

# DOVER BICYCLE AND PEDESTRIAN PLAN

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## 2020

City of Dover

Dover/Kent County  
Metropolitan Planning Organization

Delaware Department of Transportation



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# ACKNOWLEDGEMENTS

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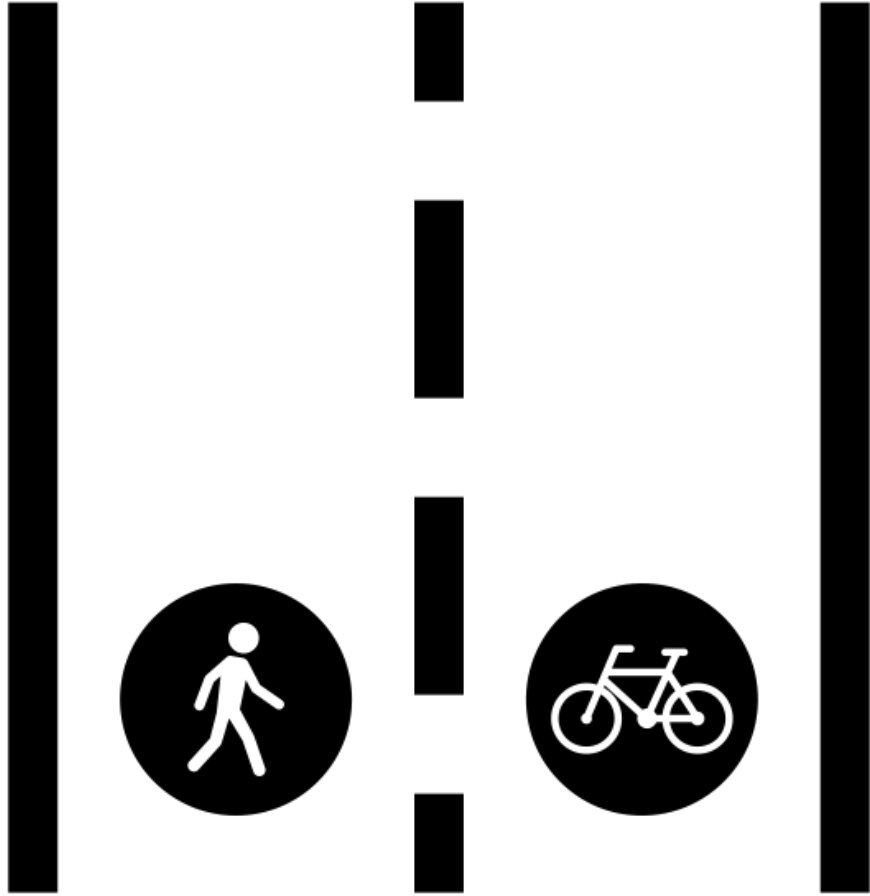
# TABLE OF CONTENTS

|  |     |
|--|-----|
| Executive Summary.....                       | 1   |
| 1. Introduction .....                        | 5   |
| Purpose .....                                | 6   |
| Benefits of Active Transportation .....      | 7   |
| Public Involvement .....                     | 8   |
| Accomplishments .....                        | 9   |
| 2. Existing Conditions .....                 | 13  |
| Land Use .....                               | 14  |
| Population & Demographics.....               | 17  |
| Current Plans, Policies, & Programs .....    | 20  |
| The Transportation Network.....              | 34  |
| Crash Analysis.....                          | 42  |
| 3. Where We're Headed.....                   | 45  |
| Goals & Objectives.....                      | 46  |
| Agency Support.....                          | 47  |
| Advocacy and Interest Groups.....            | 47  |
| 4. What's Underway.....                      | 49  |
| Walking in Dover .....                       | 50  |
| Biking in Dover.....                         | 56  |
| Planned DeIDOT Projects.....                 | 66  |
| 5. How We Get There.....                     | 77  |
| Opportunities.....                           | 78  |
| Recommendations.....                         | 81  |
| Plan Implementation.....                     | 122 |
| 6. Appendices .....                          | 125 |
| Walkable Communities Report Card.....        | 126 |
| Bicycle Friendly Community Report Card ..... | 131 |

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# FIGURES

|  |                                     |
|--|-------------------------------------|
| Figure 1. Dover's walkable historic downtown .....   | 2                                   |
| Figure 4. Phase I of the Senator Bikeways.....   | 11                                  |
| Figure 5. Map showing City of Dover Land Use .....   | 15                                  |
| Figure 6. First Fridays in Dover.....  | 16                                  |
| Figure 7. Annual Amish Country Bike Tour .....   | 16                                  |
| Figure 8. Map of the City of Dover.....  | 17                                  |
| Figure 9. Map showing percentage of households with no vehicle available .....                         | 18                                  |
| Figure 10. Map showing percentage of population living below poverty level .....                       | 18                                  |
| Figure 11. Map showing percentage of population under 18.....  | 19                                  |
| Figure 12. Map showing percentage of population over 65 .....  | 19                                  |
| Figure 13. HAWK Signal at SR 8 and Heatherfield Way .....  | <b>Error! Bookmark not defined.</b> |
| Figure 13. HAWK Signal at SR 8 and Heatherfield Way .....  | 32                                  |
| Figure 14. Sidewalk gap on Hazletville Road at Nottingham Meadows .....                                | 32                                  |
| Figure 15. Dover Transit Center study area .....   | 33                                  |
| Figure 16. Rendering of proposed North Street Gateway .....  | 33                                  |
| Figure 17. Sharrows on W. Loockerman Street in Downtown Dover .....                                    | 34                                  |
| Figure 18. Ribbon cutting at the West Street Trail at the Dover Transit Center .....                   | 37                                  |
| Figure 19. Map showing pedestrian facilities.....  | 39                                  |
| Figure 20. Map showing bicyclist facilities including shared use pathways and low-stress streets ..... | 41                                  |
| Figure 21. Pedestrian & Bicycle Crashes 2013-2019.....   | 42                                  |
| Figure 22. Pedestrian & Bicycle Crashes Time of Day, 2013-2019 .....                                   | 42                                  |
| Figure 23. Pedestrian crash locations, 2013-2019.....  | 43                                  |
| Figure 24. Bicycle crash locations, 2013-2019.....   | 43                                  |
| Figure 25. Pedestrian Project Prioritization Criteria .....  | 51                                  |
| Figure 26. Detail of DelDOT ADA Self- Assessment Map.....  | 55                                  |
| Figure 27. Bicyclist design user profiles from the FHWA <i>Bikeway Selection Guide</i> . .....         | 59                                  |
| Figure 28. Seven Principles of Bicycle Network Design from the <i>Bikeway Selection Guide</i> .....    | 59                                  |
| Figure 29. Level of Traffic Stress descriptions and examples .....                                     | 60                                  |
| Figure 30. Level of Traffic Stress evaluation chart .....  | 60                                  |
| Figure 31. Level of Traffic Stress in the City of Dover .....  | 61                                  |
| Figure 32. Map of DelDOT planned projects.....   | 67                                  |
| Figure 33. DelDOT Projects Portal .....  | 75                                  |
| Figure 34. Summary of the Walk Friendly Communities Community Report Card. ....                        | 79                                  |
| Figure 35. Bicycle Friendly Community Dover, DE Fall Report Card excerpt .....                         | 80                                  |
| Figure 36. The six "Es" of active transportation planning.....   | 81                                  |
| Figure 37. MUTCD compliant bicycle wayfinding signage.....   | 82                                  |
| Figure 38. Map showing locations of projects for all users.....  | 87                                  |
| Figure 39. Map showing locations of walking projects .....   | 97                                  |
| Figure 40. Map showing locations of bicycling projects.....  | 107                                 |



# EXECUTIVE SUMMARY



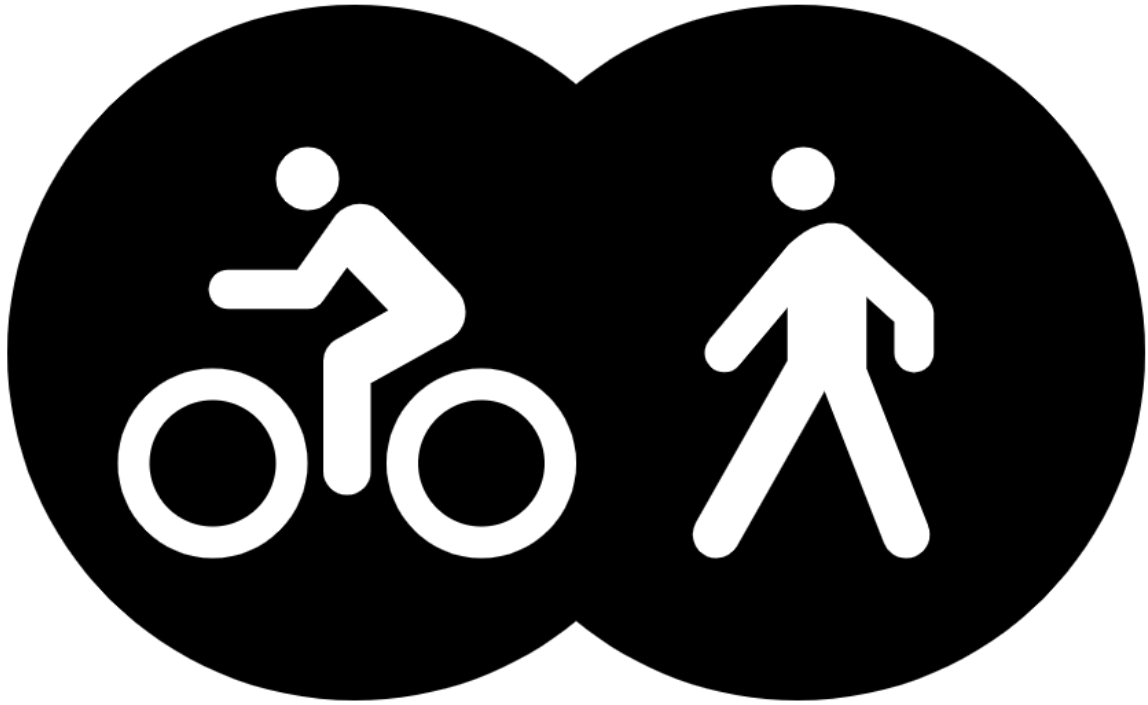
Figure 1. Dover's walkable historic downtown

The transportation network in Dover is constantly changing as public projects are implemented and new private development occurs. The *Dover Bicycle and Pedestrian Plan* will guide improvements to the transportation network for people who walk and bike. This plan builds on the Dover Pedestrian and Bicycle Plans that were completed in 2015 and the Regional Bicycle Plan which was completed in 2017. It also incorporates recommendations from the *Blueprint for a Bicycle Friendly Delaware*, Delaware's statewide bicycle policy plan which was completed in 2018.

The most notable change from previous Dover planning documents is the incorporation of a methodology called Level of Traffic Stress (LTS). LTS provides a quantitative way to assess the amount of stress a person on a bike experiences when riding on any given roadway in the City. LTS acknowledges that most adults are comfortable riding a bike on the road in low-stress circumstances but that high-stress roadways create barriers and "islands" of low-stress connectivity. LTS allows for improved bicycle network planning and the prioritization of improvements that close "gaps" in the low-stress network. More information about LTS and how it is incorporated into project and network planning is included on pages 60-61.

The plan has five main sections as described below:

- Introduction: The purpose of this plan and benefits of walking and bicycling are reviewed. The public participation process is described, along with accomplishments since 2015.
- Existing Conditions: Planning for people who walk and bike requires looking at more than just the transportation network. Current land use shows where people live, work, shop and play, highlighting origins and destinations across the City. Demographic information shows where demand for walking and biking may be higher due to factors such as low car ownership or a high percentage of youth. An overview of current plans, policies, and procedures that impact the transportation network concludes this section.
- Where We're Headed: The most important thing a plan does is set goals and objectives, but support from agencies, advocacy and interest groups, and the City of Dover is critical to advancing those objectives.
- What's Underway: Dover isn't starting from scratch. It already has a robust pedestrian and bicycle network, with more projects in the pipeline for completion. This section reviews those efforts, providing detailed information about gaps in the network.
- How We Get There: This section includes recommendations in five separate categories: education, encouragement, enforcement, evaluation and planning, and engineering. Project recommendations (engineering) are broken up into projects that benefit all users, people who walk, and people who bike. A brief overview of the prioritization process upon the completion of this document is provided.





# 1. INTRODUCTION

# Purpose

The *Dover Bicycle and Pedestrian Plan* is the product of a planning process that was initiated by public interest and support. In 1997, the City developed its first Bicycle and Pedestrian Transportation Plan, which was incorporated into the City's Comprehensive Plan. Through extensive public involvement, this initial plan provided an assessment of existing conditions for biking and walking in the City, as well as specific recommendations, an implementation strategy, and potential funding sources. Since the adoption of the first plan, walking and bicycling have taken on an increasing level of importance at the Federal, State, and local levels as transportation agencies have realized the effectiveness of these modes as alternatives to the use of a motor vehicle. Walking and bicycling also provide measurable health, quality of life, environmental, and economic benefits to the community.

The benefits of walking and bicycling have been recognized by the US Department of Transportation through the creation of funding sources dedicated to these modes of travel. In addition, the Delaware Department of Transportation (DelDOT) has recognized the importance of walking and bicycling as transportation modes and has established full-time Pedestrian Coordinator and Bicycle Coordinator positions to ensure that the needs of both user groups are incorporated into DelDOT projects throughout the state.

Planning for bicycle and pedestrian infrastructure has continued at the local level. In 2015, the City updated the Pedestrian and Bicycle Plan by creating two standalone documents: *The City of Dover Pedestrian Plan* and the *City of Dover Bicycle Plan*. In 2017, the Dover/Kent County MPO updated the Regional Bicycle Plan, which included additional project ideas for the City of Dover. In 2018, recognizing that municipalities and projects would benefit from increased guidance regarding bicycle specific projects, the State completed the *Blueprint for A Bicycle Friendly Delaware: A Statewide Policy Plan* (the Blueprint Plan).

This document serves to integrate the recommendations from the Dover Bicycle Plan (2015), Dover Pedestrian Plan (2015), and Regional Bike Plan (2017) and apply guidance from the Blueprint Plan.

The City of Dover adopted an updated *Comprehensive Plan* in January 2020. The Transportation Plan section describes conditions for walking and bicycling in Dover, explaining that the transportation network has improved thanks to the gradual implementation of the 2015 Pedestrian and Bicycle Plans. The *Comprehensive Plan* describes Level of Traffic Stress analysis as a useful tool to target investments in bicycle and pedestrian improvements to improve safety and encourage greater use. Traffic stress is a rough measure of how comfortable a route is for bicycling or walking due to vehicular traffic along the route. The *Comprehensive Plan* also establishes specific recommendations for developing and expanding alternate modes of transportation. These recommendations are:

- Update the City's Pedestrian and Bicycle Plan
- Focus on connecting underserved neighborhoods
- Improve the network's safety through reduction in traffic stress wherever possible
- Improve the design of the pedestrian and bicycle network to accommodate more users

This Plan expands on the goals of the *Comprehensive Plan*. It uses Level of Traffic Stress analysis and a gap analysis to identify pedestrian and bicycle projects that will reduce stress and improve safety for pedestrians and bicyclists across the City. This is expected to increase walking and biking, especially for short trips around Dover.

# Benefits of Active Transportation

As shown in the graphic below, walking and bicycling provide a multitude of low-cost benefits to the Dover community that will improve the quality of life of residents and visitors.



Figure 2. Benefits of Walking & Bicycling

# Public Involvement

The *Dover Bicycle and Pedestrian Plan* was discussed and presented in the following public forums:

October 21, 2019 – At the initial public workshop, held at the Dover Library, information regarding existing conditions/facilities and Level of Traffic Stress was presented to the public. Attendees were given the opportunity, through a mapping exercise and comment forms, to identify specific pedestrian and bicycle needs and potential improvements throughout the City. Representatives from the City, DeIDOT, the MPO, and the consultant provided staff assistance.

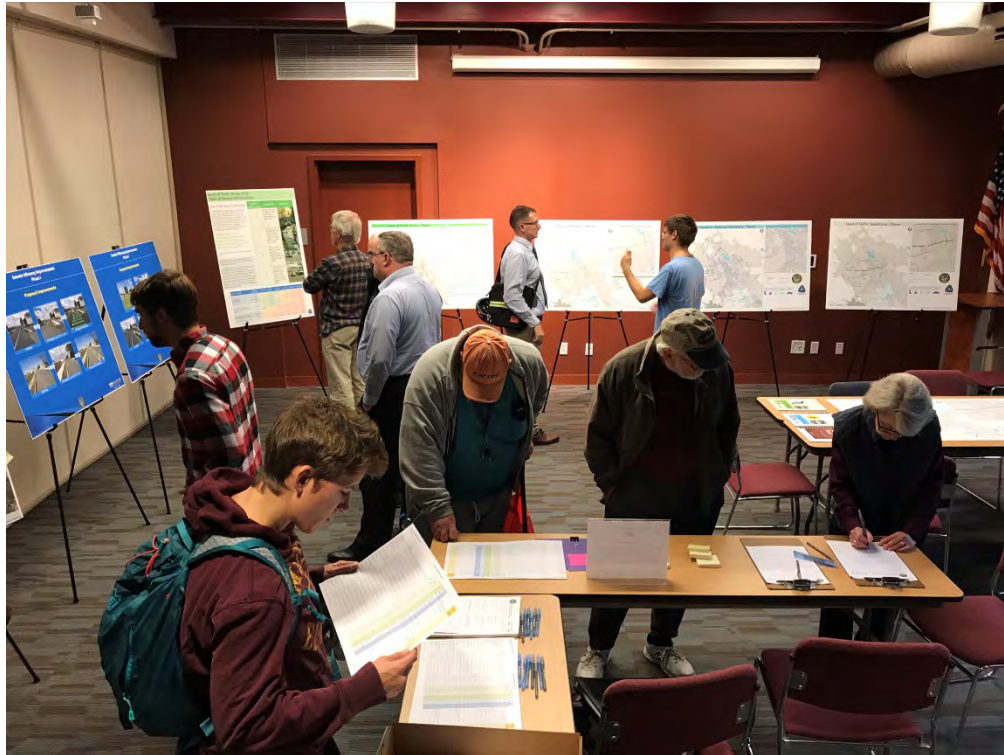


Figure 3. Participants at the October 21 public workshop

September 1-30, 2020 – Due to COVID-19, the second opportunity for public comment was online instead of in-person. The draft plan and an online survey were available on the City website for the entire month of September. Nine people submitted feedback via the survey, and their comments were incorporated in the final plan.

# Accomplishments

Since 2015, the City of Dover and DelDOT have made great strides in creating a more pedestrian- and bicycle-friendly city. Listed below are examples of some of the accomplishments that have occurred since the previous Plan adoption:

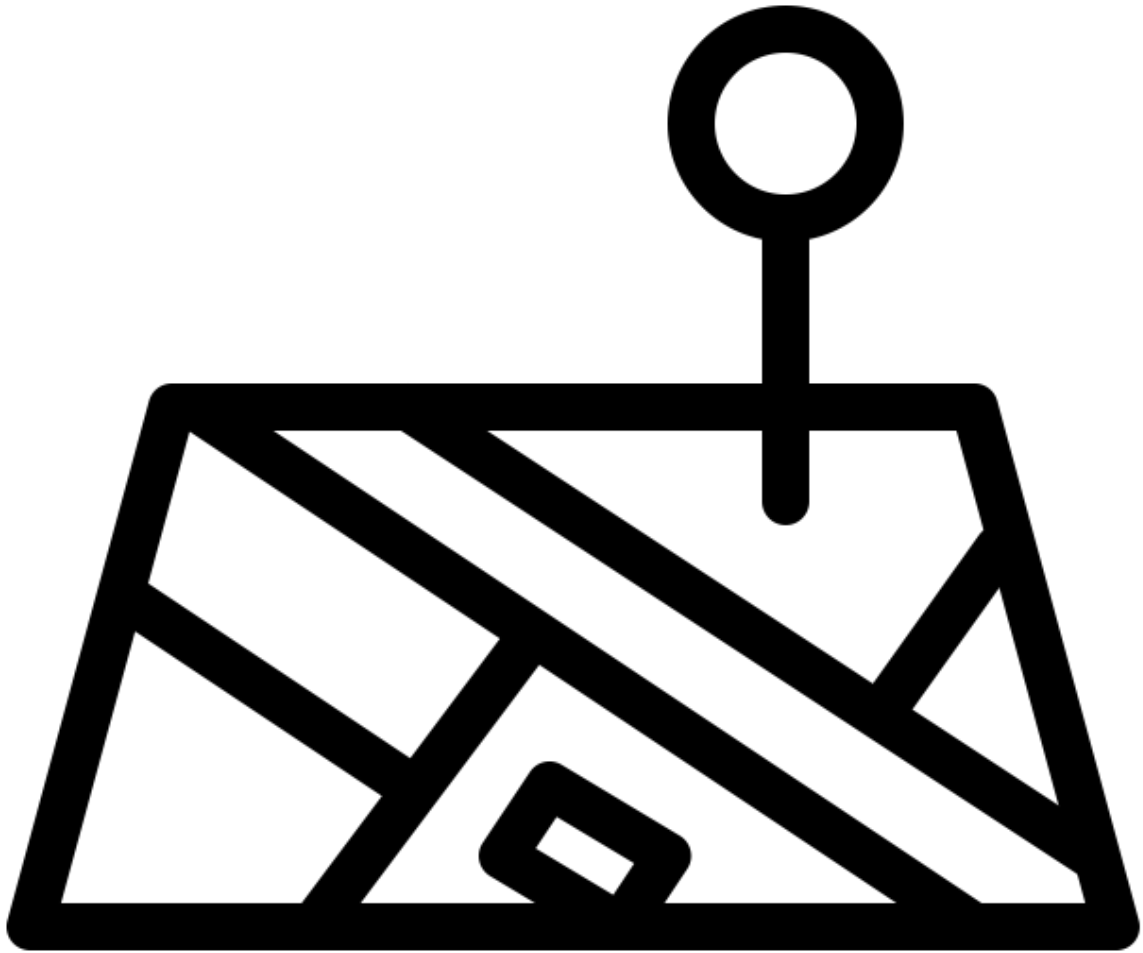
| Year    | Accomplishment   |
|---------|--|
| Ongoing | <ul style="list-style-type: none"> <li>Regularly scheduled community events such as the Amish Country Bike Tour, Bike to Work Day, and bike rodeos in community elementary schools were conducted.</li> </ul>  |
| 2015    | <ul style="list-style-type: none"> <li>The Division Street / Forest Street Dover Capital Gateway Plan and Design Book was completed.</li> <li>Bike maintenance classes were held through the Parks &amp; Recreation Department.</li> </ul>   |
| 2016    | <ul style="list-style-type: none"> <li>The Senator Bikeway study was completed.</li> </ul>   |
| 2017    | <ul style="list-style-type: none"> <li>Sidewalk requirements to the Dover Code were amended to govern sidewalks, shared use pathways, and other hard paved trails whether or not adjacent to a roadway as "pathways;" new pathways must be designed to accommodate existing and future multi-modal traffic volumes; Ordinance 2017-12</li> <li>The Zoning Code was modified to allow the Planning Commission or city planner to reduce the parking requirements for a development in an amount not to exceed 50% when the use is adequately served by transportation and parking alternatives; one way developers can demonstrate this is by providing off-street parking for bicycles, where a group of five bicycle parking spaces is equivalent to one standard parking space. (Ordinance 2017-12)</li> <li>The Schutte Park Master Plan was completed.</li> <li>The West Dover Connector (P.O.W./M.I.A. Parkway), a 3.2-mile roadway along the west side of Dover, connecting Hazletville Road and US 13 south of the City, was completed. It includes bike lanes and a shared use pathway.</li> <li>The first signature Dover bike rack was installed at the Dover Public Library.</li> <li>Mayor and City Council awarded members of the Bicycle and Pedestrian Subcommittee with certificates of appreciation at the City Council Meeting.</li> <li>Bike lanes were installed on North State Street, north of the intersection with Walker Road (ranked second in 2015 <i>Bike Plan</i>).</li> <li>Dover was awarded "Bicycle-Friendly Community" status for 2017-2021 by the League of American Bicyclists.</li> </ul> |

|      |  |
|------|--|
| 2018 | <ul style="list-style-type: none"> <li>• Pedestrian crosswalks and signals were added at the intersection of North State Street and Walker Road.</li> <li>• Trails were resurfaced on North Street, Saulsbury Road, and Forrest Avenue.</li> <li>• The West Street shared use pathway was completed, including an upgraded railroad crossing and a connector to Jerusalem Way.</li> </ul>  |
| 2019 | <ul style="list-style-type: none"> <li>• Phase I of the Senator Bikeway broke ground in June 2019 and was completed in December. It includes a shared use pathway on the north side of Forrest Road from Saulsbury Road in front of the Booker T. Washington Elementary School to the traffic signal, becomes a protected two-way cycle track on the north side of Division Street, over the railroad tracks, north on North West Street for two blocks, east onto Cecil Street, across State Street, and onto an alley, continuing along Washington Street to Silver Lake Park.</li> <li>• The Bank Lane Feasibility Study was completed.</li> <li>• The Delaware State University Pedestrian Study was updated.</li> <li>• A shared use pathway segment was built along East Division Street between US 13 and Bayard Avenue as part of private development. The pathway continues north along US 13 to the intersection with Kings Highway NE.</li> <li>• US 13 sidewalk improvements were installed (ranked 4<sup>th</sup> in 2015 <i>Pedestrian Plan</i>).</li> <li>• A US 13 shared use pathway was completed on the east side of the highway between Townsend Boulevard to Leipsic Road.</li> </ul> |
| 2020 | <ul style="list-style-type: none"> <li>• The City Comprehensive Plan was published. It calls for improving the pedestrian and bicycle network with a focus on connecting underserved neighborhoods, improving network safety by reducing traffic stress, and accommodating more users by improving the design of the network.</li> </ul>   |





Figure 2. Phase I of the Senator Bikeway, photograph courtesy Delaware State News





## 2. EXISTING CONDITIONS

# Land Use

The City of Dover has a diverse mixture of land uses within its 23.3 square mile area. The City, with an estimated 2018 population of 38,079, is the second most populous municipality in Delaware. Dover is also the largest municipality in the state in terms of land area.

Based on data provided by the City of Dover Planning Department, listed below is a breakdown of the land uses within the City limits as of 2019. Existing land uses are also shown in Figure 5.

| <b>Land Use Category</b>         | <b>Amount</b> |
|----------------------------------|---------------|
| Residential                      | 19.8%         |
| Dover Air Force Base             | 17.4%         |
| Open Space                       | 15.9%         |
| Commercial                       | 10.5%         |
| Active Agriculture               | 10.3%         |
| Institutional & Public Utilities | 10.1%         |

## RESIDENTIAL

As noted in the table, the predominant land use within City limits is residential. High density residential is located in the downtown core (roughly a 2 square mile area), while lower density, single-family residential land use comprises the majority of the land use in the surrounding areas.

## COMMERCIAL

US 13 is the primary commercial corridor for both the City and Kent County. This roadway features a wide variety of traditional highway commercial uses, ranging from offices to restaurants to regional malls (Dover Mall). Other corridors with a high concentration of commercial uses include Bay Road, SR 8 (west of Saulsbury Road), and Loockerman Street in downtown Dover. Dover Downs is also an important destination along US 13.

## EDUCATIONAL

There are four universities and colleges within City limits: Delaware State University, Wilmington University, Delaware Technical and Community College, and Wesley College. In addition, there are 11 public schools in the City, eight of which are elementary schools. Finally, there are several private schools located in Dover.

## INSTITUTIONAL

The State of Delaware owns a variety of government buildings in Dover befitting its status at the state capital, including Legislative Hall, the State Archives, and state offices. The downtown area also houses City Hall, the Kent County Courthouse, a new library, the regional hospital, several museums, a vibrant historic district, and the Kent County transit hub.

## OPEN SPACE/PARKS

There are 27 City-maintained parks in Dover that range from passive planted areas to community playgrounds to larger regional parks. There are several parks that are able to provide active recreational opportunities for large numbers of residents, including Schutte Park, Silver Lake Park, and Dover Park. In addition, The Green was recently incorporated into the National Park System as a National Monument.

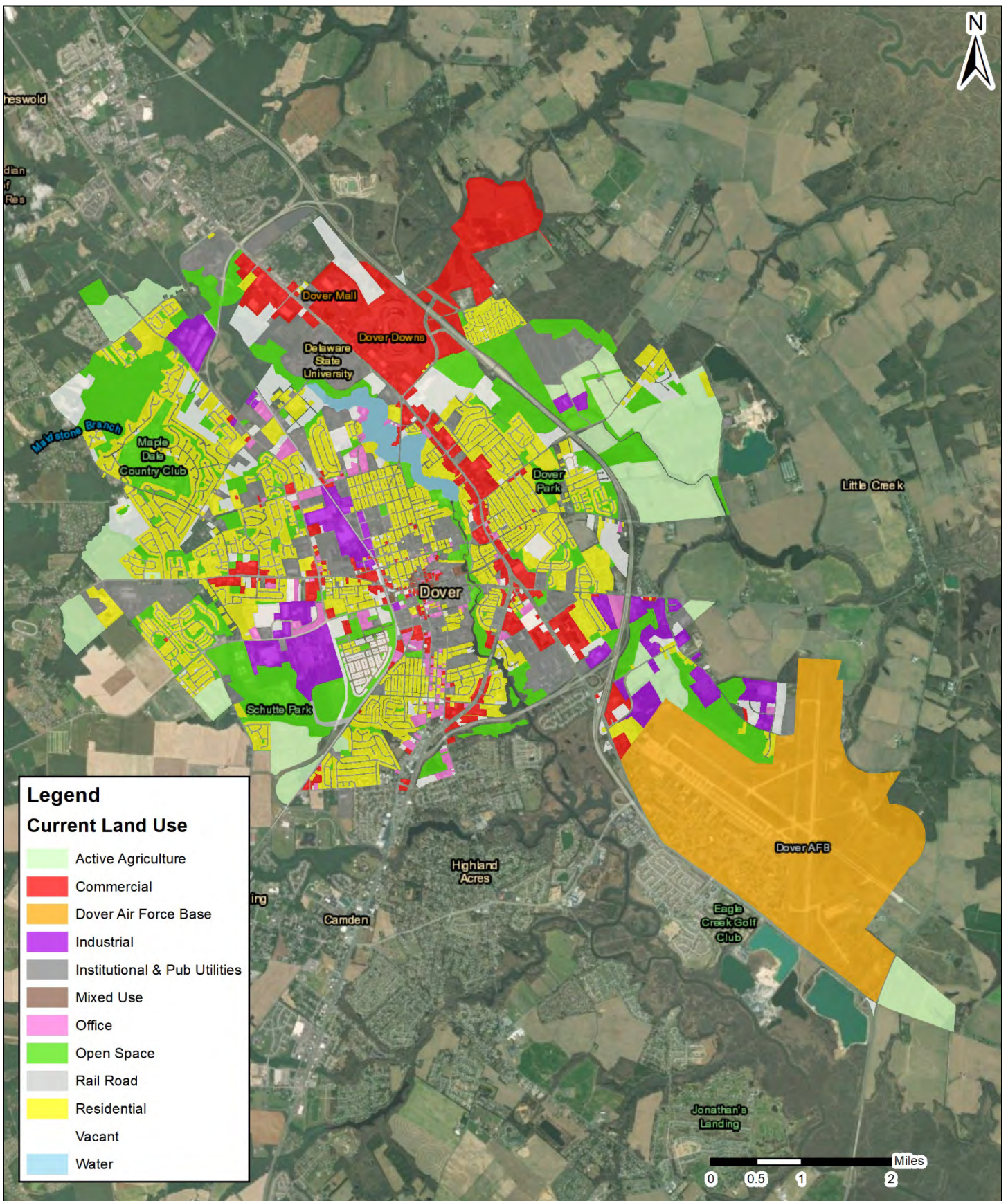


Figure 3. Map showing City of Dover Land Use





Figure 4. First Fridays in Dover, photograph courtesy Delaware's Quaint Villages



Figure 5. Annual Amish Country Bike Tour, courtesy Delaware State News

# Population & Demographics

The City of Dover has over 15,000 households comprised of over 38,000 residents. Many Dover residents rely on walking, biking, and transit for transportation. Although only 4.3% of households have no vehicles available, in census tracts in the downtown area, closer to 20% of households have no vehicles available. Households with no vehicles available correlate with a higher percentage of households below poverty level as shown in Figures 9 and 10. With an average annual cost of car ownership exceeding \$9,000, access to affordable transportation options is critical to Dover's low-income population and to youth and senior populations, as shown in Figures 11 and 12, who also may not have access to a personal vehicle.

