



Bicycle/Pedestrian Subcommittee

**Tuesday, June 19, 2018
5:00 PM – 6:00 PM
Large Conference Room – Dover City Hall**

AGENDA

Agenda

Minutes of March, April & May, 2018

New Items

1. Delaware Bicycle Council Innovation Grant
 - a. Fox Hall West - Mallard Pond Park Link
 - b. Other suggestions
2. City of Dover *Pedestrian Plan*, February 2015: need to update
3. City of Dover *Bicycle Plan*, March 2015: need to update

Old Items:

1. Dover Treasure Hunt
2. Construction Projects (DelDOT)
3. Bike Month Events
4. By-Laws revision

Announcements

Adjournment

THE AGENDA ITEMS AS LISTED MAY NOT BE CONSIDERED IN SEQUENCE. PURSUANT TO 29 DEL. C. §10004(E)(2), THIS AGENDA IS SUBJECT TO CHANGE TO INCLUDE THE ADDITION OR THE DELETION OF ITEMS, INCLUDING EXECUTIVE SESSIONS, WHICH ARISE AT THE TIME OF THE MEETING.

**Bicycle Pedestrian Sub-Committee
Dover City Hall Large Conference Room
Dover, DE
March 6, 2018**

***** DRAFT *****

Members Present:

Jim Hutchison-Chair, Chris Asay, Jayce Lesniewski,
Dave Moses, Gerry Pennington, Andy Siegel

Others Present:

Maria Andaya, Carolyn Courtney, Margery
Cyr, Eddie Diaz, John Fiori, Kate Layton,
Councilmen Lewis, Donna Mitchell

CALLED TO ORDER: Meeting opened at 5:07 P.M.

AGENDA

The agenda was presented for review. Mr. Asay would like to remove the Snow Removal item. With that change the agenda was approved without objection.

APPROVAL MEETING MINUTES

The February meeting minutes were presented for acceptance. With no changes, the motion was made and carried to accept as presented.

OLD ITEMS

Dover Treasure Hunt

Ms. Courtney gave a brief update on the Dover Treasure Hunt. She stated they have been meeting with local groups and businesses to make this work. Our first meeting with a larger body was successful. We had an interactive meeting in which people could share on the topic and how we could get it done. "What does a treasure hunt mean to them, What would they like to see" and "What should we avoid, any dates to avoid like Amish Bike Tour" were all topics discussed. Feedback was good and we'll be meeting again monthly. Continued updates will be shared with the subcommittee as it moved forward.

Construction Projects

Mr. Fiori reported that there was not too much to update since last month. Brecknock trail is currently under construction (over the bridge trail piece). The Senator Bikeway is moving along. DeIDOT and the city have met over the delineators and it was agreed DeIDOT will maintain them. But members of the committee need to understand it will be as DeIDOT can add to their schedule. Mr. Hutchison added the very reasonable position is that when we have a major snowfall, DeIDOT's major priority is getting snow off the roads, they may not get to the delineators for sometime, such as not until the weather clears. I did not hear anything that made me feel they would not get it done. A brief discussion took place about this part of the project.

Mr. Fiori noted we have also discussed the project along Kenton Road. From Rt 8 to Chestnut Grove Road. There is some discussion on this multiuse path. This project is scheduled for the near future. Mr. Asay pressed that he wants the path from Rt 8 up to Maple Dale. The chair noted that we had agreed to Fox Hall not necessarily all the up to Maple Dale. Mr. Fiori did not know the budget, or project schedule. Century Engineering the consultant for this project, in response to Mrs. Mitchell's question. Mrs. Mitchell inquired about funding for maintenance and future upkeep on these projects. Stating she understands DeIDOT is agreeing to fund many of these projects, but Council needs to know what our costs as the city will be faced with upholding in the future.

Ms. Asay asked to add another construction update on the Capital Station project. The chair asked Mr. Asay not to go too long. Mr. Asay then asked Mr. Diaz to give an update on the Capital Station project. Mr. Diaz noted it a project at 15 N DuPont Hwy. It is underway check record review with city and state agencies. One of the components was to ask for a 10 foot wide multiuse plan on frontage of Division Street and DuPont Highway frontage. A crosswalk over DuPont Highway is not in the plan. That will have to be arranged at a later date. The developer will be required to install that path. Mrs. Mitchell as if right-a-way of the substation property would be needed? Mr. Diaz yes. Mrs. Mitchell asked is this down the road or near future? Mr. Diaz noted this is down the road. Mr. Moses asked to have to come back to the committee at another time. Mr. Asay feels a feasibility study may be needed to do this piece. There is potential for money from MPO and Delaware Bike Council, I feel it's important that we get moving on this. Mr. Moses wants to see this on the April agenda. This is a piece that needs to be built that would connect to the existing Capital City Trail. That Mr. Asay would like to see a feasibility study completed. Mrs. Cyr asked if for the next meeting we could have a map so we could figure out which portion is which. Mr. Diaz agreed.

Bike Fixit Station

Mrs. Layton reported still working out the details on this. We are hoping it will be done and installed by Bike to Work day. This is being paid for by a Restoring Central Dover Grant.

Bike Month Events

Mr. Siegel will lead a ride in from Schutte Park if roadway is clear of construction projects. We will solicit for donations as we have done the past. Bike to Work day is May 16.

Mr. Fiori added the state wide Legislators Ride on May 9. Routes from New Castle and Sussex Counties has been planned. A flyer has been shared on the bike/pedestrian web page.

Ms. Courtney reported the Ride of Silence is scheduled for that same evening, May 16. The Bike Month banner will go up at the end of April.

Dover Duathlon

Ms. Courtney noted we have a fair number of participants already. We could use more sponsors, so if the subcommittee members could solicit there contacts it would be helpful. If you are not a participant, please come out to help volunteer. Dover High School ROTC will be sending students to help with the run course, and Dover Police, Delaware State Police and Delaware State Fire Police will be assisting with the bike course. Mr. Moses noted Laura Strutz will return again this year to run the transition area. He added that we could still use about 8 volunteers for transition. Ms. Courtney added that all permits are now in place both the State of Delaware and Dover Police permits.

NEW BUSINESS

Bicycle Friendly Report Card

The chair noted having an offline meeting may be better, I am wary of calling it a subcommittee per Chris' request. Ms. Courtney noted we just got that award, we have a very full plate right now. Her recommendation is to review and possibly review this over the summer and digest a bit more of in the fall. The Chair noted we could chose a month to talk about this.

Mr. Asay noted we should do the next bike plan now as we will need a new one in 2020. We need to prepare the update now. The usual process takes more than one meeting. We need to start this whole process now, per Mr. Asay. He felt we needed a revision as certain things have been accomplished and new things have shown up that needs to be addressed. Mrs. Latyon noted the MPO may be willing to help, but the city should send a formal request to the MPO for assisting. Ms. County noted this will have to go thru Safety Transportation & Advisory and Council not directly from this committee. Mr. Asay admitted we do not have to have this done by a certain date, but it is important to keep it current for priority project lists.

TIMELINE

Mr. Asay presented a timeline and Ms. Courtney found a few things to update and revise. But overall it looked good with a few edits. Mr. Moses asked the purpose? Mr. Asay noted to be on a website to see what our accomplishments have been.

ANNOUNCEMENTS

No announcements.

ADJOURNMENT

With no further business the meeting adjourned at 6:20 PM without objection.

Dover Bicycle and Pedestrian Subcommittee

History Timeline

Spring 2012	At Delaware Bike Summit, Dover City Planning Director, Ann Marie Townsend, declares intention for Dover to become a Bike Friendly Community
January 22, 2013	Call for interested parties – general meeting held Bicyclists & Pedestrians in Dover, join us to share your ideas and thoughts on how to make Dover a more bicycle & pedestrian friendly place. In our efforts, to make Dover a place where people want to live & play - the City of Dover is forming a Bicycle & Pedestrian Subcommittee. This is your chance to get involved by sharing your ideas and knowledge to make Dover a more friendly bicycle/pedestrian community for all to enjoy.
April 9, 2013	First meeting of Bike/Ped Subcommittee; Chairman appointed: Jim Hutchison; First task chosen: Bike Friendly Community Application Agreed meetings would last one hour – per Councilman Hutchison as he was chair of the SA&T at that time.
May 2013	First Bike-to-Work Day event in Dover
April 23 – July 2, 2013	Prepared & submitted BFC Application (3 months)
November 2013	League of American Bicyclists gives Dover “Honorable Mention” (application for Bike Friendly Community turned down)
February 4 – Oct 7, 2014	Completed Pedestrian Plan (7 months)
Feb 4, ‘14 – March 3, ‘15	Completed Bike Plan (13 months)
May 2015	First Ride of Silence event (idea originally from Councilman Slavin)
August 2015	Concept Design funded for Senator Bikeway <i>This was not our group, we helped by supporting the project, the city did NOT fund this project</i>
October 2015	Partnership formed with Capital School District

January 2016	Engineering Design for Senator Bikeway, Phase I, is funded (construction planned for FY 2017) <i>This was not our group, we helped by supporting the project</i>
April 2016	Bike Rack Contest winner is declared (DHS drafting class)
April 2016	First Dover Duathlon event
April 2016	Banner denoting May as Bike Month funded in partnership with DE Bike Council
Spring 2017	First bicycle education classes in Capitol School District
Spring 2017	First Bicycle Rodeo held with Capital School District
April 2017	Application for Walk-Friendly Community turned down
May 2017	First signature Dover bike rack installed, at public library
November 2017	Awarded Bronze-level Bike Friendly Community by League of American Bicyclists

We are missing a few things, can you help fill in the gaps??

Donation from DE Bike Council partners for Inner Faith Mission (helmets, lights, etc)
 Bike Rack Contest Advertised twice – the second time then a winner was awarded
 Dover Elks bike rodeos – 1st with Anthony, 2nd with Carolyn.
 Summer of 2016 and 2017 Fun Rides planned – John & Carolyn

**Bicycle Pedestrian Sub-Committee
Dover City Hall Large Conference Room
Dover, DE
April 3, 2018**

***** DRAFT *****

Members Present:

Jim Hutchison, Fran Riddle, Chris Asay, Dave
Moses, Jayce Lesniwski

Others Present:

Carolyn Courtney, Eddie Diaz, John Fiori,
Anthony Aglio, John Hermes, Jeff
Niezgoda, Reed McMillian, Maria Andaya
Chandra Jackson

CALLED TO ORDER: Meeting opened at 5 P.M.

AGENDA

The agenda was presented for approval. Without objection it was approved as presented.

APPROVAL MEETING MINUTES

The March minutes were tabled as they were not available for today's meeting.

NEW ITEMS

Open Streets Program

Ms. Jackson gave a brief explanation of Open Streets and the variety of activities to getting people out including a bike rodeo. We are really excited about having these options and the activities. Noting they were looking at partners to get involved. We are looking to host 6 of these this year. We are looking into education such as safe cycling. We are trying to get a healthy aspect, getting people moving without realizing they are exercising. A number of things are going on and partners. We want to find sustainable funding for next year as year. The whole concept is a healthy lifestyle program. Ms. Courtney added Mrs. Cyr had invited Ms. Jackson today as she saw the tie into this program and the Dover Treasure Hunt walking event that is being planned. This is a family friendly events for kids and adults. Mrs. Riddle noted Wesley is getting involved as they are doing a 5k run/walk and also a community garden. This is really a seamless event. Mr. Hutchison noted this is great and will certainly help our walk friendly initiatives, noting it would be nice if attendees biked to this event. In response, Ms. Jackson noted the locations for each of the 6 events will be shifted in various locations around downtown Dover. We have the dates but not all areas picked out just yet. Mr. Fiori reached out to the committee for volunteers to help with the bike rodeo portion, we could use 2 or more people would be great. If you can help, just email him.

Duathlon

The chair asked to move the Duathlon up on the agenda as Mr. Moses needs to leave early. Ms. Courtney noted registration has stalled and we really need to get more participants. We need 60 registrants to make this a viable program for Parks & Recreation. She asked the committee members to promote the event with their circles, workout places, etc. as they had been promoting with emails, Facebook, PSA's.

Mr. Moses feels if the city is concerned about the future of this event. I am willing to step in and take it over. He understood he would be completely in charge. He feels he can grow the event. The mechanics area set up was discussed, he noted Laura Strutz and Betsey Tootill for volunteers for transition and needs a few more. Basic discussion on course monitors and volunteers. Mr. Pennington would reach out to some of his Air Force contacts to see if he can get some help. Mr. Moses also wants to change the location should he take over the event.

Ms. Courtney we tried really hard to pick a date that did not have much conflict however Fordham Brewery and TriSports are now doing an event on this same date.

Dover Treasure Hunt

Mr. Riddle noted this dovetails well with Open Streets. The idea is get people up and walking around the city discovering the treasures of Dover with themes, cultural, historical, environmental, etc. We thought this was different enough from Open Streets that we are confident this will be another event to get people up and moving. We have a date even, mark your calendars now for July 20, 2019. We picked this date on purpose to ensure we have many partners and this gives us time to line everything up. Not much goes on in the dead of summer, so we thought this date would be good for giving folks something to do.

Construction Projects

Mr. Niezgoda shared four projects on his list. The West Street Trail connection started to for actual construction. We ran into a slight snag with Chesapeake Utilities, we can to an agreement on a temporary fence that is meets Homeland Security requirements. This is a 68 day contract from the Dart facility to North Street. This should go pretty smoothly no road closures are expected.

The North Street trail resurfacing contract. Trail to along North Street out to Schutte Park. We do keep hearing about long term maintenance and up keep. This is our first attempt at fixing this pathway that is about 20 years old now. The plans are more refined, we can get this designed and out the door in a much shorter time period. We want to spend our money in construction not design. The entire trail from the rail road track heading west to Schutte Park will be resurfaced with the exception of one little piece (up the hill) due to property ownership / easement issues.

The next project is North Street Scape project. North Street will be shut down a little longer while we finish this project. The retaining wall next to the cemetery is done. They are working one block at a time but it will take a sometime. This has been a great partnership with the City of Dover electric department. It is looking nice and really needed to be done. I understand the traffic headache, I face it myself.

Brecknock Park we are working on finishing the bridge of the little stream crossing this will finish the Capital City Trail loop for being off road. The pedestrian/bridge will connect to the Brecknock Park trail. It will be a little wider than what was there and it should be done by end of April possibly May. The bridge that was there was ready for replacement. Traffic will be shifted during construction. If this part of highway is eventually widened, this bridge may need to be moved slightly but we have a few years before this happens.

Saulsbury Road pathway will be resurfaced in May and then Forest Avenue in front of Greentree Shopping Center. We anticipate getting this done by the end of summer. Based discussion took place on starting ending. There are some other road projects going on that impact these projects.

Mr. Moses asked about the Senator Bikeway from Mifflin to Saulsbury Rd. The concrete will be pulled out for asphalt on the south side? Will that be closer to the road? Mr. Hermes is trying to keep this from getting closer to the road, there are some utility poles, etc. This is really a future plan and we have not completed focused on these section at this time.

Mr. Diaz noted the AARP sign project noted the "trail coming soon" signs. I have suggested when those projects are finished we have a trail opening event. Mr. Niezgoda noted please coordinate with our Public Affairs (CR McLoed) department to plan. Also, the trail signs will be kept and resurfaced for future use.

Mr. Aglio noted the final design on the Senator Bikeway which currently now does not go up Fulton completely. With conversation with the city we have agreed to maintenance of the delineators, etc. Mr. Hermes reviewed the current direction and concept signage. With discussion from the group, the recommendation of moving the pathway Fulton

Street to go up Cecil Street was made. Mr. Asay noted we need to ensure we have a route to get downtown from Silver Lake. Mr. Siegel noted there is the existing trail that leaves the park, going along Park Drive will give this route option for those travelers. It was noted it is much safer to cross the highway at White Oak Road rather than North Little Creek Road. Discussion on using alleyways for the eastern portion of the trail getting over to Silver Lake took place. It was generally agreed that this alley way is used now by pedestrian and cars. But all will need to pay attention for cars/cyclists, etc. The project with recommended changes will be presented to Council Committee as a Whole on April 24 with the comments from this group included. Members of this committee were encouraged to attend in support. Mrs. Riddle noted Wesley was not completely happy about the trail going down Fulton, they may be more receptive to having the trail on Cecil instead. Mr. Niezgoda noted the timing on this project is moving a little slower due to acquisition. We still think this will be all wrapped up by the end of summer. The actual work will begin next spring verses at the beginning of winter. The funeral home folks have received this project well.

Mr. Asay asked for time to review. Mr. Hutchison noted to send all comments to Ms. Courtney by end of the week so that they can be incorporated into the presentation to council.

Bike Month Events

Mr. Siegel noted the route he will lead will start at the former Dover High School as it did last year due to the construction projects on North Street. Ms. Courtney asked Mr. Asay to reach out to Good News Food to solicit a donation for the breakfast supply. Mr. Seigel noted he would reach out to Georgia Boys for a donation again also. Ms. Courtney noted due to losing Kate Layton the Bike Fit Station project did not move along as planned. We are still working to get this done, however it will not be ready for Bike to Work day. We will go back to the front of the Library as well have the past several years. She has invited the Mayor and city council members. Along with Kent County EMS cyclist patrol and Dover PD bicycle patrol.

The Ride of Silence will be held that same night with the same route as previous years. Departing Silver Lake at 7 pm and returning to the same location.

NEW BUSINESS

Capital Station Review

The chair deferred this until next month due to the absence of Mrs. Cyr and Mrs. Mitchel as they had asked for the presentation. Mr. Diaz will give the presentation in May.

ANNOUNCEMENTS

Mr. Fiori noted another bike rodeo at North Dover on Friday, April 13. Ms. Courtney noted she can't help due to the Duathlon but anyone else that can help should just come on over between 8 – 12.

Mr. Asay noted the Walkable/Bikeable Summit on May 3.

ADJOURNMENT

With no further business the meeting adjourned at 6:25 PM without objection.

**Bicycle Pedestrian Sub-Committee
Dover City Hall Large Conference Room
Dover, DE
May 8, 2018**

***** DRAFT *****

Members Present:

Chris Asay, Jayce Lesniewski, Dave Moses, Gerry Pennington, Fran Riddle, Andy Siegel

Others Present:

Carolyn Courtney, Eddie Diaz, John Fiori, Margie Cyr

CALLED TO ORDER: Meeting opened at 5:04 P.M.

AGENDA

The agenda was presented for review. Ms. Courtney asked to remove the meeting minutes from April they are not ready for today's meeting. With that change the agenda was accepted without objection.

