

City of Dover Pedestrian Plan



February 2015



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Introduction

The *City of Dover Pedestrian Plan* is the product of a planning process that was initiated by public interest and support. The City of Dover, Delaware has had a long interest in promoting safe and convenient transportation alternatives such as walking and biking. 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 developed specific recommendations, an implementation strategy, and potential funding sources.

Since the adoption of the first plan, there have been numerous changes in the way that walking is viewed as a mode of transportation. Walking has taken on a new level of importance at the Federal, State and local levels, as transportation agencies have realized the effectiveness of this mode as an alternative to the use of a motor vehicle. In addition to the transportation benefits, walking provides measurable health, quality of life, environmental, and economic benefits to the local community. The graphic on page 3 describes these benefits in more detail.

The benefits of walking have been recognized by the U.S. Department of Transportation through the creation of funding sources dedicated to transportation alternatives (such as the original Transportation Enhancement Program, now included in the Transportation Alternatives Program). In addition, the Delaware Department of Transportation (DelDOT) has recognized the importance of walking as a transportation mode, and in 2009 established a full-time Pedestrian Coordinator position to ensure that pedestrian needs are incorporated into DelDOT projects throughout the state.

In the current *City of Dover 2008 Comprehensive Plan*, existing conditions for walking are described in the Transportation chapter. In addition, pedestrian needs are identified in the *Comprehensive Plan*. The report indicated that 68% of the public workshop respondents believed there are an insufficient number of sidewalks within the City, and a higher number felt that more pedestrian paths should be built.

In addition, the *Comprehensive Plan* established specific recommendations for developing and expanding alternate modes of transportation. These recommendations are:

- Update and implement the Bicycle and Pedestrian Transportation Plan of 1997
- Review the bicycle and pedestrian transportation network to identify gaps and important segments needed to provide a continuous network
- Develop an implementation plan to complete this network

The *Comprehensive Plan* also declares "support for pedestrian, bikeway, and public transit facilities in subdivisions and site plan applications."

Finally, the *Comprehensive Plan* notes that "the City of Dover is committed to working with the Dover/Kent County Metropolitan Planning Organization (MPO) to reduce the air quality impact of auto emissions through sound land use planning, enhancing the bicycle and pedestrian network in Dover, and encouraging increased use of public transit."

Specific recommendations relating to clean air goals identified in the *Comprehensive Plan* are:

- Update and implement the Bicycle and Pedestrian Transportation Plan of 1997
- Encourage and support the installation of multi-modal paths alongside street frontages where appropriate
- Improve and widen sidewalks for bicycle and pedestrian use
- Encourage DelDOT to increase bicycle paths along major routes within the City

Goals and Objectives

The City of Dover Bicycle and Pedestrian Subcommittee has established the following goals and objectives as part of the update to the Pedestrian Plan:

Vision - "Dover is a place where people of all ages and abilities can walk conveniently, comfortably and safely for all purposes."

Goal 1 - Improve the pedestrian transportation network

- Consider 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

Goal 2 - Incorporate pedestrian elements into land-use and development planning

Goal 3 - Provide for routine and timely maintenance (cleaning and clearing) of walkways, especially after snowfalls and rainfalls

- Establish maintenance responsibilities, and coordinate actions (city, state, private)
- Educate road snowplow operators, to eliminate blockage of walkways
- Actively provide notice and citations to property owners
- Integrate sidewalk maintenance (snow, debris, and vegetation removal) into routine actions of City street crews

Goal 4 - Provide physical maintenance of walkways

- Replacement of damaged or root-lifted concrete, blacktop, or brickwork
- Restriping of crosswalks and other painted markers



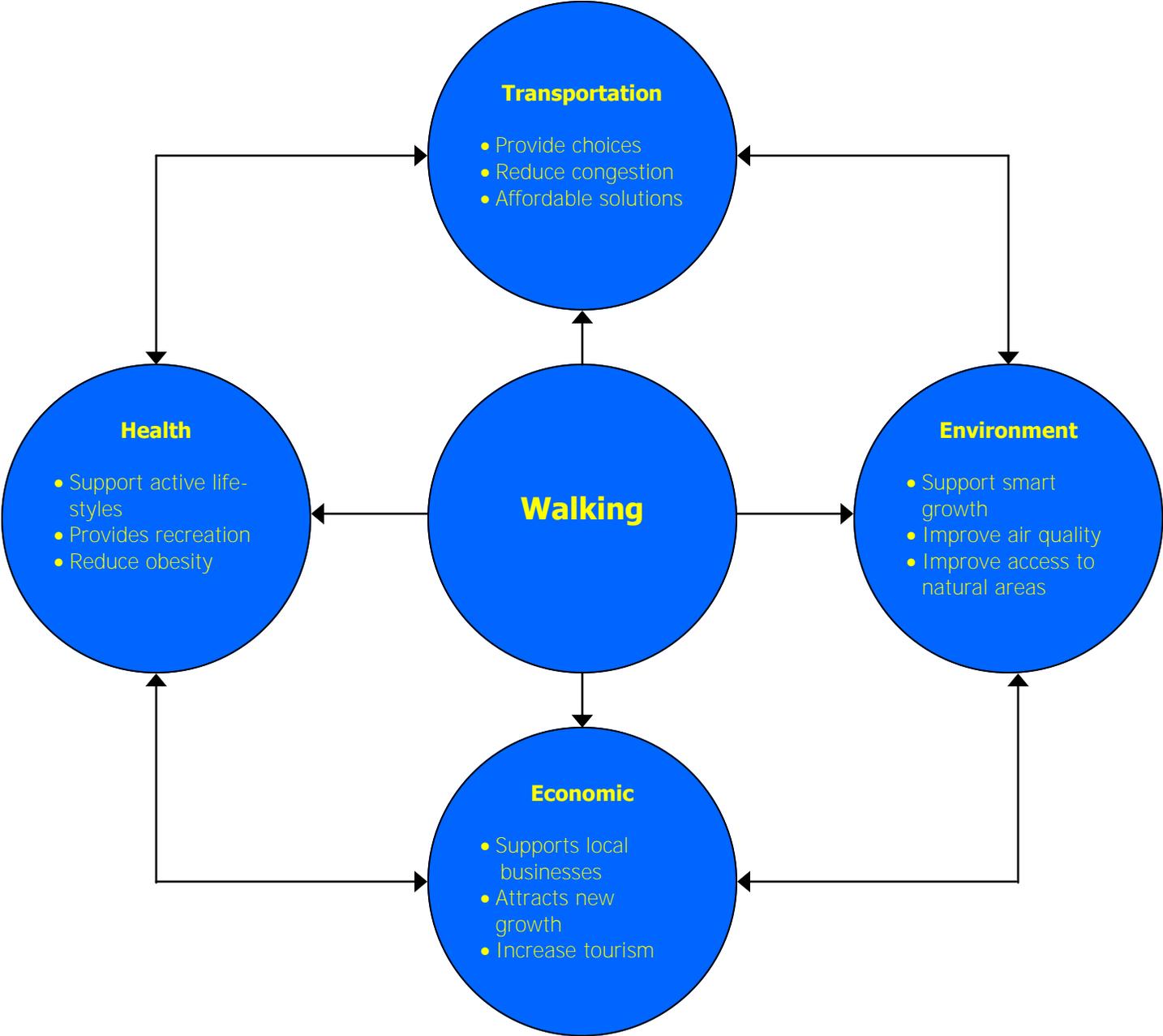
Loockerman Plaza



Capital City Trail (U.S. 13)

Benefits of Walking

As noted below, walking provides a multitude of low-cost benefits to a community.



Source: Adapted from 2009 Maryland Trails: Strategic Implementation Plan

Accomplishments

Since 1997, the City of Dover and DeDOT have made great strides in creating a more pedestrian-friendly city. Listed below are examples of some of the accomplishments that have occurred since the previous Plan adoption:

- Construction of new trail systems within Silver Lake Park and Schutte Park (early 2000's)
- Establishing a Traditional Neighborhood Design (TND) zoning category (2004)
- Construction of the Isaac Branch Trail, part of the St. Jones River Greenway (2007)
- Incorporating pedestrian signals and crosswalks as part of DeDOT's Dover Signalization Improvements project along major routes such as Division Street, North Street, and West Lookerman Street (2007)
- Enhancing pedestrian access to Booker T. Washington and Towne Point Elementary Schools, and William Henry and Central Middle Schools, through the Safe Routes to School program (2010 and 2011)
- Closing portions of Fulton and Cecil Streets to vehicular traffic to improve the pedestrian environment for Wesley College students (2012)
- Establishing a Bicycle and Pedestrian Subcommittee (2013)
- Enhancing pedestrian access along North Street, through a DeDOT streetscape project (2013)
- Completion of Phase I and Phase II of the Capital City Trail (2013 and 2014)
- Sidewalk/crosswalk construction and HAWK signal installation along Route 8 near the new Dover High School (2014)



Capital City Trail



North Street Streetscape



Silver Lake Park



Wesley College Streetscape

Existing Conditions - Pedestrian Facilities

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

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

Figure 1 displays the results of the inventory. Listed below is a summary of the key findings from the pedestrian facility inventory:

- There are approximately 9.0 centerline miles of off-road trails and pathways within the City.
- There are over 18 miles of sidewalk gaps along State-maintained roads within the City.
- There are 78 traffic signals within the City limits. Thirteen of these traffic signals (15%) do not have pedestrian signals and/or crosswalks. These signals are listed below and are mapped on Figure 1.
- 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

U.S. 13/Scarborough Road

U.S. 13/Delaware State University Commons

U.S. 13/Bay Road

U.S. 13/Roosevelt Avenue

U.S. 13/South State Street

U.S. 13/Puncheon Run Connector

U.S. 13/Webbs Lane

South State Street/Webbs Lane

Governors Avenue/State Street/Walker Road

Kenton Road/Walker Road

Kenton Road/College Road

Kenton Road/Denneys Road

McKee Road/Denneys Road

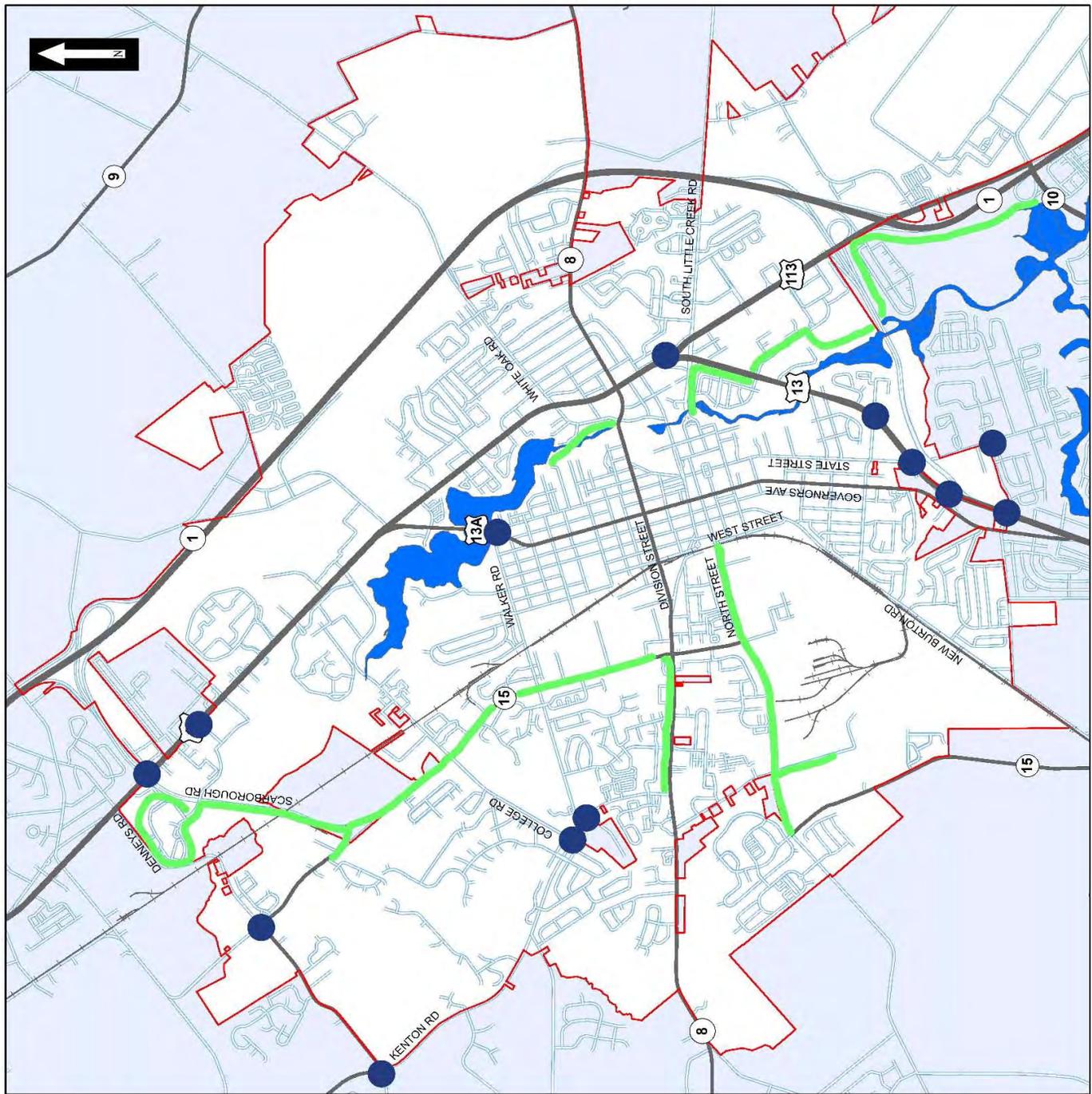


U.S. 13/Webbs Lane



Governors Avenue/State Street/Walker Road

Existing Conditions - Pedestrian Facilities



City of Dover
 Pedestrian Plan Update
 Figure 1 - Existing Facilities

Legend

- Missing Pedestrian Signals
- Existing Off-Road Path

Dover/Kent County MPO
 Metropolitan Planning Organization

Existing Conditions - Land Use

The City of Dover has a diverse mixture of land uses within its 22.7 square mile area. The City, with an estimated 2012 population of 37,090, has the second largest municipal population 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 2013. Existing land uses are also shown on Figure 2.

Residential

As noted in the table, the predominant land use within City limits is active agriculture and open space such as wetlands, wooded areas and vacant land. However, residential land use is also a primary land use. High density residential is located in the downtown core (roughly a 2 square mile area), while lower density, single-family residential land use composes the majority of the land use in the surrounding suburbs.

Land Use Category	Amount
Agriculture/Open Space	38.5%
Residential	19.1%
Dover Air Force Base	18.0%
Other	17.4%
Institutional	8.7%
Commercial	8.3%

Commercial

U.S. 13 is by far the primary commercial corridor throughout the entire City limits, as well as the Kent County region. This roadway facilitates 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, Route 8 (west of Saulsbury Road), and Lockerman Street in downtown Dover.



Delaware State University

Educational

There are 4 universities and college 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 of Dover, 8 of which are elementary schools. Finally, there are several private school facilities located in Dover.