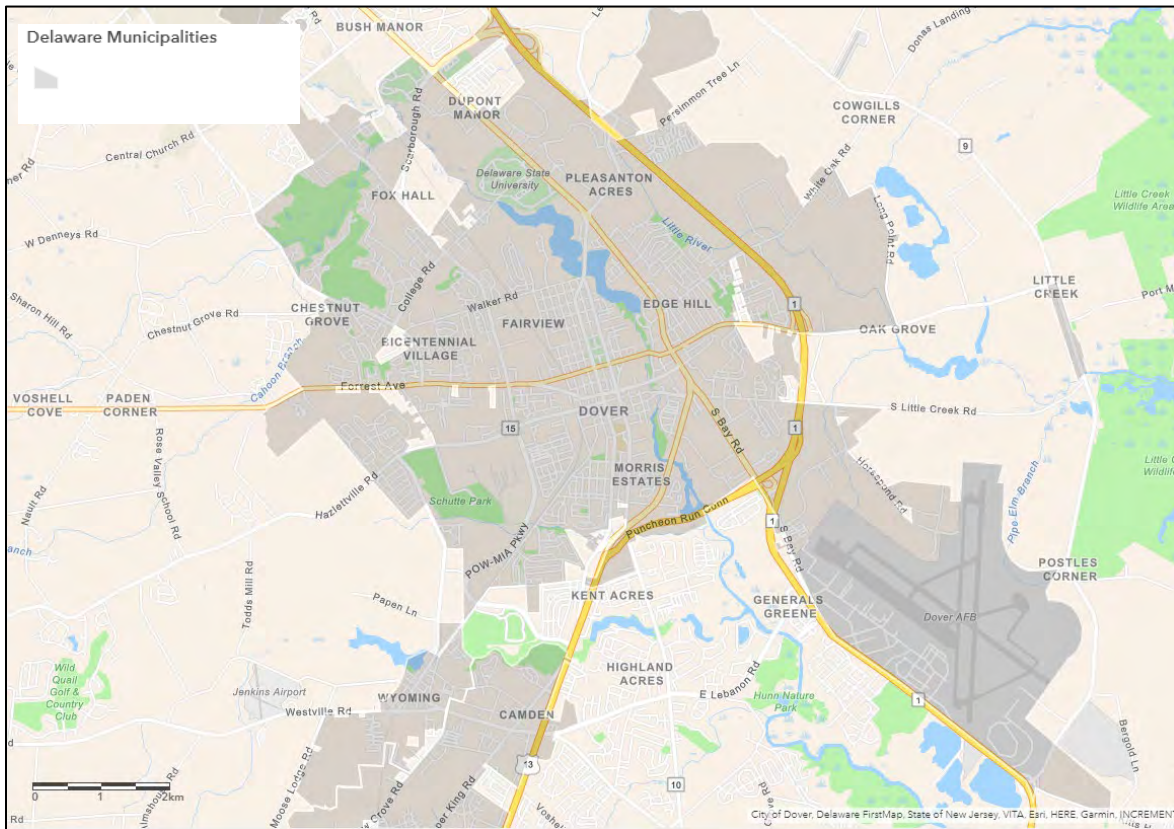


Figure 6. Map of the City of Dover

|  |                      |                                      |               |
|--|----------------------|--------------------------------------|---------------|
| Total Population                         | 38,079               | Individuals below poverty level      | 6,350 (19.4%) |
| Total Youth Population (under 18)        | 7,837 (21.1%)        | Youth below poverty level (under 18) | 2,184 (28.8%) |
| Total Senior Population (65+)            | 5,192 (14.0%)        | Seniors below poverty level (65+)    | 324 (6.6%)    |
| Total Households                         | 15,476               |                                      |               |
| Median Household Income                  | \$49,738             |                                      |               |
| Households with no vehicles available    | 669 (4.3%)           |                                      |               |
| Average annual cost of vehicle ownership | \$9,282 <sup>1</sup> |                                      |               |

<sup>1</sup> <https://newsroom.aaa.com/auto/your-driving-costs/>



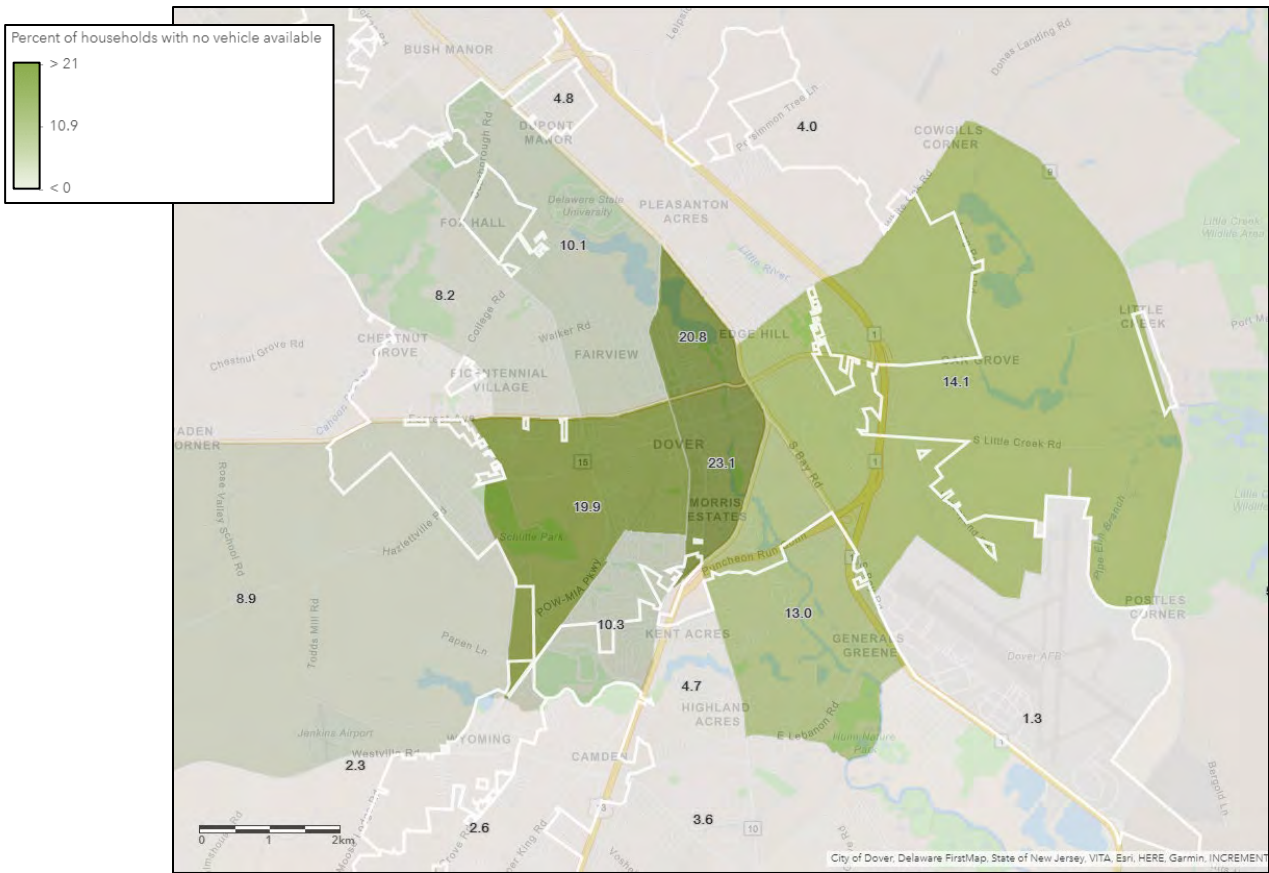


Figure 7. Map showing percentage of households with no vehicle available

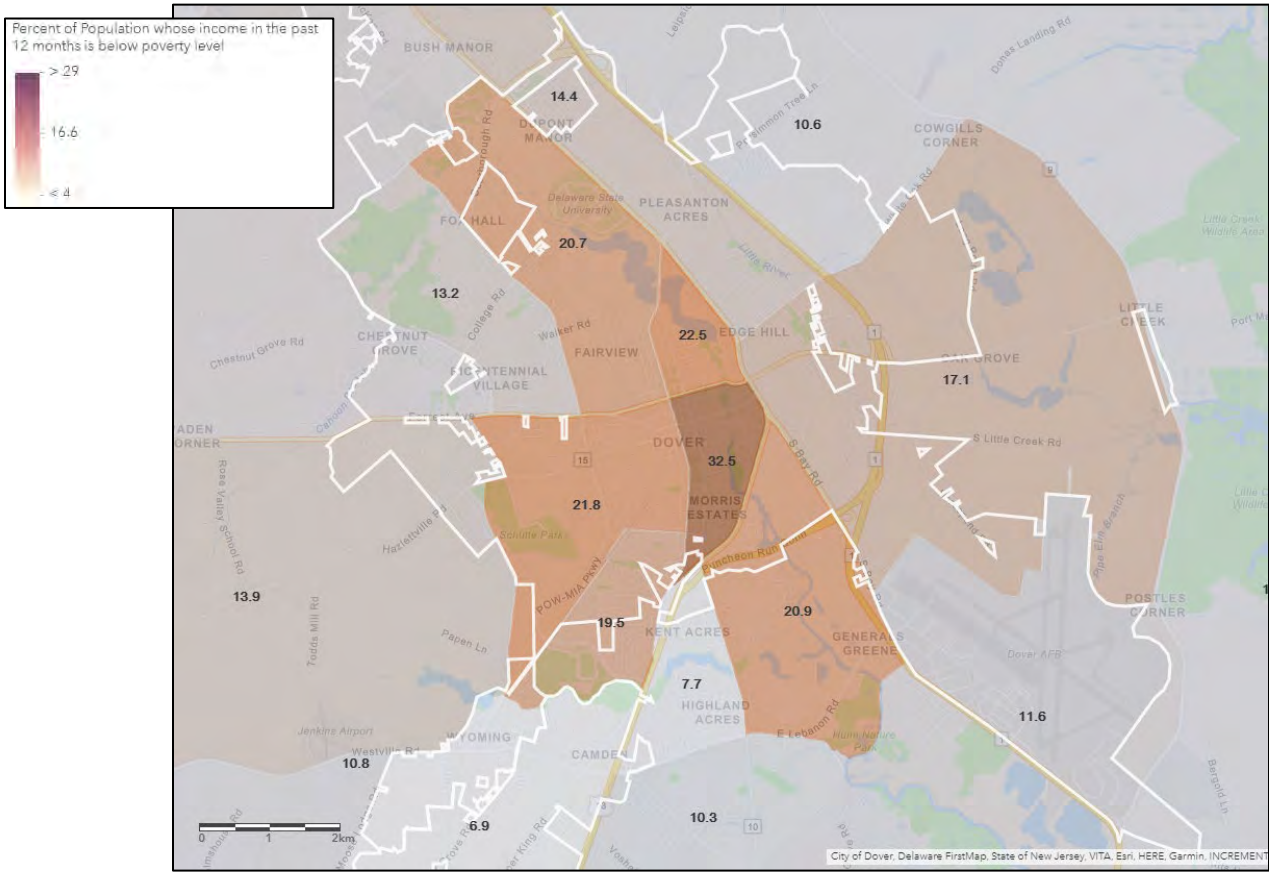


Figure 8. Map showing percentage of population living below poverty level

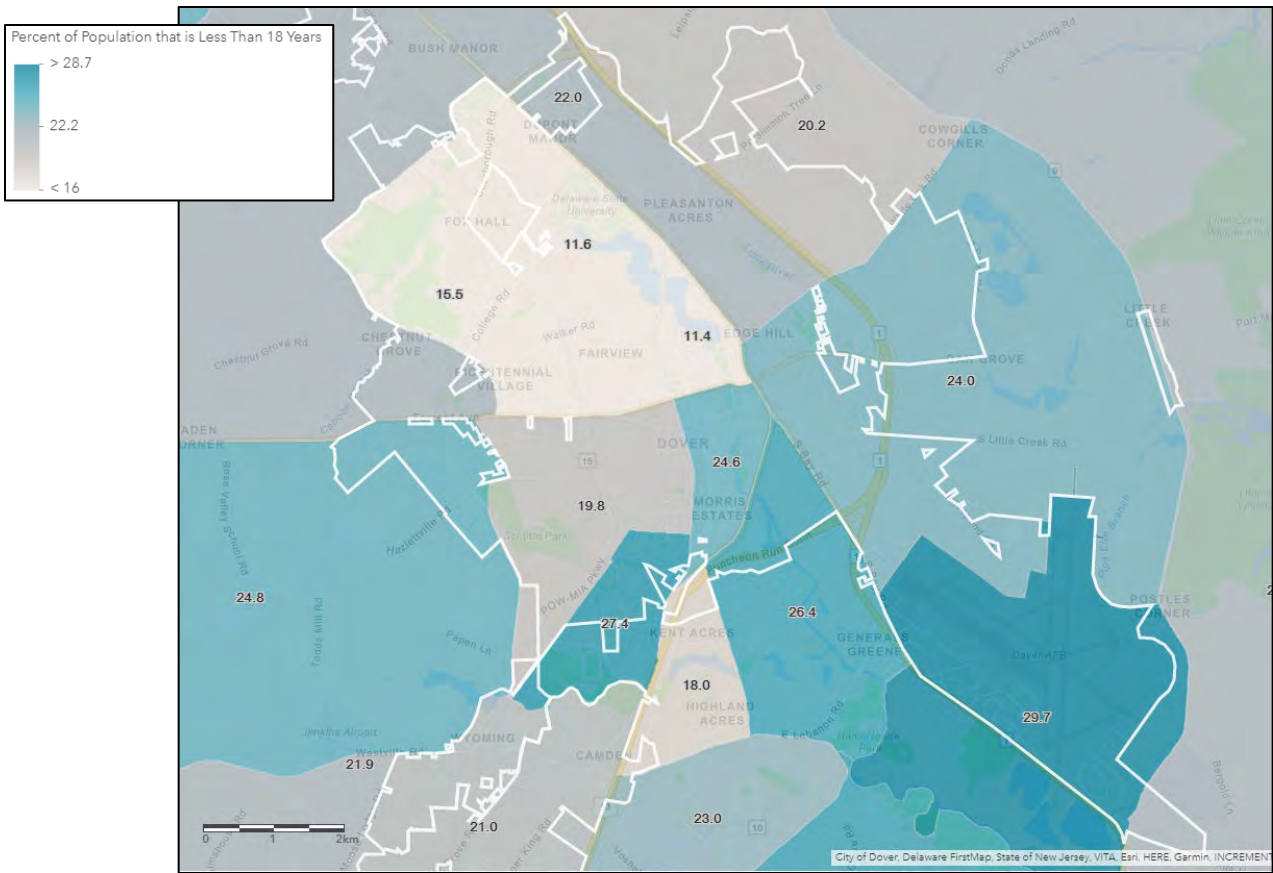


Figure 9. Map showing percentage of population under 18

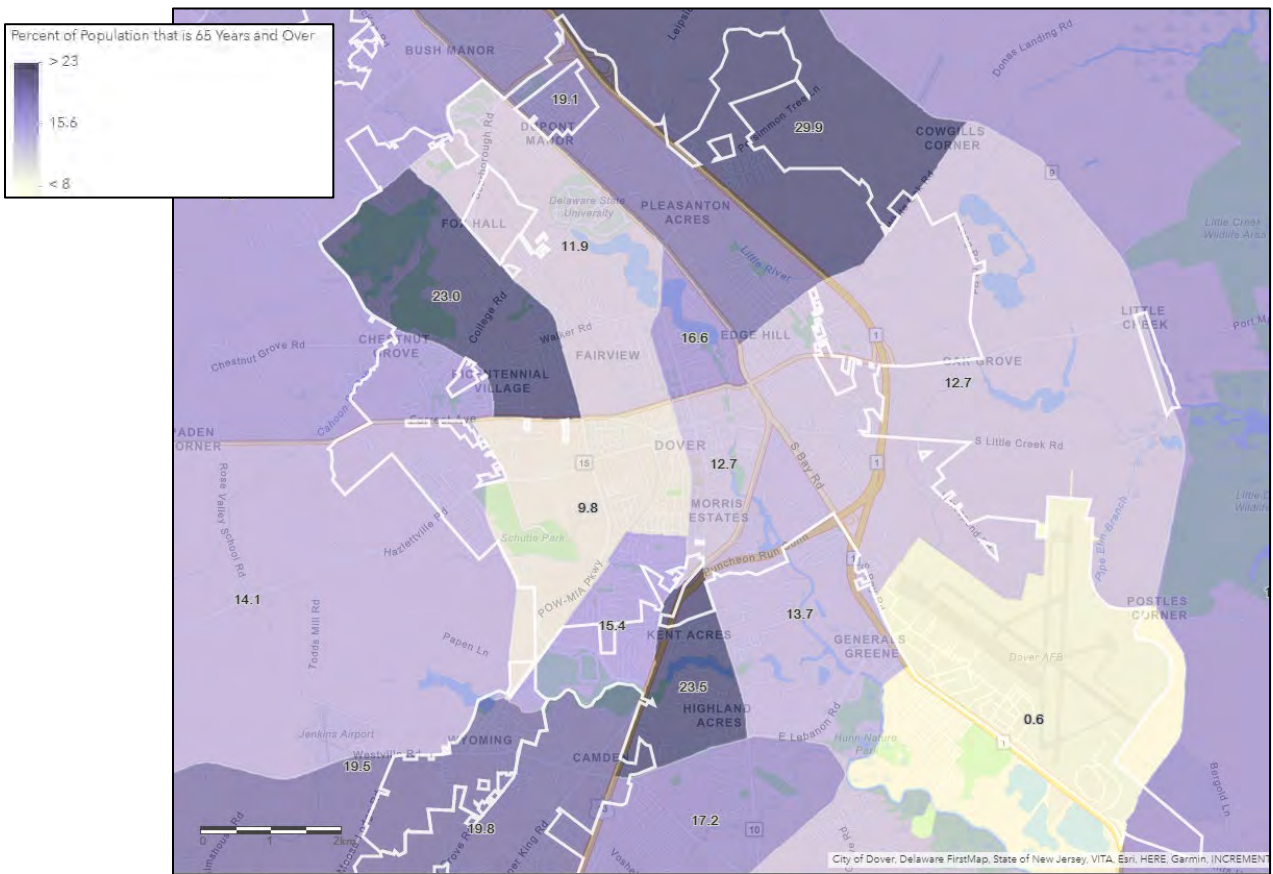


Figure 10. Map showing percentage of population over 65



# Current Plans, Policies, & Programs

This document does not exist in a vacuum, but has been informed by numerous other planning documents, as well as existing policies and programs. A summary of the plans, policies, and programs that relate to the *Dover Bicycle and Pedestrian Plan* are included below.

## STATE DOCUMENTS

### *Blueprint for A Bicycle Friendly Delaware: A Statewide Policy Plan (2018)*

In 2018, DelDOT adopted the *Blueprint for a Bicycle Friendly Delaware*. As noted in the document, the plan “lays out a series of innovative strategies for planning, design, coordination and communication tools” to accomplish the following goals:

- Goal 1: Develop a complete, comfortable, connected bicycle network
- Goal 2: Improve bicyclist safety and confidence
- Goal 3: Foster a culture of bicycling that benefits all Delawareans

This is a comprehensive long-term policy plan that aims to “establish a shared vision for bicycling among a wide range of stakeholders and then initiate, coordinate, and guide action through its implementation strategies.” Those strategies are:

- Network Development: Creating local plans that identify the desired bicycle network
- Project Prioritization and Funding: identifying and prioritizing projects that expand the low-stress bicycle network
- Project Development and Design Guidance: Designing and constructing facilities that extend the bicycle network and produce a safer, more comfortable experience for bicyclists and other users.

The plan also includes a “Tool Kit” to support municipalities with local bicycle network and project planning. Historically, bicycle projects in Delaware were often initiated at the state level in collaboration with local partners. This plan changes the funding process by requiring a locally-driven participatory planning process to identify projects and funding priorities. Those projects will be evaluated by the metropolitan planning organizations (MPOs) and prioritized, and the top three to five projects will be submitted to DelDOT for funding. The state will then make sure those projects are “cost-effective, feasible, and connected to regional and statewide networks.”

This plan emphasizes using Level of Traffic Stress (LTS) in the evaluation of bicycle projects. Traffic stress is defined as “a combination of perceived danger and other stressors... associated with riding a bike close to motor traffic.” One of the most critical recommendations of the plan is to “complete bicycle LTS data collection/refinement and integrate into GIS and bicycle travel model” and “integrate the low traffic stress approach and data in network and system planning and evaluation.” DelDOT will score projects based on improved low-stress access to public transportation and transit centers, employment, schools, community centers, and existing parks and trails. The plan outlines the methodology used to evaluate LTS. Since this plan was adopted, DelDOT has completed a statewide LTS assessment which is described on page 60.



## *DeIDOT ADA Self-Assessment and Transition Plan*

DeIDOT is responsible for pedestrian facilities along State-maintained roadways within the City of Dover. In 2018, DeIDOT completed the *ADA Self-Assessment and Transition Plan* in accordance with the Americans with Disabilities Act (ADA). The Plan includes a self-evaluation of DeIDOT's policies, services, activities, and buildings, and an assessment of its pedestrian facilities. The purpose of the document is to outline actions that will be taken to make transportation facilities in the public-right-of-way accessible to all individuals. More information about the impact of this Plan on pedestrian facilities in Dover is available on page 54.

## *Healthy and Transit-Friendly Development Act (2016)*

The Healthy and Transit-Friendly Development Act was signed into law on May 5, 2016. The law enables local governments and DeIDOT to jointly designate "Complete Community Enterprise Districts." Within a designated District, the local government partner must zone and plan for mixed uses and higher density development and relinquish counter-productive and burdensome parking regulations. In return, DeIDOT must design streets in the District to be slow so that both walking and cycling are safe and inviting and must also prioritize capital investments in transit, walking and cycling improvements.

## *First State Trails and Pathways Initiative (2012)*

The First State Trails and Pathways Initiative is a program managed by the State of Delaware whose primary goal is to "create a world-class statewide network of pathways and trails for Delaware's citizens and visitors, to promote biking, hiking, walking, and active living." The Initiative is managed by a partnership of DeIDOT and the Delaware Department of Natural Resources and Environmental Control (DNREC).

The program was initiated in 2012 by Governor Jack Markell in an effort to address the following goals:

- Establish Delaware as a Top Ten Bicycle Friendly State (as designated by the League of American Bicyclists).
- Support the creation of jobs resulting from investments in biking and walking
- Create/expand community connections
- Create healthy and active communities
- Provide safe, affordable transportation and recreational choices
- Incorporate environmentally-friendly practices into trail projects

Since the program was initiated, numerous trails and shared use pathway projects have been planned, designed, and constructed throughout the state. Delaware has improved its ranking as a Bicycle Friendly State by the League of American Bicyclists, jumping from a national ranking of #10 in 2012 to #3 in 2015, ranking Delaware as the most Bicycle Friendly State east of the Mississippi River. Delaware's rank in the program is now #6.

The City of Dover has been a direct beneficiary of the First State Trails and Pathways Program, as evidenced by the completion the Capital City Trail in 2014. The Capital City Trail is a shared use pathway that provides a direct connection from Silver Lake Park to the Isaac Branch Trail (a 2.6-mile greenway that connects US 13 and SR 10, effectively implementing the Silver Lake to St. Jones project from the 2011 MPO Bicycle Plan). The Capital City Trail was completed through a combination of widening existing sidewalks and installing new shared use pathways to create an important walking and biking facility in the heart of downtown Dover.

## *DeIDOT Complete Streets Policy (2010)*

DeIDOT is responsible for the maintenance of all State roads within City limits. These include arterial routes such as US 13, US 13A (Governors Avenue), SR 8, SR 15, and State Street. Collector routes such as White Oak Road, New Burton Road, and Walker Road are also maintained by DeIDOT.

The City of Dover provides maintenance responsibilities for all other streets in the City. Examples of City-maintained streets primarily include streets in the urban downtown core, such as Bradford Street and Kirkwood Street, as well as most residential streets in developments.

In 2010, DeIDOT adopted its Complete Streets Policy. As noted in the Policy, “the term Complete Street means a roadway that accommodates all travelers, particularly public transit users, bicyclists, pedestrians, and motorists, to enable all travelers to use the roadway safely and efficiently.” The purpose of the Complete Streets Policy is “to ensure that DeIDOT system modifications are routinely planned, designed, constructed, operated, and maintained in a way that enables safe and efficient access for all users. The result should be a system for all users that is comprehensive, integrated, connected, safe, and efficient allowing users to choose among different transportation modes, both motorized and non-motorized.”

A primary objective of the Policy is “to define and implement changes to the project development process that will value all transportation modes during the project scoping phase and enhance currently used design practices through updates to DeIDOT subdivision and design manuals, design memoranda, and policies.”

The DeIDOT Complete Streets Policy indicates that “all projects in the state right-of-way that are considered road reconstruction, widens the pavement width, or allows for the inclusion of facilities for all users, shall consider all transportation modes and accommodate accordingly.”

Since its adoption, DeIDOT has incorporated elements of the Complete Streets Policy into several projects in Dover, including the South Governors Avenue improvement project, which provided continuous 5-foot sidewalks and continuous 5-foot striped bicycle lanes throughout the project limits (Water Street to Webbs Lane). As part of the Capital City Trail project that was completed in 2014, DeIDOT also widened existing sidewalks in heavily used pedestrian areas to provide a 10-foot wide shared use pathway, enhancing pedestrian and bike mobility in the downtown area.

As part of a recent pavement rehabilitation project along US 13 through Dover, DeIDOT reduced the existing lane widths from 12 feet to 11 feet to provide a 5-foot wide bicycle lane in accordance with the Policy. As part of a recent pavement rehabilitation project along East Loockerman Street, DeIDOT re-striped an existing shoulder to provide a 5-foot wide bicycle lane. This improvement facilitates bicycle mobility between downtown Dover and US 13.

In addition, DeIDOT included a 10-foot-wide shared use pathway and 7-foot-wide striped bike lanes into the design of the West Dover Connector (P.O.W./M.I.A. Parkway), a 3.2-mile-long new roadway providing a direct connection between Saulsbury Road and US 13. This project also added sidewalks in the more urban typical section near Rodney Village, which is just south of the City limits. The project significantly improves bicycle and pedestrian access from the south part of Dover (as well as Brecknock Park in Camden) to west Dover, including Schutte Park and the existing pathway along Saulsbury Road.

## *DeIDOT Statewide Pedestrian Action Plan (2007)*

In 2007, DeIDOT adopted the Delaware Statewide Pedestrian Action Plan. The Plan was initiated as the result of Executive Order 83, signed by Governor Ruth Ann Minner in March 2006. Executive Order 83 required that an Advisory Council on Pedestrian Awareness and Walkability be established to assist DeIDOT in developing and implementing a Statewide Pedestrian Action Plan. Per the Executive Order, the Plan was to address the following issues:

- Ensuring that pathways and sidewalks are continuous and interconnected where feasible
- Developing consistent design standards for crosswalks, sidewalks, and shared use pathways
- Clarifying maintenance responsibilities for sidewalks
- Reviewing traffic rules and driver behavior to help support a safer pedestrian environment
- Promoting land use and traffic patterns that encourage walking and reduce air pollution

The adopted Delaware State Pedestrian Action Plan includes the following key components:

- Description of the importance of walking and pedestrian facilities
- Identification of issues and concerns for pedestrians
- Inventory of Federal, State, and local policies, regulations, and practices relating to pedestrians
- Recommended actions

Based on the Pedestrian Action Plan, DeIDOT conducted a comprehensive sidewalk inventory in 2012 and completed its ADA Transition Plan in 2018. In the DeIDOT FY 2019 - 2024 Capital Transportation Program (February 2019), the Department is proposing to spend \$3.38 million – which will be supplemented by \$13.53 million of Federal dollars – on the construction of pedestrian improvements throughout the state. Needs that are identified in the Transition Plan and in local community plans will likely become a part of DeIDOT's project list for design and eventual construction and/or implementation.

## *DeIDOT Safe Routes to School Program (2002)*

The Safe Routes to School (SRTS) Program is a DeIDOT program whose primary purpose is to facilitate and encourage children to walk and bike to school safely. The State program was established in 2002, and the corresponding Federal SRTS program was initiated in 2005. Any public, private or charter schools are eligible to participate in the program, provided the projects benefit elementary and middle school age children. The SRTS program is divided into 5 components (the 5 Es): Engineering, Education, Enforcement, Encouragement, and Evaluation. DeIDOT works with each school in the program to develop a Safe Routes to School Plan that incorporates each of these five elements into a comprehensive program. Examples of eligible infrastructure and non-infrastructure costs are listed below.

### Infrastructure

**Sidewalk improvements**  
**Traffic calming**  
**Pedestrian signals**  
**Bicycle parking**

### Non-infrastructure

**Traffic education and enforcement**  
**Student sessions on safety**  
**Parent education materials**  
**Evaluation and data gathering**

Five SRTS projects have been completed in the City of Dover, which consisted of improvements along routes to two elementary schools (Booker T. Washington and Towne Point) and two middle schools (William Henry and Central Middle) in the Capital School District, and one elementary school (W. Reily Brown) in the Caesar Rodney School District. These improvements were completed in 2010, 2011, and 2015. The Capital School District was one of the first school districts in the state to take advantage of SRTS funding.

## REGIONAL DOCUMENTS

### *Regional Bicycle Plan (2017)*

In the fall of 2017, the Dover/Kent County MPO completed the 2017 Regional Bicycle Plan (RBP) for Kent County. This plan is an update to the 2011 plan and uses a 20-year planning horizon, with a focus on 2017-2037. The purpose of the plan is to review progress made under the previous RBP, identify and prioritize recommended projects, and make recommendations for policies, ordinances, and other actions that should be taken at the State, County, or local government level. The Regional Bicycle Plan was completed after over a year of effort involving DelDOT, DNREC, Kent County Planning, the City of Dover and other municipalities, and bicycle advocates throughout the county.

The MPO Regional Bicycle Plan identifies the following goals and objectives:

- Goal 1 - Create an effective and safe bicycle transportation system
  - Objective 1 - Ensure that bicycle routes reach high-demand destinations such as schools, employment centers, and parks
  - Objective 2 - Maintain and improve existing bicycle facilities
- Goal II - Make bicycle riding a viable transportation option for persons of all ages in Kent County
  - Objective 1 - Increase the viability of bicycling as a solution for any daily need
  - Objective 2 - Create an environment where all bicyclists and motorists know and follow the rules of the road
  - Objective 3 - Promote bicycle transportation
  - Objective 4 - Increase availability of bicycles

Goal 1 recommendations include regional bicycle system projects as well as criteria for project evaluation. As Kent County's largest urban area, the City of Dover is a primary focus of the Regional Bicycle Plan's recommendations. Twelve out of 22 of the identified and prioritized projects are located in the Dover area, and the seven highest scoring projects in the plan are located in Dover. Criteria include barrier elimination, regional and local significance, connections to recreational facilities/points of interest, multi-modal connections, state investment strategies, and LTS reduction, which was given the highest weight by the committee and significantly impacted project prioritization. Proposed projects located within the City of Dover are included in this plan in the Engineering Recommendations section on page 85.

### *Health and Equity Analysis of City of Dover and Kent County Regional Bicycle and Pedestrian PLANS (2016)*

Through funding from the American Planning Association's (APA) Plan4Health program, the Delaware Chapter of the APA, the Delaware Public Health Association, and the Delaware Coalition for Healthy Eating and Active Living (DE HEAL) sought to create an approach to integrate health and equity in planning. Using feedback from the community, the Delaware Plan4Health team has examined opportunities to integrate health and equity in the update of the Kent County Bicycle Plan.

With findings from health and equity analyses and information gathered from charrettes held in Dover and Kent County, the team identified several improvements to pedestrian and bicycle networks that will enhance connectivity to retail, grocery, public spaces, and other community assets. Many of the routes identified are local streets in a downtown, urban environment with on-street parking and sidewalks on both sides of the street. The routes selected tended to be lower traffic streets. The team discussed potential upgrades to these routes to make them a part of an identifiable "network" for bicycles and pedestrians:

- Enhanced bicycle infrastructure appropriate to their context
- Routes should be marked so that people know to use them as the safest routes to walk or bicycle between their destinations.

## LOCAL DOCUMENTS

### *City of Dover Comprehensive Plan (2020)*

The *City of Dover Comprehensive Plan* sets forth broad goals for community development and includes policy recommendations in areas including natural resources and environmental protection, historic preservation, public utilities and infrastructure, community services and facilities, transportation, economic development, housing & community development, land development, growth and annexation, and intergovernmental coordination. The Comprehensive Plan is a legally binding document that essentially serves as the constitution for the City.

The Transportation Plan section describes conditions for walking and bicycling in Dover, explaining that the transportation network has improved thanks to the gradual implementation of the 2015 Pedestrian and Bicycle Plans. The *Comprehensive Plan* describes Level of Traffic Stress analysis as a useful tool to target investments in bicycle and pedestrian improvements to improve safety and encourage greater use. Traffic stress is a rough measure of how comfortable a route is for bicycling or walking due to vehicular traffic along the route. The *Comprehensive Plan* also establishes specific recommendations for developing and expanding alternate modes of transportation. These recommendations are:

- Update the City's Pedestrian and Bicycle Plan
- Focus on connecting underserved neighborhoods
- Improve the network's safety through reduction in traffic stress wherever possible
- Improve the design of the pedestrian and bicycle network to accommodate more users

### *City of Dover Code of Ordinances*

The City of Dover's Code of Ordinances includes numerous requirements to make the City better for walking and bicycling. The City requires developers to provide safe and convenient multi-modal access for all new major subdivisions. The Code refers to sidewalks, shared use pathways, and other hard paved trails, whether adjacent to the roadway or not as "pathways," and provides design standards, which refer to material, width, and general location. In addition, the Code requires property owners to maintain sidewalk that is adjacent to their property

The Code also has several references to bicycle amenities that are required as part of large-scale development projects. As noted in the Code, "bicycle parking shall be provided for parking spaces at a rate of one bicycle parking space for every 20 vehicular parking spaces."

In an effort to enhance and promote walkable communities and bicycle-friendly communities, the City has two additional categories that provide developers with flexibility and incentives to address pedestrian and biking needs through land use design. The categories are the Corridor Overlay Zone and Traditional Neighborhood Design (TND), a zoning designation.

The City of Dover has established a Corridor Overlay Zone along two roads in the northwestern part of the City:

- SR 8 (Railroad tracks to western City limits)
- McKee Road/Saulsbury Road (Denneys Road to North Street)

The Corridor Overlay Zone has several primary purposes:

- Promote superior urban design (includes "transportation amenities for bicycles, pedestrians, and transit that exceed those required by the zoning ordinance")
- Foster connections among adjacent properties
- Preserve the function and efficiency of the roadway
- Achieve a balanced streetscape which is friendly to the pedestrian and motorist alike

As stated in the Code,

“The intent of the TND zone is to create a walkable and pedestrian-friendly, economically viable professional, commercial and mixed-use residential neighborhood for people of different ages and incomes that draw from the best architectural and community design features of Delaware and the Delmarva Peninsula from its colonial past to the mid-20th century. Its intent is also to preserve and enhance the natural landscape, celebrate the history of the site, and buffer the development from adverse external influences. The provisions of this section are intended to encourage greater integration of land-uses and diversity of lot sizes than is permitted under other provisions of the Land Subdivision Regulations and Zoning Ordinance of the City of Dover. Lastly, it may provide locations for other uses that will aid in the fulfillment of the City of Dover's Comprehensive Plan and allow people to live near their work.”

“The TND shall have a pedestrian walkway and/or bicycle system through the open spaces that connect to the street system or connects a series of open spaces. Bicycle parking and locking facilities should be provided in public spaces as appropriate.”

“The design of streets shall form a connected system with dimensions and speeds reasonable to serve the development, but also to create an environment that is friendly to pedestrians and bicycle riders.”

One of the first communities being developed under the TND zoning category is the Eden Hill Farm, a 265-acre mixed use development along North Street. The community, which is currently under construction, provides a mixture of commercial, residential, institutional, and open space located in close proximity to each other. The land use, combined with wide sidewalks, interconnections, and an internal trail network, creates a true walkable new community in the heart of Dover.

### *City of Dover Pedestrian Plan (2015)*

The *City of Dover Pedestrian Plan* was adopted in 2015. The Plan details existing conditions, areas of opportunity, and pedestrian needs as they relate to walking in Dover and sets forth specific goals for the pedestrian transportation network. The Plan presents a series of recommendations categorized as new sidewalks and trails, pedestrian signals, maintenance, and signing, striping, lighting, and fencing designed to make the City of Dover more pedestrian friendly. Proposed projects that are located within the City of Dover are included in this plan in the Engineering Recommendations section on page 85.

### *City of Dover Bicycle Plan (2015)*

The *City of Dover Bicycle Plan* was adopted in 2015. The Plan details existing conditions, planned projects, and areas of opportunity as they relate to bicycling in Dover and sets forth specific goals for the bicycle transportation network. The plan also provides guidance on bicycle facility design and low-stress bicycling and connectivity. The Plan presents a series of recommendations categorized as engineering, education, encouragement, enforcement, and evaluation. Engineering recommendations focus on a detailed analysis and proposal for the Senator Bikeway, an east-west route that connects Saulsbury Road with US 13 through Downtown Dover, but also included other on and off-road projects. Proposed projects that are located within the City of Dover are included in this plan in the Engineering Recommendations section on page 85.



## AREA-SPECIFIC DOCUMENTS

### *US 13 Pedestrian Safety Study (2020)*

The study area extends from Scarborough Road in the north to Puncheon Run Connector in the south, a 5.5-mile Urban Minor Arterial. The study scope includes:

- Review pedestrian crash history
- Observe and collect pedestrian, transit, and traffic data
- Gather adjacent land use data
- Evaluate pedestrian safety along corridor and identify recommendations

Recommended improvements are included in the following table:

**Table 1. US 13 Pedestrian Safety Study Improvement Recommendations**

| Location      | Timeframe  | Recommendations   | Responsible Party |
|---------------|--|---|-------------------|
| Corridor Wide | Short-Term   | Install 40 mph speed limit sign on US 13 between Rustic Lane and N. State Street, lowering the posted speed limit from 45 mph to 40 mph   | DeIDOT Traffic    |
|               | Short-Term   | Install Turning Vehicle Yield to Pedestrian signs at appropriate signalized intersections along US 13   | DeIDOT Traffic    |
|               | Mid-Term   | Through capital, PAR, Pave & Rehab, Traffic, and developer projects, add additional signalized pedestrian crossings of US 13 at existing intersections where signalized pedestrian crossings do not exist or where a second crossing of US 13 does not exist  | DeIDOT            |
|               | Mid-Term   | As part of future Pave & Rehab projects, implement lane width reductions throughout the corridor to effectively reduce vehicular speeds   | DeIDOT Traffic    |
|               | Mid-Term   | Install lighting at all bus stops along corridor that currently are unlit   | DeIDOT/DTC        |
|               | Mid-Term   | Install median barrier treatments along these identified “priority segments” of US 13: <ul style="list-style-type: none"> <li>• Rustic Lane to North Dover Mall Entrance</li> <li>• College Road to Leipsic Road/N. State Street</li> <li>• Centre Drive to White Oak Road</li> <li>• Loockerman Street to MLK Boulevard (see US 13 at Bay Road recommendations)</li> </ul> | DeIDOT Traffic    |
|               | Mid-Term/Long-Term   | Through capital, PAR, Pave & Rehab, Traffic, and developer projects, continue to close gaps in sidewalks/sidepaths along the US 13 corridor   | DeIDOT            |
|               | Mid-Term/Long-Term   | Coordinate with DTC to improve access to transit along US 13, including improvements to existing stops, providing new stops with appropriate bus pull offs, and providing pedestrian infrastructure where none exists today to support future transit service   | DeIDOT/DTC        |
|               | Mid-Term/Long-Term   | Monitor crashes along other sections of US 13 (i.e., locations not identified above as “priority segments”) to consider installation of barrier treatments  | DeIDOT Traffic    |
| Long-Term     | Begin high-level conceptual layout of a road re-configuration to identify any geometric design concerns and, upon completion of other pedestrian safety improvements, re-evaluate pedestrian crashes to determine if a road re-configuration would provide additional pedestrian safety benefits | DeIDOT  |                   |

| Location  | Timeframe  | Recommendations (continued)   | Responsible Party |
|---|------------|---|-------------------|
| US 13 at Rustic Lane  | Short-Term | Install pedestrian accommodations on the north and south legs and remove diagonal pedestrian crossing of US 13, including: <ul style="list-style-type: none"> <li>• Installation of two-stage pedestrian crossings</li> <li>• Maintain concurrent side-street left-turn phasing</li> <li>• Extend the south leg median to provide pedestrian refuge</li> <li>• Adjust northbound and southbound stop bars to accommodate new crosswalks</li> <li>• Realign NB/SB left-turn lanes to remove offset lefts and provide adequate median refuge islands</li> </ul> | DeIDOT Traffic    |
|   | Short-Term | Install a bench at the NB US 13 bus stop  | DTC               |
| US 13 between Rustic Lane and North Dover Mall              | Mid-Term   | Install a signalized pedestrian crossing of US 13 at the existing median opening at DSP Headquarters. Signalization should include FRA phasing for the SB LT/UT and consider a two-stage crossing   | DeIDOT Traffic    |
|   | Long-Term  | Install median barrier between signalized pedestrian crossings from Rustic Lane to North Dover Mall   | DeIDOT Traffic    |
| US 13 at Best Buy/DSU                                       | Short-Term | Install a bench at the SB US 13 bus stop  | DTC               |
|   | Mid-Term   | Install pedestrian accommodations on the north and south legs of the intersection. Consider two-stage crossings with median nose extensions for median refuge areas by removing offset left-turns.  | DeIDOT Traffic    |
| US 13 between College Road and N. State Street/Leipsic Road | Mid-Term   | As part of a median barrier project (see Corridor Wide recommendations), close the existing unsignalized median opening between College Road and N. State Street/Leipsic Road   | DeIDOT Traffic    |
| US 13 at Lepore Road  | Short-Term | Reconstruct traffic signal to signalize northbound US 13 and install a signalized pedestrian crossing across US 13 at the intersection. Provide ADA compliant curb ramps as part of the project. Complete improvements in conjunction with previously recommended FRA left-turn phasing   | DeIDOT Traffic    |
| US 13 between Centre Drive and White Oak Road               | Short-Term | Install new traffic signal at the existing unsignalized Centre at Dover entrance as follows: <ul style="list-style-type: none"> <li>• Maintain the existing SB U-turn only configuration</li> <li>• Install a two-stage signalized pedestrian crossing on the south side of the intersection, crossing US 13</li> <li>• Utilize FRA phasing for the SB U-turn movement</li> </ul>   | DeIDOT Traffic    |
|   | Mid-Term   | Implement signal phasing adjustments at the existing Centre Drive signalized intersection if future shopping center vacancies are filled and traffic volumes increase. Improvements should include: <ul style="list-style-type: none"> <li>• FRA phasing for US 13 left-turns</li> <li>• Removal of channelizing island to permit WB lefts from the shopping center</li> </ul>  | DeIDOT Traffic    |
|   | Long-Term  | Coordinate with Dover Center shopping center owner to discuss removal of the redundant NB right-turn at the existing Centre Drive signalized intersection and construct a bus pull-off in this area   | DeIDOT Traffic    |



| Location  | Timeframe  | Recommendations (continued)   | Responsible Party |
|---|------------|---|-------------------|
| US 13 at White Oak Road/ Kings Highway NE         | Short-Term | Install Turning Vehicles Yield to Pedestrian (R10-15) signs on NB and SB US 13 at the intersection with White Oak Rd/Kings Hwy NE   | DeIDOT Traffic    |
|   | Mid-Term   | Install two-stage pedestrian crossings on the north and south legs of the intersection. Improvements should include: <ul style="list-style-type: none"> <li>• Remove channelizing islands in median adjacent to left-turn lanes</li> <li>• Extend median noses to provide a pedestrian refuge area</li> <li>• Tighten radii on the NW, SW and SE corners to provide a 5-ft minimum PAR and realign crosswalks closer to US 13 for improved pedestrian sight distance</li> </ul> | DeIDOT Traffic    |
| US 13 between Loockerman Street and MLK Boulevard | Mid-Term   | Install pedestrian accommodations on the south leg of US 13 at Loockerman Street  | DeIDOT Traffic    |
|   | Mid-Term   | Install an improved ADA compliant PAR along the Frontage Road adjacent to US 13 NB between Loockerman Street and Bay Road   | DeIDOT Traffic    |
|   | Mid-Term   | Install pedestrian accommodations on the north leg of Bay Road at the intersection with S. Little Creek Road  | DeIDOT Traffic    |
|   | Mid-Term   | Install pedestrian median barrier/fencing along the median of US 13 and adjacent to the sidewalk on southbound US 13  | DeIDOT Traffic    |
| US 13 at Roosevelt Avenue                         | Short-Term | Install pedestrian accommodations, including median and island work, on the east and south legs of the intersection and install bus stops north and south of the intersection.  | DeIDOT Traffic    |
| US 13 at S. State Street                          | Mid-Term   | Develop traffic-only project to add pedestrian crossings on all four legs, remove offset turns and remove unnecessary channelization islands. If impacts are too extensive, the project will become a capital project   | DeIDOT Traffic    |

## Delaware State University Pedestrian Study (2019)

In the winter of 2019, the MPO conducted a study of pedestrian volumes along US 13 and College Road around the campus of Delaware State University. The university is located on the west side of US 13, across from significant pedestrian attractors such as the Dover Mall, Dover Downs, several shopping centers, and numerous restaurants. In addition, the University Courtyard apartment complex is located on College Road, approximately 1/4 mile west of the main campus, and generates significant pedestrian volumes. In the summer of 2013, the university acquired the former Sheraton Hotel approximately 2/3 mile north of the main campus. The former Sheraton is now known as the DSU Commons, serving as a residential hall for 250 students as well as an early college education program for high school students. Traffic counts were completed in 2013, 2014, and again in 2018 in support of this study.