NEW ITEMS

Private Development & Senator Bikeway

Mr. Diaz gave a brief overview of the Capital Station development and Senator Bikeway tie-in. (Presentation attached). Why are private developments are required to build multiuse pathway? This was started by DelDOT in 2017, as part of their state level project approvals. This prompted changes in what I show you today and well Dover made their own changes so that we have a similar policy when it was needed. Latest route of the Senator Bikeway, route runs east to west and how do we cross over RT13 to head further east. The Capital Station project was reviewed. Discussion on what is going into the new shopping center. This does not include south west corner property at King Highway and Rt13. The Chinese restaurant still needs to come down. The Wells Fargo and Parole building will be staying. Mr. Asay questioned why the bank does not have make changes? Mr. Diaz noted with there is not enough right-a-way in front of the bank, they are not installing the 10' wide pathway due to property frontage that is available. They are not changing the location of number of entrances since they are not involved with the new project coming. The Wells Fargo parking lot does not change. Mr. Diaz reviewed the remaining pieces of the project and frontage issues noting where the gaps are. Three major ones, White Oak Road where paving site is not being developed, the Capital Station Project and the N. Little Creek project about development of this site, to encourage redevelopment DelDOT agreed not require intersection changes here. And the third gap is the city own substation. Gaps were demonstrated in the slides. At Dupont and Kings Highway, here the issue is the Payday site is not being developed. To get to the bikeable shoulder on the South side of White Oak, one would need to do three crosswalks while the more direct route would be to go straight across. It would take serious public action for this to be fixed. We would need to address this another way. Mr. Siegel noted this should be fine, but we need to be sure we can get them to the existing crosswalks.

Mr. Lesniewski asked if the Lidl still coming? Mr. Diaz replied that it is not moving forward at this point, they have withdrawn their application.

In review of the last site, we are really not going to see any development in the future and the utility pole along this area would be extremely costly to move. Each pole could cost close to a million dollars to move so they are not going anywhere. Discussion took place about the various right-of-ways and how we could get the pathway built filling in these gaps. Mr. Diaz was thanked for his time and presentation.

By-Laws Review

Ms. Cyr shared that Ms. Courtney came to Mr. Hutchison and her regarding a revision to the by-laws. My response was, if we are going to look, let's look at them as whole as they are 5 years old now. My question to Mr. Hutchison was to see if a smaller group could work on them rather than this body as a whole. With brief discussion it was noted Mr. Lesniewski offered to assist in the project. Ms. Courtney will coordinate calendars to move this forward. We will add to next months agenda to see where we are in the process.

OLD ITEMS

Dover Treasure Hunt

Mrs. Riddle shared the update we are moving forward with a date of July 20, 2019. We are still in early stages but we are moving along nicely. The next meeting is May 24 at the Library at 3 pm. We plan on having monthly meetings for the smaller work groups and over all meetings to coordinate the smaller group activities.

Construction Projects

Mr. Asay asked about the workshop on the RT10 project? Mr. Fiori did not have an update for this meeting.

Bike Fixit Station

Ms. Courtney reported city staff was meeting to discuss the concrete pad and exact location at the library. It is still coming but not in time for Bike to Work Day.

Bike Month Events

Mr. Siegel continues his plan to ride in from Dover High School (former site). Donations were being solicited for the breakfast. Mr. Fiori noted DelDOT had a group of riders planning to come and they would have their tent set up with Bike Month t-shirts for participants. Mr. Siegel has sent out notices to all the city employees including the library and police station. Mrs. Cyr asked for a reminder so they be sure to have a door open for us.

Ms. Courtney reported the Ride of Silence is scheduled for that same evening, May 16. We do have police escort scheduled as typical for this event. Mr. Siegel reminded everyone helmets are required for these event.

Mr. Fiori noted the Legislators Ride is tomorrow.

Dover Duathlon

Ms. Courtney noted we had 65. Great age group of people participating in and in volunteers. Event was successful. There is some discussion on next year's date. As we had decided to host this event the 2nd Saturday of April, however it has been brought to our attention due to the Coastal Running Festival. We will address the date of the 2019 at another time after some discussion. It was recommended to stay away from Easter weekend. Potentially, April 6 would be the best date. Everyone was asked to look into other events and report back things that felt would be of major conflict.

ANNOUNCEMENTS

No announcements.

ADJOURNMENT

With no further business the meeting adjourned at 6:10 PM without objection.

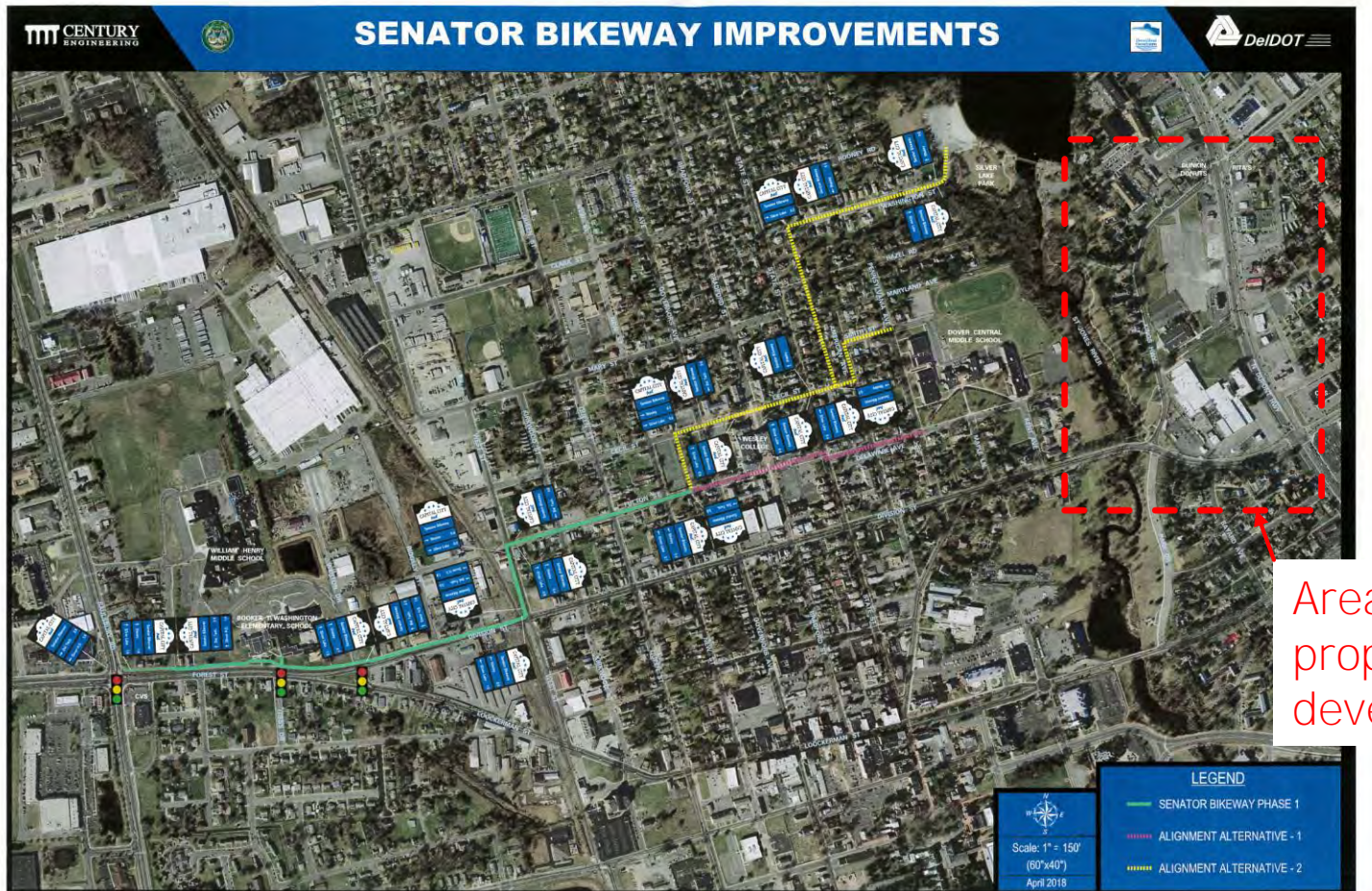
Private Development & the Senator Bikeway

Existing Conditions, Paths to be Constructed, and Gaps
to be Filled

Background: Expanded Requirements for Sidewalk and Multi-Use Path Construction

- ▶ Starting in Spring 2017, DeIDOT began requiring 10-foot wide multi-use paths to be constructed as part of approval for development projects in State Level 1 Investment Areas. Previously only 5-foot wide sidewalks were required.
- ▶ Dover followed by passing an ordinance package in October 2017 (#2017-12) which included a revamp of the **Zoning Ordinance's** sidewalk regulations. Under the new ordinance, the Planning Commission could request multi-use path instead of sidewalk in service of an adopted Bicycle or Pedestrian Plan.

Background: Involved Projects



- ▶ Senator Bikeway to run 3.5 miles from Dover High School to DuPont Highway (Rt. 13)
- ▶ First proposed as part of Dover's 2015 Bicycle Plan
- ▶ Route between Silver Lake Park and Rt. 13 not yet determined

Background: Involved Projects



- ▶ Capital Station project approved by Planning Commission in June 2017; has submitted plans for Final Approval
- ▶ 65,000 square feet (SF) of retail and restaurant space, including a 21,998 SF Aldi grocery store

Background: Involved Projects



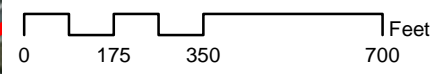
PROPOSED Grocery Store Dover, DE



- ▶ Lidl project originally approved by Planning Commission in July 2016; returned with new plan in March 2018 but withdrew application
- ▶ 36,185 SF grocery store, later revised to 25,400 SF with 7,500 SF separate retail building

- [illegible]

Kings Highway Area Existing Conditions



Kings Highway Area Private Path Development



0 175 350 700 Feet



EDGEHILL

CVS

**REQUIRED
MULTI-USE PATHS**

White Oak Rd

N Dupont Hwy

**LIDL GROCERY
SITE**

Maple Pkwy

**CAPITAL STATION
SITE**

Kings Hwy

**LUTHER
TOWERS**

Lewis Mill Dr

**SILVER LAKE
PARK**

Park Dr

MEMORIAL PARK

Edison St

Delaware Ave

Kent Ave

CENTRAL MIDDLE SCHOOL

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Kings Highway Area Post-Construction Gaps

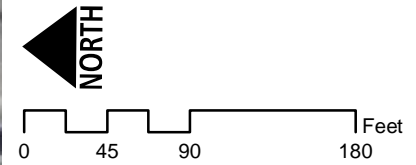


0 175 350 700 Feet





Detail- North DuPont Highway and Division Street



- Issues:**
- No path developed on Loan-Til-Payday Site
 - Must use 3 crosswalks to get from Loan-Til-Payday to bikeable shoulder on south side of White Oak Road, and vice versa
 - No bikeable shoulder on north side of White Oak Road until Halsey Road

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Surdex Corp, 2017



Detail- North DuPont Highway and Division Street



0 45 90 180 Feet



Surdex Corp, 2017

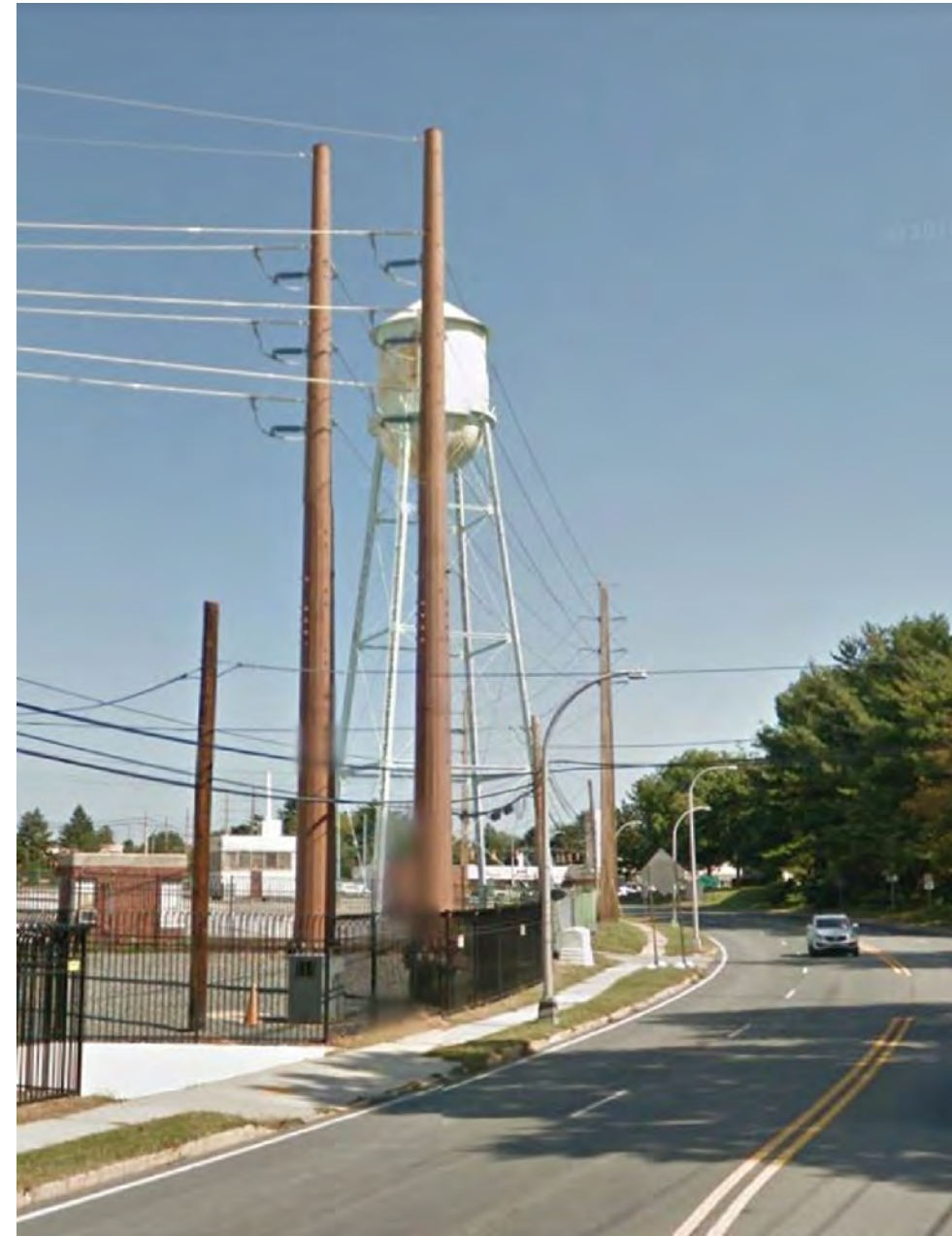
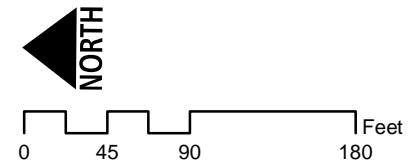
Issues:

- No crosswalk across DuPont on north side of intersection
- No bikeable shoulders on Division Street until John Hunn Brown Road





Detail- Division Street and Park Drive



Issues:

-Narrow Right-of-Way

-Power poles are close to street and cannot be moved

Next Steps

- ▶ Determine which route(s) are desired to access DuPont Highway from Silver Lake Park
- ▶ Make intersection improvements at DuPont highway for crossing of selected routes
- ▶ If Division Street route is selected, design path and acquire right-of-way so that St. Jones Substation operations are not impacted
- ▶ If either major private project does not reach completion, plan to fill additional gaps left by it



The *City of Dover Pedestrian Plan*, February 2015, recommends a new Sidewalk or trail connecting Fox Hall West/Mallard Pond/Route 8. (Page 40).

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.

...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, Mallard Pond Park Open House, to discuss the proposed trail concept with neighboring residents. The following is the feedback received during this Public Workshop.



- As a resident of Brandywine, I would love to see an area for kids but you must take in consideration how close you build to Brandywine.
- Having the playground in a central area near Mallard Pond, Heatherfield, Brandywine and Marsh Creek would be better. We are against vehicle traffic near Marsh Creek and a path too close to Brandywine.
- I have security and noise concerns.
- Opening paths to other neighborhoods is dangerous. There is already too much undesirable elements coming through. The Police have been little help. There are already many on Rte. 8 coming through the property which doesn't make it easier.
- If the playground is right by the Brandywine buildings, noise, vandalism to buildings and windows etc. is a concern

- Brandywine is private property and there are already problems with people using the parking lots. We have had drunken drivers and partying at the grills.
- Put the playground in the back and upper corner away from the houses and buildings.
- Foot traffic and bicycles in the morning is an issue with school safety in an area where there are already problems.
- A walking path adjacent to Brandywine Court Condominiums is an extra burden to BCA and a safety issue since it will be extremely close. Putting the path along the tree line away from the buildings would be better.
- The park area is better in a northern area where not as many residents are affected. A better buffer zone than by the condo. Put a fence since there needs to be anyway for kids' safety.
- Will the City shovel and take care of the proposed paths?

Attending the Public Meeting were 16 adults and some children.

Compiled, M. Cyr, June 2018

Proposed Mallard Pond Trail Link

-  Existing Trail, approx. 1,180 feet
-  Proposed Trail, approx. 650 feet



P1: Mallard Pond Park

P2: Lands of Fox Hall West Addition

P3: Lands of City of Dover

P4: Lands of First Flag Inc.

Date Created: 6/14/2018

0 90 180 360 540 720 Feet





Delaware Bicycle Council
800 Bay Road
P. O. Box 778
Dover, DE 19903

City of Dover
RECEIVED

MAY 16 2018

CITY MANAGER/MAYOR

May 8, 2018

Donna S. Mitchell (Acting)
City Manager, City of Dover
DOVER
P.O. Box 475
Dover, DE 19903

Dear Sir or Madam -

Since 2015, the cycling infrastructure innovation grant has been awarded to municipalities for projects that will yield high and visible impacts within the community. The Delaware Bicycle Council will again be awarding innovation grants this year. The amount available is expected to be a total of \$20,000.00.

The purpose of the Cycling Infrastructure Innovation Grant is to assist communities that want to become more bicycle-friendly. We use the "12-year old" test to illustrate this. Do the parents of a typical 12-year old feel comfortable allowing their child to bicycle to school? To the library? To get some ice cream downtown with their friends? To go to their friends' homes in other nearby neighborhoods? Or are most 12-year-olds (and adults!) trapped in an isolated "island" of a few blocks around their homes, unable to reach these sorts of everyday destinations because they don't want to cycle on or across roads where they feel uncomfortable or unsafe?