Institutional

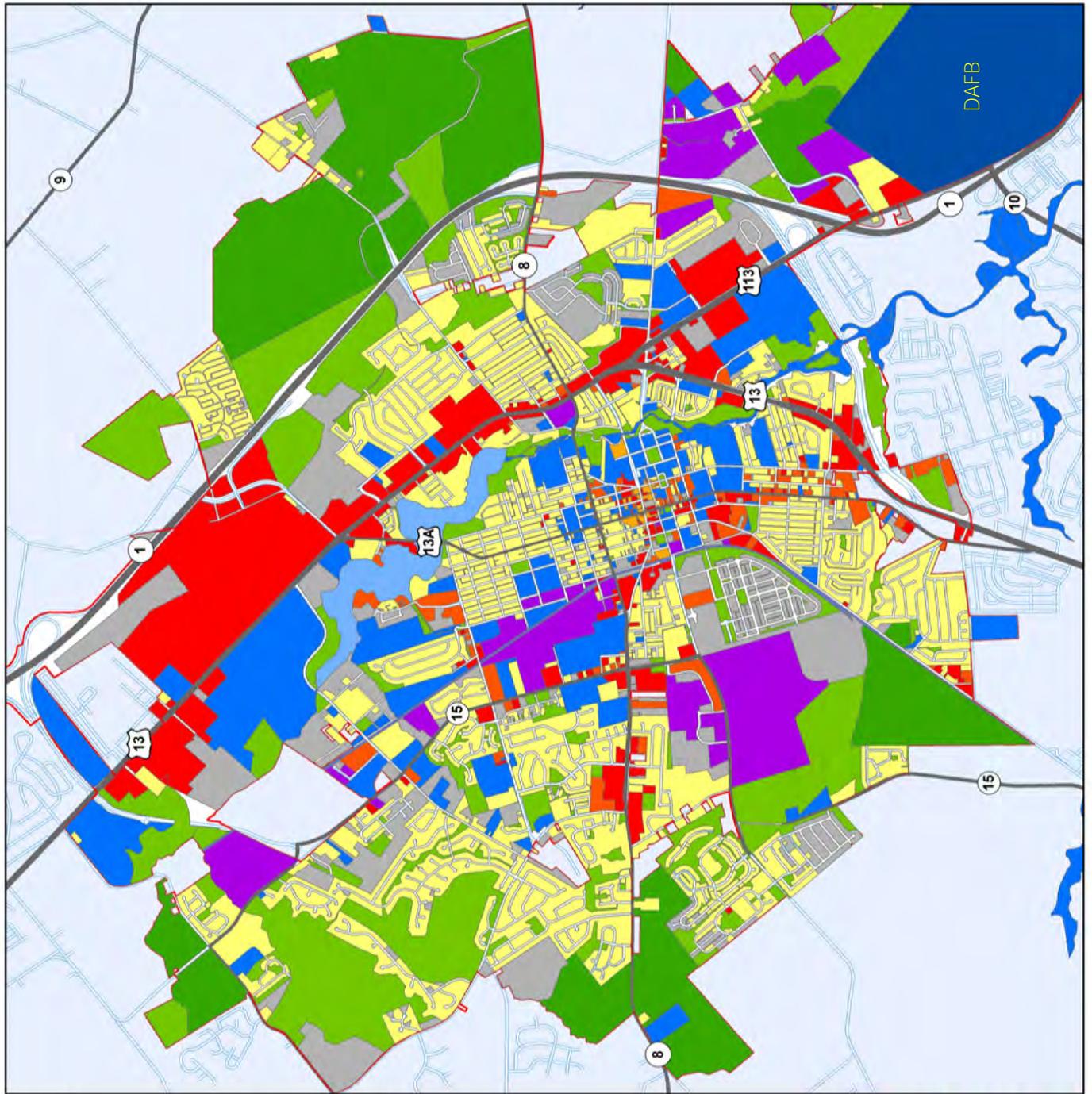
The State of Delaware owns a variety of government buildings in Dover, including Legislative Hall, the State Archives, and the Kent County Courthouse. The downtown area also houses City Hall, a new library, the regional hospital, several museums, a vibrant historic district, and the Kent County transit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

Open Space/Parks

There are 24 City-maintained parks in Dover. Most of these are small parks located within subdivisions or on small lots in the downtown. 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.



The Green



City of Dover
Pedestrian Plan Update

Figure 2
Land Use

Land Use

- Active Agriculture
- Commercial
- Dover Air Force Base
- Industrial
- Institutional & Pub Utilities
- Mixed Use
- Office
- Open Space
- Rail Road
- Residential
- Vacant
- Water

Dover/Kent County MPO
Metropolitan Planning Organization

0 0.25 0.5 0.75 1 Miles

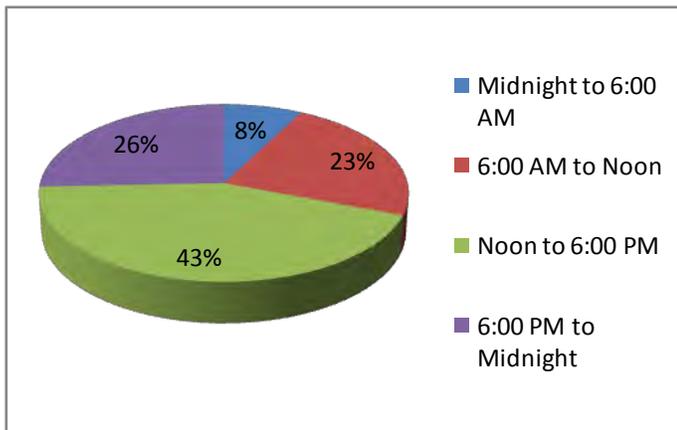
Pedestrian Crash Analysis

As part of the assessment of pedestrian conditions within the City, crash data from 2011 to 2013 was analyzed to determine the number and severity of pedestrian crashes that occurred during the 3-year period. In addition, the analysis was used to determine if there were any concentrated areas of pedestrian crashes, in an effort to identify future engineering or enforcement solutions that could potentially address the crash history.

Figure 3 shows the location of all reported pedestrian crashes that occurred within City limits from 2011 to 2013, as compiled by the City of Dover Police Department. Listed below is a summary of the crash data:

- There were 39 reported crashes involving a pedestrian between 2011 and 2013.
- Personal injuries were involved in 32 crashes (82%).
- There were no fatal crashes reported during the 3 year period.
- Twelve of the crashes (31%) occurred along U.S. 13 or at an intersection with U.S. 13.
- As noted in the chart below, the majority of the crashes (17) occurred between noon and 6:00 PM.
- The majority of the crashes (22) occurred on or near roads with a speed limit of 35 MPH or greater.
- Pedestrian crashes have decreased 37% over the last 3 years.

Year	Crashes
2011	16
2012	13
2013	10



Pedestrian Crashes - Time of Day



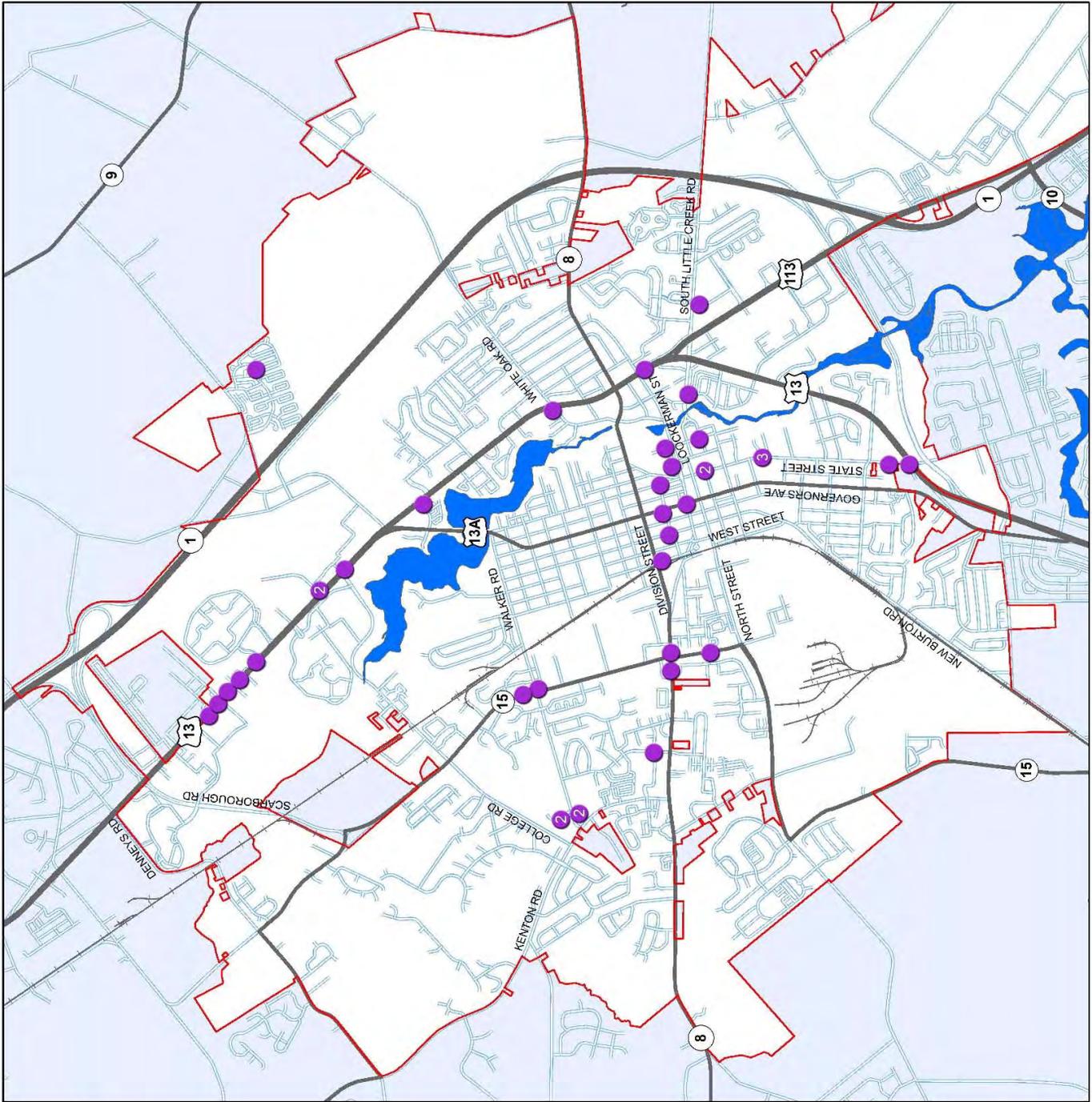
South New Street/Water Street

As shown on Figure 3, there were 5 pedestrian crashes reported along U.S. 13 between the former Sheraton Hotel and the north entrance to the Dover Mall. Despite the cluster of crashes reported in this 0.5-mile segment, this would likely not warrant further study, as many similar roads throughout the State (including Kirkwood Highway, Route 273, and Route 40) have pedestrian crash rates much higher than this segment of U.S. 13.

The highest concentration of pedestrian crashes occurred along South State Street at the existing pedestrian crossing between Bayhealth Hospital (on the west side of the road) and the related medical facilities on the east side (adjacent to Holy Cross Church). Three pedestrian crashes were reported at this location between 2011 and 2013.



South State Street at Bayhealth



City of Dover
Pedestrian Plan Update

Figure 3
Pedestrian Crash Data

Legend

- Pedestrian Related Crash

Based on reported crashes between 2011-2013

0 0.25 0.5 0.75 1 Miles

Existing Plans, Policies, and Programs

City of Dover Bicycle and Pedestrian Transportation Plan

As noted, the City of Dover's current Bicycle and Pedestrian Plan was adopted in 1997. The Plan details engineering, education, encouragement, and enforcement goals as they relate to biking and walking. The Plan presents a detailed assessment of specific pedestrian needs throughout the City of Dover, based on a rating system of land use and transportation conditions. In addition, the Plan details potential pedestrian needs based upon a Pedestrian Index evaluation. The Plan also identifies short-term and long-term actions designed to make the City of Dover more bicycle and pedestrian friendly. The top ten recommended projects are listed below, with an accompanying status.

<u>Project</u>	<u>Status</u>
1. Schutte Park Off-Road Connection	Not implemented
2. New Burton Road Pedestrian Crossing	Not implemented
3. Path between Del Tech and Del State	To be accommodated by Crawford Carroll Road Extension
4. Sidewalk Inventory/Spot Improvements	To be completed as part of current Bicycle and Pedestrian Plan update
5. Establish Gateway Treatments	Not implemented
6. Designate Commercial Corridors	Incorporated in DeIDOT's Complete Streets Policy
7. Walker Road Bike/Ped Improvements	Partially implemented
8. Improve Delaware Bicycle Route 1	Not implemented
9. Establish Dover Area Greenways	Not implemented
10. Mifflin Road/Hazletville Road	Partially implemented

The 1997 Plan identified a variety of roads in the City that did not have sidewalks or had sidewalk gaps. However, since 1997, numerous road segments have had sidewalks installed. A status of sidewalks along some of the major roads is provided below. The percentage refers to the approximate amount of sidewalks that existed for each time period.

Sidewalk Percentage Comparison		
Road	1997 Status	2014 Status
U.S. 13	3%	78%
Walker Road	55%	100%
College Road	18%	48%
North Street	27%	100%
South Governors Avenue	33%	100%
South Little Creek Road	32%	64%



New Sidewalk on U.S. 13

Existing Plans, Policies, and Programs

City of Dover Code of Ordinances

The City of Dover's Code of Ordinances includes numerous requirements that ensure Dover will continue to be a pedestrian-friendly community well into the future. The City requires developers to install sidewalks for all new major subdivisions. The Code includes design specifications for sidewalks, which refer to material, width and general location. In addition, the Code requires property owners to maintain sidewalk that is adjacent to their property, as explained in more detail on page 23.

In an effort to enhance and promote walkable communities, the City has two additional categories that provide developers with flexibility and incentives to address pedestrian needs through land use design. The categories are the Corridor Overlay Zone and the 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:

- Route 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
- 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

By Code reference, superior urban design includes "transportation amenities for bicycles, pedestrians, and transit that exceed those required by the zoning ordinance."

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."

"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 design of the 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.



Existing Plans, Policies, and Programs

First State Trails and Pathways Initiative

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 in partnership by DeIDOT and the 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

In Fiscal Years 2012 and 2013, the State of Delaware allocated \$20 million towards this program. Since the program was initiated, numerous trails and pathways projects have been planned, designed, and constructed throughout the state. In addition, Delaware has improved its ranking as a Bicycle Friendly State, jumping from a national ranking of #10 in 2012 to #4 in 2014. Delaware is designated by the League of American Bicyclists as the most Bicycle Friendly State east of the Mississippi River.

The City of Dover has been a direct beneficiary of the First State Trails and Pathways Program, as evidenced by the completion of Phase I of the Capital City Trail in 2013. Phases II and III are proposed for completion by the end of 2014. As noted on the map below, 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 U.S. 13 and Route 10). The Capital City Trail is being completed through a combination of widening existing sidewalks and installing new pathways to create an important pedestrian and biking facility in the heart of downtown Dover. The Capital City Trail also provides an enhanced gateway into the Legislative Hall complex, as well as improves pedestrian and bicycle safety along East Lockerman Street and MLK Boulevard.



Capital City Trail

Existing Plans, Policies, and Programs

DelDOT Complete Streets Policy

Within the City of Dover, the Department of Transportation is responsible for the maintenance of all State roads within City limits. These include arterial routes such as U.S. 13, U.S. 13A (Governors Avenue), Delaware Route 8, Delaware Route 15, and State Street. Collector routes such as White Oak Road, New Burton Road, and Walker Road are also maintained by DelDOT. The vast majority of the roads in the City of Dover are maintained by the State.

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

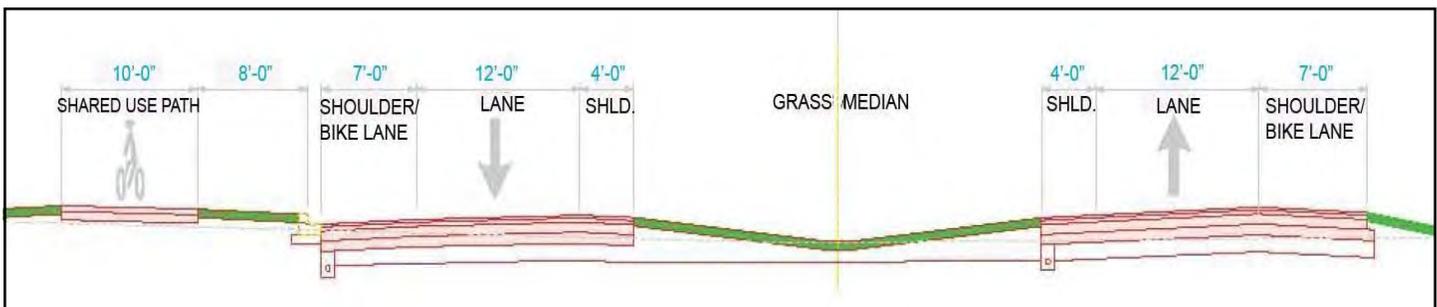
In 2010, DelDOT adopted its Complete Streets Policy. As noted in the Policy, “the term Complete Street means a roadway that accommodates all travelers, particularly public transit users, bicyclists, pedestrians, and motorists, to enable all travelers to use the roadway safely and efficiently.” The purpose of the Complete Streets Policy is “to ensure that the DelDOT 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 DelDOT subdivision and design manuals, design memoranda, and policies.”