There were several purposes of the study:

- To determine if the completed pedestrian improvements influenced behavior
- To identify additional areas of concern
- To determine compliance with existing crosswalks
- To identify pedestrian needs and determine potential solutions

Listed below is a graphic that summarizes the pedestrian volumes as well as the crosswalk compliance, based on weekday and weekend counts that were taken at nine locations in November 2019.

| Location                               | SATURDAY 11/17/18    |                      | TUESDAY 11/27/18     |                      |
|--|----------------------|----------------------|----------------------|----------------------|
|  | 9:00 am –<br>2:00 pm | 3:00 pm –<br>6:00 pm | 9:00 am –<br>2:00 pm | 3:00 pm –<br>6:00 pm |
| <b>1. DSU Commons</b>                  | <b>20</b>            | <b>20</b>            | <b>19</b>            | <b>21</b>            |
| Within Crosswalk                       | 20 (100%)            | 9 (54%)              | 16 (84.2%)           | 8 (38.1%)            |
| Outside Crosswalk                      | 0 (0%)               | 11 (55%)             | 3 (15.8%)            | 13 (61.9%)           |
| <b>2. Rustic Lane</b>                  | <b>69</b>            | <b>50</b>            | <b>49</b>            | <b>40</b>            |
| Within Crosswalk                       | 68 (98.6%)           | 48 (96%)             | 44 (89.8%)           | 31 (77.5%)           |
| Outside Crosswalk                      | 1 (1.4%)             | 2 (4%)               | 5 (10.2%)            | 9 (22.5%)            |
| <b>3. North Dover Mall Entrance</b>    | <b>37</b>            | <b>37</b>            | <b>42</b>            | <b>19</b>            |
| Within Crosswalk                       | 34 (91.9%)           | 34 (91.9%)           | 39 (92.9%)           | 19 (100%)            |
| Outside Crosswalk                      | 3 (8.1%)             | 3 (8.1%)             | 3 (7.1%)             | 0 (0%)               |
| <b>4. South Dover Mall Entrance</b>    | <b>46</b>            | <b>44</b>            | <b>51</b>            | <b>30</b>            |
| Within Crosswalk                       | 34 (73.9%)           | 38 (86.4%)           | 47 (92.2%)           | 26 (86.7%)           |
| Outside Crosswalk                      | 12 (26.1%)           | 6 (13.6%)            | 4 (7.8%)             | 4 (13.3%)            |
| <b>5. DSU Entrance</b>                 | <b>59</b>            | <b>138</b>           | <b>82</b>            | <b>43</b>            |
| Within Crosswalk                       | 58 (98.3%)           | 130 (94.2%)          | 78 (95.1%)           | 38 (88.4%)           |
| Outside Crosswalk                      | 1 (1.7%)             | 8 (5.8%)             | 4 (4.9%)             | 5 (11.6%)            |
| <b>6. Dover Downs Entrance</b>         | <b>61</b>            | <b>76</b>            | <b>25</b>            | <b>44</b>            |
| Within Crosswalk                       | 59 (96.7%)           | 75 (98.7%)           | 22 (88%)             | 40 (90.9%)           |
| Outside Crosswalk                      | 2 (3.3%)             | 1 (1.3%)             | 3 (12%)              | 4 (9.1%)             |
| <b>7. College Rd &amp; US 13</b>       | <b>40</b>            | <b>18</b>            | <b>26</b>            | <b>21</b>            |
| Within Crosswalk                       | 34 (85%)             | 17 (94.4%)           | 19 (73.1%)           | 19 (90.5%)           |
| Outside Crosswalk                      | 6 (15%)              | 1 (5.6%)             | 7 (26.9%)            | 2 (9.5%)             |
| <b>8. College Rd at Old College Rd</b> | <b>65</b>            | <b>73</b>            | <b>599</b>           | <b>334</b>           |
| Within Crosswalk                       | 41 (63.1%)           | 53 (72.6%)           | 275 (45.9%)          | 118 (35.3%)          |
| Outside Crosswalk                      | 24 (36.9%)           | 20 (27.4%)           | 324 (54.1%)          | 216 (64.7%)          |
| <b>9. Jason Court</b>                  | <b>31</b>            | <b>33</b>            | <b>160</b>           | <b>71</b>            |
| Within Crosswalk                       | 7 (22.6%)            | 6 (18.2%)            | 15 (9.4%)            | 4 (5.6%)             |
| Outside Crosswalk                      | 24 (77.4%)           | 27 (81.8%)           | 145 (90.6%)          | 67 (94.4%)           |

As noted in the graphic, the highest number of pedestrian crossings were recorded along College Road, between the University Courtyard apartments and the main campus. During the two-day count period in

November 2019, there were over 1,000 pedestrians that crossed College Road in this area. There were also over 300 pedestrians that crossed US 13 at the main entrance to the university during the count period.

As part of the pedestrian study, counters observed whether pedestrians were using the striped crosswalks or were crossing mid-block (outside of the designated crossing). From the study, the following conclusions can be drawn:

- Pedestrians crossing at DSU Commons used the crosswalk 60% of the time during weekdays and 72.5% during weekends.
- Pedestrians crossing College Road from the University Courtyard apartments to the main campus used the crosswalk 42% of the time during weekdays and 68% during weekends.
- As described below, several recommended improvements resulted from the study.

**DSU Commons** - An option is to explore the opportunity to provide a trail connection to DSU's campus west of US 13 behind the frontage properties, which may reduce the need to walk/ride along US 13.

**US 13 and College Road** - While additional signage on US 13 may be considered to urge pedestrians to cross at the crosswalk (i.e. "CROSS ONLY AT CROSS WALK" (R9-2) and "USE CROSSWALK" (R9-3bP) signs) no further pedestrian safety/traffic control recommendations are necessary for this location. A shared use pathway adjacent to US 13 and into the DSU campus may be considered for implementation at and around the studied intersection as a result of the high observed bicycle volumes. Further investigation would be necessary to determine the limits of a proposed shared use pathway along US 13.

**College Road at Old College Road** - A mid-block pedestrian crossing across College Road should be investigated between this study location and the study location to the south, at Jason Court. This evaluation should take into consideration the appropriateness of an activated crossing, utilizing Rectangular Rapid Flashing Beacon (RRFB) activation or other active or enhanced treatments. The proposed crossing shall offer a safe pathway across College Road, as there is no marked crossing south of Jason Court.

### *Dover High School Pedestrian Study (2013)*

In the spring of 2013, the MPO conducted a study to evaluate the pedestrian needs associated with the construction of the new Dover High School. The new school, which opened in August 2014, is located along SR 8 near the western limits of the City of Dover. It is located in a former agricultural area that has experienced significant residential growth in recent years. SR 8 is the primary east-west route in Dover, providing access to and from Maryland as well as facilitating local travel throughout the central Delaware region. SR 8 currently has average traffic volumes that exceed 18,000 vehicles per day and has a relatively large percentage of commercial vehicles.

In accordance with Department of Education requirements, students that live within a two-mile walking radius of a high school are not required to be bussed, unless there is not a continuously safe way for them to walk to school. The purpose of the pedestrian study was to identify the sidewalk gaps and pedestrian needs within the two-mile walking radius, develop conceptual plans and cost estimates for these areas, and identify potential constraints (environmental, drainage, utilities, right-of-way, etc.).

The study evaluated four primary roads that are located within the two-mile walking radius – SR 8, Kenton Road, Mifflin Road, and Hazletville Road. Listed below is a summary of the study recommendations for each road.

**SR 8** - As part of the construction of the new high school, the school district provided a 10-foot wide shared use pathway along its frontage. The pathway also goes to the rear of several existing residential properties. However, there were significant sidewalk gaps on both the north and south sides of SR 8 east of the new school. As a result of the study, DeIDOT initiated a design project to install approximately 1,500 feet of new sidewalk on the north side of SR 8, between the Cranberry Run and East Heatherfield communities. The sidewalk was constructed in the summer of 2014.



Figure 11. HAWK Signal at SR 8 and Heatherfield Way

In addition, as part of the new sidewalk project, DeIDOT installed a High-Intensity Activated Crosswalk (HAWK) signal at the intersection of SR 8, Heatherfield Way, and the east entrance to the high school as shown below in Figure 13. The HAWK signal is a traffic signal that turns to red upon activation by a pedestrian. The signal stays dark unless activated. The HAWK signal provides a safe signaled crossing for pedestrians crossing SR 8 to the high school.

**Kenton Road** - The Dover High School Pedestrian Study evaluated Kenton Road between Walker Road and SR 8, within the two-mile walking radius of the new high school. Kenton Road is a two-lane roadway that carries over 10,000 vehicles per day. The land use along the roadway is primarily higher-density residential, with the Greentree Shopping Center located at the southern end. The YMCA swim club is also located at the intersection of Kenton Road and Walker Road. Currently, sidewalks are present along about 35% of the corridor. The study developed a concept plan and a cost estimate for providing continuous sidewalks along both sides of the roadway. Based on the recommendations of the study, DeIDOT placed the Kenton Road project in the FY 2015- 2020 Capital Transportation Program (CTP). The project will add continuous sidewalks along Kenton Road from SR 8 to Chestnut Grove Road, a distance of 1.2 miles. As of March 2020, final construction plans are scheduled for spring 2021 with construction beginning in spring 2022.

**Mifflin Road** - Mifflin Road, a two-lane road between SR 8 and North Street, provides access for over 15,000 vehicles per day. Except for a bank on the southeast corner of SR 8 and Mifflin Road, the land use along the roadway is exclusively residential. The only sidewalk along Mifflin Road is located at the bank and a small section at the North Street intersection. A concrete pathway runs east to west and ties into Mifflin Road, providing pedestrian access from The Village of Westover to Mifflin Road. The Dover High School Pedestrian Study identified the potential for significant property, drainage, and utility impacts associated with the installation of sidewalks along Mifflin Road. Sidewalks along this road are currently not part of the DeIDOT Capital Transportation Program, and currently there is no design funding is allocated.

**Hazlettsville Road** - Hazlettsville Road is a two-lane road south of the new high school. The existing land use is primarily comprised of single-family and high-density residential units. Schutte Park is located on the south side of the road. There is existing sidewalk along the majority of the north side of Hazlettsville Road, with the exception of four homes near Mifflin Road. There is also a shared use pathway along Schutte Park. Along the frontage of the Nottingham Meadows community, there is a gap in the sidewalk as it approaches Wyoming Mill Road shown below in Figure 14 (see photo). The new developer of the community is required to install the missing sidewalk, ensuring a continuous sidewalk along the south side of Hazlettsville Road. There are no other plans at this time to install any additional sidewalk along Hazlettsville Road near its intersection with Mifflin Road.



Figure 12. Sidewalk gap on Hazlettsville Road at Nottingham Meadows



## *Dover Transit Center Neighborhood Plan (2011)*

In March 2011, following a design charrette process conducted the previous year, the MPO completed the Dover Transit Center Neighborhood Plan. The purpose of the Plan, developed cooperatively with the Downtown Dover Partnership (DDP), was “to provide the City of Dover with a design and planning strategy for development around the new transit center. The plan also offers strategies to improve all modes of transport throughout downtown Dover.”

The focal point of the study was the Dover Transit Center, located along Queen Street, Water Street, and West Street. The study area included a 16-block area, as shown in Figure 15 below.

The study had the following key goals:

- Improve the gateway entrances to the downtown area with building and improved streetscapes
- Centralize parking in locations that encourage redevelopment and maintain streetscapes
- Develop Queen, Water, and North Streets as improved corridors for vehicles and pedestrians
- Encourage new development that complements the existing historical architecture of Dover
- Create a network of civic squares, open spaces, and public gathering places to provide greater connectivity
- Use the transit center as an anchor for mixed use redevelopment and intermodal forms of transportation

The study specifically evaluated potential land use and transportation opportunities along Queen Street, Water Street, and North Street. With regards to the pedestrian environment, the study recommended that “the pedestrian experience should be enhanced by improving sidewalks, providing landscaping buffering and/or removing existing surface parking lots, and adding pedestrian scale street lighting to improve comfort and safety.” Parts of this have recently been accomplished with the completion of Phase I of the North Street streetscape project in 2013. An artist’s rendering showing an example of potential improvements is shown in Figure 16.

Implementation strategy (pedestrian related):

- Provide streetscape and signage improvements at key gateways
- Work with the City and DeIDOT to improve crossings and to provide pedestrian-activated crosswalks at key intersections
- Focus road improvements on Queen Street, Governors Avenue, Bank Lane, Water Street, and North Street
- Promote the use of the St. Jones River (riverwalk, activity areas)
- Construct streetscape enhancements along North Street and Water Street

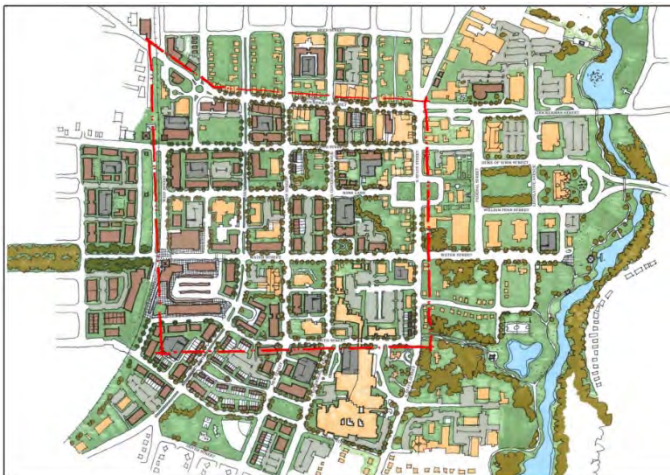


Figure 13. Dover Transit Center study area



Figure 14. Rendering of proposed North Street Gateway



# The Transportation Network

The transportation network within the City of Dover is regulated by three major organizations: the City of Dover, DelDOT, and the Dover/Kent County MPO.

Dover owns and maintains approximately 111 miles of streets and alleys throughout the City limits. Most of these streets and alleys are residential in nature and include enclosed drainage systems as well as curbs and sidewalks.

There are an additional 60 miles of roads within the City limits that are maintained by DelDOT. These streets, unlike the city-maintained neighborhood streets, are typically commercial in nature and move the highest amounts of traffic within the City. DelDOT controls and plans for access to these main roads, coordinating with the City through the Development Advisory Committee to ensure new developments are designed with safe entrances and exits. New entrances and exits from State roads in Dover differ considerably from older ones, as DelDOT's standards have changed over time. DelDOT works to maintain the overall health of the roadway system by designing and constructing its own upgrades to State roads where necessary.

Several different types of facilities accommodate bicycling and walking as travel modes within the City. Separated (i.e. outside the curb) bicycle facilities include roadside shared use paths as well as greenways with their own separate rights of way. Non-separated (i.e. inside the curb) bicycle facilities include bike lanes, paved shoulders, and marked bike routes. Pedestrians are accommodated principally via the City's sidewalk network, though they can also use shared use pathways and greenways. In general, the City's pedestrian and bicycle network has become better connected since 2008, due to gradual implementation of the City's 2015 City of Dover Bicycle Plan and 2015 City of Dover Pedestrian Plan, as well as Kent County's Regional Bicycle Plan, which was updated in 2017. Implementation has come about through the efforts of DelDOT, the MPO, Dover's Bicycle and Pedestrian Subcommittee, and City agencies.



Figure 15. Sharrows on W. Lockerman Street in Downtown Dover, courtesy Delaware State News

## MAINTENANCE

Maintenance-related issues are one of the primary goals to be addressed by the *Dover Bicycle and Pedestrian Plan*.

There are three different entities that play a role in the maintenance of pedestrian facilities: DeIDOT, the City, and private property owners. Listed below is a synopsis of the existing maintenance responsibilities of each entity, based on current policies and procedures.

### *DeIDOT Responsibilities*

In accordance with a long-standing municipal agreement between DeIDOT and the City of Dover, DeIDOT provides maintenance on state roads from curb to curb. The City is responsible for maintenance on any transportation facilities beyond the curb line. This includes sidewalks and shared use pathways.

DeIDOT adopted its Sidewalk and Multi-Use Path Maintenance Policy in 2013. As stated in the Policy, DeIDOT does not maintain sidewalks owned or maintained by municipalities, sidewalks located in subdivisions, privately-owned sidewalks, or sidewalks maintained by others through a written agreement. With regards to snow removal on sidewalks and shared use pathways, the Policy specifies the following:

- In conjunction with established priorities for snow removal on roadways, snow removal for sidewalks and shared use pathways will commence immediately after completion of roads classified as “local” and “subdivision”
- Sidewalks and shared use pathways will be prioritized based on pedestrian traffic, high densities of elderly and disabled, schools, transit routes, and other high-volume pedestrian facilities

Maintenance of any bicycle facilities within the curb limits of the State’s right of way, including re-stripping of bike lanes, debris removal, resurfacing, etc., is DeIDOT’s responsibility.

It was noted by the Bicycle and Pedestrian Subcommittee that during heavy snowfall events snowplow operators tend to pile up compacted snow at the corners of intersections. This creates problems for pedestrians, particularly those who may be disabled. The Bicycle and Pedestrian Subcommittee has encouraged DeIDOT and the City’s Public Works Department to clear those areas as quickly as possible following a significant snowfall.

As stated in the Policy, “all other maintenance, such as sweeping and trash removal, will be performed as resources are available within the Department.” With regards to street sweeping, in August 2014, DeIDOT submitted its final Stormwater Management Plan for DNREC and Environmental Protection Agency review. The sweeping plan was required to be a science-based strategy targeting pollutant removal from state-owned roads before it enters the storm sewer system, and ultimately into rivers, lakes, and streams. The targeted approach means that DeIDOT is focusing on roads that have direct connections to the storm sewer system in areas that have the greatest potential to produce harmful pollutants (i.e. high traffic, commercial, industrial, residential). Each of these road types is swept at a frequency that acknowledges the availability of DeIDOT resources (manpower, equipment, budget) while meeting the terms of the National Pollutant Discharge Elimination System (NPDES) permit, which is to effectively prohibit the discharge of material other than stormwater. Interstates, expressways, and principal arterials are swept a minimum of four times per year, Major and minor collector roads are swept at minimum twice a year, and local roads are swept at minimum once a year. Sweeper vehicles are equipped with automatic vehicle location (AVL) devices to help verify that the required sweeping frequency has been met.

## *City of Dover Responsibilities*

The Dover Code of Ordinances contains several references to the maintenance responsibilities for sidewalks. The 2015 Pedestrian Plan recommended that the term “shared use facility” be added to any sidewalk maintenance reference in the City’s Code. Although in 2017 the “Sidewalk requirements” section of the Code was updated to read “Pedestrian, bicycle, and multi-modal access requirements,” this section does not refer to sidewalk maintenance.

The City currently provides maintenance on pathways located within the City’s park system, such as the trails within Schutte Park and Silver Lake Park. In addition, the City is currently providing maintenance on the US 13 portion of the Capital City Trail, between the Thomas Collins Building and MLK Boulevard and along Park Drive.

## *Property Owner Responsibilities*

The Dover Code of Ordinances contains several references to the maintenance responsibilities of property owners adjacent to sidewalks. The Code of Ordinances reference is noted below, with the ordinance wording quoted.

Article I, Sec. 98-5 : “It shall be unlawful for the owner or occupant of any premises abutting upon a sidewalk to permit or allow snow or ice to remain thereon for longer than 12 hours of daylight after it has ceased snowing, or to permit debris or other materials to accumulate at any time so that pedestrians may conveniently and safely pass.”

Article I, Sec. 98-6: “All persons occupying commercial establishments or premises fronting on any street or public place shall keep the sidewalk immediately in front of their premises clear of debris or other materials so that pedestrians may conveniently pass...”

Article I, Sec. 114-2(h): “All large or established trees shall be pruned to the following sufficient heights to allow the free passage of pedestrians - 8 feet over sidewalk.”

Article II, Sec. 28A: “The city council, at such time as it shall determine that the condition of a particular street or portion thereof, requires that sidewalks be laid, or that the sidewalks then existing...should be improved, or upon the petition of a majority of persons owning property along any of the streets...asking that the sidewalks abutting on said street be improved, or that sidewalks be laid where there are none at the time of the petition, may direct the property owner or owners to lay or replace sidewalks with such materials, as in the judgment of the said council...may seem best under the circumstances. It shall be the duty of the city manager to give at least 15 days’ notice in writing to the owner or owners of said property affected by the action of the said council. It shall be the duty of the owner or owners, after notice shall have been given...to forthwith cause the said sidewalks to be laid or the improvement or alterations thereof to be made, as directed in said notice. Upon the failure of the owner or owners to lay or cause to be laid or improved or altered, the sidewalks...according to the direction of said notice, it shall be the duty of the city manager to cause the said sidewalks to be laid or altered or improved...according to the terms of such notice.”

Article VII.B.4(b): “If a homeowners association is formed...the organization shall be responsible for maintenance on...all open public facilities...including sidewalk...”

In practice, the City's Public Works Department repairs and reconstructs sidewalks as financial and personnel resources allow. An adjacent property owner is not responsible for making structural repairs to an existing sidewalk, based on current practice. Adjacent property owners are required to adhere to the regulations regarding snow removal, vegetation clearing, and debris removal. The City does issue citations for violations, in accordance with the Code of Ordinances.

Currently, the Code of Ordinances only refers to sidewalks. It is recommended that the Code be amended to include a reference to "shared use path," in addition to any sidewalk maintenance reference. This would require approval by the City Council.

### *Adopt-A-Bike Path Program*

DelDOT has a program that enables volunteers to "adopt" a state-owned bike pathway. Initiated in 2004, the Program is a partnership between DelDOT and volunteers to care for a designated bike pathway a minimum of three times a year. Volunteers remove debris, trash, etc. in an effort to make the bike pathway safer for cyclists, as well as keeping the bike pathway and surrounding area cleaner. Currently, there are no bike pathways that have been "adopted" in the City of Dover.



Figure 16. Ribbon cutting at the West Street Trail at the Dover Transit Center, courtesy Bike Delaware



## PEDESTRIAN FACILITIES

As part of the update to the Pedestrian Plan, an inventory of existing pedestrian facilities within City limits was conducted. The inventory evaluated the following components:

- Off-road trails and shared use pathways
- Sidewalks
- Pedestrian signals and crosswalks
- Pedestrian generators and attractors

Figure 19 displays the results of the inventory. Listed below is a summary of the key findings from the pedestrian facility inventory:

- There are approximately 15 centerline miles of off-road trails and shared use pathways within the City, 6 additional miles since the last inventory in 2015
- There are 87 traffic signals within City limits; eleven of these traffic signals (14%) do not have pedestrian signals and/or crosswalks; these signals are listed below and are mapped in Figure 19
- The City has numerous areas of potentially high pedestrian use, based on adjacent land use, population density, and proximity to pedestrian attractors/generators

### *Signalized Intersections Without Pedestrian Signals*

- US 13/Scarborough Road
- US 13/Delaware State University Commons
- US 13/Bay Road
- US 13/Roosevelt Avenue
- US 13/South State Street
- US 13/Puncheon Run Connector
- South State Street/Webbs Lane
- Kenton Road/Walker Road
- Kenton Road/College Road
- Kenton Road/Denneys Road
- McKee Road/Denneys Road

Through the development of this Plan update, with input from the City of Dover and the public, the below areas have been identified as impediments to safe pedestrian travel in the City:

- Washington Street and State Street (across State Street)
- Division Street: sidewalks are too narrow and in poor condition, and crosswalks are worn off, especially unsafe at the Loockerman Street merge
- Mifflin Road
- Water Street and New Street: no sidewalks present
- US 13



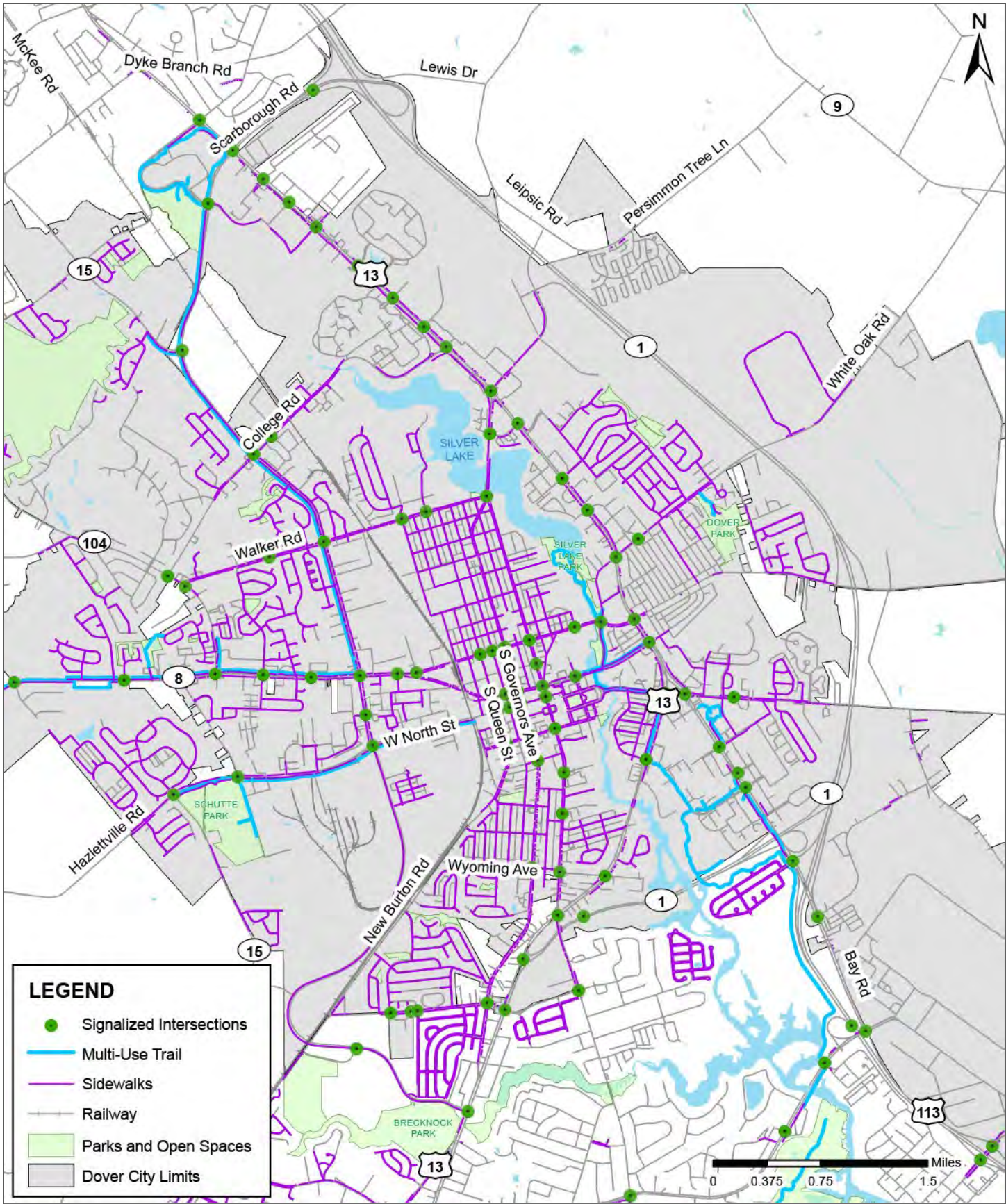


Figure 17. Map showing pedestrian facilities

## BICYCLE FACILITIES

As part of the update to the Bicycle Plan, an inventory of existing bicycle facilities within City limits was conducted. The inventory evaluated the following components:

- Off-road trails and shared use pathways
- On-road designated bicycle lanes
- Bicycle parking (racks)
- Sharrow locations

Listed below is a summary of the key findings from the bicycle inventory, illustrated in Figure 20:

- There are approximately 15 centerline miles of off-road trails and shared use pathways within the City, 6 additional miles since the last inventory in 2015
- There are approximately 22 miles of designated on-road bicycle lanes within the City, 13 additional miles since the last inventory in 2015
- There are approximately 600 bicycle parking spaces within the City; with the exception of eight bicycle lockers located on the DelDOT campus, all of the bicycle parking spaces consist of bicycle racks
- There are approximately 1.9 roadway miles with sharrows

Despite the accomplishments that have been made in recent years to enhance the bicycling network and improve connectivity in the City, there are still numerous areas that are difficult for bicycle travel. These areas are marked by high vehicular speeds, high traffic volumes, lack of shoulders, lack of designated bike lanes through intersections, and the presence of on-street parking. Generally, areas that are difficult for bicycle travel are located in the more densely developed areas of Dover. A railroad line, a waterway, and a divided highway all cut north-to-south through Dover, limiting east-west travel to only three or four routes. Autos and trucks are all concentrated onto these few heavily traveled roads, leaving little or no room for bicycle travel.

Through the development of this Bicycle Plan update, with input from the City of Dover and the public, the below areas have been identified as impediments to safe bicycle travel in the City:

- College Road from McKee Road to Kenton Road is narrow, has heavy traffic, and lacks both pedestrian and bicycle infrastructure.
- SR 8/Division Street between US 13 and West Street is designated as a Regional Bicycle Route by DelDOT yet lacks bike lanes, striped shoulders, or a designated off-road pathway. There is also significant on-street parking.
- Loockerman Street is narrow with heavy traffic and on-street parking.
- Mifflin Road between SR 8/Forrest Avenue and SR 15/Hazlettsville Road connects Dover High School with points south, including Schutte Park and the shared use pathway on Hazlettsville Road. Currently the road lacks both pedestrian and bicycle infrastructure.
- Martin Luther King Boulevard, from US 13 to Bay Road has no shoulders and heavy traffic.
- North Street east of the railroad tracks is narrow with heavy traffic and no shoulders.
- Walker Road west of Saulsbury Road, has heavy traffic and no shoulders. There are no parallel alternative routes west of the railroad tracks.
- State Street south of Walker Road is narrow, has no striped shoulders, and has significant on-street parking.

These areas generally lack safe, attractive alternative routes. For a cyclist, these roads often offer the only means of traveling to and from a destination, despite the barriers that exist along these routes.