Proposals for improving cycling can range from the simple to the grand. We will consider requests for assistance in advancing new projects, such as but not limited to pathways, protected bike lanes and bicycle streets. We will support project ideas that expand existing cycling infrastructure; fill "gaps"; and address obstacles and safety hazards. Projects should be located in area where the local jurisdiction (applicant) has control of the necessary right-of-way either through ownership or agreement. The local jurisdiction is expected to maintain the facility once constructed.

We encourage you to think big when making an application. We want to fund ambitious projects with potentially significant impacts on bikeability in your community. Please review the photographs that have been attached showing innovative cycling improvements in other communities in Delaware and across the country.

Your application will be evaluated alongside other applications we receive. A decision will be made by October 3, 2018. If you do not receive an award this year, your application will be retained for consideration for the following year's grant.

On behalf of the Delaware Bicycle Council, I invite you to apply for assistance to help realize a cycling improvement project in your community by filling out the attached application. **Applications are due by July 31, 2018.** Please e-mail your application to John T. Fiori, DelDOT Bicycle Coordinator at DelawareBikeCouncil@state.de.us with the subject line "Cycling Infrastructure Grant" or mail to the Delaware Bicycle Council, attention John T. Fiori – Division of Planning, P.O. Box 778, Dover Delaware 19903. If there are any questions, please contact John T. Fiori at (302) 760-2260.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Hartley", with a large, stylized flourish at the end.

Tom Hartley
Chair, Delaware Bicycle Council

2018 Cycling Infrastructure Innovation Application

All submissions are due not later than July 31, 2018

A letter agreement **MUST** be signed before awarded funds can be disbursed

Applicant shall verify they are listed as a vendor in DelDOT's system

Applicant submits an invoice in the amount of the grant

Grant funds **MUST** be spent in the fiscal year in which they are awarded. All funds **MUST** be disbursed by the end of the state's fiscal year (June 30, 2019)

Description: On behalf of the Delaware Bicycle Council, cycling infrastructure grant funds have been made available. The goal of the Cycling Infrastructure Innovation Grant is to assist communities to become more bicycle-friendly. The Cycling Infrastructure Innovation Grant Working Group reviews and prioritizes the applications and grants are awarded by a vote of the full council.

Eligibility: Grant requests must demonstrate the need for cycling improvements and/or infrastructure that will be a benefit to those in the community.

Applicant Information	
Name	Title
Address	City, State, Zip
E-Mail	Phone
Project Information	
Project Name	Type of Proposed Cycling Infrastructure
	On Road () Path or Trail () Off Road () Signalization () Road Improvement ()
Location of Project	
Carry-over Project (from previous year)?	Amount Requested
Yes No	\$

Please attach a map showing the location of the needed cycling infrastructure improvement in your community:

Map

Please answer the following questions

Below is a summary of the criteria used to evaluate the project and should be considered in the proposed project. Check in the box if your project meets the criteria:

Criteria	Description/requirements	Check if Applicable
Missing Link	Project connects to two (2) or more compatible facilities	<input type="checkbox"/>
Avoiding a hazard	Project needs to be completed to avoid a potential hazard	<input type="checkbox"/>
Anticipated usage for transportation	Project is located nearby a community center, post office, library, school, park or other bicycle routes	<input type="checkbox"/>
Master Plan	Project is part of a Regional or Local master plan	<input type="checkbox"/>
Ability to complete	Local government and community support. Minimum impacts to private properties, wetlands, utilities, environment	<input type="checkbox"/>

1. Grant funds will be used for:

Feasibility Study ☐ Design ☐ Construction ☐

If Other, please describe: _____

2. Is there a current executed scope of service with a consultant to perform the above task?

Yes () If yes, provide a copy.

No () If No, does the city have a consulting firm on retainer or personnel on staff that can perform the task within the time constraints of the grant? _____

3. Please provide a brief description of the project.

4. Is the project identified in a Regional or Comprehensive Master Plan? If so, what is the date of the plan?

5. Have there been any previous attempts to advance this project (in this or another form) through means other than this grant? What was the result?

6. Does the project have any declared support from the local government and community?

7. Describe impact of the project, anticipated use/volume and how the project will be measured.

8. Are there any anticipated challenges (i.e., right-of-way, utilities, environmental) to the implementation of this project that we should be aware of?

9. Is there a local entity who can maintain this facility?

10. If awarded a partial grant or if the entire grant will not cover the full cost of this phase, can other funding sources be secured to make up the difference?

11. What are the options to appropriate the next level of funding to keep the project moving forward (i.e. design and/or construction)?

Other Sources of Funding	Amount

12. Please attach any additional information or supporting documentation (letters of support, proof of leveraging funding, etc.).

Types of Cycling Infrastructure

Shared Use Path



A shared use path (sometimes called a trail or greenway) is a paved pathway designated for the use of cyclists (as well as other nonmotorized users) outside of any roadway. It can be any length, from a short connector to link an adjacent neighborhood to a major trail.

Separated Bike Lane



A separated bike lane (sometimes called a protected bike lane or cycle track) is located within a roadway but is physically separated from motor vehicle traffic by markings, barriers, bollards, car parking and/or elevation differences.

Bicycle Street



A bicycle street is a low-speed street that encourages bicycle through-going traffic but discourages cut-through motor-vehicle traffic. Local motor-vehicle traffic is permitted.

Separated Bike Lane



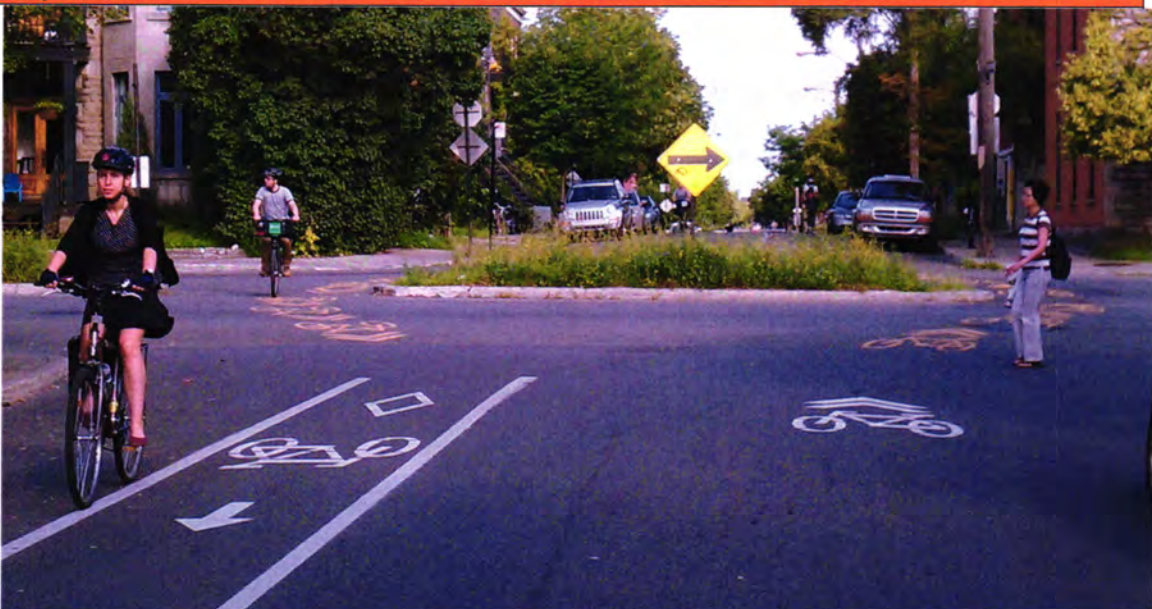
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City Of Dover Bicycle Plan



**#1 Goal - Implement The Senator Bikeway
Pages 35 - 51**

March 2015



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Introduction

The *City of Dover Bicycle 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 biking is viewed as a mode of transportation. Biking 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 motor vehicle. In addition to the transportation benefits, biking 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 biking 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 known as the Transportation Alternatives Program). In addition, the Delaware Department of Transportation (DelDOT) has long recognized the importance of biking as a viable transportation mode, and has established a full-time Bicycle Coordinator position to ensure that biking needs are incorporated into DelDOT projects throughout the state.

In the current *City of Dover 2008 Comprehensive Plan*, bicycling is described in the Transportation chapter. Existing conditions for bicyclists are noted in the *Comprehensive Plan*. The report indicated that a large majority of public respondents believed there are an insufficient number of sidewalks within the City, and a higher number felt that more bike paths should be built.

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

- Update and implement the Bicycle and Pedestrian Transportation Plan
- 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
- Amend the *Zoning Ordinance* to require bicycle parking for new non-residential development and multi-family development

The *Comprehensive Plan* also establishes "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 noted below:

- 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 Bicycle Plan:

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

Goal 1 - Improve the bicycle 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.
- Seek especially to produce low-traffic, low-stress routes that are continuous.
- **# 1 goal - Create the Senator Bikeway (see pages 35 - 51)**

Goal 2 - Coordinate regular bicycle-route maintenance (surface cleaning & repair)

- Identify maintenance responsibility for all bike routes
- Encourage responsible parties to schedule regular maintenance
- Develop communication system for reporting maintenance needs

Goal 3 - Incorporate bicycle elements into land-use and development planning

- Review local land-use and development ordinances, and recommend the incorporation of bicycle accommodations.
- Seek requirement of "back exits" in single-entrance developments.

Goal 4 - Encourage adequate and secure bicycle parking

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

Goal 5 - Utilize educational programs for encouraging bicycle use and safety

- Bike-to-Work Day
- Bike-to-School Day
- Traffic Skills 101 (League of American Bicyclists)
- Develop signage and maps for low-traffic, low-stress bicycle routes.

Goal 6 - Monitor use of bicycle facilities

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

Benefits of Bicycling

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



Bicycling Facts:

The cost of operating a car for a year is approximately \$10,300...the cost of operating a bicycle for a year is \$308.

A couple who lives in a walkable/bikeable community saves over \$850 per year in fuel savings.

Short car trips (which could be made by bike) are more polluting per mile than longer car trips.

The majority of women (64%) get less than 10 minutes of vigorous exercise per week, contributing to health problems.

Source: Pedestrian and Bicycle Information Center

Accomplishments

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

- Completion of the Capital City Trail (2014)
- Establishing a Bicycle and Pedestrian Subcommittee (2013)
- Adding designated bicycle lanes to portions of South Governors Avenue and portions of U.S. 13 (2012)
- Construction of new trail systems within Silver Lake Park and Schutte Park
- Construction of the Isaac Branch Trail, part of the St. Jones River Greenway (2007)
- Requiring developers to incorporate bicycle facilities into their projects
- Holding community events such as the Amish Country Bike Tour and Bike To Work Day
- Incorporating bicycle lanes into DeIDOT improvement projects along major routes such as College Road, Walker Road, and East Lookerman Street



Amish Country Bike Tour

In July 2013, the City's Bicycle and Pedestrian Subcommittee submitted an application to the League of American Bicyclists for designation as a "Bicycle Friendly Community". The League awards communities who apply for this designation after a detailed evaluation, and based on criteria that include engineering, education, encouragement, enforcement, evaluation & planning. Using these criteria, the League further ranks an awarded community as to its level of bike-friendliness with a Bronze, Silver, Gold or Platinum ranking. Standards are high, and across the U.S., less than 300 cities have achieved Bicycle Friendly Community awards, with only 4 of them achieving Platinum status. In 2013 Dover's application was thoroughly evaluated and declined by the League, who gave Dover an "Honorable Mention" for coming close to the required standards. The League further provided the city with numerous recommendations for improving conditions for bicycling, encouraging the City to reapply as soon as conditions improve.



Silver Lake Park

One of the key recommendations from the League was to "update the Bicycle Plan in close collaboration with the community to ensure public involvement, information, and ownership." Related to the Bike Plan update, other key points include:

- Focus on developing a seamless cycling network, creating short distances between residential areas and schools, recreational areas, commercial areas, etc.
- Increase usage through encouragement, education, and enforcement programs
- Set ambitious but attainable targets
- Ensure that there is dedicated funding
- Primary goal: encourage residents to bike more often for recreation and transportation

Existing Conditions - Bicycle Facilities

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

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



Bike Rack at Dover Transit Center

Figure 1 displays the results of the inventory, with the exception of the bike rack locations. Listed below is a summary of the key findings from the bicycle inventory:

- There are approximately 9.0 centerline miles of off-road trails and pathways within the City.
- There are approximately 9.0 miles of designated on-road bicycle lanes within the City.
- There are approximately 600 bicycle parking spaces within the City. With the exception of 8 bicycle locker storage units located on the DelDOT campus, all of the bicycle parking spaces consist of bicycle racks.
- There are approximately 1.9 roadway miles with sharrows. In 2013, DelDOT installed sharrows along portions of Lookerman Street, Division Street, and North Governors Avenue as part of a pavement rehabilitation project.



East Lookerman Street

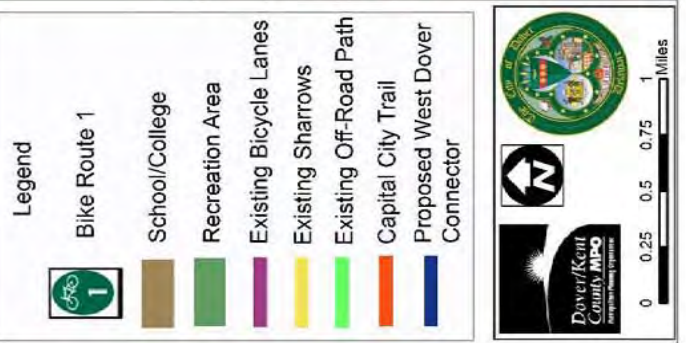


South Governors Avenue

Existing Conditions - Bicycle Facilities



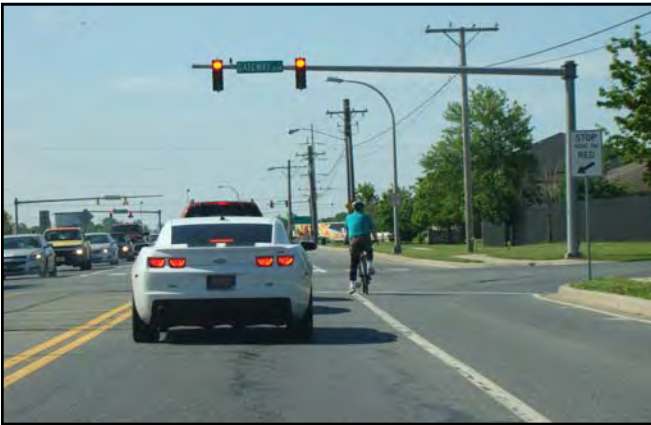
City of Dover
Bicycle Plan Update
Figure 1 - Existing Facilities



Existing Conditions - Bicycle Facilities

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

Through the development of this Bicycle Plan update, with input from the City's Bicycle and Pedestrian Subcommittee and the public, the areas listed in the table on the following page have been identified as impediments to safe bicycle travel in the City. In addition, these areas generally lack safe, attractive alternative routes. For a cyclist, these roads often offer the only means of traveling to and from a destination, despite the barriers that exist along these routes. The primary areas that lack adequate bicycle facilities are shown on Figure 2.



Saulsbury Road



Route 8



North State Street



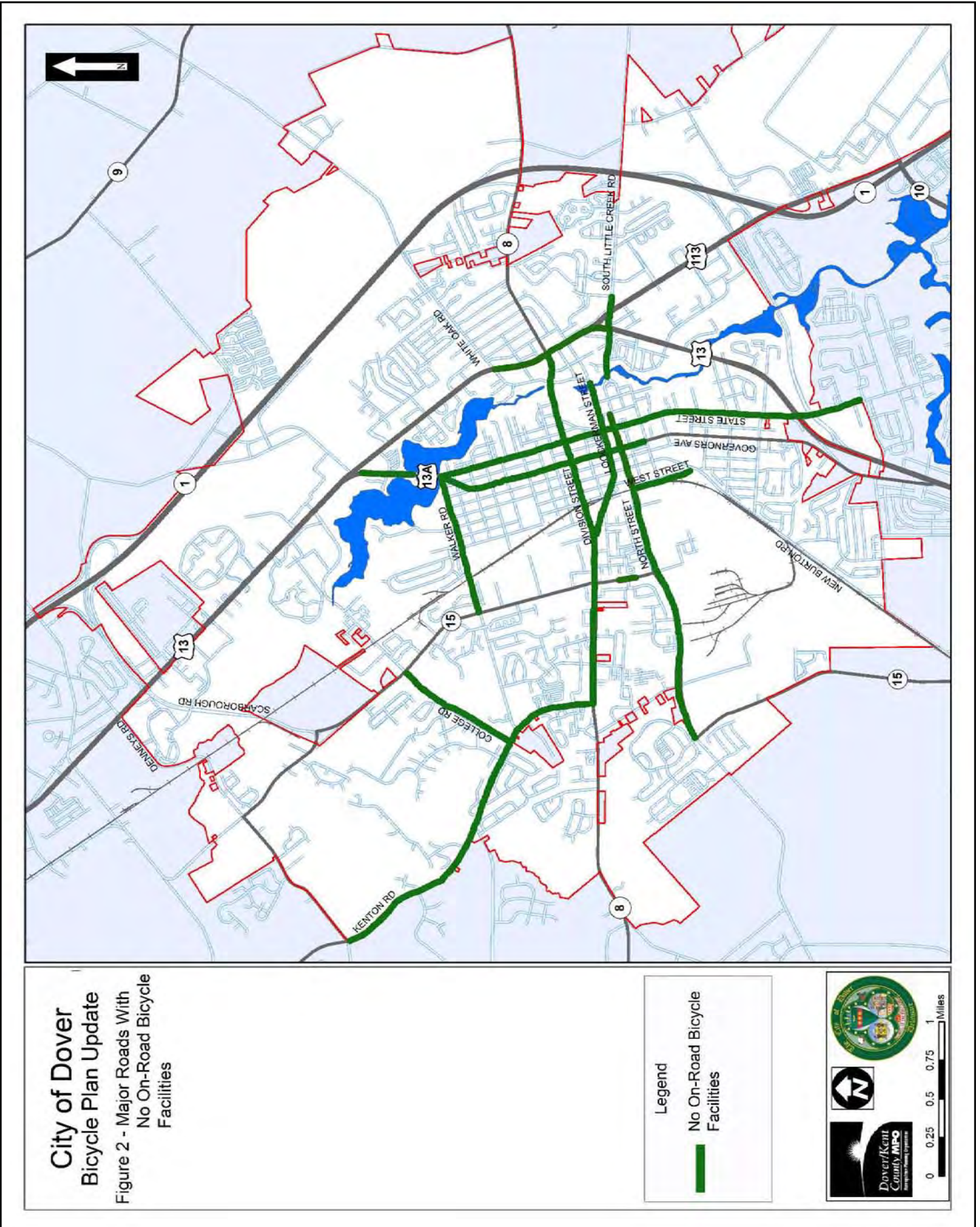
Division Street

- Route 8/Division Street between U.S. 13 and Saulsbury Road is designated as a Regional Bicycle Route, yet lacks bike lanes or striped shoulders or a designated off-road path.
- North State Street provides the only north-south access over Silver Lake from downtown Dover to U.S. 13. The high-traffic road lacks shoulders and is a major impediment to bicycle travel to north Dover.

