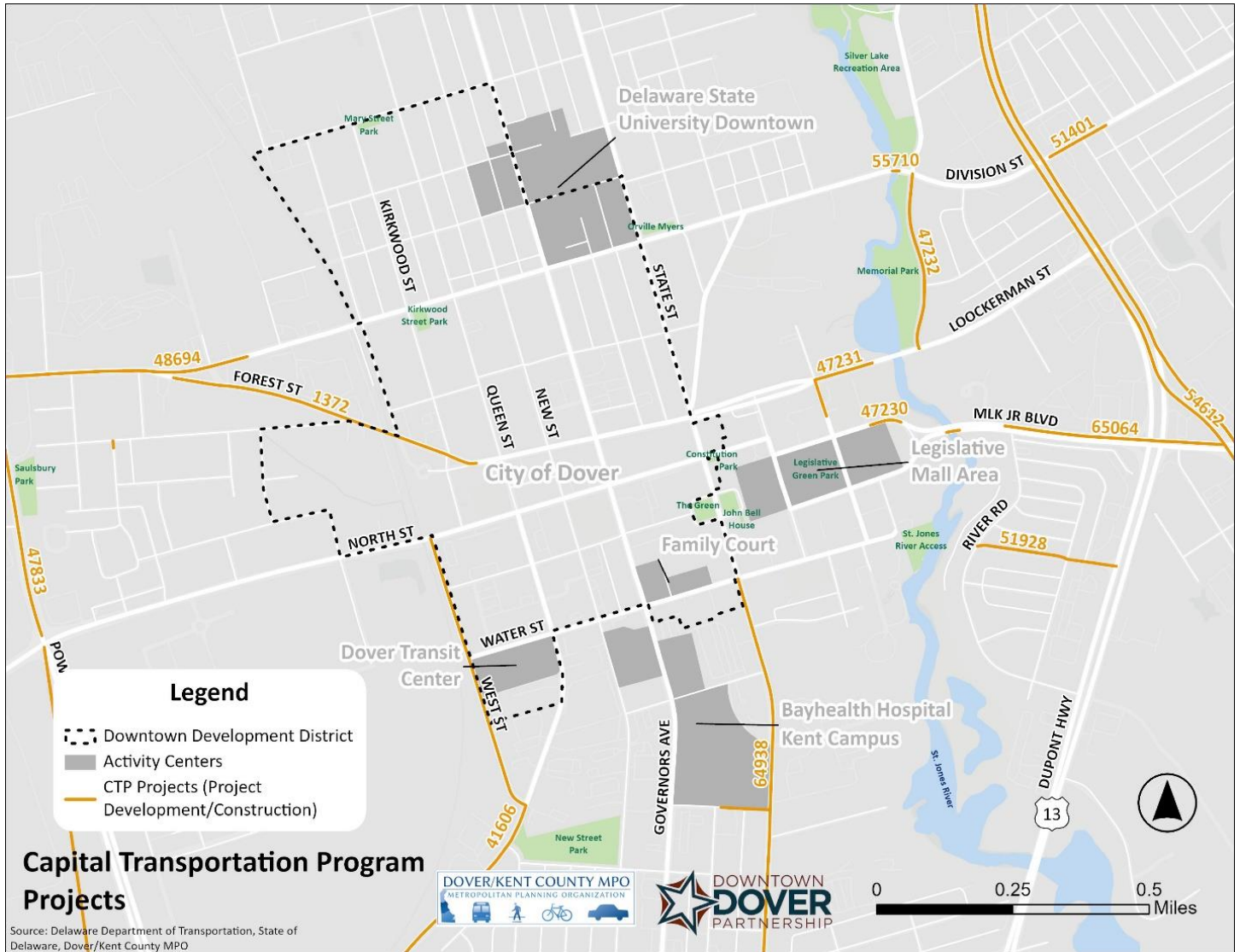


Figure 18: Capital Transportation Program (CTP) Projects in Downtown Dover

## Safety

An analysis of existing crashes identified crash trends and the location of roadway fatalities in Downtown Dover. The results from these analyses contribute to an understanding of Downtown roadway safety and how multi-modal improvements in Downtown Dover might improve safety for all road users.

### Fatal & Serious Injury Crashes

A fatal or serious injury has a tremendous impact on crash victims and their families. Often, in a downtown environment, vehicular speeds are a major contributing factor to severity of crashes. Fatal and serious injury crash data from the last five years in Downtown Dover highlights a concentration of severe crashes at intersections and along higher volume roadways. High volume roadways with high frequencies of serious injury crashes include US 13/Dupont Highway, Division Street, Lookerman Street/Forest Street, New Street, and Governors Avenue. Severe crash frequency is particularly notable at the intersections of US 13/Dupont Highway with the three roadways that circulate high volumes of traffic into Downtown Dover – Division Street, Lookerman Street, and Martin Luther King, Jr. Boulevard.

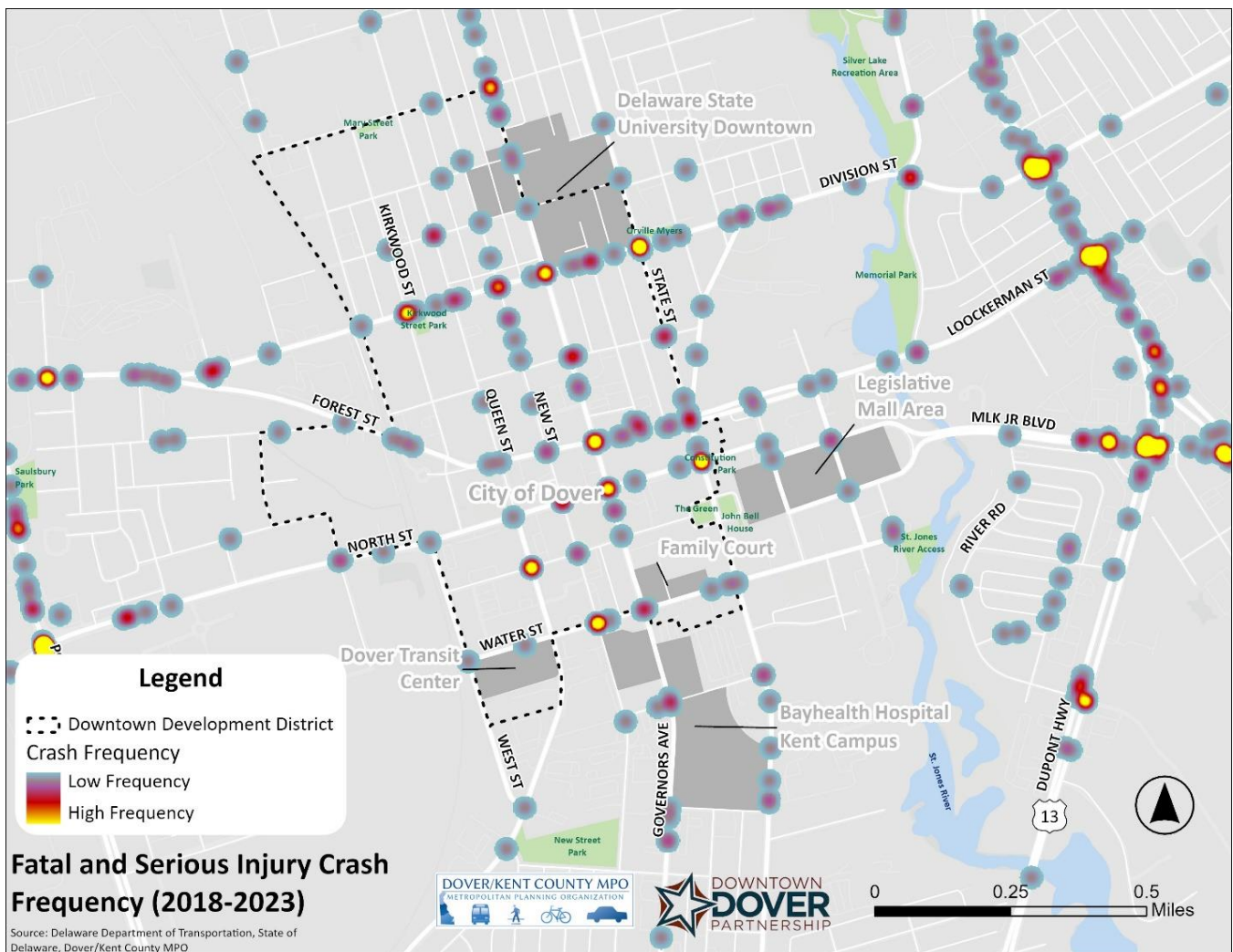


Figure 19: Fatal and Serious Injury Crash Frequency in Downtown Dover



### Bicyclist & Pedestrian Crashes

Bicyclists and pedestrians are especially vulnerable to severe crash outcomes. Bicyclist and pedestrian crash data from the last five years highlights specific routes and intersections of concern for safety. These routes – and their coinciding intersections – include Division Street, Loockerman Street, Water Street, State Street, Governors Avenue, New Street, Queen Street, and US 13/Dupont Highway. It is notable that bicycle and pedestrian crash frequency is higher along north-south streets that act as connections between key activity centers.

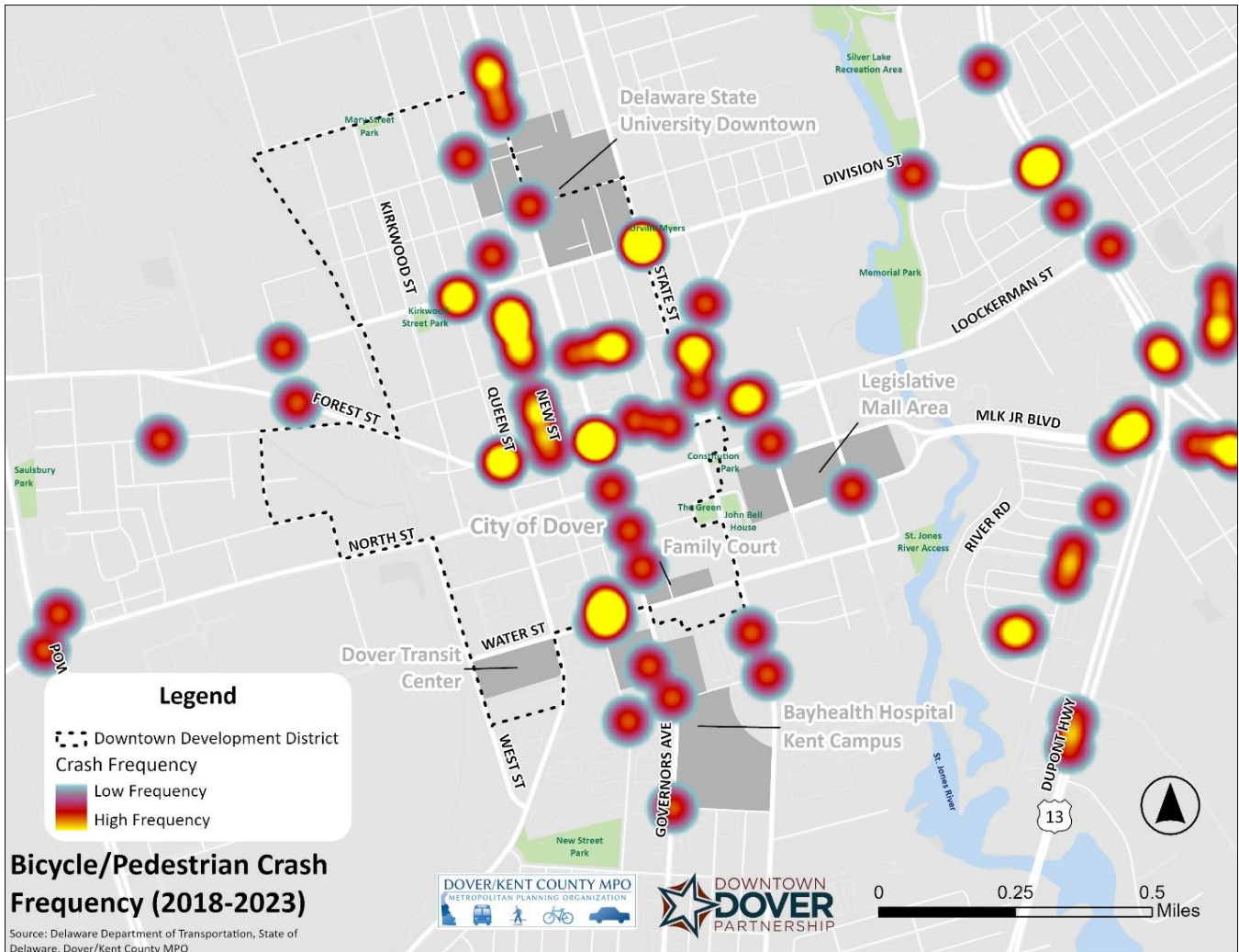


Figure 20: Bicycle and Pedestrian Crash Frequency in Downtown Dover

There were three fatal bicyclist and pedestrian crashes within or near the study area within the last five years. The bicyclist fatality occurred along US 13/Dupont Highway between Martin Luther King, Jr. Boulevard and Loockerman Street. This segment of US 13/Dupont Highway is especially wide as it merges with Bay Road. Additionally, there are multiple driveways providing access to commercial land uses at this location. One pedestrian fatality occurred on a residential street in a multi-family residential development, the Willows at Dover. The second pedestrian fatality occurred in Downtown Dover at the

intersection of Governors Avenue and North Street. There is also a concentration of non-fatal pedestrian and bicyclist crashes along New Street and at the intersection of New Street and Water Street. Information related to these crashes is provided below in Table 5 and shown in Figure 21.

Table 5: Fatal Pedestrian and Bicycle Crashes (2018-2023) in Downtown Dover

Location	Adjacent Land Use	Date	Bicycle/Pedestrian	Surface Condition	Light Condition
A Street	Residential	7/4/2018	Pedestrian	Dry	Dark/Lighted
Governors Avenue at North Street	Downtown Retail	6/18/2022	Pedestrian	Dry	Dark/Lighted
US 13/Dupont Highway	Commercial	10/20/2022	Bicycle	Dry	Daylight

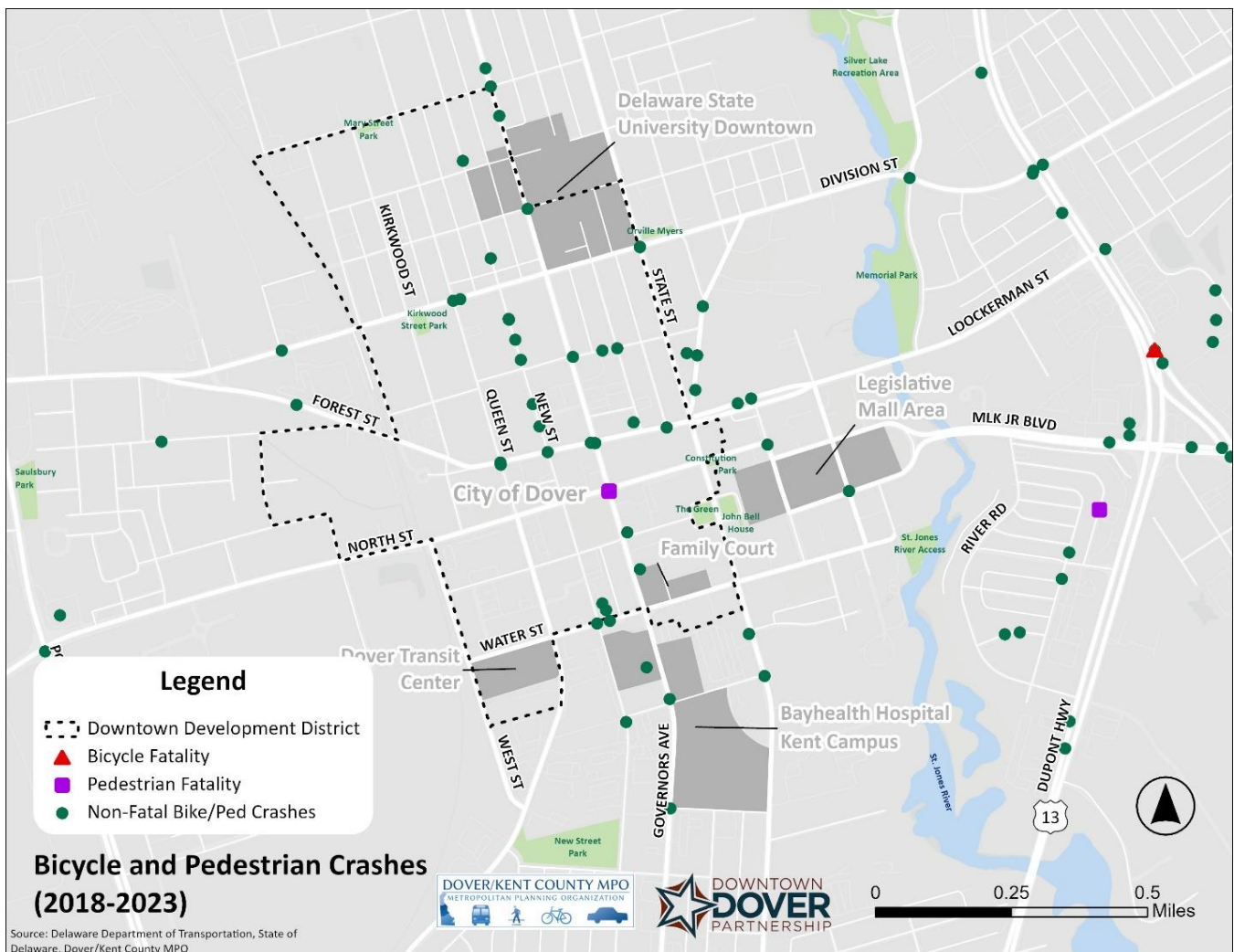


Figure 21: Location of Bicycle and Pedestrian Crashes in Downtown Dover



### Key Takeaways

Figure 22 identifies the key corridors that provide connectivity to Downtown Dover as well as circulation within the study area. Active transportation facilities along these key corridors have the potential to improve multimodal safety and facilitate connectivity to activity centers in Downtown Dover. Broad needs throughout Downtown Dover include providing north-south multimodal connectivity, improving Downtown intersection safety, designating priority transportation modes along Downtown streets, and slowing Downtown traffic.

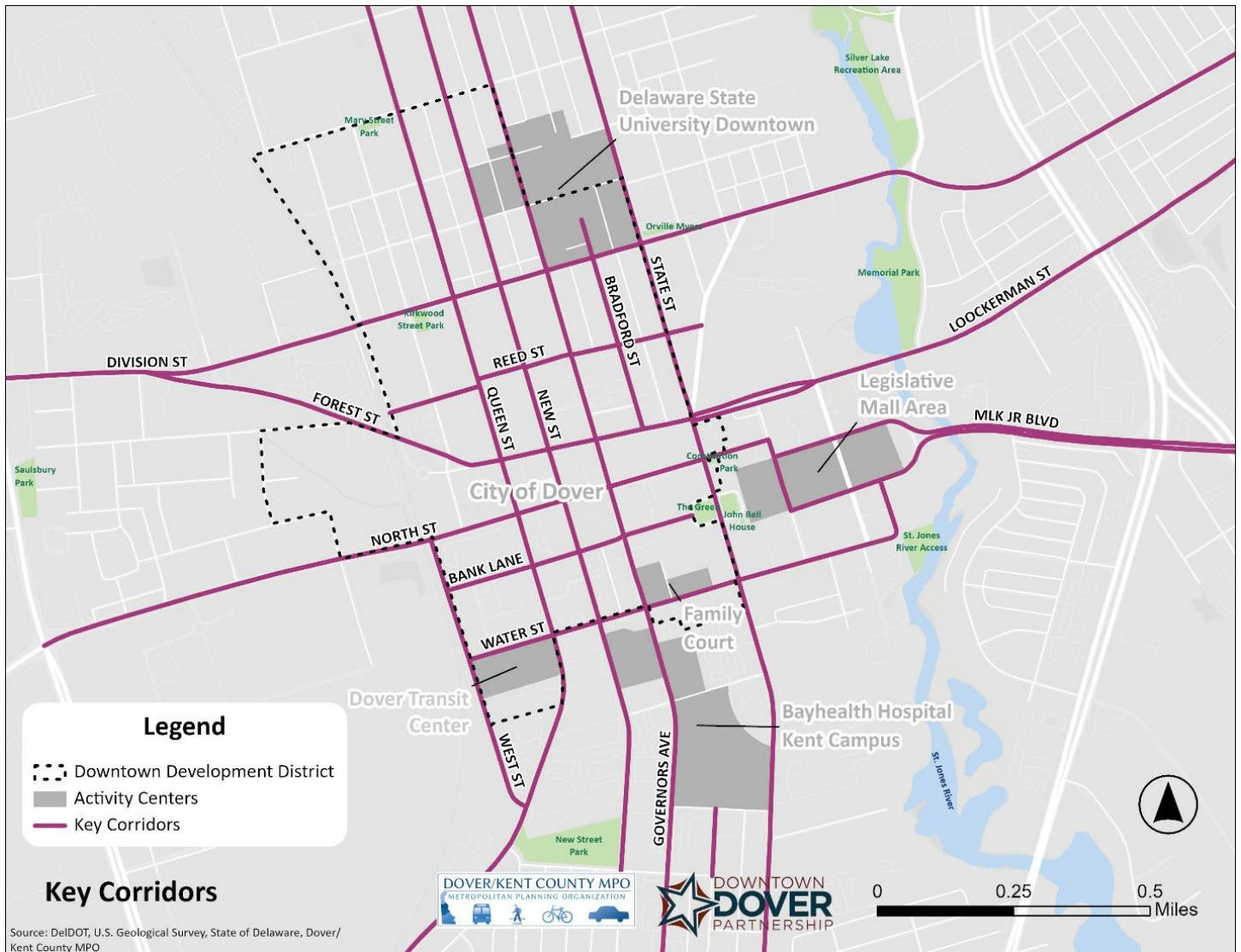


Figure 22: Key Corridors in Downtown Dover

## Section 4: Pathway Recommendations



## Section 4: Pathway Recommendations

This study identifies alternatives and then narrows those ideas into implementable recommendations. These recommendations intend to provide safe, efficient walking and biking routes between the key activity centers and the Downtown commercial core along Lookerman Street. The recommendations also consider connectivity to other key destinations, ongoing planning studies, upcoming development projects, relevant infrastructure investments, and local community resources.

Projects are recommended to:

- Improve pedestrian facilities
- Provide east-west and north-south bicycle facilities
- Reimagine Lookerman Plaza
- Improve the Capital City Trail
- Connect the DSU campuses
- Adopt multimodal policies
- Consider a micromobility pilot
- Integrate with other projects

Specific recommendations related to Lookerman Street are discussed in the next section of this report, including ideas for the Forest Street / Lookerman Street and State Street / Kings Highway / Lookerman Street intersections, which are gateways into the commercial core.

### Multimodal Toolkit

The multimodal toolkit provides a menu of treatments that can be employed in Downtown Dover to improve pathways for people biking and walking. These treatments dedicate space to bicyclists and pedestrians along streets and at intersections to improve visibility, separate modes, and better accommodate people within the transportation network. These treatments reflect best practices from national design, planning, safety, and implementation guidance. They range in cost and can be implemented either tactically (using low-cost, sometimes temporary materials) or as part of permanent improvements.

This toolkit includes a page for each treatment, including a description and specific suggestions for application in Downtown Dover. Each treatment is also accompanied by key design and implementation considerations. Complementary treatments include tools that work together to achieve desired outcomes such as slower speeds, delineated space, and increased visibility. Lastly, each page includes example photos of infrastructure in similar contexts as well as relevant references.

The toolkit is broken into three categories of treatments, including:

**Pedestrian Safety and Access.** These treatments improve pedestrian pathways in Downtown Dover. Some treatments are implemented along corridors, such as improving sidewalks, while others are focused at intersections, where pedestrians typically contend with moving vehicular traffic. The treatments focus on increasing visibility of people walking and providing separated, dedicated, comfortable space for pedestrians.

**Bicyclist Safety and Access.** These treatments build out the bicycle network in Downtown Dover. They delineate, where possible, dedicated and separated space for bicyclists. The most appropriate bicycle facility along a corridor is generally identified based on the volumes and speeds of the street and the surrounding land use and community context. When more cars are moving at faster speeds, more separation is needed to accommodate bicyclists safely and comfortably.

**Traffic Calming.** These treatments focus on reducing motor vehicle speeds to reduce the frequency and severity of crashes. This is especially important for people walking and biking, who are more vulnerable to death or serious injury when struck by a vehicle moving at a higher speed. While many of the streets in Downtown Dover have a posted speed limit of 25 miles per hour, some drivers travel along them at higher speeds. These treatments include horizontal and vertical elements that physically bring vehicular speeds into compliance with the posted speed limit.

The multimodal toolkit is attached as Appendix B.