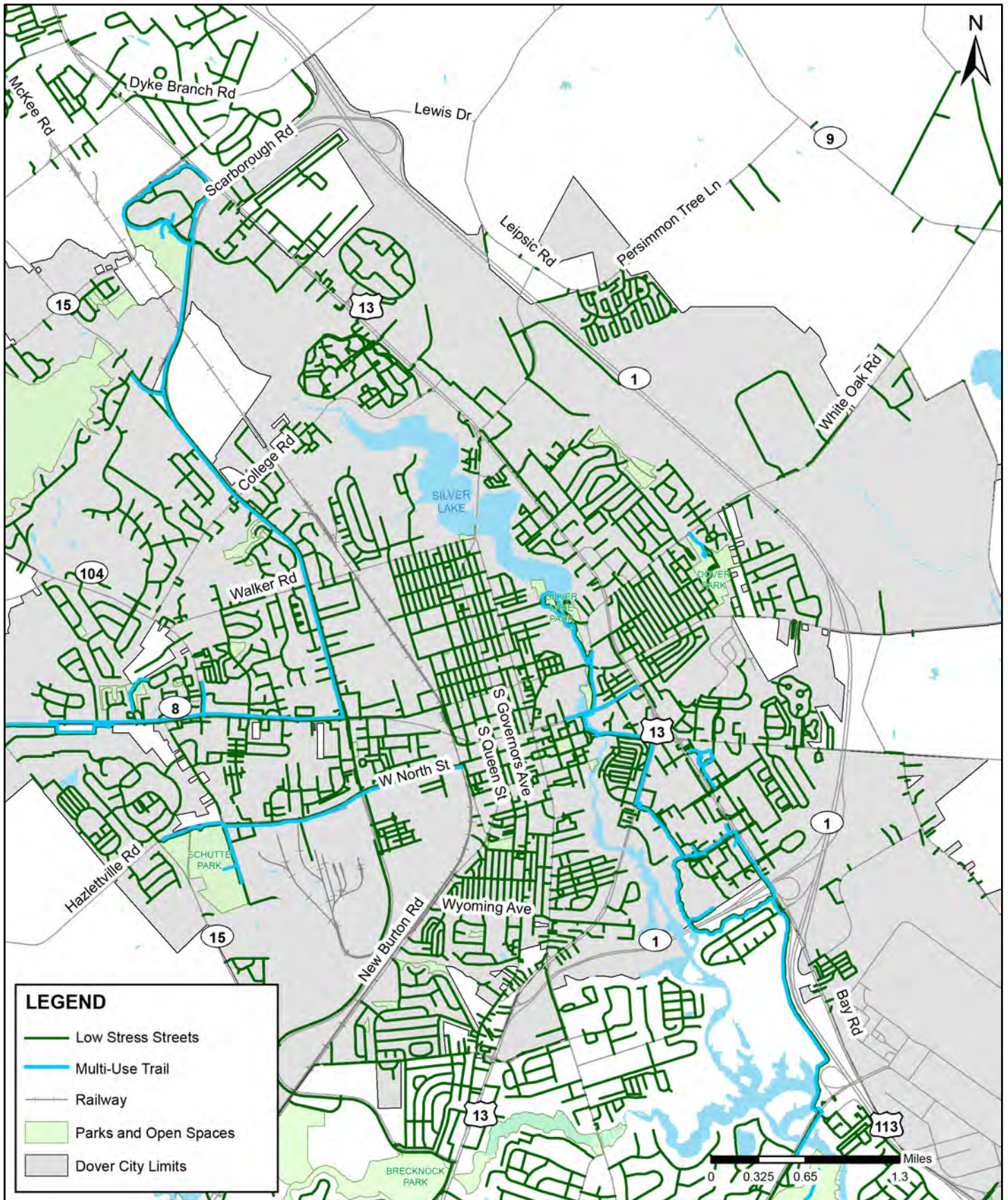


Figure 18. Map showing bicyclist facilities including shared use pathways and low-stress streets. Not all low-stress streets include dedicated bicycle facilities. For more information on low-stress streets see pages 60-61. Source: DelDOT

# Crash Analysis

As part of the assessment of conditions within the City, crash data from 2013 to 2019 was analyzed to determine the number and severity of pedestrian and bicycle crashes that occurred during that seven-year period. In addition, the analysis was used to determine if there were any concentrated areas of pedestrian or bicycle crashes, in an effort to identify future engineering or enforcement solutions that could potentially address the crash history. Figures 21-22 show the number and time of day of pedestrian and bicycle crashes, and Figures 23-24 show the location of all reported pedestrian and bicycle crashes that occurred within City limits from 2013 to 2019 as compiled by the City of Dover Police Department. Listed below is a summary of the crash data:

- There were 142 reported pedestrian crashes and 76 reported bicycle crashes between 2013 and 2019
- Personal injuries were involved in 122 crashes (84%) for pedestrians and 69 crashes (91%) for bicycles
- There were 16 fatal pedestrian crashes and 2 fatal bicycle crashes reported over the seven-year period
- There were no high concentrations of pedestrian or bicycle crash areas identified throughout the City; however, over 24% of the pedestrian and bicycle crashes occurred at various locations along US 13
- As noted in the chart below, the majority of the pedestrian crashes (54) occurred between 6:00 PM and midnight; the majority of bicycle crashes (33) occurred between noon and 6:00 PM

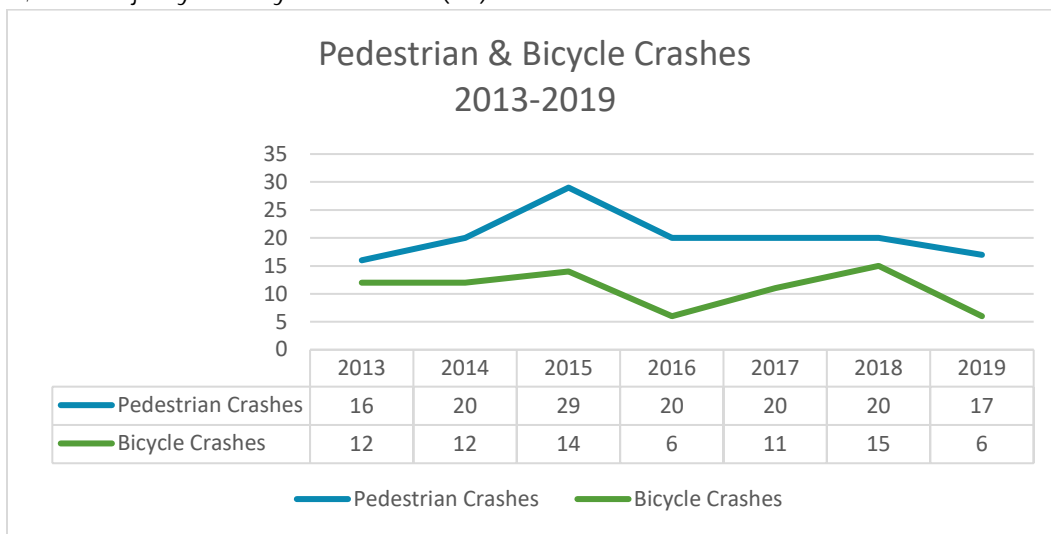


Figure 19. Pedestrian & Bicycle Crashes 2013-2019

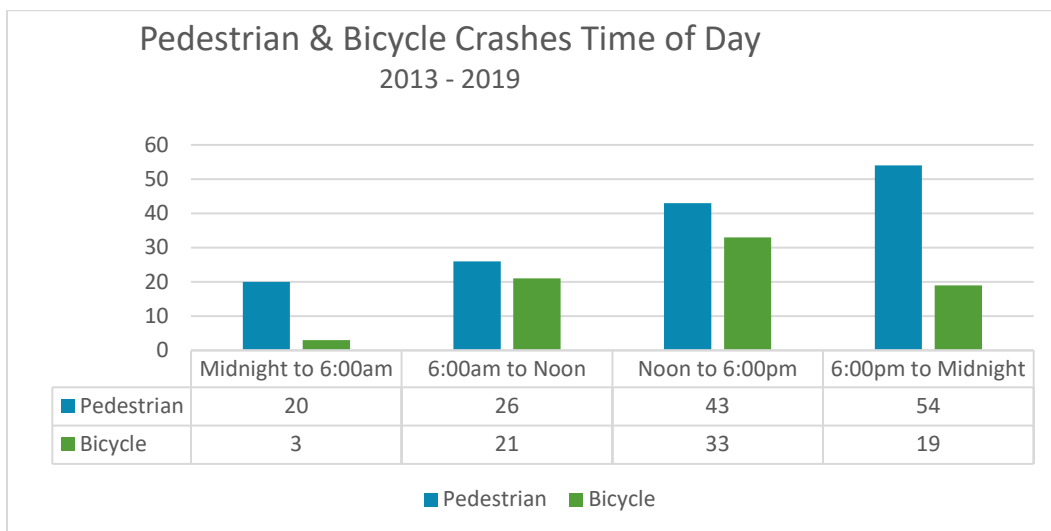


Figure 20. Pedestrian & Bicycle Crashes Time of Day, 2013-2019



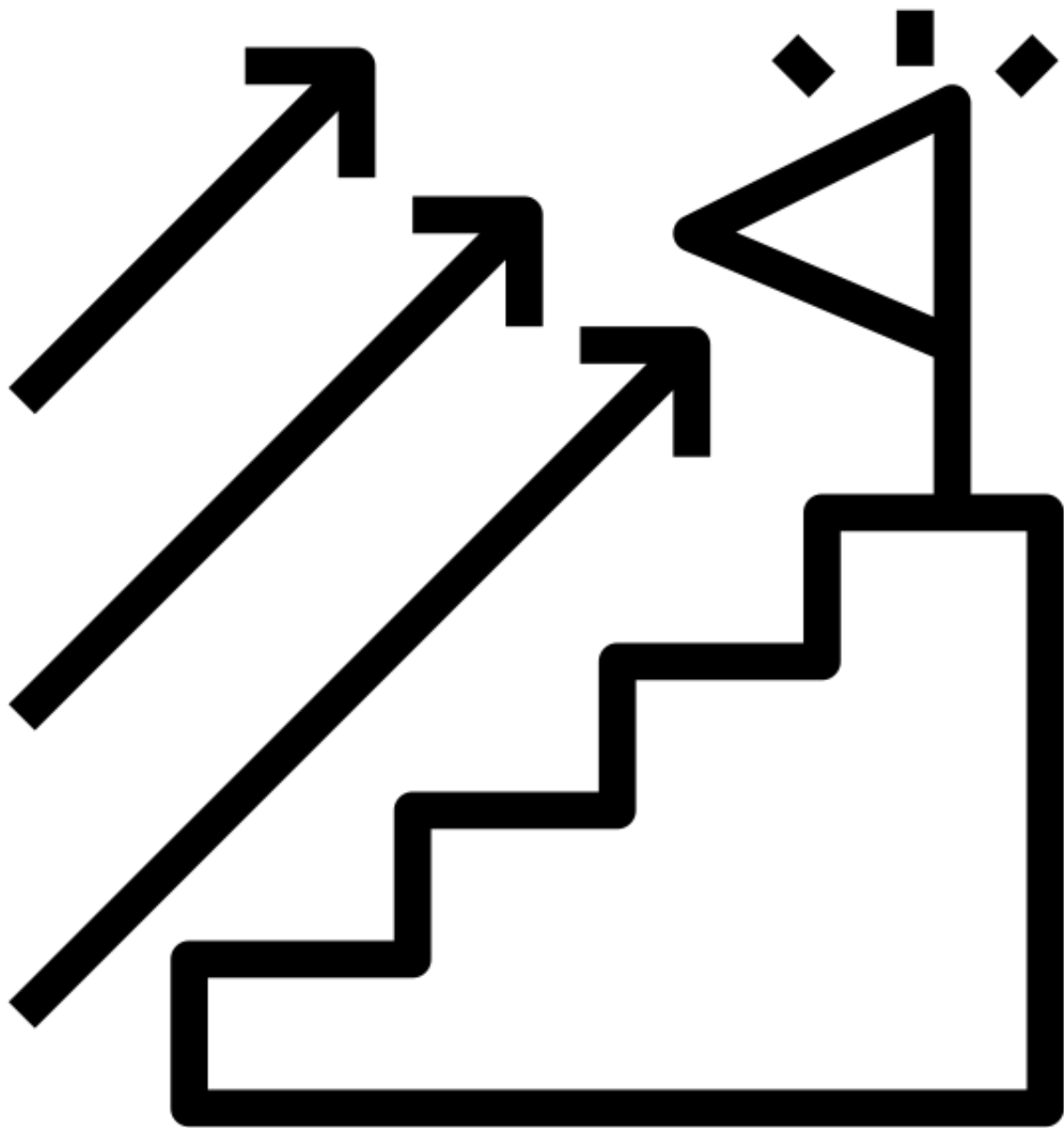


Figure 21. Pedestrian crash locations, 2013-2019

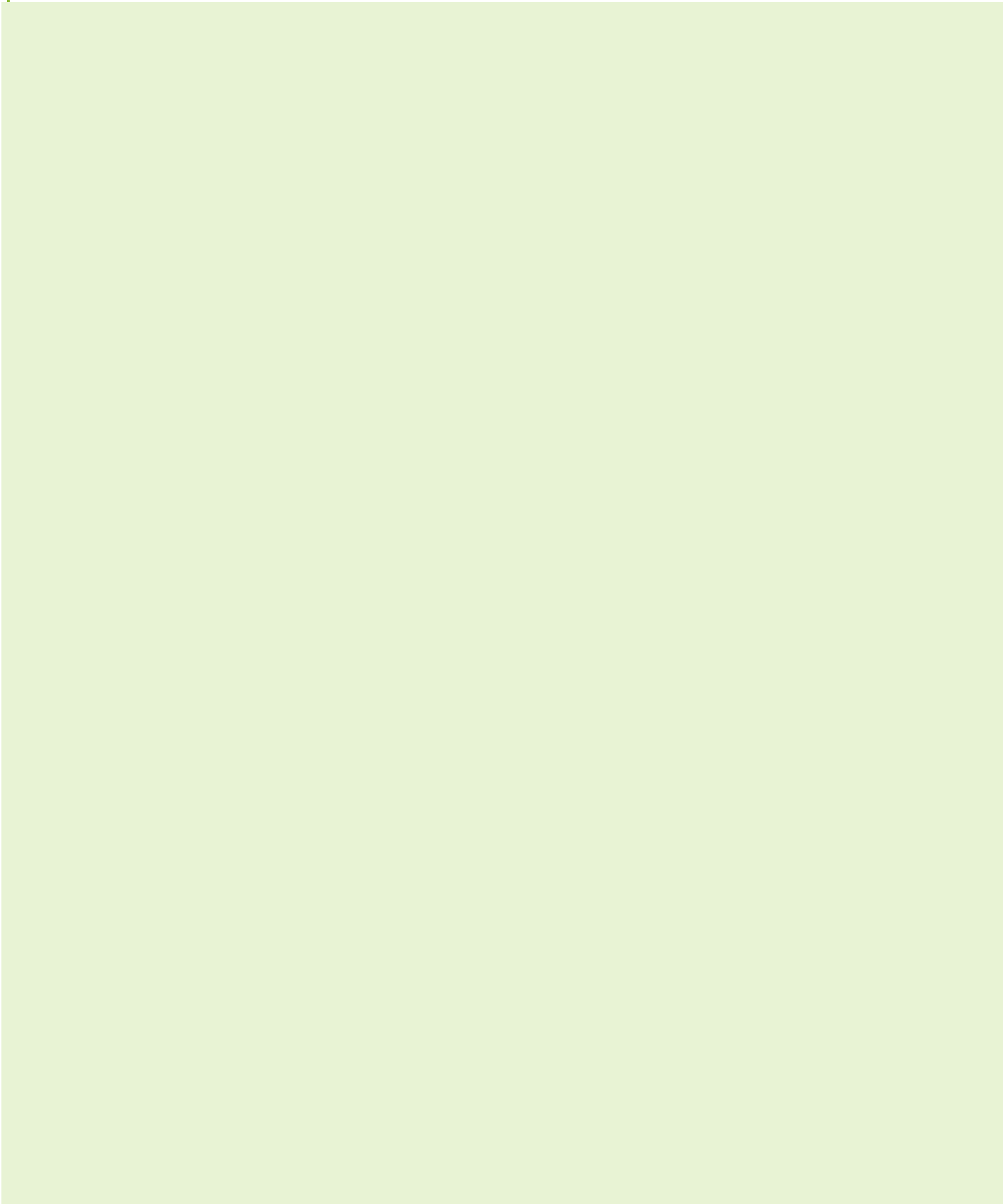


Figure 22. Bicycle crash locations, 2013-2019





### 3. WHERE WE'RE HEADED



# Goals & Objectives

## **Goal 1. Improve the pedestrian and bicycle transportation network**

- Consider the needs of all user groups
- Identify key gaps in the network and areas of safety concern
- Develop project ideas for gaps where solutions are not immediately obvious; seek the advice of creative and experienced professionals
- Prioritize project requests and advocate for funding
- Track projects from planning through completion
- Seek especially to produce low-traffic, low-stress bicycle routes that are continuous

## **Goal 2. Coordinate regular pedestrian and bicycle network maintenance**

- Establish maintenance responsibility for all pedestrian and bicycle routes
- Encourage responsible parties to schedule regular maintenance
- Advertise communication system for reporting maintenance needs
- Actively provide notice and citations to property owners
- Integrate maintenance (snow, debris, and vegetation removal) into routine actions of City street crews
- Inventory and schedule replacement of damaged or root-lifted concrete, blacktop, or brickwork
- Schedule regular restriping of crosswalks and other painted markers

## **Goal 3. Incorporate pedestrian and bicycle elements into land-use and development planning**

- Review local land-use and development ordinances and recommend the incorporation of bicycle accommodations
- Seek requirements of “back exits” in single entrance developments

## **Goal 4. Encourage adequate and secure bicycle parking**

- Identify locations where bicycle parking is especially needed
- Review bicycle parking requirements in zoning codes and recommend revisions as needed
- Develop programs to encourage installation of bike parking facilities where zoning requirements are not effective
- Require larger proposed businesses to incorporate showers into their facility design

## **Goal 5. Utilize educational programs for encouraging pedestrian and bicycle safety**

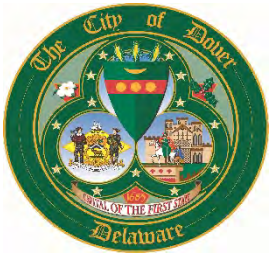
- Bike-to-Work Day
- Bike-to-School Day
- Traffic Skills 101 (League of American Bicyclists)
- Develop signage and maps for low-traffic, low-stress bicycle routes
- Bicycle safety programs for school children, in cooperation with DelDOT and the Capital School District

## **Goal 6. Monitor use of pedestrian and bicycle facilities**

- Select pedestrian and bicycle survey tools for counting pedestrians and bicyclists
- Schedule regular and repeating counts to detect changes
- Survey bicyclists of all ages and abilities for unmet facility needs
- Regularly report trends in commute, utility, recreational, and school cycling

## Agency Support

Goals and objectives will be tracked and implemented by the City of Dover with support from the Dover/Kent County MPO and DeIDOT. The City of Dover Safety Advisory and Transportation Committee meets monthly and advises City Council on issues concerning the Dover transportation network, including pedestrian and bicycle infrastructure. Those meetings are open to the public.



## Advocacy and Interest Groups

In Delaware, there are two primary organizations that are advocates for bicycling interests throughout the state, the Delaware Bicycle Council and Bike Delaware. The Delaware Bicycle Council consists of 15 members who represent various government agencies (public safety, transportation, education, recreation, public health), as well as citizen representatives from each county. The primary purpose of the Delaware Bicycle Council is to "consider, review, and work on matters pertaining to bicycling, bicycle safety, and bicycle education, and to make recommendations to various state agencies." The Delaware Bicycle Council serves as a resource in policy-making and legislative issues, in order to ultimately increase facilities and opportunities for bicyclists in Delaware.

There are a number of local bicycle advocates who advise the City and City Council Safety, Advisory, and Transportation Committee on bicycle infrastructure.



Bike Delaware is an independent, non-government advocacy organization that is supported solely by its membership. Its mission is "Bike Delaware advocates for safe, convenient, and fun bicycling and walking for everyone." Bike Delaware, based in New Castle County, has a 7-member Board of Directors and is staffed by an Executive Director who lobbies for cycling interests throughout the state.



The Downstate Delaware Striders and Riders is a group of bicyclists and runners who regularly hold events in and around the Dover area. The group holds weekly trail runs, in addition to regularly participating in running and bicycling events such as the Buffalo Stampede in the nearby Town of Wyoming. The group includes both recreational and competitive cyclists and runners.





## 4. WHAT'S UNDERWAY

# Walking in Dover

## PEDESTRIAN FACILITY DESIGN

The design of Dover's street network dates back to the early 1700s, when the predominant form of transportation was walking. As a result, virtually every street within the traditional core of the City has sidewalks, which roughly includes the area from Walker Road to Water Street (north to south) and US 13 to Saulsbury Road (east to west). Loockerman Street, the original commercial area of Dover, is an excellent example of a traditional pedestrian-friendly street, complete with continuous sidewalks, mixed land use, and buildings close to the street. The majority of the land use in downtown Dover is residential, with sidewalks fronting virtually every street. While much of the land use is residential, there are numerous pedestrian generators and attractors in downtown Dover, including the new Dover Library, Transit Center, Post Office, City Hall, State government buildings, and numerous shops and restaurants. Downtown Dover also has a significant amount of open space in the downtown area, including The Green, Legislative Mall, and Silver Lake Park, all of which attract large numbers of pedestrians.

Based on an inventory that was conducted by the MPO as part of the preparation of the 2015 Pedestrian Plan, pedestrian needs are more evident in the areas of the City that were developed after the traditional core was completely developed. While the majority of residential subdivisions developed since the 1940s have sidewalks, there are numerous State-maintained roads that do not have sidewalks. When these roads were built on the outskirts of the City, the adjacent land was undeveloped or agricultural, and sidewalks were not warranted. As the adjacent land began to develop, sidewalks or other adequate pedestrian facilities were often not incorporated into the land development. This has changed in recent times, as developers have been required to install sidewalks as part of the development approval process for over 30 years.

## PEDESTRIAN NETWORK DESIGN & PROJECT PRIORITIZATION

As part of the development of the 2015 Pedestrian Plan, a quantitative analysis was used to prioritize pedestrian needs in the City. This analysis has been used by the MPO to prioritize sidewalk needs in other Kent County municipalities. The analysis considered the factors listed in the table to the right.

The prioritization criteria take into account a variety of land use and transportation conditions for each road that was evaluated. Land use conditions include proximity to pedestrian generators and attractors such as commercial uses, recreational facilities (parks), and schools. Transportation conditions include presence of bus stops, proximity to sidewalks, and the presence of shoulders along a road. Factors that considered a project's cost were also included, with respect to a project's potential impact to property and engineering factors such as drainage, utilities, and environmental impacts.

| <i>Pedestrian Project Prioritization</i> |                      |               |
|--|----------------------|---------------|
| <i>Criteria</i>                          | <i>Measure</i>       | <i>Points</i> |
| <i>Bus Stop</i>                          | Within ¼ Mile        | 2             |
|  | Within ½ Mile        | 1             |
| <i>Commercial Destinations</i>           | Within ¼ Mile        | 2             |
|  | Within ½ Mile        | 1             |
| <i>Community Center</i>                  | Within ¼ Mile        | 2             |
|  | Within ½ Mile        | 1             |
| <i>Recreational Facility</i>             | Within ¼ Mile        | 2             |
|  | Within ½ Mile        | 1             |
| <i>School</i>                            | Within ¼ Mile        | 2             |
|  | Within ½ Mile        | 1             |
| <i>High-density residential</i>          | Within ¼ Mile        | 2             |
|  | Within ½ Mile        | 1             |
| <i>Proximity to existing sidewalks</i>   | Within 1 block       | 2             |
|  | More than 1 block    | 1             |
| <i>Presence of shoulders</i>             | No shoulders         | 2             |
|  | Partial shoulders    | 1             |
|  | Continuous shoulders | 0             |
| <i>Property impacts</i>                  | None/Minimal         | 2             |
|  | Potential            | 1             |
|  | Significant          | 0             |
| <i>Drainage/utility/environmental</i>    | None/Minimal         | 2             |
|  | Potential            | 1             |
|  | Significant          | 0             |
| <b>Maximum</b>                           |                      | <b>20</b>     |

Figure 23. Pedestrian Project Prioritization Criteria

## CRITICAL GAPS IN THE PEDESTRIAN NETWORK

Based on the *DelDOT ADA Inventory and Assessment Map* and the *2015 Pedestrian Plan* inventory, a total of 16 State-maintained roads (representing 33 road segments) that currently do not have sidewalks or have significant sidewalk gaps were evaluated and prioritized. While the majority of the City's residential communities have sidewalks, there are some local streets where sidewalks do not exist. Examples include streets within older communities such as Edgehill or East Lake Gardens. These are well-established communities, with low volumes and low speeds, and the cost, property impacts, etc. likely outweigh the need for sidewalks in these areas. As a result, sidewalks were not evaluated in these communities. These gaps will be addressed by planned projects (see page 66) or proposed projects (see page 85).

In Table 2, entries in the "Status" field mean the following:

- Planned: there is a project in the DelDOT Capital Transportation Program that will address the issue
- All Users Recommendation: there is a proposed project that will address improvements for walkers and cyclists along the corridor
- Pedestrian Recommendation: there is a proposed project that will address improvements for walkers along the corridor



Table 2. Roadway segments and intersections without adequate pedestrian infrastructure

| <b>Roadway Segments Lacking Pedestrian Infrastructure</b> |  |                                    |                           |
|---|--|------------------------------------|---------------------------|
| Road  | Limits   | Issues                             | Status                    |
| <b>West-East Routes (listed from north to south)</b>      |  |                                    |                           |
| College Road  | Kenton Road to McKee Road  | Missing sidewalk                   | Planned                   |
| College Road  | East of McKee Road   | Missing sidewalk                   | Pedestrian Recommendation |
| W. Division Street  | West of S. West Street   | Missing sidewalk                   | Pedestrian Recommendation |
| E. Division Street/<br>North Little Creek Road            | Gaps between US 13 and SR 1  | Missing sidewalk                   | All Users Recommendation  |
| SR 8/<br>Forrest Ave (south side)                         | Mifflin Road to Dover High School  | Missing sidewalk                   | All Users Recommendation  |
| Forest Street   | West of S. West Street   | Missing sidewalk                   | Pedestrian Recommendation |
| South Little Creek Road                                   | City Limits to Babb Drive (Target entrance)                                  | Missing sidewalk                   | Pedestrian Recommendation |
| <b>North-South Routes (listed from west to east)</b>      |  |                                    |                           |
| Mifflin Road  | SR 8 to Hazletville Road   | Missing sidewalk                   | All Users Recommendation  |
| Kenton Road   | SR 8 to Chestnut Grove Road  | Missing sidewalk                   | Planned                   |
| West Street   | North Street to Queen Street   | Missing sidewalk                   | Planned                   |
| North State Street  | Silver Lake to Lepore Drive  | Missing sidewalk                   | Pedestrian Recommendation |
| Pennsylvania Avenue                                       | Kings Highway to Division Street   | Missing sidewalk                   | Pedestrian Recommendation |
| US 13 (Northbound)  | MLK Boulevard to White Oak Road<br>Dover Mall to Denneys Road                | Missing sidewalk                   | Planned                   |
| US 13 (Southbound)  | North State Street to Townsend Boulevard<br>Kings Highway to Division Street | Missing sidewalk                   | Planned                   |
| US 13 (Northbound and Southbound)                         | Gaps between Public Safety Boulevard and South State Street                  | Missing sidewalk                   | Pedestrian Recommendation |
| <b>Intersections Lacking Pedestrian Infrastructure</b>    |  |                                    |                           |
| Intersection  | Limits   | Issues                             | Status                    |
| Crossing College Avenue                                   | DSU Student Housing and DSU campus   | DSU Pedestrian Study               | Pedestrian Recommendation |
| US 13/Roosevelt Avenue                                    | NA   | No pedestrian signal or crosswalks | Pedestrian Recommendation |
| US 13/South State Street                                  | NA   | No pedestrian signal or crosswalks | Pedestrian Recommendation |
| US 13/Webbs Lane  | NA   | No pedestrian signal or crosswalks | Pedestrian Recommendation |
| South State Street/Webbs Lane                             | NA   | No pedestrian signal or crosswalks | Pedestrian Recommendation |

## DELDOT ADA SELF-ASSESSMENT AND TRANSITION PLAN

This plan outlines actions that will be taken to make transportation facilities in the public right-of-way accessible to all individuals. Although pedestrian amenities including sidewalks, curb ramps, crosswalks, and pedestrian signals are located along State maintained rights of way throughout much of Dover, not all pedestrian infrastructure is compliant with ADA regulations. Additionally, some locations are missing pedestrian accommodations entirely.

As part of the self-assessment, DeIDOT conducted an exhaustive inventory of pedestrian facilities located in the DeIDOT right of way, which was documented using GIS (geographic information systems). A detailed view of that assessment is shown on the next page. The DeIDOT ADA Inventory and Assessment Map includes the following:

- Compliant Sidewalk
- Non-compliant Sidewalk
- Missing Sidewalk Link
- Pinch Point
- Marked Crosswalk
- Pedestrian Signal
- Curb Ramps
- Curb Barrier
- Horizontal Gap
- Vertical Elevation Difference
- Bus Stop Patron Pad
- Driveway crossing
- Driveway Crossing Non-Compliant Sidewalk
- On Street Parking
- Railroad Crossing

All pedestrian facilities within the DeIDOT right of way must be designed or retrofitted to be in compliance with the Americans with Disabilities Act (ADA). Compliant standards used by DeIDOT are:

- DeIDOT Road Design Manual
- DeIDOT Standard Construction Details
- DeIDOT Development Coordination Manual
- Manual on Uniform Traffic Control Devices (MUTCD)
- DeIDOT Pedestrian Accessibility Standards

The plan includes a short-term (next five years) schedule to bring noncompliant features into compliance with funding from the capital transportation program or STIP. DeIDOT also instituted the Pedestrian Access Route (PAR) program in order to address complaints, gaps in the pedestrian network, and non-compliant locations that cannot be addressed within the scope of existing programs and projects.

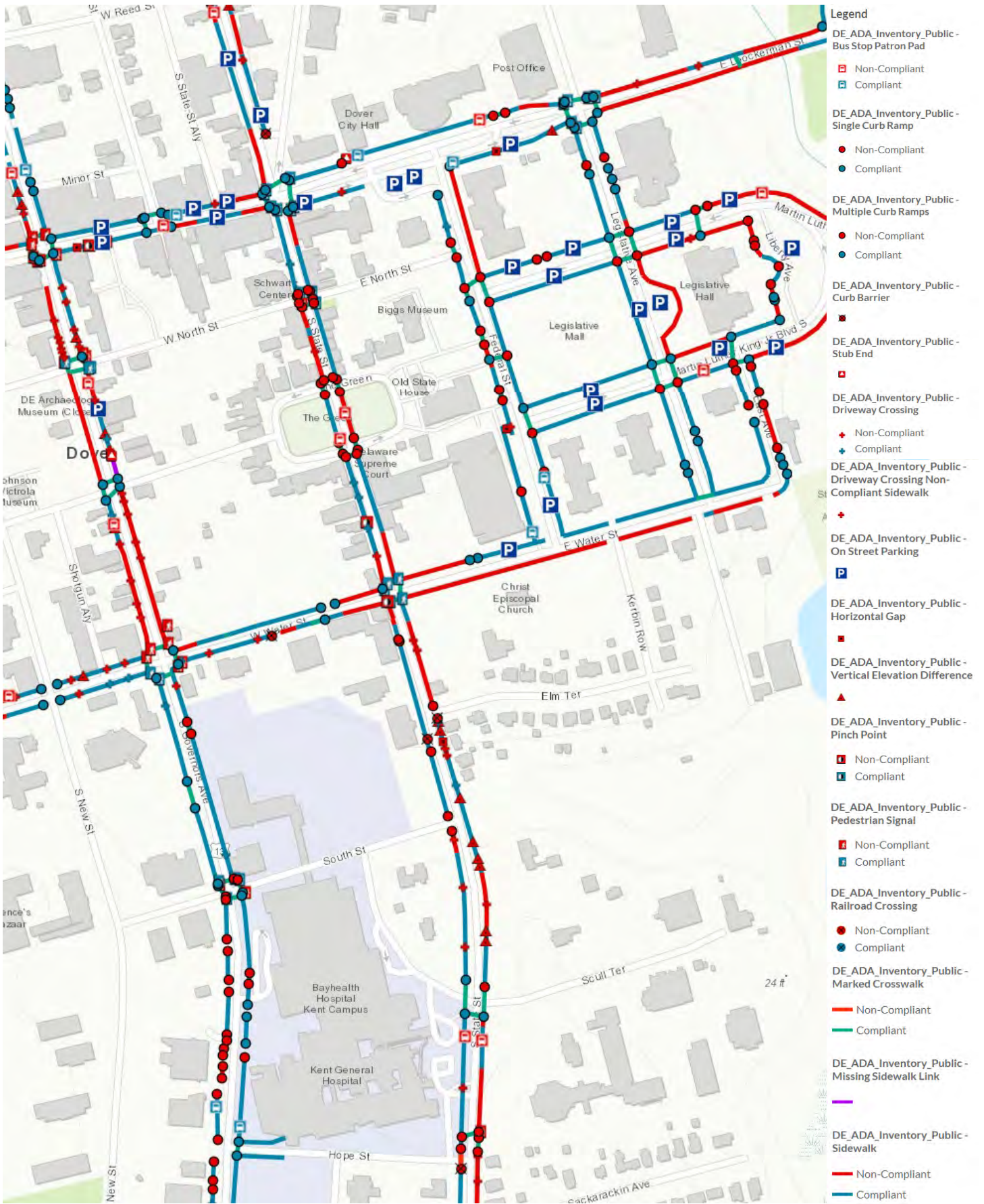


Figure 24. Detail of DeIDOT ADA Self- Assessment Map






# Biking in Dover

## BICYCLE FACILITY DESIGN

There are a wide variety of design techniques and facilities that provide for safe and efficient bicycle travel. The table below provides a summary of the different on-road and off-road bicycle facilities. These techniques are cited in publications such as the DelDOT *Road Design Manual*, the *Delaware Manual on Uniform Traffic Control Devices (MUTCD)*, the American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities* (2012), and the National Association of City Transportation Officials (NACTO) *Urban Bikeway Design Guide* (2014). Images for on-road facilities below are from the *NACTO Urban Bikeway Design Guide*.

Table 3. On and off-road bicycle facility types from the NACTO Urban Bikeway Design Guide

### On-Road Bicycle Facilities

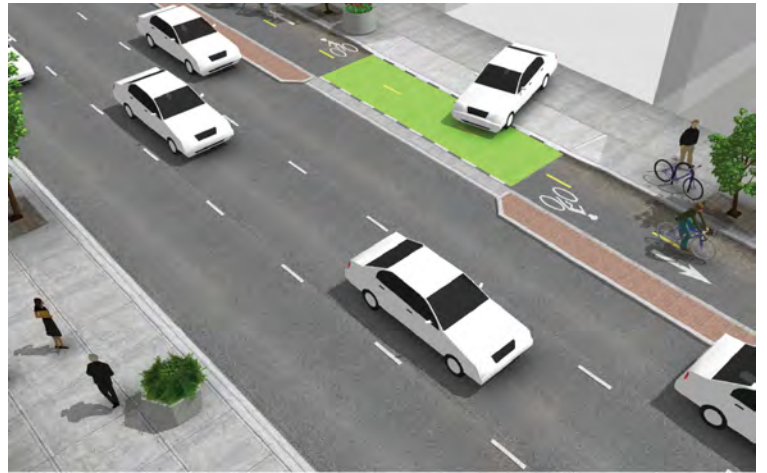
| Type               | Width    | Use  | Example  |
|--------------------|----------|--|--|
| Bike lane          | 5-6 feet | Bicycle travel along the road  |   |
| Colored Bike Lane  | 4-6 feet | Bicycle travel along the road, used in areas of high vehicular conflict          |  |
| Buffered Bike Lane | 7-9 feet | Bicycle travel along the road, preferred where space allows wider infrastructure |  |
| Type               | Width    | Use  | Example  |



*Cycle Track*

10-16 feet

Route within the road, separated from motored vehicles and pedestrians, appropriate on high-speed high-volume roadways



*Bicycle Boulevard*

N/A

Low-volume, low-speed roads where bicycle travel is given priority over motor vehicles





*Sharrows*

N/A

Low-volume, low-speed roads where bike lanes aren't practical



| Type                      | Width     | Use   | Example   |
|---------------------------|-----------|---|---|
| <i>Shared Use Pathway</i> | 8-10 feet | Route separated from motor vehicles and shared with pedestrians. Often parallel to high speed roads |   |
| <i>Trail</i>              | 8-10 feet | Recreational route that connects with the overall bicycle network                                   |  |



## BICYCLE NETWORK DESIGN

Guidance for selecting the appropriate facility for any given corridor type is provided by the Federal Highway Administration (FHWA) *Bikeway Selection Guide* (2019). Collectively, these bicycle facilities make up the city's bicycle network. A robust bicycle network requires thoughtful planning in order to provide good connections and access to destinations. The *Bikeway Selection Guide* identifies three different bicycle user profiles: interested but concerned, somewhat confident, and highly confident; and highlights the fact that different types of users are comfortable using different types of infrastructure, as shown in the graphic below. The design of the bicycle network dictates where high quality facilities are needed due to the roadway condition and adjacent user groups.

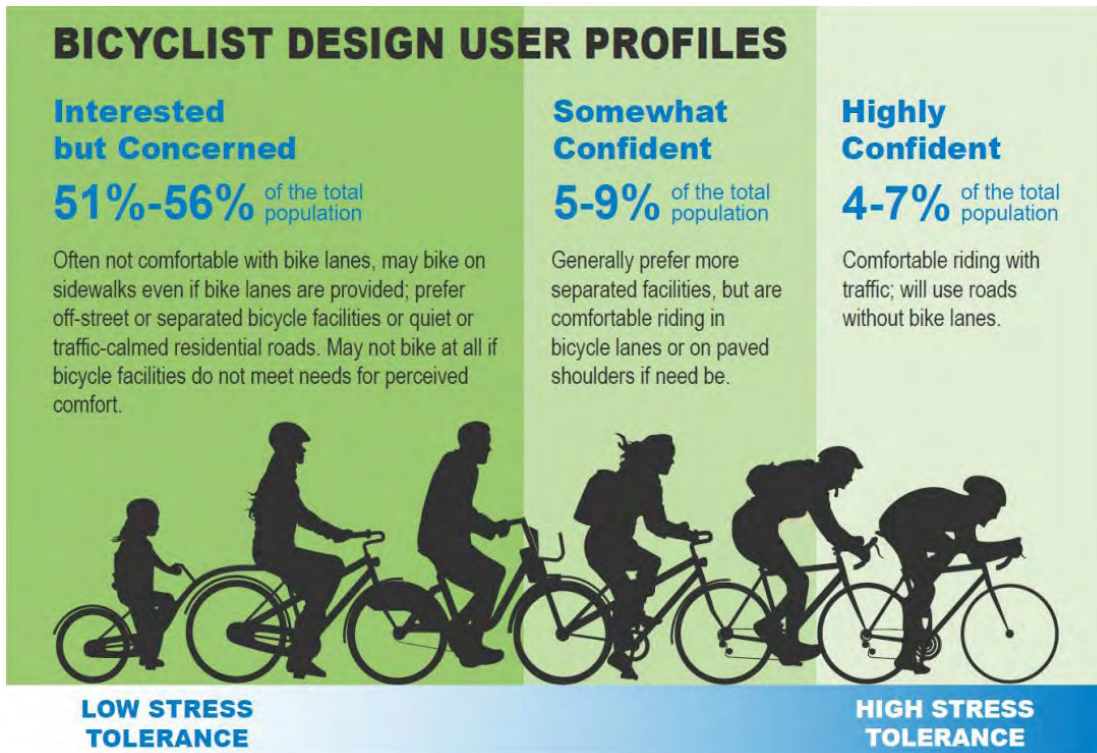


Figure 25. Bicyclist design user profiles from the FHWA *Bikeway Selection Guide*.  
 Note: the percentages above reflect only adults who have a stated interest in bicycling.

With user groups in mind, the *Guide* offers seven principles of bicycle network design shown in the graphic below. Following these principles will result in a bicycle network that provides a safe and convenient transportation alternative for all users. Coupled with this guide, a Level of Traffic Stress analysis of the local transportation network provides a useful way to determine which facility types are appropriate given the physical characteristics of the corridor, including speed, number of lanes, and volume as explained in the next section.



Figure 26. Seven Principles of Bicycle Network Design from the *Bikeway Selection Guide*.

## LEVEL OF TRAFFIC STRESS

All areas of the City do not enjoy equal access to the bicycle network since some parts of the network are only usable by bicyclists comfortable with a high level of traffic stress. According to Northeastern University Professor Peter Furth, who coined the term, Level of Traffic Stress (LTS) is a term used to describe the “combination of perceived danger and other stressors associated with riding a bike close to motor traffic.” LTS analysis uses factors such as the speed of traffic, volume of traffic, and the number of lanes to rate each roadway segment on a scale of 1 to 4, where 1 is a low-stress place to ride and 4 is a high-stress place to ride, as shown in Figure 29. Figure 30 shows the characteristics (number of lanes, volume of traffic, and speed of traffic) that impact bicyclist comfort. When mapped, LTS shows the total connectivity of a network and enables the evaluation of how many destinations can be accessed using low-stress routes

Both the City’s Comprehensive Plan and the State’s *Blueprint for a Bicycle-Friendly Delaware* require the use of LTS analysis in local bicycle network planning. This has allowed for targeted investments in bicycle infrastructure that increase the safety of the network and encourage more users. For example, even though US 13 has bike lanes, they are rarely used because high-speed traffic makes them uncomfortable for most riders. Because of this DelDOT is gradually improving US 13 to have shared use pathways along both sides of the road. Improvements can also be targeted to high-stress intersections that separate multiple low-stress areas; for instance, a crossing over a major road that separates two neighborhoods.