Existing Conditions - Bicycle Facilities

Roadway Segments With Conditions That Discourage Bicycle Use			
Rank	Road	Limits	Issues
1A	Route 8/Forrest Avenue	Weston Drive to Saulsbury Road	High traffic volumes (18,000/day) 4 - 6 lane highway, No shoulders
1B	Route 8/Division Street	U.S. 13 to Weston Drive	High traffic volumes (13,000/day) On-street parking No bike lanes
2	North State Street	Walker Road to U.S. 13	High traffic volumes (14,000/day) 4 lane highway, No shoulders
3	College Road	McKee Road to Kenton Road	High traffic volumes (11,000/day) Only available east-west route No shoulders
4	West Street	North Street to Queen Street	High traffic volumes (9,000/day) No bike lanes or shoulders
5	Walker Road	State Street to Saulsbury Road	High traffic volumes (11,000/day) No bike lanes, minimal shoulders
6	Saulsbury Road	North Street to Route 8	High traffic volumes (17,000/day) Bike lane not continuous
7	MLK Boulevard/ South Little Creek Road	Babb Drive to Legislative Hall	High traffic volumes (10,000/day) No bike lanes or shoulders
8	U.S. 13	Puncheon Run to Scarborough Road	4 - 6 lane, high-speed highway Very high traffic volumes (40,000 - 60,000/day)
9	Mifflin Road	Route 8 to Hazletville Road	High traffic volumes (15,000/day) Mini-roundabout
10	Kenton Road	Denneys Road to Route 8	Minimal shoulders High speeds
11	North Street	Federal Street to Commerce Way	No continuous bike lanes/shoulders

Existing Conditions - Bicycle Facilities



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 3.

Residential

As noted in the table, the predominant land use within City limits is agricultural and open space. Residential land use is also a primary use. High density residential is located in the downtown core (roughly a square mile area), while lower density, single-family residential land use composes the majority of the land use in the surrounding suburbs.

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 Loockerman Street in downtown Dover.

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%



Loockerman Street

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. All of these facilities are shown on Figure 1.

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

DAFB
DAFB



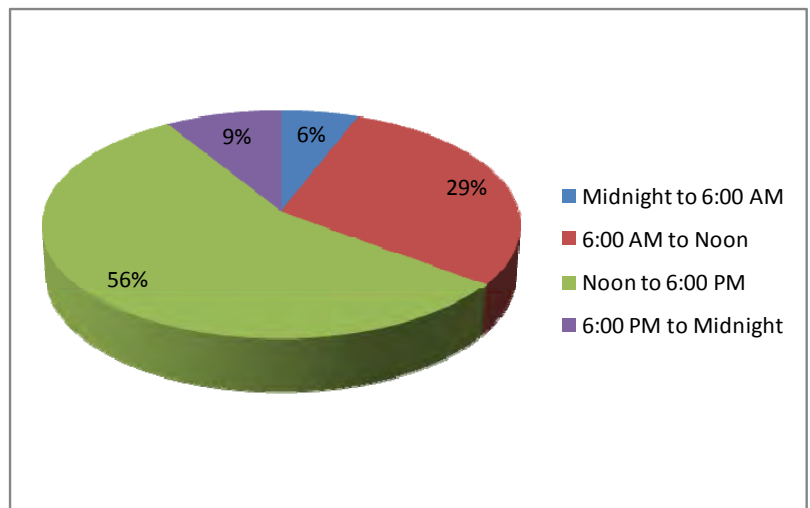
Bicycle Crash Analysis

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

Figure 4 shows the location of all reported bicycle 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 34 reported bicycle crashes between 2011 and 2013.
- Personal injuries were involved in 22 crashes (65%).
- There were no fatal crashes reported during the 3 year period.
- There were no high concentrations of bicycle crash areas identified throughout the City. However, nearly 1/3 of the crashes (10) occurred at various locations along U.S. 13.
- As noted in the chart below, the majority of the bicycle crashes (19) occurred between noon and 6:00 PM.

Year	Bicycle Crashes (2011 - 2013)
2011	7
2012	14
2013	13
Total	34



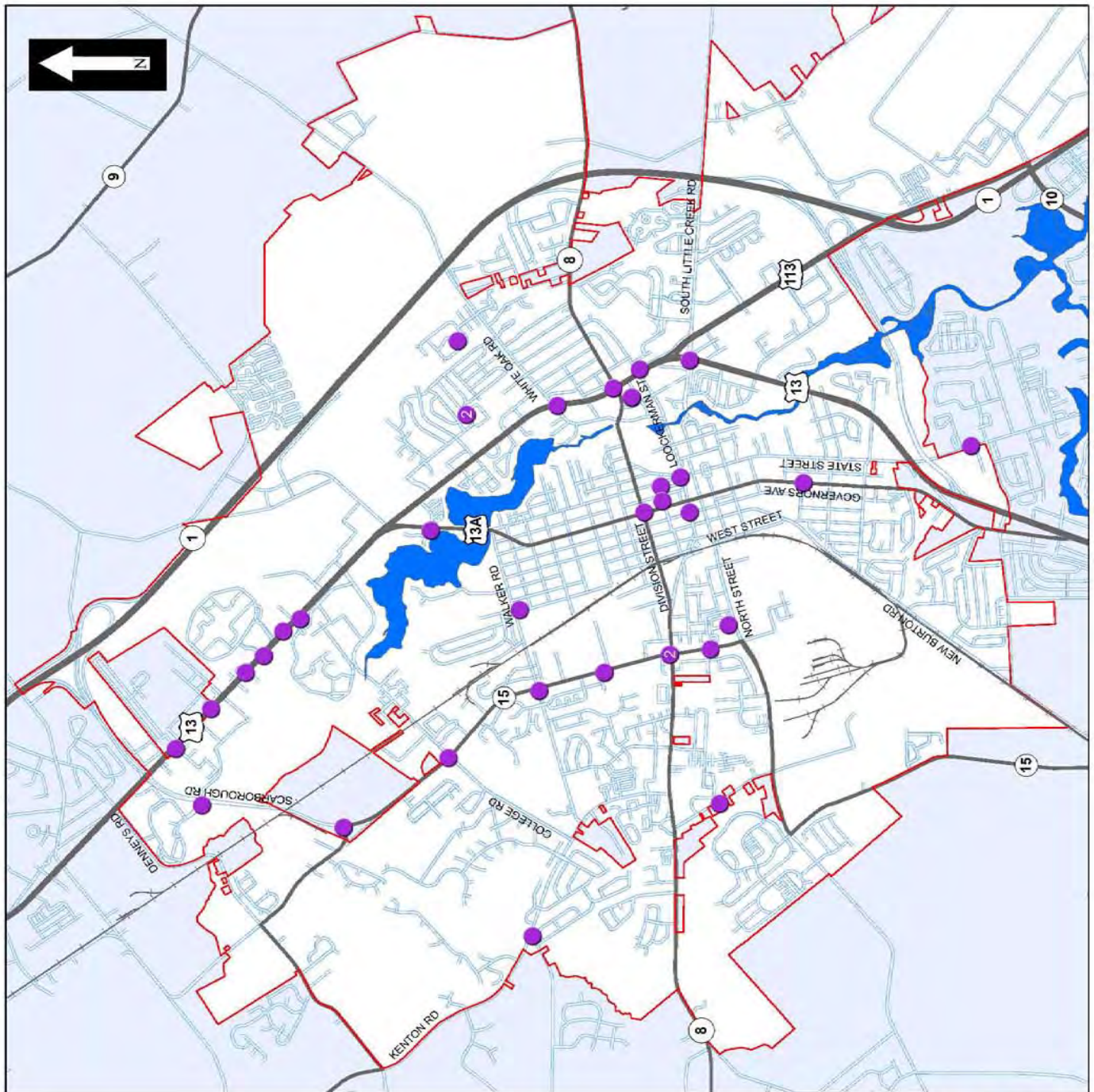
Bicycle Crashes - Time of Day

In the fall of 2012, as part of a DelDOT pavement rehabilitation project, bicycle lanes were installed on U.S. 13 from the former Sheraton Hotel (now Delaware State University Commons) to Kings Highway/White Oak Road (2.6 miles) and from Martin Luther King Boulevard to River Road/Public Safety Boulevard (0.3 miles). There were 9 crashes that involved a bicycle crash within these limits. The results are shown in the chart below.

Time	U.S. 13 Crashes (2011 - 2013)
Before Bike Lane Project	3
During Bike Lane Project	1
After Bike Lane Project	5



U.S. 13 Bike Lane



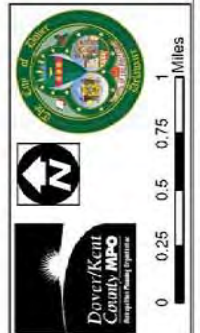
City of Dover Bicycle Plan Update

Figure 4
Bicycle Crash Data

Legend

● Bicycle Related Crash

Based on reported crashes between 2011-2013



Existing Plans, Policies, and Programs

City of Dover Bicycle and Pedestrian Transportation Plan (1997)

As noted, the City of Dover's previous Bicycle and Pedestrian Plan was adopted in 1997. The 1997 Plan details engineering, education, encouragement, and enforcement goals as they relate to biking and walking. The Plan presents a detailed assessment of specific bicycling needs throughout the City of Dover, based on a rating system of roadway conditions known as Bicycle Level of Service. 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.

Project	Status
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 (2019)
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	Not implemented
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/Hazlettsville Road	Partially implemented



Bike Route 1



Walker Road

Existing Plans, Policies, and Programs

City of Dover Code of Ordinances

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

In an effort to enhance and promote bicycle-friendly communities, the City has two additional categories that provide developers with flexibility and incentives to address biking 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



McKee Road Path

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. The provisions of this section are intended to encourage greater integration of land-uses and diversity of lot sizes than is permitted under other provisions of the Land Subdivision Regulations and Zoning Ordinance of the City of Dover. Lastly, it may provide locations for other uses that will aid in the fulfillment of the City of Dover's Comprehensive Plan and allow people to live near their work.”

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

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 bicycle-friendly 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 DelDOT 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 the Capital City Trail in 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 was 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 Lookerman 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.”

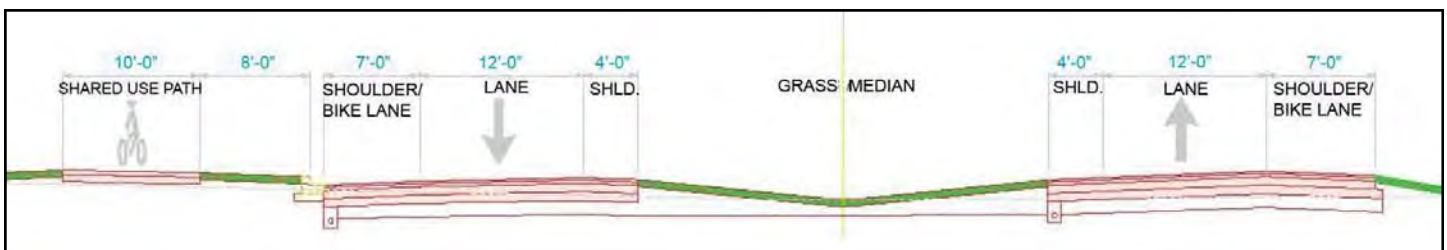
Since its adoption, DelDOT has incorporated elements of the Complete Streets Policy into several projects in Dover, including the South Governors Avenue improvement project, which added continuous 5-foot striped bicycle lanes throughout the project limits (Water Street to Webbs Lane). As part of a recent pavement rehabilitation project along U.S. 13 through Dover, DelDOT reduced the existing lane widths from 12 feet to 11 feet, in order to provide a 5-foot wide bicycle lane in accordance with the Policy.

As part of a recent pavement rehabilitation project along East Loockerman Street, DelDOT re-striped an existing shoulder to provide a 5-foot wide bicycle lane. This improvement facilitates bicycle mobility from downtown Dover to U.S. 13.

In addition, DelDOT is including a 10-foot wide shared use path and 7-foot wide striped bike lanes 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 significantly improve bicycle 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.



East Loockerman Street



*Proposed Typical Section - West Dover Connector
(North of Charles Polk Road and South of Puncheon Run)*

Existing Plans, Policies, and Programs

DelDOT Statewide Bicycle Plan

The Delaware Bicycle Facility Master Plan was adopted in October 2005. As noted in the document, “the Master Plan was developed in order to define and implement a statewide system of designated, on-road bicycle routes. The Master Plan provides specific guidance as to the location and nature of appropriate accommodations along DelDOT-maintained roadways.”

There were two primary goals established in the Master Plan:

- Integrate existing bicycle routes and trails into a larger statewide bicycle network
- Establish bicycle routes between municipalities, activity centers, and recreational areas

The Master Plan developed a statewide network of on-road bikeways (known as Statewide Routes, Regional Routes, and Recreational Connector Routes) and a corresponding set of design recommendations for each type of bikeway. The bikeway designations noted in the Master Plan include:

- Bike Lanes (5-foot minimum width)
- Shared Shoulders (5-foot minimum width)
- Wide Outside Travel Lane (14-foot minimum width)

In 2011, DelDOT updated the Bicycle Maps for each county, which can be found on the DelDOT web site at http://deldot.gov/information/community_programs_and_services/bike/. Examples of several bicycle route categories are shown in the photos below. It is important to note that many of the DelDOT designated “Bicycle Routes” have limited bicycle facilities, and some segments of these routes are considered challenging for bicycle users. These Bicycle Routes were chosen based on their location, not necessarily on the presence of bike facilities. The expectation was that a road so designated might, at some future time, be more likely to be provided with bicycle facilities.

Statewide Bicycle Route: provides north-south connections between New Castle, Kent, and Sussex Counties (Bike Route 1 runs on the west side of Dover).

Regional Bicycle Route: provides direct connections between municipalities and activity centers.

Connector Bicycle Route: provides connections between local activity/recreational centers to the larger bicycle network.



Statewide Bicycle Route - Wyoming Mill Road



Regional Bicycle Route - East Division Street

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 routes to two elementary schools (Booker T. Washington and Towne Point) and two middle schools (William Henry and Central Middle) in the Capital School District. 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 bicycle and 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

Existing Plans, Policies, and Programs

MPO 2030 Regional Bicycle Plan

In the fall of 2011, the Dover/Kent County MPO completed the 2030 Regional Bicycle Plan for Kent County, Delaware. The Regional Bicycle Plan was completed after nearly two years of effort involving DelDOT, the Department of Natural Resources and Environmental Control, Kent County Planning, the City of Dover and other municipalities, and bicycle advocates throughout the county.

The MPO Regional Bicycle Plan identifies the following six objectives:

- Create an effective and safe bicycle transportation system
- Increase the number of local trips made by bicycle
- Increase the number of students biking to school
- Increase the number of people biking to work
- Increase recreational and fitness riding
- Create an environment where all bicyclists and motorists follow the rules of the road

Performance measures (such as increasing the amount of multi-use paths to 40 miles by 2030) are also included for each of the Plan's objectives.

As noted in the document, "the Regional Bicycle Plan outlines four new policies...that will serve as guidance to cities and towns and/or for implementation by DelDOT on projects undertaken in the region." These policies are listed below.

Policy 1: Selecting Appropriate On Road Bicycle Facilities

Policy 2: Bicycle Facilities at Intersections

Policy 3: Bicycle Parking

Policy 4: Education and Enforcement

In terms of physical improvements, the Regional Bicycle Plan recommended 18 on-road improvement locations and 7 off-road improvement locations throughout Kent County. On-road improvements consist of measures such as shoulder widening, lane width reallocation, signing, striping, and other pavement markings. Off-road recommendations include new shared-use trails and pathways.

As Kent County's largest urban area, the City of Dover is a primary focus of the Regional Bicycle Plan's recommendations. Ten of the eighteen recommended on-road improvements are located within Dover, while 4 of the 7 recommended off-road trails are also located within or adjacent to City limits.