### Improve Pedestrian Facilities

Downtown Dover’s activity centers are connected via an existing sidewalk network with very few gaps. While the sidewalk network is robust, the quality of these sidewalks varies significantly throughout the city. Some sidewalks are cracked or deteriorating, and many do not include a buffer between where people walk and where people drive. In addition to sidewalk maintenance, intersection improvements such as installing accessible curb ramps, marked high-visibility crosswalks, and concrete curb extensions would improve pedestrian level of comfort throughout Downtown. These improvements facilitate a safer Downtown for pedestrians and improve connections between Dover’s activity centers and the commercial core.

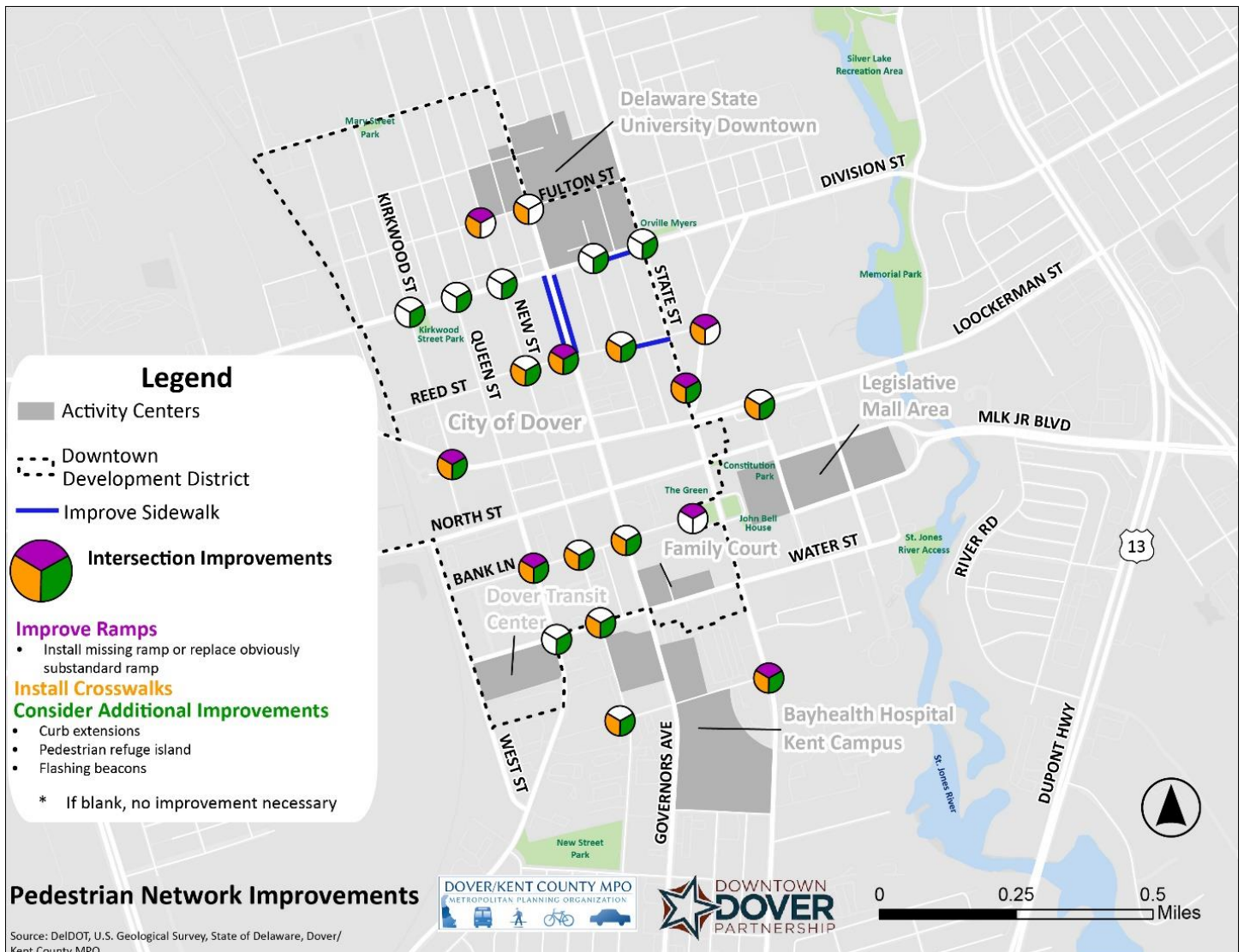


Figure 23. Pedestrian Project Alternatives



### Project: Downtown Pedestrian Infrastructure Improvements

The first proposed project is a combined effort to install accessible ramps, marked crosswalks, daylighting, and painted curb extensions at Downtown intersections. This project should also include minor sidewalk repair or replacement in locations where it is especially needed.

#### *Improve Ramps*

Curb ramps provide access for pedestrians, including people in wheelchairs or strollers, between the sidewalk and the street. For compliance with the Americans with Disabilities Act (ADA), it is critical to have accessible ramps at all locations where pedestrians are crossing. In Downtown Dover, this generally means ramps for crossings of all four legs of every intersection.

As shown in Figure 23, accessible ramps should be installed at the following intersections:

- Fulton Street at New Street
- Reed Street at Governors Avenue
- Reed Street at Kings Highway
- Loockerman Street at State Street
- Bank Lane at Queen Street
- Bank Lane at The Green
- South Street at State Street

As part of future public and private projects in Downtown Dover, existing curb ramps should be evaluated for ADA compliance. As applicable, ramps should be replaced and/or enhanced to meet accessibility needs.

#### *Install Crosswalks*

Marked, high visibility crosswalks delineate space for pedestrians to cross the street. According to FHWA's *Proven Safety Countermeasures*, high-visibility crosswalks can reduce pedestrian injury crashes by up to 40%. In a downtown context, Complete Streets guidance typically suggests installing marked crosswalks at every legal pedestrian crossing. In Downtown Dover, this generally means crosswalks at all four legs of every intersection.

As shown in Figure 23, crosswalks should be installed at the following intersections:

- Fulton Street at New Street
- Fulton Street at Governors Avenue
- Reed Street at New Street
- Reed Street at Governors Avenue
- Reed Street at Braford Street
- Reed Street at Kings Highway
- Loockerman Plaza at Federal Street (discussed in more detail in subsequent section of report)
- State Street and Kings Highway
- Bank Lane at Queen Street
- Bank Lane at New Street
- Bank Lane at Governors Avenue

- Water Street at New Street
- South Street at New Street
- South Street at State Street

At some intersections, decorative crosswalks can be considered. This may be especially pertinent at high-crossing locations, such as near schools, parks, churches, or community centers. The intersection of Division Street and Bradford Street might be a good candidate for intersection art.

### *Install Daylighting and Painted Curb Extensions*

Additional intersection improvements can be achieved at a minimal cost with pavement markings and signs, including painted daylighting areas and/or painted curb extensions. These tools prohibit parking near the intersection and thus increase visibility of pedestrians. Flexible delineator posts, planters, art, or bicycle parking can be incorporated into painted daylighting and curb extension areas to improve compliance and influence urban design. According to *Proven Safety Countermeasures*, crosswalk visibility enhancements can also be considered, including improved pedestrian-scale lighting and warning signs. FHWA estimates that intersection lighting can reduce pedestrian crashes by up to 42% and advance yield or stop markings and signs can reduce pedestrian crashes by up to 25%. These treatments are all outlined in the Multimodal Toolkit attached as Appendix B.

These treatments are recommended along proposed bicycle boulevards on Reed Street and Bank Lane (as described in subsequent sections of this report). As shown in Figure 23, these lower-cost intersection improvements should be considered at the following intersections:

- Reed Street at New Street
- Reed Street at Governors Avenue
- Reed Street at Bradford Street
- Bank Lane at Queen Street
- Bank Lane at New Street
- Bank Lane at Governors Avenue

### *Improve Sidewalks*

While most streets in Downtown Dover have sidewalks, there are segments of existing sidewalk that are in poor condition and would benefit from improved maintenance, buffering from the roadway, or increased width. It is recommended that these key sidewalk repairs be grouped in with other downtown pedestrian improvements:

- The sidewalks along the east and west side of Governors Avenue between Reed Street and Division Street are in poor condition and require improved maintenance. Governors Avenue carries a higher volume of traffic relative to other streets in Downtown Dover. There is also a high degree of residential density located in this area of Downtown Dover. Residents rely on these sidewalks to access activity centers and other services in Downtown.
- The brick paver sidewalk along the south side of Reed Street between Bradford Street and State Street is in need of repair.
- The brick paver sidewalk along the south side of Division Street between Bradford Street and State Street is narrow and in need of repair/widening.

### Projects: Build Curb Extensions and Pedestrian Refuge Islands

Additional intersection improvements like concrete curb extensions and raised medians with pedestrian refuges would improve pedestrian comfort and access where it is most needed. According to *Proven Safety Countermeasures*, a pedestrian refuge island can reduce pedestrian crashes by 56%. Intersections can also be evaluated for revised control such as the installation of a four-way stop, a roundabout, a signal, or a flashing beacon. According to FHWA, a Rectangular Rapid Flashing Beacon (RRFB) significantly increases driver yielding at crosswalks and can reduce pedestrian crashes by up to 47%. These treatments are all outlined in the Multimodal Toolkit attached as Appendix B.

Additional intersection improvements are recommended where more pedestrians are expected to cross, such as around schools, parks, and other community destinations. Treatments might also be recommended where there are barriers to crossing, such as a lack of control, restricted visibility, or high vehicular volumes or speeds.

### *Improve Division Street Crossings*

In many ways, Division Street lives up to its name as a divider between residents and Downtown Dover. It is an important corridor for carrying through traffic, trucks, and emergency vehicles. It is also a corridor that DSU students and other residents must cross to access Downtown Dover. The sidewalks along Division Street lack a buffer between people walking and driving. In the long term, it would be ideal to widen sidewalks, incorporate a landscape buffer, and plant street trees where there is new development and space allows it. In the shorter term, improved lighting and intersection treatments are key.

The intersection of Division Street and Bradford Street is one key location where additional improvements might enhance safety and access for pedestrians and bicyclists. This intersection is especially important for connectivity between DSU Downtown and Lockerman Street.

Several treatments were considered for enhancing the Division Street and Bradford Street intersection. One alternative is to install median islands with pedestrian refuge areas. This treatment reduces the distance that a pedestrian must cross without protection from traffic. It also creates modest horizontal deflection along Division Street, which can slow vehicles traveling along Division Street and warn drivers to be looking for pedestrians. One potential tradeoff is that the medians may restrict some truck turning movements at this intersection. These treatments are shown in **Error! Reference source not found.** below.

The second alternative is to install curb extensions. This treatment extends the curb into the parking lane. It reduces the distance that the pedestrian must cross and makes people walking more visible to people driving. These curb extensions should be designed to allow turns by community serving heavy vehicles, such as box trucks. Several community members preferred this curb extension treatment to the pedestrian refuge alternative. These treatments are shown in **Error! Reference source not found.** below.

As part of both alternatives, high-visibility marked crosswalks are recommended. Additional warning signs and pedestrian-scale lighting can be incorporated. Marked “daylighting” areas delineate where parking is not allowed to maintain visibility at the intersection, including restriction on Division Street as well as on Bradford Street. Additionally, a flashing beacon could be installed at this intersection to better

prioritize pedestrian crossings. It might be challenging to fully signalize the intersection given how close it is to other signalized intersections.

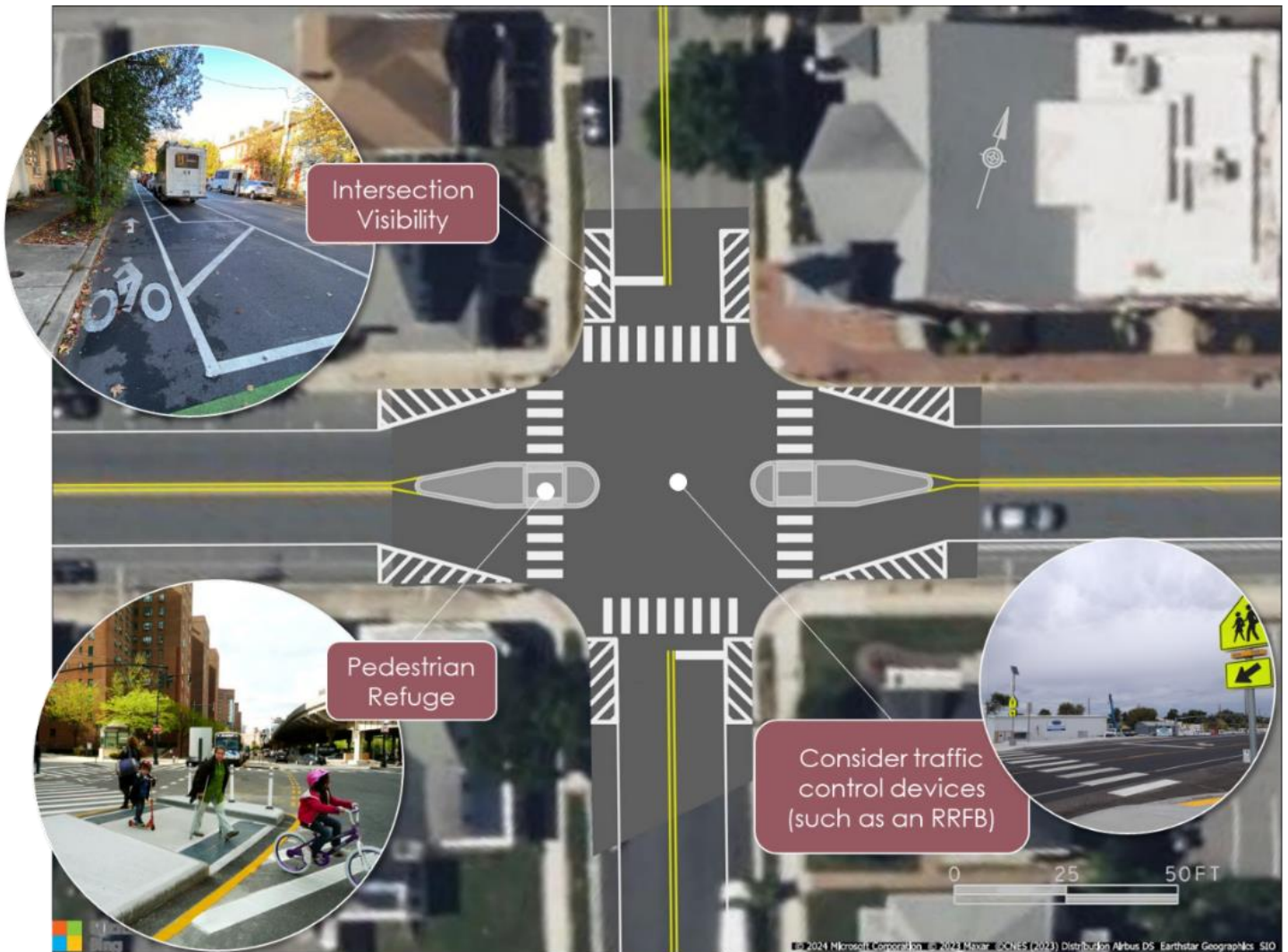


Figure 24. Median Islands with Pedestrian Refuge Areas at Division Street & Bradford Street

The intersection of Division Street and Bradford Street is meant to serve as a representation of the types of treatments that can be considered at other intersections, especially where pedestrians would benefit from additional control, visibility, or crossing time. This may be especially applicable at other intersections along Division Street, such as at State Street, Kirkwood Street, Queen Street, and at New Street, where a new community center is being constructed.



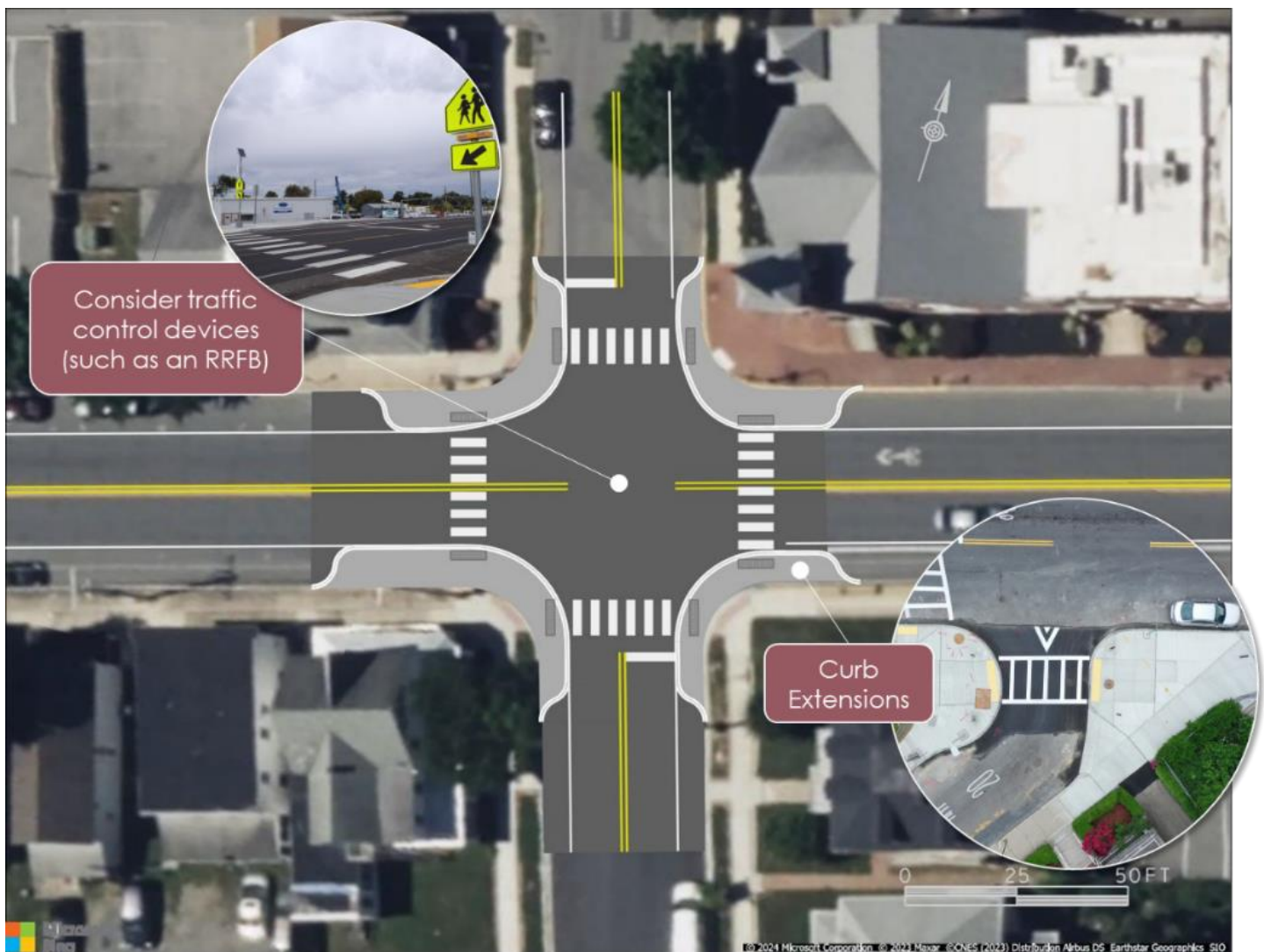


Figure 25. Curb Extensions at Division Street & Bradford Street

*Improve Intersections along Water Street and South Street*

Another intersection that was specifically explored for additional safety enhancements was New Street and Water Street. There is a high concentration of bicyclist and pedestrian crashes at this intersection. Residents and workers in Dover say that it is a place people want to cross, but without intersection control, it does not feel safe.

It might be challenging to signalize this intersection given how close it is to other signalized intersections. Similar to Division Street, several treatments from the Multimodal Toolkit can be applied to improve safety at the Water Street and New Street intersection, such as curb extensions, medians, high-visibility crosswalks, pedestrian-scale lighting, and warning signs. Given the high volume of pedestrian crossings, a flashing beacon (or RRFB) could be applicable here to stop traffic when people want to cross.



Concrete curb extensions should be added at other intersections along Water Street and along South Street, including:

- Water Street at Queen Street
- South Street at New Street
- South Street at State Street

These are higher volume intersections where people want to cross and there is potentially extra roadway space to reimagine.

### Improve Bicycle Facilities

The limited existing bicycle facilities in Downtown restrict the ability of residents and workers to safely and comfortably access Downtown Dover’s activity centers and commercial core on Lookerman Street by bicycle. To improve connectivity throughout Downtown Dover, it is important to have both east/west and north/south bicycle corridors for people of all ages and abilities.

#### Facility Selection

The FHWA *Bikeway Selection Guide* recommends that additional separation between motor vehicles and bicyclists is needed when streets carry higher speeds and volumes. Figure 26 below shows that corridors with speeds exceeding 25 miles per hour and/or vehicular volumes exceeding 3,000 vehicles per day should include a buffer between the bike facility and moving vehicular traffic. On lower volume, lower speed streets, a bike lane or a shared lane may be appropriate.

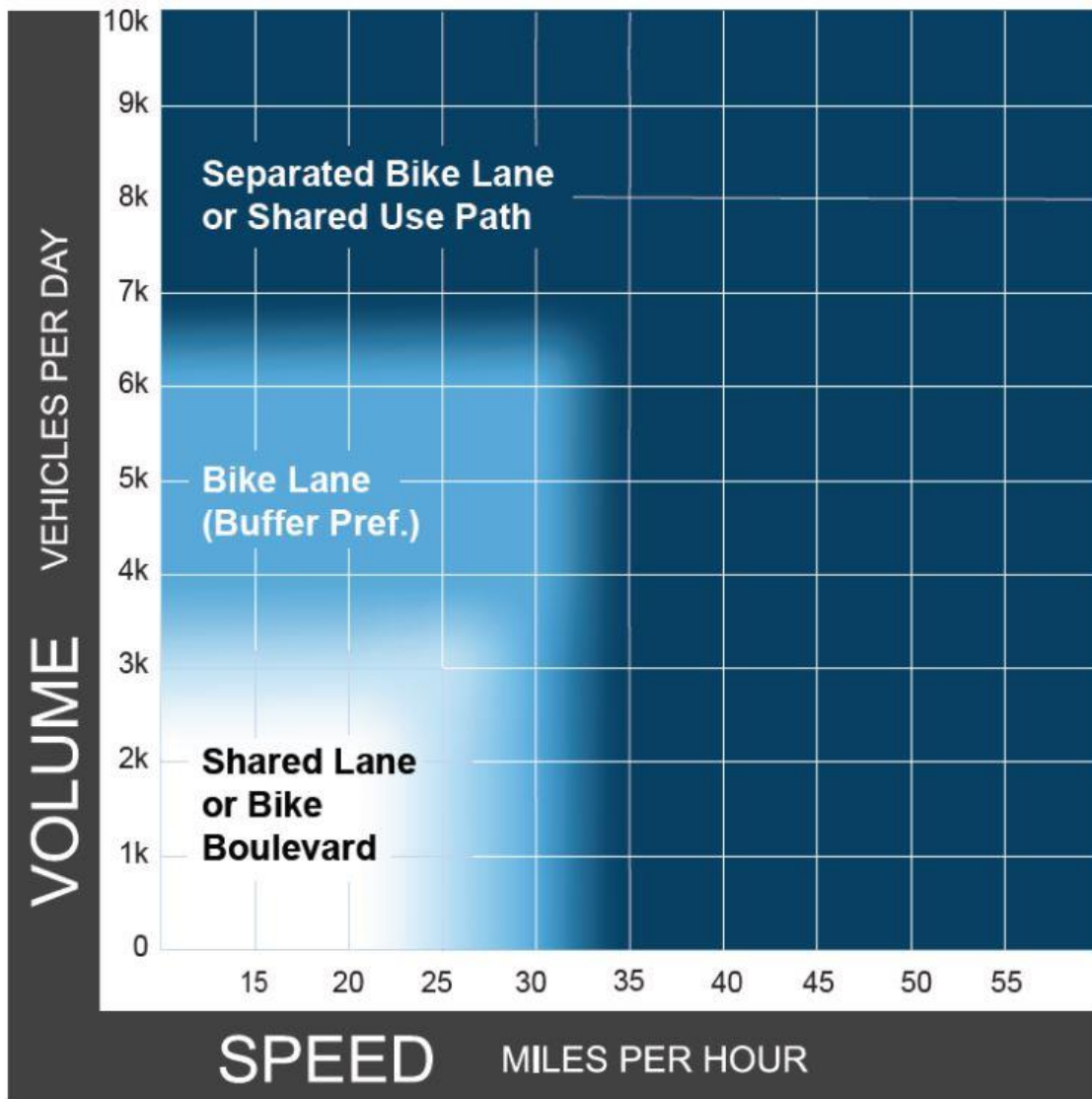


Figure 26. FHWA Bikeway Selection Guide

Figure 27 below shows the bicycle facility alternatives that were considered for enhancing the bicycle network in Downtown Dover. The east / west facilities evaluated include Reed Street, North Street, Bank Lane, Water Street, and Lookerman Plaza. The north / south facilities evaluated include Kirkwood Street, Queen Street, New Street, Governors Avenue, Bradford Street, and Federal Street.