The DelDOT 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, DelDOT 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 sidewalk throughout the project limits (Water Street to Webbs Lane). As part of the Capital City Trail project that was completed in 2014, DelDOT also widened existing sidewalk in heavily-used pedestrian areas to provide a 10-foot wide shared use pathway, enhancing pedestrian and bike mobility in the downtown area.

In addition, DelDOT is including a 10-foot wide shared use path into the design of the West Dover Connector, a 3.2-mile long new roadway that will provide a direct connection between Saulsbury Road and U.S. 13. This project will also add sidewalks in the more urban typical section near Rodney Village, which is just south of the City limits. The project will significantly improve pedestrian access from the south part of Dover (as well as Brecknock Park in Camden) to west Dover, including Schutte Park and the existing path along Saulsbury Road.



Proposed Typical Section - West Dover Connector

DelDOT Statewide Pedestrian Action Plan

In 2007, DelDOT 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 stated that an Advisory Council on Pedestrian Awareness and Walkability be established to assist DelDOT in developing and implementing a Statewide Pedestrian Action Plan. Per the Executive Order, the Plan was to address the following issues:

- Ensuring that paths and sidewalks are continuous and interconnected where feasible
- Developing consistent design standards for crosswalks, sidewalks, and 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, which can be found on the DelDOT web site at http://deldot.gov/information/projects/bike_and_ped/delaware_ped/, 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, DelDOT conducted a comprehensive sidewalk inventory in 2012 and is in the final stages of completing its ADA Transition Plan. It is anticipated that an open end design agreement and an open end construction contract will be procured to facilitate completion of standalone pedestrian projects that implement the Transition Plan. In the DelDOT FY 2015 - 2020 Capital Transportation Program (July 2014), the Department is proposing to spend \$7.75 million on the construction of bicycle and pedestrian improvements throughout the state. Needs that are identified in the Transition Plan and in local community plans such as the City of Dover Pedestrian Plan will likely become a part of the Department's project list for design and eventual construction and/or implementation.



U.S. 13 Bus Stop (former Kmart site)



Kings Highway/American Avenue

Existing Plans, Policies, and Programs

DelDOT Safe Routes to School Program

The Safe Routes to School (SRTS) Program is a DelDOT 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 5E's): **Engineering, Education, Enforcement, Encouragement, and Evaluation**. DelDOT 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

Four SRTS projects have been completed in the City of Dover, which consisted of improvements along pedestrian routes to 2 elementary schools (Booker T. Washington and Towne Point) and 2 middle schools (William Henry and Central Middle) in the Capital School District. These improvements were completed in 2010 and 2011. The Capital School District was one of the first school districts in the state to take advantage of the Safe Routes to School funding.



Central Middle School



William Henry Middle School

In addition, one SRTS project is currently in design, a project to enhance pedestrian access to W. Reilly Brown Elementary School on Webbs Lane. The project, which consists of new bulb outs, signals, and sidewalk upgrades, is scheduled for construction in the summer of 2015. There are currently no other SRTS projects proposed in the City of Dover.



Webbs Lane at W. Reilly Brown School

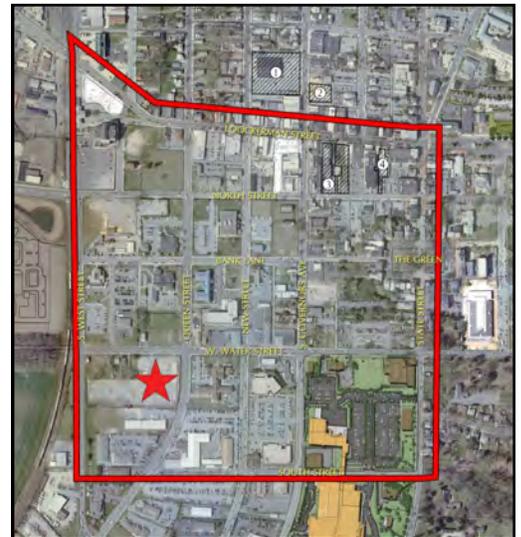
Dover Transit Center Neighborhood Plan

In March 2011, following a design charrette process conducted the previous year, the Dover/Kent County Metropolitan Planning Organization (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 the graphic 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 compliments 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



Study Area

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 rendering showing an example of potential improvements is shown below.



Queen Street at North Street (View South) - Proposed

Artist Rendering - Queen/North Street

Implementation strategy (pedestrian related):

- Provide streetscape and signage improvements at key gateways
- Work with the City and DelDOT 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

Existing Plans, Policies, and Programs

Dover High School Pedestrian Study

In the spring of 2013, the Dover/Kent County Metropolitan Planning Organization (MPO) conducted a study to evaluate the pedestrian needs associated with the construction of the new Dover High School. The new High School, which opened in August 2014, is located along Route 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. Route 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. Route 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 2-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 2-mile walking radius, develop conceptual plans and cost estimates for these areas, and identify potential constraints (environmental, drainage, utilities, right-of-way, etc.).

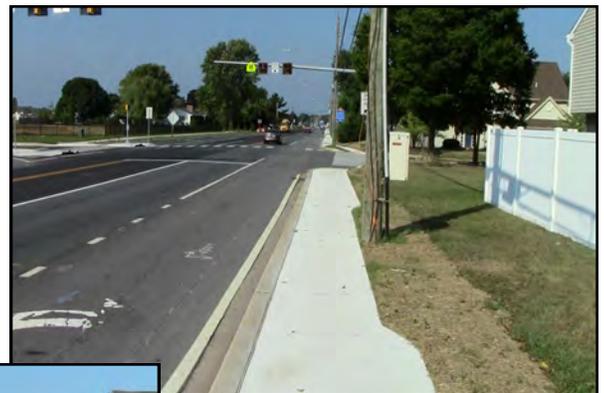
The study evaluated 4 primary roads that are located within the 2-mile walking radius - Route 8, Kenton Road, Mifflin Road, and Hazletville Road. Listed below is a summary of the study recommendations for each road.

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

In addition, as part of the new sidewalk project, DeDOT installed a High-Intensity Activated Crosswalk (HAWK) signal at the intersection of Route 8, Heatherfield Way, and the east entrance to the high school. 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 signalized crossing for pedestrians crossing Route 8 to the high school. A photo of the HAWK signal is shown in the photograph below.



Route 8 - Dover High School



Route 8 - North Side



Route 8 HAWK Signal

Existing Plans, Policies, and Programs

Kenton Road - The Dover High School Pedestrian Study evaluated Kenton Road between Walker Road and Route 8, within the 2-mile walking radius of the new high school. Kenton Road is a 2-lane roadway that carries over 10,000 vehicles per day. The land use along the roadway is primarily high-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, DelDOT placed the Kenton Road project in the FY 2015- 2020 Capital Transportation Program (CTP). The project will add continuous sidewalks along Kenton Road from Route 8 to Chestnut Grove Road, a distance of 1.2 miles. As of September 2014, design is anticipated to begin in FY 2016. There was no construction funding allocated in the draft FY 2016 - 2021 CTP, as of September 2014.



Kenton Road

Mifflin Road - Mifflin Road, a 2-lane road between Route 8 and North Street, provides access for over 15,000 vehicles per day. With the exception of a bank on the southeast corner of Route 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.



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 DelDOT Capital Transportation Program, and there is subsequently no design funding allocated for this improvement at this time.

Hazletville Road - Hazletville Road is a 2-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 Hazletville Road, with the exception of 4 homes near Mifflin Road. There is also a shared use path along Schutte Park.

Along the frontage of the Knottingham Meadows community, there is a gap in the sidewalk as it approaches Wyoming Mill Road (see photo). The new developer of the community is required to install the missing sidewalk, ensuring a continuous sidewalk along the south side of Hazletville Road. There are no other plans at this time to install any additional sidewalk along Hazletville Road, near its intersection with Mifflin Road.



Hazletville Road

Existing Plans, Policies, and Programs

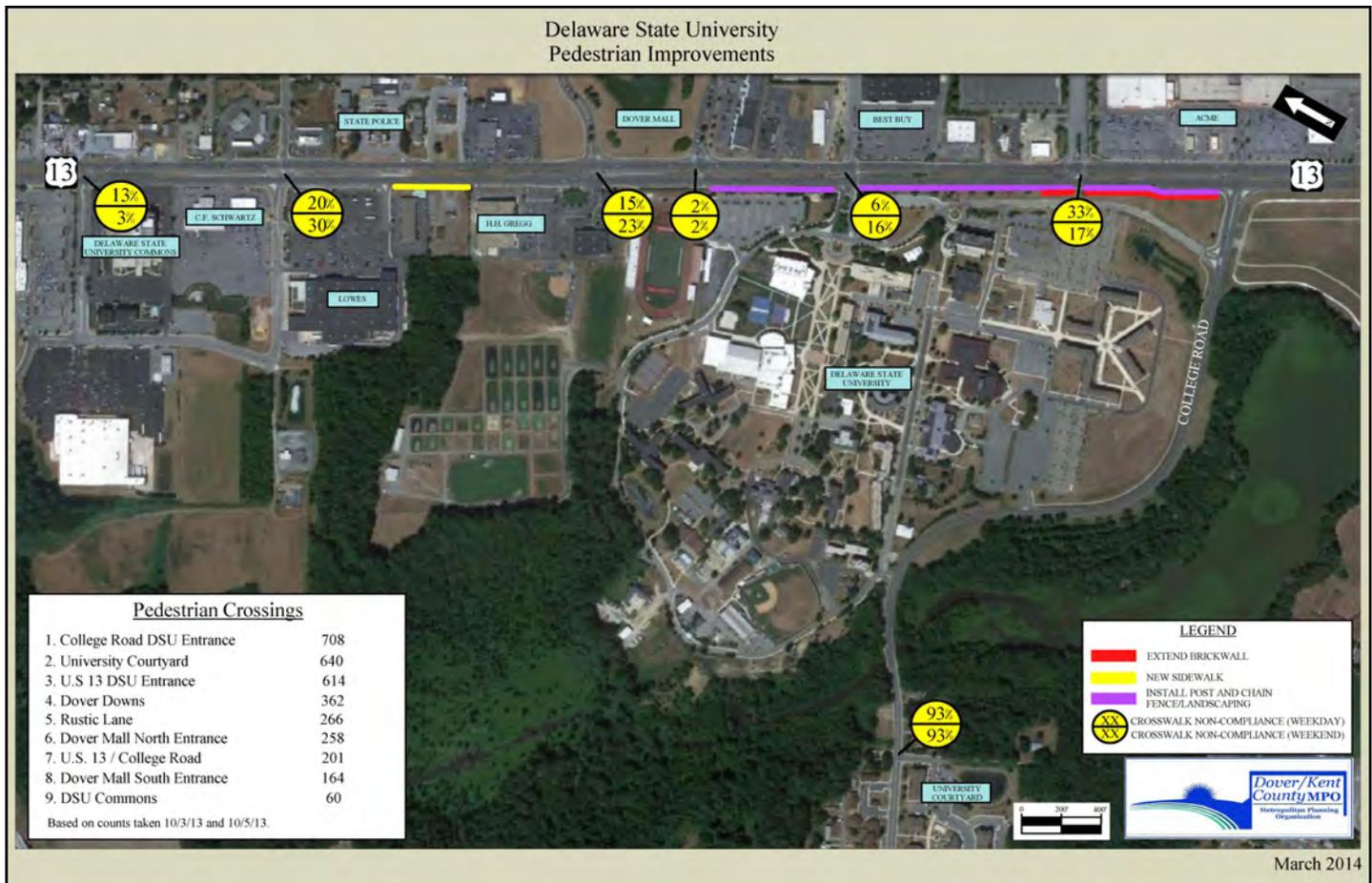
Delaware State University Pedestrian Study

In the fall of 2013, the MPO conducted a study of pedestrian volumes along U.S. 13 and College Road around the campus of Delaware State University. The university is located on the west side of U.S. 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 from 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.

There were several purposes of the study:

- To quantify the pedestrian activity associated with the campus
- 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 ten locations in October 2013.



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 October 2013, there were between 600 and 700 pedestrians that crossed College Road in this area. There was also over 600 pedestrians that crossed U.S. 13 at the main entrance to the university during the count period.

Existing Plans, Policies, and Programs

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 the U.S. 13/Dover Mall south entrance used the crosswalk 98% of the time
- Pedestrians crossing at the U.S. 13/Dover Downs entrance used the crosswalk between 67% and 83% of the time
- Pedestrians crossing College Road from the University Courtyard apartments to the main campus used the crosswalk only 7% of the time.

As described below, several recommended improvements resulted from the study. The City of Dover also expressed interest in further evaluating improvements along College Road to increase safety for students.

U.S. 13 Sidewalk - On the west side of U.S. 13, between the main campus and the DSU Commons, there was a 400-foot gap in the sidewalk network. This area is heavily used by pedestrians. The study identified this as a high-priority need, and as a result, DeIDOT completed this project in the spring of 2014.



U.S. 13 (Before)



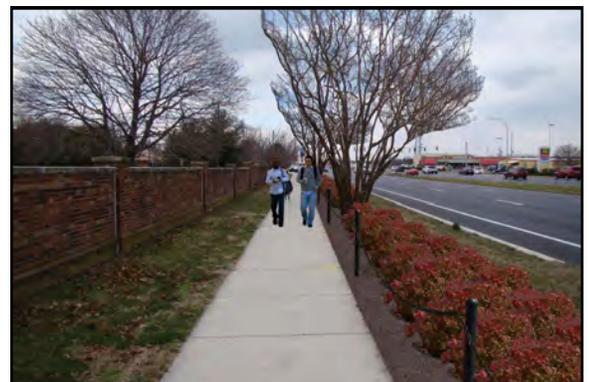
U.S. 13 (After)

Extension of Brick Wall - The university is proposing to extend the existing brick wall approximately 950 feet south to College Road. The wall, which currently terminates north of the Dover Downs entrance, runs along approximately 2/3 of the campus's U.S. 13 frontage. **This improvement will serve to guide pedestrians to the designated crosswalks and signalized intersections in this area, and reduce mid-block crossings of U.S. 13.**

U.S. 13 Post & Chain Fence/Landscaping - DeIDOT is proposing to install a decorative post and chain fence with landscaping along the entire U.S. 13 frontage of the DSU campus. This improvement will reduce the opportunities for pedestrians to cross U.S. 13 at an unsignalized crossing. An artist rendering is shown on the photo to the right. As of September 2014, the funding for this project had not been allocated.



DSU Sidewalk (existing)



DSU Sidewalk (proposed)

Maintenance Policies

As noted on page 2, maintenance-related issues compose two of the primary Goals to be addressed by the City of Dover Pedestrian Plan. The specific Goals are listed below:

- Provide for routine/timely maintenance (cleaning and clearing) of walkways, especially after snowfalls and rain
- Provide physical maintenance of walkways

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

DelDOT Maintenance Responsibilities

In accordance with a long-standing municipal agreement between the Department of Transportation and the City of Dover, DelDOT provides maintenance on state roads from curb to curb. Based on the town agreement between the 2 entities, the City is responsible for maintenance on any transportation facilities beyond the curb line. This would include sidewalks and shared-use pathways.

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

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



500 North State Street Sidewalk

It was noted by the Subcommittee that the city has experienced concerns during heavy snowfall events, when 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 Subcommittee encourages DelDOT 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, DelDOT 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 DelDOT 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 maximizes DelDOT 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. Because these road sections fall under different roadway categories, sweeping frequency will vary, but all will be swept at a frequency greater than the previous plan. Once the sweeping plan has been approved by DNREC and EPA, the exact frequency for each road will be determined.