*“...for a bicycling network to attract the widest possible segment of the population, its most fundamental attribute should be low-stress connectivity, providing routes between people’s origins and destinations that do not require cyclists to use links that exceed their tolerance for traffic stress, and that do not involve undue level of detour.” -Dr. Peter Furth*





| Level of Traffic Stress | Description   | Example  |
|-------------------------|---|--|
| 1                       | Safe for children to use; Usually completely separated from auto traffic  |   |
| 2                       | Tolerated by most mainstream adult populations of cyclists; Roads with low volume and low speed auto traffic      |   |
| 3                       | Tolerated by riders who are enthused and confident; Heavy traffic with separated bike facility                    |   |
| 4                       | Only tolerated by strong and fearless riders; cyclists must interact with high volumes or speeds of auto traffic. |  |

Figure 27. Level of Traffic Stress descriptions and examples

| Number of Lanes   | Average Daily Traffic | <25 mph | 30 mph | 35 mph | 40 mph | 45 mph | 50+ mph |
|---|-----------------------|---------|--------|--------|--------|--------|---------|
| 2-way street (no centerline)  | 0-750                 | LTS 1   | LTS 2  | LTS 2  | LTS 3  | LTS 3  | LTS 4   |
|   | 751-2000              | LTS 1   | LTS 2  | LTS 3  | LTS 3  | LTS 4  | LTS 4   |
|   | 2001-3000             | LTS 1   | LTS 2  | LTS 3  | LTS 4  | LTS 4  | LTS 4   |
|   | 3001+                 | LTS 2   | LTS 2  | LTS 3  | LTS 4  | LTS 4  | LTS 4   |
| 1 through lane per direction (1-way street or 2-way street with centerline) | 0-750                 | LTS 1   | LTS 2  | LTS 2  | LTS 3  | LTS 3  | LTS 4   |
|   | 751-2000              | LTS 1   | LTS 2  | LTS 3  | LTS 3  | LTS 4  | LTS 4   |
|   | 2001-6000             | LTS 2   | LTS 3  | LTS 4  | LTS 4  | LTS 4  | LTS 4   |
| 2 through lanes per direction   | 6001+                 | LTS 3   | LTS 3  | LTS 4  | LTS 4  | LTS 4  | LTS 4   |
|   | 0-6000                | LTS 3   | LTS 3  | LTS 3  | LTS 4  | LTS 4  | LTS 4   |
| 3+ through lanes per direction  | 6001+                 | LTS 3   | LTS 4  | LTS 4  | LTS 4  | LTS 4  | LTS 4   |
|   | any ADT               | LTS 3   | LTS 4  | LTS 4  | LTS 4  | LTS 4  | LTS 4   |

Figure 28. Level of Traffic Stress evaluation chart for mixed-traffic conditions where there is not a bike lane or shoulder



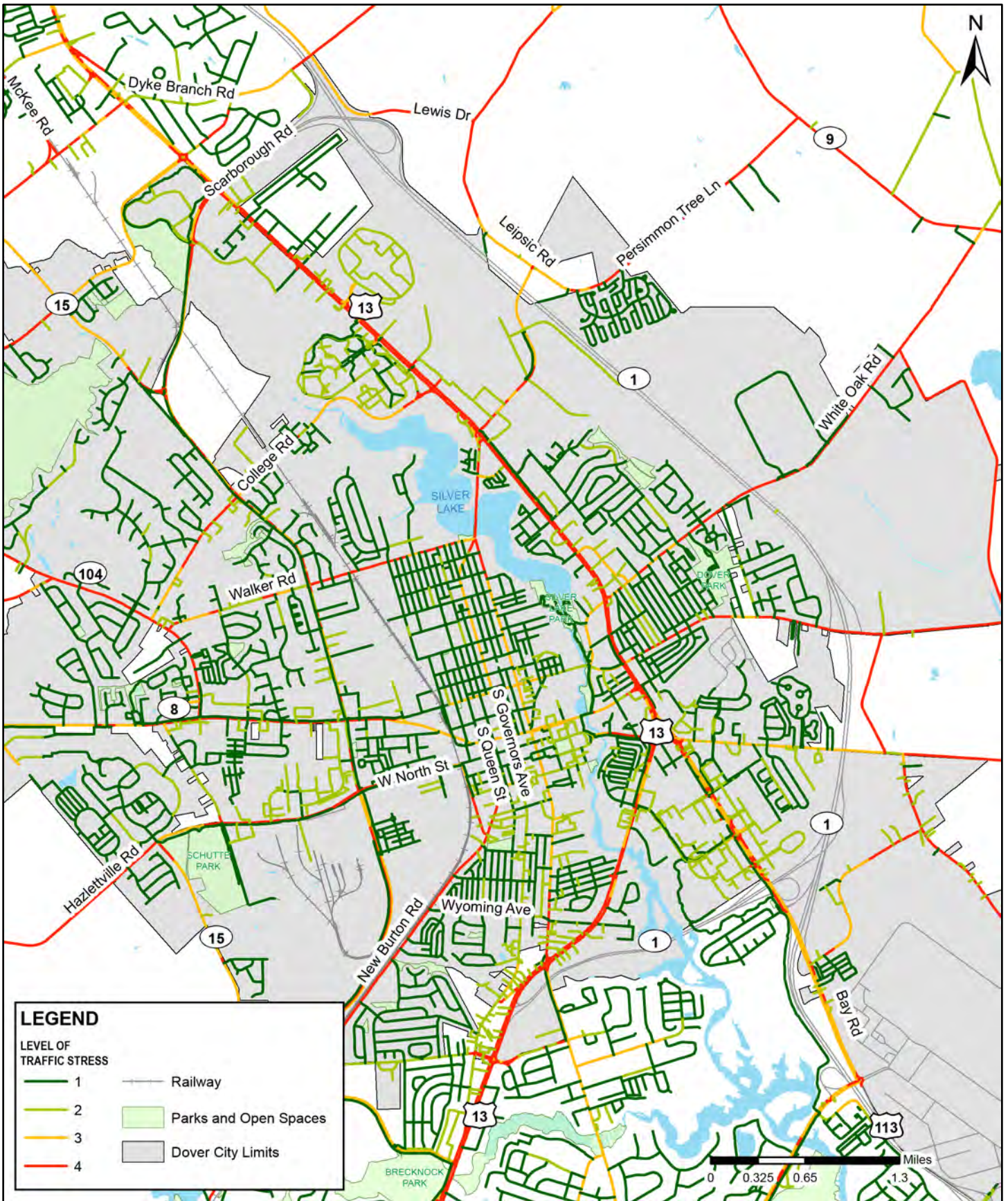


Figure 29. Level of Traffic Stress in the City of Dover. Source: version 4 of the DeIDOT LTS Model.



## CRITICAL GAPS IN THE LOW-STRESS BICYCLE NETWORK

To ensure bicycling is within reach of most of the adult population, improvements are proposed to achieve a target LTS of 2 or better. Some comments received during the development of the Plan suggested removing recommended projects, but they were retained because existing conditions reflect LTS 3 or 4.

The 2015 Bicycle Plan identified and prioritized improvements for 12 roadway segments that discourage bicycle use. Five of the segments identified in 2015 have been or will be addressed by planned DelDOT projects (see page 66). The remaining prioritized segments from 2015 are included below in Table 4, along with additional gaps that were identified based on public feedback, input from the Bicycle and Pedestrian Subcommittee, and the LTS analysis of Dover's streets.

In Table 5, entries in the "Status" field mean the following:

- Planned: there is a project in the DelDOT Capital Transportation Program that will address the issue
- All Users Recommendation: there is a proposed project that will address improvements for walkers and cyclists along the corridor
- Bicycle Recommendation: there is a proposed project that will address improvements for cyclists along the corridor
- Alternate: there is an alternate LTS 1 or 2 route available, as listed in Table 4

Table 4. High-stress road segments with alternate low-stress routes for people who ride bikes

| <b>Alternate Routes for People Bicycling</b>         |                                    |   |
|--|------------------------------------|---|
| <b>High-Stress Road</b>                              | <b>Limits</b>                      | <b>Low-Stress Alternative</b>               |
| <b>West-East Routes (listed from north to south)</b> |                                    |   |
| Walker Road  | Pear Street to State Street        | Ross Street                                 |
| SR 8   | Marsh Creek Lane to Saulsbury Road | Off-road pathway                            |
| Division Street                                      | West Street to Kent Avenue         | Fulton Street > Delaware Avenue             |
| Loockerman Street                                    | West Street to State Street        | Bank Lane or Reed Street                    |
| MLK Boulevard  | Legislative Hall to US 13          | Off-road pathway                            |
| North Street   | Schutte Park to Railroad Tracks    | Off-road pathway                            |
| <b>North-South Routes (listed from west to east)</b> |                                    |   |
| Governors Avenue                                     | Legislative Hall to US 13          | Bradford Street > New Street > Queen Street |
| N. State Street                                      | Walker Road to Cecil Street        | Bradford Street                             |
| S. State Street                                      | Hope Street to Wyoming Avenue      | S. Bradford Street                          |

Table 5. Roadway segments that are high-stress and discourage bicycle use

| <b>Roadway Segments that Discourage Bicycle Use</b>           |  |  |                          |
|---|--|--|--------------------------|
| <b>Road</b>   | <b>Limits</b>                                      | <b>Issues</b>  | <b>Status</b>            |
| <b>West-East Routes (listed from north to south)</b>          |  |  |                          |
| <b>College Road</b>   | McKee Road to Kenton Road                          | High traffic volumes (9,000/day)<br>No bike lanes or shoulders<br>LTS 3/4                    | Bicycle Recommendation   |
| <b>College Road</b>   | Multiple segments<br>McKee Road to US 13           | High traffic volumes (10,000/day)<br>Gaps in the shoulder<br>LTS 3/4                         | Bicycle Recommendation   |
| <b>Walker Road</b>  | Multiple segments<br>Kenton Road to Saulsbury Road | Moderate traffic volumes (7,500/day)<br>Gaps in the shoulder<br>LTS 3/4                      | Bicycle Recommendation   |
| <b>Walker Road</b>  | Saulsbury Road to State Street                     | High traffic volumes (11,000/day)<br>No bike lanes, minimal shoulders<br>LTS 3/4             | Bicycle Recommendation   |
| <b>White Oak Road</b>   | US 13 to Garrison Oak Drive                        | Moderate traffic volumes (8,000/day)<br>Gaps in the shoulder<br>LTS 3/4                      | Bicycle Recommendation   |
| <b>SR 8/<br/>Division Street</b>                              | West Street to US 13                               | High traffic volumes (13,000/day)<br>On-street parking, no bike lanes<br>Predominantly LTS 3 | Alternate                |
| <b>SR 8/<br/>Division Street/<br/>North Little Creek Road</b> | US 13 to SR 1                                      | Moderate traffic volumes (8,000/day)<br>Gaps in the shoulder<br>Predominantly LTS 4          | All Users Recommendation |
| <b>North Little Creek Road</b>                                | SR 1 to Long Point Road                            | Low traffic volumes (1,000/day)<br>No shoulder<br>LTS 4                                      | Bicycle Recommendation   |
| <b>MLK Boulevard/<br/>South Little Creek Road</b>             | Legislative Hall to Babb Drive                     | High traffic volumes (11,000/day)<br>No bike lane or shoulders<br>LTS 3/4                    | All Users Recommendation |
| <b>South Little Creek Road</b>                                | Babb Drive to Fox Road                             | Low traffic volumes (1,500/day)<br>Gaps in the shoulder<br>Predominantly LTS 3               | Bicycle Recommendation   |

| <b>Roadway Segments that Discourage Bicycle Use (continued)</b> |   |   |                                  |
|---|---|---|----------------------------------|
| <b>North-South Routes (listed from west to east)</b>            |   |   |                                  |
| <b>Road</b>   | <b>Limits</b>                             | <b>Issues</b>   | <b>Status</b>                    |
| <b>North-South Routes (listed from west to east)</b>            |   |   |                                  |
| <b>Mifflin Road</b>   | Intersections SR 8 to Hazletville Road    | High Traffic volumes (15,000/day)<br>Unmarked shoulder<br>LTS 3/4                         | All Users Recommendation         |
| <b>Kenton Road</b>  | Denneys Road to Chestnut Grove Road       | High traffic volumes (12,000/day)<br>Minimal shoulders, high Speeds<br>LTS 4              | Bicycle Recommendation           |
| <b>Kenton Road</b>  | Chestnut Grove Road to SR 8               | High Traffic volumes (12,000/day)<br>Minimal shoulders, high speeds<br>LTS 4              | Planned                          |
| <b>Saulsbury Road</b>   | Multiple segments<br>North Street to SR 8 | High traffic volumes (25,000/day)<br>Bike lane not continuous<br>LTS 4                    | Planned                          |
| <b>S. West Street</b>   | Water Street to Queen Street              | High traffic volumes (8,000/day)<br>Partial pathway available<br>LTS 3/4                  | Planned                          |
| <b>N. Burton Road</b>   | POW/MIA Parkway to West Street            | High traffic volumes (11,000/day)<br>Minimal shoulders, high speeds<br>LTS 4              | Bicycle Recommendation           |
| <b>North State Street</b>                                       | Intersection with US 13                   | High traffic volumes (15,000/day)<br>No shoulders at approach to intersection<br>LTS 4    | Bicycle Recommendation           |
| <b>N./S. State Street</b>                                       | Walker Road to Lotus Street               | High traffic volumes (8,000-13,000)<br>Parking on both sides/no shoulders<br>LTS 3/4      | Alternate                        |
| <b>South State Street</b>                                       | Lotus Street to US 13                     | High traffic volumes (10,000-13,000)<br>4 lanes no shoulders<br>LTS 4                     | Bicycle Recommendation           |
| <b>Kings Highway NE</b>   | E. Division Street to US 13               | Moderate traffic volumes (7,000/day)<br>No shoulders at approach to intersection<br>LTS 3 | Bicycle Recommendation           |
| <b>US 13</b>  | Puncheon Run to Scarborough Road          | Very high traffic volumes (26,000-74,000/day)<br>4-6lane high speed highway<br>LTS 4      | Multiple project Recommendations |

## Planned DeIDOT Projects

DeIDOT has numerous projects planned in the City of Dover that will enhance mobility and safety for pedestrians and bicyclists. Proposed projects shown in Table 6 are based on the DeIDOT Fiscal Year 2021 - 2026 Capital Transportation Plan (CTP) as published in November 2020. Projects are listed in order of anticipated construction date and alphabetically. The description indicates whether or not construction is funded. Projects are also mapped in Figure 32.

Table 6. Planned DeIDOT projects

| Anticipated Construction | Project   | Limits   | Description  |
|--------------------------|---|--|--|
| 2022                     | 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.  |
| 2025                     | 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.                       |
| 2025                     | 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.   |
| 2026                     | 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. |
| 2026+                    | 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.                    |
| 2026+                    | 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.  |
| 2026+                    | 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.   |



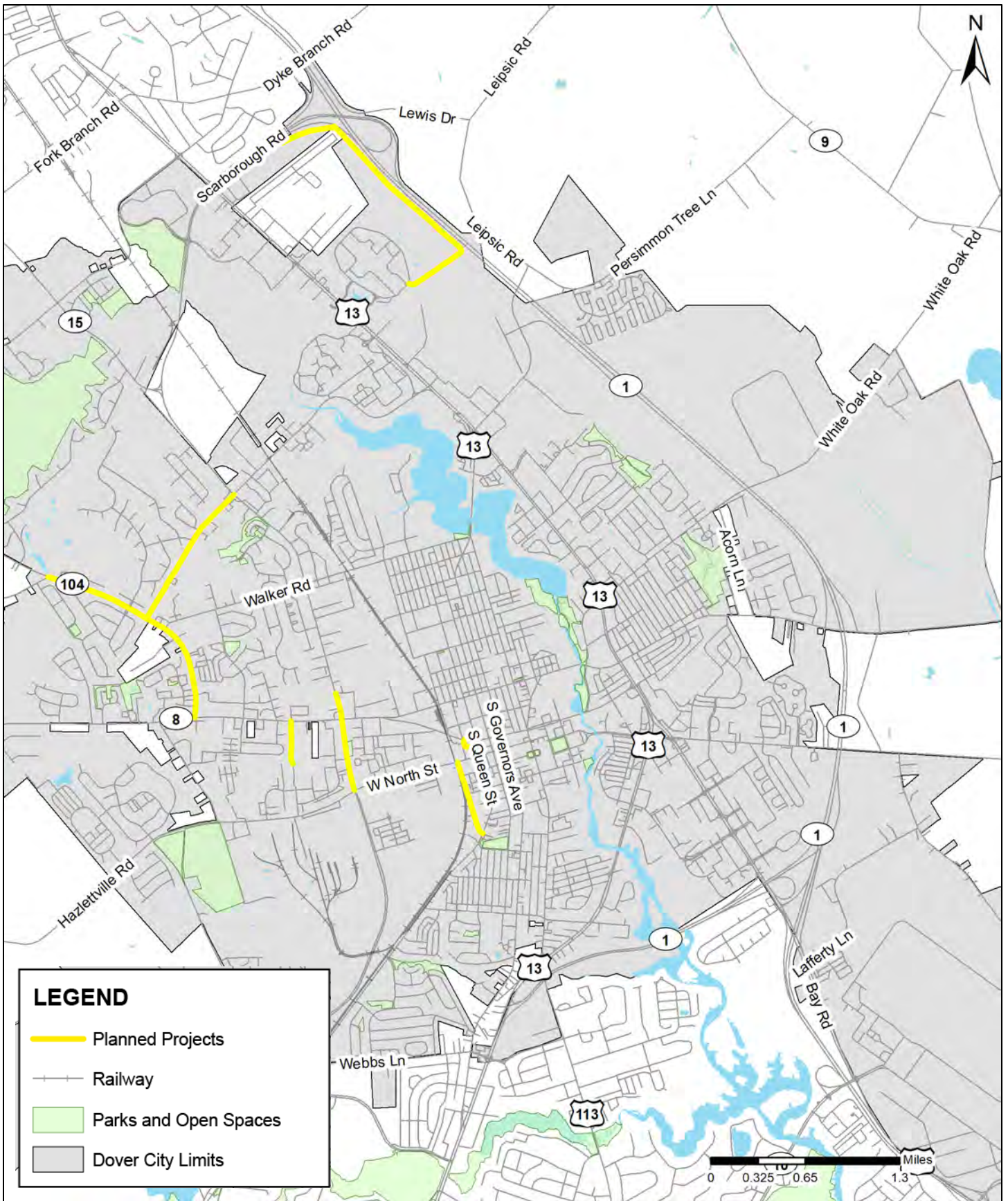


Figure 30. Map of DeIDOT planned projects



# HEP KC, SR 8 and SR 15 Intersection Improvements

Project Type: Complete street/safety improvements

Ranked 6<sup>th</sup> in the 2015 Bike Plan and 1<sup>st</sup> in the 2017 Regional Plan



**Project Description:** The existing intersection of SR 8 - Forrest Avenue & SR 15 - Saulsbury Road is a signalized intersection with a left-turn lane, through lane, bike lane, and channelized right-turn lane on the SR 15 approaches, and a left-turn, two through lanes, and a channelized right-turn on the SR 8 approaches. This project proposes installing an additional through lane on northbound and southbound SR 15 at SR 8. The project will also include a 10-foot shared use pathway along the west side of Saulsbury Road north of SR 8.

**Project Justification:** This project was cited in the 2012 Hazard Elimination Program, Site S for capacity and safety improvements. Multi-modal improvements along Saulsbury Road in the vicinity of Division Street ranked 6<sup>th</sup> in the 2015 Bicycle Plan and 1<sup>st</sup> and 2<sup>nd</sup> 2017 Regional Bicycle Plan. Both plans called for completing the bike lane along the west side of Saulsbury Road at Gateway west.

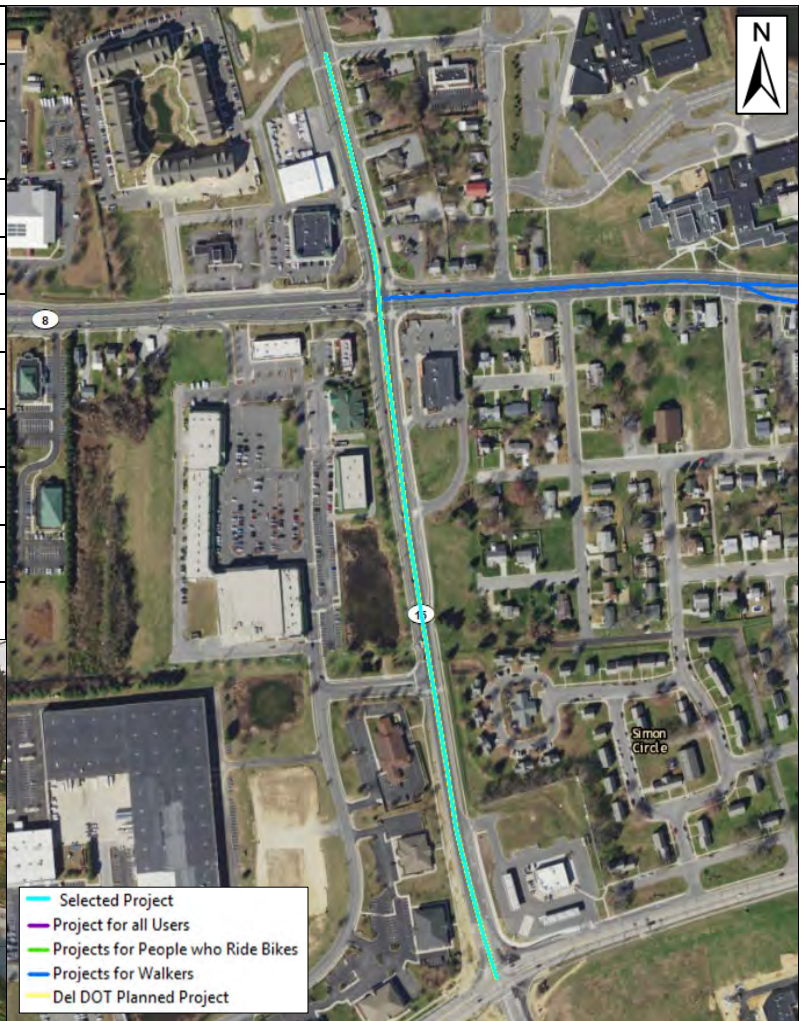
**Connection to Low-Stress Network:** This Saulsbury Road pathway continues along Saulsbury Road to the north and south of project limits. It also connects to the Forrest Avenue pathway in the north and the W. North Street pathway in the south.

**Estimated Cost:** \$5,062,000

**Timing:** Design and Right-of-Way FY 2019 - FY 2021; Construction FY 2022

**Recommendation:** Provide comments on design to ensure project meets the needs of walkers and people who ride bikes.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |



# Loockerman Street/Forest Street Improvements

Project Type: Intersection Improvements

Status: Included in the CTP



**Project Description:** This project will include a series of improvements in the vicinity of the intersection of Forrest and Loockerman Street that will encourage economic development and alternative modes of transportation. The planned improvements include implementing a roundabout to improve traffic circulation that incorporates streetscape improvements, creating a pedestrian friendly zone at the railroad crossing, and creating a new gateway with intersection improvements at Division Street and Forest Street.

**Project Justification:** This project will improve safety for multi-modal movements throughout the area and encourage economic development as detailed in the 2015 Division/Forest Street Dover Capital Gateway Plan and Design Book. This project was not included in the 2015 Bicycle or Pedestrian Plan but was included in the TIP as a project that will provide a multi-modal connection.

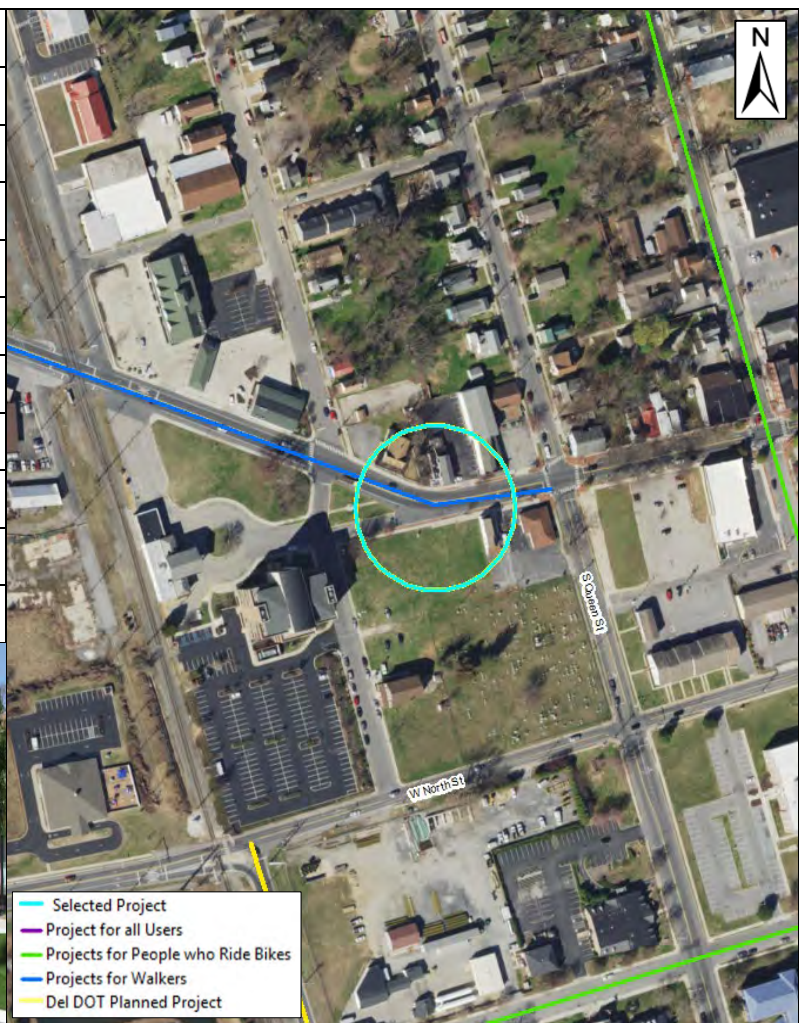
**Connection to Low-Stress Network:** Unknown

**Estimated Cost:** \$3,996,830

**Timing:** Construction not funded

**Recommendation:** Provide comments on design to ensure project meets the needs of walkers and people who ride bikes.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





# K104, Kenton Rd. SR 8 to Chestnut Grove Rd.

Project Type: Complete Street

Ranked 2<sup>nd</sup> in the 2015 Pedestrian Plan and ranked 10<sup>th</sup> in the Bicycle Plan



**Project Description:** This project will improve vehicle, pedestrian, and bicycle travel along Kenton Road (K104) between SR 8/Forrest Avenue and Chestnut Grove Road (K158) in Dover. The improvements will involve widening Kenton Road to include two 11-foot lanes with two five-foot shoulders along with curbs, sidewalks, and bike lanes. A 10-foot wide shared use pathway will be provided along the east side of Kenton Road from SR 8 to College Road and the pathway along the west side from College Road to West Carnoustie Road will be continued. The project will include closed drainage, traffic calming, and safety improvements.

**Project Justification:** This stretch of Kenton Road in the City of Dover has remained unimproved for pedestrian and bicycle access and still has open drainage for storm water. This project was ranked 2<sup>nd</sup> in the 2015 Pedestrian Plan and was listed as a proposed DeIDOT project in the 2015 Bicycle Plan.

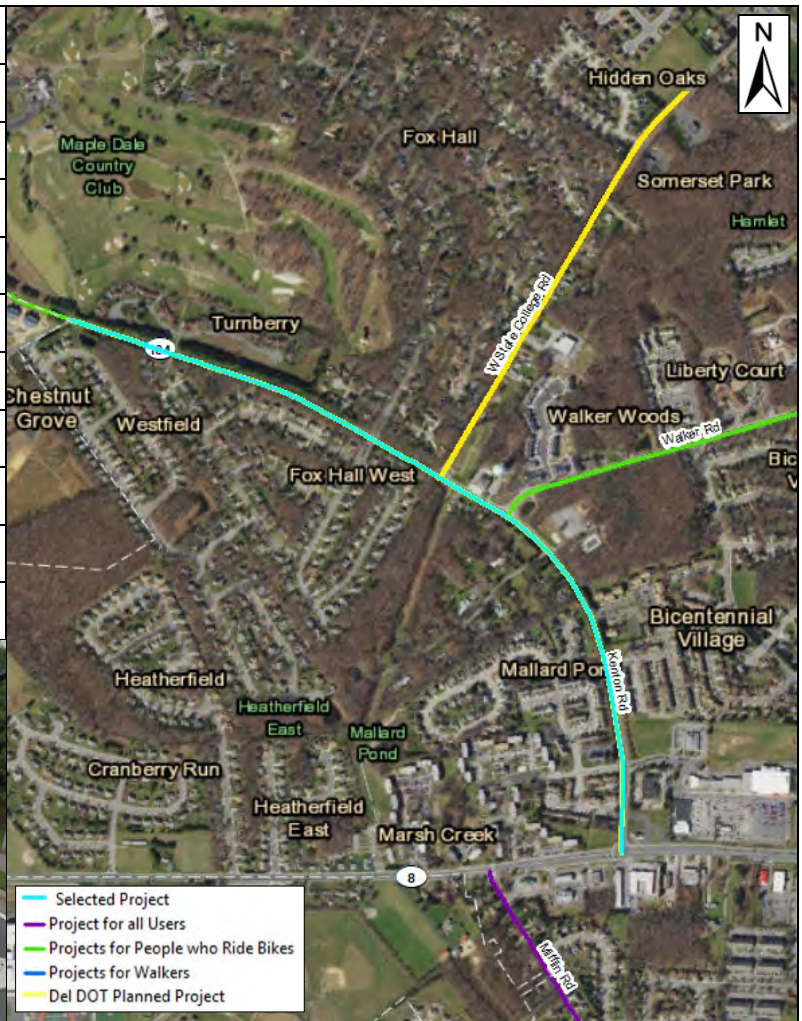
**Connection to Low-Stress Network:** Kenton Road is primarily LTS 4. This project will lower the LTS and provide a low-stress connection between multiple residential neighborhoods and the pathway along Forrest Avenue to the south.

**Estimated Cost:** \$19,501,500

**Timing:** Design FY 2019 - FY 2021, Right-of-Way FY 2020 - FY 2021, Construction FY 2026

**Recommendation:** None. Project design has been finalized.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | partial  |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





# West Street, New Burton Road to North Street

Project Type: Complete Street

Ranked 3<sup>rd</sup> in 2015 Pedestrian Plan and 4<sup>th</sup> in 2015 Bicycle Plan



**Project Description:** This project will include improvements to the road surface and provisions for pedestrian and bicycle along West Street between W. North Street and S. Queen Street.

**Project Justification:** The Dover Transit Center is located at the southeast corner of the intersection of W. Water Street and S. West Street. West Street is a critical connection for the DART Transit service in the city of Dover. Buses use West Street to enter and exit the Transit Center. It is also a popular route for walkers and cyclists between North Street and New Burton Road but has not been built to the standards for this use. This is a proposal for road improvements and non-motorized access on the street and for the Transit Center. This project was identified by the Dover/Kent County MPO as part of their pedestrian studies. Multi-modal improvements along West Street ranked 3<sup>rd</sup> in the 2015 Pedestrian Plan and 4<sup>th</sup> in the 2015 Bicycle Plan. A shared use pathway between North Street and Water Street was completed in June 2018.

**Connection to Low-Stress Network:** This project will connect low-stress residential neighborhoods to the south of the S. West Street/S. Queen Street intersection to the Dover Transit Center and the pathway along W. North Street.

**Estimated Cost:** \$1,300,000

**Timing:** Design FY 2022, Right-of-Way FY 2023 - FY 2024, Construction FY 2025

**Recommendation:** Provide comments on design to ensure project meets the needs of walkers and people who ride bikes.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts | likely   |



# College Road, Kenton Road to McKee Road

Project Type: Complete Street

Ranked 6<sup>th</sup> in the 2015 Pedestrian Plan, 3<sup>rd</sup> in the 2015 Bicycle Plan, and 4<sup>th</sup> in the 2017 Regional Plan



**Project Description:** The proposed improvements consist of pavement rehabilitation, construction of shoulders and sidewalks on both sides of College Road, minor intersection improvements to accommodate bicycles, and minor drainage improvements. Some utility relocations will be necessary, as well as limited acquisition of right-of-way and easements. Additionally, the entire roadway will be overlaid with new pavement. A shared use pathway may be necessary to achieve a low LTS.

**Project Justification:** This project was identified by the City of Dover as a priority need and supported by the Dover/Kent County MPO. This roadway serves as a critical east west connector and needs to address the transportation needs for all modes and users. Multi-modal improvements along College Road ranked 6<sup>th</sup> in the 2015 Pedestrian Plan, 3<sup>rd</sup> in the 2015 Bicycle Plan, and 4<sup>th</sup> in the 2017 Regional Bicycle Plan.

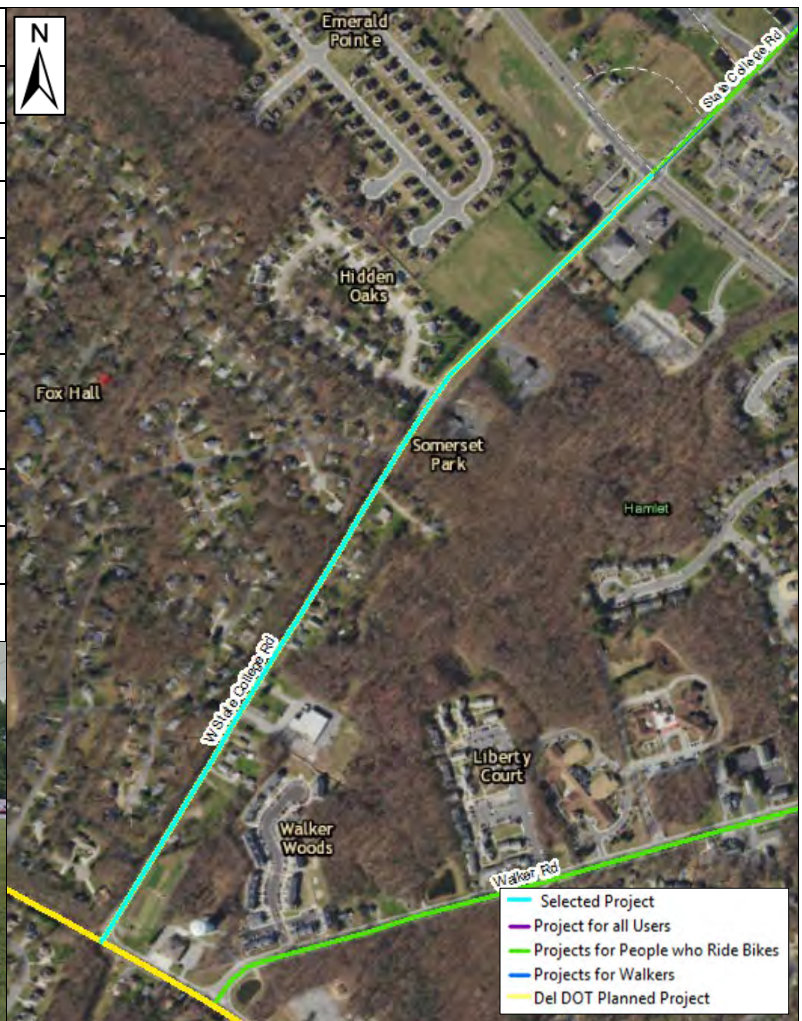
**Connection to Low-Stress Network:** College Road between Kenton Road and McKee Road is currently LTS 3 and 4. This project will ensure continual bike lanes and sidewalks along College Road, connecting the pathway along McKee Road to the proposed improvements along Kenton Road (described on page 70).

**Estimated Cost:** \$4,250,000

**Timing:** Design FY 2023 - FY 2024, Right-of-Way FY 2025, Construction unfunded

**Recommendation:** Provide comments on design to ensure project meets the needs of walkers and people who ride bikes.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | limited  |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | some     |
| Existing sidewalks nearby              | none     |
| Shoulders                              | none     |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | likely   |





# Scarborough Road C-D Roads

Project Type: New Facility

Status: Included in CTP



**Project Description:** This project proposes a new southbound collector distributor road adjacent to SR 1 just south of the Scarborough Road Interchange to allow for an additional access to the properties to the west of SR 1 in this area. The project would also include on and off ramps for northbound SR 1 accessing the area of Dover Mall and Dover Downs.

**Project Justification:** This project will relieve congestion on US 13, improve safety for multi-modal movements throughout the area and encourage economic development. This project was part of the recommendations from the Dover/Kent County MPO North Dover US 13 Study. The intent of this project is to relieve congestion along the US 13 corridor by constructing a new access point from SR 1 to the commercial center near the Dover Mall. This project was not included in the 2015 Bicycle or Pedestrian plan but was included in the TIP as a project that will provide a multi-modal connection.

**Connection to Low-Stress Network:** This project would connect the low-stress neighborhoods located east of US 13 and south of Scarborough Road to the pathway along Old Leipsic Road, and eventually, to Downtown Dover via N. State Street.

**Estimated Cost:** \$33,050,000

**Timing:** Design FY 2024, Right-of-Way unfunded, Construction unfunded

**Recommendation:** Provide comments on design to ensure project meets the needs of walkers and people who ride bikes.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              |          |
| Shoulders                              |          |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |



## SR 8, Connector from Commerce Way to SR 8

Project Type: New Facility

Status: Included in TIP on page A-41, included in CTP on page 407



**Project description:** This project proposes a new connector road from SR 8 to Commerce Way. The connector will consist of 2 travel lanes with accommodations for bicycles and sidewalks and/or multi use pathways for pedestrians.

**Project justification:** This project was part of the recommendations from the Dover/Kent County MPO Route 8 Study. The intent of this project is to improve circulation and connectivity along the SR 8 corridor through Dover. This project was not included in the 2015 Bicycle or Pedestrian plan but was included in the TIP as a project that will provide a multi-modal connection.

**Connection to Low-Stress Network:** This project would connect the pathways along SR 8/Forrest Avenue with the pathways along Route 15/W. North Street.