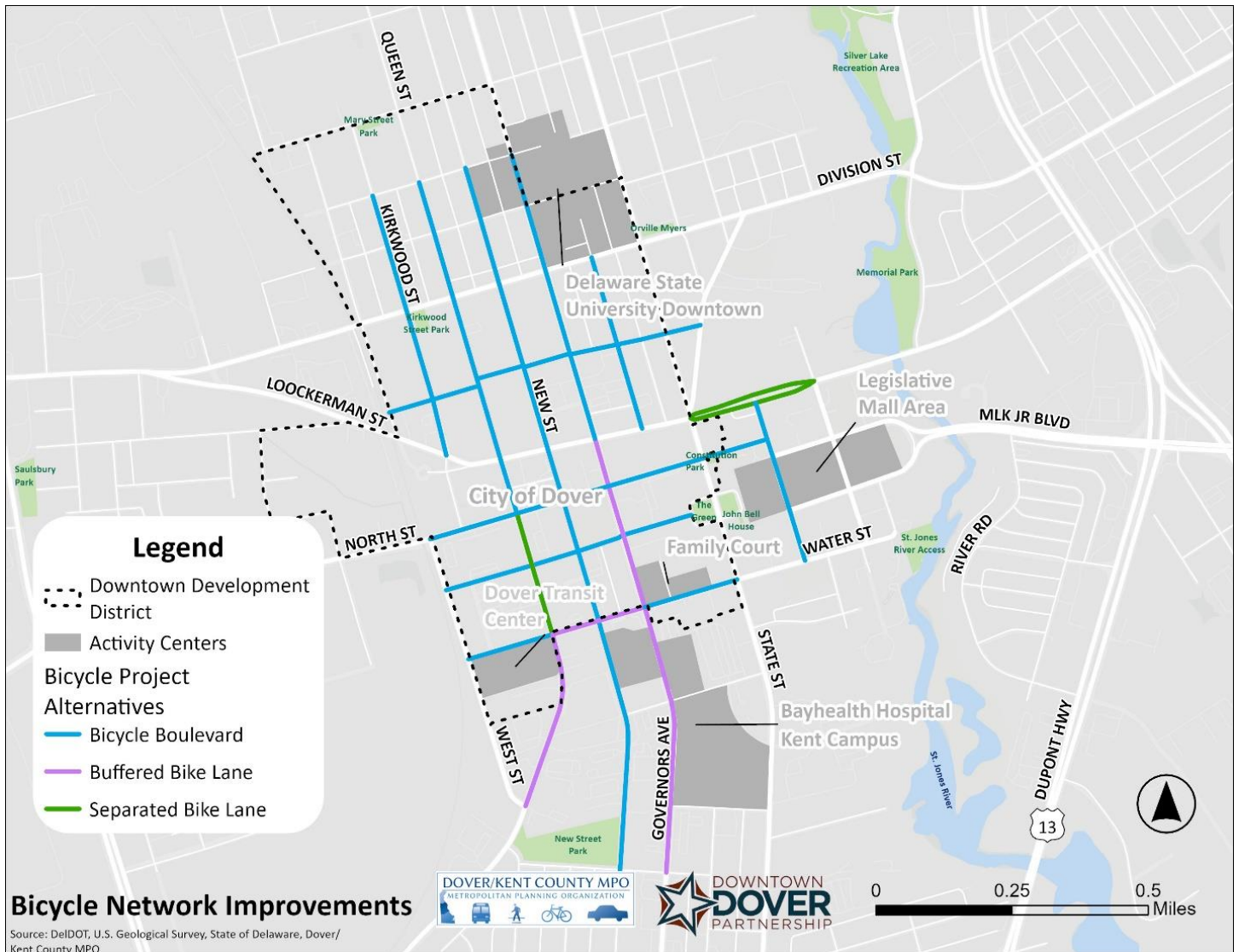


Figure 27. Bicycle Project Alternatives

Typically, streets that carry slower and fewer cars can be great candidates for low-stress bicycle facilities. In Downtown Dover, there are some streets that fit this character, which might make them safe for biking, but these are also streets where more people are congregating. Community members reported instances of crime along portions of Queen Street, New Street, and Reed Street, creating feelings of insecurity for people walking, biking, and driving.

After analysis and engagement, the following bicycle network is recommended for implementation (shown in Figure 28). It narrows the east / west facility alternatives down to bicycle boulevards on Reed Street and Bank Lane and separated bike lanes on Lookerman Plaza (discussed in more detail in a subsequent section of this report). The north / south facility alternatives are narrowed down to bicycle boulevards on Queen Street and Bradford Street.

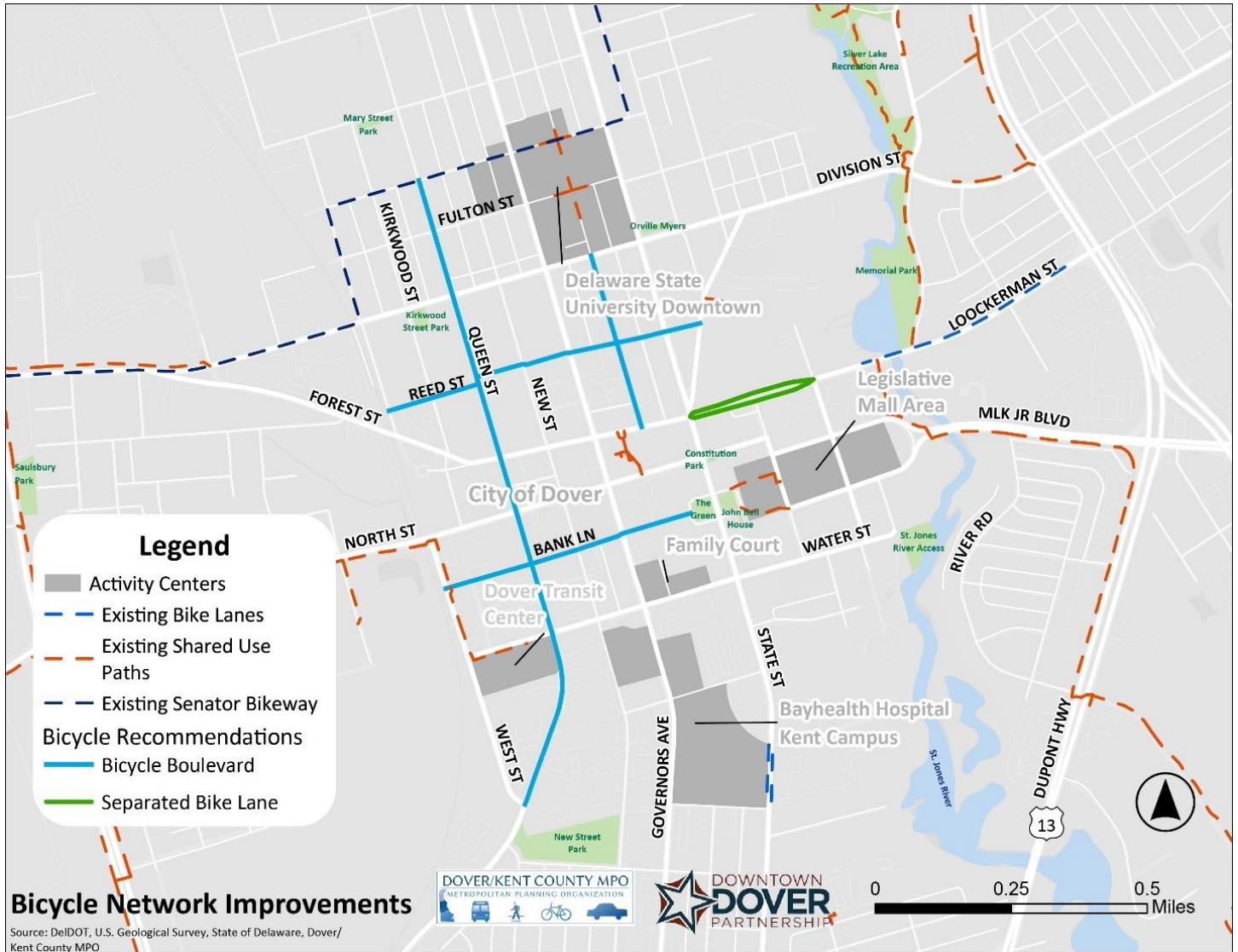


Figure 28. Bicycle Network Recommendations



**Project: Construct East/West and North/South Bicycle Boulevards**

As outlined in the multimodal toolkit, a bicycle boulevard is typically implemented on low-volume, low-speed streets where bicycles and motorized vehicles share road space, but where bicycle movements are prioritized and optimized through use of motor vehicle restrictions, traffic calming, and crossing treatments. Bicycle boulevards are more than sharrow markings. Traffic calming, branding, and wayfinding are used to prioritize bicyclist movements along the street. Intersection improvements are key to providing safe and comfortable access along a bicycle boulevard, particularly when intersecting with higher volume, higher speed streets.

*Install East/West Bicycle Boulevards*

Reed Street and Bank Lane have existing low LTS, which makes them strong candidates for bicycle boulevard improvements. Additionally, Reed Street’s location between Division Street and Lookerman Street positions it to serve as a key east/west bicycle route across Downtown Dover. Meanwhile, Bank Lane connects the Legislative Mall area to the western side of Downtown Dover.

Figure 29 illustrates the bicycle amenities that could be implemented along Reed Street to make it a safe and convenient bicycle boulevard. These amenities include wayfinding signage, bicycle markings, high-visibility crosswalks, and ADA ramps. Traffic calming along Reed Street might include curb extensions, speed humps, and parking chicanes. Uncontrolled or partially controlled intersections along Reed Street can be considered for conversion to all-way stop control. Similar treatments can also be applied along Bank Lane.

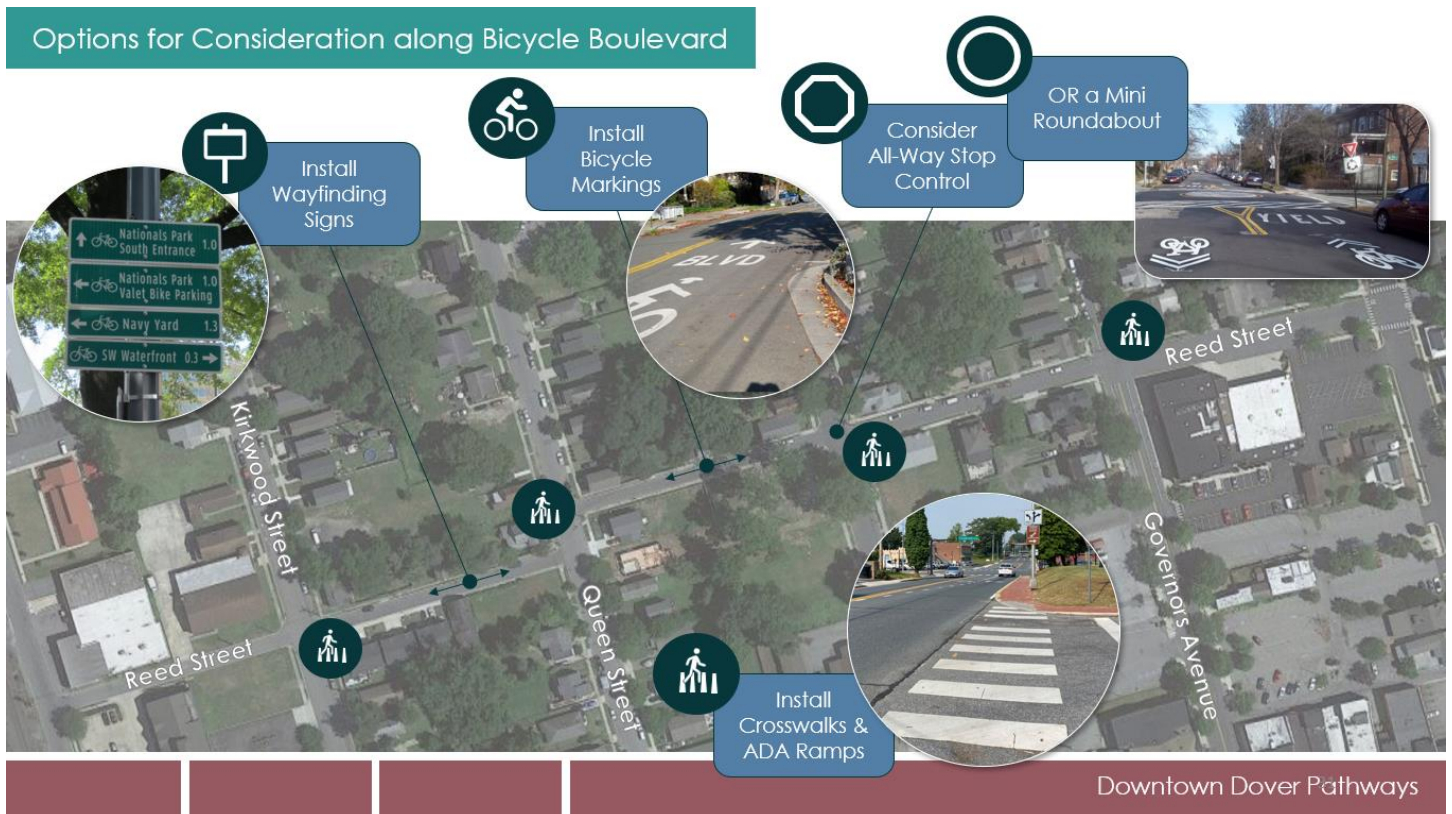


Figure 29. Reed Street Bicycle Boulevard Concepts (1)



Options for Consideration along Bicycle Boulevard



Figure 30. Reed Street Bicycle Boulevard Concepts (2)

Residents have indicated that portions of Reed Street currently feel isolated in a way that contributes to insecurities and fears of crime. Downtown Dover is developing and evolving and so these patterns are expected to change as additional investment is made in youth programming, community resources, jobs creation, and addiction assistance. It is recommended that additional pedestrian-scale lighting be installed along the corridor. Residents living around and riding along Reed Street should continue to be a part of the discussion as improvements are made.

East / west bicycle facilities were also considered along Division Street, Loockerman Street, North Street, Water Street, and South Street. These corridors tend to provide important transit, truck, and emergency access. There are already shared lane markings along Division Street, Loockerman Street, and North Street. These corridors are physically constrained such that there are limited opportunities for treatments that would make them safer options for bicyclists. By prioritizing the bike network along Reed Street and Bank Lane, other corridors can provide focused access for other transportation modes.

Bicycle lanes were also considered along Loockerman Plaza and are discussed more in the next section of the report.

### *Install North/South Bicycle Boulevards*

The north/south roadways in Downtown Dover typically carry higher volumes of vehicular traffic and in some cases, require bicycle facilities with greater levels of separation from motor vehicle traffic. Some north/south streets, such as State Street, were not considered for the bicycle network; State Street currently serves people walking and driving well but cannot readily be modified for better bicycle facilities.

A bicycle boulevard is recommended along Bradford Street from Division Street to Loockerman Street. This will improve connectivity between the DSU Downtown campus and the commercial core. Treatments proposed along Bradford Street would be similar to those along Reed Street and Bank Lane, potentially including wayfinding signage, speed humps, and parking chicanes. Intersection treatments, such as curb extensions and “daylighting,” may be appropriate at Division Street and Bradford Street, Reed Street and Bradford Street, and Loockerman Street and Bradford Street.

Bicycle facilities on New Street and Queen Street were considered to fill out the network. New Street and Queen Street are centrally located within the network. The vehicular speeds and volumes along New Street and Queen Street are appropriate for bicycle boulevard treatments similar to those proposed along Reed Street, including traffic calming, wayfinding, and intersection improvements. However, residents reported social challenges along New Street and Queen Street that make them less comfortable to bike along. Improving lighting and investing in infrastructure changes should be complemented by continued investment in social programs that are helping people get access to the health and economic resources they need. Through public engagement, Queen Street was marginally preferred over New Street as the north/south bicycle boulevard route.

Governors Avenue acts as a key north/south connection for several activity centers in Downtown Dover – Bayhealth Hospital, the Family Court building, Loockerman Street, and Delaware State University’s downtown campus. The lack of separated bicycle facilities along Governors Avenue creates a higher stress environment for bicyclists. It is typically preferred to focus the bicycle network on less stressful corridors. Through public outreach efforts, a number of respondents suggested Governors Avenue as a preferred north/south bicycle route. However, there would be significant tradeoffs with providing buffered bicycle lanes on Governors Avenue to achieve appropriate LTS. To provide buffered bicycle lanes, the parking lanes along Governors Avenue would need to be eliminated and turn lanes would also be impacted. This may be disruptive to people living, working, and driving along the street. Thus, for now, the north/south route is recommended along Queen Street instead.

## Reimagine Loockerman Plaza

Loockerman Plaza has played a crucial role in Dover as both an anchor to Loockerman Street and a gateway to Downtown. Remaining largely unchanged since the 1930s, the plaza's curb and sidewalk layout presents historical appeal but has failed to evolve with its surrounding land use. Currently, the design presents several challenges for road users, including safety concerns for pedestrians and bicyclists. In acknowledging these challenges, a unique opportunity emerges to not only address safety concerns for pedestrians and bicyclists but also emphasize a distinct sense of place in Downtown Dover. Reimagining Loockerman Plaza can transform it into a comfortable and inviting space that fosters community activity and establishes a unique urban atmosphere reflective of Dover's rich history and vibrant culture.



*Figure 31 Loockerman Plaza in the 1930s*

Loockerman Plaza is currently surrounded by a variety of land uses. To the north, the Dover Public Library stands as a central hub and is situated next to Dover City Hall and PNC Bank. In addition, the proposed mixed-use redevelopment project at 55 Loockerman Plaza, the former post office, plans to introduce both commercial and residential elements. On the southern side of Loockerman Plaza are the House of Coffi, Wesley United Methodist Church, and the Townsend Building, which houses the Delaware Department of Education.

The plaza distinctly features increased setback and right-of-way widths before narrowing into Loockerman Street west of State Street. Medians span the length of the corridor and pedestrian crossings are present at both ends of the plaza: at the intersection of Legislative Avenue and at the intersection of State Street. The travel lanes are marked with sharrows, acting as shared bicycle / vehicle lanes.

Both the right-of-way and medians provide potential for Loockerman Plaza to be a communal space but are currently the limiting factor in road user safety. Extremely wide travel lanes facilitate high vehicle speeds, creating an unsafe environment for bicyclists. They also mean that pedestrians take a long time

to cross the street. The medians provide a midblock pedestrian refuge; however, no crosswalks or wayfinding currently exist. In addition, crosswalks are not present at Federal Street and the sidewalk has a gap between Federal Street and 20 Lookerman Plaza. In this area, the eastbound travel lane notably widens to 32 feet (Figure 32).

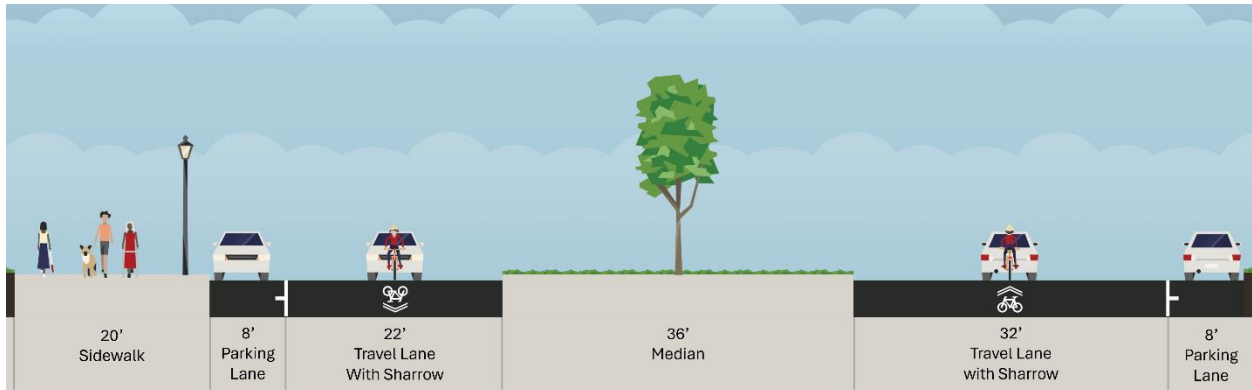


Figure 32 Existing Cross Section of Lookerman Plaza

The reimagining of Lookerman Plaza necessitates a comprehensive review of existing features and community goals to optimize the synergy between the space and its residents. As a gateway to Downtown, the plaza has the potential to serve the needs of pedestrians, bicyclists, drivers, and community members, promoting an inclusive urban experience.

**Project: Short-Term Lookerman Plaza Improvements**

The transformation of Lookerman Plaza into a more accessible, community-friendly space can be achieved through careful consideration of various design elements that balance the needs of vehicle travel with the promotion of pedestrian and bicyclist-oriented features.

*Implement Separated Bike Lanes*

Reducing the vehicular travel lane widths is proposed to improve safety and provide increased connectivity for pedestrians and bicyclists (Figure 33). Decreased lane widths promote safer vehicle speeds. This also allows space for bike lanes along the curb separated from moving traffic with parked vehicles.



Figure 33 Proposed Cross Section of Lookerman Plaza with Lane Reductions



### *Fill Sidewalk Gap*

It is also recommended that the sidewalk gap along the south side of Lookerman Plaza be filled. As shown below in Figure 34, pedestrians are currently left stranded while walking along the south side of the Plaza. It is recommended that the parking be shifted and a sidewalk added along the current landscape median with high-visibility marked crosswalks across the parking lot driveway and across Federal Street (see arrow “A”).

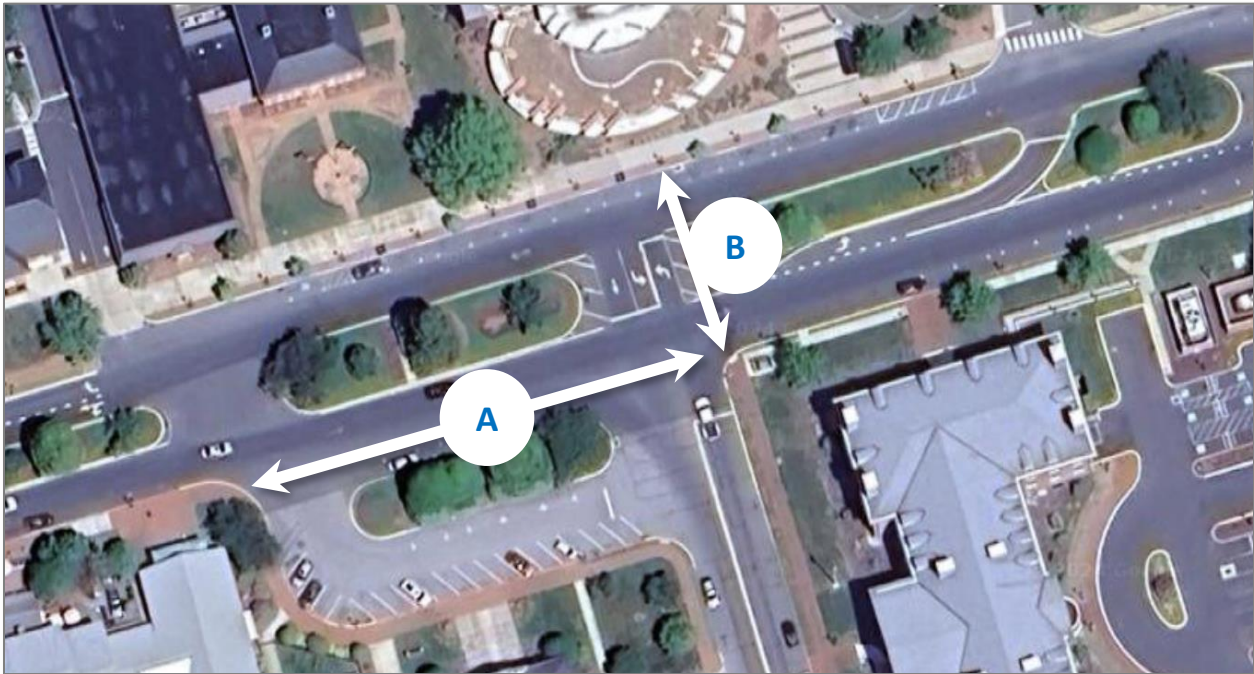


Figure 34. Sidewalk Gaps in Lookerman Plaza

### *Implement Mid-Block Crosswalk*

A mid-block crosswalk is proposed across Lookerman Plaza at Federal Street (see arrow “B”). This is a location where pedestrians want to cross the street. There are key destinations on either side and the closest controlled crossings are out of the way. Narrowing the travel lanes would slow speeds at this location. Additional evaluation during the engineering process will be needed to ensure this uncontrolled crossing safety serves pedestrians.

### **Project: Long-Term Lookerman Plaza Festival Street**

In the long term, there is an opportunity to transform Lookerman Plaza into a festival street, facilitating community events and enhancing mobility for residents and visitors of Downtown Dover.