Maintenance Policies

City of Dover/Property Owner Maintenance 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."



Route 8 (at Greentree Shopping Center)



36 Delaware Avenue

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..."

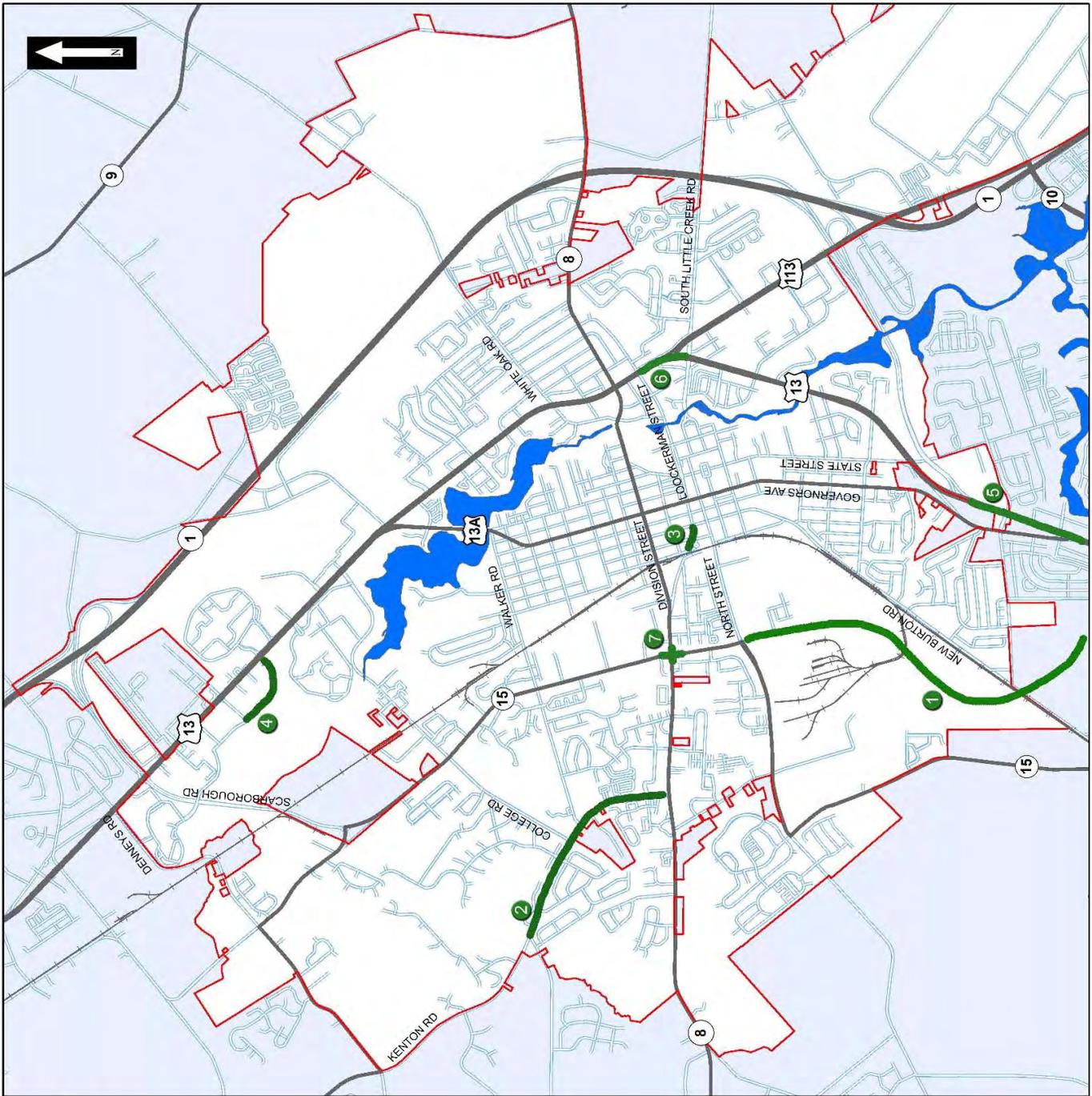
In practice, the City's Public Works Department repairs and reconstructs sidewalks as financial and personnel resources allow. An adjacent property owner is not responsible for making structural repairs to an existing sidewalk, based on current practice. Adjacent property owners are required to adhere 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.

Specific pedestrian facility maintenance recommendations identified by the Subcommittee are noted on pages 47 - 48. 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.

Planned DeIDOT Projects

DeIDOT has numerous projects planned in the City of Dover that will enhance mobility and safety for pedestrians. Listed below is a preliminary schedule for each proposed project, based on the DeIDOT Fiscal Year 2015 - 2020 Capital Transportation Plan, as published in July 2014. The proposed DeIDOT projects are also shown on Figure 4. Note that, of the 8 proposed projects, only one is currently funded for construction - the West Dover Connector.

Proposed DeIDOT Projects				
Project	Limits	Length (Miles)	Description	Anticipated Construction
West Dover Connector	North Street to U.S. 13	3.2	Extend Saulsbury Road to U.S. 13, incorporating sidewalks, bike lanes, and a shared use path to facilitate bicyclists and pedestrians	FY 2015
Kenton Road	Route 8 to Chestnut Grove Road	1.2	Widen Kenton Road to include shoulders, bike lanes, and sidewalks	FY 2020+
Loockerman Street/ Forest Street	Intersection	0.1	Install a roundabout and create a pedestrian friendly gateway	FY 2020+
Crawford Carroll Road Extension	Lowes to U.S. 13	0.5	Extend existing road to U.S. 13 opposite Dover Mall, and include bike and pedestrian amenities	FY 2020+
U.S. 13 Widening	Puncheon Run to Walnut Shade Road	0.3	Add a third through lane and continuous sidewalks to U.S. 13.	FY 2020+
U.S. 13 Sidewalks	MLK Boulevard to Loockerman Street	0.3	Install new sidewalks on both northbound and southbound U.S. 13	FY 2020+
Route 8/ Saulsbury Road	Intersection	0.2	Install an additional through lane and left turn lane on NB and SB Saulsbury Road	FY 2020+



City of Dover Pedestrian Plan Update

Figure 4
Proposed DeIDOT
Projects

- 1 West Dover Connector
- 2 Kenton Rd
- 3 Lookerman St./ Forest St.
- 4 Crawford Carroll Road Extension
- 5 U.S. 13 Widening
- 6 U.S. 13 Sidewalks
- 7 RT 8/Saulsbury Rd

Source: DeIDOT Draft
FY 2015 - 2020 Capital
Transportation Program
July, 2014

Legend

Proposed DeIDOT Project

Areas of Opportunity

The City of Dover, particularly in its urban downtown core, has had a long history of ensuring that pedestrian needs are considered and incorporated as part of land development and transportation investment decisions. In recent times, the City has made significant progress over the past several decades in ensuring that the needs of the pedestrian are equivalent to those of any other transportation mode. This is reflected in its municipal code, its land use design standards, and the recent installation of numerous privately-funded and publicly-funded pedestrian improvements throughout the City. The City has required that sidewalks be installed as part of all new development projects since at least the **1980's**. **The City's first Traditional Neighborhood Design, the Eden Hill Farm, will be 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 a trail network 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 very proactive about incorporating pedestrian needs into their traffic signal designs, as evidenced by recent signal upgrades along Division Street and North Street.

However, despite the measurable progress that's been made through the years, there are still numerous areas throughout the City that warrant improvements. A variety of agencies, including the City of Dover (through the Bicycle and Pedestrian Subcommittee), DelDOT, and the Dover/Kent County Metropolitan Planning Organization have identified areas of need. At the public workshop held on June 26, 2014, the public was also afforded the opportunity to identify areas of concern. The information presented on the following pages details the areas of highest need within the City, as identified by the public, the Bicycle/Pedestrian Subcommittee, and the applicable government agencies.



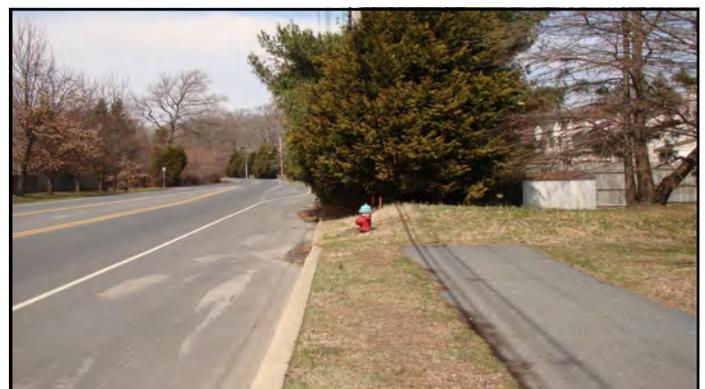
Hazletville Road



West Street



North Street



Kenton Road

Pedestrian Needs

The design of Dover's street network dates back to the early 1700's, when the predominant form of transportation was walking. As a result, virtually every street within the traditional core of the City has sidewalks, which essentially composes the entire area from Walker Road to Water Street (north to south) and U.S. 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 vast majority of the remainder 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 several areas that provide open space and a natural setting amidst the urban environment, including The Green, Legislative Mall, and the St. Jones River, all of which attract large numbers of pedestrians.



Dover Public Library



State Archives

Based on an inventory that was conducted as part of the preparation of this plan, pedestrian needs are more evident in the areas of the City that were developed after the traditional core was completely developed. While the vast majority **of the residential subdivisions that have been developed since the 1940's have sidewalks**, there are numerous State-maintained roads that do not have sidewalks. When these particular 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 of course has changed in recent times, as developers have been required to install sidewalks as part of the development approval process for over 30 years.



College Road



Mifflin Road

Pedestrian Needs

As part of the development of the Pedestrian Plan, a quantitative-based 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 adjacent table.

The prioritization criteria takes 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.**

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 vast 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. outweigh the need for sidewalks in these areas. As a result, sidewalks were not evaluated in these communities.

Listed on the following pages is a description of the highest prioritized sidewalk needs within the City, based on the aforementioned prioritization criteria and input from the Bicycle/Pedestrian subcommittee.

Sidewalk Prioritization Process		
Criteria	Measure	Points
Bus stop	Within 1/4 mile	2
	Within 1/2 mile	1
Commercial destinations	Within 1/4 mile	2
	Within 1/2 mile	1
Community center	Within 1/4 mile	2
	Within 1/2 mile	1
Recreational facility	Within 1/4 mile	2
	Within 1/2 mile	1
School	Within 1/4 mile	2
	Within 1/2 mile	1
High-density residential	Within 1/4 mile	2
	Within 1/2 mile	1
Proximity to existing sidewalks	Within 1 block	2
	More than 1 block	1
Presence of shoulders	No shoulders	2
	Partial shoulders	1
	Continuous shoulders	0
Property impacts	None/Minimal impacts	2
	Potential impacts	1
	Significant impacts	0
Drainage/utility/environmental	None/Minimal impacts	2
	Potential impacts	1
	Significant impacts	0
Maximum Score		20

Recommendations - New Sidewalks and Trails

Based on the sidewalk prioritization process described on the previous page, the following roads have the highest ranked needs for new sidewalk in the City of Dover:

State-Maintained Roads - New Sidewalks		
Road	Limits	Rank
South Little Creek Road	City Limits to Babb Drive (Target Entrance)	1
Kenton Road	Route 8 to Chestnut Grove Road	2
West Street	North Street to Queen Street	3
U.S. 13 (Northbound)	MLK Boulevard to White Oak Road Townsend Boulevard to Leipsic Road Dover Mall to Denneys Road	4
U.S. 13 (Southbound)	North State Street to Townsend Boulevard Kings Highway to Division Street	4
North State Street	Silver Lake to Lepore Drive	5
College Road	Kenton Road to McKee Road	6
Route 8 (south side)	Mifflin Road to Dover High School	7
Mifflin Road	Woodmill Drive to Fawn Street	8
City-Maintained Streets - New Sidewalks		
Street	Limits	
Pennsylvania Avenue	Kings Highway to Division Street	
New Off-Road Trails		
Area	Description	
Schutte Park Trail	Continue the internal trail network throughout Schutte Park	
Fox Hall West to Route 8	Provide a pedestrian connection from Fox Hall West to Route 8	
St. Jones River (west side)	Provide a new trail from Silver Lake Park to Legislative Avenue	

Recommendations - New Sidewalks (DeIDOT)

South Little Creek Road (#1 Ranked)

The existing land use along South Little Creek Road between U.S. 13 and Route 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, U.S. 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 U.S. 13 and Route 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.

South Little Creek Road has an extensive network of existing sidewalks along both sides of the road. However, there are several small gaps in the sidewalk network, as listed below:

- Between Babb Drive and Country Drive, along Cornerstone Church property (north side)
- East of Roberta Avenue, along the Schoolview community (south side)

While South Little Creek Road has 8 to 11-foot shoulders that can facilitate pedestrians in the areas without sidewalks, it is recommended that sidewalks be constructed in these aforementioned areas to provide a safer walking environment along a heavily used pedestrian corridor.

Recommendation: Construct sidewalks to fill the two gaps detailed above



South Little Creek Road (at Baptist Church)



South Little Creek Road (at Schoolview)

Criteria	Presence
Bus stop	Yes
Commercial activity	Yes
Community center	Yes
Recreational facility	Yes
School	No
High density community	Yes
Existing sidewalks nearby	Yes
Shoulders	Yes
Property impacts	Likely
Drainage/utility/enviro. impacts	Likely

Recommendations - New Sidewalks (DeIDOT)

Kenton Road (#2 Ranked)

As noted, Kenton Road was evaluated as part of the Dover High School Pedestrian Study that was completed by the MPO in 2013. Kenton Road has a mixture of land uses in close proximity to each other that provides for a high potential of pedestrian volumes, particularly between Route 8 and Walker Road. There are several high-density townhouse communities located along the road, as well as significant commercial uses that include the Greentree shopping center, the Kent 8 Plaza shopping center, McDonalds, and Wawa. In 2013, the YMCA purchased the former Kent Swim Club property at the intersection of Kenton Road and Walker Road. Given the new ownership, there is a high potential for additional pedestrian volumes traveling to and from the new YMCA. West of Walker Road, the land use is composed of low-density residential land uses, as well as Maple Dale Country Club.

Between Walker Road and Route 8, Kenton Road has portions of sidewalk along both the east and west sides of the road. However, continuous sidewalks are not present in this area. In some locations, fence or landscaping encroachments block access and force pedestrians into the shoulder or travel way, as evidenced in the photo below. Between Chestnut Grove Road and Walker Road, there are no sidewalks along Kenton Road.

Based on the draft DeIDOT FY 2016 - 2021 Capital Transportation Program (as of September 2014), Kenton Road is scheduled for shoulder widening (to accommodate bicycle lanes) and continuous sidewalks between Route 8 and Chestnut Grove Road. The preliminary schedule is as follows:

Design: Fiscal Years 2016 and 2017
 Right-of Way & Construction: Unfunded

Recommendation: Construct continuous sidewalks on Kenton Road from Route 8 to Chestnut Grove Road



Kenton Road (at Greentree Drive)



Kenton Road (at Greentree Drive)

Criteria	Presence
Bus stop	Yes
Commercial activity	Yes
Community center	Yes
Recreational facility	Yes
School	No
High density community	Yes
Existing sidewalks nearby	Yes
Shoulders	Partial
Property impacts	Yes
Drainage/utility/enviro. impacts	Yes

Recommendations - New Sidewalks (DeIDOT)

West Street (#3 Ranked)

West Street is a State-maintained road that connects North Street and Queen Street near downtown Dover. The land use along the west side of the corridor is dominated by the Norfolk Southern railroad. There are several businesses located near the West Street/Queen Street intersection. Along the east side, there are primarily government buildings or utility companies, including the J.P. Court, Chesapeake Utilities, and the Dover Police Department. The Dover Transit Center, which is the transit hub for all of DART’s Kent County routes, is located at the intersection of West Street, Water Street, and Queen Street. Fourteen local bus routes travel to and from the Transit Center every weekday.