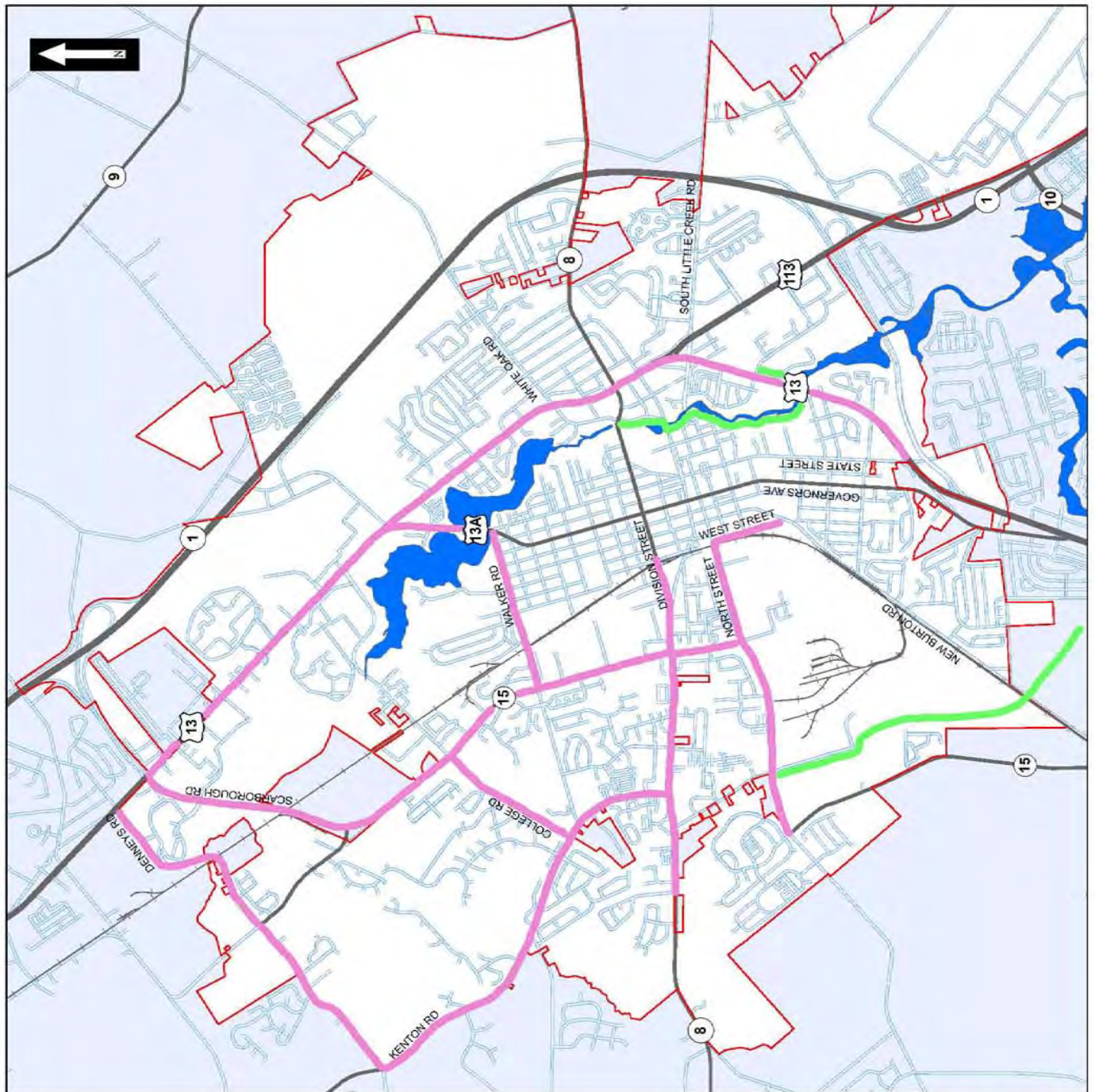
Since its adoption in the fall of 2011, the Regional Bicycle Plan has been used by DelDOT to implement several of the top priority projects recommended in the Plan, including all 3 phases of the Capital City Trail. In addition, conceptual planning has been initiated on West Street, another highly ranked project.

Figure 5 shows the on-road and off-road bicycle improvement recommendations that are located within the city limits of Dover, as noted in the MPO Regional Bicycle Plan.



Existing Plans, Policies, and Programs

MPO Regional Bicycle Plan Recommendations (On-Road)				
Rank	Project	Limits	Description	Status
1	West Street	North Street to Queen Street	Widen road to provide bike lanes	Conceptual design
2	U.S. 13	Scarborough Road to Puncheon Run	Add striped bicycle lanes	Partially complete
3	Denneys Road	U.S. 13 to Kenton Road	Widen road to provide bike lanes	N/A
4	North State Street	U.S. 13 to Walker Road	Reallocate lane width to add bike lanes	N/A
5	Route 8	Railroad to Heatherfield Way	Reallocate lane width to add bike lanes	N/A
6	Walker Road	State Street to Saulsbury Road	Reallocate lane width to add bike lanes	N/A
7	North Street	Wyoming Mill Road to West Street	Add a westbound bike lane	N/A
8	College Road	Saulsbury Road to Kenton Road	Widen road to provide bike lanes	N/A
11	Saulsbury Rd	U.S. 13 to North Street	Provide continuous bike lanes	N/A
13	Kenton Road	Route 8 to Denneys Road	Widen road to provide bike lanes	Design (FY 2016)
MPO Regional Bicycle Plan Recommendations (Off-Road)				
1	Dover Greenway	Silver Lake to St. Jones River	Construct trail along the St. Jones River	Capital City Trail
2	Camden to Dover Trail	Schutte Park to Brecknock Park	Construct new trail to connect the parks	N/A
3	DAFB Trail	Route 10 to Route 9	Construct new trail along DAFB	N/A
4	Route 10	U.S. 13 to Isaac Branch Trail	Construct new trail	Planning study



City of Dover Bicycle Plan Update

Figure 5
MPO Regional Bicycle
Plan Recommendations

Legend

- Recommended On-Road Improvement
- Recommended Off-Road Improvement



Existing Plans, Policies, and Programs

Advocacy and Interest Groups

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

Bike Delaware is an independent, non-government advocacy organization that is supported solely by its membership. Its mission “is to make bicycling a safe, convenient, and fun transportation option in Delaware by working in partnership with government, business, and community groups.” Bike Delaware, based in New Castle County, has a 7-member Board of Directors and is staffed by an Executive Director who lobbies for cycling interests throughout the state.

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



Maintenance

Maintenance-related components are identified as one of the six primary Goals to be addressed by the City of Dover Bicycle Plan. The following specific maintenance objectives were identified by the Bicycle and Pedestrian Subcommittee:

- Identify maintenance responsibility for all bike routes
- Encourage responsible parties to schedule regular maintenance
- Develop communication system for reporting maintenance needs

With regards to maintenance responsibilities, there are two different entities that play a role in the maintenance of bicycle facilities: DelDOT and the City of Dover. 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



Route 8 (Near Modern Maturity Center)

Maintenance of any bicycle facilities within the curb limits of the State's right-of-way, including re-striping of bike lanes, debris removal, resurfacing, etc. is the responsibility of the Department of Transportation.

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 known.

Maintenance

Adopt A Bikeway Program

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



City of Dover Maintenance Responsibilities

The Dover Code of Ordinances contains several references to the maintenance responsibilities for sidewalks. However, maintenance of bike paths and shared-use facilities is not referenced in the Code. As a result, it is recommended that the term “shared-use facility” be added to any sidewalk maintenance reference in the City’s Code. This would require a revision to the Code of Ordinances, to be adopted by City Council.

The City currently provides maintenance on bike paths located within the City’s park system, such as the trails within Schutte Park and Silver Lake Park. In addition, the City is currently providing maintenance on the U.S. 13 portion of the Capital City Trail, between the Thomas Collins Building and MLK Boulevard. The City will also be providing maintenance along Park Drive, once Phase III of the Capital City Trail is completed in 2014.

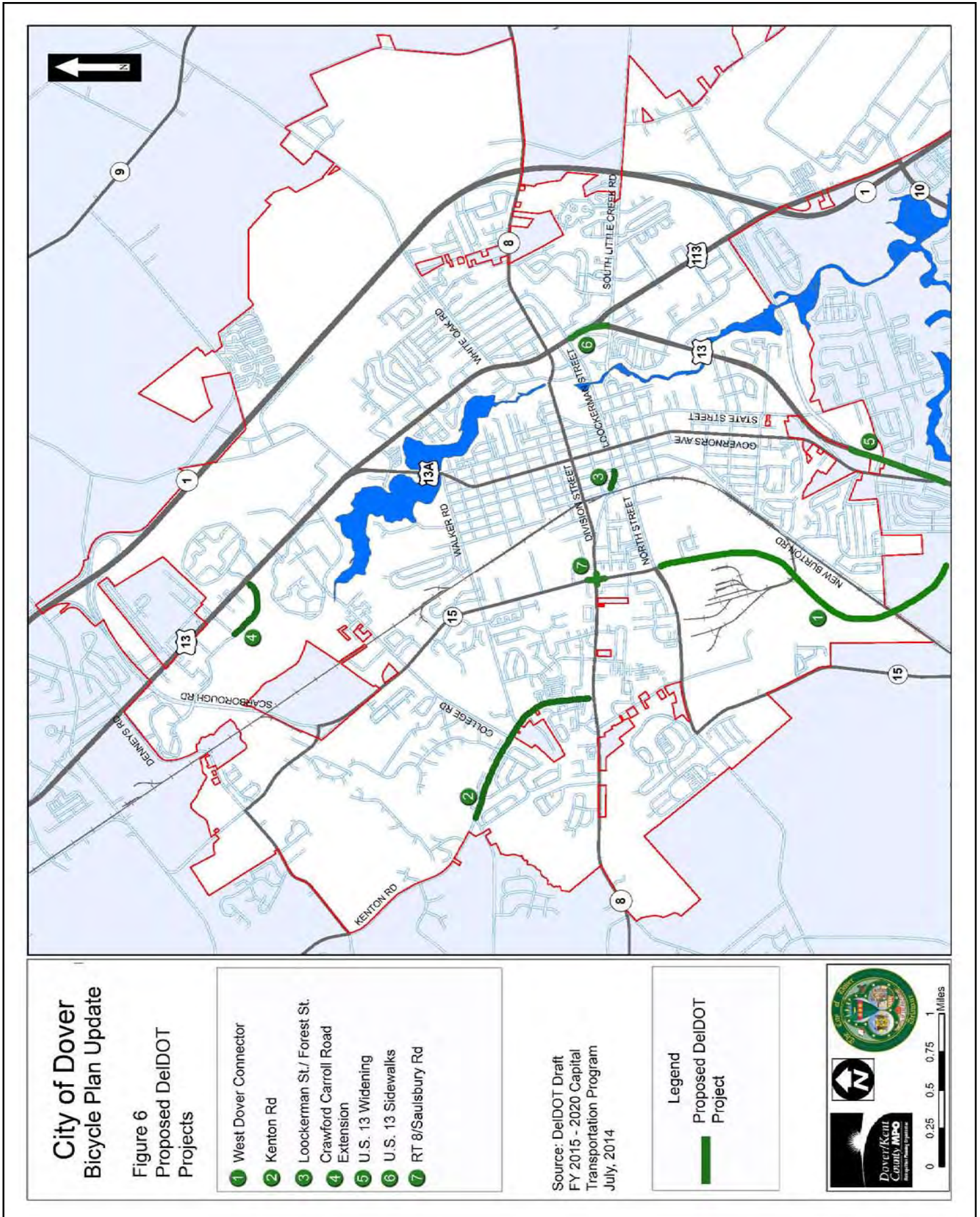


Silver Lake Park

Planned DelDOT Projects

DelDOT has numerous projects planned in the City of Dover that will enhance mobility and safety for bicyclists. Listed below is a preliminary schedule for each proposed project, based on the DelDOT Fiscal Year 2015 - 2020 Capital Transportation Plan, as published in July 2014. The proposed DelDOT projects are also shown on Figure 6. Only one project is currently funded for construction - the West Dover Connector.

Proposed DelDOT Projects				
Project	Limits	Length (Miles)	Description	Anticipated Construction
West Dover Connector	North Street to U.S. 13	3.2	Construct a new road, extending Saulsbury Road to U.S. 13. Incorporates sidewalks, bike lanes, and a shared use path. Project will connect Brecknock Park and Schutte Park, and will form part of a greater bike loop proposed around Dover.	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+



Areas of Opportunity

Despite the measurable and significant progress that has been made over the past 17 years since the initial Bicycle and Pedestrian Plan was developed, there are still many areas of opportunity to make the City of Dover a more bicycle-friendly city. In its Bicycle Friendly Community Feedback Report (Fall 2013), the League of American Bicyclists identified the following key measures to improve cycling in Dover:

- Appoint a staff member to become Bicycle and Pedestrian Coordinator
- Update the Bicycle Plan
- Continue to expand the bike network and increase network connectivity through the use of bike lanes, paths, and shared lane markings. Suggested improvements include:
 - ◇ Route 8 (Weston Drive to Saulsbury Road)
 - ◇ South West Street (North Street to Queen Street)
 - ◇ North State Street (Walker Road to U.S. 13)
 - ◇ Saulsbury Road (Gateway Boulevard to North Street)
 - ◇ College Road (McKee Road to Kenton Road)
- Increase the amount of high quality bicycle parking at popular destinations
- Increase maintenance of the city's off-road bicycle network
- Host a League Cycling Instructor seminar to increase the number of certified instructors in Dover
- Ensure that bicycle safety education is included in the local schools
- Expand encouragement efforts during Bike Month with local bicycle advocacy groups
- Encourage the colleges and universities to promote cycling and seek recognition through the Bicycle Friendly University program
- Conduct regular bicycle counts to determine bicycle usage and demand



Bike to Work Day 2013

The League of American Bicyclists also offered 49 other specific recommendations (short-term and long-term) to further promote bicycling in Dover, in the areas of Engineering, Education, Encouragement, Enforcement, and Evaluation. Examples of the short-term measures are listed below.

Engineering

Implement road diets in appropriate locations

Consider raised crossings or grade-separated crossings

Encouragement

Host or sponsor bicycle-themed community events

Set up a community celebration and social ride when a bike project is completed

Evaluation

Adopt a target level of bicycle use and collect data to monitor progress

Identify the most appropriate routes for inclusion in the bike network, determine weak links, and prioritize improvements

Education

Offer bicycle education for youth outside of school

Create a Bicycle Ambassador program





Enforcement

Invite the police to the Bicycle/Pedestrian committee

Have police officers distribute helmets, lights, and locks to the community

Bicycle Facility Design

There are a wide variety of design techniques and facilities that have been used in Dover, as well as other areas throughout the world, that provide for safe and efficient bicycle travel. The table below and on the following page provides a summary of the different facilities commonly used today. These techniques are cited in publications such as the *DelDOT Road Design Manual*, the *Delaware Manual on Uniform Traffic Control Devices (MUTCD)*, the American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*, and the National Association of City Transportation Officials (NACTO) *Urban Bikeway Design Guide*.

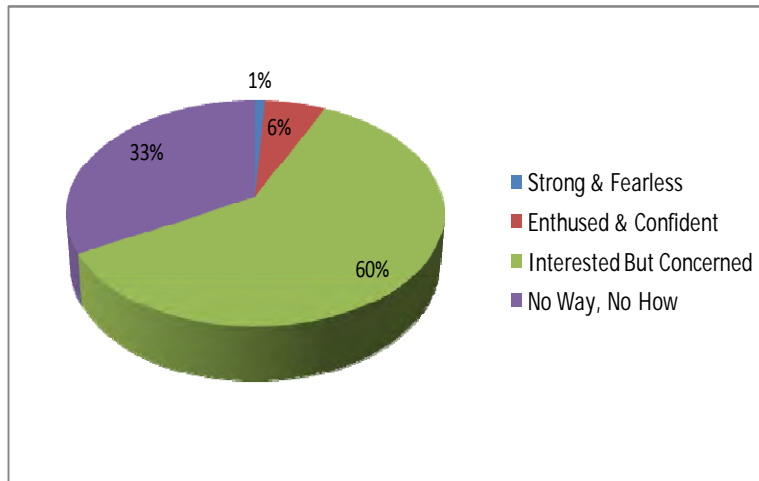
Type	Width	Use	Example
Bike Lane	4 - 6 ft.	Bicycle travel along the road	
Colored Bike Lane	4 - 6 ft.	Bicycle travel along the road	
Buffered Bike Lane	4 - 6 ft.	Bicycle travel along the road	
Sharrow	N/A	Low-volume, low-speed roads where bike lanes aren't practical	

Bicycle Facility Design

Type	Width	Use	Example
Pathway	8 - 10 ft.	Route separated from motor vehicles and shared with pedestrians. Often parallel to high-speed roads	
Cycle Track	10 - 16 ft.	Route within the road, separated from motor vehicles and pedestrians	
Bicycle Boulevard	N/A	Low-volume, low-speed roads where bicycle travel is given priority over motor vehicles	
Trail	8 - 10 ft.	Recreational route that connects with the overall bicycle network	

Low Stress Bicycling and Connectivity

In 2007, the City of Portland, Oregon developed a classification system of bicycle facilities based on a survey of resident's attitudes in general and towards bicycle travel. The system concluded that the population was divided into 4 classifications as they relate to a person's affinity for different types of bicycle facilities:



Portland's Classification System for Bicyclists

Based on Portland's research, characteristics of each classification are noted below:

Strong & fearless (1%) - respond well to riding in almost any traffic condition

Enthusied & confident (6%) - respond well to riding in bike lanes along arterial roads and sharing smaller roads with traffic

Interested but concerned (60%) - uncomfortable with riding with traffic but respond well to off-road paths and low-volume, low-speed streets

No way, no how (33%) - no interest in riding a bicycle





Following up on Portland's initial research, the Mineta Transportation Institute (MTI) published a report in May 2012 entitled "*Low-Stress Bicycling and Network Connectivity*". This publication details a methodology used to evaluate low-stress bicycling and the network connectivity required to make that a reality.

As noted in the report abstract, *"for a bicycling network to attract the widest possible segment of the population, its most fundamental attribute should be low-stress connectivity, providing routes between people's origins and destinations that do not require cyclists to use links that exceed their tolerance for traffic stress, and that do not involve undue level of detour."*

The primary objective of the study was to develop measures of low-stress connectivity that can be used to evaluate and guide bicycle network planning. The study classified road segments into 4 levels of traffic stress, based on traffic characteristics (road width, traffic speed, parking lane, etc.) and whether bikes are mixed with traffic, in bike lanes, or on separated paths.

In 2014, DelDOT hired Dr. Peter Furth, one of the authors of the "*Low-Stress Bicycling and Network Connectivity*" report, to provide training in developing low-stress bike routes throughout the state.

As part of Dr. Furth's study, it is recommended that DelDOT evaluate specific low-stress bike routes in the City of Dover as an early action item resulting from this Plan update. Based on the MTI study, identifying low-stress bike route connections can dramatically increase network connectivity and lead to measurable increases in bicycle usage, particularly for the 60% of the population that is interested in bicycling but concerned about safety.

Level of Traffic Stress	Example
LTS 1	
LTS 2	
LTS 3	
LTS 4	

Recommendations - Engineering

Based on the existing bicycle network, the mix of land uses, and potential bicycling destinations, there are ample opportunities to enhance bicycling as a mode of transportation in the City of Dover. This Plan provides recommendations that correspond with the 5 "E" categories of Engineering, Education, Encouragement, Enforcement, and Evaluation.