Creating a festival street introduces a variety of design options. One such option is a shared street, which gives equal priority to all road users. A shared Lookerman Plaza would provide increased accessibility for both pedestrians and bicyclists while maintaining vehicle traffic throughput. It would also allow greater flexibility to close the street to vehicular traffic while hosting community events and social engagements. Various design tools, such as bollards, planters, trees, and hardscaping, can be used to



ensure the delineation of designated areas for each road user. Contrasting pavements, materials, and detectable warning surfaces, can further assist pedestrians in navigating distinct portions of the right-of-way. In addition, integration of raised pedestrian crossings and ADA-compliant features throughout the space will foster greater connectivity among businesses and destinations within the plaza. These design elements not only facilitate pedestrian movement but also promote inclusivity and accessibility for individuals with mobility challenges.

Considering parking needs and constraints is another important aspect of designing the promenade. If current on-street parking on Lookerman Plaza is replaced by pedestrian and bicyclist facilities, parking can be moved to a curbsless median, which can then be converted into a public space for events (Figure 35). If community activities require temporary vehicle closures of Lookerman Plaza, the city may leverage parking areas, such as those at the Dover Public Library, the Townsend Building, and the adjacent Delaware Public Archives building. This would enhance safety for event attendees and transform the space into a more inclusive and adaptable venue for the city.

The benefits of curbsless design extend beyond functionality to encompass broader social and economic advantages. By reducing vehicle speeds and encouraging increased interaction among road users, the plaza would foster a sense of community engagement and social vitality. Moreover, the enhanced connectivity afforded by such a design could enhance economic activity.



*Figure 35 Lancaster Boulevard in Lancaster, California (Source: City of Lancaster)*

## Improve the Capital City Trail

The Capital City Trail currently spans from the Silver Lake Park Trail at Division Street to the Isaac Branch Trail at the intersection of US Route 13 and Public Safety Boulevard. Running parallel to Park Drive, Martin Luther King Boulevard, and US Route 13, the trail serves as a versatile route for pedestrians and bicyclists, establishing connections to parks, neighborhoods, historic attractions, and government offices. Additionally, the Isaac Branch Trail extends along Public Safety Boulevard, progresses through a wooded corridor, and continues to Delaware Route 10. Notably, the trail system ends approximately 1,500 feet west of the Dover Air Force Base entrance at Willow Grove Road.

### Project: Improve the Capital City Trail

The Capital City Trail (shown in Figure 36) features shared use paths and incorporates a dedicated bike lane along East Lookerman Street, where the path briefly narrows into a sidewalk. In addition, crosswalks are present at all crossings along the route. The crossings at Martin Luther King Boulevard employ trail crossing signage and a refuge island. A two-stage diagonal crossing is used at the connection point to the Isaac Branch Trail, which traverses US Route 13. The Isaac Branch Trail extends largely through a wooded area, utilizing tree coverage to shield from the sight and sound of traffic running parallel on Delaware Route 1. The Capital City Trail makes use of corridor lighting on Park Drive, Martin Luther King Boulevard, and US Route 13; however, the Isaac Branch Trail lacks lighting throughout the wooded corridor.

#### *Improve Lighting, Wayfinding, and Amenities*

To make the trail more accessible to all ages and abilities, best practices in trail design and maintenance should be employed, including improving trail lighting and wayfinding, which can direct people toward the destinations in Downtown Dover. Additionally, art, amenities, resting stations, bicycle repair equipment, bathrooms, trash cans and more can be provided to enhance the trail as a key place for both recreation and transportation.

#### *Improve Intersections*

The Capital City Trail crosses a few large roadways. While the crossings do include marked crosswalks, they may still be long, uncomfortable crossings for trail users. A comprehensive trail improvement project should consider

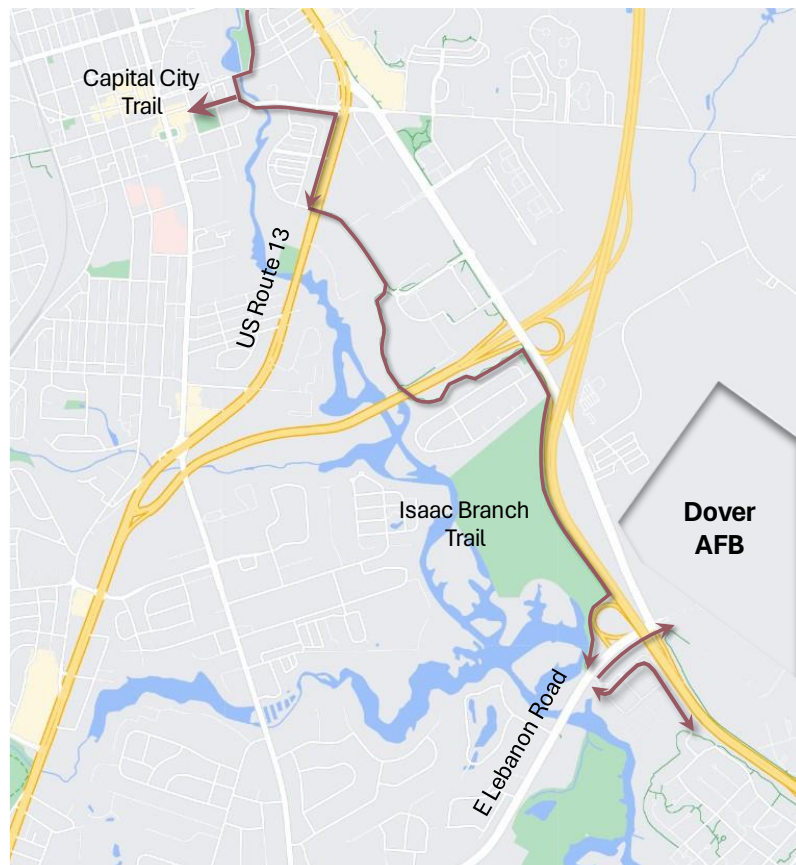


Figure 36. Capital City Trail



opportunities for pedestrian refuge islands, single-stage crossings, and signal modifications that prioritize vulnerable users.

Key intersections to consider for improvements include:

- South Dupont Highway / River Road / Public Safety Boulevard
- South Bay Road / President Drive
- Willow Grove Road / Pine Cabin Road

*Provide Connecting Facilities*

As shown in Figure 37, a trail extension along the south / east side of Route 10 is recommended for further evaluation. This facility would connect the trail network to the Dover Air Force Base. A safe cross of Bay Road would be key. Additional engagement should be conducted with Dover Air Force Base.



Figure 37. Trail Extension Along Route 10

Pine Cabin Road is a low-stress street that connects from the trail to Dover Air Force Base housing. Minor signage and striping improvements can solidify this route as an option for people to bike from the housing to the trail and into Downtown. This connection is shown in Figure 38.



Figure 38. Trail Connection along Pine Cabin Road

Lastly, as shown in Figure 39, a connection from the trail into Downtown is needed and may be appropriate along Martin Luther King Boulevard North. The opportunity to widen the current sidewalk along the north side of Martin Luther King Boulevard should be explored to create a more accommodating path for pedestrians and cyclists.

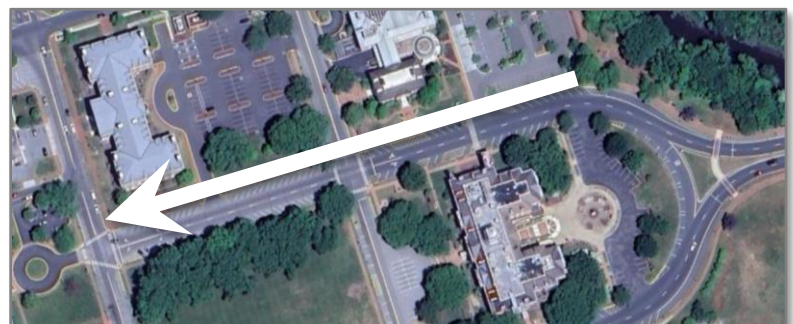


Figure 39. Trail Connection to Downtown Dover

## Connect the DSU Campuses

Delaware State University (DSU) has two primary locations within Dover: the main campus located on College Road and DSU Downtown, which is bounded by Division Street and State Street. DSU Downtown houses the Wesley College of Health and Behavioral Sciences, along with residential buildings Malmberg Hall and Zimmerman Hall. Improving the connectivity of the routes between DSU’s main campus and DSU Downtown is crucial to facilitating safe and efficient travel for students and faculty to supplement existing shuttle service. Such enhancements can be expected to foster greater integration not only between campuses but among the broader urban landscape of Dover, creating opportunities for community engagement.

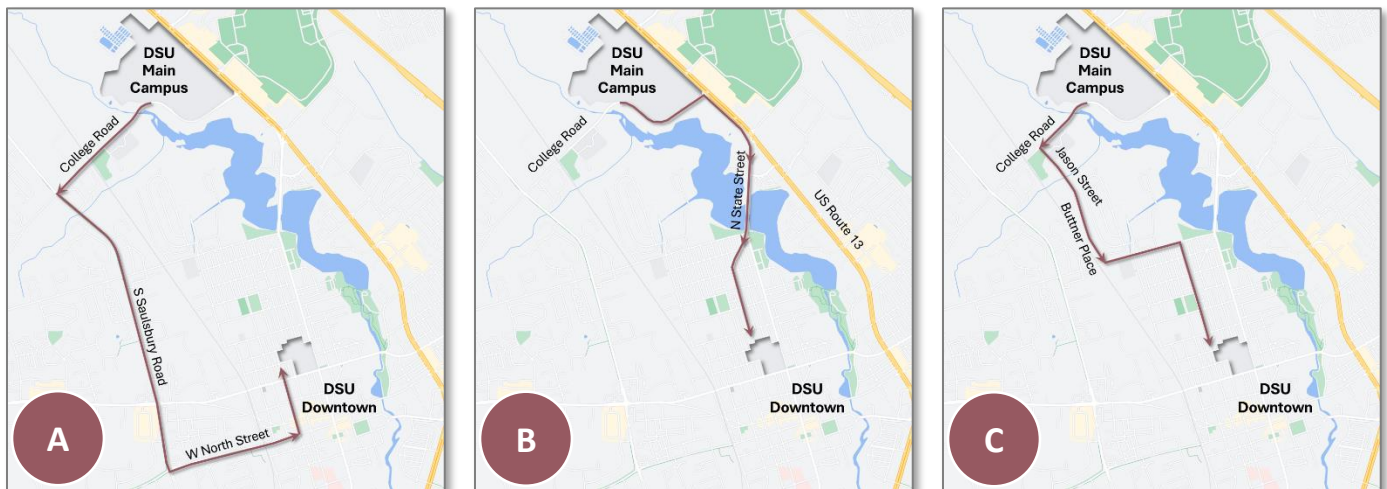


Figure 40. Trail Connections Between DSU Campuses

Three main alternatives were evaluated as potential routes for connecting the two campuses. Potential projects for each are outlined below. The community expressed some preference for Option B.

### Project: Improve the Existing Path Network (Option A)

College Road intersects with McKee Road, which transitions into Salsbury Road to the south. A shared use path runs on the west side of McKee Road/Salsbury Road and later moves to the east side at Forest Street. Bicyclists and pedestrians can utilize the shared use path on North Street to travel into Downtown Dover, ultimately ending at West Street. However, this route is not without its limitations. Several gaps in the bike facilities pose challenges. A shared use path would be needed between McKee Road and Mishoe Street on College Road. Additionally, on Salsbury Road there is a portion of the path that is incomplete from Carver Road to Forest Street that should be filled. Here, bicyclists and pedestrians are required to cross the intersection, introducing potential safety concerns. There are several intersections along the route that may also be upgraded to better prioritize vulnerable users.

Overall, this route was less preferred by students and other community members because it is a longer, less direct route.

### Project: Build a Path Network along US 13 (Option B)

Bike lanes run on US Route 13, providing a high-stress north-south corridor for bicyclists. These bike lanes connect to similar facilities on State Street, which then extend further to Governors Boulevard and Governors Avenue, leading into Downtown Dover. However, despite this seemingly direct route, the bike lanes along US Route 13 present significant safety challenges for riders. The US 13 bikes run along a high-speed, high-volume roadway. This is not an all ages and abilities facility. Residents indicated that they choose to bike on the sidewalk here rather than in the bike lanes.

Residents indicated that this was the preferred route because it is the most direct connection. Some students are already travelling this route. Improving this connection might involve installing a shared use path along College Road and US 13. Buffered bicycle lanes should be evaluated as an option on State Street over the Silver Lake bridge. Bicycle boulevard treatments can be incorporated on Governors Boulevard and Governors Avenue between the State Street bridge and the Downtown DSU campus. Intersections should be evaluated for improvements that better serve and prioritize vulnerable users. For instance, green conflict markings could be incorporated at the intersection of State Street, Walker Road, and Governors Boulevard. Lastly, improved lighting, wayfinding, and amenities should be considered and installed along the route.

### Project: Develop an Off-Street Facility (Option C)

A third option involves leveraging city-owned right-of-way to create a more direct path to downtown Dover, connecting Jason Street to Buttner Place. This route could be enhanced with designated bike boulevards through adjacent residential areas to connect to downtown. It might be challenging to implement given potential challenges with constructing and maintaining a trail through the city utility facilities.



### Adopt Policies and Implement Programs

In addition to infrastructure changes, policies and programs can influence the multimodal nature of Downtown Dover's transportation network.

#### Program / Policy: Evaluate Sidewalk Maintenance Program

Many different materials make up Downtown Dover's sidewalk network, from concrete to pavers to bricks. Some sections of sidewalk are deteriorating and need maintenance. This is critical for creating safe places for people of all abilities to walk, run, wheel, and travel. Maintenance programs should be evaluated for opportunities to allocate more resources to keep the pedestrian network in a condition that best serves people using it. It is also important that lighting, trees, and landscaping be well maintained around sidewalks to maintain clear paths and visibility. The City and/or MPO might consider developing a GIS map that tracks sidewalk and ramp maintenance and establishes a schedule for work to be done. For example, the City of Newark uses a rotating schedule to evaluate the condition of all sidewalks in the City. The pedestrian network would also benefit from improved consistency among the materials used to construct and repair sidewalks. Public and private projects can be opportunities to improve sidewalk conditions along with this ongoing maintenance program.

#### Program / Policy: Widen Sidewalks through Development

The sidewalks in Downtown Dover are generally at least 4 feet wide, which is critical for accessibility. By contrast, new DelDOT sidewalks are 5 feet wide where a buffer is provided and 6 feet wide (excluding curb) where a buffer is not provided. The draft DelDOT Complete Streets Guide indicates that a wider sidewalk and buffer width should be instituted where there are higher pedestrian volumes. Ideally, this buffer should be at least 3 feet wide and include street trees.

Future private development projects in Dover should widen sidewalks and add landscape buffers where feasible. Given that existing right of way and urban form may constrain opportunities to widen sidewalk space, the City should leverage new developments to improve sidewalks and streetscapes incrementally. The development code may require modification accordingly. This is most critical along the following Downtown streets:

- Division Street
- Reed Street
- Bank Lane
- Water Street
- South Street
- Governors Avenue
- New Street
- Queen Street

### Program / Policy: Build, Incentivize, and Require Bicycle Parking

Secure, convenient bicycle parking is needed to support bicycling in Downtown Dover. Bicycle parking is recommended at key destinations such as schools, parks, shopping areas, grocery stores, community centers, and bus stops. Racks should also be offered outside apartment complexes and office buildings. Residents are concerned about their bicycles being stolen, which is a particular concern for people who rely on their bicycle to get to work or to access key resources. As such, it is critical that new bicycle parking in Dover be secure. Best practices suggest that bicycle parking be well lit and covered as feasible. It should be conveniently accessible from the public right-of-way and private land uses. It can be in intersection “daylighting” where vehicular parking is prohibited to maintain intersection visibility. The bicycle parking in front of the Dover Public Library serves as a great example to be replicated elsewhere in Downtown. Where possible, including an electrical source near bicycle parking can allow for e-bike charging.

Public bicycle parking should be implemented with the new mixed-use developments being envisioned in Downtown Dover. There should be parking at the key activity centers: the DSU Downtown Campus, throughout the Legislative Mall Area, the new Family Court Building, throughout the Bayhealth Hospital Campus, and at the Dover Transit Center. Bicycle parking should also be available along Lookerman Street, where people can park to conveniently access the commercial core. Other key destinations that might benefit from improved bicycle parking include Spence’s Bazaar, Eden Hill Medical Center, the post office, Johnston Hall, NeighborGood Partners’ new community center, and Interfaith’s expanded community center. More distant destinations like the DSU main campus, Dover Air Force Base, the Blue Hen Corporate Center, and shopping centers along US 13 near Downtown are also good candidates for more bicycle parking.

The City and/or MPO might consider a GIS map that tracks the location of bicycle parking and helps agencies identify where additional gaps and needs might be. A public facing map along with wayfinding signs can help people find and access bicycle racks. Public and private projects can be opportunities to install more bike parking. A bicycle rack sponsorship program might also increase coverage.

### Program / Policy: Revise Traffic Calming Regulations

Traffic calming is an important tool for improving multimodal safety and access. Slowing motor vehicle speeds can improve pedestrian level of comfort, reduce bicycle LTS, and create safer streets. There are several traffic calming treatments in the Multimodal Toolkit. These treatments, when implemented, could slow motor vehicle traffic through Downtown Dover to create more comfortable corridors for walking and biking. According to FHWA’s Appropriate Speed Limits for All Road Users, a driver that travels at 30 mph and hits a pedestrian has a 45% chance of killing or seriously injuring them. At 20 miles per hour, that percentage drops to 5%. As such, it is critical that vehicle speeds be minimized in a downtown context where people walk more often.

The City can facilitate traffic calming through several approaches. This includes providing traffic calming treatments in spot locations where there have been crashes, where residents have raised concerns, or where a specific request has been made. A neighborhood slow zone program can address specific speeding needs through request or through agency identification in Downtown and in the surrounding neighborhoods. Traffic calming might also be achieved through development with appropriate modifications to the development code.

It is recommended that the City of Dover reconsider the use of speed humps and/or cushions as a valuable traffic calming tool. These are low-cost tools in the FHWA Traffic Calming ePrimer as treatments that have proven to successfully discourage motorist speeding. They are especially effective in neighborhoods settings and around schools, parks, and community centers where slowing speeds can be most critical. Many cities are implementing speed humps and cushions as part of their traffic calming toolkit. For corridors that are emergency or bus routes, typically speed cushions are preferred. Speed cushions can be properly designed to be safely traversed by these larger vehicles without compromising emergency response time or jeopardizing the safety of first responders.

### Program / Policy: Address Social Infrastructure Needs

As previously discussed, the social context of Downtown Dover is relevant to how and where people walk and bike. There are some neighborhoods where residents, workers, and students have said they do not feel comfortable walking and biking due to feelings of insecurity and isolation. Those neighborhoods coincide with populations that may most depend on walking and biking to access jobs and resources. As such, it is critical that transportation infrastructure solutions be complemented by broader social programming that improves housing, engages young people, addresses health inequities, and creates job opportunities. Several organizations in Downtown Dover are doing this critical work, including Habitat for Humanity, NeighborGood Partners, Dover Interfaith Mission for Housing, and the Committee of 100.

### Program / Policy: Education and Enforcement

Thinking about safe mobility as a system typically involves education and enforcement solutions in addition to physical infrastructure interventions. There are several efforts underway in Downtown Dover to educate children on safe bicycling and to supply children with bikes and helmets. These types of programs are critical to advancing bicycle culture and safety in a community. Additional programs that educate adults on how to safely ride a bike can progress this important work. A “safe routes to school” program encourages and enables children to walk and bike to school. Walking school buses and bicycle trains encourage groups of children walking or biking to school, with one or more adults. These strategies or practices have shown communities and families that walking and biking can be viable and safe transportation options, and thus can be incorporated into their own daily travel patterns. School-focused road safety education for drivers is an important complement to road safety education for children. Transportation safety campaigns scheduled at times when higher numbers of children may walk or bike to school (e.g., beginning of the school year, after spring break) can foster community awareness of a shared responsibility for road safety near schools.

Even when engineering countermeasures are implemented, failing to adhere to traffic laws can result in crashes of varying severity. Police enforcement can increase driver awareness and consequently reduce crashes. Potential enforcement strategies to address crash patterns and trends are presented below. However, enforcement strategies should be undertaken with due caution to avoid inequitable enforcement activities and evaluated to determine the strategy’s impact. The following considerations can help lead to more successful outcomes for roadway safety enforcement strategies:

- Police officers should be trained properly beforehand.
- Campaigns should be tailored to suit the needs of different neighborhoods and demographics and should be designed and carried out to avoid targeting disadvantaged communities.

- Enforcement should be conducted with the help of staff support and awareness of the courts.
- Enforcement operations should begin with warnings and flyers before moving on to issuing citations.

Crash data in this plan can help identify priority intersections and/or street segments and the times of the day when the crashes have occurred. This information can inform and guide the type of enforcement strategy to be selected at the most appropriate locations and time periods. City staff can also help monitor the impact of the enforcement strategy by coordinating with the Police Department to obtain and analyze enforcement records to help evaluate effectiveness and equity considerations.

Strict enforcement of speed laws in school zones is one law enforcement tool that can reduce the risk of fatal and serious injury crashes for children walking and bicycling to school as well as drivers. A “zero tolerance” policy for speeders in school zones and increased fines for drivers who violate the posted school zone speed limit are potential approaches.

### Program / Policy: Coordinate with Ongoing Mobility Projects

While this effort focuses on recommendations related specifically to walking and biking in Downtown Dover, there are other transportation and land use projects that will impact how people travel. DART is beginning the process of implementing reimagined transit service in Downtown Dover. The preferred approach is a zone-based service rather than the fixed routes that are currently operated in Downtown. As transit infrastructure and service evolve, it is important that active transportation modes be continually considered. Robust pedestrian infrastructure should be implemented where people are frequently getting on and off the bus. During this effort, several recommendations arose that should be considered with future transit improvements, including a possible circulator route and improved transit between DSU’s two campuses.

A parking structure and mobility hub are being developed by Downtown Dover Partnership between Governors Avenue and Bradford Street in Downtown Dover. The mobility hub project should consider the needs of pedestrians and bicyclists, such as providing wayfinding to key destinations and including bicycle parking. A robust mobility hub should include several modes of transportation intersecting to improve access and convenience. For instance, this location can provide electric vehicle parking, a micromobility station, a ride share drop off zone, a bus stop, and a kiosk with information about navigating the transportation network.

There are also freight planning projects underway. Recommendations in those studies should consider how bicyclists and pedestrians are navigating Downtown Dover and how these users, along with trucks, deliveries, and loading processes are being considered holistically.



## Consider a Micromobility Pilot

### What Is Micromobility?

Micromobility systems employ shared-use fleets of bicycles and/or scooters that are rented for short trips and allow users to make point-to-point trips in the public right of way. In just over a decade, micromobility systems have expanded to cities nationwide and become important components of transportation networks. In 2010 just over 300,000 micromobility trips were made nationwide, but in 2021 this number had already grown to over 110 million trips (NACTO, 2022). During this 11-year period, people in the United States took half a billion trips on micromobility vehicles (NACTO, 2022). This rapid growth has magnified the importance of planning for micromobility systems.

### What Vehicles are Available?

There are three primary vehicle-types associated with micromobility: bicycles, electric bicycles, and electric scooters. In 2010, the nation's first micromobility program was a station-based bicycle share system. Today, most bike share system fleets are either entirely e-bikes or a combination of bikes and e-bikes. The rapid growth of e-bikes in station-based systems has contributed to a near doubling of e-bike trips since 2018 (NACTO, 2022). E-scooters serve as the third primary vehicle type utilized in micromobility systems. The introduction of dockless e-scooters to many micromobility systems around the country in 2018 more than doubled the total number of micromobility trips taken from just the previous year (35 million trips in 2017 to 84 million trips in 2018) (NACTO, 2022).



**Bicycle**



**Electric Bicycle**



**Electric Scooter**

### What are the Benefits of Micromobility?

The success of e-scooter, e-bike, and bike share systems across the country has increased awareness of the benefits of micromobility. One of micromobility's greatest strengths is providing a transportation alternative for short trips. Replacing short motor vehicle trips with micromobility trips can help to reduce emissions, provide first mile/last mile connections to transit, and support healthy communities by reducing barriers to active transportation. Micromobility can also be a mobility alternative during periods of transportation disruption. For example, during COVID-19, micromobility replaced many public transit trips for essential workers and provided a safe outlet for socially distanced recreation.

### Station-Based vs Dockless System?

Micromobility systems utilize one of two systems for starting and ending trips: station-based (docked) or dockless.

Station-based systems require riders to begin and end their bicycle or scooter trips at a permanent docking location. Users access and unlock their micromobility vehicle using a kiosk or their mobile device and must end their trip at another designated docking location elsewhere in the community. A subset of station-based systems allows for riders to end their trips in the public right of way outside of a docking location, but these programs typically charge riders an additional fee if not docked at a station.