The existing shared-use trail that runs along North Street terminates at the railroad tracks and West Street, leaving east-bound pedestrians (and bicyclists) with no safe route to proceed into central or south Dover. West Street has no shoulders, and lacks sidewalks for most of its length. Sidewalks exist along the east side of the road between Bank Lane and Water Street, and along the perimeter of the Transit Center.

Based on studies conducted by the MPO, West Street is heavily used by pedestrians walking from the downtown to the Transit Center. As a result of the MPO study, DeIDOT is proposing to provide a 10-foot wide pathway between North Street and the Transit Center, constructing new sidewalk where it currently doesn’t exist (as shown in the photos below) and widening the existing sidewalk to provide for a shared-use facility. A conceptual design has been completed, however, there is no design or construction funding allocated in DeIDOT’s draft FY 2016 - 2021 Capital Transportation Program.

Recommendation: Construct sidewalks along West Street to fill all gaps between North Street and Queen Street. In addition, construct sidewalk to fill adjacent gap along North Street.



West Street (looking north)



West Street (at North Street)

Criteria	Presence
Bus stop	Yes
Commercial activity	Yes
Community center	No
Recreational facility	Yes
School	No
High density community	Yes
Existing sidewalks nearby	Yes
Shoulders	No
Property impacts	No
Drainage/utility/enviro. impacts	Likely

Recommendations - New Sidewalks (DelDOT and Private Developers)

U.S. 13 (#4 Ranked)

U.S. 13 is the most important commercial corridor in the City of Dover. Within its 6-mile limits in the City, there are hundreds of commercial businesses, restaurants, shops, and attractions, including the Dover Mall, Delaware State University, and Dover Downs and Casino. While there are significant pedestrian volumes throughout the corridor, pedestrians are especially concentrated in the area near the Dover Mall and Delaware State University. Based on counts taken in October 2013, there were over 600 pedestrians that crossed U.S. 13 at the University entrance over a 2-day period. Nearly 400 pedestrians were observed crossing on a Saturday. There are 7 DART First State transit routes that travel on U.S. 13, which also leads to a strong pedestrian demand along the corridor.

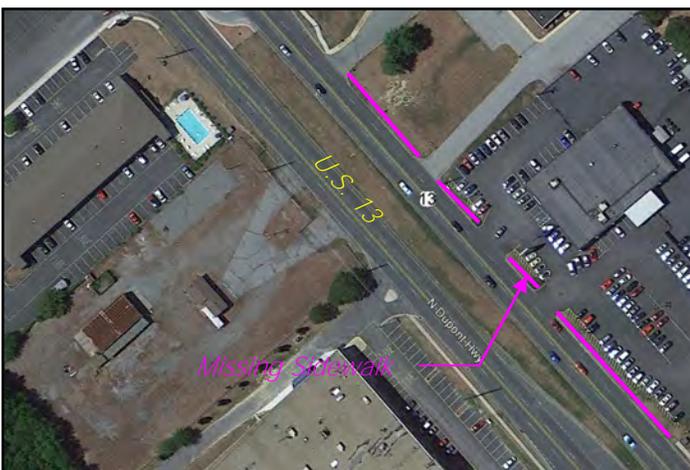
In addition to the day-to-day pedestrian demand generated by the commercial activity, there are several national events in Dover that create significant pedestrian volumes along U.S. 13 - NASCAR races and the Firefly Music Festival, each of which have attendance that exceed 80,000 people (twice as much as the population of Dover). These events, which occur at Dover Downs in early summer and early fall, create significant pedestrian demand for attendees that park at businesses along U.S. 13 and walk to the event. Pedestrians also walk along U.S. 13 to travel to and from shops, bars, and restaurants during the events.

The City Council has long recognized the need to provide continuous sidewalks along U.S. 13. Sidewalk construction along U.S. 13 ranked #4 on the City of Dover’s 2014 Transportation Project Prioritization list presented to DelDOT.

Recommendation: Construct sidewalks along U.S. 13 to fill all gaps within the City limits, as identified on page 34.



U.S. 13 (near Division Street)



U.S. 13 (north of Dover Mall)

Criteria	Presence
Bus stop	Yes
Commercial activity	Yes
Community center	No
Recreational facility	No
School	No
High density community	Partial
Existing sidewalks nearby	Yes
Shoulders	Partial
Property impacts	Yes
Drainage/utility/enviro. impacts	Yes

Recommendations - New Sidewalks (DelDOT and Private Developers)

U.S. 13 (#4 Ranked) - Continued

The U.S. 13 corridor has seen several pedestrian improvement projects constructed in recent years, both privately and publicly funded. Several examples of recent sidewalk projects are listed below.

Recent Sidewalk Projects

- Northbound U.S. 13 (Public Safety Boulevard to MLK Boulevard)
- Northbound U.S. 13 (CVS Pharmacy at Division Street)
- Northbound U.S. 13 (Dover Mall entrance road)
- Southbound U.S. 13 (Chick Fil-A)
- Southbound U.S. 13 (Lowes to PetSmart)
- Southbound U.S. 13 (MLK Boulevard to River Road)



U.S. 13 (near Public Safety Boulevard)

Sidewalk Gaps

On northbound U.S. 13 between Webbs Lane and Denneys Road, about 30% of the corridor has missing sidewalks, which represents approximately 1.8 miles. Along southbound U.S. 13 within those same limits, about 15% of the corridor has missing sidewalks, representing approximately 0.8 miles. The sidewalk gaps are shown on Figure 5, and listed below for reference.

Northbound U.S. 13 sidewalk gaps:

- MLK Boulevard to White Oak Road (0.5 miles)
- Townsend Boulevard to Leipsic Road (0.5 miles)
- Dover Mall to Denneys Road (0.8 miles)

Southbound U.S. 13 sidewalk gaps:

- North State Street to Townsend Boulevard (0.3 miles)
- Kings Highway to Division Street (0.3 miles)
- Loockerman Street to MLK Boulevard (0.2 miles)

Planned Projects

Based on the draft DelDOT FY 2016 - 2021 Capital Transportation Program (as of September 2014), there is one DelDOT project proposed along U.S. 13. The project will include the installation of sidewalks from Martin Luther King Boulevard to Loockerman Street, along both northbound and southbound U.S. 13. The project will fill in an important missing sidewalk segment noted on the list above. Design is currently anticipated to begin in FY 2019.

Several major development projects have been proposed along U.S. 13 in recent years, including the following:

- Properties on the west side of U.S. 13 between Kings Highway and Maple Parkway
- Former Berry Van Lines facility at U.S. 13/Leipsic Road
- Former Playtex facility at U.S. 13/Division Street

Should these properties re-develop in the future, the developers would be required to install sidewalks along U.S. 13 per City of Dover requirements, thus providing increased continuity in the U.S. 13 sidewalk network.



U.S. 13 (near Leipsic Road)

Recommendations - New Sidewalks (DeIDOT or Private Developers)

North State Street (#5 Ranked)

North State Street provides a direct north-south connection from downtown Dover to U.S. 13. Between Walker Road and U.S. 13, the road is a 4-lane undivided highway with no shoulders. Though the surrounding land use is dominated by Silver Lake, there are several pedestrian attractors and generators in the area. There are numerous businesses and shopping opportunities located near the intersection of U.S. 13 and North State Street. In addition, there is a strip 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.

In the southbound direction, North State Street has sidewalks throughout its limits. Along northbound State Street, sidewalks are present throughout the entire corridor, with the exception of 2 gaps:

- Between Silver Lake and Lepore Road
- Between TD Bank and the Big Lots shopping center

As shown in the photo below, the segment between Silver Lake and Lepore Road is inhibited by landscaping that causes pedestrians to walk in the travel lane. The property with the landscaping was recently purchased by a developer, so if the property does re-develop in the future, sidewalks along North State Street would be required by the City, thus filling in a vital link in the sidewalk network. The remaining gaps along State Street (two 220-foot gaps) would likely be filled in as the individual businesses re-developed, and would likely not be provided as part of a DeIDOT improvement project.

Recommendation: Construct sidewalks on North State Street from Lepore Drive to Silver Lake



North State Street



North State Street

Criteria	Presence
Bus stop	Yes
Commercial activity	Yes
Community center	No
Recreational facility	Yes
School	No
High density community	Yes
Existing sidewalks nearby	Yes
Shoulders	No
Property impacts	Yes
Drainage/utility/envIRON. impacts	Likely

Recommendations - New Sidewalks (DeIDOT)

College Road (#6 Ranked)

College Road between Kenton Road and McKee Road is a 2-lane roadway without continuous shoulders or sidewalks. At the eastern and western ends, some areas have paved shoulders but the typical roadway section is not consistent throughout the area. College Road has sidewalks on the south side of the road, running from McKee Road west about 1,500 feet. Along the south side of the road, there is nearly 1/2 mile of roadway length without sidewalk. With the exception of a strip shopping center at the intersection of College Road and McKee Road, there are no sidewalks located along the north side of College Road.

Land use along College Road consists primarily of single-family residential, including the Fox Hall and Hidden Oak communities on the north side of the road. The south side of College Road consists primarily of low-density residential, a church, and a significant amount of undeveloped land. The only commercial uses are located at the College Road/McKee Road intersection, which consists of a small shopping center, an office complex, and a bank. The North Dover Elementary School lies on the north side of College Road, only about 700 feet east of McKee Road, and is a potential pedestrian generator for students in this area.

Based on the inconsistent typical section, the lack of continuous shoulders and sidewalks, and potential pedestrian destinations near McKee Road, it is recommended that pedestrian improvements be further evaluated along College Road. This road has shoulders and sidewalks between McKee Road and U.S. 13 (near Delaware State University), and the typical section between McKee Road and Kenton Road is inconsistent with its functional classification. College Road is classified as a minor arterial, which per DeIDOT design standards, requires 12-foot travel lanes and 10-foot shoulders. Any widening of College Road would also require an evaluation of continuous sidewalks, per the Complete Streets Policy.

Recommendation: Construct sidewalks on College Road from McKee Road to Kenton Road



College Road (looking west)



College Road (at McKee Road)

Criteria	Presence
Bus stop	No
Commercial activity	Limited
Community center	No
Recreational facility	No
School	No
High density community	Some
Existing sidewalks nearby	Yes
Shoulders	No
Property impacts	Yes
Drainage/utility/enviro. impacts	Likely

Recommendations - New Sidewalks (DeIDOT)

Route 8 (#7 Ranked)

The need for sidewalks along the south side of Route 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 Route 8.

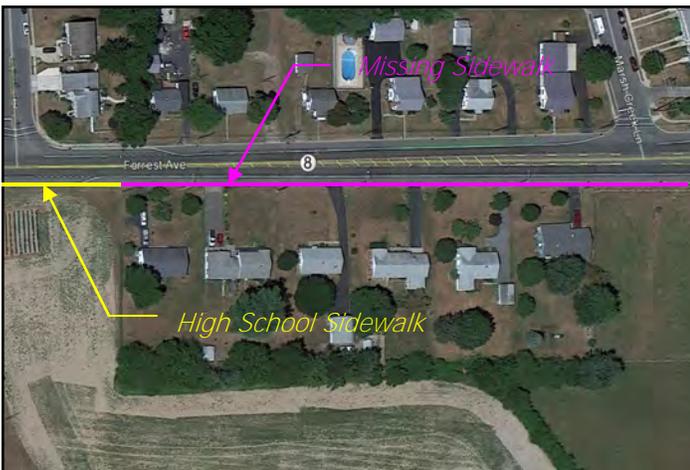
The land use in this area is predominantly low-density residential and agricultural. However, because of the location of the new high school, there are significantly higher pedestrian volumes traveling on Route 8 now that the school is open. The high school has installed a 10-foot wide shared use path along its Route 8 frontage, as well as provided a path behind the existing homes closest to the new school. In addition, in the summer of 2014, DeIDOT constructed sidewalks along the north side of Route 8, as well as installed a HAWK pedestrian-activated signal near the school.

However, there is still a quarter-mile gap in the sidewalk along the south side of Route 8 between the high school's sidewalk and sidewalk that currently exists east of Mifflin Road. Based on the area's land use (denser heading to the east), it is anticipated that students will be walking from areas such as Mifflin Road, Woodmill Apartments, and Farmview along Route 8 to travel to the high school. It is recommended that a sidewalk along the south side of Route 8 be evaluated and programmed for design funding in order to provide a safe walking environment for students. The installation of a sidewalk would also reduce the costs associated with busing students that live a short distance from the school. The City Council recognized the need to provide continuous sidewalks in this area, as sidewalk construction in the Dover High School Walk Zone ranked #2 on the City of Dover's 2014 Transportation Project Prioritization list presented to DeIDOT.

Recommendation: Construct sidewalks on the south side of Route 8 from Mifflin Road to Dover High School



Route 8 (South side)



Route 8 (Adjacent to Dover High School)

Criteria	Presence
Bus stop	No
Commercial activity	Limited
Community center	Yes
Recreational facility	Yes
School	Yes
High density community	Some
Existing sidewalks nearby	Yes
Shoulders	Yes
Property impacts	Yes
Drainage/utility/enviro. impacts	Yes

Recommendations - New Sidewalks (DeIDOT)

Mifflin Road (#8 Ranked)

Mifflin Road was also 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 Route 8 and Hazletville Road. The speed limit is posted at 35 MPH, and a mini-roundabout is located near the center of the limits to provide traffic calming. The land use is characterized by low-density residential, with a bank and convenience store located at the Route 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.

The only sidewalks are located at the Route 8/Mifflin Road and Hazletville Road/Mifflin Road intersections, providing for about 300 feet of sidewalks along Mifflin Road. The existing paved shoulders along Mifflin Road facilitate pedestrian mobility throughout the area, to and from the commercial areas along Route 8 as well as Schutte Park to the south.

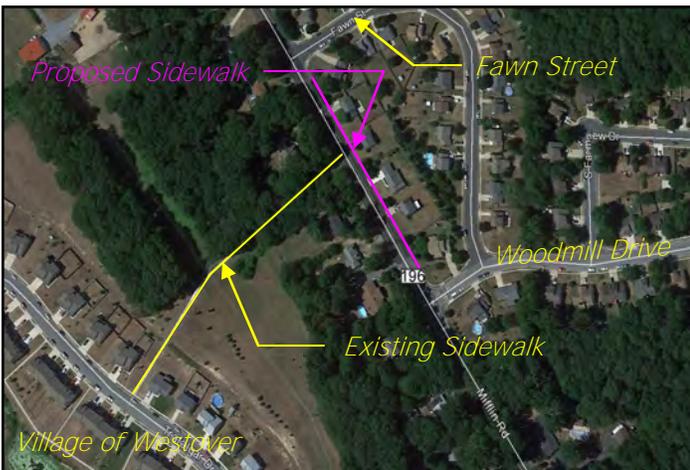
The Dover High School Pedestrian Study determined that adding sidewalks along the entire length of Mifflin Road would create potential adverse impacts to private property and would require significant drainage improvements. Based on the concept design evaluated in the Dover High School Pedestrian Study, the estimated cost to add sidewalks to both sides of Mifflin Road was nearly \$2.2 million.

A possible alternative to this project would be to provide a 600-foot sidewalk on the east side of Mifflin Road only, between Woodmill Drive and Fawn Street, and connect with an existing sidewalk that runs from Mifflin Road to the Village of Westover. The aerial photo below shows this proposed sidewalk connection. The sidewalk would improve safety and mobility for pedestrians traveling to and from the new Dover High School, which is directly tied into the Village of Westover via bike and pedestrian connections. This option would require a mid-block crossing of Mifflin Road, which would have to be evaluated by the DeIDOT Traffic Section.