**Estimated Cost:** \$2,500,000

**Timing:** Design FY 2021 - FY 2023, Right-of-Way FY 2024 - FY 2025, Construction FY 2025 - FY 2026

**Recommendation:** Provide comments on design to ensure project meets the needs of walkers and people who ride bikes.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |

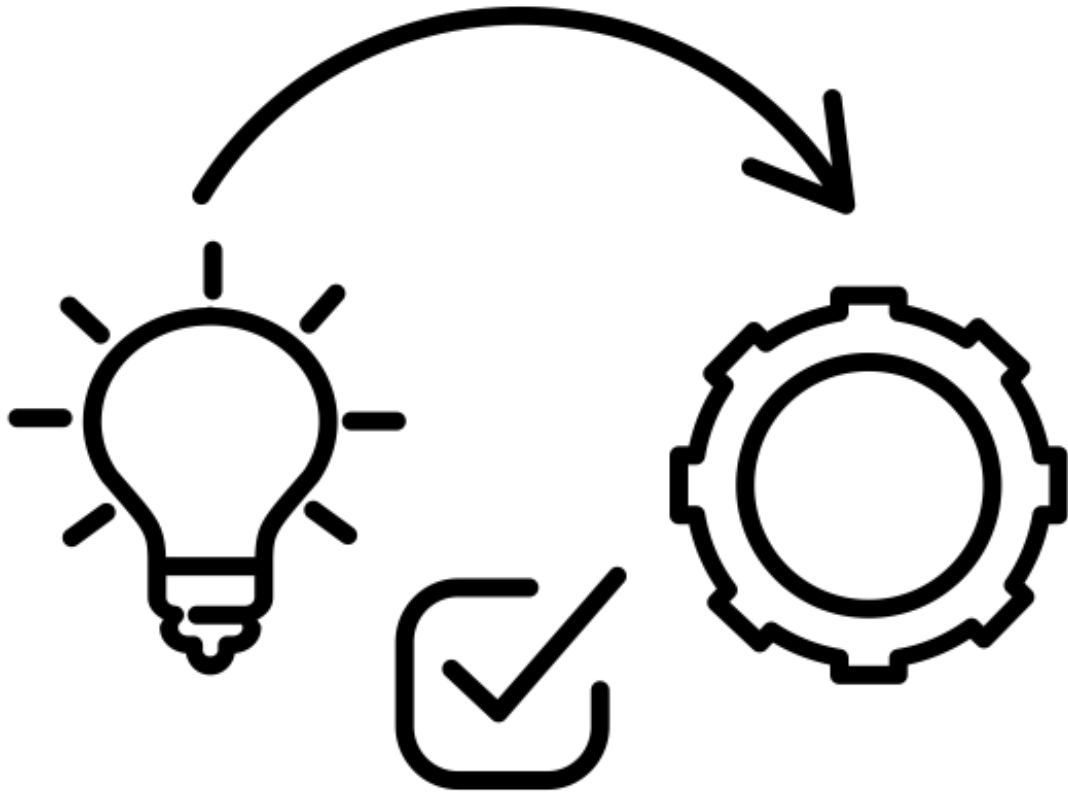




# DeIDOT Projects Portal

-  Studies 
-  Planning & Design 
-  Advertising / Bid / Award 
-  Under Construction 
-  Completed 

Figure 31. DeIDOT Projects Portal is available to check on the status of any active project, just visit [delDOT.gov/projects](http://delDOT.gov/projects)



## 5. HOW WE GET THERE

## Opportunities

The City of Dover, particularly in its downtown core, has had a long history of ensuring that the needs of people walking and bicycling are considered and incorporated as part of land development and transportation investment decisions. The City has made significant progress over the past several decades in ensuring that the needs of people walking and bicycling are equitably addressed alongside other transportation modes. This is reflected in the City's municipal code, its land use design standards, and the recent installation of numerous privately- and publicly-funded pedestrian and bicycle improvements throughout the City. The City has required that sidewalks be installed as part of all new development projects since at least the 1980s. The City's first Traditional Neighborhood Design, the Eden Hill Farm, is being developed as a community whose primary emphasis will be on the pedestrian and connectivity to adjacent mixed land uses. Since the Bicycle and Pedestrian Plan was completed in 1997, the City has also developed trail networks in its major parks, including Silver Lake Park and Schutte Park.

In addition, DelDOT has enhanced pedestrian mobility and safety as part of roadway improvement projects on major routes such as Walker Road, South Governors Avenue, and North Street. DelDOT has also been proactive about incorporating pedestrian needs into their traffic signal designs, as evidenced by recent signal upgrades along Division Street and North Street. DelDOT has also prioritized the growth of the low-stress bicycle network, as reflected by multiple shared use pathways and trails like the Capital City Trail and the St. Jones River Greenway.

The City's Bicycle and Pedestrian Subcommittee submitted applications to be designated as a "Walk Friendly Community" and a "Bicycle Friendly Community," during which the City's policy, plans, programs, and infrastructure were evaluated by a third party. The feedback the City received from these applications is detailed on the next two pages and offers a good overview of the ways that Dover can grow to be even more friendly to people walking and bicycling.

A variety of agencies, including the City of Dover, DelDOT, and the MPO, have identified areas that need infrastructure improvements as well as policy recommendations. At the public workshop held on October 21, 2019, the public was also afforded the opportunity to identify locations where they feel uncomfortable walking or biking. The information presented in this section details the areas of highest need within the City as identified by the public, the Subcommittee, and applicable government agencies.



## WALK FRIENDLY COMMUNITY REPORT CARD

The City's Bicycle and Pedestrian Subcommittee submitted an application to Walk Friendly Communities for designation as a "Walk Friendly Community." Recognition is awarded to places that have shown a commitment to improving and sustaining walkability and pedestrian safety through comprehensive programs, plans, and policies. After a detailed evaluation, communities are ranked Bronze, Silver, Gold, or Platinum. Standards are high, and across the US a little more than 70 cities have achieved a ranking, with only three achieving Platinum Status. In 2017, Dover's application was evaluated and declined. Walk Friendly Communities provided the City with numerous recommendations for improving conditions for walking and encouraged the City to apply as soon as conditions improve.

One key recommendation was to revisit the pedestrian plan and incorporate more specific targets and performance metrics that can be used to measure progress, including targets for safety and increasing the number of walking trips. The City of Dover and the Bicycle and Pedestrian Subcommittee have evaluated these recommendations and incorporated them into this document as appropriate.

| Category  | Score*             | Recommendations   |
|---|--------------------|---|
| Status of Walking   | On the Right Track | <ul style="list-style-type: none"> <li>Take steps to monitor pedestrian activity using regular counts</li> <li>Examine at least five years of crash data to look for trends and locations where you can focus your efforts</li> </ul>   |
| Planning  | On the Right Track | <ul style="list-style-type: none"> <li>Revisit your pedestrian plan and incorporate specific targets and performance metrics.</li> <li>Develop a Complete Streets Policy</li> <li>Create a standalone parking plan that encourages walking, biking, and transit use</li> </ul>  |
| Education/Encouragement   | On the Right Track | <ul style="list-style-type: none"> <li>Expand walk and bike to school programs by holding more events throughout the year</li> <li>Improve wayfinding signage downtown that identifies nearby destinations</li> <li>Hold Open Streets events to get people walking and biking in the street</li> </ul>  |
| Engineering   | On the Right Track | <ul style="list-style-type: none"> <li>Develop a plan to address filling sidewalk gaps</li> <li>Develop a plan to add accommodations for pedestrians and bicyclists during the bridge rehabilitation process</li> </ul>   |
| Enforcement   | On the Right Track | <ul style="list-style-type: none"> <li>Target yield enforcement using a pedestrian decoy technique coupled with a progressive ticketing scheme</li> <li>Consider enforcing speed limits using automated enforcement</li> </ul>  |
| Evaluation  | Needs Attention    | <ul style="list-style-type: none"> <li>Invest in a few permanent count locations, set up a few short-duration counters, and conduct manual counts to understand crash data and where investments are needed</li> <li>Conduct pre- and post- evaluations for developments and other projects to see how efforts have improved pedestrian safety</li> </ul> |
| <p>* Scores are defined as follows:</p> <ul style="list-style-type: none"> <li><i>Walk Friendly:</i> The responses in this section indicate that your community is particularly strong in this area with great efforts being made towards improving walkability.</li> <li><i>On the Right Track:</i> This score indicates that your community does not exhibit the characteristics to be truly walk friendly in this section, but that there are still good existing programs or new programs that could be expanded.</li> <li><i>Needs Attention:</i> This score indicates that your community does not yet demonstrate strong programs, policies, and results, characteristic of a Walk Friendly Community based on the responses in this section.</li> </ul> |                    |   |

Figure 32. Summary of the Walk Friendly Communities Community Report Card for Dover, Delaware.

## BICYCLE FRIENDLY COMMUNITY REPORT CARD

In 2013, the City's Bicycle and Pedestrian Subcommittee submitted an application to the League of American Bicyclists for designation as a "Bicycle Friendly Community." The League awards communities who apply for this designation after a detailed evaluation, and based on criteria that include engineering, education, encouragement, enforcement, evaluation & planning. Using these criteria, the League further ranks an awarded community as to its level of bike-friendliness with a Bronze, Silver, Gold or Platinum ranking. Standards are high, and across the US, fewer than 300 cities have achieved Bicycle Friendly Community awards, with only four of them achieving Platinum status. Although they were turned down, the 2013 Report Card was used as a guide that led to a successful application process in 2017.

In 2017, Dover was awarded Bronze status which will be valid from 2017 to 2021. The League provided the city with numerous recommendations for improving conditions for bicycling and earning Silver status, including:

- Increasing the amount of high-quality bicycle parking throughout the community
- Improving Bike Month activities by creating a Bike to School Day Event
- Ensure there is a plan for continual improvements to the bicycle network with a goal of creating a safe and comfortable bicycle network for people of all ages and abilities

The League gave the City good marks for an active bicycle advisory committee, which has since been disbanded.

### 10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

|   | Average Silver         | Dover                      |
|---|------------------------|----------------------------|
| High Speed Roads with Bike Facilities                       | 40%                    | 28%                        |
| Total Bicycle Network Mileage to Total Road Network Mileage | 47%                    | 21%                        |
| Bicycle Education in Schools                                | GOOD                   | ACCEPTABLE                 |
| Share of Transportation Budget Spent on Bicycling           | 11%                    | UNKNOWN                    |
| Bike Month and Bike to Work Events                          | GOOD                   | AVERAGE                    |
| Active Bicycle Advocacy Group                               | YES                    | YES                        |
| Active Bicycle Advisory Committee                           | MEETS EVERY TWO MONTHS | MONTHLY OR MORE FREQUENTLY |
| Bicycle-Friendly Laws & Ordinances                          | SOME                   | GOOD                       |
| Bike Plan is Current and is Being Implemented               | YES                    | YES                        |
| Bike Program Staff to Population                            | 1 PER 91K              | 1 PER 61K                  |

### CATEGORY SCORES

|   |         |
|---|---------|
| <b>ENGINEERING</b><br><i>Bicycle network and connectivity</i>                   | 2.3 /10 |
| <b>EDUCATION</b><br><i>Motorist awareness and bicycling skills</i>              | 3.8 /10 |
| <b>ENCOURAGEMENT</b><br><i>Mainstreaming bicycling culture</i>                  | 4.0 /10 |
| <b>ENFORCEMENT</b><br><i>Promoting safety and protecting bicyclists' rights</i> | 4.4 /10 |
| <b>EVALUATION &amp; PLANNING</b><br><i>Setting targets and having a plan</i>    | 4.4 /10 |

### KEY OUTCOMES

|  | Average Silver | Dover |
|--|----------------|-------|
| <b>RIDERSHIP</b><br><i>Percentage of Commuters who bike</i>                      | 2.6%           | 0.64% |
| <b>SAFETY MEASURES CRASHES</b><br><i>Crashes per 10k bicycle commuters</i>       | 549            | 330.1 |
| <b>SAFETY MEASURES FATALITIES</b><br><i>Fatalities per 10k bicycle commuters</i> | 7.3            | 194.2 |

Figure 33. Bicycle Friendly Community Dover, DE Fall Report Card excerpt

# Recommendations

Based on the walking and bicycling network, the mix of land uses, and potential destinations, there are ample opportunities to enhance walking and bicycling as modes of transportation in the City of Dover. This Plan provides recommendations that correspond with the six “Es” approach supported by the League of American Cyclists and Safe Routes to Schools: Equity, Engineering, Education, Encouragement, Enforcement, and Evaluation. The concept was developed as a tool to aid communities in creating walk and bicycle friendly places. Each “E” needs investment in order to get more people out walking and biking.

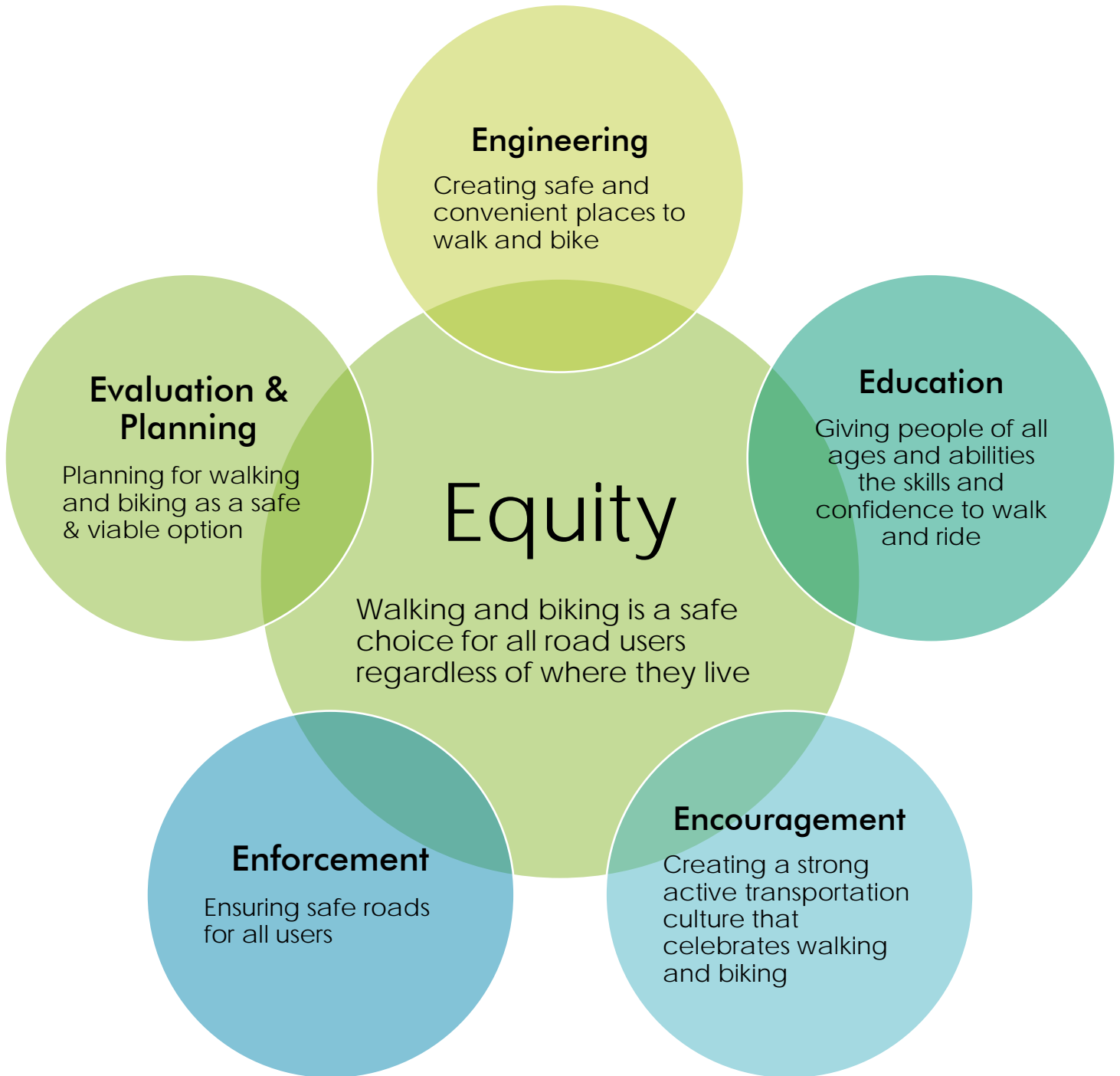


Figure 34. The six "Es" of active transportation planning, adapted from the League of American Cyclists

## EDUCATION

Dover should undertake the following actions to educate people on how to walk and bike safely within the City:

### *Develop wayfinding signage*

Incorporate wayfinding signage on popular walking and cycling routes and incorporate wayfinding signage into all future projects. Signs should identify nearby destinations and travel times. Regularly located signage that includes orientation maps can also help walkers and bicyclists find their way around the City.

Bike Delaware worked with DelDOT to develop user friendly MUTCD compliant signs that are being used in Old New Castle for riders to navigate between the recently completed Markell Trail and New Castle's downtown. This type of signage would help Dover residents and visitors navigate the expanding low-stress bicycle network.



Figure 35. MUTCD compliant bicycle wayfinding signage

### *Develop print and digital pedestrian and bicycle wayfinding maps*

Develop maps that show low-stress routes for walkers and bicyclists.

### *Offer classes in partnership with existing organizations in Dover*

The 2015 Bicycle Plan called for regularly occurring classes in Dover, open to local, statewide, and regional attendees. The Dover Parks Department organized a Traffic Skills 101 class, but it was cancelled due to lack of registrants. This plan proposes partnering with existing organizations, non-profits, employers, or institutions to offer instruction. The partner organization can gauge interest and promote the event, and Bicycle and Pedestrian Subcommittee can coordinate an appropriate instructor. Possible classes might include the following:

- League-Certified Instructor Seminar
- Traffic Skills 101
- Traffic Skills 201

### *Provide workshops to the general public*

In the past, the City has partnered with local bike shops to host Bicycle Maintenance Workshops. The City's Parks and Recreation Department is open to working with resource partners to host workshops again in the future if requested. Workshop topics could include:

- Commuter skills
- Bicycle maintenance
- Bicycle safety
- Multi-sport clinic

### *Educational support*

Support the Delaware Bicycle Council in having driver's education programs include information on a bicyclist's right to use the road in Delaware. Also support DBC/DelDOT efforts to hand out bike lights. In conjunction with the YMCA, host a minimum of 3 bike rodeos for youth, supporting them in developing bicycle skills. Rodeos are held at the YMCA swim club and at the Police Department, as well as in Dover schools. Additional rodeos could be held before the Ride of Silence and before the Mayor's Bike Ride.

- Driver's education program
- Bike light give-away
- Bike rodeos



## ENCOURAGEMENT

Dover should undertake the following actions to further encourage walking and cycling awareness within the City:

### *Dover Bike to Work Day*

The City of Dover hosts an annual Bike to Work day event each May in celebration of National Bike Month hosted at Dover Public Library. The City provides, water, snacks, and socializing to riders on their way to work. City and State officials are also on hand to share the work underway to make the city more bicycle friendly.

### *Ride of Silence*

The City of Dover hosts a Ride of Silence every year on the third Wednesday of May. The Ride of Silence is a worldwide event where cyclists take to the road in a silent procession to honor cyclists who have been killed or injured while cycling on public roadways. The Ride of Silence is a free ride, but requires participants to wear helmets, ride no faster than 12 miles per hour, and remain silent throughout the course of the ride. The goal of the event is to raise awareness to the general public, local officials, and police that cyclists have a legal right to use public roadways.

### *Amish Country Bike Tour*

Over 2,000 cyclists participate in this event, which offers distances from 15 to 100 miles. The tour starts and ends at Legislative Mall in the center of Dover. The Tour is organized by and benefits Bike Delaware, and the City of Dover provides assistance in the form of public safety, trash pickup, etc.

### *Mayor's Bicycle & Fun Ride*

Hosted by the Dover Mayor once a year, this ride encourages children and parents to ride their bikes with the Chief Executive in a procession that circles through Dover.

### *Dover Duathlon*

Held at Dover Park, this duathlon event requires participants to run and bike in a format similar to a triathlon, beginning at a City park and winding throughout the streets of Dover.

### *Organized Run/Walks*

Dover is home to multiple races that allow participants of all ages to walk, jog, or run to the finish line. These events incorporate a variety of Dover Streets and trails in their routes.

## ENFORCEMENT

The City of Dover Police Department currently has police officers patrolling on bicycles in the downtown area. It is strongly recommended that this presence be continued. Officers on bikes are more accessible to people on foot and on bike.

In addition, the Bicycle and Pedestrian Subcommittee strongly encourages the enforcement of existing traffic laws for both motorists and bicycles. The Subcommittee also recommends the City Planning Department as well as members of the Subcommittee meet with the Dover Police Department to discuss potential enforcement issues and actions. These could include the following

- Ensure that police are aware of the Bicycle Friendly Delaware Act which passed in October 2018. The below information on the traffic implications of the Bicycle Friendly Delaware Act is from the Bike Delaware website:

*Requires motorists to change lanes (including when there is a double yellow line) when passing bicycles when travel lanes are too narrow for side-by-side sharing (making “Three Foot” passing a requirement only in the special case of wide lanes).*

*“As close as practicable to the right-hand edge of the roadway” (the dreaded “AFRAP”) also disappears from state code (replaced by “far enough to the right as judged safe by the operator to facilitate the movement of such overtaking vehicles unless the bicycle operator determines that other conditions make it unsafe to do so”) and, again, only as a special case for wide lanes.*

*Motorists forbidden to honk horns at cyclists when passing except for imminent danger.*

*General clarification of “where to ride” laws, including specifically permitting two-abreast riding within the lane in a narrow lane.*

*The “Delaware Yield,” permitting/requiring bicyclists to yield at stop signs (when the coast is clear), instead of requiring a complete stop at all stop signs with no exceptions.*

- Use targeted information and enforcement to encourage motorists and cyclists to share the road safely
- Use positive enforcement ticketing
- Conduct targeted yield enforcement coupled with a progressive ticketing scheme
- Appoint a law-enforcement contact person to interact with the local walking and bicycling community

## EVALUATION & PLANNING

To determine the usage of pedestrian and bike facilities in Dover, and to monitor the growth in popularity of walking and bicycling as a mode of transportation, the following actions should be taken:

- Using a pedestrian/bicycle counter, monitor use of the following shared use pathways, at least once every season (four times a year):
  - a. Capital City Trail
  - b. Isaac Branch of the St. Jones River Trail
  - c. North Street bike trail
  - d. SR 8 shared use pathway
- Use volunteers to conduct live counts of walkers and cyclists at least every season (four times a year):
  - a. The new Senator Bikeway and bicycle boulevard
  - b. State Street
  - c. Loockerman Street
  - d. South Governors Avenue
- Examine at least five years of crash data to look for trends and locations where targeted improvements can be made

To continue with the progress and development of Dover's walk- and bike-friendly community status, the following actions should be taken:

- Update the Bicycle and Pedestrian Plan every five years. The next update will be in 2025, thus the production of that document should begin no later than the beginning of 2024
- Incorporate this *Bicycle and Pedestrian Plan* into the City of Dover Comprehensive Plan

## ENGINEERING

Engineering recommendations are split into three categories:

- Projects for all users (pp. 86-94)
- Projects for people walking (pp. 96-105)
- Projects for people bicycling (pp. 106-121)

Each section includes a chart summarizing all recommended projects, followed by a one-page fact sheet for each project which includes the project type, project description, project justification, connections to the low-stress network, prioritization criteria, a project map, and project photo.

This section includes project ideas. Identifying a project here is not an assessment of feasibility or expression of full public support. Advancing any one of these projects will require further analysis and public engagement to further develop the proposed project scope and budget.

Before advancing a proposed project, the City should meet with community residents, organizations, institutions, and businesses to gain an understanding of the project area, as well as historical perspectives and experiences with the area that is being considered for improvements. These conversations will help develop a project scope that reflects the desire of the community and should be completed before a project is prioritized for funding. This will ensure that the project has public support before advancing, and that the scope of the project is sufficient to address public concerns as the project advances through the design process.

## Projects for All Users

Projects for all users are projects that include infrastructure for both people who walk and people who ride bikes. Some projects are trail or pathway projects, but some are projects that call for both sidewalks and on-road bicycle infrastructure, which are described as “Complete Street” projects. Projects below are ordered alphabetically, not in order of priority.

Table 7. 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 (Hazlettsville Road to Forrest Avenue) | Provide for low-stress bicycle and pedestrian access along Mifflin Road between Hazlettsville 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 |



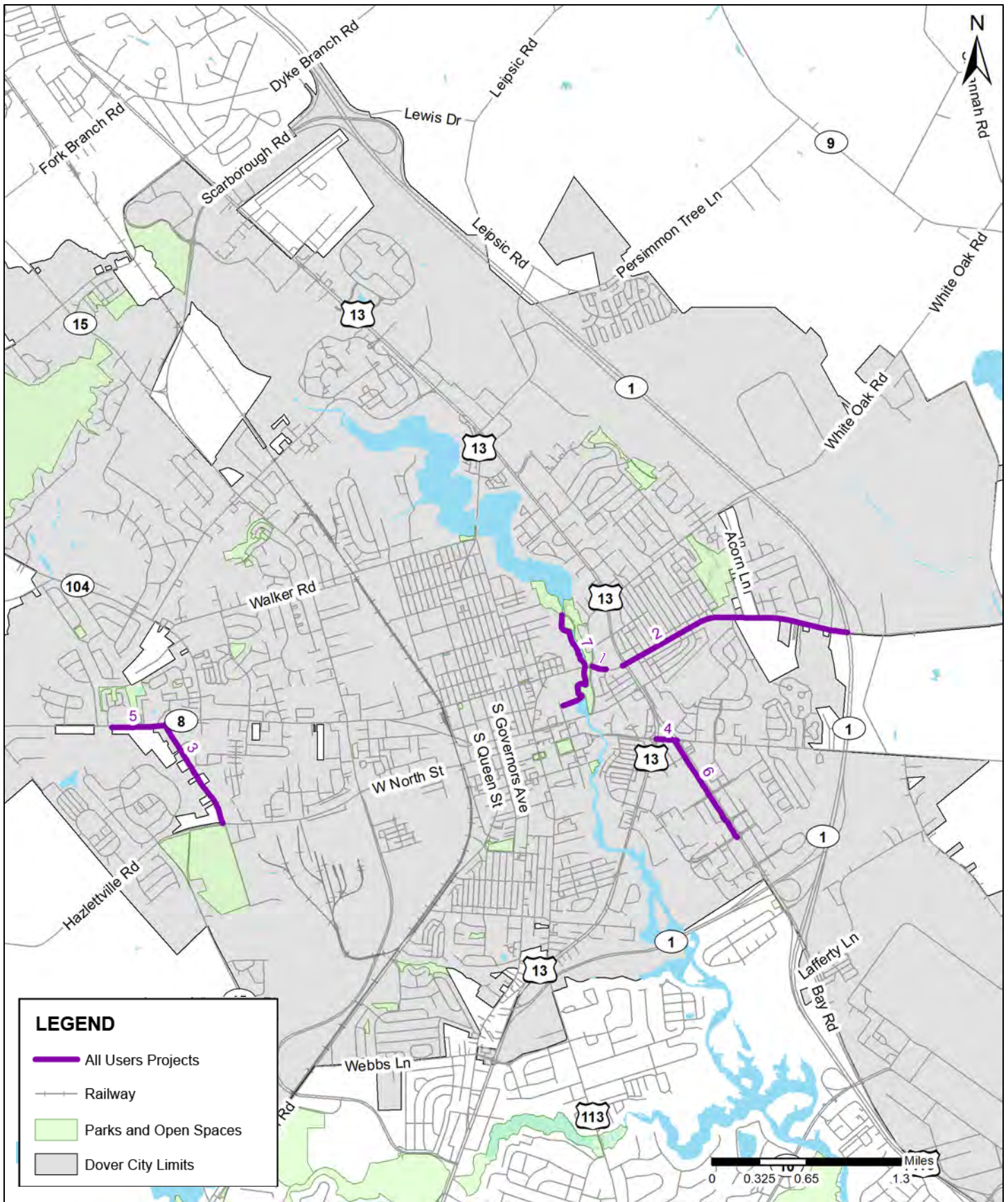


Figure 36. Map showing locations of projects for all users



## E. Division Street Connector

Project Type: Shared use Pathway

Ranked 7<sup>th</sup> in the Regional Plan, 1<sup>st</sup> in the 2015 Bike Plan



**Project Description:** This project consists of a shared use pathway along the north side of SR 8 between Park Drive and the shared use pathway constructed as part of the development of the parcel at the northwest corner of US 13 and E. Division Street. At its west end, the project will connect with multiple low-stress bicycle routes, so wayfinding signage will be a critical component.

**Project Justification:** This road segment presents a problem due to the narrow nature of the road, the multiple travel lanes involved, and right of way constraints. At the northwest corner of Park Drive, the right turn lane requires vehicles to yield, creating a high-stress situation for cyclists crossing Park Drive to enter the shared-use pathway into Silver Lake Park. Some cyclists will need to head south on the Capital City Trail, and some cyclists coming north on the Capital City Trail may want to turn right to head east along SR 8.

**Connection to the Low-Stress Network:** At Park Drive the project connects with the shared use pathway running north into Silver Lake Park, which will connect into the Senator Bikeway, providing low-stress east-west travel. The project connects with the Capital City Trail, which travels south to the St. Jones Greenway Trail. At its east end, the project connects with the striped shoulders on E. Division street east of US 13.

**Recommendation:** Complete the shared use pathway on the north side of E. Division Street between Park Drive and Bayard Avenue.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       | limited  |
| Drainage/utility/environmental impacts |          |



## E. Division Street/North Little Creek Road

Project Type: Complete Street

New Project



**Project Description:** Construct sidewalks to fill the gaps on the north (approximately 0.6 miles) and south sides (approximately 1.1 miles) of E. Division Street between JH Brown Road and Acorn Road. Incorporate bike improvements to lower level of traffic stress for road segments that are currently LTS 3 or 4. The project will also address bicycle navigation through the US 13 intersection.

**Project Justification:** Currently, there are no shoulders or bike lanes for a 200 foot stretch of SR 8 directly to the east of US 13. While shoulders exist further to the east, parking is currently allowed, resulting in a situation where cyclists must enter the vehicular lane to avoid parked cars. Without improvements, neighborhoods east of US 13 located adjacent to E. Division Street/North Little Creek Road will be unable to access the eastern end of the Senator Bikeway and Downtown Dover.

**Connection to the Low-Stress Network:** This project will connect to the proposed Senator Bikeway in the west and low-stress neighborhoods to the north and south, allowing those neighborhoods access to Dover's Downtown.

**Recommendation:** 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.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | limited  |





# Mifflin Road Multi-Modal Improvements

Project Type: Complete Street

Ranked 12<sup>th</sup> in the 2017 Regional Bike Plan, 8<sup>th</sup> in the 2015 Pedestrian Plan



**Project Description:** Provide multi-modal improvements along Mifflin Road between SR 8/Forrest Avenue and Hazletville Road.

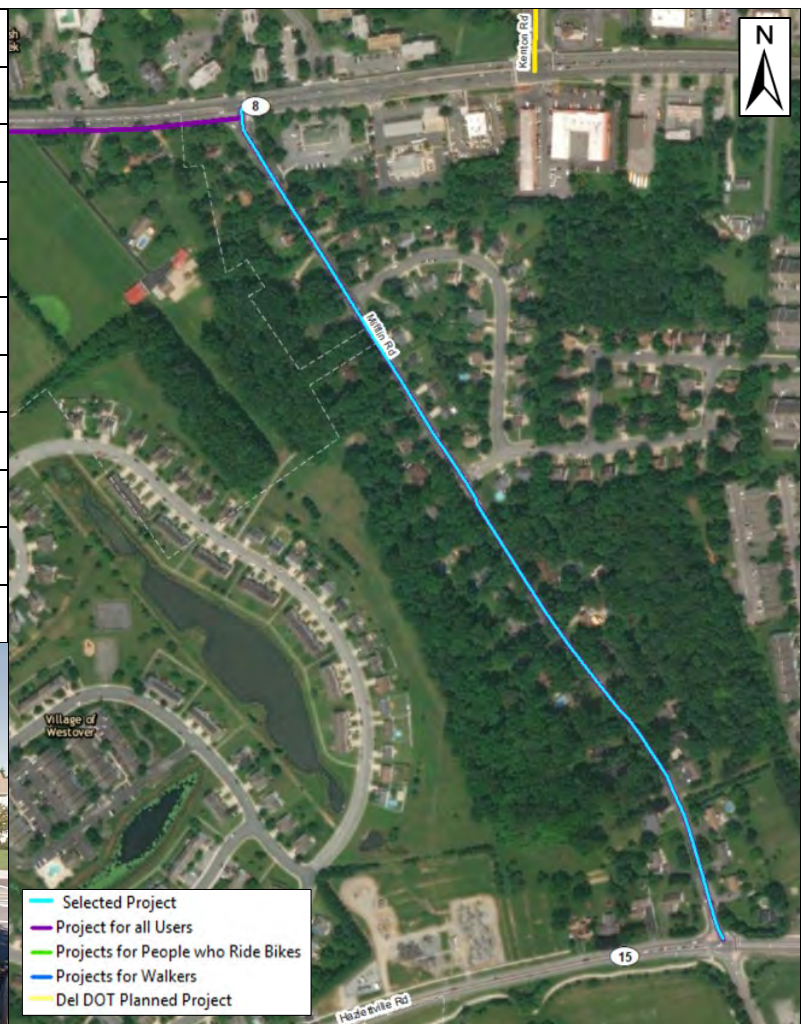
**Project Justification:** Mifflin Road was evaluated as part of the Dover High School Pedestrian Study. Mifflin Road is a 2-lane road with shoulders that carries over 15,000 vehicles per day between SR 8 and Hazletville Road. The speed limit is posted at 35 MPH, and a single-lane roundabout is located near the center of the limits to provide traffic calming. The land use is low-density residential, with a bank and convenience store located at the SR 8/Mifflin Road intersection. Schutte Park, a large recreational area owned by the City of Dover, is located near the south end of Mifflin Road. There are about 300 feet of sidewalks along Mifflin Road adjacent to the major intersections, so pedestrians currently use the paved shoulders along Mifflin Road.

The Dover High School Pedestrian Study determined that adding sidewalks along the entire length of Mifflin Road would cost approximately \$2.2 million, create potential adverse impacts to private property, and require significant drainage improvements. Mifflin Road was identified as a priority bike route in the 2017 Regional Bike Plan, which recommends marked bike lanes on the shoulders, and a roundabout that supports bicycle use.

**Connection to Low-Stress Network:** This project connects to the proposed Senator Bikeway in the north, the North Street Bicycle Pathway in the south, to low-stress neighborhoods via Woodmill Road to the east, and to low-stress neighborhoods via a shared use pathway to the west.

**Recommendation: Provide for low-stress bicycle and pedestrian access along Mifflin Road between Hazletville Road and Forrest Avenue.**

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | limited  |
| Shoulders                              | X        |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





# MLK Boulevard Connector

Project Type: Shared Use Pathway

Ranked 7<sup>th</sup> in the 2015 Bike Plan



**Project Description:** Widen the existing sidewalk between Bay Road and US 13 to facilitate a ten-foot-wide shared use pathway to provide better connections to pathways on either end of the proposed project.

**Project Justification:** MLK Boulevard/South Little Creek Road provide a primary east-west route connecting the central part of Dover with residential and commercial areas on the eastern limits of the city. Between SR 1 and Downtown Dover, the route crosses two four-lane divided highways, Bay Road and US 13. The area is predominantly urban, and includes major traffic generators such as Safeway, Target, Royal Farms, and Wawa. Residential areas are present on the east and west side of Babb Drive and US 13, respectively. Sidewalks are present throughout the corridor. There is a bike lane on westbound South Little Creek Road between Babb Drive and Bay Road. There is no space available for bicyclists within the existing pavement between Bay Road and US 13, and there are no bike lanes on eastbound South Little Creek Road. The Capital City Trail, a ten-foot-wide shared use pathway, runs along the southwest corner of US 13 and MLK Boulevard and facilitates bicycle access into downtown Dover. However, the 0.2-mile stretch between Babb Drive and US 13 prevents cyclists from safely accessing this new trail from the areas east of Bay Road via South Little Creek Road.

**Connections to the Low-Stress Network:** This project will connect to the pathway on the south side of MLK Boulevard west of US 13, to proposed improvements along South Little Creek Road to the east, and to the proposed shared use pathway on the south side of Bay Road.

**Recommendation:** Provide a shared use pathway along MLK Boulevard between Bay Road and US 13 and improve both intersections to facilitate safe use by bicyclists.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       | limited  |
| Drainage/utility/environmental impacts |          |



**Senator Bikeway Phase II**  
 Project Type: Shared Use Pathway  
 Ranked 1<sup>st</sup> in the 2015 Bike Plan



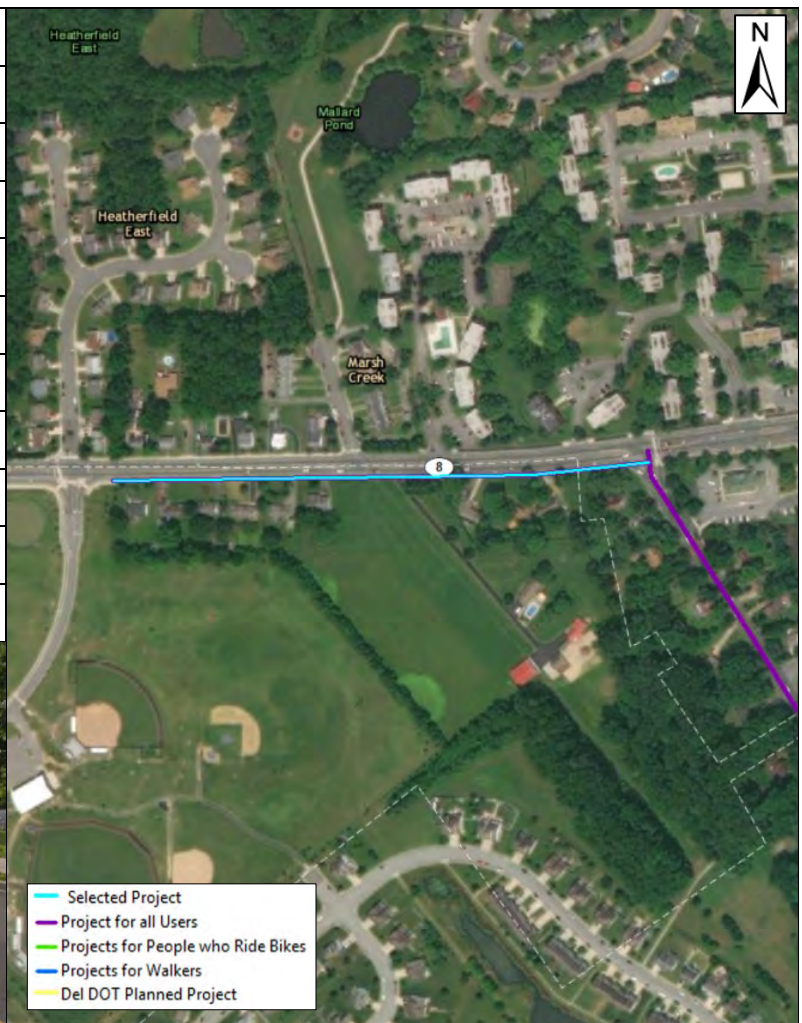
**Project Description:** It is recommended that a shared use pathway be constructed on the south side of SR 8 between Mifflin Road and Dover High School.