Dockless micromobility systems allow riders to pick up and drop off their vehicles within the public right of way. These trips might begin and end at permanent stations where micromobility devices must be 'docked'. Other micromobility programs utilize a 'dockless' system where users can pick up and drop off devices in the public right of way. Dockless systems require riders to follow local regulations on where within the public right of way they can end their trip and leave their vehicle. Typically, local regulations prohibit leaving micromobility vehicles in the way of important public infrastructure such as roadways or sidewalks.

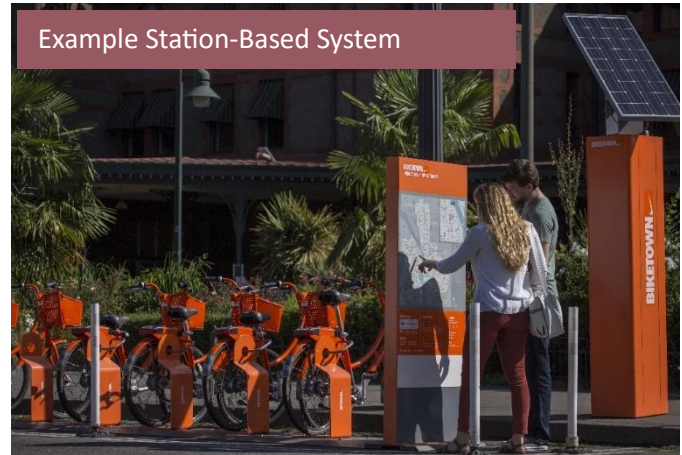


Image Source: Biketown (Portland, Oregon)



Image Source: Curbed Seattle (Seattle, Washington)

#### Benefits of station-based (docked) systems:

- Ensuring micromobility vehicles do not prohibit the use of public infrastructure
- More equitable distribution of micromobility vehicles throughout the community
- Minimized theft and destruction of vehicles

#### Benefits of dockless systems:

- Flexibility to pick up and drop off vehicles anywhere
- No cost of maintaining station infrastructure

### How do Cities Introduce Micromobility?

Micromobility programs can operate under various public-private partnerships between local governments and micromobility operators. This coordination between the public and private sphere provides an opportunity to introduce these emerging modes of transportation while overseeing an equitable and safe implementation of the program.

Established micromobility programs typically operate under one of two structures: annual permitting or service contracts.

**Annual permitting** provides flexibility to the locality to introduce new micromobility vehicle types and alter permitting regulations depending on how the community is utilizing the program. An annual permitting structure also allows the locality to evaluate potential operators based on permit requirements and hold a competitive application process. Annual permitting structures are best for communities looking to attract multiple companies where the private operators pay a permitting fee to enter the market.

**Service contracts** are the best fit for communities that are looking to introduce micromobility for the first time. A trial period for specific operators and vehicle types can be run to understand how the community utilizes micromobility and to develop long-term micromobility programming. Service contracts are best for communities aiming to establish a long-term partnership with a single micromobility or non-profit provider that will operate the program. Communities entering into service contracts provide funding to support the maintenance of their micromobility program.

### Case Studies

Cities similar in size to Dover have successfully incorporated micromobility into their transportation systems. Ithaca, New York; Annapolis, Maryland; and Harrisburg, Pennsylvania are examples of cities that have incorporated different micromobility services. These examples demonstrate the different services and operating structures that might be most effective in Dover.

## Ithaca Bikeshare

**Location:** Ithaca, New York (32,000 residents)

**Program Start:** November 2022

**Vehicles:** E-bikes

**System Type:** Dockless

**Operator:** The Center for Community Transportation (CCT)

**Funding:** Federal funding, public, private, and philanthropic contributions

### Program Overview

Ithaca Bikeshare launched after the micromobility provider Lime left Ithaca. Ithaca decided to launch its own bikeshare system with a nonprofit partner, The Center for Community Transportation (CCT). CCT oversees the program and funded the launch of the bikeshare system.

Ithaca's system is a pedal-assist (no throttle) electric bikeshare network. Users can rent the e-bikes using the system's mobile phone application. The e-bikes are dockless and can be found anywhere, however the system is hub-based. Hub-based means that there are designated parking areas where riders are encouraged to end their trips. Trips that do not end within a hub are subject to a convenience fee.

### How does this program support equitable transportation access?

Ithaca Bikeshare has an equity program called Easy Access. Easy Access is free to low-income residents. The program also strives to maintain affordable pricing for all residents. An annual membership costs \$150 per year and includes unlimited hour-long trips.



*Image Source: The Ithacan*



## Annapolis Micromobility Program

**Location:** Annapolis, Maryland (41,000 residents)

**Program Start:** May 2022

**Vehicles:** E-scooters and e-bikes

**System Type:** Dockless

**Operator:** Bird

**Funding:** Annual permitting

### Program Overview

In 2022, the City of Annapolis contracted the micromobility provider Bird to bring e-scooters and e-bikes to Annapolis. Annapolis sought an alternative mode of transportation to serve parking-constrained downtown. The closure of a large parking garage downtown spurred the need for the program. Downtown also experiences high influxes of tourists in the spring and summer as Annapolis is the capital of Maryland.

Bird provides dockless electric scooters and electric bikes. The vehicles can be rented through Bird's mobile phone application. The system is dockless. However, the city has designated parking areas where riders are encouraged to end their trips. The designated parking areas help to manage parking and facilitate locating the vehicles.

### How does this program support equitable transportation access?

Bird offers low-income pricing through Bird Access. Bird Access offers three, five, or unlimited daily rides of 30 minutes or less for \$5 per month to riders who are enrolled in or eligible for a government assistance program.

The City of Annapolis requires Bird to offer coverage throughout the city, including to traditionally underserved neighborhoods and destinations critical to underserved community members, including locations at Housing Authority sites coordinated with the Housing Authority of the City of Annapolis (HACA). Annapolis also requires 15% of Bird's vehicle fleet to be rebalanced to identified traditionally underserved neighborhoods daily.



*Image Source: Annapolis Discovered*

## SusqueCycle

**Location:** Harrisburg, PA (50,000 residents)

**Program Start:** October 2022

**Vehicles:** Bicycles

**System Type:** Station-based (docked)

**Operator:** Tri-County Regional Planning Commission

**Funding:** Federal funding, public and private sponsorships

### Program Overview

Launched in the fall of 2022, SusqueCycle is Harrisburg's bicycle share program operated by the Tri-County Regional Planning Commission, a metropolitan planning organization. The program was created to provide a convenient, affordable, healthy, and environmentally friendly alternative to driving for Harrisburg residents and workers. The Commission, which oversees regional planning issues for Cumberland, Dauphin, and Perry counties, operates the program internally with financial support from private and public sponsors. SusqueCycle partners with Movatic, a micromobility software platform, to host their system and bikes are provided by Tandem Mobility.

SusqueCycle is a station-based system that requires its riders to access and park their bicycles at docking stations. Cyclists are allowed to ride wherever they like, but trips won't end unless the user has locked their bicycle at a station. There are currently eight bike rack locations in Harrisburg, plus one in Hummelstown that is connected to Hershey's bike share program. SusqueCycle members can also utilize their membership with the Hershey Bikes and Bike It Lancaster programs.

### How does this program support equitable transportation access?

SusqueCycle does not currently offer any reduced cost program for memberships or pay-as-you-go rides. Despite the lack of a targeted equity program, SusqueCycle was created with affordability in mind and does not operate as a for-profit venture. The support from public and private sponsors allows SusqueCycle to maintain very low pricing relative to private micromobility operators. Pay-as-you-go pricing is \$1.50 per 30 minutes. Memberships are \$25 annually and include unlimited 30-minute trips; each additional 30 minutes for members costs \$1.50.



*Image Source: Tri-County Regional Planning Commission*

## Project: Pilot Micromobility in Dover

### *Recommendations*

- 1) *Determine the managing body and designate a point person to champion the micromobility program.*
- 2) *Coordinate early and often with key partners to determine their level of interest in supporting a micromobility program.*
- 3) *Gather information on Dover residents' appetite for a micromobility program.*
- 4) *Clarify the service area extent and docking system type before releasing a Request for Proposal (RFP) for service providers.*
- 5) *Reference previously completed micromobility pilot programs for guidance on management, community engagement, provider requirements, and stakeholder support.*

### *Example Pilot Program – Baltimore City Dockless Vehicle Pilot Program*

From August 2018 to January 2019, the Baltimore City Department of Transportation (DOT) managed a pilot micromobility program to evaluate the safety, equity, and impacts of introducing dockless vehicles to Baltimore streets. Baltimore City DOT drafted a pilot agreement for a dockless system of scooters and bicycles to be “deployed in the public right of way and available for rent from private providers.” Over the course of six months, 723,252 rides were taken by 191,218 individual riders (Baltimore City Department of Transportation, 2019).

While Baltimore City DOT initiated the program, a Dockless Vehicle Committee (DVC) was created to “advise DOT on broader perspectives of the pilot program’s impacts.” The committee was comprised of elected officials, municipal departments, local bicycle advocacy organizations, business partnerships, and more. DVC helped to plan and execute the pilot program by defining regulatory needs and providing operations recommendations to DOT (Baltimore City Department of Transportation, 2019).

The pilot program provided an opportunity for the City of Baltimore to evaluate the interest and feasibility of implementing a permanent program. A set of evaluation questions were developed related to safety, ridership, equity, roadway impacts, and potential structures to support a successful program. Each of these questions were answered utilizing provider ridership data as well as feedback from community engagement activities (Baltimore City Department of Transportation, 2019).

Baltimore City DOT utilized the pilot program to develop a set of recommendations for implementing its permanent micromobility program. These recommendations included:

- An RFP procurement method for a pilot program allows the City to evaluate various micromobility providers and choose the best fit for the community. If the pilot program is a success, establishing a permit with the provider means the City will no longer directly manage and operate the program, but allows DOT the authority to set specific rules and regulations that will mandate management and operation by the providers.
- DOT support is crucial to administering a successful program. DOT can help to facilitate a successful program by
  - 1) investing in micromobility infrastructure – including designated parking spots.
  - 2) utilizing permit funds to launch a community education campaign.

- 3) assisting in establishing a Resident Mobility Advisors (RMA) program. RMAs engage with DOT on mobility needs and insights gathered from neighbors and other community members.
- 4) devoting dedicated staffing to support the program. Nationally, municipalities with dockless programs average 2.5 staff positions to run their programs.

Dover can integrate lessons learned from Baltimore City’s Dockless Vehicle Pilot Program when considering the deployment of its own pilot program.

### *Delaware Electric Micromobility Laws*

Although electric scooters are a popular travel option in many communities in the U.S., Delaware state law does not currently permit a person to operate an e-scooter on public streets or highways. If the City of Dover wishes to implement a micromobility program using e-scooters, a legislative change would be required.

There are no laws prohibiting the use of electric bicycles. They can be operated anywhere bicycles are typically allowed.

### Further Reading on Micromobility

The National Association of City Transportation Officials (NACTO) has several helpful resources for cities seeking to add micromobility services. The resources include:

- [NACTO Shared Micromobility Snapshot](#)
- [NACTO Guidelines for Regulating Shared Micromobility](#)
- [NACTO Urban Bikeway Design Guide Working Paper: Shared Micromobility Permitting, Process, and Participation](#)

The University of Oregon also maintains a [database](#) of all the micromobility programs in the United States including detailed information about seven different equity requirements: reduced fares, geographical distribution, adaptive vehicles, cash payment options, smartphone alternatives, targeted marketing and outreach, and multilingual services.



## Section 5: Loockerman Street

## Section 5: Loockerman Street

The City of Dover plans to replace and upgrade underground utilities, include water, sewer, and stormwater lines, along Loockerman Street from Forest Street to State Street in 2025. The project will result in impacts to the street from building face to building face, including to the sidewalk, curb, and pavement. Thus, the utility project presents an opportunity for the City to put back the infrastructure differently such that it better serves downtown businesses and Dover residents, workers, and visitors. This opportunity is consistent with *Transforming Downtown Dover*, which envisioned infrastructure that can support mixed use development around a Loockerman Street that is pedestrian-centered and supportive of a localized business district.

Given that the utility project is scheduled for design in the fall of 2024, and construction in 2025, the effort to conceptualize a redesign of Loockerman Street was incorporated into the Downtown Dover Pathways effort. Because doing so required a very short timeline for planning and conceptual design, a three-day design charrette was hosted to engage with businesses, residents, community organizers, and government agencies.

While there are many challenges and opportunities associated with transforming Downtown Dover into the centralized, bustling business district envisioned in previous planning efforts, the focus of this effort is on street elements, such as curb, lane widths, sidewalks, street furniture, signs, and pavement markings. Consistent with the goals of *Transforming Downtown Dover*, the charrette focused on developing street design changes that:

- Support existing local businesses
- Spur new development
- Tie together existing and planned land uses
- Address multimodal safety, comfort, and access

This part of the Downtown Dover Pathways Plan focuses on Loockerman Street, including existing conditions, charrette processes and outcomes, and the concepts developed.

### Existing Conditions

Loockerman Street today is a main street that many cities and towns would desire. It has charming brick sidewalks, a tremendous tree canopy, and quaint lights strung from one side of the street to the other. There are pedestrian-scale lampposts, and the planters were recently filled with springtime tulips. Some curbs are extended into the street to prioritize pedestrians. Still, there are several vacant store fronts along Loockerman Street. There are sometimes people sleeping or asking for money along the corridor. It does not always feel safe, especially at night. And the big trees have sprawling roots that are poking up from the ground and taking bricks and cobblestones with them. The sidewalk has narrow pinch points in some sections, with trees, lampposts, and utilities blocking the walking path.

### Typical Section

Loockerman Street is typically about 60 feet wide from building face to building face between Forest Street and State Street. Along the shop fronts are 6-foot-wide concrete sidewalks. In a pattern that alternates block to block, one side of the street includes a 5-foot-wide brick area for trees, lampposts, trash cans, signs, and planters. This area is referred to as the furniture zone. Then, there is a 7-foot-wide on-street parking lane with a small curb extension for a fire hydrant. A 7-foot-wide on-street parking lane is typically narrower than best practices suggest for higher turnover parking spaces. The other side of the street includes a few parking spaces, with much of the curb extended out into the street for a 12-foot-wide furniture zone. Loockerman Street includes one 12-foot-wide travel lane in each direction, which is shared among bicyclists, cars, buses, and trucks. The existing typical section is shown in Figure 41 below and a plan view of the existing street is shown in Figure 42.

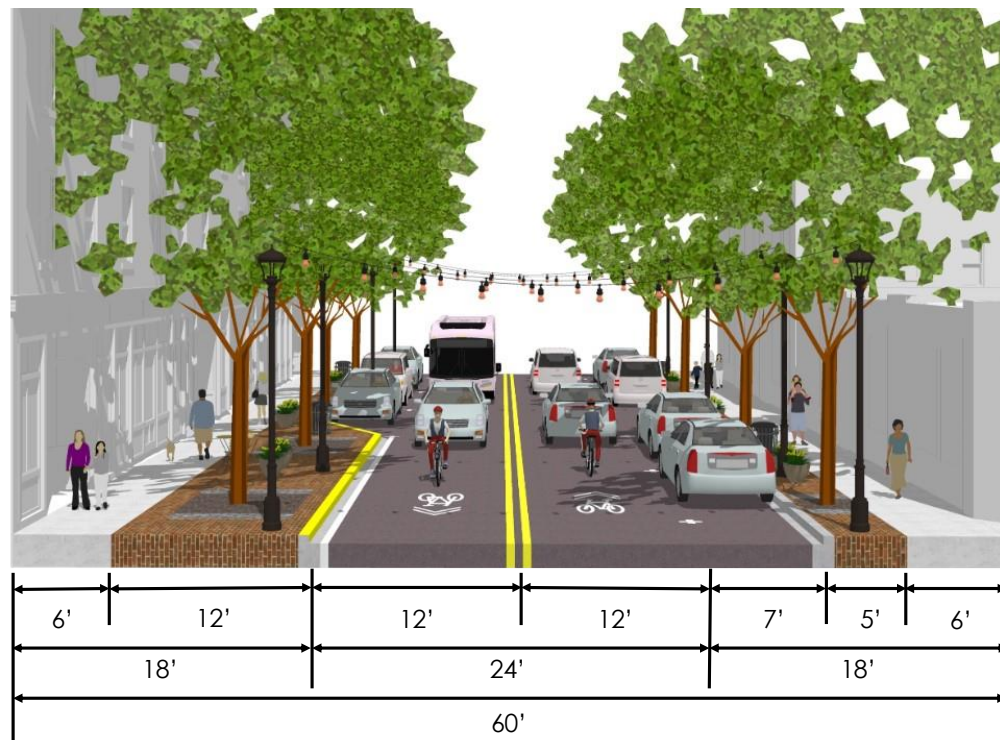


Figure 41: Loockerman Street Existing Typical Section



# Lockerman Street Design Charrette

120 S. Governors Avenue

239 W. Lockerman Street

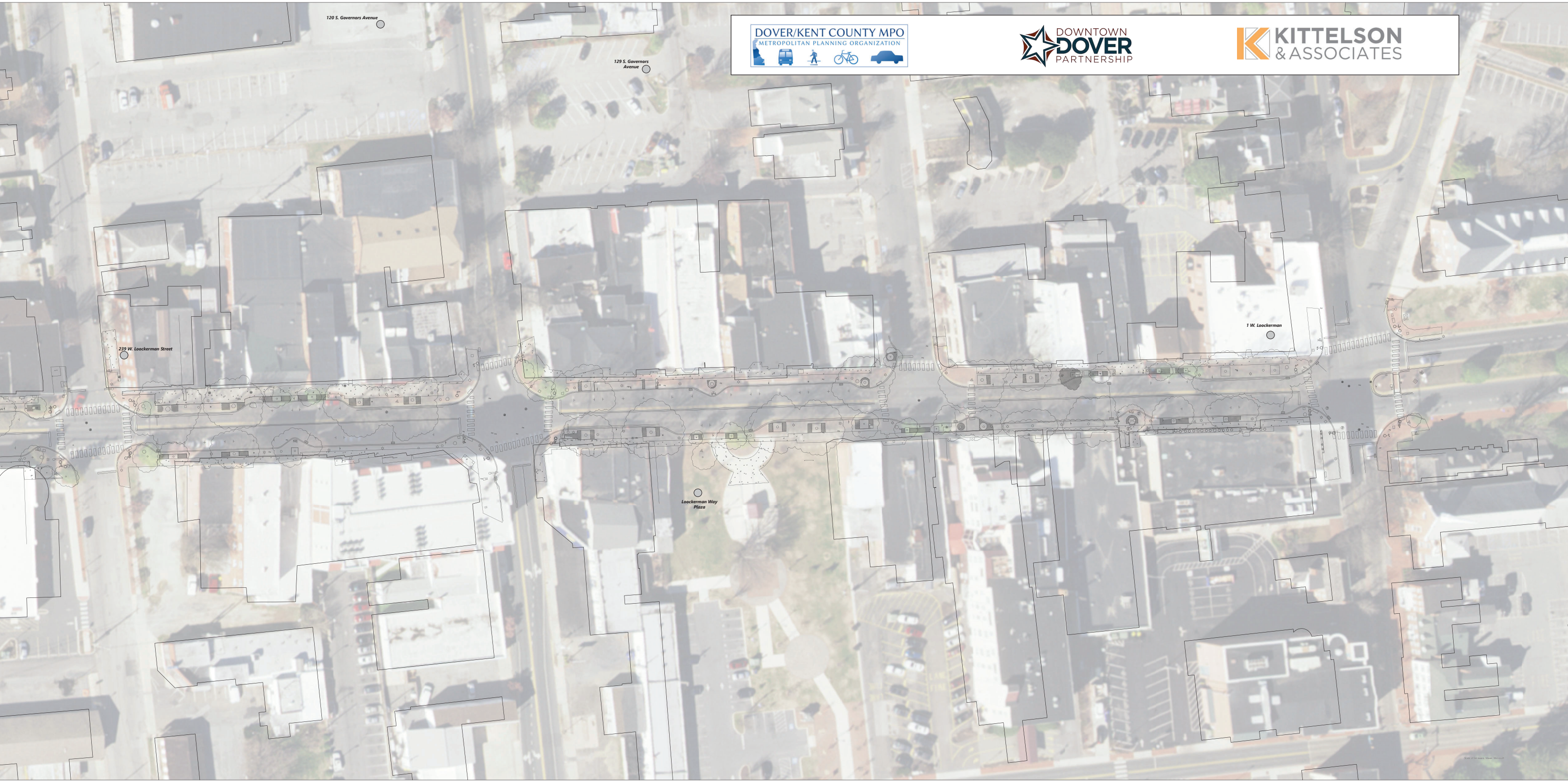
326 W. Lockerman Street

### Survey Legend

EXISTING	
	EDGE OF PAVEMENT
	CURB
	WATER LINE / FIRE HYDRANT / VALVE / METER
	STORMDRAIN / INLET / MANHOLE
	GAS LINE / VALVE
	SANITARY SEWER / MANHOLE / CLEANOUT
	WOOD PRIVACY FENCE
	RETAINING WALL
	EDGE OF SIDEWALK
	CONCRETE SIDEWALK
	BRICK SIDEWALK
	BUILDING FOOTPRINT
	UTILITY POLE W/ GUY WIRE
	TREE
	SHRUB
	LIGHT POLE
	TELEPHONE MANHOLE
	PEDESTRIAN SIGNAL
	TRAFFIC SIGNAL
	MAILBOX
	ROAD SIGN
	FLAG POLE
	SURVEY CONTROL POINT









### Zoning

Properties within the immediate Lookerman Street study area are almost exclusively zoned for “Central Commercial” (C-2) (Figure 43). Central Commercial permits a wide range of land uses, including many found along Lookerman Street such as retail stores, service establishments, restaurants, professional and government offices, and apartments and multi-family dwellings. Design considerations for Central Commercial include no off-street parking regulations, no minimum setbacks, a 10-story building maximum, and a maximum height of 125 feet. Central Commercial districts also extend beyond the study area along Governors Avenue and Bradford Street. The parcels zoned exclusively for residential use are located beyond the study area, particularly northwest along New Street and Queen Street.

The Lookerman Street study area also falls within Downtown Dover’s Historic Overlay. This overlay aims to ensure the preservation of Downtown Dover’s historic character, requires new developments undergo an architectural review, and discourages larger-scale structures that do not match the scale of existing adjacent buildings.