Recommendation: Construct sidewalk on east side of Mifflin Road from Woodmill Drive to Fawn Street



Mifflin Road (at Woodmill Drive)



Mifflin Road

Criteria	Presence
Bus stop	No
Commercial activity	Yes
Community center	Yes
Recreational facility	Yes
School	Yes
High density community	Yes
Existing sidewalks nearby	Limited
Shoulders	Yes
Property impacts	Yes
Drainage/utility/enviro. impacts	Yes

Recommendations - New Sidewalk (City of Dover)

Schutte Park Trail

Schutte Park, a City-owned park located at the intersection of Hazletville Road/Mifflin Road/Wyoming Mill Road, is one of the Dover's largest parks. The Schutte Park complex consists of several parcels of land, including 57 acres dedicated to active recreation, soccer fields, and 4 softball fields. In addition, the Dover Little League fields are located on the south end of the property, consisting of about 107 acres. The John Pitts Recreation Center, which provides indoor recreational and fitness facilities, is also located within the Park.

A 10-foot wide concrete trail is located along the entire Hazletville Road frontage of the Park. Along the park entrance road, the trail heads south for about 1/3 mile and terminates in a parking lot, as shown on the map below.

In order to provide additional recreational and fitness opportunities for walkers and bicyclists, it is recommended that the City evaluate extending the existing trail network to the south. The trail network could be extended into the wooded areas of the park to provide a natural setting for area walkers, similar to the trail network that Kent County has successfully installed at Brecknock Park in Camden. A soft surface (stone dust) could be used in the wooded areas.

As of fall 2014, the City was in the process of updating its Parks and Recreation Plan, and it is recommended that the feasibility of a Schutte Park trail extension be evaluated as part of that Plan update. In the spring of 2014, the City initiated a topographic survey of the property to determine the potential for future park amenities such as additional trails.

Recommendation: Extend the existing Schutte Park trail to the Dover Little League and around the perimeter of the Park, including the wooded areas of the Park



Recommendations - New Sidewalk (City of Dover)

Fox Hall West/Mallard Pond/Route 8 Connector

Fox Hall West and Mallard Pond are residential communities in the west part of Dover, comprising nearly 200 single-family lots. The communities only have access from Kenton Road.

As shown on the map on the following page, Fox Hall West is only about 1/4 mile north of Route 8. However, the community does not have vehicular or pedestrian access to Route 8, so all trips traveling to Route 8 must be made via Kenton Road. Due to the lack of sidewalks along Kenton Road, it can be safely assumed that these trips are almost exclusively done with a motor vehicle, as opposed to walking or riding a bike.

The new Dover High School, which opened in the summer of 2014, is located along Route 8 in close proximity to these communities. However, due to the lack of pedestrian access to Route 8, a trip from the southern end of Fox Hall West to the new school is 2.2 miles, traveling along Kenton Road. If there were direct pedestrian access to Route 8 though, this trip would be reduced to 0.8 mile.

The City of Dover owns 2 parcels of land in between Route 8 and Fox Hall West, comprising 8.7 acres of open space (including Mallard Pond Park). It is recommended that the City of Dover evaluate the feasibility of constructing a bicycle/pedestrian trail connection from Fox Hall West (via Pebble Valley Drive) to Marsh Creek Lane, as a means of providing a direct non-motorized connection to Route 8. A trail connection could also be made to an existing sidewalk that connects the Mallard Pond community with the Mallard Pond Park. Providing direct pedestrian access to Route 8 would eliminate vehicular trips along Kenton Road, provide additional recreational access for area residents, and improve access to the new high school. Marsh Creek Lane is just east of the HAWK pedestrian-activated traffic signal that was installed in the summer of 2014. Marsh Creek Lane has sidewalks along its entire length.

In July 2014, the City held a public workshop to discuss the proposed trail concept with neighboring residents.

Recommendation: Construct trail from Fox Hall West and Mallard Pond communities to Route 8, through Mallard Pond Park



Mallard Pond Park (Existing)



Mallard Pond Park (Proposed)

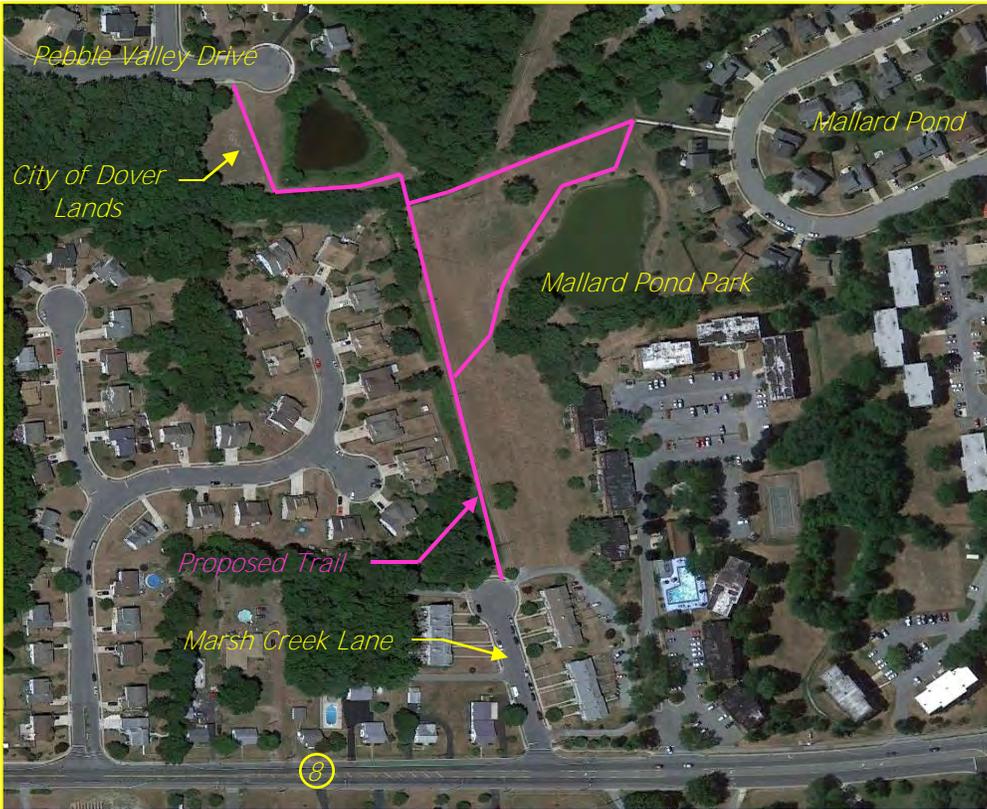
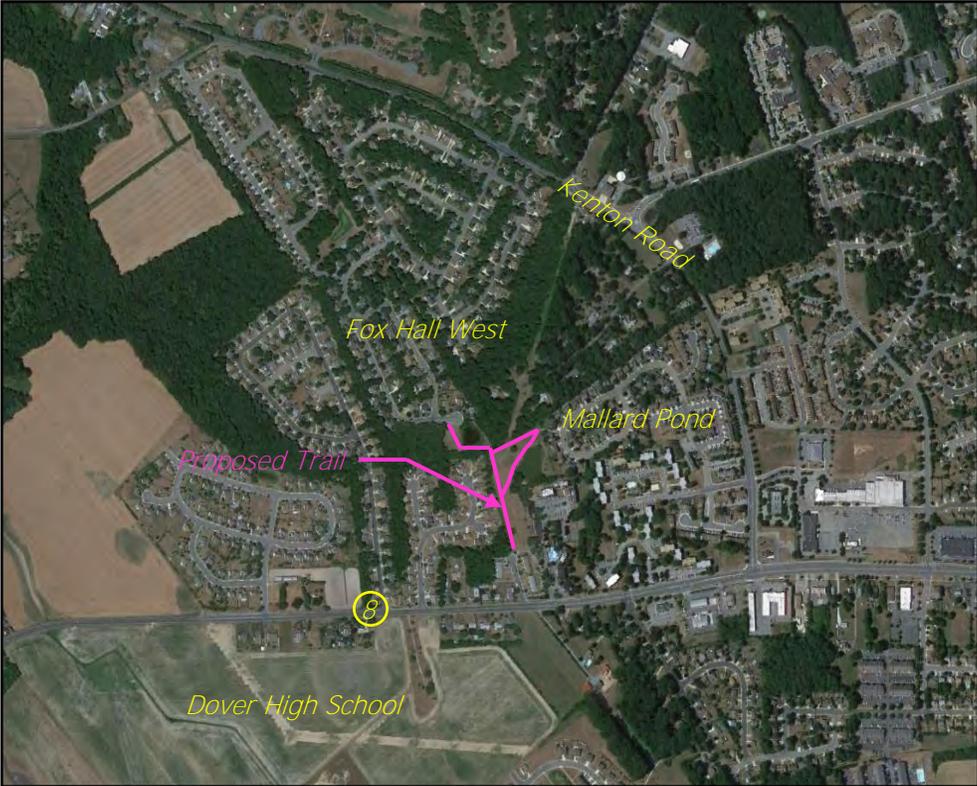


Pebble Valley Drive (Existing)



Pebble Valley Drive (Proposed)

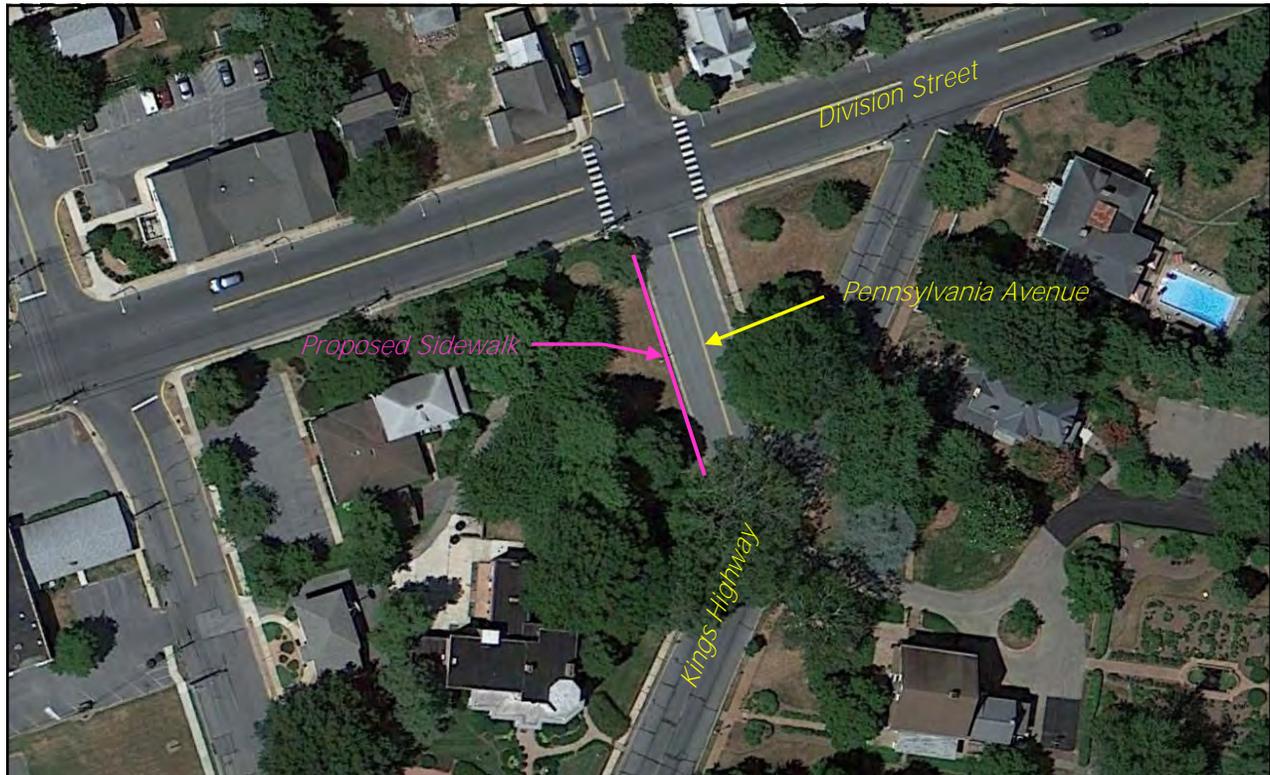
Fox Hall West/Mallard Pond/Route 8 Connector (Continued)



Recommendations - New Sidewalk (City of Dover)

Pennsylvania Avenue

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 road 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.



Recommendation: Construct sidewalk on the west side of Pennsylvania Avenue between Division Street and Kings Highway



Pennsylvania Avenue (looking south)

Recommendations - New Trails (DeIDOT)

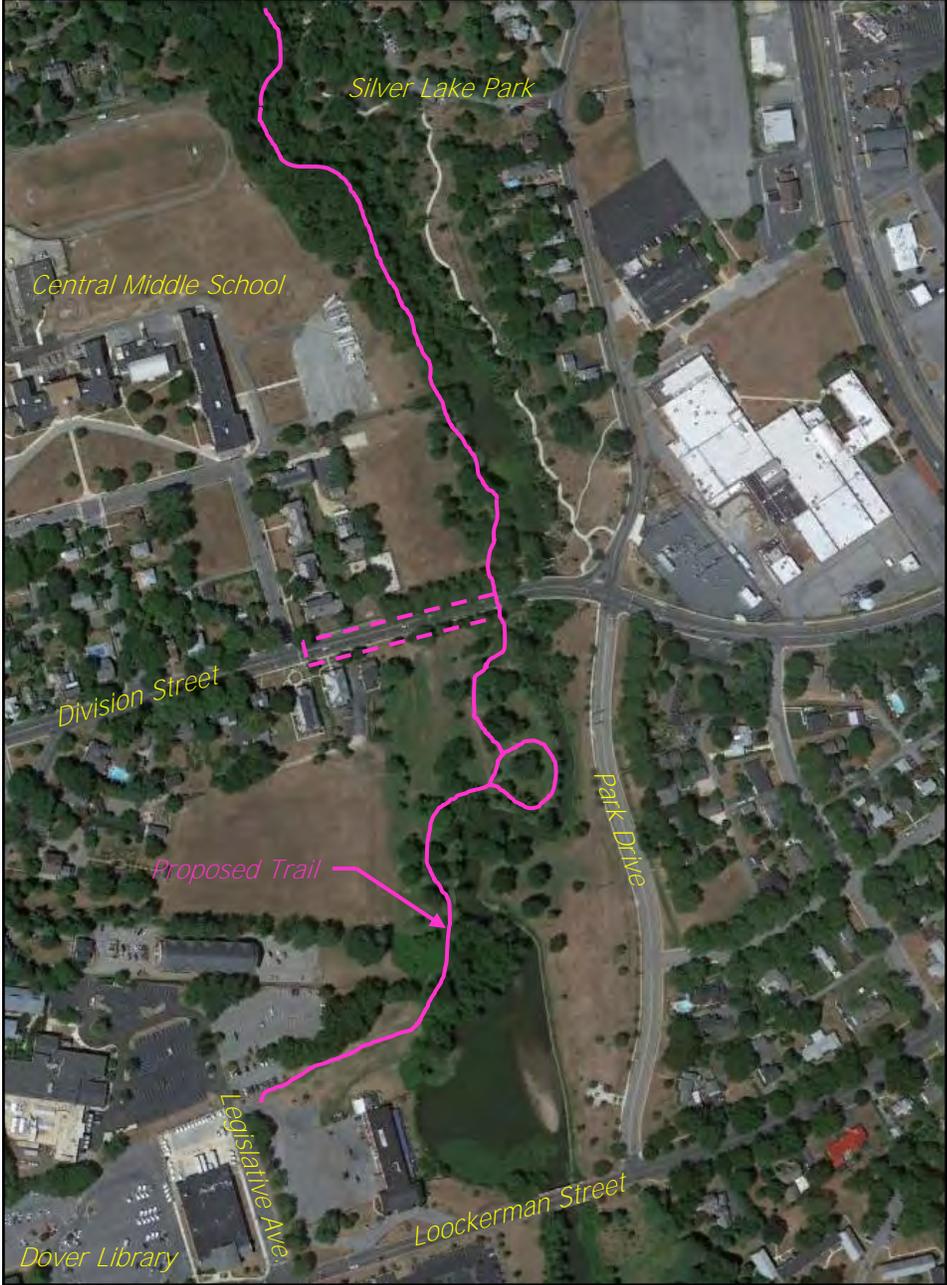
St. Jones River Trail

As part of the plan’s public involvement effort, the City of Dover’s Silver Lake Commission requested that a new trail be constructed on the west side of the St. Jones River, from Silver Lake Park 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.