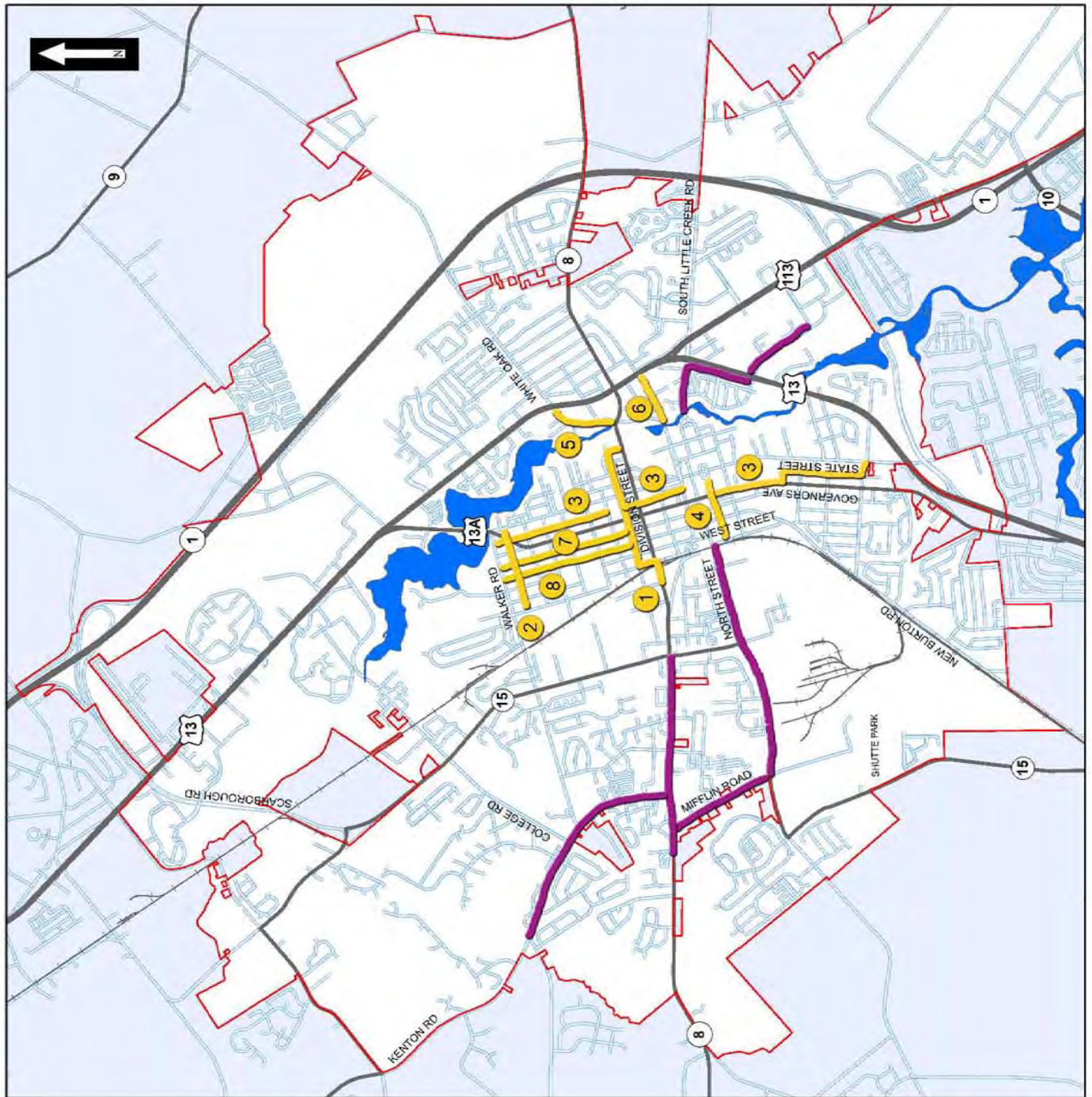
The Engineering recommendations are prioritized based on need, as identified by the Bicycle/Pedestrian Subcommittee in the summer of 2014. The Subcommittee developed a priority system for road segments based on the criteria listed below. The intent of the prioritization is to develop projects that produce the highest number of bicycle trips.

City of Dover Project Prioritization Criteria (On-Road Improvements):	
Criteria	Description
Traffic volumes	High-volume roads rank higher
Location	Roads in the downtown or urban areas that facilitate more connections rank higher
Existing bike facilities	Roads that lacked shoulders, bike lanes, or off-road paths rank higher
Alternate routes	Roads that had no nearby alternate routes for cyclists rank higher
Economic development	Projects that could facilitate bicycle access to local businesses/services rank higher
Vehicular speed	Higher speed roads rank higher

The Subcommittee also identified road segments that have a minimal level of bicycle facilities (typically shoulders or poorly-maintained off-road paths). These segments are not yet bicycle-friendly, but are not considered as hazardous as segments without any bicycle facilities. Some road segments without bicycle facilities were found to have a parallel low-stress street that can be used as an alternative route. These road segments are listed in the tables below and displayed on Figure 7.

Road Segments with Minimal Bike Facilities		
Road	Limits	Facility
Mifflin Road	Hazlettsville Road to Route 8	Striped shoulder
Route 8	Saulsbury Road to Marsh Creek Lane	Off road path
North Street	Railroad Tracks to Schutte Park	Off road path
MLK Boulevard	Legislative Hall to U.S. 13	Off road path
Kenton Road	Chestnut Grove Road to Route 8	Striped shoulder

Road Segments with Alternative Routes		
Road	Limits	Alternative
Division Street	Weston Drive to Kent Avenue	Fulton Street Delaware Ave.
Walker Road	Pear Street to State Street	Ross Street
State Street	Walker Road to Water Street	Bradford St.
Governors Avenue	Legislative Hall to U.S. 13	Bradford St. New Street Queen Street
Loockerman Street	Chestnut Grove Road to Route 8	Bank Lane Reed Street
Division Street	Kent Avenue to U.S. 13	Kings Highway Loockerman Street



City of Dover Bicycle Plan Update

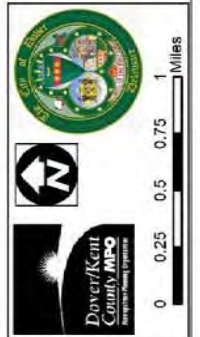
Figure 7
Bicycle Facilities and
Alternative Routes

Alternative Bike Routes

- 1 Fulton Street
- 2 Ross Street
- 3 Bradford Street
- 4 Bank Lane
- 5 Kings Highway
- 6 Lookerman Street
- 7 New Street
- 8 Queen Street

Legend

- Road Segments with Minimal Bike Facilities
- Alternative Bike Routes



Recommendations - Engineering

Listed below is the prioritization ranking developed by the City's Bicycle and Pedestrian Subcommittee, for on-road improvements. Recommended off-road trails are also listed below. These projects are shown on Figure 9 (page 67).

Recommended On-Road and Off-Road Projects to Improve Citywide Bicycle Use			
Rank	Road	Limits	Recommended Solution
1	Route 8 (Forrest Avenue/Division Street)	Dover High School to South Edgehill Avenue	Implement an east-west bike corridor, the Senator Bikeway, as described in detail on pages 35 - 51
2	North State Street	Walker Road to U.S. 13	Widen existing sidewalk to provide a shared use path
3	College Road	McKee Road to Kenton Road	Add shoulders to provide bike lanes and/or provide a shared use path
4	West Street	North Street to Queen Street	Widen shoulders to provide continuous bike lanes
5	Walker Road	North State Street to Saulsbury Road	Provide striped shoulders through travel lane re-striping
6	Saulsbury Road	North Street to Route 8	Widen existing sidewalk on both sides to provide a shared use path
7	MLK Boulevard/ South Little Creek Road	Babb Drive to U.S. 13	Widen existing sidewalk to provide a shared use path

Recommended Off-Road Trail Projects		
Area	Limits	Recommended Solution
Schutte Park Trail	Schutte Park	Continue the internal trail network throughout Schutte Park
Fox Hall West to Route 8	Mallard Pond Park	Provide a new trail within Mallard Pond Park
St. Jones River (west side)	Silver Lake Park to Legislative Avenue	Provide a new trail on the west side of the St. Jones River
North Street Trail	Schutte Park to West Street	Resurface existing hot mix trail

Recommendations - Engineering (On Road)

The Senator Bikeway (#1 Ranked)

The concept for the Senator Bikeway arose from the need for a centrally-placed east-west bike route through Dover that is low-stress and safe for riders of all ages and abilities. This is the #1 identified bicycling need in the community. Currently Dover does not have a continuous east-west bike route at all. For automobile traffic, Route 8 serves this function, but, as detailed below, Route 8 presents challenges for east-west bicycle travel through central Dover.

Route 8 (known as Forrest Avenue and Division Street) provides the primary east-west access in the City, connecting the western portion of Kent County with U.S. 13. Route 8 is classified as a minor arterial, and is designated as a Regional Bicycle Route on the DelDOT Bicycle Map. Between the western City limits and U.S. 13 (a distance of 3.4 miles), the typical roadway section varies considerably, ranging from a 6-lane section at Saulsbury Road to a 2-lane section in the downtown core.



Route 8/Kent Avenue (looking east)

Within a relatively short distance, Route 8 transitions from a high-speed, rural roadway to a low-speed, urban arterial. Based on the lack of shoulders throughout much of the corridor, the high traffic volumes (which exceed 18,000 vehicles per day west of Saulsbury Road), the presence of on-street parking in the downtown, and the lack of a consistent off-road path, Route 8 has conditions that are challenging for bicycle travel. At this point, creating on-road bicycle facilities would be very difficult, due to limited road widths and competing automobile traffic needs. The City is therefore exploring opportunities for a mix of off-road paths and parallel roads to create a continuous east-west bicycle route.



Route 8 (looking east)

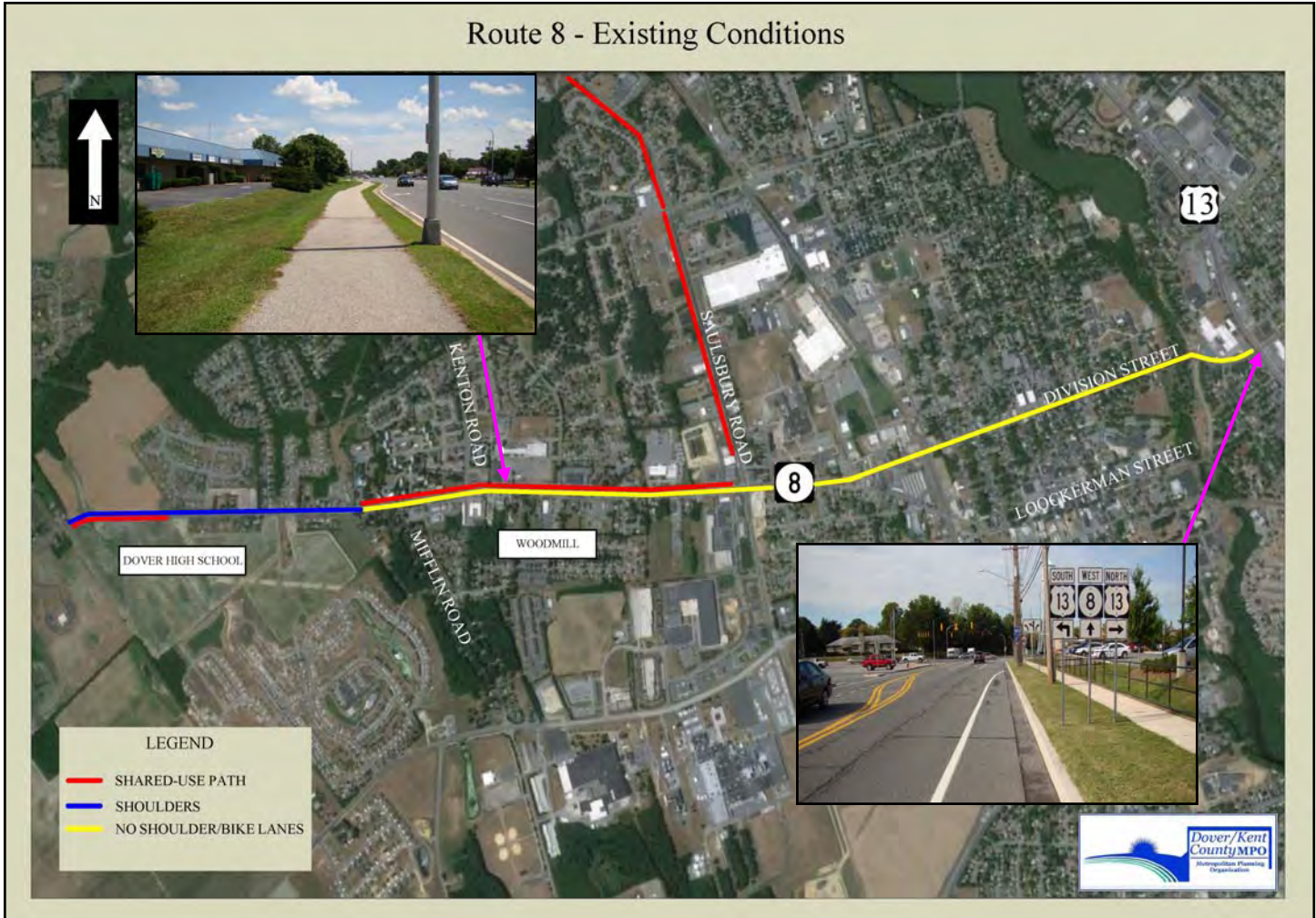


Division Street/Queen Street (looking west)

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

The graphic below displays the bicycle infrastructure that currently exists along Route 8, as well as the areas that lack shoulders or bike lanes.



In creating low-stress bike routes, experienced bicycle planners stress, again and again, that the most important step to take is to “help people cross busy roads.” Where a bike route crosses a road that has heavy automobile traffic, special measures need to be made to assist bicyclists in crossing. And while there may be a variety of ways to accomplish this in any particular situation, this step in the planning process must be given primary attention.

In the plan for the Senator Bikeway, the proposed route crosses many busy roads, including Kenton Road, Saulsbury Road, and busiest of all, U.S. 13. Planners therefore must pay special attention to creating the means for bicyclists to safely cross these roads. The question to ask is “would a parent be comfortable allowing their 12-year old child to ride by themselves across these intersections?”

There are a variety of enhancements that would be required to create a low-stress route for bicycling adjacent to Route 8, but the ultimate intent is to develop a safe, seamless route from east of U.S. 13 to Dover High School. The identified improvements that would be required to create this route, which would be known as the Senator Bikeway, are described in more detail on the following pages. The proposed improvements are shown in geographical order, traveling from west to east.

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Dover High School to Mifflin Road

Currently, the 0.3-mile section of Route 8 between Dover High School and Mifflin Road is a 2-lane section with shoulders that converts into a 4-lane section with no shoulders just west of the Route 8/Mifflin Road intersection. The shoulders function as designated right-turn lanes west of the Mifflin Road intersection.

Along westbound Route 8, a shared-use path terminates near the Brandywine Court Apartments, and ties into a recently constructed 5-foot wide sidewalk as it heads west towards the east entrance of the high school.

Along eastbound Route 8, as a result of the loss of shoulders, there are no bike facilities (either on-road or off-road) along this portion of the roadway, forcing bicyclists to share the road with motorists.



Route 8/Mifflin Road (looking east)

With the 2014 opening of the high school, there has been a noticeable increase in the volume of pedestrians and bicyclists using Route 8 to and from the residential areas east of the school. The recent update of the Dover Pedestrian Plan has acknowledged the need to accommodate pedestrians walking to and from the school, as new sidewalk is being recommended along the south side of Route 8 between the high school and Mifflin Road. In addition, the City Council has recognized the importance of providing a safe route for bicyclists and pedestrians to and from the high school, as new sidewalk construction along the south side of Route 8 is the #2 ranked project in the City's 2014 transportation project prioritization list. It is recommended that a shared-use path be provided along the south side of Route 8, between the high school property and Mifflin Road. In addition, any properties that re-develop within these limits should be required to provide a 10-foot wide shared-use path along their frontage as part of the development approval process.



Route 8 (looking west)



Route 8 (looking east)

Recommendation: Provide a shared-use path on the south side of Route 8 between Dover High School and Mifflin Road

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Mifflin Road to Saulsbury Road

Currently, the 1-mile section of Route 8 between Mifflin Road and Saulsbury Road is a 5-lane section that has no shoulders or bike lanes. At key intersections, the section becomes wider with the addition of turn lanes. There is a shared-use path along the north side of the road, while the south side of Route 8 has continuous 5-foot wide sidewalks but no shared-use pathway, as noted in the photos below.



Route 8 (north side)



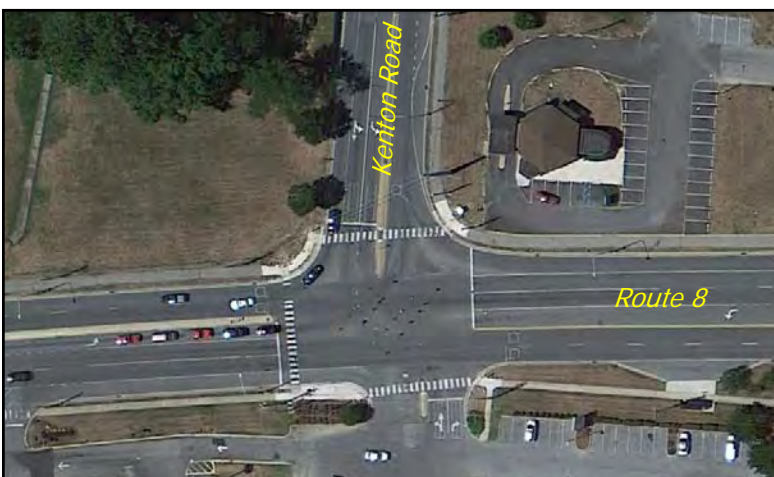
Route 8 (south side)

Based on the existing pavement width along Route 8, there are not any opportunities to reduce lane widths to provide for a bike lane. As a result, it is recommended that the existing sidewalk on the south side of Route 8 be widened to accommodate a 10-foot wide shared-use path. Most of the sidewalk appears to be located within the existing right-of-way. A sidewalk widening would likely involve utility relocations, drainage modifications, and stormwater management considerations, all of which would be evaluated during engineering design.

Recommendations: Widen the existing sidewalk on the south side of Route 8 between Mifflin Road and Saulsbury Road to provide a shared-use path.

Resurface the existing shared-use path along the north side of Route 8, between Marsh Creek Lane and Saulsbury Road.

There are two major intersections located within these limits - Route 8/Kenton Road and Route 8/Saulsbury Road.