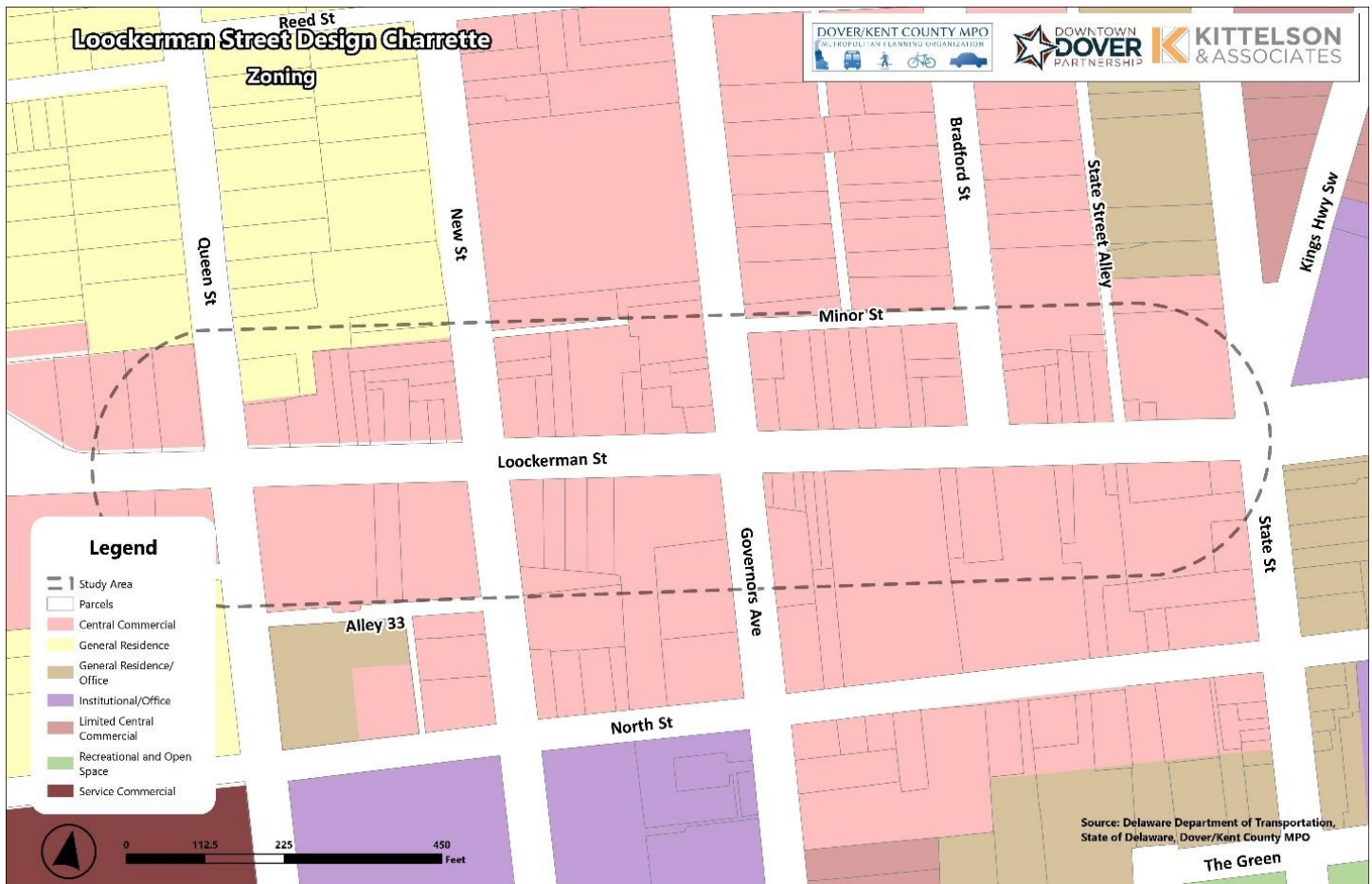


Figure 43: Zoning Near Lookerman Street Study Area

Table 6. Zoning Districts Near Lookerman Street Study Area

Zoning District	Allowable Uses	Parking	Setback	Stories Allowed	Maximum Height	Floor-Area Ratio
Central Commercial (C-2)	Retail, restaurants, hotels, galleries, banks, personal service, business offices, multifamily housing	No off-street parking requirements	No minimum	10 stories	125 feet	5.0
General Residential (RG-1)	Single family housing (conditional use: townhouses, duplexes, inns, student housing)	1 space per dwelling unit	15 feet	2.5 stories	35 feet	N/A
General Residence/Office (RGO)	Single and multifamily residences, office space	1 space per 300 sq. ft. or per employee (whichever is larger)	30 feet	2.5 stories	35 feet	0.5
Limited Central Commercial (C2-A)	Retail, restaurants, hotels, personal service, business offices, single family & multifamily housing	1 space per 300 sq. ft. or per employee (whichever is larger)	15 feet	6 stories	75 feet	4.0
Industrial/Office (IO)	Business offices, banks, laboratories, institutions, utilities, care facilities	1 space per 300 sq. ft.	10 feet	10 stories	150 feet	6.0
Service Commercial (C-3)	Services, business offices, drive throughs, recreation, manufacturing, ministorage	1 space per 300 sq. ft. or per employee (whichever is larger)	15 feet	6 stories	75 feet	4.0

### Land Use and Redevelopment Sites

Existing land use along Lookerman Street reflects the zoning in the study area. Most parcels in the Study Area are commercial properties that front the heart of Downtown Dover’s commercial core along Lookerman Street (Figure 44). Residential and mixed-use parcels are primarily north and west of the study area along New Street and Queen Street.

There are several potential redevelopment sites located within the Lookerman Street Study Area or close by. These sites were identified in the *Transforming Downtown Dover* plan. There is a development proposal submitted for the site at 120 South Governors Avenue.

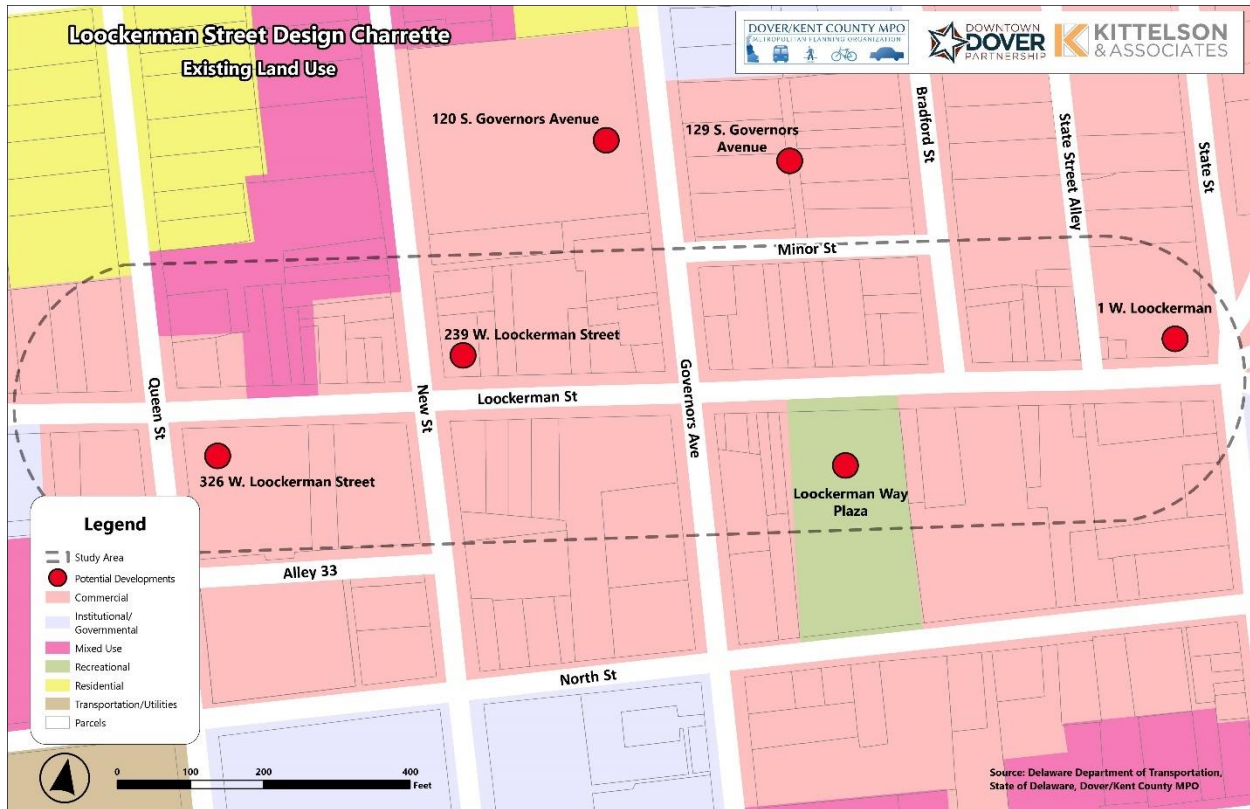


Figure 44: Land Use and Potential Developments Near Lockerman Street Study Area

Table 7. Redevelopment Sites Near Lockerman Street Study Area

Potential Redevelopment Site	Features
120 S. Governors Avenue	Ground Floor Grocery Surface Parking Lot Two Story Podium Parking Multi-Family Residential
129 S. Governors Avenue	Multi-Modal Transit Hub Surface Parking Lot Public Parking Deck Townhouse-Style Apartments
326 W. Lockerman Street	Ground Floor Retail Residential Units Above Retail
239 W. Lockerman Street	Ground Floor Retail Residential Units Above Retail Podium Parking
Lockerman Way Plaza	Ground Floor Retail Residential Units Above Retail Podium Parking Public Greenspace and Farmer's Market
1 W. Lockerman Street	Ground Floor Retail and Food Hall Second Floor Commercial



### Crash Data

Crash data was evaluated to understand any potential transportation safety concerns along Lookerman Street.

#### All Crashes

There were 142 crashes along Lookerman Street in the last five years of available crash data (Figure 45). The crash data highlights a concentration of crashes at intersections along Lookerman Street. The Governors Avenue/Lookerman Street intersection carries the most volume of any intersection in the study area and has the highest number of crashes. Improvements to intersection design can reduce the crashes. Of all crashes within the study area, 15% resulted in injury, most of which were angle, rear-end, or sideswipe crashes. A count of crashes at intersections within the study area are provided below:

- Lookerman Street/Governors Avenue: 29 Crashes
- Lookerman Street/State Street: 23 Crashes
- Lookerman Street/Queen Street: 21 Crashes
- Lookerman Street/New Street: 13 Crashes
- Lookerman Street/Bradford Street: 9 Crashes



Figure 45: Crashes Along Lookerman Street Study Area (5 Year Data)

### Injury Crashes

Crashes that resulted in injury within the study area are located almost exclusively at intersections (Figure 46). The crashes located at intersections are both frontal impact crashes as well as rear ends. Four mid-block crashes occurred between Governors Avenue and State Street – these mid-block crashes were sideswipes. A summary of injury crashes located at intersections within the study area is provided in Table 8. There were no fatal crashes along Lookerman Street in the last five years.

Table 8. Injury Crashes Located at Intersections

Cross Street	Number of Injury Crashes	Crash Trends
Governors Avenue	7	4 angle crashes 4 occurred in dark conditions
State Street	3	2 angle crashes
New Street	2	2 rear end crashes
Queen Street	1	
Bradford Street	1	



Figure 46: Injury Crashes Along Lookerman Street Study Area (5 Year Data)

*Bicycle and Pedestrian Crashes*

Downtown Dover’s commercial core along Looker Street promotes more trips made by walking and biking – including pedestrians walking to retail from parking near the study area. In the last five years there were four pedestrian and two bicycle crashes that occurred within the study area (Figure 47). All six of these crashes occurred at intersections:

- Looker Street/Governors Avenue: 1 pedestrian crash; 1 bicyclist crash
- Looker Street/Queen Street: 2 pedestrian crashes
- Looker Street/New Street: 1 pedestrian crash
- Looker Street/State Street Alley: 1 bicyclist crash



Figure 47: Bicycle and Pedestrian Crashes Along Looker Street Study Area (5 Year Data)

### Parking

Parking located along and near Lookerman Street provides access to local businesses and services for people traveling to the site with a vehicle. There is both on-street parking along Lookerman Street as well as several surface parking lots within the study area. On-street parking regulations limit parking to 2 hours from 8 AM to 5 PM, Monday through Friday. Additionally, on-street parking is not permitted from 2 AM to 6 AM on Wednesdays for the spaces on the north side of Lookerman Street and 2 AM to 6 AM on Thursdays for the spaces on the south side of Lookerman Street. There are a total of 66 on-street parking spots located along Lookerman Street between State Street and Kirkwood Street and 255 off-street parking lots located in surface public parking lots.

The off-street and on-street parking shown in Figure 48 are paid spots at a minimal cost. They are operated by Park Mobile. The cost for the off-street parking is 85 cents for the first 15 minutes, 50 cents for any additional 15 minutes, and \$3.85 maximum for 13 hours of parking. The cost for on-street parking is 25 cents for 15 minutes and \$1.00 per hour for up to 2 hours. However, anecdotally, there does not seem to be enforcement of the paid parking. In practice, many people park both on-street and off-street for free.

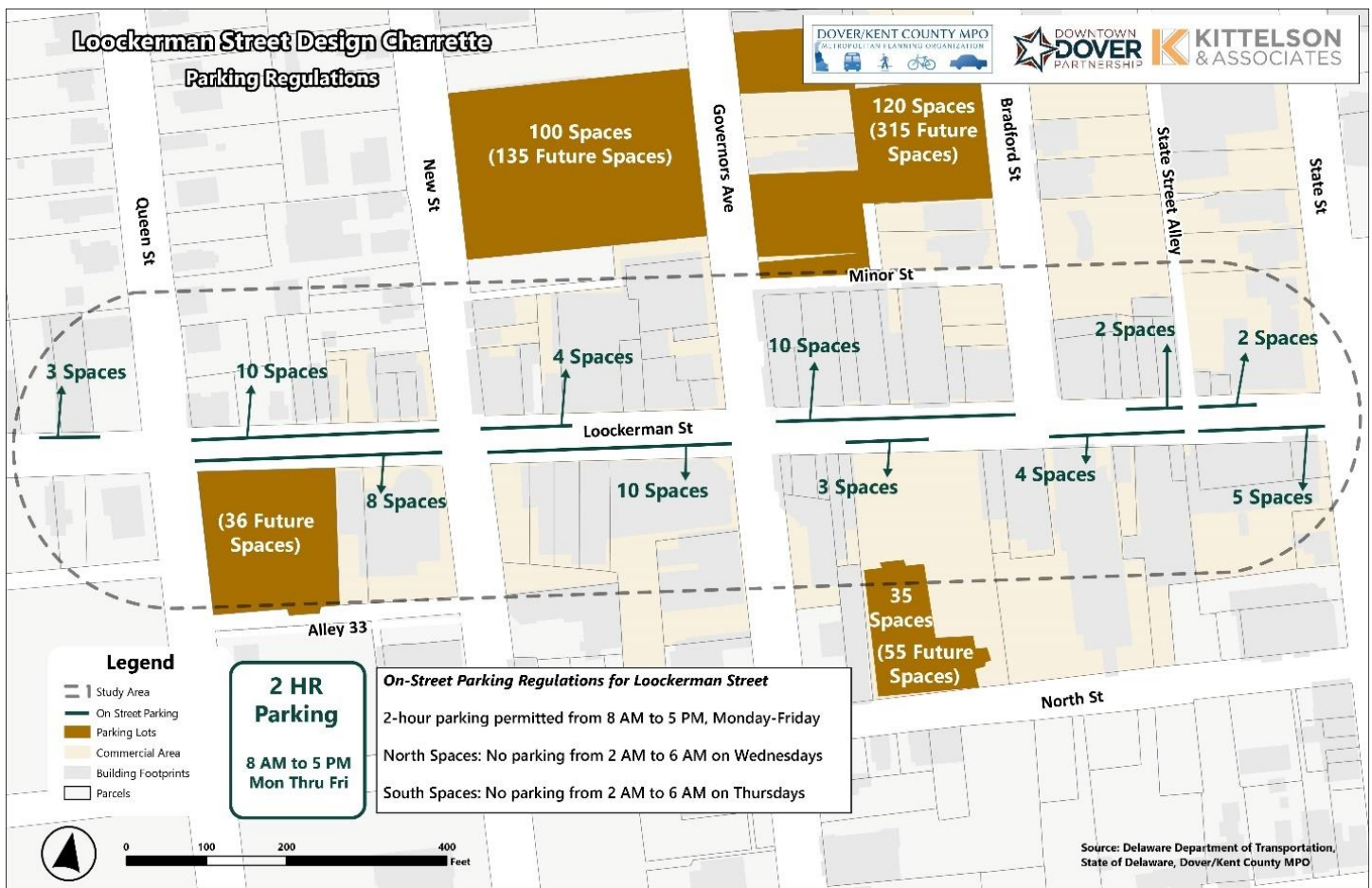


Figure 48: Parking Regulations Along Lookerman Street Study Area



### Transit

DTC/DART First State provides bus service in Dover that connects transit riders to and from Lookerman Street. There are six bus routes that intersect with the study area and seven nearby bus stops (Figure 49). There are only two bus stops located directly along Lookerman Street in the study area that are each served by Route 109. Route 109 provides service from Dover Transit Center in Downtown Dover along Lookerman Street, Kings Highway, and US 13 with a northern terminus at the Sam’s Club located off US 13. DART’s existing transit service operates a “hub-and-spoke” bus system; thus, all bus routes located near the Lookerman Street study area connect to Dover Transit Center and branch out into the greater Dover area.

The existing bus service is expected to change following the DART Reimagined study, completed in March 2024. To provide a more reliable and efficient transit service, DART is reducing the number of bus routes operating in Dover and introducing DART Connect – a microtransit service that will allow riders to book a ride through an app. This app will take riders anywhere within Dover’s designated microtransit zone. If riders wish to continue their trip outside of the designated zone, they can connect to DART bus routes at transfer locations. DART Connect is planned to replace routes 101, 102, 108, 109, and 112 during the third phase of DART Reimagined in 2027-2028.

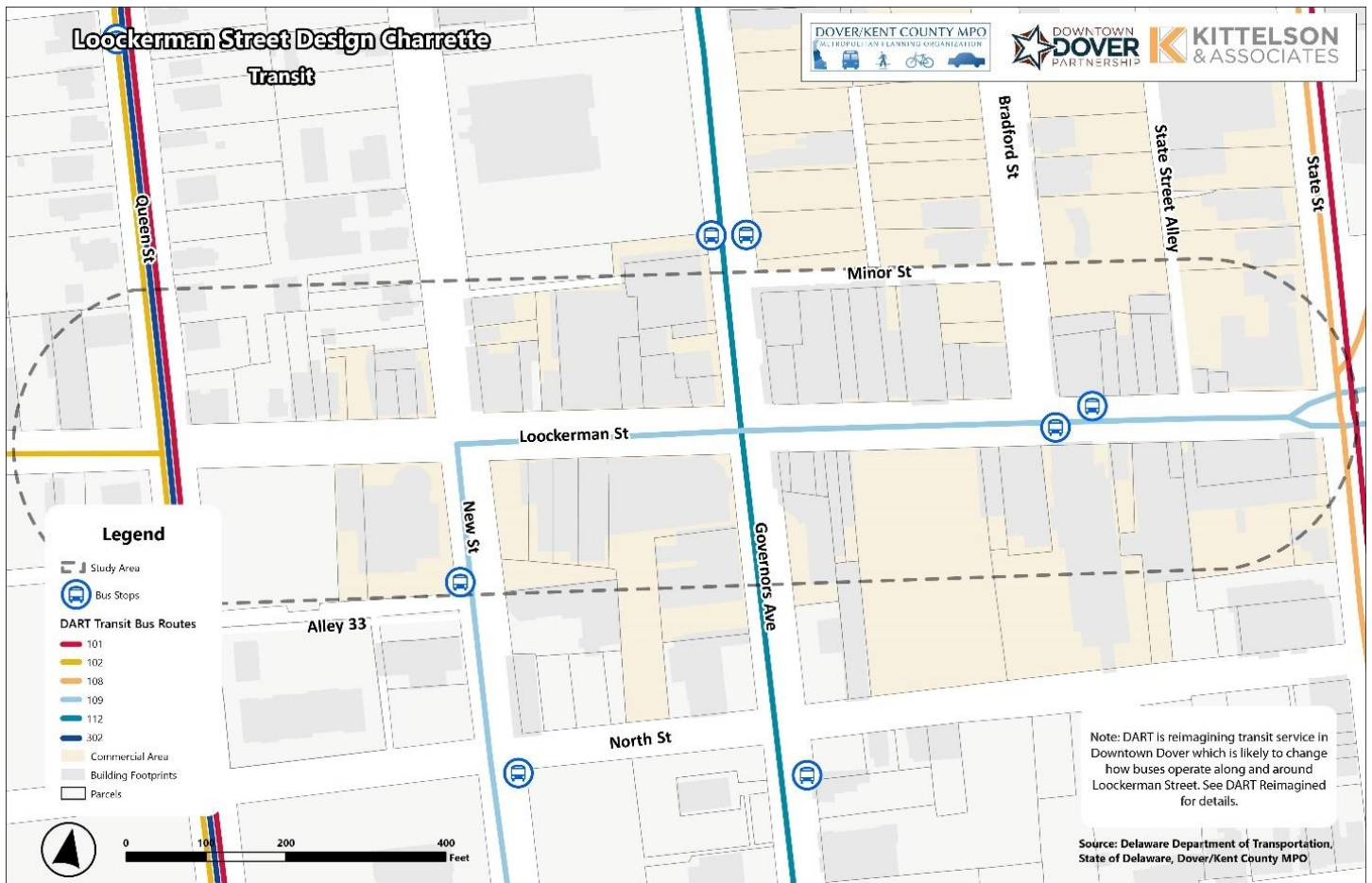


Figure 49: DART Transit Bus Routes and Bus Stops Along Lookerman Street Study Area

### Traffic Control

There are five intersections located along Lookerman Street within the study area (Figure 50). Four of these intersections are signalized (Queen Street, New Street, Governors Avenue, and State Street) and one is stop controlled (Bradford Street). The Bradford Street intersection has three legs; the two legs along Lookerman Street are uncontrolled while the Bradford Street approach has a stop sign. There are crosswalks across Lookerman Street at all signalized intersections, as well as on either side of Bradford Street. The Bradford Street crosswalks feature in-roadway signing cautioning drivers to yield to pedestrians.








Figure 50: Traffic Control at Intersections Along Lookerman Street Study Area

## Design Charrette

A design charrette is a series of collaborative meetings, activities, and discussions among residents, business owners, and others in the community to identify needs and brainstorm ideas for improving the street. The Lookerman Street design charrette was held from May 13 to May 15, 2024 at The Hive, an event space at 28 West Lookerman Street.

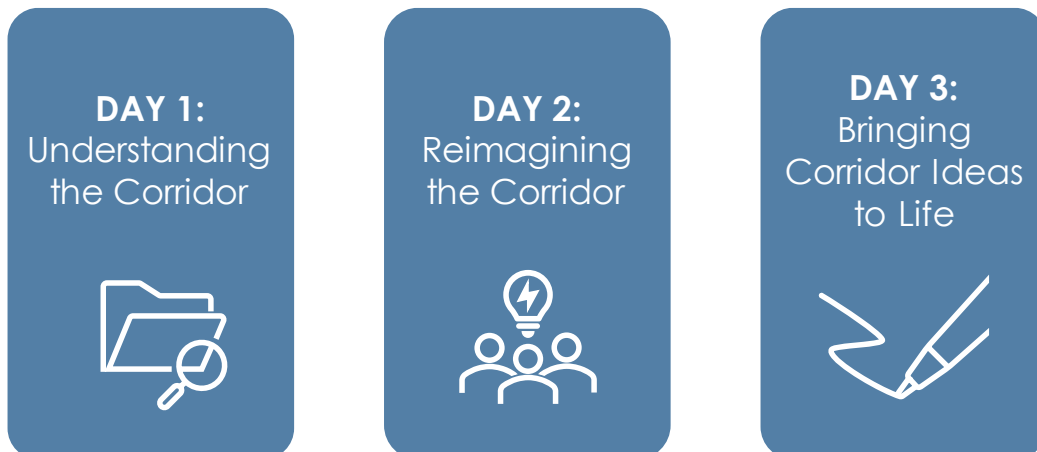
The purpose of the Lookerman Street design charrette was to:

-  *Understand existing corridor conditions.*
-  *Identify key issues and needs.*
-  *Brainstorm alternatives for improvement.*
-  *Assess potential impacts and opportunities.*
-  *Test ideas to develop a preferred concept.*

The planned outcome for the charrette was a draft concept design for Lookerman Street that could be refined, presented to the MPO Council, and then ultimately progressed through engineering and construction by the City.

### What Was Done

The charrette schedule focused first on understanding Lookerman Street, then on brainstorming ideas for improvement, and lastly on thinking through the potential design and operational challenges of desired street changes. Throughout the three days, there were touchpoints with specific community leaders, the public, and agency representatives as well as opportunities for the project team to develop and test concepts. A full charrette agenda is included in Appendix C.





The first day of the charrette included an orientation meeting with key members of the community, a corridor walk, and a public open house to discuss existing conditions and learn more about lived experiences along the corridor.

The second day of the charrette included specific topic area discussions to answer key questions and broaden the perspectives received. The project team met with business owners, mental health professionals, community organizations, DSU staff, and Bayhealth Hospital staff. On the second day of the charrette, there were also meetings with DeIDOT, DART, and the City of Dover.

On the third and last day of the charrette, there were mid-day and evening public open houses to discuss event findings and share concepts with the public.

In total, the project team interacted with over 85 people over the course of the 3-day charrette. Presentations for each day of the charrette are included in Appendix C.

Throughout the charrette, the project team developed draft design concepts for Lockerman Street. The concepts were shared through illustrations, plan-view drawings, cross section diagrams, and precedent images.







### What Was Heard

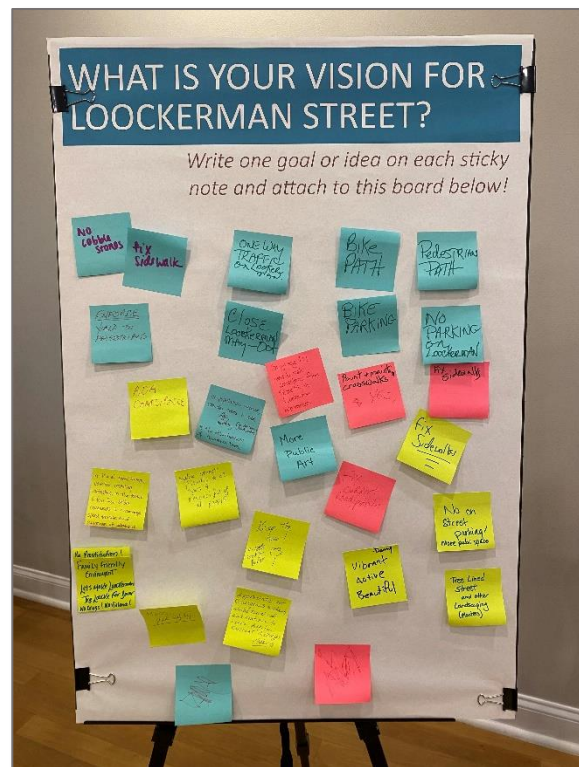
During the first day of the charrette, the following key concerns emerged:

#### *Uneven, narrow sidewalks.*

The sidewalks along Lookerman Street are comprised of a mix of concrete, brick, and cobble stones. In many locations, these materials are being disrupted by tree roots and creating an uneven walking surface with tripping hazards. There are also pinch points between shop fronts, trees, and street furniture, which make the sidewalks challenging to navigate for people of various ages and abilities.