**Project Justification:** The land use in this area is predominantly low-density residential, agricultural, and institutional. Dover High School generates high pedestrian volumes along SR 8. The need for sidewalks along the south side of SR 8, between Mifflin Road and the new Dover High School, was initially evaluated as part of the Dover High School Pedestrian Study. That study identified the impacts associated with installing sidewalks on both the north and south sides of SR 8. The high school installed a 10-foot wide shared use pathway along its SR 8 frontage, as well as a pathway behind the existing homes closest to the new school. In addition, in the summer of 2014, DelDOT constructed sidewalks along the north side of SR 8 and installed a HAWK pedestrian-activated signal near the school. The City requested that this segment of road be taken on by DelDOT as Phase II of the Senator Bikeway. At present, no funding has been allocated to this project.

**Connection to the Low-Stress Network:** This pathway will connect to the existing shared use pathway in front of Dover High School in the west, the shared use pathway on the north side of SR 8 between Mifflin Road and Saulsbury Road in the east, and the planned shared use pathway on the south side of SR 8 between Mifflin Road and Saulsbury Road in the east.

**Recommendation: Construct a shared use pathway on the south side of Forrest Avenue from Mifflin Road to Dover High School.**

| Criteria                               | Presence       |
|--|----------------|
| Bus stop                               |                |
| Commercial activity                    | <b>Limited</b> |
| Community center                       | <b>X</b>       |
| Recreational facility                  | <b>X</b>       |
| School                                 | <b>X</b>       |
| High density community                 | <b>some</b>    |
| Existing sidewalks nearby              | <b>X</b>       |
| Shoulders                              | <b>X</b>       |
| Property impacts                       | <b>X</b>       |
| Drainage/utility/environmental impacts | <b>X</b>       |





# South Bay Road Pathway

Project Type: Shared Use Pathway

New Project



Project Description: Provide a continuous pathway along the south side of Bay Road between South Little Creek Road and Transportation Circle.

Project Justification: Bay Road is a high-stress corridor that connects DeIDOT's administration building, the Blue Hen Corporate Center, and Kent County Levy Court with the commercial district along US 13 and low-stress routes into Downtown Dover. There are gaps in the current pathway along Bay Road that if completed would connect these destinations with the existing and proposed low-stress network.

Connections to the Low-Stress Network: Connects to the MLK Boulevard/South Little Creek Road existing and proposed pathways in the north and the St. Jones River Greenway in the south.

**Recommendation:** Provide a shared use pathway along the south side of Bay Road between South Little Creek Road and Transportation Circle.

| Criteria                               | Presence       |
|--|----------------|
| Bus stop                               |                |
| Commercial activity                    | <b>X</b>       |
| Community center                       |                |
| Recreational facility                  |                |
| School                                 |                |
| High density community                 | <b>X</b>       |
| Existing sidewalks nearby              |                |
| Shoulders                              | <b>X</b>       |
| Property impacts                       | <b>limited</b> |
| Drainage/utility/environmental impacts |                |



# St. Jones River Trail

Project Type: Shared Use Pathway

Feasibility study in the 2015 Bike and Pedestrian Plans



**Project Description:** As part of the 2015 Bicycle and Pedestrian Plan’s public involvement effort, the City of Dover’s Silver Lake Commission requested that a new trail (or shared use pathway) be constructed on the west side of the St. Jones River, from Silver Lake Park, across Division Street, to Legislative Avenue near the Dover Post Office. This trail would provide recreational access to Silver Lake Park from a wide variety of uses in downtown Dover, including the Post Office, the Dover Library, the Department of Natural Resources and Environmental Control (DNREC) complex, and Fraizer’s restaurant. The trail would complete a loop network around the St. Jones River by connecting Silver Lake Park with the existing sidewalks near the Post Office, Library, and DNREC facilities. Sidewalks are currently located only on the east side of the St. Jones River, along Park Drive. Phase III of the Capital City Trail, completed in the fall of 2014, widened these existing sidewalks to provide for a 10-foot wide shared use pathway on the east side of the river.

**Project Justification:** According to the Silver Lake Commission’s request, “the Commission seeks these trail improvements predominantly from the standpoint of improving outdoor amenities within Silver Lake Park and along the St. Jones River, though we are quite cognizant of the economic benefits it would provide downtown Dover and the health and quality of life benefits it would provide our residents and visitors.”

**Connections to the Low-Stress Network:** This project would connect low-stress neighborhoods in the northern part of Dover’s downtown with the Green.

**Recommendation:** 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.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | NA       |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





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## Walking Projects

Table 8. Walking projects

| Number | Project   | Description   | Type                |
|--------|---|---|---------------------|
| 8      | College Road Pedestrian Crossing                                  | Implement a pedestrian crosswalk on College Road between Jason Court and Delaware State University.   | Pedestrian Crossing |
| 9      | College Road Sidewalks (east of McKee Road)                       | Construct sidewalks to fill the gap on the north side of College Road east of the McKee Road intersection.  | New Sidewalks       |
| 10     | Forest Street (Lincoln Street to S. West Street)                  | Construct sidewalks on the north and south sides of Forest Street between Lincoln Street and US 13.   | New Sidewalks       |
| 11     | North State Street (Silver Lake to US 13)                         | Construct sidewalks to fill gaps along the northbound side of North State Street.   | New Sidewalks       |
| 12     | Pennsylvania Avenue Sidewalks (Division Street to Kings Highway)  | Construct sidewalks on the west side of Pennsylvania Avenue between Division Street and Kings Highway.  | New Sidewalks       |
| 13     | S. Dupont Highway (Public Safety Boulevard to South State Street) | Construct sidewalks on the west side of US 13 between River Road and Webbs Lane, and the east side of US 13 between Laurel Drive and the Capitol One Diner, and from Roosevelt Avenue to S. State Street. | New Sidewalks       |
| 14     | S. Little Creek Road (east of Roberta Avenue)                     | Construct sidewalks to fill in the gap in the sidewalk along South Little Creek Road.   | New Sidewalks       |
| 15     | W. Division Street (Ridgely Street to S. West Street)             | Fill the gap in the sidewalk on the south side of W. Division Street west of S. West Street.  | New Sidewalks       |

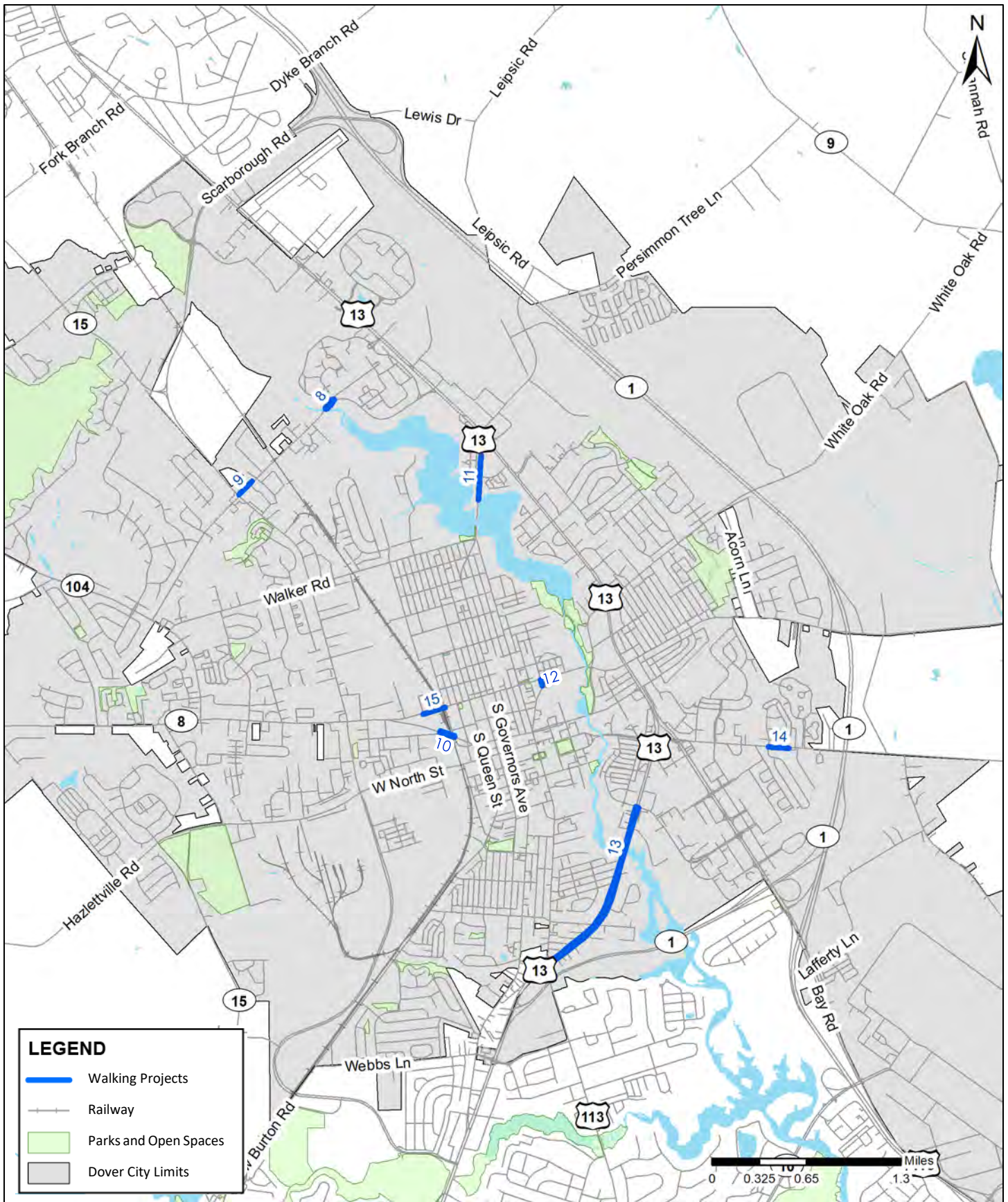


Figure 37. Map showing locations of walking projects



# College Road Pedestrian Crossing

Project Type: Pedestrian Crossing

Recommendation from the 2015 Pedestrian Plan and 2019 Delaware State University Pedestrian Study



8

**Project Description:** Implement a pedestrian crosswalk on College Road between Jason Court and Delaware State University.

**Project Justification:** The 2018 Delaware State University Pedestrian Counts found substantial pedestrian traffic between the University Courtyard Apartments on College Road and the DSU Campus. Few pedestrians crossed at the intersections at College Road since the existing sidewalk ties into Old College Road before the intersection. The study recommends exploring a mid-block crossing across College Road that utilizes a Rectangular Rapid Flashing Beacon (RRFB) activation or other enhanced treatment. This proposed crossing will offer a safe pathway across College Road since there are no marked crossings south of Jason Court.

**Connections to the Pedestrian Network:** This crosswalk will connect existing sidewalks on the north and south side of College Road.

**Recommendation: Implement a pedestrian crosswalk on College Road between Jason Court and Delaware State University.**

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |





**College Road Sidewalks**  
 Project Type: New Sidewalks (DeIDOT)  
 New Project



Project Description: Construct sidewalks to fill the gap on the north side of College Road immediately east of the McKee Road intersection.

Project Justification: There is a 500-foot gap in the sidewalk on the north side of College Road east of the McKee Road intersection. The parcel is currently vacant. Upon development of the site, the developer will be required by the City to provide sidewalks.

Connections to the Pedestrian Network: This sidewalk will connect to existing sidewalks to the east. Sidewalks to the west along College Road will be constructed as part of the College Road project detailed on page 72. This will also connect to the existing sidewalk and pathway on McKee Road.

**Recommendation: Construct sidewalks to fill the gap on the north side of College Road east of the McKee Road intersection.**

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       | limited  |
| Drainage/utility/environmental impacts |          |



# Forest Street Sidewalks

Project Type: New Sidewalks (DeIDOT)

New Project



**Project Description:** Construct sidewalk on the north side and repair sidewalk on the south side of Forest Street between Lincoln Street and S. West Street.

**Project Justification:** There is no pedestrian connectivity between Lincoln Street and S. West Street. This corridor traverses an at grade railroad crossing and connects downtown Dover to residential neighborhoods to the west.

**Connections to the Pedestrian Network:** This project will connect to existing sidewalks to the east and west.

**Recommendation:** Construct sidewalks on the north and south sides of Forest Street between Lincoln Street and S. West Street.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  |          |
| School                                 | X        |
| High density community                 |          |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       | limited  |
| Drainage/utility/environmental impacts | limited  |



- Selected Project
- Project for all Users
- Projects for People who Ride Bikes
- Projects for Walkers
- Del DOT Planned Project



**North State Street Sidewalks**  
 Project Type: New Sidewalks (DeIDOT)  
 Ranked 5<sup>th</sup> in the 2015 Pedestrian Plan



**Project Description:** Fill the gaps in the sidewalk on the northbound side of North State Street between the Silver Lake Bridge and US 13. There are gaps between Silver Lake and Lepore Drive (approximately 0.13 miles) and a 90-foot section between the Family Dollar parking lot and the Second Chance thrift store parking lot directly to the north. In the southbound direction, North State Street has sidewalks throughout its limits.

**Project Justification:** North State Street provides a direct north-south connection from downtown Dover to US 13. There are several pedestrian attractors and generators in the area. There are numerous businesses and shopping opportunities located near the intersection of US 13 and North State Street. In addition, there is a shopping center located at the intersection of North State Street and Lepore Road. McGlynn’s and the Countrie Eatery are restaurants located on Silver Lake on the west side of the road. Several high-density residential communities are located near North State Street, including The Overlook on Silver Lake and Hiawatha Lane Apartments. Due to its scenic nature, particularly across Silver Lake, North State Street is regularly used by joggers and walkers for recreational use. The area between Silver Lake and Lepore Road has landscaping that causes pedestrians to walk in the travel lane. The property with the landscaping was recently purchased by a developer. If the property is redeveloped, sidewalks along North State Street would be required by the City. The remaining gap would likely be filled in as individual businesses re-developed and would likely not be provided as part of a DeIDOT improvement project.

**Recommendation:** Construct sidewalks to fill gaps along the northbound side of North State Street.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              |          |
| Shoulders                              | X        |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | likely   |



# Pennsylvania Avenue Sidewalks

Project Type: New sidewalk (City)

Recommended in the 2015 Pedestrian Plan



# 12

**Project Description:** Construct sidewalks on the west side of Pennsylvania Avenue between Division Street and Kings Highway.

**Project Justification:** Pennsylvania Avenue is a City-maintained street that runs north to south in the heart of Dover. Sidewalk exists along the entire street, with the exception of an approximately 175-foot section on the west side of the street between Division Street and Kings Highway. The land use in this area is a mix between low-density residential, small-scale commercial, the DNREC office complex, and the Governor’s Café restaurant. A DART bus stop is located at the intersection of Pennsylvania Avenue and Kings Highway. Based on the surrounding land uses, there is a relatively high volume of pedestrian activity in the area.

**Connections to the Pedestrian Network:** This sidewalk will connect to existing sidewalks to the north along E. Division Street and the south along Kings Highway SW.

**Recommendation:** Construct sidewalks on west side of Pennsylvania Avenue between Division Street and Kings Highway.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | limited  |
| Shoulders                              | X        |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





# S. Dupont Highway

Project Type: New Sidewalks (DeIDOT)

New Project



# 13

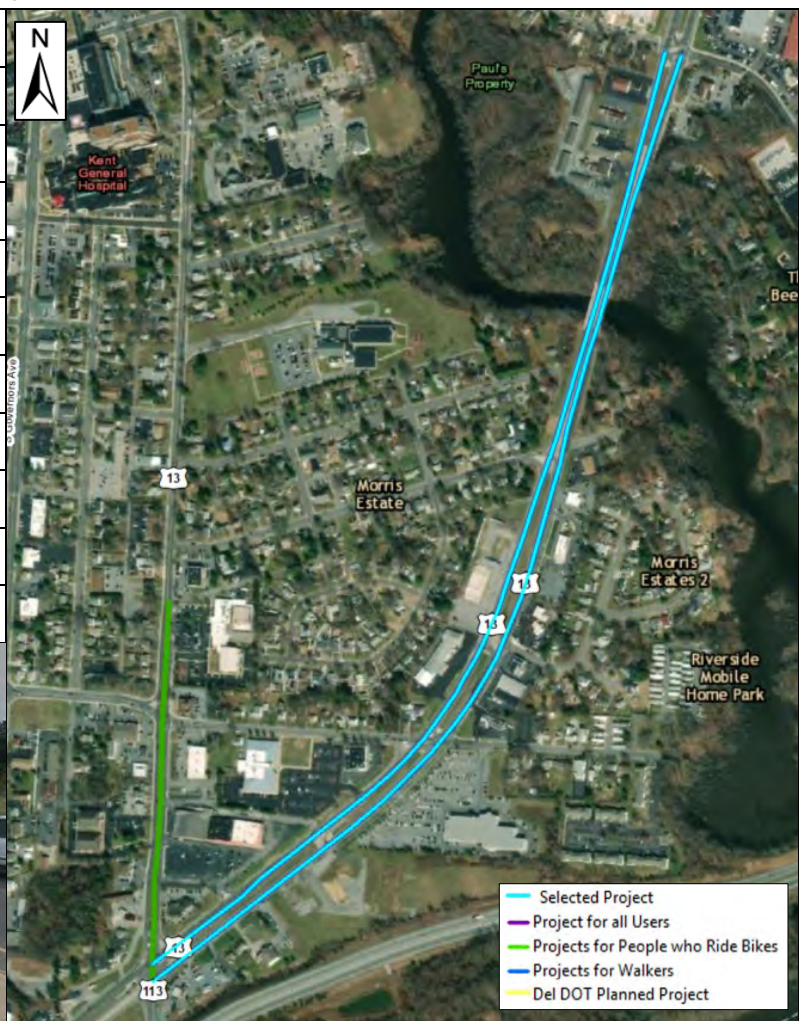
**Project Description:** Construct sidewalks on the west side of US 13 between River Road and Webbs Lane, and the east side of US 13 between Laurel Drive and the Capitol One Diner, and from Roosevelt Avenue to S. State Street.

**Project Justification:** There is no pedestrian connectivity over the St. Jones River Bridge. Low-density residential is located on both sides of the bridge, along with a variety of commercial uses along US 13.

**Connections to the Pedestrian Network:** These sidewalks will connect to the pathway along Public Safety Boulevard, to additional sidewalks along US 13 to the north, and to the neighborhoods of south Dover in the south.

**Recommendation:** Construct sidewalks on the west side of US 13 between River Rd. and Webbs Ln., and the east side of US 13 between Laurel Dr. and the Capitol One Diner, and from Roosevelt Ave to S. State St.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              | limited  |
| Shoulders                              | X        |
| Property impacts                       | limited  |
| Drainage/utility/environmental impacts | limited  |



# S. Little Creek Road (Babb Drive to JH Brown Boulevard)

Project Type: New Sidewalks (DeIDOT)

Ranked 1<sup>st</sup> in the 2015 Pedestrian Plan



# 14

**Project Description:** Fill the gap in the sidewalk network along South Little Creek Road on the south side of the road east of Roberta Avenue along the Schoolview community.

**Project Justification:** While South Little Creek Road has 8- to 11-foot shoulders that can facilitate pedestrian movement, sidewalks provide a safer walking environment along a heavily used pedestrian corridor. The existing land use along South Little Creek Road between US 13 and SR 1 is marked by a mixture of high-density apartments, single-family residential, light industrial, and large-scale commercial uses. The commercial uses include high-pedestrian attractors such as Target, Safeway, Royal Farms, and several fast-food restaurants located at the western limits of the area. There is also a convenience store located on the south side of the road near Tudor Industrial Park. South Little Creek Road also provides a direct access to destinations in downtown Dover, US 13, and Bay Road, all within a relatively short walking distance. In addition, East Dover Elementary School is a significant pedestrian generator. Finally, there are 4 DART bus stops on South Little Creek Road between US 13 and SR 1. Based on this mixture of land uses, and proximity to a wide variety of destinations, there is a steady volume of pedestrians that walk along South Little Creek Road.

**Recommendation:** Construct sidewalks to fill in the gap in the sidewalk along South Little Creek Road.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       | likely   |
| Drainage/utility/environmental impacts | likely   |





# W. Division Street

Project Type: New Sidewalks (DeIDOT)  
New Project



# 15

Project Description: Fill the gap in the sidewalk on the south side of W. Division Street west of S. West Street.

Project Justification: During Phase I of the Senator Bikeway project, sidewalks were installed on the north side of W. Division street west of West Street. There is a 380-foot gap in the sidewalk on the south side of W. Division street immediately west of the intersection with West Street. This corridor traverses an at grade railroad crossing and connects downtown Dover to commercial areas to the west. The only nearby marked and signalized crossing that facilitates safe pedestrian access across W. Division Street is at the intersection with Weston Drive, about 0.25 miles west of the West Street intersection. There is a marked unsignalized crossing at Kirkwood Street, about 100 feet east of the West Street intersection.

Connections to the Pedestrian Network: This project will connect to existing sidewalks to the east and west.

**Recommendation:** Fill the gap in the sidewalk on the south side of W. Division Street west of S. West Street.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       | X        |
| Recreational facility                  |          |
| School                                 | X        |
| High density community                 |          |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       | limited  |
| Drainage/utility/environmental impacts | limited  |





## Bicycling Projects

Table 9. Bicycling projects

| Number | Project  | Recommendation   | 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.        | Study/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.                                       | Bike Facility                      |

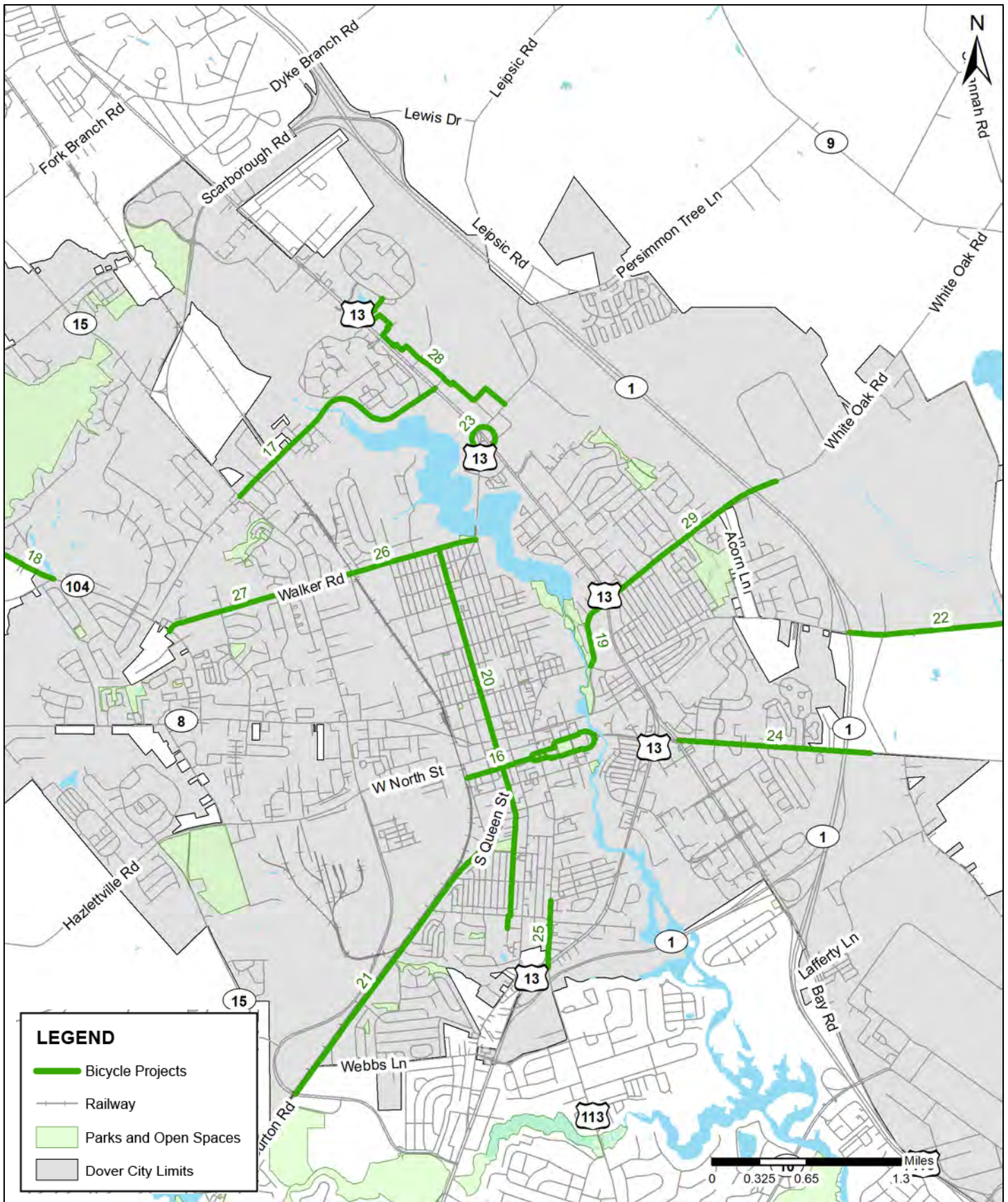


Figure 38. Map showing locations of bicycling projects



# Bank Lane and The Green

Project Type: Wayfinding Marking & Signage  
 Ranked 23<sup>rd</sup> in 2017 Regional Bike Plan



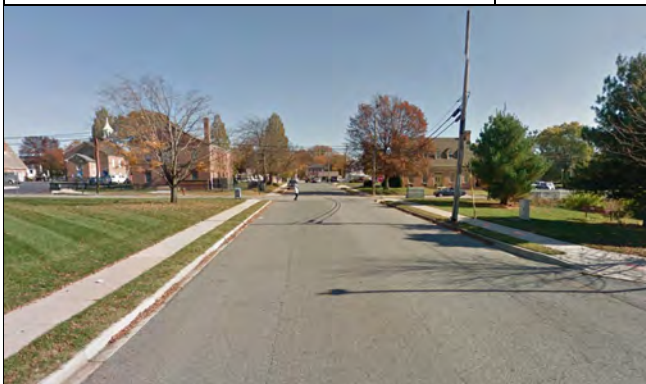
**Project Description:** Install wayfinding marking and signage to highlight the low-stress route along Bank Lane between West Street to MLK Boulevard. Bank Lane is a low volume east-west street, between West St. and the Green. Bank Lane can serve as a bicycle route into Downtown from the Transit Center on West St. Signage designating the road as “Bike Route to Downtown” or “Downtown Bike Route” should be designed and installed at key points along the street.

**Project Justification:** Signage and pavement markings will provide guidance to riders in Dover’s downtown and connect pathways on the west side of downtown with trails on the east side.

**Connections to the Low-Stress Network:** At the west end of Bank Lane, the intersection with S West Street, a shared-use pathway (in design) will run south to the Transit Center and north to connect with the existing shared-use pathway along the south side of North Street. That pathway, in turn, extends westward to Schutte Park and connects with shared-use pathways that follow the West Dover Connector and Saulsbury Road. At the east end of Bank lane are The Green, the Historic District, and the government complex.

**Recommendation:** Install wayfinding marking and signage to highlight the low-stress route along Bank Lane between West Street to MLK Boulevard.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |





# College Road East

Project Type: Bicycle Facility

New Project



**Project Description:** Provide low-stress accommodations for cyclists between McKee Road and US 13. High-stress segments include between the railroad tracks and McKee Road, between Mishoe Street and Jason Street, and between US 13 and the start of the existing sidewalk.

**Project Justification:** College Road between US 13 and McKee Road varies between LTS 4 and 2 throughout its length. Pinch points along the corridor create higher stress conditions. Some small improvements could result in a low-stress route from DSU’s campus at US 13 to the pathway along the west side of McKee Road.

**Connections to the Low-Stress Network:** Uninterrupted, wide shoulders on College Road between US 13 and McKee Road would connect to the McKee Road pathway and the College Road improvements planned to the west. The project also provides a lower stress connection to Dover Mall in the east.

**Recommendation:** Provide low-stress accommodations along College Road between McKee Road and US 13.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |



# Kenton Road (Chestnut Grove Road to Denneys Road)

Project Type: Bicycle Facility

New Project



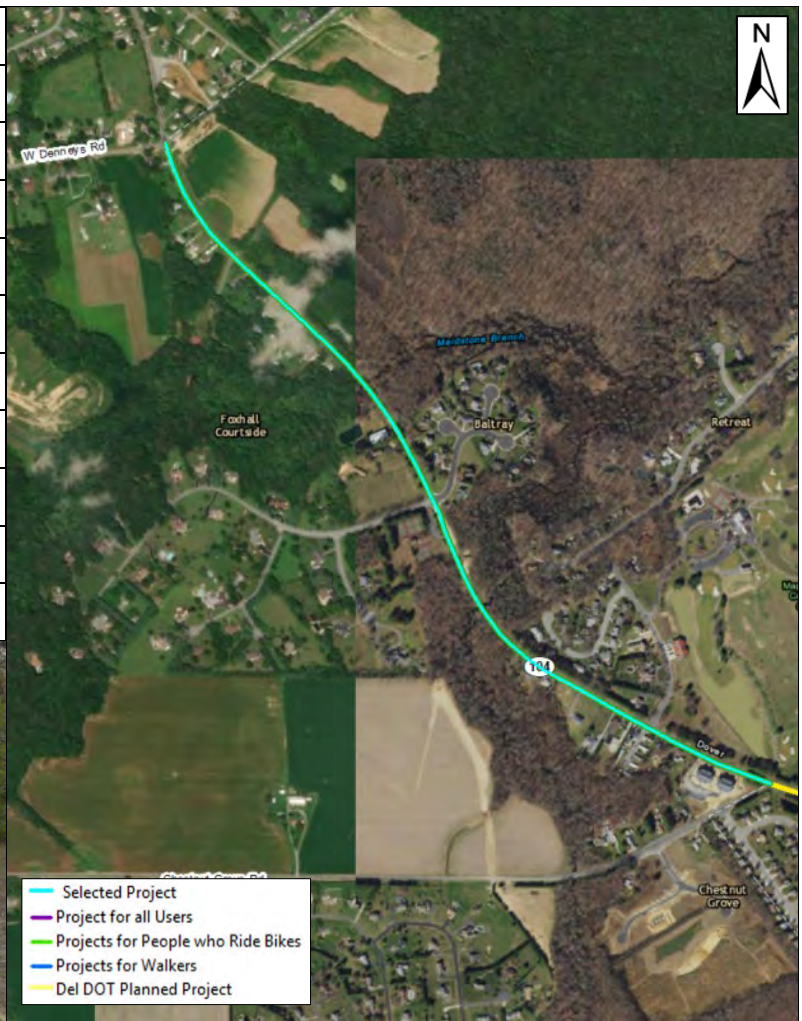
Project Description: Widen the road to accommodate shoulders/bike lanes along Kenton Road between Chestnut Grove Road and Denneys Road.

Project Justification: Provides a safe place for cyclists heading north out of Dover to ride.

Connections to the Low-Stress Network: Connects to planned improvements south of Chestnut Grove Road. The project would also provide a connection to the Fork Branch Nature Preserve on Kenton Road just south of Denneys Road.

**Recommendation: Provide low-stress accommodations along Kenton Road between Chestnut Grove Road and Denneys Road.**

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              |          |
| Shoulders                              |          |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





# Kings Highway NE

Project Type: Bicycle Facility

New Project



**Project Description:** Provide low-stress accommodations for people who bike along Kings Highway NE between E. Division Street and US 13. Depending on right-of-way and utility constraints, this bicycle facility may be a shared use pathway or on-road protected bike lane. Improve the intersection with US 13 to create a low-stress crossing to connect to the proposed on-road bicycle facilities on White Oak Road.

**Project Justification:** Connects downtown Dover to the east side of Dover and the US 13 corridor.

**Connections to the Low-Stress Network:** Connects to proposed bicycle facilities on White Oak Road in the east, and the existing Silver Lake pathway network, which is part of the Senator Bikeway, in the south.

**Recommendation:** Provide low-stress accommodations along Kings Highway NE between E. Division Street and US 13.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |





# Lakewood Place/New Street/Monroe Terrace Bike Boulevard



Project Type: Study/Wayfinding Marking & Signage  
Unranked in 2015 Bike Plan

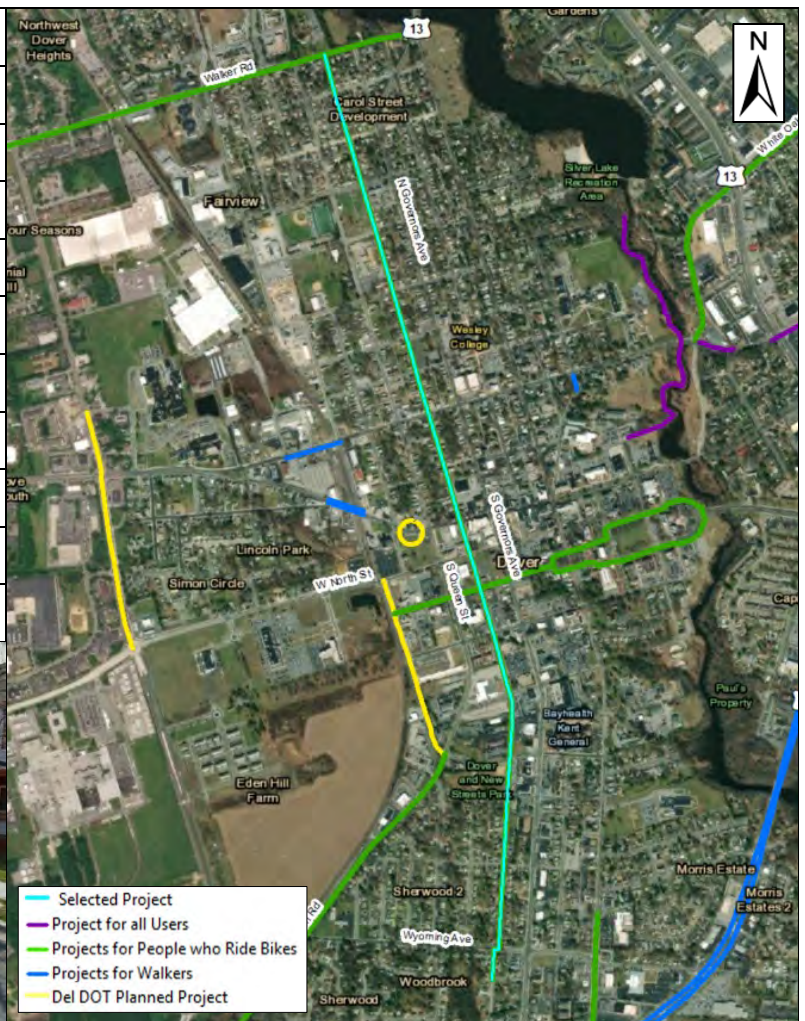
**Project Description:** Explore the viability of a north-south bicycle boulevard through downtown Dover along Lakewood Place/New Street/Monroe Terrace. The bike boulevard will consist of wayfinding signage and pavement markings but may also require traffic calming measures so that traffic stress is low, especially at intersections with arterials.

**Project Justification:** This project will highlight a low-stress north-south bicycle route through downtown Dover.

**Connections to the Low-Stress Network:** This route will connect to the low-stress neighborhood streets north of Division Street, Phase I of the Senator Bikeway at Cecil Street, Bank Lane, and the low-stress neighborhoods south of Water Street.

**Recommendation:** Explore the viability of a north-south bicycle boulevard through downtown Dover along Lakewood Place/New Street/Monroe Terrace.

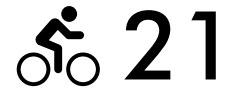
| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |



# New Burton Road

Project Type: Study

Unranked in 2015 Bike Plan



**Project Description:** Evaluate New Burton Road for bicycle improvements between POW/MIA Parkway and S. West Street. An analysis of the speed limit along New Burton Road should also be included in the study, to determine if a speed limit reduction would make conditions more conducive for bicycling. The current speed limit is 45 MPH.

**Project Justification:** New Burton Road is a 2-lane local road that is currently LTS 3 and provides direct access from Camden and Wyoming to Dover, a distance of nearly 2 miles. North of Webbs Lane, all of New Burton Road lies within City limits. South of Webbs Lane, only the west side of the road lies within the City's boundaries. The Norfolk Southern railroad lies on the west side of the road. In the northbound direction, New Burton Road has continuous shoulders throughout the entire City limits. However, in the southbound direction, there are no shoulders from Webbs Lane to north of Kesselring Avenue, forcing bicyclists to share the travel lane with motor vehicles in this 0.5-mile segment.

**Connections to the Low-Stress Network:** Bicycle improvements along New Burton Road would connect to the POW/MIA pathway in the south and the S. West Street pathway in the north.