Route 8/Kenton Road



Route 8/Saulsbury Road (looking east)

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

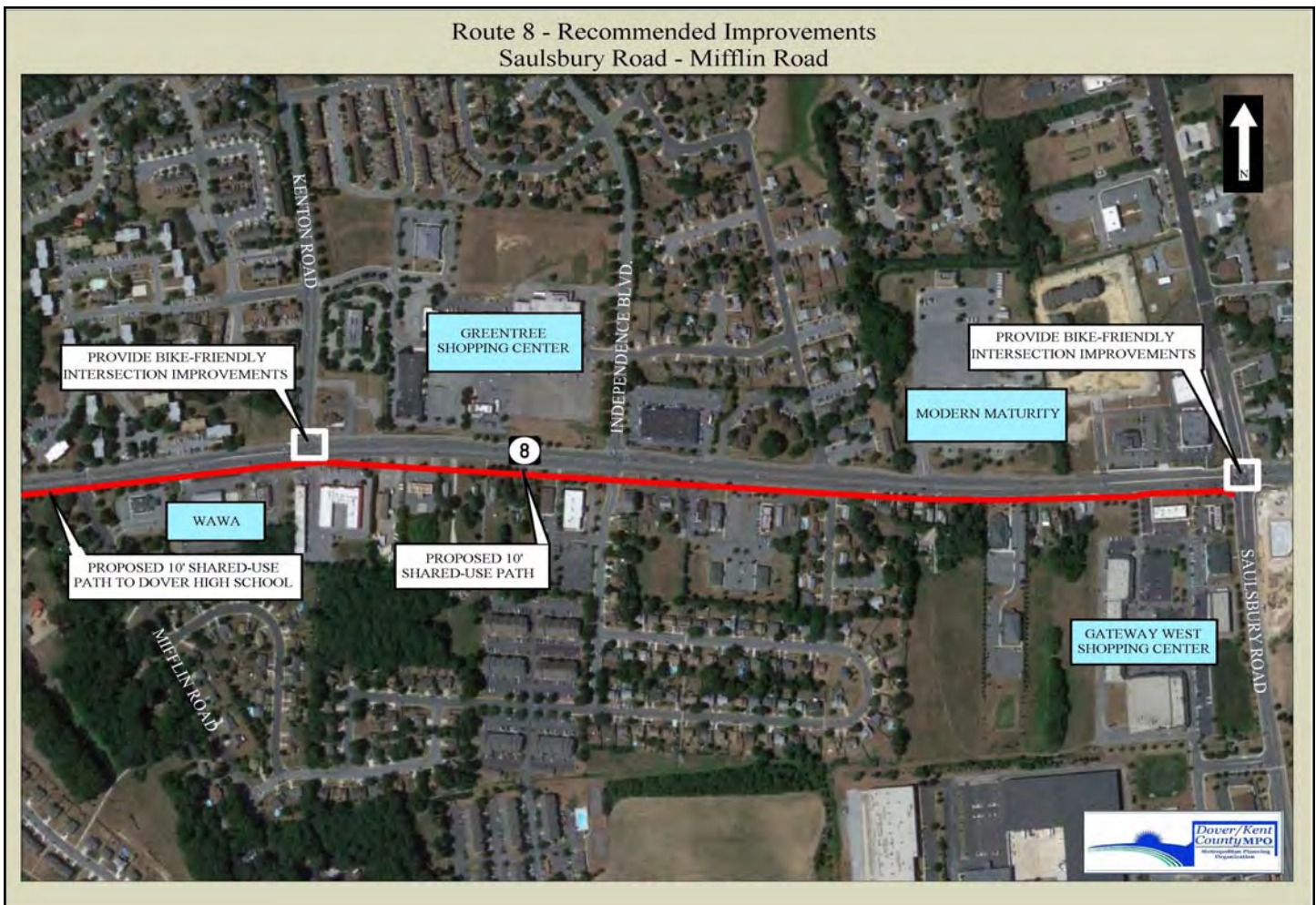
Mifflin Road to Saulsbury Road

The Route 8/Saulsbury Road intersection has bike lanes on the Saulsbury Road approaches through the intersection, but there are no bike lanes along Route 8, so cyclists traveling eastbound or westbound must either share the road or use the sidewalks/pathways located along Route 8. There is a shared-use pathway that runs along the north side of Route 8. However, in front of the Walgreen's store, the pathway shrinks to a 5-foot wide sidewalk along their entire frontage.

Recommendation: Widen the existing sidewalk on the north side of Route 8 and west side of Saulsbury Road (in front of the Walgreens) to provide for a shared-use path

As noted, the key to a successful bicycle boulevard is to provide safe crossings at primary intersections, such as the Route 8/Kenton Road and Route 8/Saulsbury Road intersections. Both of these locations have recently appeared in DelDOT's Capital Transportation Program (CTP). In the most current draft, the FY 2016 - 2021 CTP, Kenton Road is listed with design funding being available in FY 2016. This project will add continuous sidewalks and consistent shoulders along Kenton Road, between Route 8 and Chestnut Grove Road. It is likely that bicycle improvements, such as bike lanes and enlarged right turn islands, will be implemented at the Route 8 intersection as part of that project.

The draft CTP also shows design will start in FY 2019 for improvements to the Route 8/Saulsbury Road intersection. This safety project will add an additional through lane to Saulsbury Road. As part of its Complete Streets Policy, DelDOT is required to ensure that bicycle safety and mobility are incorporated into its intersection projects. As part of the design, DelDOT could potentially evaluate improvements such as enlarged right turn islands to ensure that bicycle safety is included as part of the proposed Route 8/Saulsbury Road widening project.



Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Saulsbury Road to West Street

The City's Bicycle and Pedestrian Subcommittee identified the segment of Route 8 between Saulsbury Road and West Street as their top priority need for bicycling, based on the prioritization criteria noted on page 32. This majority of this segment of Route 8 is a 5-lane section (2 through lanes in each direction and a center turn lane), with no shoulders and no bike lanes. The speed limit is 25 MPH, which increases to 35 MPH just east of Saulsbury Road.

The land use along Route 8 in this area consists of a wide variety of uses, including residential, commercial, office, and institutional. Route 8 is one of the City's primary commercial areas, particularly west of Saulsbury Road. There are 2 schools located between Saulsbury Road and Weston Drive, the William Henry Middle School and the Booker T. Washington Elementary School. In addition, the Norfolk Southern railroad line runs north to south just east of Weston Drive.

A primary benefit of improving bicycle mobility along this section of Route 8 is that it would connect west Dover neighborhoods and commercial areas with residential areas and commercial areas in the central portion of the city.

Recognizing that widening Route 8 or reducing lane widths are not feasible options to provide on-road bike lanes, the Subcommittee recommended that a shared-use pathway be implemented along the north side of Route 8 between Saulsbury Road and Weston Drive. This improvement would provide a linkage to the existing off-road paths located along Route 8 and Saulsbury Road, as noted on page 36. There is currently sidewalk present throughout these limits. Along the frontage of the Booker T. Washington Elementary School, there appears to be sufficient room to provide for an 8- to 10-foot wide shared use path without significant property impacts.



Route 8 (Looking West)



Route 8 (Looking East)

Recommendation: Provide a shared use path on the north side of Route 8 between Saulsbury Road and Weston Drive

There are areas along the corridor (east of the school) where right-of-way impacts may affect the ability to provide a continuous shared-use path. An example is shown in the photo to the right.

Should right-of-way impacts be deemed too extensive, accommodations for bike lanes could be made within the existing roadway. However, this would require the removal of on-street parking between Weston Drive and the railroad tracks. There are several small businesses located in this area, and any parking alterations would have to be discussed with the businesses as well as the City of Dover.



Division Street (Near Ridgely Street)

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Bicycle Boulevard Concept (Fulton Street, Delaware Avenue, Kent Avenue)

Due to the difficulty in providing bike lanes within the existing roadway along Division Street (based on the significant use of on-street parking and lack of roadway width at the intersections), it is recommended that a “bicycle boulevard” be created on parallel streets to the north (Kent Avenue, Delaware Avenue, and Fulton Street).

According to the *Bicycle Boulevard Planning and Design Guide Book*, published by Portland State University, “bicycle boulevards are low-volume and low-speed streets that have been optimized for bicycle travel through treatments such as traffic calming and traffic reduction, signage and pavement markings, and intersection crossing treatments. These treatments allow through movements for cyclists while discouraging similar through trips by nonlocal motorized traffic. Motor vehicle access to properties along the route is maintained.”



Delaware Avenue

Kent Avenue, Delaware Avenue, and Fulton Street are all very low-volume residential streets, with a posted speed limit of 25 MPH. As shown on the following page, Central Middle School and Wesley College are both located along the proposed bike boulevard. Based on the current roadway width, the low volumes, and the residential character of the streets, there may be little physical roadway improvements required to designate these 3 streets as a bicycle boulevard. Signing and sharrows would be required to guide cyclists to these streets. A sample artist rendering of bikeway signing is shown in the photo below.

In order to tie the bicycle boulevard into the surrounding roadway network and create a lower-stress bike route, however, improvements should be further evaluated throughout the local roadway system, including Division Street, Fulton Street and the Booker T. Washington Elementary School. Recommended improvements to these areas are detailed on the following pages.

The portion of Fulton Street that runs through the Wesley College campus is closed to vehicular traffic, but allows for bike and pedestrian traffic, as shown in the photo below.

The proposed bike boulevard would intersect two major north-south roads - Governors Avenue and State Street. These intersections would have to be further evaluated for additional safety improvements related to bike crossings of these routes.

Recommendation: Implement a bike boulevard along Fulton Street, Delaware Avenue, and Kent Avenue, through signage, pavement markings, and intersection improvements



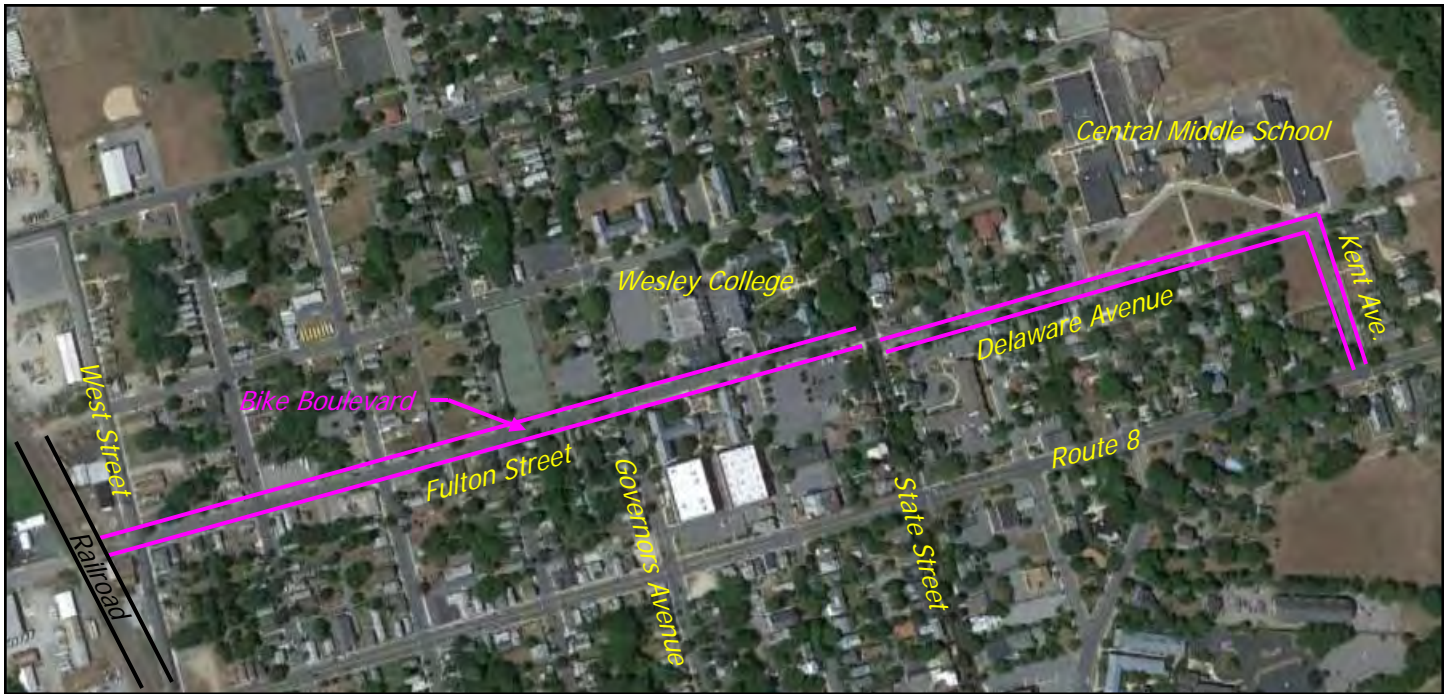
Wesley College (looking west)



Proposed Senator Bikeway Sign (Delaware Ave.)

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)



Fulton Street/Norfolk Southern Railroad/West Street

Fulton Street, part of the proposed bicycle boulevard, is traversed by the Norfolk Southern railroad, which runs north to south through the city. There are two potential options for continuing the Senator Bikeway west of the railroad:

- Create a new bicycle/pedestrian-only crossing of the railroad, and continue the Bikeway west to the rear of the Booker T. Washington Elementary School and points west, as detailed on page 43. Extensive coordination with Norfolk Southern would be required to obtain approval for an additional at-grade rail crossing, even if restricted to non-motorized uses.
- Direct cyclists along West Street to Division Street. As noted on page 40, this would require either a widening of the existing sidewalk along the north side of Division Street to provide for a shared-use path, or a removal of on-street parking along both sides of Division Street. From West Street to the Booker T. Washington School, there are 8 businesses and homes on the north side of Division Street, while there are 7 businesses and homes on the south side, so extensive coordination would be required for any plan that involved removal of on-street parking.



Fulton Street (looking west)

Recommendation: Provide a bicycle/pedestrian-only crossing of the Norfolk Southern Railroad at Fulton Street

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Booker T. Washington Elementary School

The Booker T. Washington Elementary School is located along the north side of Route 8, between Carver Road and Weston Drive as shown on the map below. In order to provide a low-stress alternative to Route 8, a bike route should be developed through the school property to connect Fulton Street and Carver Road. The bike route could be aligned through the rear parking lot of the school, without the need for constructing additional paved surfaces. The rear parking lot serves as the primary parking area for the school, which includes school bus traffic. It is recommended that the City coordinate with the Capital School District to determine the feasibility of extending the Senator Bikeway into the Booker T. Washington school property, for an eventual tie-in to Carver Road and ultimately Saulsbury Road.

Recommendation: Coordinate with the Capital School District to provide a bike route through the Booker T. Washington Elementary School, utilizing the existing parking lot

Extension of Fulton Street

The improved portion of Fulton Street currently terminates at Ridgely Street. In order to provide a continuous low-stress bike route, thus avoiding the challenges associated with Route 8, Fulton Street would have to be extended to Weston Drive, a distance of approximately 500 feet. Based on current tax maps, Fulton Street is an unimproved "paper" street for approximately 375 feet west of Ridgely Street. Right-of-way or an easement would have to be acquired from a private property owner on the east side of Weston Drive for the remaining 125 feet required to extend Fulton Street to Weston Drive. The photo to the right shows the private property.



Weston Drive (looking east)

Recommendation: Extend Fulton Street 500 feet to Weston Drive, to connect to the schools and provide a continuous bike boulevard north of Route 8



Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Saulsbury Road to Forest Street

East of Saulsbury Road, Route 8 (Forrest Avenue) continues as a 5-lane roadway with no shoulders or bike lanes. Sidewalks are present throughout the corridor on the south side of Forrest Avenue. However, based on the proximity of homes and potential right-of-way impacts, widening the sidewalk to provide for a 10-foot wide shared-use path is likely not a feasible option.



Lincoln Street at CVS Pharmacy

South of Forrest Avenue, Lincoln Street is a parallel east-west street that provides access to Forest Street and Loockerman Street in downtown Dover. Lincoln Street is a residential, low-speed street with very low volumes. It does not connect, however, with Saulsbury Road. As noted in the photo, Lincoln Street (as well as Bedford Street) terminates at the CVS Pharmacy property. There is currently a sidewalk connecting Bedford Street to the CVS property, to facilitate pedestrian access. In order to improve east-west bicycle mobility and provide an alternative route to Forrest Avenue between Saulsbury Road and downtown Dover, a new bicycle/pedestrian connection through the CVS property should be evaluated. This would provide a direct low-stress connection from Saulsbury Road to the downtown, without having to travel along Route 8, which lacks adequate bicycle facilities.

Recommendation: Provide a bicycle/pedestrian connection from Lincoln Street to the CVS Pharmacy located at the southeast corner of Route 8 and Saulsbury Road



Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Kent Avenue to Park Drive

Between Kent Avenue and Park Drive, Route 8 (Division Street) is about 37 feet wide. The road has enough width for the travel lanes and shoulders. At the St. Jones River bridge, the shoulder converts into a right turn lane in the eastbound direction, which forces bicyclists into the traveled way (see photo below).



Division Street (looking east)



Utility Bridge over the St. Jones River

In order to provide a seamless Senator Bikeway in both the eastbound and westbound directions, a new bike/pedestrian bridge over the St. Jones River should be provided on the north side of Division Street. There is an existing utility bridge that could possibly be used and improved to facilitate this (see photo above). The existing dirt foot path that goes from the river to Division Street could also be improved into a formal, accessible pathway.

Recommendation: Provide a new bicycle/pedestrian bridge over the St. Jones River on the north side of Division Street, as well as a shared-use path along the north side of Division Street (between the St. Jones River and Kent Avenue)



Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

Park Drive to U.S. 13

Between Park Drive and U.S. 13, Route 8 (Division Street) is a 4 lane section with no shoulders or bike lanes. At the U.S. 13 intersection, the pavement width increases to include a right turn lane onto southbound U.S. 13. Based on the current road width and lane usage, there are no opportunities to provide a bike lane within the existing pavement.

There is sidewalk located along both sides of Route 8. Given the potential for adverse impacts to the residential properties located along the south side of Route 8, it is recommended that the sidewalk along the north side of the road be widened to provided for a shared-use path. There are 2 properties located on the north side of Route 8, an electric sub-station owned by the City of Dover and a former industrial plant owned by Playtex Manufacturing.

The property located at the northwest corner of U.S. 13 and Division Street (former Playtex plant) is proposed for re-development, with commercial uses planned. The City Planning Commission granted site plan approval in April 2014. As of March 2015, the developer was working on submitting final plans as part of the development approval process. Should the project be too far along in the approval process, and the City not able to require a shared-use path on the north side of Division Street as part of the proposed re-development, the installation of a shared-use path would have to be funded as part of a future DelDOT project.