#### *Desire for tree canopy and concerns about tree roots.*

People love and value the tree canopy over Lookerman Street. It provides shade, cleans the air, and contributes to the charm and history of the street. Still, the trees also have roots that are disrupting the sidewalk, curb, and underground utilities. The tree roots are creating access, drainage, moisture, and infrastructure issues.



### *Pedestrian crossing concerns.*

Many people said that crossing Lookerman Street and corresponding side streets can feel unsafe or uncomfortable. People feel especially vulnerable at the uncontrolled crossings at Bradford Street. Some people have experienced drivers turning into crosswalks while crossing. Some crosswalks are also set back from the desired walking path. Overall, there was a sentiment that Lookerman Street lacks a pedestrian culture.

### *Mixed feedback on on-street parking.*

Some charrette participants felt that less on-street parking is needed on Lookerman Street while others felt that more on-street parking is needed. While additional off-street parking is planned for the blocks surrounding Lookerman Street, there are older residents and visitors that might not be able to walk from the parking to the shopfronts, especially without benches to rest at. There are business owners along Lookerman Street that value the on-street parking for easy access, loading, and patron parking. A few participants also mentioned the need for more electric vehicle parking / charging.

### *Need for wayfinding signs.*

Many Downtown residents, tourists, and employees cannot easily find key destinations along and around Lookerman Street. The street name signs along Lookerman Street are positioned on the signal poles, facing away from the intersection, such that pedestrians cannot see them. People do not know where to find parking and then how to walk to places from off-street lots and garages.

### *Concerns with public safety and security.*

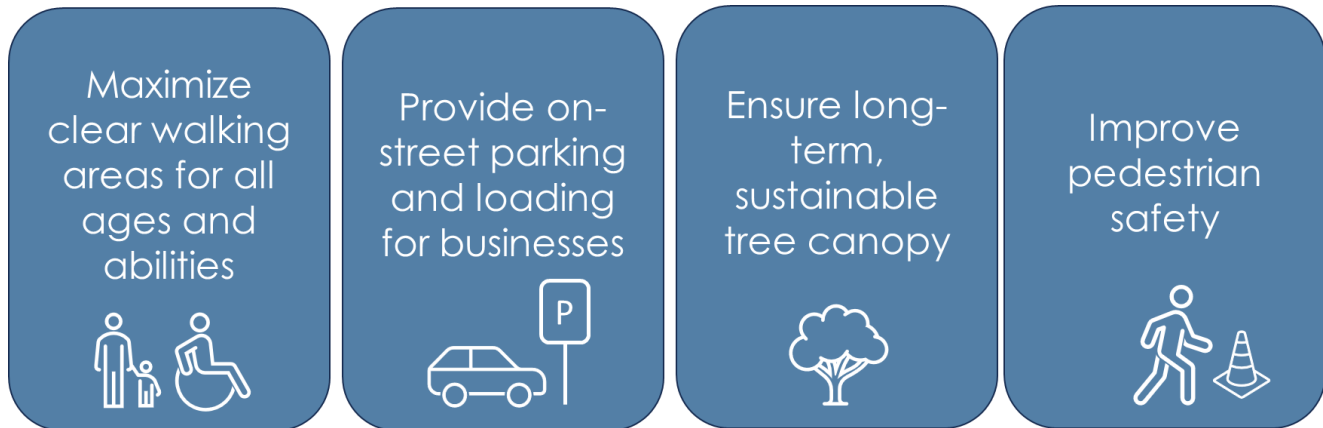
Many people do not feel safe or secure on Lookerman Street. There are often people sleeping, loitering, or asking for money. Many of the first-floor shop fronts are vacant. People that participated in the charrette understood how the scope of street design changes can influence the other challenges being experienced along the street, but that street design changes are only one piece of a larger puzzle of improvement, programming, development, resource investment, community support, and policy change.

### *Upgrade lighting, street furniture, bicycle parking.*

People emphasized a desire to upgrade various types of streetscape elements, including street lighting, benches, trash cans, and planters. Some people mentioned that there is not enough bicycle parking along the corridor. On the topic of lighting, there was an idea that businesses can keep lights on later at night to work in tandem with the lampposts in keeping the street well-lit.

## Concepts

Based on the discussions with diverse community members in Downtown Dover during the charrette, the project team approached concept development with the goal of balancing needs along the corridor. There was recognition that it is important to maximize sidewalk space, provide accessible parking, sustain the tree canopy, and improve safety for all. The proposed concept intends to manage the tradeoffs between these goals.



## Enhancements to Loockerman Street Utility Project

Typical sections for Loockerman Street are shown below. Figure 51 shows the existing typical section. Figure 52 shows the proposed cross section with the utility project construction with some trees relocated out of the pedestrian path. Figure 52 shows the ultimate proposed cross section after all trees are relocated out of the pedestrian path. Figure 54 shows a plan view of the concept with callouts and dimensions.



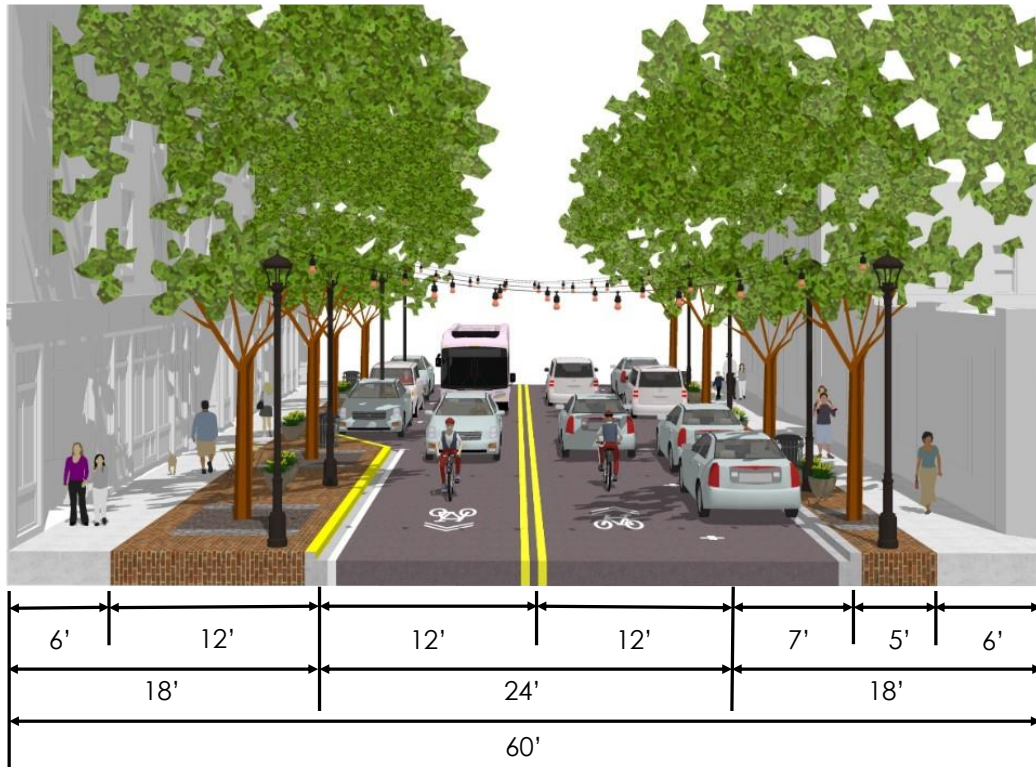


Figure 51. Existing Lookerman Street Typical Section

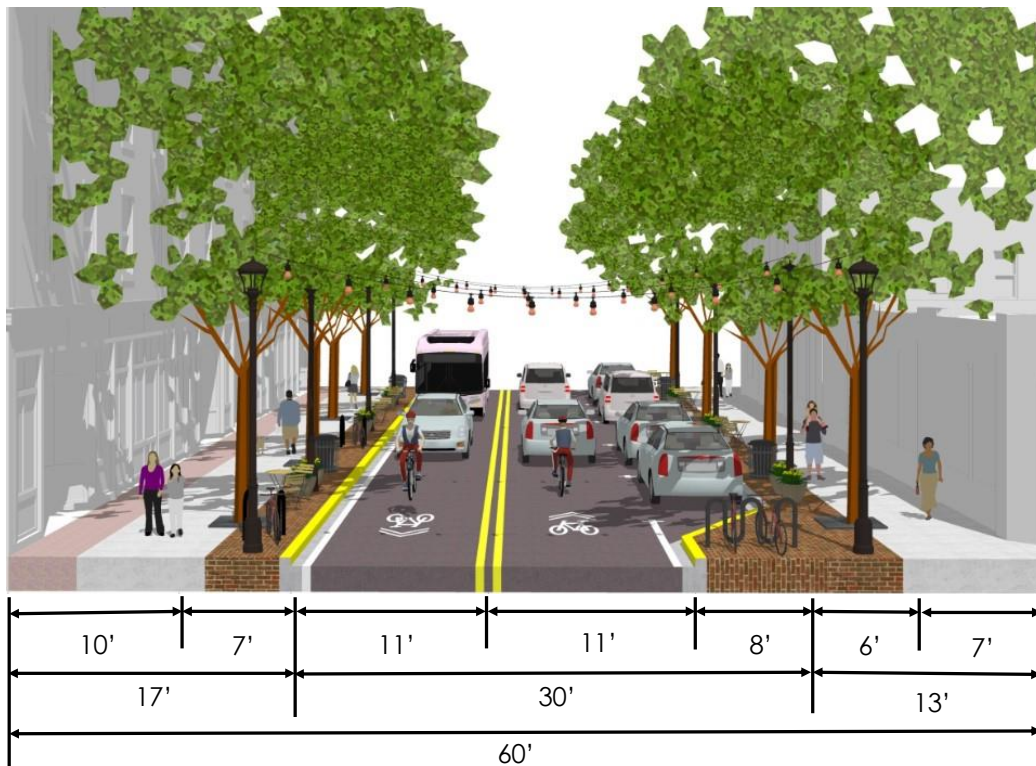


Figure 52. Proposed Lookerman Street Typical Section With Current Tree Locations



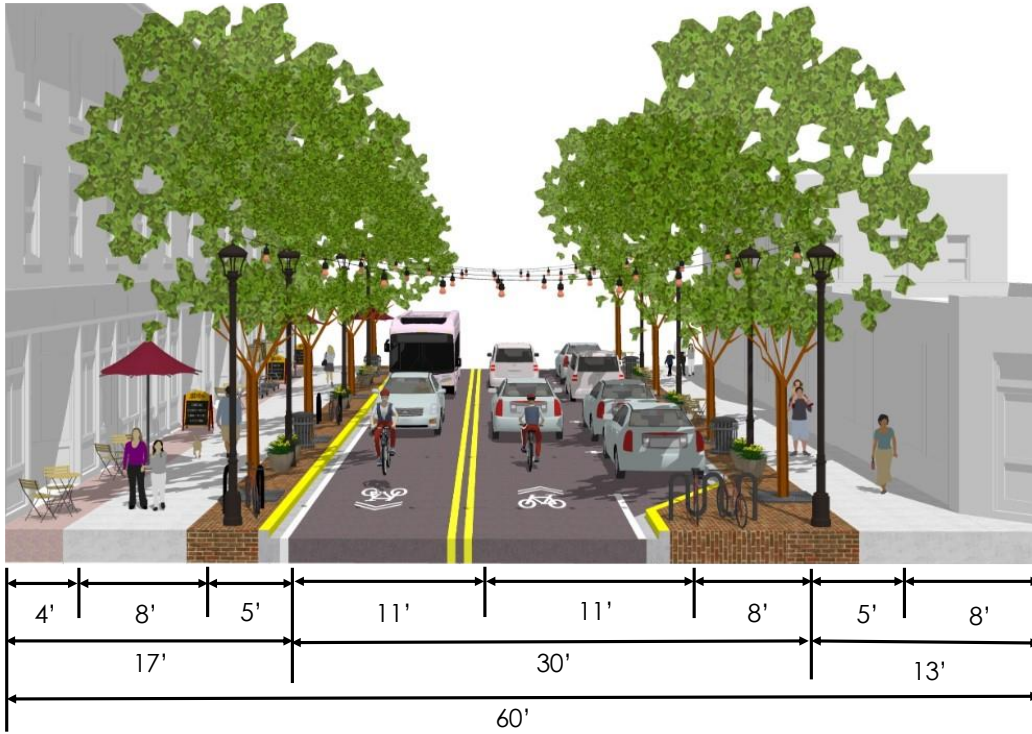
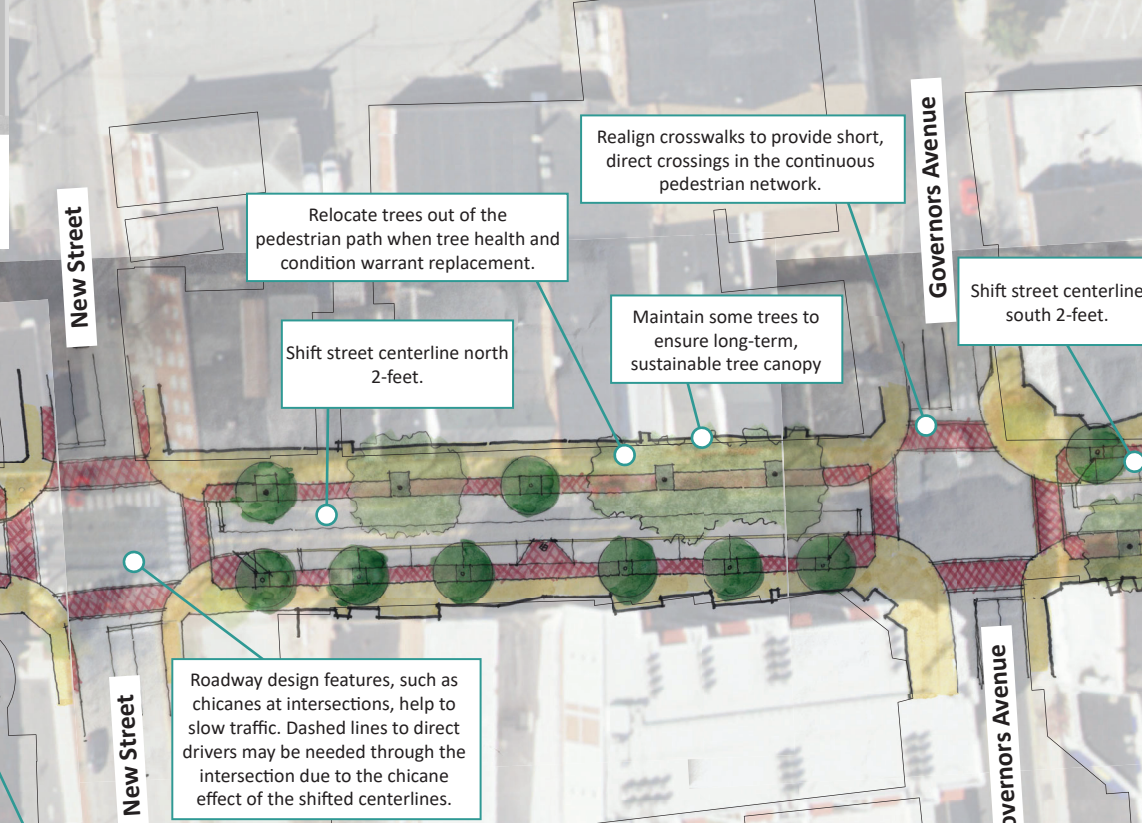
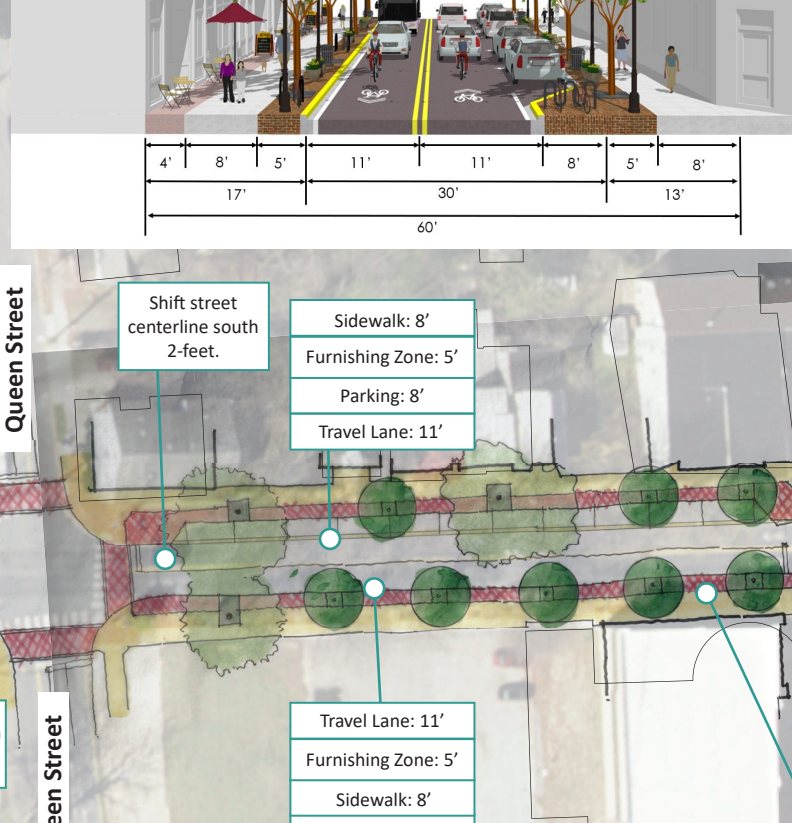
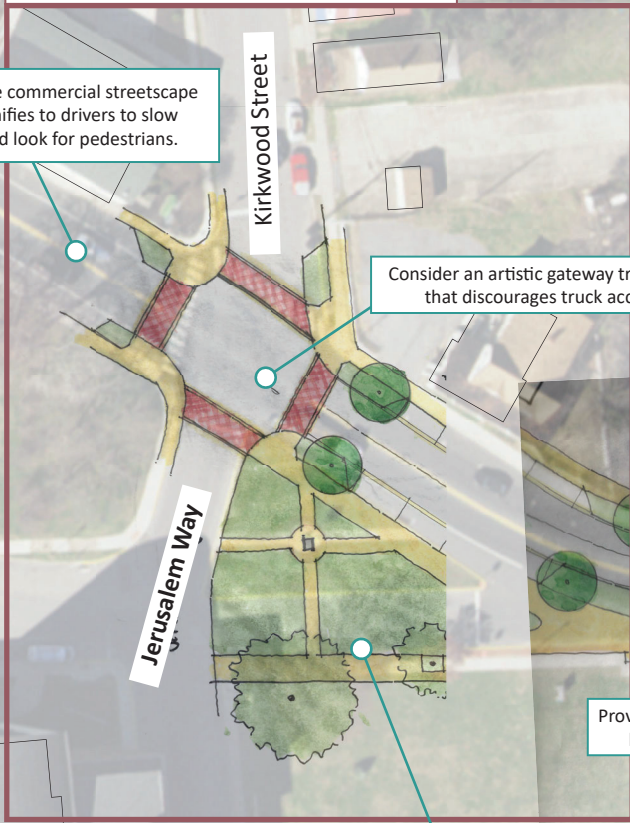
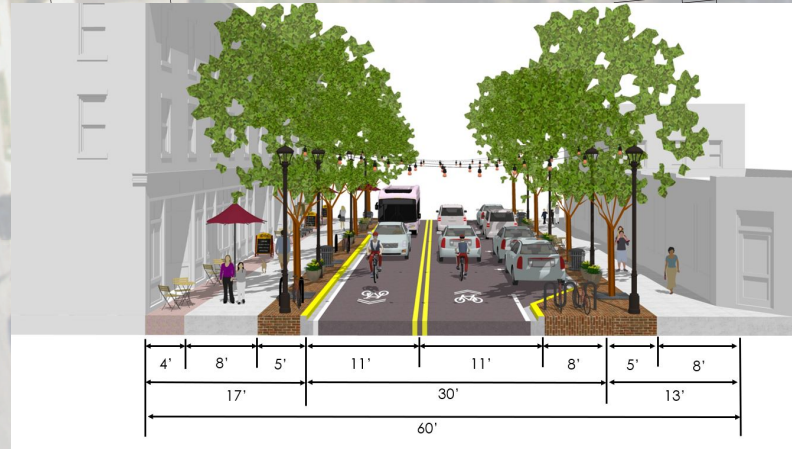


Figure 53. Proposed Lookerman Street Typical Section With Future Tree Locations



# Loockerman Street Redesign Concept

## Western Gateway Project



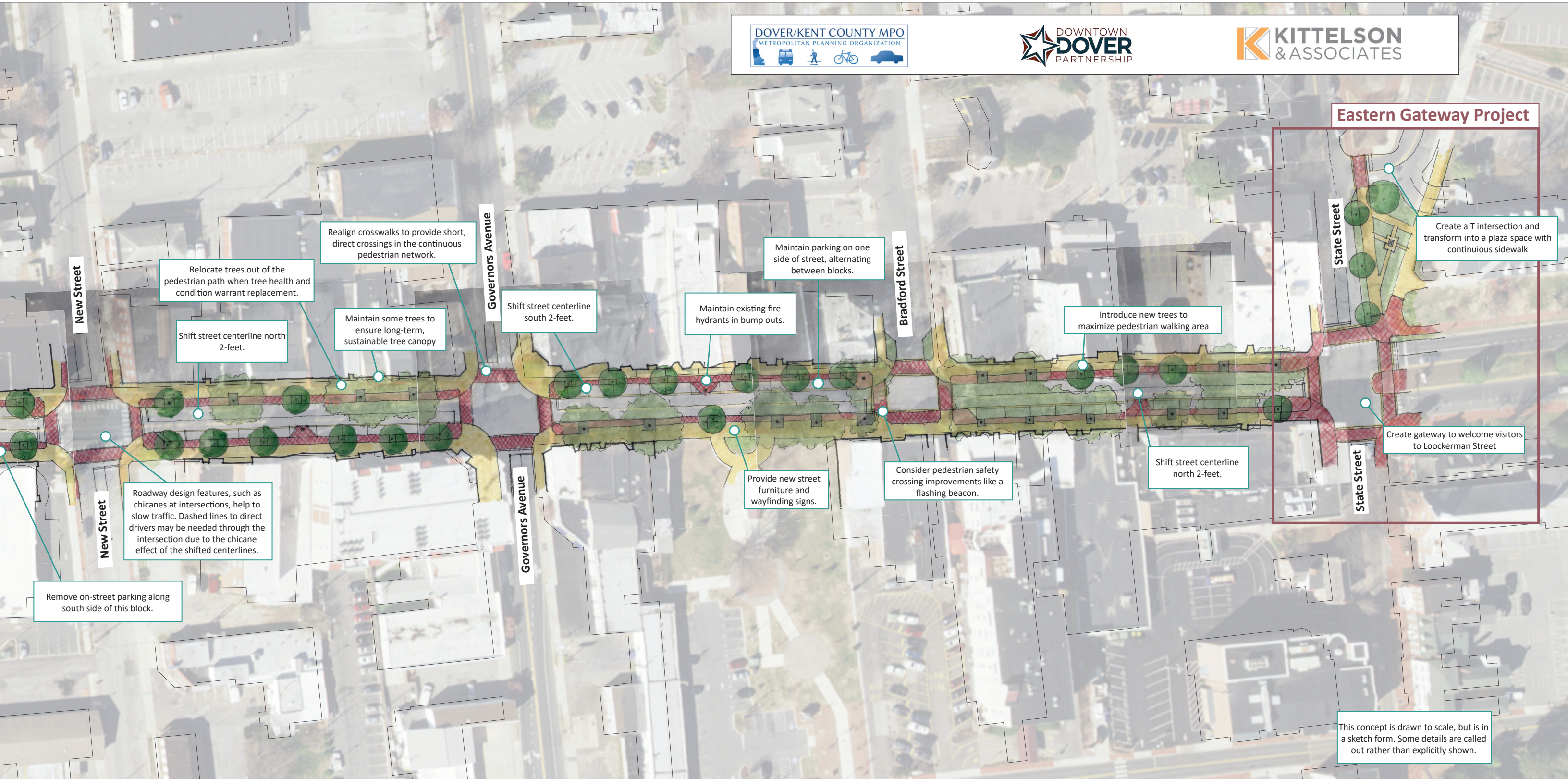
**Concept Legend**

- Sidewalk
- Brick Paver
- New Trees
- Existing Trees





Eastern Gateway Project



Relocate trees out of the pedestrian path when tree health and condition warrant replacement.

Shift street centerline north 2-feet.

Maintain some trees to ensure long-term, sustainable tree canopy

Realign crosswalks to provide short, direct crossings in the continuous pedestrian network.

Shift street centerline south 2-feet.

Maintain parking on one side of street, alternating between blocks.

Maintain existing fire hydrants in bump outs.