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.”

As shown on the adjacent graphic, 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 path on the east side of the river.

This proposal would require the acquisition of right-of-way from about 5 property owners. Environmental permits would likely be required due to its location within the floodplain and proximity to existing wetlands. In addition, a new mid-block trail crossing of Division Street would have to be evaluated by DeIDOT.



Recommendation: Provide a new trail on the west side of the St. Jones River between Silver Lake Park and Legislative Avenue

Recommendations - Pedestrian Signals

As noted in this report, thirteen traffic signals within City limits currently do not have pedestrian signals. The signals are all located along State-maintained roads. Each of these locations has been reviewed with respect to a variety of factors to determine if further evaluation is warranted, to ultimately determine if pedestrian signals should be installed.

Out of the 13 signalized intersections that were analyzed, it is recommended that 5 of these locations be further evaluated to determine pedestrian signal feasibility. A status of each intersection is described below.

Not Recommended for Further Evaluation

- U.S. 13/Scarborough Road - No further evaluation at this time, as Crawford Carroll Road provides alternative pedestrian access to Del Tech.
- U.S. 13/Delaware State University Commons - No further evaluation at this time, as there is currently no sidewalk on the east side of U.S. 13 across from DSU Commons.
- U.S. 13/Bay Road - **Included in DeIDOT’s U.S. 13 (Loockerman Street - MLK Boulevard) project limits.** Design scheduled in FY 2019.
- U.S. 13/Puncheon Run Connector - No further evaluation, due to low pedestrian activity.
- Kenton Road/Walker Road - **Included in DeIDOT’s Kenton Road project limits.** Design scheduled in FY 2016.
- Kenton Road/College Road - **Included in DeIDOT’s Kenton Road project limits.** Design scheduled in FY 2016.
- Kenton Road/Denneys Road - No further evaluation, due to low pedestrian activity in a rural area.
- McKee Road/Denneys Road - No further evaluation, due to low pedestrian activity in a rural area.

Locations to Evaluate for Pedestrian Signals	
Intersection	Striped Crosswalk
U.S. 13/Roosevelt Avenue	No
U.S. 13/South State Street	No
U.S. 13/Webbs Lane	No
South State Street/ Webbs Lane	Partial
North State Street/Governors Avenue/Walker Road	No



State Street/Governors Avenue/Walker Road

The 5 intersections recommended for further evaluation are shown on Figure 5. The MPO, in coordination with DeIDOT Traffic, will be conducting an analysis to determine the feasibility of installing pedestrian signals at these 5 intersections. The analysis will evaluate factors such as pedestrian desire lines, crosswalk locations, incorporation of pedestrian phasing into the overall signal phasing, and whether pedestrians can cross an entire intersection in a cycle or would have to stop in a median (such as along U.S. 13).

Recommendation: Evaluate pedestrian signals at the 5 signalized intersections noted above

Recommendations - Maintenance

Based on the information provided by the City's Bicycle and Pedestrian Subcommittee, the MPO, and the public, improved maintenance of the following facilities should be further evaluated:

North Street Trail

The North Street Trail is an 8-foot wide, off-road facility that runs along the south side of North Street. The trail runs between Schutte Park and West Street, a distance of about 1.3 miles. The pathway ties into the existing trail network at Eden Hill Farm, including the Medical Center, and is used regularly by pedestrians, joggers, and bicyclists for recreation as well as transportation purposes. The pathway is adjacent to an industrial complex consisting of Kraft Foods and Proctor & Gamble, and is often used by employees for recreation. The North Street Trail will likely gain additional pedestrian volumes in the future, as DelDOT is currently exploring ways to connect this facility with the recently-constructed Capital City Trail in downtown Dover.

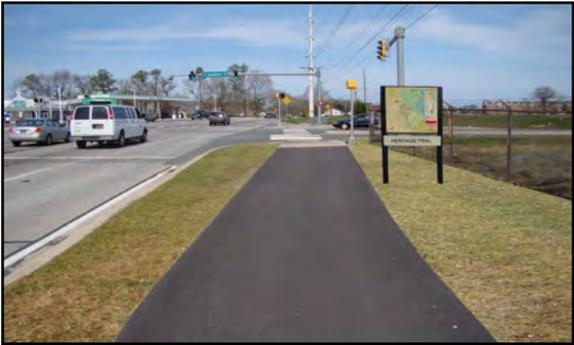
Given its location and the mixture of land uses that it connects, particularly the recreational opportunities afforded by Schutte Park, the North Street Trail could provide an important pedestrian link in this part of Dover. However, the trail's asphalt surface is currently in poor condition, and maintenance is non-existent. Based on the DelDOT Sidewalk and Multi-Use Path Maintenance Policy, DelDOT is responsible for maintenance between West Street and the Proctor & Gamble facility (1.0 mile), as this portion lies within the State right-of-way. However, along the Proctor & Gamble frontage, the trail lies outside of the State right-of-way and maintenance would be the responsibility of the property owner (Proctor & Gamble).

In order to further promote the use of this important pedestrian connection between downtown Dover, the Eden Hill Farm community, and Schutte Park, it is recommended that the existing surface be re-paved, and trail signs installed. There are currently no signs that indicate the presence of a trail. Naming the trail would provide a sense of place and could potentially increase its use. This trail could also provide a multi-modal connection to the First State Heritage Trail, which consists of a variety of historic resources and destinations in downtown Dover. The artist renderings below show the current path with a new hot mix surface and decorative trail signs.

Recommendation: Resurface the North Street trail from Schutte Park to West Street and add signage



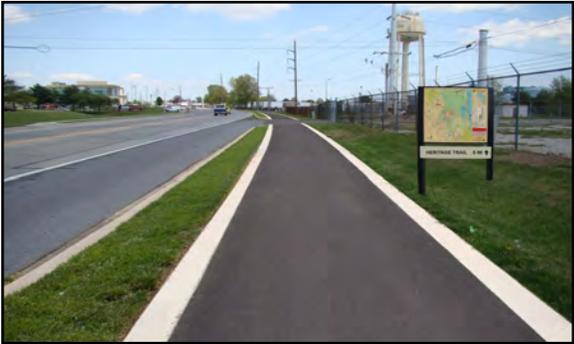
North Street Trail (Existing)



North Street Trail (Proposed)



North Street Trail (Existing)



North Street Trail (Proposed)

Recommendations - Maintenance

The Bicycle and Pedestrian Subcommittee, the MPO, and the public identified additional maintenance needs throughout the City, ranging from vegetation removal to replacement of sidewalk. The Subcommittee recommended that two separate maintenance lists be developed - one for repairs such as pavement resurfacing, sidewalk replacement, etc. and the second list to identify areas that require regular upkeep of the sidewalk or pathway.

Listed below are the areas recommended for physical repairs. It is recommended that the maintenance needs of the following locations be implemented, in accordance with City ordinances and procedures:

Identified Maintenance Needs - Repairs				
Rank	Location	Limits	Maintenance Issue	Responsibility
1	State Street	North Governors Avenue to Roosevelt Avenue	Uprooted, uneven sidewalks	City of Dover/ Property Owner
2	Route 8 Path	Modern Maturity Center to Greentree Shopping Center	Potholes/sinkholes in shared use path	City of Dover/ Property Owner
3	Saulsbury Road/ McKee Road	Scarborough Road to Route 8	Potholes/sinkholes in shared use path	City of Dover/ Property Owner
4	Delaware Avenue	32 & 36 Delaware Avenue	Depressed brick sidewalk	City of Dover/ Property Owner



North State Street (near Division Street)

Recommendation: Revise the Code of Ordinances to add "shared-use path" to any reference to sidewalk maintenance in the Code.



500 North State Street

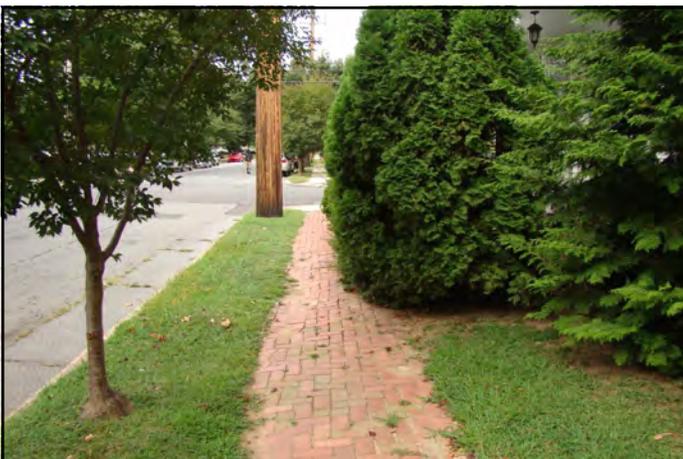
Recommendations - Maintenance

Listed below are the areas recommended for regular maintenance, due to overgrown vegetation, debris accumulation, etc.:

Identified Maintenance Needs - Clean Up and Trim			
Location	Limits	Maintenance Issue	Responsibility
Delaware Avenue	101 Delaware Avenue	Vegetation in sidewalk	Property Owner
Route 8	Independence Boulevard to Kenton Road	Low hanging tree limbs	Property Owner
Route 8	Modern Maturity Center	Vegetation in trail	Property Owner
McKee Road	Walker Road to College Road	Vegetation in trail	Property Owner
Scarborough Road	Bridge over railroad tracks	Debris along pathway	DeIDOT



Route 8 at Greentree Shopping Center



Delaware Avenue (looking west)

Recommendations - Signing, Striping, Lighting, and Fencing

Based on the analysis and public outreach conducted as part of the preparation of this plan, several needs have been identified that relate to signing, striping, and fencing. Listed on pages 49 - 55 are seven areas recommended for further evaluation.

South State Street/Bayhealth (Skull Terrace)

As noted, there were 3 reported crashes that involved a pedestrian at the intersection of South State Street and Skull Terrace. While the main hospital lies on the west side of South State Street, there are hospital facilities and parking also located on the east side, which leads to steady pedestrian traffic across the road. The posted speed limit is 25 MPH. Based on the 2012 DelDOT Traffic Summary, there are nearly 10,000 vehicles per day that travel along South State Street. **A DART bus stop is located at this intersection as well. A "yield to pedestrians" sign is situated in the roadway, and a flashing school beacon with 20 MPH placard is located just south of the intersection.**

This intersection was included in DelDOT's 2012 Kent County School Zone Manual on Uniform Traffic Control (MUTCD) Compliance Study. As a result of that study, several signing and striping improvements are proposed at the intersection. The artist rendering below shows the proposed improvements. In addition, as part of the recent hospital expansion project, Bayhealth is responsible for providing street lighting to ensure the crosswalk is properly lit.



South State Street (Existing)



South State Street (Proposed)

Recommendation: Add additional signing and striping at South State Street/Skull Terrace crossing

Saulsbury Road/Gateway Boulevard

This location is a signalized intersection that provides the primary access into the Gateway West Shopping Center. Saulsbury Road, also designated as Delaware Route 15, is a major north-south route that carries between 16,000 and 18,000 vehicles per day in this area. Saulsbury Road will also provide a direct connection to the West Dover Connector, which is scheduled for completion in 2017.

Current speed limits along Saulsbury Road are 35 MPH. **At Gateway Boulevard, Saulsbury Road's typical section** consists of 2 through lanes, a center turn lane, and 2 shoulders/right turn lanes. The total pavement width is about 55 feet. The photo to the right shows the intersection layout, looking north.



Saulsbury Road/Gateway Boulevard

Recommendations - Signing, Striping, Lighting, and Fencing

The land use on the east side of Saulsbury Road consists of single-family residential lots, composing a large community known as Lincoln Park. A City-owned park (Saulsbury Park) is located directly across from the Gateway Boulevard intersection. The existing intersection has a pedestrian signal and crosswalk located on the south side of the intersection,

as shown on the previous page. However, as noted in the photo on the left, pedestrians typically cross from the residential areas through Saulsbury Park, and across Saulsbury Road north of the pedestrian signal. Pedestrians often use the center lane as a refuge area, due to the heavy volumes and width of pavement to cross.

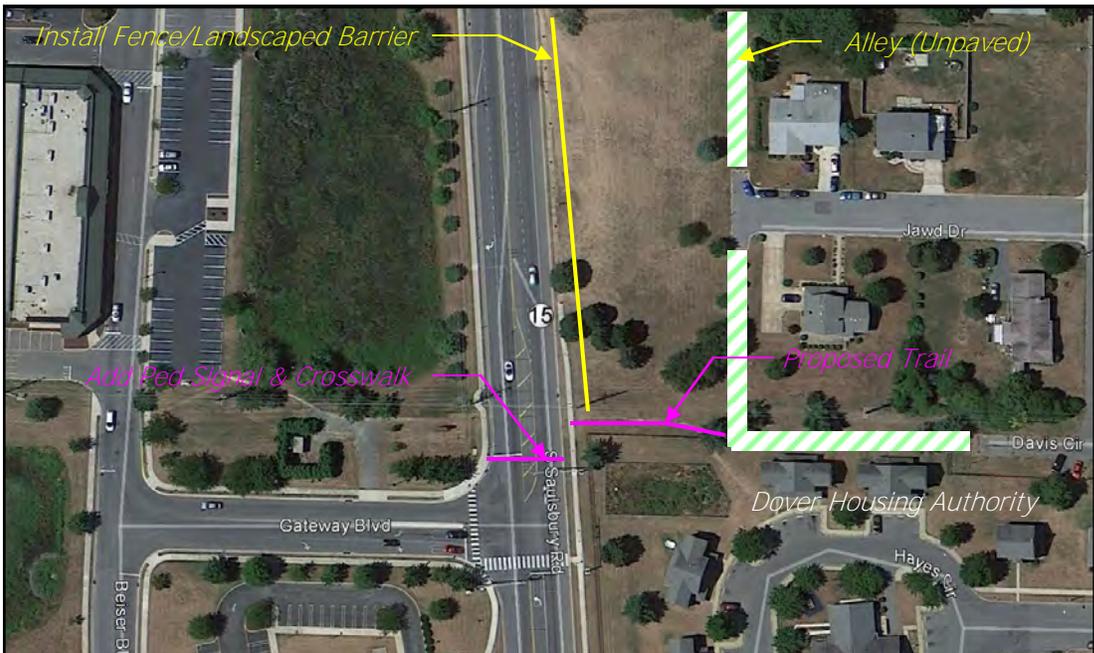
Despite the safety hazards associated with crossing at an un-signalized mid-block location, pedestrians are not likely to travel to the south side of the intersection to access the pedestrian button. In order to reduce the number of pedestrians crossing mid-block, it is recommended that the following 2 items be evaluated by DelDOT and the City:



Saulsbury Road & Gateway Boulevard

- A pedestrian signal and crosswalk be added to the north side of the intersection. The north side is receiving the highest pedestrian activity, based on visual observations. In addition, residents who live in the Dover Housing Authority property on Simon Circle do not have direct pedestrian access to Saulsbury Road, as the property is enclosed by a fence.
- A fence or landscaping buffer be installed along Saulsbury Park to funnel pedestrians to the north side of the intersection (should a pedestrian signal be added) and significantly reduce mid-block crossings. Fence openings could be provided at each end of the park. In addition, trail connections could be provided through the park, utilizing the existing 15-foot wide unpaved alley that runs on the perimeter of the community.

Recommendation: Install fencing along Saulsbury Park to reduce mid-block crossings and add pedestrian signal and crosswalk at Saulsbury Road/Gateway Boulevard to the north side



Proposed Improvements - Saulsbury Road & Gateway Boulevard

Recommendations - Signing, Striping, Lighting, and Fencing

John Hunn Brown Road/Luther Village

John Hunn Brown Road is a 2-lane connector road that provides access to a variety of commercial uses between East Lookerman Street and South Little Creek Road (via Babb Drive). These commercial uses include large-scale businesses such as Target and Safeway, as well as 4 restaurants that access the road. In addition, Luther Village, an age-restricted (62+) residential community consisting of 100 apartments, is located on the north side of the road.