**Recommendation:** Evaluate New Burton Road for bicycle improvements.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              |          |
| Shoulders                              | minimal  |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |

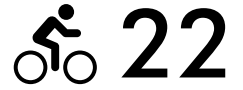




# North Little Creek Road

Project Type: Bicycle Facility

Ranked 22<sup>nd</sup> in 2017 Regional Bike Plan



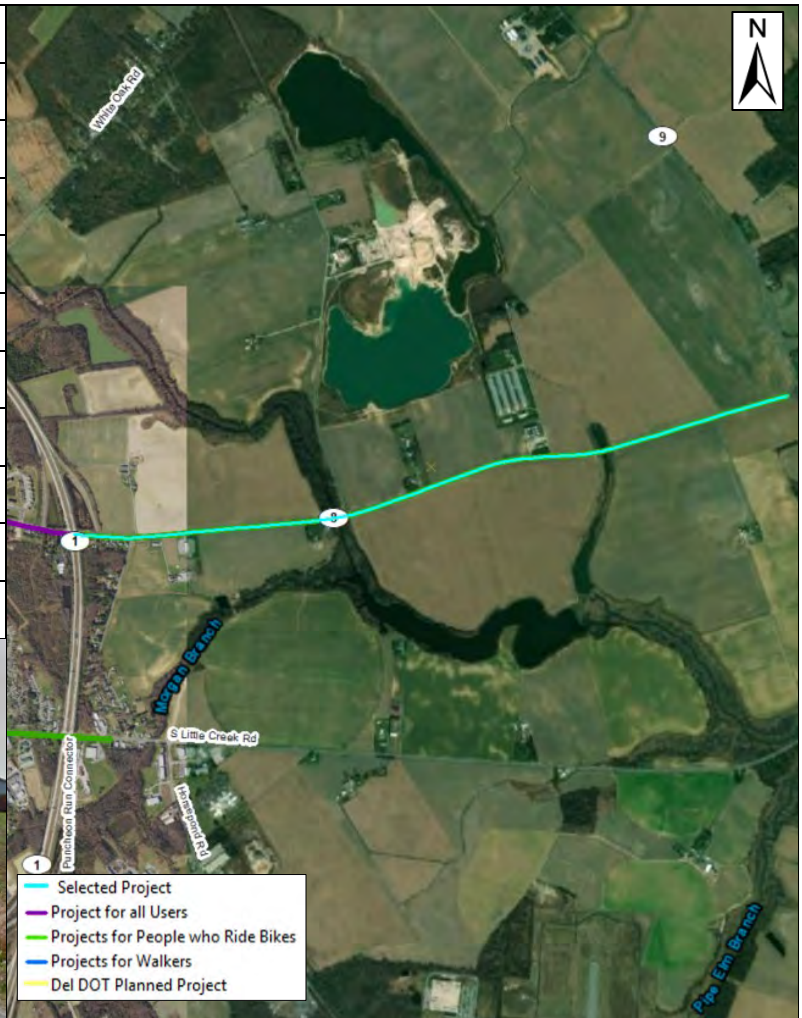
**Project Description:** Provide low-stress bicycle facilities along North Little Creek Road between SR 1 and SR 9. North Little Creek Road is one of the main routes between Dover and Little Creek. Shoulders exist between US 13 and SR 1, but not east of SR 1. There are no special upgrades to intersections anticipated for this project. Only part of this corridor is located within the City of Dover.

**Project Justification:** This project will create bicycle accommodations on a roadway with no shoulders, reducing the level of traffic stress.

**Connections to the Low-Stress Network:** At the west end of this project, SR 8/North Little Creek Road has striped shoulders leading west into Dover. At the east end of this project is the intersection with SR 9 which contains striped shoulders heading south through the Town of Little Creek, and north to Bombay Hook National Wildlife Refuge, Augustine Wildlife Area and the Mike Castle Trail along the C&D Canal.

**Recommendation:** Provide low-stress bicycle facilities along North Little Creek Road between SR 1 and SR 9.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              |          |
| Shoulders                              |          |
| Property impacts                       | X        |
| Drainage/utility/environmental impacts | X        |

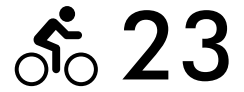




# North State Street and US 13 Intersection

Project Type: Bicycle Facility

New Project



**Project Description:** Improve the approaches and the intersection of N. State Street and US 13 to accommodate bicycle travel.

**Project Justification:** When the 2015 Bicycle Plan was written there was no existing on- or off-road bike access from downtown Dover to US 13 north of Loockerman Street. The plan called for a protected bike lane or bike bridge on State Street between US 13 and Walker Road. Since that time, DelDOT reduced N. State Street from four to three travel lanes; the current configuration includes a bike lane in each direction, two vehicular lanes, and a center turn lane. However, the road diet does not continue all the way to the intersection with US 13 or address bicycle navigation through the intersection with US 13. This corridor intersects with Governor’s Avenue and Walker Road in the south, Lepore Road and Hiawatha Lane north of the bridge, and US 13 at the northern limits. Intersection design will need to take into account the multiple directions that bicyclists may take after traveling the length of this project, heading either north or south. The improvement of the North State Street corridor between Walker Road and US 13 was ranked 6<sup>th</sup> in the 2017 Regional Plan and 2<sup>nd</sup> in the 2015 Bicycle Plan.

**Connections to the Low-Stress Network:** The south end connects to central Dover’s network of neighborhood streets, providing access to Downtown Dover and Legislative Hall and connecting with the Senator Bikeway to travel westward, or the Capital City Trail south to the St. Jones River Trail. The north end connects to the (proposed) US 13 Commercial District Bicycle Pathway located on the east side of the intersection with US 13. The (proposed) Walker Road bike facilities (project numbers 26 and 27) will provide a connection to the west.

**Recommendation: Improve N. State Street and US 13 to accommodate bicycle travel.**

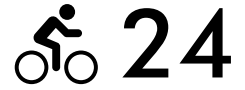
| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |



# South Little Creek Road

Project Type: Bicycle Facility

New Project



**Project Description:** Provide low-stress bicycle facilities along South Little Creek Road between Bay Road and Fox Road. Connect any on-road bicycle infrastructure to the pathway network proposed to the west of the Bay Road intersection.

**Project Justification:** The majority of South Little Creek Road is considered LTS 3 due to vehicular speeds, volumes, and presence of turn lanes.

**Connections to the Low-Stress Network:** Uninterrupted shoulders on South Little Creek Road would connect to low-stress neighborhoods to the north and south, the east part of the roadway, which is LTS 2, and the proposed pathway west of Bay Road that will provide a connection to downtown Dover.

**Recommendation:** Provide low-stress bicycle facilities along South Little Creek Road between Bay Road and Fox Road.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |





# South State Street

Project Type: Bicycle Facility

New Project



**Project Description:** Provide low-stress bicycle facilities along South State Street between Lotus Street and the south side of the intersection with US 13.

**Project Justification:** There are currently no alternate routes between central Dover and the neighborhoods south of Puncheon Run Connector.

**Connections to the Low-Stress Network:** This project connects to low-stress neighborhood streets to the east and west and an existing shared use pathway on the west side of the US 13 intersection in the south.

**Recommendation:** Provide low-stress bicycle facilities along South State Street between Lotus Street and the south side of the intersection with US 13.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |

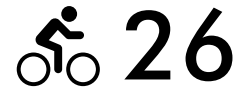




# Walker Road East

Project Type: Bicycle Facility

Ranked 5<sup>th</sup> in the 2017 Regional Bike Plan, 5<sup>th</sup> in the 2015 Bike Plan



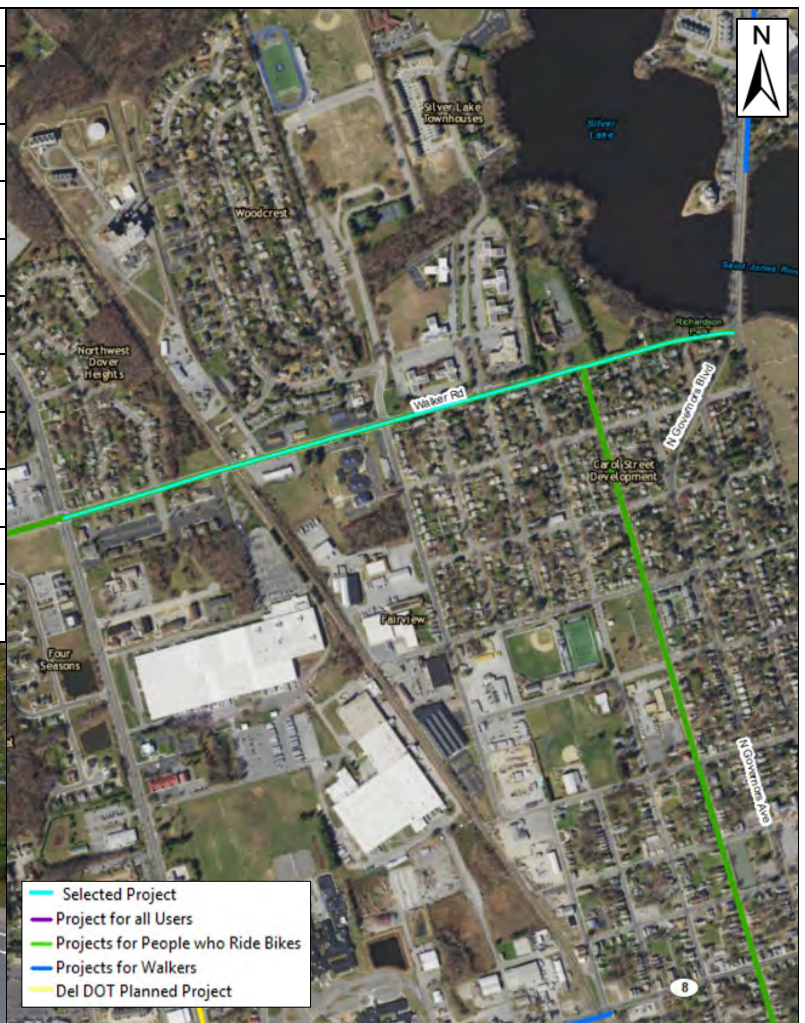
**Project Description:** Provide low-stress bicycle facilities along Walker Road between N. State Street and Saulsbury Road.

**Project Justification:** Walker Road between North State Street and Saulsbury Road is a 0.9-mile roadway that is LTS 3 and 4. Between North State Street and Silver Lake Boulevard, the roadway consists of a two-lane roadway section, with partially designated shoulders and no bike lanes through the intersections. The curb to curb width is about 35 feet. On-street parking is permitted on a portion of the south side of Walker Road. Between Silver Lake Boulevard and Saulsbury Road, the typical section converts into a 3-lane roadway. There are minimal shoulders, no bike lanes, and no on-street parking. The curb to curb width between Silver Lake Boulevard and Saulsbury Road is about 44 feet. There is not sufficient width to accommodate a continuous bicycle lane throughout the corridor. Between North State Street and Silver Lake Boulevard, there is likely enough pavement width to provide for a 4-foot-wide bicycle lane in each direction. However, this would not provide bicycle lanes through the intersections of Walker Road/Silver Lake Boulevard/Carol Street and Walker Road/Pat Lynn Drive/Pear Street. West of Silver Lake Boulevard, there may be an opportunity to reduce the lane widths slightly to provide for a 4-foot-wide shoulder.

**Connections to the Low-Stress Network:** This project connects to low-stress neighborhood streets to the south, the N. State Street bike lanes to the east, and the Saulsbury Road pathway to the west.

**Recommendation:** Provide low-stress bicycle facilities along Walker Road between N. State Street and Saulsbury Road.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    |          |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 | X        |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |



**Walker Road West**  
 Project Type: Bicycle Facility  
 New Project



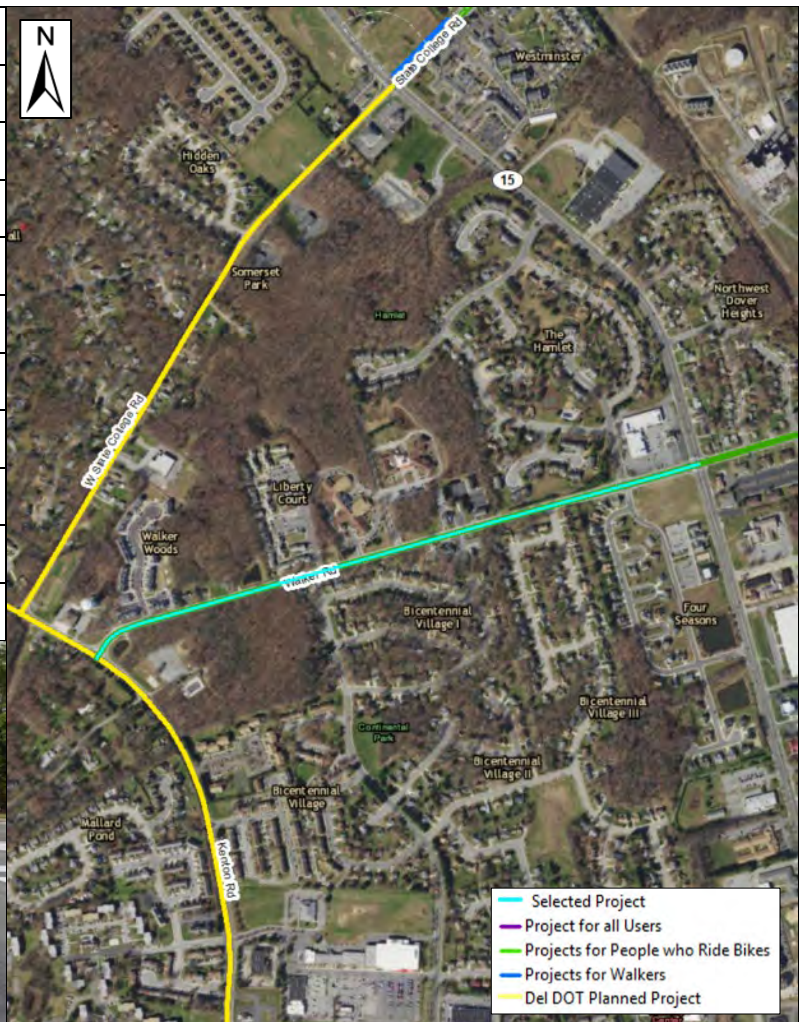
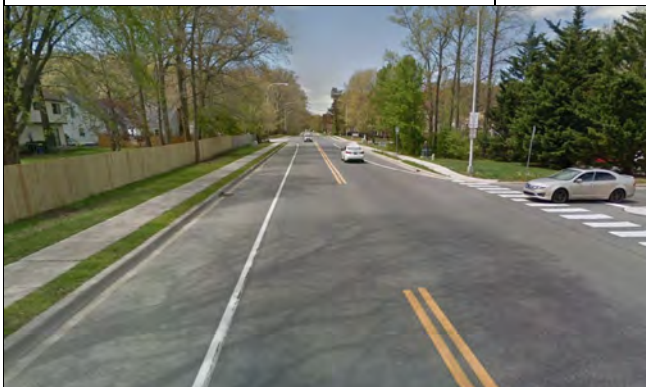
**Project Description:** Provide low-stress bicycle facilities along Walker Road between Saulsbury Road and Kenton Road.

**Project Justification:** This section of Walker Road is currently LTS 2, 3, and 4. Due to current road striping and turn lanes, this portion of roadway has multiple high-stress pinch points on an otherwise low-stress roadway.

**Connections to the Low-Stress Network:** Uninterrupted shoulders on Walker Road would connect to the Saulsbury Road pathway in the east, the planned Kenton Road pathway in the west, and low-stress neighborhood streets north and south of the corridor.

**Recommendation:** Provide low-stress bicycle facilities along Walker Road between Saulsbury Road and Kenton Road.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               |          |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              |          |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |

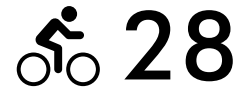




# US 13 Commercial District Bicycle Boulevard

Project Type: Wayfinding Marking & Signage Project

Ranked 3<sup>rd</sup> in 2017 Regional Bike Plan



**Project Description:** Create a 0.75-mile off-road route between the Dover Mall and Leipsic Road to provide for low-stress bicycle access to the commercial properties. An off-road route can be created through a series of small connections between the business parking lots, along with striping and signage. This is not a construction project; Dover zoning change may be required, allowing the businesses to give up parking spaces without being penalized. Signage and pavement markings could be used to direct bicyclists along the route. Special consideration will be needed to assist bicyclists to cross the entrance road into Dover Downs.

**Project Justification:** This project is a low-stress alternative to the bike lanes that currently exist on US 13, a high-speed roadway with heavy auto volumes.

**Connections to the Low-Stress Network:** It would connect, at its southern end, with a pathway on the north side of Leipsic Road, which connects with proposed bike & pedestrian improvements on North State Street.

**Recommendation:** Install wayfinding marking and signage to advertise the low-stress route between Dover Leipsic Road and Dover Mall.

| Criteria                               | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  |          |
| School                                 |          |
| High density community                 |          |
| Existing sidewalks nearby              | X        |
| Shoulders                              |          |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |





# White Oak Road

Project Type: Bicycle Facility

New Project



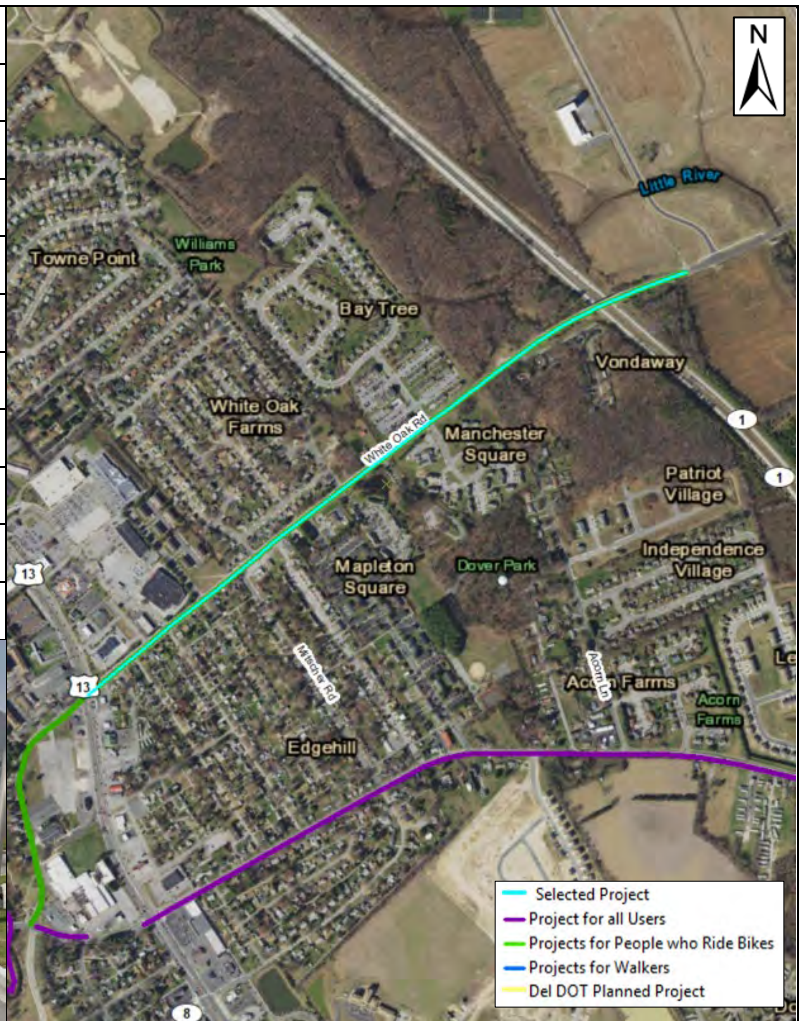
**Project Description:** Provide low-stress bicycle facilities along White Oak Road between US 13 and Garrison Oak Drive.

**Project Justification:** White Oak Road is classified as LTS 3 and 4 throughout its length. This project will provide a connected bicycle network on the east side of Dover, connecting neighborhoods to area resources including Dover Park, commercial destinations, and area transit.

**Connections to the Low-Stress Network:** Connects to the proposed bicycle facilities on Kings Highway NE in the west and low-stress neighborhood streets in the north and south.

**Recommendation:** Provide low-stress bicycle facilities along White Oak Road between US 13 and Garrison Oak Drive.

| Prioritization Criteria                | Presence |
|--|----------|
| Bus stop                               | X        |
| Commercial activity                    | X        |
| Community center                       |          |
| Recreational facility                  | X        |
| School                                 |          |
| High density community                 | X        |
| Existing sidewalks nearby              | X        |
| Shoulders                              | X        |
| Property impacts                       |          |
| Drainage/utility/environmental impacts |          |



# Plan Implementation

Goals and objectives should be tracked and implemented by the City of Dover with support from the Dover/Kent County MPO and DelDOT. Physical projects recommended in this plan should be considered by the Dover/Kent County MPO. The City of Dover Safety Advisory and Transportation Committee meets monthly and advises City Council on issues concerning the Dover transportation network, including pedestrian and bicycle infrastructure. Those meetings are open to the public.

## PROJECT PRIORITIZATION

High priority projects will be evaluated by the process proposed by the *Blueprint for a Bicycle-Friendly Delaware* for funding. Per the *Blueprint Plan*:

The prioritization process is designed to support local priorities, select implementable projects, and create complete networks through the process documented in the Local Bicycle Network and Project Planning section of the *Blueprint Toolkit*.

Based on local planning priorities, WILMAPCO, the Dover/Kent County MPO, and Sussex County will each submit three to five priority projects to DelDOT. If a regional agency submits more projects, they will be asked to prioritize those projects into tiers. This ranking will be taken into account by DelDOT.

The next step is to ensure that projects are implementable. To this end, DelDOT conducts an initial feasibility screening for select projects and screens out projects that are infeasible due to right-of-way acquisitions, utilities, environmental considerations, and other issues that may lead to excessive expense or approval challenges. For more details on the first and second steps, see the Local Planning Process document.

Feedback received at the first public workshop identified the completion of the Senator Bikeway and project number 3, Mifflin Road Multi-Modal Improvements, as high priority. The second review of the document by the public during the fall of 2020 supported those two high priority designations, identifying the following four recommendations as high priority:

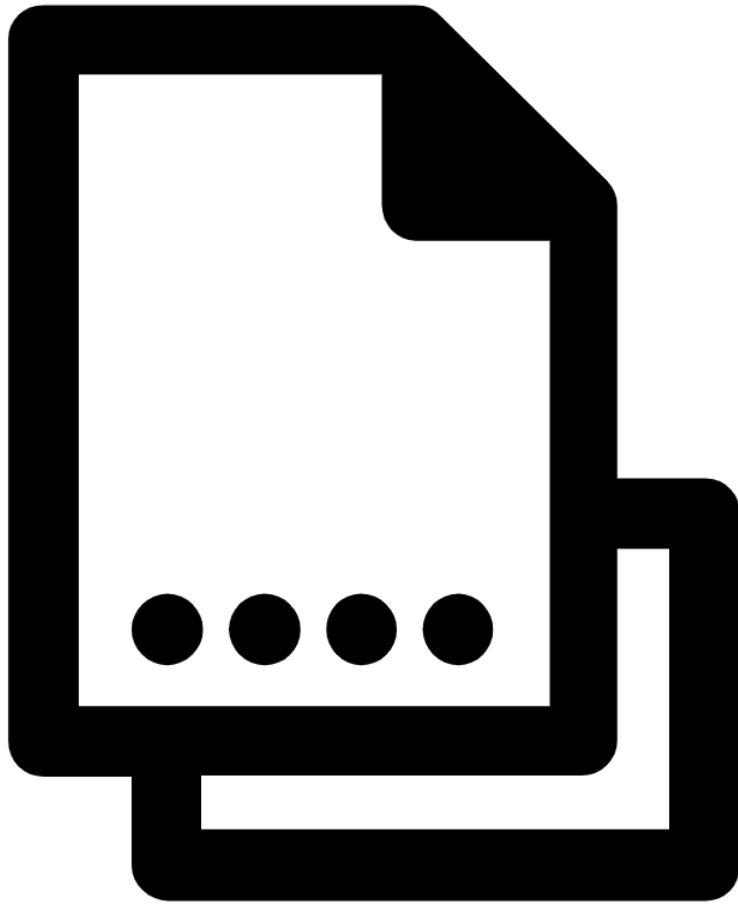
- Project number 1, E. Division Street Connector
- Project number 2, Mifflin Road Multi-Modal Improvements
- Project number 5, Senator Bikeway Phase II
- Project number 19, Kings Highway NE

These projects should be submitted for consideration to the Dover/Kent County MPO.

Table 10. Index of recommended projects

| Number      | Project  | Type                | Priority |
|-------------|--|---------------------|----------|
| 1 (p. 88)   | E. Division Street Connector (Park Drive to Bayard Avenue)                   | Shared Use Pathway  | ✓        |
| 2 (p. 89)   | E. Division Street/North Little Creek Road (US 13 to SR 1)                   | Complete Street     | ✓        |
| 3 (p. 90)   | Mifflin Road Multi-Modal Improvements (Hazletville Road to Forrest Avenue)   | Complete Street     |          |
| 4 (p. 91)   | MLK Boulevard Connector (Bay Road to US 13)                                  | Shared Use Pathway  |          |
| 5 (p. 92)   | Senator Bikeway Phase II (Forrest Avenue, Dover High School to Mifflin Road) | Shared Use Pathway  | ✓        |
| 6 (p. 93)   | South Bay Road Pathway (South Little Creek Road to Transportation Circle)    | Shared Use Pathway  |          |
| 7 (p. 94)   | St. Jones River Trail (west side)  | Trail               |          |
| 8 (p. 98)   | College Road Pedestrian Crossing   | Pedestrian Crossing |          |
| 9 (p. 99)   | College Road Sidewalks (east of McKee Road)                                  | New Sidewalks       |          |
| 10 (p. 100) | Forest Street (Lincoln Street to S. West Street)                             | New Sidewalks       |          |
| 11 (p. 101) | North State Street (Silver Lake to US 13)                                    | New Sidewalks       |          |
| 12 (p. 102) | Pennsylvania Avenue Sidewalks (Division Street to Kings Highway)             | New Sidewalks       |          |
| 13 (p. 103) | S. Dupont Highway (Public Safety Blvd. to South State Street)                | New Sidewalks       |          |
| 14 (p. 104) | S. Little Creek Road (east of Roberta Avenue)                                | New Sidewalks       |          |
| 15 (p. 105) | W. Division Street (Ridgely Street to S. West Street)                        | New Sidewalks       |          |
| 16 (p. 108) | Bank Lane and The Green (S. West Street to MLK Boulevard)                    | Wayfinding          |          |
| 17 (p. 109) | College Road (McKee Road to US 13)   | Bicycle Facility    |          |
| 18 (p. 110) | Kenton Road (Chestnut Grove Road to Denneys Road)                            | Bicycle Facility    |          |
| 19 (p. 111) | Kings Highway NE (E. Division Street to US 13)                               | Bicycle Facility    | ✓        |
| 20 (p. 112) | Lakewood Place/N. New Street/S. New Street/Monroe Terrace Bike Boulevard     | Study/Wayfinding    |          |
| 21 (p. 113) | New Burton Road (POW/MIA Parkway to S. West Street)                          | Bicycle Facility    |          |
| 22 (p. 114) | North Little Creek Road (SR 1 to SR 9)                                       | Bicycle Facility    |          |
| 23 (p. 115) | North State Street and US 13 Intersection                                    | Bicycle Facility    |          |
| 24 (p. 116) | South Little Creek Road (Bay Road to Fox Road)                               | Bicycle Facility    |          |
| 25 (p. 117) | South State Street   | Bicycle Facility    |          |
| 26 (p. 118) | Walker Road East (North State Street to Saulsbury Road)                      | Bicycle Facility    |          |
| 27 (p. 119) | Walker Road West (Saulsbury Road to Kenton Road)                             | Bicycle Facility    |          |
| 28 (p. 120) | US 13 Commercial District Bicycle Boulevard                                  | Wayfinding          |          |
| 29 (p. 121) | White Oak Road (US 13 to Garrison Oak Drive)                                 | Bicycle Facility    |          |





## 6. APPENDICES

# Walkable Communities Report Card





## Community Report Card **Dover**

On behalf of our reviewers and program staff, we want to thank you for taking the time to prepare and submit your application to be considered for a Walk Friendly Communities designation. We know you invested a great deal of time in this application, and we appreciate your hard work.

Based on our review, we are unable to designate Dover as a Walk Friendly Community. We did find several programs in your application that were quite impressive, including:

- Your use of red light cameras, which is an intervention that has been proven to save lives and reduce injuries.
- Your growing network of sidewalks, which serve to connect critical destinations across the City.
- Encouragement programs like Dover Walks and related efforts to connect community members with opportunities for physical activity and active transportation.

This report card summarizes some of the comments and feedback from our reviewers within each section of your application. We would encourage you to contact us if you would like to talk more specifically about your initiatives, our findings, and what we see as opportunities to expand your programs.

This remainder of this report card will provide feedback and suggestions for each section in the community assessment tool. Each section received an overall score as defined below:

### **Walk Friendly**

The responses in this section indicate that your community is particularly strong in this area with great efforts being made towards improving walkability. Even so, there are always areas within this section where improvements and growth could be made.

### **On the Right Track**

This score indicates that your community does not exhibit the characteristics to be truly walk friendly in this section, but that there are still good existing programs or new programs that could be expanded. Please review our suggestions on how you could improve the walkability in this area.

### **Needs Attention**

This score indicates that your community does not yet demonstrate strong programs, policies, and results, characteristic of a Walk Friendly Community based on the responses in this section. Consider prioritizing these programs.



## Status of Walking

## On the Right Track

While your walking mode share is above average for a community of your size, you have a relatively high pedestrian crash and injury rate. The crash trend appears to be headed in the wrong direction, and while your number of fatalities is relatively low, this is something to keep an eye on.

- Take steps to monitor pedestrian activity using regular counts. Monitoring counts will help you better understand where people are walking so you can begin to focus safety investments in those areas – see the evaluation section for more details..
- Your pedestrian plan cites an analysis of crashes between 2011 and 2013, but for the size of your community we recommend examining at least five years of crash data to look for trends and locations where you can focus your efforts.

## Planning

## On the Right Track

It's great to see that you have a standalone pedestrian plan and an ADA transition plan to help guide your activities.

As an initial step, you may want to revisit your pedestrian plan and incorporate some more specific targets and performance metrics that you can use to measure your progress. Targets for safety (like eliminating fatalities) or mode share (increasing walking trips) will give you something to shoot for and allow you to use regular measurement to determine if your activities are resulting in changes. Fort Collins, a Bronze-level Walk Friendly Community, has a comprehensive [Pedestrian Plan](#) that sets reachable targets.

Developing a Complete Streets Policy would be a great way to ensure that pedestrian and bicycle features are included in your transportation projects. Complete Streets are designed to create safe and convenient access for all users, including bicyclists, pedestrians, motorists, and transit riders. The [National Complete Streets Coalition](#) provides some useful guidelines and many other resources about this initiative.

We see an opportunity to move the needle on reducing vehicle trips by tightening up some of your parking policies and formalizing those in a parking plan for the entire City. Look to the Victoria Transport Policy Institute for inspiration and ideas for the sorts of parking standards (like parking maximums or absence of minimums) you can couple with [parking policies and strategies](#) to encourage more walking, biking and transit use. Creating a standalone parking plan, like [this one from Denver](#), is a great way to formalize all of this.



## Education/Encouragement

## On the Right Track

You have some promising programs to educate and encourage safe walking in Dover. These really stood out to us:

- We really like that you've been able to implement some safety projects near your schools through the Federal SRTS program.
- Dover Walks seems like a great program that encourages people to get out and be active – great job!

Some areas where we see opportunities to grow:

- We think you can expand your walk and bike to school programs and hold more events throughout the year to encourage students to walk (or bike). The program in Fort Collins is a [model](#) for other communities. The city produces an annual summary of SRTS activities and has a goal to provide in-depth SRTS programming to every K-12 school once every three years.
- You have some community maps on kiosks, but we think wayfinding is a big area where you could improve by providing signs all over your downtown area identifying nearby destinations. Another area where Fort Collins serves as a model is in wayfinding. Check out their [design manual](#).
- Open Streets events are great ways to get people out and take advantage of opportunities they typically don't have: walking and biking in the street. Though it's a much larger City than Dover, Atlanta's [Streets Alive](#) program is a great model if you're looking for inspiration..

## Engineering

## On the Right Track

We see a lot of evidence of recent progress in the area of engineering and design, particularly with respect to:

- Your current sidewalk coverage is fairly comprehensive, with the majority of your streets having sidewalks on both sides of the road.

Despite these improvements, we see plenty of opportunity to expand your work in this area. High priorities should include the following:

- To continue filling in sidewalk gaps and prioritizing repairs, we agree that your current inventory of sidewalks is a great step to be taking now. Coming up with a plan to construct new sidewalks and repair others is critical to maintaining the pedestrian network. Gold-level Corvallis, OR, uses a model program for replacing and installing needed sidewalks. Each year, the [Sidewalk Safety Program](#) surveys one of 11 districts in the city. The repair criteria are specific, to ensure consistent application in every situation. Corvallis's Sidewalk Maintenance Fee provides an annual source of funding to do this work, and the city will repair defects each year up to the amount of funding available.
- Bridges are critical pinch points in the pedestrian network, and it looks like fewer than half of your bridges have bike/ped accommodations. Check out this [PBIC White Paper](#) on the importance of bridge accommodations for peds and bikes, and learn about how these can be added during the bridge rehabilitation process.



## Enforcement

## On the Right Track

Overall we like some aspects of your enforcement programs, including the fact that you all are using red light cameras to enforce those violations.

That being said, we see law enforcement as an area where you can really expand what you're already doing. In particular, we recommend the following:

- You're performing lots of different types of enforcement operations, but not targeted yielding enforcement. One effective method, particularly at locations with a documented crash problem, is the crosswalk sting or pedestrian decoy technique. This involves plainclothes police officers crossing in the crosswalk and observing if cars are yielding. If cars do not yield, the plainclothes officer will radio to another officer to pull over the offending vehicle. By using this enforcement type, drivers are made aware of what types of behaviors are not allowed. Using this in conjunction with [progressive ticketing scheme](#) allows officers to educate drivers more than penalize them. Check out this [NHTSA guide](#) for more details.
- We would suggest that you consider opportunities to enforce speeds using [automated enforcement](#), which has been proven to be extremely effective. Seattle [explored this type of program](#), found success, and ended up expanding it. Coupled with other forms of speed enforcement, this would be a great way to bring law enforcement into the mix on your safety programs.

## Evaluation

## Needs Attention

- Our primary recommendation develop a count program by investing in a few permanent count locations, setting up a few short-duration counters that can be moved around, and combining all of this with manual counts to make sure you're getting the full picture. This will really help you add context to your crash data and understand where investments are needed.
- For more than five years, Gold-level Somerville, Massachusetts, has been using volunteers to [collect bicycle and pedestrian counts](#) at 36 different locations. This is a good option for expanding your reach, but you also need to get some permanent and short duration counters. The latest edition of FHWA's [Traffic Monitoring Guide](#) (TMG) includes a review of existing techniques and guidance for implementing traffic monitoring programs for non-motorized transportation (Chapter 4).
- You could also check out the recently published [Guidebook on Pedestrian and Bicycle Volume Data Collection](#). In addition to explaining different counting methods, this guide shows how count data can be used for measuring facility usage, evaluating before-and-after volumes, monitoring travel patterns, safety analysis, and project prioritization.
- Conducting pre- and post-evaluations for developments and other projects is the only way to know how your efforts have improved pedestrian safety. You should begin pre- and post-evaluations for every pedestrian project in order to develop a better understanding of how it has impacted pedestrian safety and walkability—you can use positive findings to justify more investment in pedestrian projects.

# Bicycle Friendly Community Report Card





# DOVER, DE

TOTAL POPULATION  
**36,826**  
TOTAL AREA (sq. miles)  
**23.3**

POPULATION DENSITY  
**1,581**

# OF LOCAL BICYCLE FRIENDLY BUSINESSES **1**

# OF LOCAL BICYCLE FRIENDLY UNIVERSITIES **0**

## 10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

|   | Average Silver         | Dover                      |
|---|------------------------|----------------------------|
| High Speed Roads with Bike Facilities                       | 40%                    | 28%                        |
| Total Bicycle Network Mileage to Total Road Network Mileage | 47%                    | 21%                        |
| Bicycle Education in Schools                                | GOOD                   | ACCEPTABLE                 |
| Share of Transportation Budget Spent on Bicycling           | 11%                    | UNKNOWN                    |
| Bike Month and Bike to Work Events                          | GOOD                   | AVERAGE                    |
| Active Bicycle Advocacy Group                               | YES                    | YES                        |
| Active Bicycle Advisory Committee                           | MEETS EVERY TWO MONTHS | MONTHLY OR MORE FREQUENTLY |
| Bicycle-Friendly Laws & Ordinances                          | SOME                   | GOOD                       |
| Bike Plan is Current and is Being Implemented               | YES                    | YES                        |
| Bike Program Staff to Population                            | 1 PER 91K              | 1 PER 61K                  |

## CATEGORY SCORES

|   |               |
|---|---------------|
| <b>ENGINEERING</b><br><i>Bicycle network and connectivity</i>                   | <b>2.3/10</b> |
| <b>EDUCATION</b><br><i>Motorist awareness and bicycling skills</i>              | <b>3.8/10</b> |
| <b>ENCOURAGEMENT</b><br><i>Mainstreaming bicycling culture</i>                  | <b>4.0/10</b> |
| <b>ENFORCEMENT</b><br><i>Promoting safety and protecting bicyclists' rights</i> | <b>4.4/10</b> |
| <b>EVALUATION &amp; PLANNING</b><br><i>Setting targets and having a plan</i>    | <b>4.4/10</b> |

## KEY OUTCOMES

|  | Average Silver | Dover |
|--|----------------|-------|
| <b>RIDERSHIP</b><br><i>Percentage of Commuters who bike</i>                      | 2.6%           | 0.64% |
| <b>SAFETY MEASURES CRASHES</b><br><i>Crashes per 10k bicycle commuters</i>       | 549            | 330.1 |
| <b>SAFETY MEASURES FATALITIES</b><br><i>Fatalities per 10k bicycle commuters</i> | 7.3            | 194.2 |



## KEY STEPS TO SILVER



» Continue to increase the amount of high quality bicycle parking throughout the community. Ensure that people arriving by bicycle have a secure and legal place to lock their bikes at popular destinations through the use of bike corrals, bike valets, and incentives or requirements for bike parking in buildings.

» Improve Bike Month activities by creating a Bike to School Day event. Bike to School Day events can include competitions related to bicycle use, outreach to parents, and coordination between the schools and the city to create safer routes to schools.

» Dover has a limited bicycle network. Based on the data provided it is unlikely that it provides a low-stress experience suitable for people of all ages and abilities. Ensure that there is a plan for continual improvement with the goal of creating a safe and comfortable bicycle network for people of all ages and abilities.

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