Introduce new trees to maximize pedestrian walking area

Shift street centerline north 2-feet.

Remove on-street parking along south side of this block.

Roadway design features, such as chicanes at intersections, help to slow traffic. Dashed lines to direct drivers may be needed through the intersection due to the chicane effect of the shifted centerlines.

Shift street centerline south 2-feet.

Maintain existing fire hydrants in bump outs.

Provide new street furniture and wayfinding signs.

Consider pedestrian safety crossing improvements like a flashing beacon.

Create a T intersection and transform into a plaza space with continuous sidewalk

Create gateway to welcome visitors to Lookerman Street

This concept is drawn to scale, but is in a sketch form. Some details are called out rather than explicitly shown.



The proposed concept involves the following modifications to the existing street design:

*Reduce travel lane widths from 12 feet to 11 feet.*

This is consistent with DelDOT standards and national best practices and was confirmed by DelDOT during the charrette. Reducing the lane width can slow vehicle speeds and provide additional space for other elements of the street. These lane widths are still wide enough for the safe flow of buses and emergency vehicles.

*Provide on-street parking on one side of the street in an alternating block pattern.*

Currently, there are about 66 on-street parking spaces between Kirkwood Street and State Street. Typically, a block includes 3 or 4 spaces on one side and 10 to 12 spaces on the other. The block between Queen Street and New Street includes more on-street parking as compared to other blocks. The concept proposes 56 total on-street parking spaces, which is an overall loss of 10 spaces. Downtown Dover Partnership's proposed multimodal hub and parking garage north of Lookerman Street, with about 400 spaces, will create far more spaces than will be removed from the street

*Shift the street centerline by 2 feet.*

Shifting the centerline will provide an additional 2 feet of sidewalk width on the more constrained side of the street where there is on-street parking. Since the centerline is shifting in opposite directions on each block, there is a 4-foot lateral difference between the centerlines at the intersection. As such, drivers will shift back and forth slightly through the intersections. This modest lane transition complies with transition standards in the Delaware Manual on Uniform Traffic Control Devices.

*Maximize walking and dining space with consistent materials.*

The concept proposes to eliminate the cobblestone around the tree pits. It provides a clear walking space comprised of typical concrete panels and a brick band where trees and street furniture are positioned. This will maintain the historic character of the street while also providing safer walking access.

*Create sidewalk zones, including frontage, walking, and furniture zones.*

Sidewalk zones are proposed, including a frontage zone along the shop fronts where there might be sandwich boards, shop signs, small café tables, and utilities protruding from the building faces. Next, a walking zone is proposed, which should be free of obstacles to provide a clear, accessible path for pedestrians of all ages and abilities. Lastly, the furniture zone is proposed closest to the curb with brick pavers. In narrower sidewalk areas, this zone might include trees, benches, and trash cans. In wider areas, this zone might also include sidewalk dining and parklet-type furniture.

*Balance relocation and preservation of trees.*

To preserve the tree canopy valued by the community, it is important to maintain healthy trees in their current position. However, any unhealthy trees or trees impacted by the utility work should be replaced in the furniture zone. As trees get replaced over time, it is proposed that they be relocated out of the walking path to the furniture zone. In the interim, pedestrians may need to meander around some trees as they do today.



### *Implement additional tools that improve pedestrian crossing safety.*

In addition to slowing traffic, minor modifications to the crosswalks can improve pedestrian safety. In some instances, crosswalks are moved closer to the intersection to provide a more direct travel path. Additional potential tools are described below.

Figure 55 below shows an illustration of the proposed concept.



Figure 55. Proposed Lockerman Street Concept

### *Additional Ideas and Tools*

There are several additional tools to incorporate in the redesign of Lockerman Street, as discussed below. Some of these may be applicable to incorporate with the utility project while others may be added over time through additional funding sources and maintenance.

### *Festival Street*

Festival streets designate a portion of roadway to be quickly and frequently transformed into vibrant spaces for public events. They sometimes involve raising the level of the street to be flush with the sidewalk and they incorporate unique materials to designate modal and operation spaces. Lockerman Street's location at the core of Downtown Dover and adjacency to many of Downtown's most cherished businesses make it a candidate to be transformed into a festival street. During events, Lockerman Street

could transition to a pedestrian-only street that allows for residents, visitors, community groups, and business owners to use the public right-of-way for special events. Additionally, festival streets can leverage inexpensive, temporary materials to quickly transition the street for pedestrian use.

While incorporating a festival street between Bradford Street and New Street would meet many of the project goals, it is likely a significant additional expense beyond the scope of the utility upgrade construction project. It would also likely extend project delivery, requiring more design work, time to pursue funds, and additional engagement. Thus, it is anticipated that this tool might be a future idea rather than part of the imminent utility project.

### *Tree Canopy*

The concept proposes maintaining a tree canopy while replacing unhealthy trees. When replacing trees, it is important to use current best practices that control the growth of tree roots so that the tree can grow properly and not disrupt the infrastructure surrounding it. It is also suggested that accessible metal tree grates be incorporated.

### *Wayfinding*

Improved wayfinding along Lookerman Street would allow pedestrians and bicyclists to navigate Lookerman Street and the greater Downtown Dover area more easily. Wayfinding can direct Lookerman Street visitors to key destinations, notable businesses, off-street parking, and significant landmarks. The street redesign should also provide pedestrian level street signs.

### *Street Furnishings*

Street furnishings help to make public space feel more like a community place where people can relax and enjoy their surroundings. A redesign of Lookerman Street has the potential to enhance the commercial main street beyond just a transportation feature. Introducing street furnishings such as benches, bicycle racks, trash cans, and bollards can improve the street's vibrancy, safety, economic activity, and sense of comfort for non-automobile users. Sidewalk cafes, art, and transit amenities should also be considered.

### *Rectangular Rapid Flashing Beacon (RRFB)*

A potential enhancement at the Bradford Street crosswalks is a Rectangular Rapid Flashing Beacon (RRFB) that accompanies a pedestrian crossing warning sign. RRFBs flash yellow LED light indicators toward the roadway to warn drivers of a crossing pedestrian. According to the USDOT, RRFBs are particularly effective at multilane crossing locations with speeds less than 40 miles per hour – these conditions align with roadway environment along Lookerman Street. An RRFB may be applicable at the intersection of Lookerman Street and Bradford Street if drivers are not yielding to pedestrians.



### Future Projects: Downtown Gateways

While outside the limits of the utility project construction, ideas for enhancing the gateways to Lookerman Street were developed as part of this process. These gateways can enhance the commercial core as a key destination for visitors. They can also slow traffic by warning drivers that they are entering Dover's main street. This can help facilitate that pedestrian culture that charrette participants were calling for.

#### *Western Gateway*

The western gateway is proposed where Kirkwood Street, Jerusalem Way, Lookerman Street, and Forest Street intersect with each other. It is recommended that Lookerman Street be closed between Jerusalem Way and the termination of Forest Street. That area can be turned into a community space such as a park or plaza. The recommendation also signals to eastbound drivers that they are in the Downtown core at Kirkwood Street, so that drivers slow down before the curve. The proposal adds on-street parking along the south side of Lookerman Street and Forest Street in this area. The western gateway concept is shown below in Figure 56.



Figure 56. Western Gateway Concept

*Eastern Gateway*

The eastern gateway is proposed where State Street, Kings Highway, Loockerman Street, and Loockerman Plaza intersect with each other. It is recommended that Kings Highway next to the PNC bank be closed and turned into a park or plaza space. It is proposed that Kings Highway be curved to join State Street at a T-intersection. Sidewalk and crosswalks are proposed to fill existing pedestrian network gaps. New street trees are also proposed. The eastern gateway concept is shown below in Figure 57.

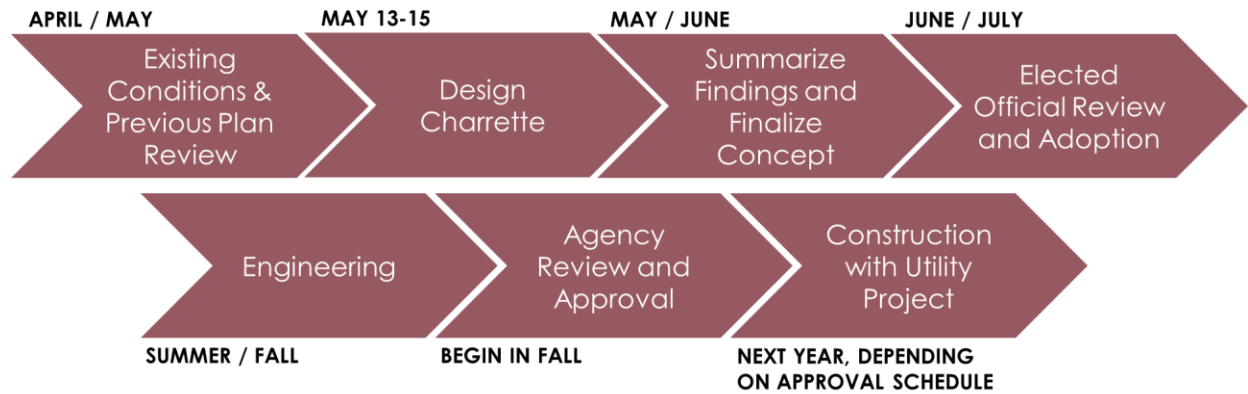


Figure 57. Eastern Gateway Concept



### Next Steps

The concepts proposed herein for the redesign of Lookerman Street are intended to be moved forward through the design process such that they can be implemented with the utility construction project next year. A high-level schedule for 2024 and 2025 is provided below, subject to change:



There may be a need for additional discussion and engagement through the design process to ensure concept ideas can be appropriately engineered and implemented.

## Section 6: Implementation

## Section 6: Implementation

A key objective for this study is to identify fundable projects and establish a framework for implementation. It is important that the MPO, DDP, City of Dover, and other partners can take the recommendations outlined in this plan, swiftly apply for grants and funding sources, and get projects implemented. This section outlines a methodology for doing so, including project prioritization and phasing, partners, maintenance and operations considerations, and potential costs and funding sources. An implementation matrix is provided below as a clear framework for carrying out the recommendations of this report.

### Prioritization and Phasing

The implementation matrix assigns a priority level to each project. This is a qualitative assignment that represents how the community expressed concerns through the outreach conducted as part of this study. Higher priority is given to projects that address needs that were expressed as being very important during outreach. Medium priority is given to projects that address needs that were expressed as being somewhat important during outreach. Low priority is given to projects that address needs that were expressed as being less important during outreach. This priority level is not meant to specifically rank projects for implementation, but instead serves as a guide to consider public input when making decisions about pursuing funding and move forward through project delivery.

For implementation, “phasing” specifies when the project is likely to be designed and constructed. Phasing timelines are as follows:

- Short-term projects are anticipated for design and implementation in the next 0 to 5 years.
- Mid-term projects are anticipated for design and implementation in the next 5 to 10 years.
- Long-term projects are anticipated for design and implementation in the next 10+ years.

### Partners

Several agencies and organizations will be involved in implementing the infrastructure projects and policy strategies proposed herein. These partners were among the interested parties involved in the development of the Downtown Dover Pathways Plan that met periodically throughout the study timeline. These partners might continue to act as a task force to implement the Plan.

**DeIDOT** – There are several streets in Downtown Dover that are maintained and operated by DeIDOT. Additionally, many of the most applicable funding sources come through DeIDOT. As such, most projects will involve DeIDOT as a close partner. These projects will require close coordination with DeIDOT and adherence to DeIDOT street design standards.

**City of Dover** – The City of Dover will be another key partner and champion. Projects along City-maintained streets, such as New Street, Bradford Street, Reed Street, and Bank Lane, will especially require championing at the city level. Input from several city departments such as Public Works, Planning and Inspections, and Parks and Recreation will be important. Continued coordination with the City Police and Fire Departments is also key. Any modifications to the development code and to city policies, such as traffic calming, would need to be carried out by City Staff.

**DTC** – The recommendations in this plan may require adaptation as transit service is reimaged in Downtown Dover. Additionally, as design details are determined, they must be vetted and coordinated with DTC to ensure that bus operations are appropriately accommodated.

**Key Activity Centers** – Collaboration with DSU, Bayhealth, various state offices at Legislative Mall, Family Court, and the Dover Air Force Base should continue through project delivery. These partners can be especially helpful in disseminating information and seeking feedback from people that are walking and biking in Downtown.

**Regional Agencies** – Regional agency coordination, such as with Kent County and the Dover / Kent County MPO, should persist, especially when considering Downtown Dover in the context of the regional transportation network.

**Community and Business Organizations** – Coordination with local community and business organizations such as NeighborGood Partners, Habitat for Humanity, and Interfaith Mission for Housing as well as representatives from local businesses, schools, churches, and other resource centers should be continued through project delivery. This may be especially important if there are potential impacts to driveways, on-street parking, and loading zones. The DDP is anticipated to continue to be a primary champion of the projects proposed herein.

### Maintenance and Operations

The corridor specific and policy / programmatic projects proposed in this plan resemble other multimodal improvements being made throughout the state and country. These similar examples provide context for how implementation considerations can be planned for, evaluated, and addressed. Some key considerations are described below.

**Street Maintenance** – Maintaining streets in Downtown Dover involves snow removal, leaf collection, and street sweeping. The City also maintains signs and pavement markings. Some street improvements, such as separated bike lanes, may require revised street maintenance routines. The City might consider a phased approach to maintaining streets with physically separated bike lanes, including:

- Phase 1 – not plowing, collecting leaves, or street sweeping in separated bicycle lanes.
- Phase 2 – adapting existing equipment to clear bike lanes of snow, leaves, and debris.
- Phase 3 – purchasing new equipment to clear bike lanes of snow, leaves, and debris.

The City can also implement signs that warn snowplow drivers where curbs or other raised infrastructure are located. Flexible delineator posts can be incorporated with painted daylighting and curb extension areas to increase compliance. These posts will require periodic replacement by City maintenance, which could be achieved on a yearly basis. Green paint and some traffic calming treatments will also increase maintenance needs and should be considered in future operational budgets. Changes to lighting, landscaping, planters, trash cans, and wayfinding also have maintenance implications. Trail and sidewalk maintenance operations will require additional evaluation and attention.



**Service Operations** – Several services operate alongside the curb in Downtown Dover, including refuse collection, mail delivery, and bus service. Like the phased approach for plowing snow, the City could purchase new equipment in the future if needed. In the meantime, new service routines may be needed in select locations to accommodate street changes.

There are several options for operating bus service with improvements like separated bike lanes, bicycle boulevards, curb extensions, and other traffic calming treatments. Shared bus-bike lanes could be implemented where there are bus stops. Well-designed floating bus stops are also an option.

**Emergency Service Operations** – One responsibility of the transportation network is to provide clear, direct access for emergency vehicles. Speed humps and other traffic calming devices can be designed to limit impacts to emergency vehicles on streets that are key emergency routes. Further coordination with emergency service providers during project development and design is recommended.

**Other Curbside Needs** – The curbside space serves many needs. Therefore, implementing improvements along the curb, such as separated bike lanes and curb extensions, may require solutions that balance tradeoffs. On-street parking may need to be relocated. Loading and rideshare pick up zones may need to be delineated or coordinated.

### Potential Costs and Funding Sources

Planning level costs estimates are provided for each project in the implementation matrix. They are based on the following scale:

- “\$” represents a relatively low-cost project (likely about \$1M to \$3M)
- “\$\$” represents a relatively moderate cost project (likely about \$3M to \$6M)
- “\$\$\$” represents a relatively high-cost project (likely over \$6M)

This plan proposes combining several very small projects to achieve economies of scale for construction. Thus, the planning level cost estimates are for each project, totaling all of its smaller parts.

Funding the projects outlined in this plan in their entirety will require several sources, including at the local, regional, state, and federal levels. Potential funding sources are described below along with tips for submitting a successful application. Potential funding sources are linked to each project in the implementation matrix.

#### Federal Funding Sources

**DeIDOT Transportation Alternatives Program (TAP)** – DeIDOT administers federal funding for a variety of transportation facilities under this program, particularly those focused on walking, bicycling, and access to public transportation. This has been a common source for Delaware communities to obtain funding for sidewalks, bicycle facilities, transit stop improvements, trails, streetscapes, and similar project types. Generally speaking, individual projects are limited to a construction cost of \$1 million, so groupings of recommendations presented in this plan might need to be phased. A 20% match by a local government agency is required, and applications are submitted in conjunction with the MPO.

**Safe Streets and Roads for All Funding (SS4A)** – As part of the Bipartisan Infrastructure Law, this program funds projects that reduce serious crashes. There are Planning and Demonstration Grants

offered as well as Implementation Grants. The MPO has received funding for a countywide Safety Action Plan under this program. Once the plan is underway, the MPO or local jurisdictions within the county are eligible to apply for Supplemental Planning and Demonstration Grants, which may be used to build low-cost safety improvements using shorter-term materials like paint and flexible delineators. When the plan is finished, those jurisdictions may apply for Implementation Grants to build permanent infrastructure to improve safety.

**Active Transportation Infrastructure Investment Program (ATIIP)** – This program is a competitive grant program to construct projects to provide safe and connected active transportation facilities in active transportation networks or active transportation spines. ATIIP will award two types of grants: Planning and Design Grants and Construction Grants.

**Rebuilding American Infrastructure with Sustainability and Equity Discretionary Grants (RAISE)** – This grant program helps communities carry out surface transportation infrastructure projects that have a significant local or regional impact. Funding is available for capital projects as well as for planning efforts. RAISE is typically applied to relatively large projects.

**Congestion Management and Air Quality Improvement Program (CMAQ)** – While not commonly used for pedestrian and bicycle improvements, some agencies have used CMAQ funding for micromobility systems.

### State Funding Sources

**Statewide Bicycle and Pedestrian Funding Program (“bike/ped pool”)** – DeIDOT has a limited amount of funding available each year for high-priority bicycle and pedestrian projects. No local match is needed. Applications are submitted in conjunction with the MPO. Prioritization criteria for this program are described in DeIDOT’s *Blueprint for a Bicycle Friendly Delaware*.

**DeIDOT Capital Transportation Program (CTP)** – DeIDOT assigns funding to planned projects on the CTP over a six-year period. The Dover / Kent County MPO helps facilitate this process every two years through the MPO’s Transportation Improvement Program (TIP). This funding mechanism could be used for larger projects that cannot be funded through the bike/ped pool or TAP.

### Local Funding Sources

**City Capital Funding** – The City’s capital budget, though limited, may fund various types of projects and programs. Improvements outlined herein could be eligible for future capital funding.

**Maintenance and Resurfacing** – Simple improvements like signs and pavement markings could be achieved through street resurfacing and maintenance activities. There may also be savings achieved by tacking simple transportation improvements onto other projects being carried out through City departments, such as utility, stormwater, and parks projects.

**Local Development** – Improvements to the transportation system can be realized through private investment and public-private partnerships. Depending on development scale and land use, private construction could build out curb extensions, improved crosswalks, bicycle facilities, and other multimodal accommodations.

# Downtown Dover Pathways Plan

Dover, DE

## Implementation Matrix

Project Information			Project Implementation										
ID	Project Name	Project Description	Potential Funding Sources	Potential Cost Range	Key Implementors & Collaborators	Potential Priority Level	Potential Timeline	State Route (yes/no)	Bus Route	Parking Impacts	Operational Impacts	Maintenance Impacts	Notes
1	Downtown Pedestrian Infrastructure Improvements	Install accessible curb ramps, crosswalks, daylighting, and painted curb extensions, and repair sidewalks in Downtown.	TAP, SS4A, BPP, City, M&R	\$	MPO, City of Dover	High	Short-Term	Yes	Yes	Yes	Yes	Yes	
2	Division Street Curb Extensions	Install curb extensions, RRFBs, and pedestrian refuge islands, as applicable.	TAP, SS4A, ATIIP, BPP, City	\$\$	MPO, City of Dover, DelDOT, DTC	High	Short-Term/ Mid-Term	Yes	Yes	Yes	Yes	Yes	
3	Water Street & South Street Curb Extensions	Install curb extensions, RRFBs, and pedestrian refuge islands, as applicable.	TAP, SS4A, ATIIP, BPP, City	\$\$	MPO, City of Dover, DelDOT, DTC	High	Short-Term/ Mid-Term	Yes	Yes	Yes	Yes	Yes	
4	Bicycle Boulevards Project	Install bicycle boulevard treatments along north/south and east/west routes.	TAP, BPP, City, M&R	\$	MPO, City of Dover	High	Short-Term	No	Yes	Yes	Yes	Yes	
5	Loockerman Plaza Short Term Project	Implement separated bicycle lanes, a mid-block crossing, and fill sidewalk gap.	TAP, SS4A, BPP, City, M&R	\$\$	MPO, City of Dover, DelDOT, DTC	Medium	Short-Term	Yes	Yes	Yes	Yes	Yes	
6	Loockerman Plaza Long Term Project	Implement festival street.	SS4A, ATIIP, RAISE, BPP, CTP	\$\$\$	MPO, City of Dover, DelDOT, DDP, DTC	Low	Long-Term	Yes	Yes	Yes	Yes	Yes	
7	Improve the Capital City Trail	Improve lighting, trail amenities, key intersections, and build connections to the Dover AFB and Downtown.	TAP, ATIIP, BPP, City	\$\$	MPO, City of Dover, DelDOT, Dover AFB	Low	Mid-Term	Yes	No	No	No	Yes	
8	Connect the DSU Campuses	Construct shared use paths, buffered bicycle lanes, and bicycle boulevard treatments pending further evaluation.	ATIIP, RAISE, BPP, CTP, City, M&R	\$\$\$	MPO, City of Dover, DelDOT, DSU	Medium	Long-Term	Yes	No	No	No	Yes	
9	Bicycle Parking Project	Construction of bicycle racks in key locations.	TAP, ATIIP, BPP, City, Dev	\$	MPO, DDP, City of Dover, Businesses, DSU, DTC	Medium	Short-Term	No	Yes	No	No	Yes	
10	Micromobility Pilot Project	Implement micromobility pilot, including docking stations if applicable.	ATIIP, CMAQ, City, Dev	\$\$	MPO, DDP, City of Dover, Businesses, DSU, DTC	Low	Mid-Term	No	Yes	No	Yes	Yes	A case study for a bike share system funded through CMAQ and private sponsorships is included in the plan.
11	Loockerman Street Redesign	Implement street redesign with City utility project.	City Utility Project	\$\$	MPO, DDP, City of Dover, DelDOT, Businesses, DSU, DTC	High	Short-Term	Yes	Yes	Yes	Yes	Yes	City utility project is scheduled for 2025.
12	Eastern Downtown Gateway Project	Reconfigure intersection and install gateway treatments.	TAP, SS4A, ATIIP, BPP, City	\$\$\$	MPO, City of Dover, DelDOT, DDP, DTC	Medium	Mid-Term/ Long-Term	Yes	Yes	Yes	Yes	Yes	
13	Western Downtown Gateway Project	Reconfigure intersection and install gateway treatments.	TAP, SS4A, ATIIP, BPP, City	\$\$\$	MPO, City of Dover, DelDOT, DDP, DTC	Medium	Mid-Term/ Long-Term	Yes	Yes	Yes	Yes	Yes	

Legend		
<b>Funding Sources include:</b>	<b>Implementors &amp; Collaborators include:</b>	<b>Timeline is based on:</b>
Transportation Alternatives Program (TAP)	Dover Kent County MPO (MPO)	Short Term - anticipated for design and implementation in the next 0 to 5 years
Safe Streets and Roads for All Funding (SS4A)	Downtown Dover Partnership (DDP)	Mid Term - anticipated for design and implementation in the next 5 to 10 years
Active Transportation Investment (ATIIP)	City of Dover	Long Term - anticipated for design and implementation in the next 10+ years
Rebuilding American Infrastructure with Sustainability and Equity Discretionary Grants (RAISE)	Delaware Department of Transportation (DelDOT)	<b>Other Implementation Considerations:</b>
Congestion Management and Air Quality (CMAQ)	Delaware Transit Corporation (DTC)	State Route
Bicycle / Pedestrian Pool (BPP)	Delaware State University (DSU)	Bus Route (pre-DART Reimagined)
DelDOT Capital Transportation Program (CTP)	Dover Air Force Base (AFB)	Potential impacts to street parking
City Capital Funding (City)	Community Organizations	Potential impacts to street operations
Maintenance and Resurfacing (M&R)	Downtown Businesses	Potential impacts to street maintenance
Local Development (Dev)		
<b>Potential Cost is based on:</b>	<b>Priority level is based on:</b>	
\$ - represents a relatively low-cost project (likely about \$1M - \$3M)	High - expressed as being <b>very important</b> during public outreach	
\$\$ - represents a relatively moderate-cost project (likely about \$3M to \$6M)	Medium - expressed as being <b>somewhat important</b> during public outreach	
\$\$\$ - represents a relatively high-cost project (likely over \$6M)	Low - expressed as being <b>less important</b> during public outreach	

## Appendix A: Engagement Documents



## Appendix B: Multimodal Toolkit

## Appendix C: Loockerman Street Charrette Materials