John Hunn Brown Road has sidewalks on one side of the road throughout the corridor. Between Babb Drive and the entrance to the La Tolnateca restaurant, the sidewalks are located on the south side of the road. There are sidewalks within the Luther Village complex that terminate on the north side of John Hunn Brown Road, as shown in the aerial.



Luther Village (Viewed from Target)

A continuous wooden fence runs along the north side of the road, from Babb Drive west past the Target store. As shown in the photos, this fence is a barrier that prevents direct pedestrian access from Luther Village to Target. Because of the fence location, pedestrians from Luther Village have to walk over 1,000 feet (through a combination of internal sidewalks and sidewalks on the south side of John Hunn Brown Road) to access Target. If a gap was provided in the fence, the distance would be reduced to under 300 feet, which is particularly important for an elderly population.

Luther Village representatives had previously contacted the MPO to determine if there were any potential solutions to providing this pedestrian connection. It is recommended that the City of Dover Planning Department coordinate with the property owners to evaluate the feasibility of providing a direct pedestrian connection from Luther Village to Target and the surrounding restaurants. Providing a gap in the fence would reduce vehicular trips and enhance the pedestrian environment in this mixed-use area.

Recommendation: Provide a gap in the existing fence to facilitate pedestrian access between Target and Luther Village and provide a crosswalk across John Hunn Brown Road



Target (Viewed from Luther Village)



Recommended Improvements

Recommendations - Signing and Striping

North State Street/Washington Street

As a result of public input, there is a need to provide an improved pedestrian crossing at North State Street and Washington Street. As noted in the aerial photo below, Washington Street provides the only vehicular and pedestrian access from the residential areas in north Dover to Silver Lake Park. Washington Street is a low-speed, low-density residential street with continuous sidewalks along the south side and much of the north side of the street.

North State Street is a State-maintained road that carries nearly 8,000 vehicles per day. The speed limit is posted at 25 MPH, and a radar speed sign is located about 1/4 mile north of the intersection.

In 2010, DeIDOT evaluated North State Street between Division Street and Walker Road to determine the potential locations for mid-block pedestrian crossings in this area. The intersection of North State Street and Washington Street was determined to be a viable location for a mid-block crossing. DeIDOT indicated that a mid-block crossing could be installed if curb ramps were installed on both sides of North State Street. The existing conditions and proposed improvements are shown in the photos below.



Recommendation: Provide curb ramps on North State Street at Washington Street so a mid-block pedestrian crossing can be provided



North State Street (Existing)



North State Street (Proposed)

Recommendations - Signing and Striping

South New Street at Owens Manor Apartments

As a result of public input, there is a need to re-stripe the existing pedestrian crossing that provides access across South New Street between the Owens Manor Apartment complex and the commercial areas on the east side of South New Street.

South New Street is a 2-lane, City-maintained street with a mixture of commercial, institutional, and residential land uses adjacent to the road. The speed limit is posted at 25 MPH. Owens Manor is a large apartment building on the west side of the street, while there are several commercial businesses on the east side, including a convenience store, several small restaurants, and a liquor store. Based on visual observations, there is significant pedestrian activity in this area. In addition, there is a DART bus stop located on the east side of the street at the intersection of South New Street and Bank Lane, just north of the apartment complex.

As noted in the photos below, there are pedestrian warning signs along South New Street at the apartment complex but the pedestrian crosswalk is no longer visible. As a result, it is recommended that the crosswalk be re-stripped to improve motorist awareness of pedestrians crossing the street.



South New Street (Looking South)

Recommendation: Restripe the existing mid-block crossing of South New Street at the Owens Manor Apartment complex



Existing Crosswalk (Looking East)



Proposed Crosswalk (Looking East)

Recommendations - Curb Ramps

Kings Highway/American Avenue

The intersection of Kings Highway and American Avenue is located in a high-activity pedestrian area of downtown Dover. Located near the intersection are pedestrian generators and attractors that include government office buildings (the City of Dover's Weyandt Hall facility, the state Department of Natural Resources and Environmental Control office), commercial establishments (Governor's Café, businesses along South State Street, and several banks), and numerous residential areas. In addition, a DART bus stop is located at Kings Highway and Reed Street, about 125 feet south of American Avenue.

As noted in the photo below, the intersection lacks handicapped-accessible curb ramps along the west side of the road. In addition, the entrance at the former Dover Library (adjacent to Weyandt Hall) lacks curb ramps, as noted in the photo below. The former Library property is currently owned by the City of Dover. The area on the west side of Kings Highway (along the Weyandt Hall and former Library properties) has an asphalt sidewalk but would likely need to be upgraded to concrete to better facilitate handicapped access.

As Kings Highway is a State-maintained road, DelDOT may be able to add this location to an existing curb ramp improvement contract or possibly the Americans with Disabilities Act (ADA) Transition Plan implementation contract that will be procured in the future. The City should add curb ramps to the entrance to the former Library, either as a stand-alone project or in conjunction with any future re-development of the property.

Recommendation: Provide curb ramps along Kings Highway at American Avenue and the former Dover Public Library. Provide concrete sidewalks along the Weyandt Hall and Library properties.



Kings Highway/American Avenue



Kings Highway (Looking South)

Recommendations - Delaware State University (College Road)

College Road at University Courtyard

As part of the Delaware State University Pedestrian Study, the MPO conducted pedestrian counts along College Road between the main campus and the University Courtyard, a student apartment complex about 1/4 mile from the university's College Road entrance. College Road is a 2-lane roadway with a posted speed limit of 35 MPH. Based on the 2012 DelDOT Traffic Summary, the average daily volumes on College Road approach 9,000 vehicles per day.

As noted previously, the pedestrian counts were conducted in 2013 on October 2 (Wednesday) and October 5 (Saturday), between the hours of 9:00 AM and 7:00 PM. During the 2-day period, approximately 700 pedestrians were observed crossing College Road between the University Courtyard (south side of the road) and the main campus (north side). Of these, over 500 pedestrians were recorded on a weekday.

As shown in the adjacent photo, there is an existing crosswalk and pedestrian warning signs at the intersection of College Road and the University Courtyard entrance (Jason Street). The crosswalk is located on the west side of the intersection. The DSU Pedestrian Study evaluated whether pedestrians used the crosswalk or crossed at a mid-block location closer to the campus. Based on the pedestrian counts, only 7% of the pedestrians used the existing crosswalk, while 93% crossed mid-block outside of the crosswalk.



College Road & Jason Street

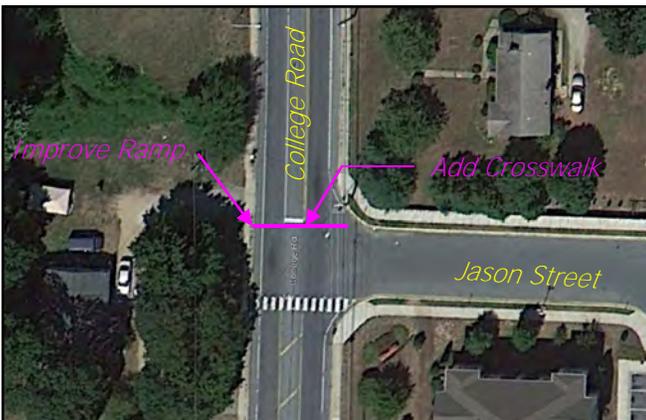
There is sidewalk located on the north side of College Road between the campus and the apartment complex. On the south side, the sidewalk ends just east of the Silver Lake bridge. Based on visual observations taken as part of the DSU Pedestrian Study, most pedestrians crossed the road before they reached the bridge, likely due to the lack of sidewalk and the reduced sight distance coming around the College Road curve near the campus.

In March 2014, the DelDOT Traffic Section provided the following recommendations (shown on the graphics below):

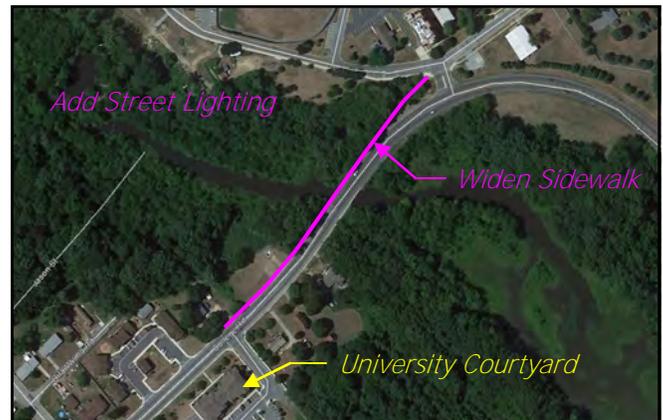
- Provide an additional crosswalk on the east side of the College Road/Jason Street intersection
- Evaluate widening the existing sidewalk on the north side of College Road, between University Courtyard and the main campus.

In March 2014, the City's Safety Advisory and Transportation Committee suggested that additional street lighting along College Road be evaluated. There are currently 6 cobra head street lights between the DSU entrance and Jason Street. However, only 1 of these is located on the north side of the road. It is recommended that the City and DelDOT evaluate the feasibility of providing additional street lighting in this area, particularly along the wooded area near campus.

Recommendation: Add a crosswalk on the east side of College Road/Jason Street, widen the sidewalk between University Courtyard and main campus, and add street lighting on the north side of College Road



College Road & University Courtyard



Proposed College Road Sidewalk Improvements



City of Dover
Pedestrian Plan Update

Figure 5
Recommendations

- 1 College Rd
- 2 Saulsbury Rd / Gateway Blvd
- 3 State St / Washington St
- 4 American Ave / Kings Hwy
- 5 South New St / Owens Manor
- 6 State St / Bayhealth
- 7 John Hunn Brown Rd / Luther Village

Legend

- New Sidewalks
- Lighting, Signing & Striping, Fencing
- Trail Maintenance
- New Trail
- Pedestrian Signal

Dover/Kent County MPO
Metropolitan Planning Organization

Recommendations Summary

New Sidewalks			
Rank	Road	Limits	Responsibility
1	South Little Creek Road	City Limits to Babb Drive (Target Entrance)	DeIDOT
2	Kenton Road	Route 8 to Chestnut Grove Road	DeIDOT
3	West Street	North Street to Queen Street	DeIDOT
4	U.S. 13 (Northbound)	MLK Boulevard to White Oak Road Townsend Boulevard to Leipsic Road Dover Mall to Denneys Road	DeIDOT/Developers
4	U.S. 13 (Southbound)	North State Street to Townsend Boulevard Kings Highway to Division Street Lockerman Street to MLK Boulevard	DeIDOT/Developers
5	North State Street	Silver Lake to Lepore Drive	Private Developers
6	College Road	Kenton Road to McKee Road	DeIDOT
7	Route 8 (south side)	Mifflin Road to Dover High School	DeIDOT
8	Mifflin Road	Woodmill Drive to Fawn Street	DeIDOT
9	Pennsylvania Avenue	Division Street to Kings Highway	City of Dover

New Trails		
Area	Limits	Responsibility
Schutte Park	Extend internal trail network	City of Dover
Fox Hall West/Mallard Pond	Pebble Valley Drive to Marsh Creek Lane	City of Dover
St. Jones River (west side)	Silver Lake Park to Legislative Avenue	DeIDOT

Recommendations Summary

Signing, Striping, Fencing, and Lighting			
Road	Limits	Recommendation	Responsibility
South State Street	Bayhealth to Skull Terrace	Signing and lighting	DeIDOT/Bayhealth
Saulsbury Road	Gateway Boulevard	Install fence, relocate pedestrian signal & crosswalk	DeIDOT/City of Dover
John Hunn Brown Road	Luther Village to Target	Provide gap in fence	City of Dover/Target
College Road	Jason Street to DSU	Add crosswalk, lighting	DeIDOT/City of Dover
North State Street	Washington Street	Provide mid-block crossing	DeIDOT
South New Street	Owens Manor Apartments	Re-stripe crosswalk	City of Dover

New Pedestrian Signals	
Road	Responsibility
U.S. 13/Roosevelt Avenue	DeIDOT
U.S. 13/South State Street	DeIDOT
U.S. 13/Webbs Lane	DeIDOT
South State Street/Webbs Lane	DeIDOT
North State Street/Governors Avenue/Walker Road	DeIDOT

Recommendations Summary

Identified Maintenance Needs - Repairs				
Rank	Location	Limits	Maintenance Issue	Responsibility
1	State Street	North Governors Avenue to Roosevelt Avenue	Uprooted, uneven sidewalks	City of Dover/ Property Owner
2	Route 8 Path	Modern Maturity Center to Greentree Shopping Center	Potholes/sinkholes in shared use path	City of Dover/ Property Owner
3	Saulsbury Road/ McKee Road	Scarborough Road to Route 8	Potholes/sinkholes in shared use path	City of Dover/ Property Owner
4	Delaware Avenue	32 & 36 Delaware Avenue	Depressed brick sidewalk	City of Dover/ Property Owner

Identified Maintenance Needs - Clean Up and Trim			
Location	Limits	Maintenance Issue	Responsibility
Delaware Avenue	101 Delaware Avenue	Vegetation in sidewalk	Property Owner
Route 8	Independence Boulevard to Kenton Road	Low hanging tree limbs	Property Owner
Route 8	Modern Maturity Center	Vegetation in trail	Property Owner
McKee Road	Walker Road to College Road	Vegetation in trail	Property Owner
Scarborough Road	Bridge over railroad tracks	Debris along pathway	DeIDOT

Curb Ramps	
Road	Responsibility
Kings Highway/American Avenue	DeIDOT/City of Dover

Public Involvement

The City of Dover's Pedestrian Plan was discussed and presented at the following public meetings:

Bicycle and Pedestrian Subcommittee

February 11, 2014

October 7, 2014

April 1, 2014

November 4, 2014

May 6, 2014

December 9, 2014

June 3, 2014

January 20, 2015

July 1, 2014

February 3, 2015

September 2, 2014

March 3, 2015

Public Workshops

June 26, 2014 - At the initial Public Workshop, held at the Dover Library, information regarding existing conditions/facilities and identified pedestrian needs was presented to the public. Attendees were given the opportunity through a mapping exercise, questionnaires, and public comment forms to identify specific pedestrian needs and potential improvements throughout the City. Representatives from the City, DeIDOT, and the MPO provided staff assistance.

January 20, 2015 - At the second Public Workshop, held at the Pitts Recreation Center, the final recommendations from the Plan were presented to the public. Attendees were given the opportunity to provide comments on the final recommendations, as well as identify additional pedestrian needs and potential improvements. Representatives from the City, DeIDOT, and the MPO provided staff assistance.



Safety Advisory and Transportation Committee

The Pedestrian Plan was presented to the City's Safety Advisory and Transportation Committee on March 23, 2015, who recommended plan approval to the City Council.

City Council

The Pedestrian Plan was adopted by City Council on April 13, 2015.

Acknowledgements

The City of Dover Pedestrian Plan was developed by the following individuals:

City of Dover Bicycle and Pedestrian Subcommittee

Jim Hutchinson
Chris Asay
Patrick Gallagher
Jayce Lesniewski
Kathy Doyle
David Moses
Tim Slavin

City of Dover Planning and Parks & Recreation Department

Ann Marie Townshend
Carolyn Courtney
William Cook

Delaware Department of Transportation

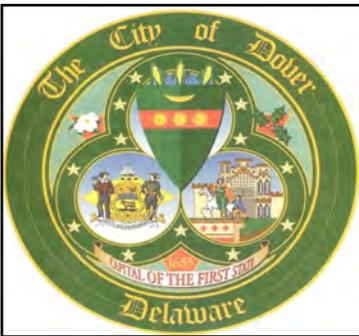
Anthony Aglio
Sarah Coakley

Dover/Kent County Metropolitan Planning Organization

Rich Vetter
Chris Kirby
Jim Galvin
Kate Layton

Endorsed by the Safety and Advisory Transportation Committee on March 23, 2015.

Adopted by the Dover City Council on April 13, 2015.



The preparation of this document was financed in part with funds provided by the Federal Government, including the Federal Transit Administration and the Federal Highway Administration of the United States Department of Transportation.