Division Street (looking west)



U.S. 13/Division Street (looking east)

Recommendation: Provide a shared-use path on the north side of Division Street between Park Drive and U.S. 13 by widening the existing sidewalk

Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

U.S. 13 to Edgehill Shopping Center

East of U.S. 13, there are no bike lanes along Division Street between U.S. 13 and the entrance to the Edgehill Shopping Center. Based on the existing lane configurations, there is no opportunity to provide a bike lane along Division Street within the existing pavement width. There is a narrow shoulder along this portion of Division Street, with the exception of the westbound right turn lane approaching U.S. 13. There is a sidewalk on the north side of Division Street (along the CVS property) that could potentially be widened to provide for a shared-use path. This would provide a direct tie-in to any future shared-use path provided on the north side of Division Street west of U.S. 13.

As shown in the graphic below, there are a variety of alleys and local streets that can provide low-stress bicycle connections from the major commercial centers (including the Target and Safeway stores) to surrounding residences, without the need to use the heavily-traveled U.S. 13 (which also lacks bike lanes at Division Street). An example is highlighted in the aerial below, using a combination of a U.S. 13 service road, a low-speed road (East Lookerman Street) and an alley as an alternative to traveling along U.S. 13.



Division Street (looking west)

Recommendation: Widen the existing sidewalk on the north side of Division Street between an unnamed alley east of CVS Pharmacy and U.S. 13, to provide a shared-use path



Recommendations - Engineering (On Road)

The Senator Bikeway (continued)

U.S. 13 Crossings

U.S. 13 is the primary north-south route within the City of Dover, as it provides access to the numerous commercial establishments that are located along the roadway. At its intersection with Route 8, U.S. 13 is a 6-lane divided highway that carries an average of over 45,000 vehicles per day, which includes thousands of large commercial vehicles.

In order to provide an effective and seamless Senator Bikeway, the crossing of U.S. 13 is a key component that must be evaluated to ensure that bicyclist mobility and safety are incorporated into any future bikeway improvements. There are 3 potential options for crossing U.S. 13:

- 1). U.S. 13/White Oak Road/Kings Highway
- 2). U.S. 13/Maple Parkway
- 3). U.S. 13/Route 8

The U.S. 13/White Oak Road/Kings Highway intersection does provide refuge islands for cyclists, has pedestrian signals, and has lower traffic volumes on the side streets than Route 8. However, there are no bike lanes provided on White Oak Road or Kings Highway. In addition, there are no shoulders along Kings Highway to access Silver Lake Park and points within the City, so shoulders would have to be provided, which would require extensive right-of-way acquisition.

The U.S. 13/Maple Parkway intersection is an unsignalized intersection located between Division Street and White Oak Road. Providing a bike/pedestrian only connection here would require extensive modifications to U.S. 13, and due to the extremely heavy traffic volumes along U.S. 13, an unsignalized crossing would not be permitted by DelDOT. A signalized crossing would have to be evaluated, which could potentially lead to significant vehicular queues along U.S. 13.

It is recommended that the Route 8 intersection be the preferred location for providing a safe bicycle crossing of U.S. 13. This intersection has high traffic volumes and significant turning traffic. However, as noted on pages 46 and 47, this Plan recommends that the sidewalk on the north side of Division Street (on each road approaching U.S. 13) be widened to provide a shared-use path as part of the Senator Bikeway concept. The U.S. 13/Route 8 intersection currently has pedestrian signals and crosswalks on 3 of the 4 intersection legs (though none on the northern leg). The median and right turn islands do not provide sufficient area for bicyclists, and would have to be improved to provide a safer refuge area for cyclists crossing U.S. 13.



U.S. 13/Division Street (looking east)



U.S. 13/Division Street (looking north)

Recommendation: Provide improvements at the U.S. 13/Route 8 intersection (including wider refuge islands, pedestrian signals and crosswalks, and signal timing modifications) to facilitate a safe crossing for bicyclists

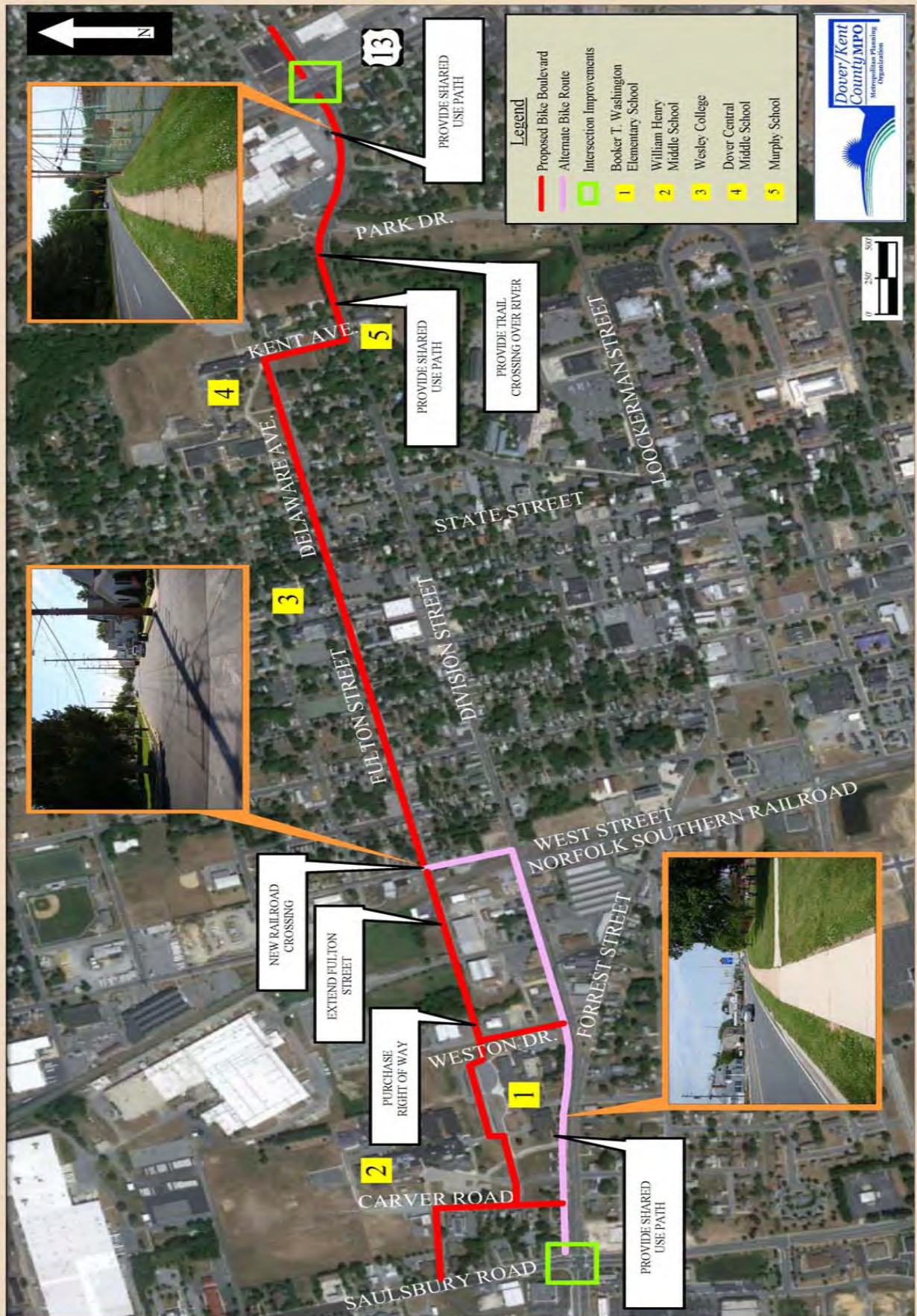
Recommendations - Engineering (On Road)

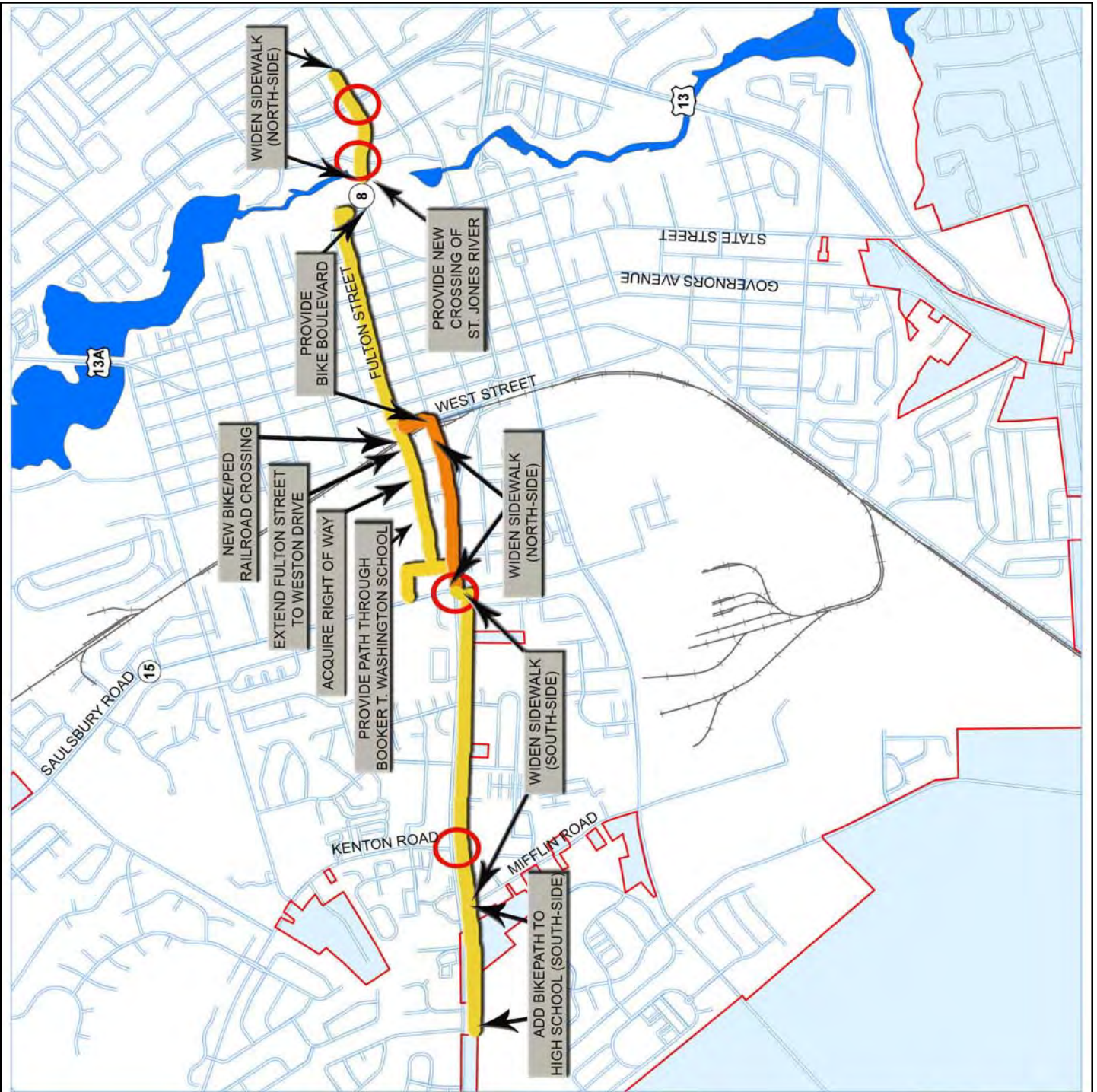
The Senator Bikeway (continued)

Based on conceptual level planning, the table below lists some of the improvements that would be required to fully implement the Senator Bikeway from U.S. 13 to Dover High School. These recommendations are also noted in the graphics on pages 50 and 51.

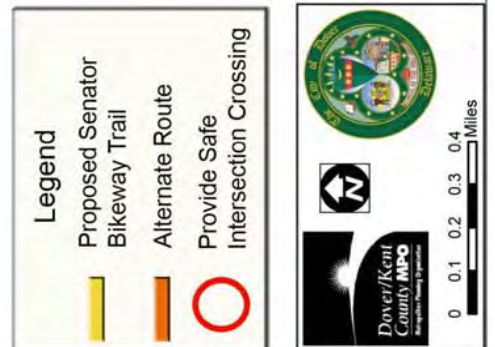
Recommended Senator Bikeway Improvements	
Corridor	Recommendation
Route 8	<ul style="list-style-type: none"> ◇ Upgrade the sidewalk along the southeast corner of Route 8/Saulsbury Road (current CVS) to a shared-use path ◇ Create a safe bike/pedestrian crossing of U.S. 13 ◇ Provide a shared use path along the northwest corner of U.S. 13/Route 8 (former Playtex property) ◇ Create a safe bike/pedestrian crossing of Kings Highway at Route 8 ◇ Provide a new trail crossing over the St. Jones River ◇ Create a safe bike/pedestrian crossing at Saulsbury Road (in both directions) ◇ Upgrade the sidewalk along the northwest corner of Route 8/Saulsbury Road (current Walgreens) to a shared-use path ◇ Resurface/repair the asphalt on the existing shared-use path along the north side of Route 8 ◇ Create a safe bike/pedestrian crossing of Kenton Road at Route 8 ◇ Install a shared-use path on the south side of Route 8, between Dover High School and Mifflin Road <u>Optional:</u> ◇ Re-stripe Division Street near Kent Avenue to provide bike lanes ◇ Widen the existing sidewalk along Booker T. Washington School to provide a shared use path ◇ Eliminate on-street parking between Weston Drive and the Railroad
Fulton Street	<ul style="list-style-type: none"> ◇ Provide a new bike/ped crossing of the Norfolk Southern Railroad ◇ Extend Fulton Street to Weston Drive ◇ Provide bike lanes through the rear parking lot of the Booker T. Washington School

Recommended Senator Bikeway Improvements





City of Dover
Bicycle Plan Update
Figure 8
Proposed Senator
Bikeway



Recommendations - Engineering (On Road)

North State Street (#2 Ranked)

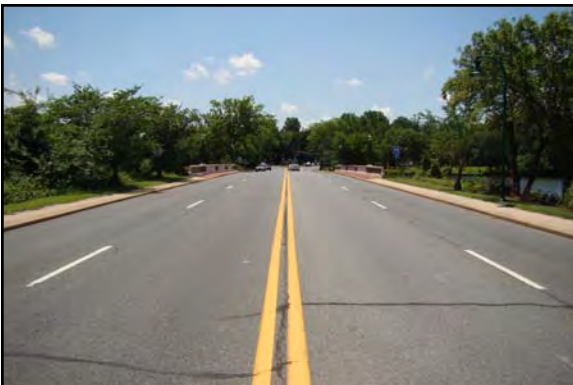
North State Street between Walker Road and U.S. 13 is a 4-lane undivided roadway that provides the only access over Silver Lake between downtown Dover and U.S. 13. The road, which carries over 14,000 vehicles per day, has a speed limit of 35 MPH. There are sidewalks throughout much of the corridor, with the exception of several properties near Lepore Drive. There are no shoulders or bike lanes along the roadway. A pavement width of about 45 feet accommodates the 4 travel lanes.

Given the relatively high average daily traffic volumes, and the lack of additional pavement width, it is not feasible to re-allocate existing pavement width to accommodate a bicycle lane in each direction. The travel lanes are currently 11 feet wide, which is the DelDOT minimum for this roadway classification.

A long-term solution would be to construct a new bridge for bicyclists and pedestrians over Silver Lake, which combined with widening the existing sidewalk to at least 8 feet, would provide for a separated off-road area for bicyclists, one that is currently non-existent. This would fulfill the need to provide a bicycle connection between downtown Dover and U.S. 13, alleviating the challenging conditions that currently exist.

A shorter-term solution is to widen the existing sidewalks north and south of the Silver Lake Bridge to 8 feet, to provide for the minimum width required for a shared-use path. Due to its proximity to a side slope going into Silver Lake, this would likely require a retaining wall. There are currently 4-foot wide sidewalks that traverse the Silver Lake Bridge. This bridge is classified by DelDOT as a historic structure, and any modifications to the aesthetics or functionality of the existing structure are unlikely, so the 4-foot wide sidewalks would remain. Widening of the sidewalks would also require the removal of existing landscaping as well as potential utility relocations.

Recommendation (short-term): Widen the existing sidewalks to provide a shared-use path
Recommendation (long-term): Construct a new bridge over Silver Lake for bicyclists



North State Street (looking south)



North State Street (looking south)



North State Street (looking north)



North State Street (looking north)

Recommendations - Engineering (On Road)

College Road (#3 Ranked)

College Road is a 2-lane road that provides access from Kenton Road on the west side of Dover ultimately to U.S. 13. The portion of College Road between Kenton Road and McKee Road (0.8 mile) lacks continuous sidewalks, has no shoulders, and does not have bike lanes at any intersections. As a result, bicyclists must share the road with motor vehicles. The posted speed limit is 35 MPH, and traffic volumes average over 8,000 vehicles per day. College Road provides an important link between the western limits of Dover towards Delaware State University and U.S. 13. There are currently striped bike lanes on the eastern limits of College Road, between the University Garden apartment complex and U.S. 13.



College Road (looking west)



College Road at Delaware State University

Recommendation: Provide continuous bike facilities on College Road from McKee Road to Kenton Road, by adding shoulders or a shared-use path

Given the lack of bicycle (and pedestrian) amenities along this road, and the potential importance in providing improved transportation access to Delaware State University and the North Dover Elementary School, it is recommended that a College Road improvement project be initiated by DeIDOT. In the 2011 MPO Regional Bicycle Plan, College Road was the 8th ranked project in Kent County. In addition, the Dover City Council included College Road as their #10-ranked project on their 2014 Transportation Project Prioritization list. The City's Pedestrian Plan update, completed in 2014, also includes College Road as the 6th-ranked project in the City.



College Road (looking west)



College Road (looking west)

Recommendations - Engineering (On Road)

South West Street (#4 Ranked)

South West Street is a State-maintained road that connects North Street and Queen Street near downtown Dover, a distance of about 0.4 mile. 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, as well as several inter-county bus routes.

The existing shared-use trail that runs along North Street from Schutte Park in the west, terminates at the railroad tracks just west of the West Street/North Street intersection, leaving bicyclists and pedestrians with no suitable route to proceed eastbound into downtown 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 in 2013, West Street is heavily used by pedestrians walking from the downtown to the Transit Center. As a result of the MPO study, DelDOT 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 photo below) and widening the existing sidewalk to provide for a shared-use facility. Bicyclists would be able to use the off-road path as well. Conceptual design has been completed on this section, however, there is currently no design funding programmed for these proposed improvements.

Recommendation: Provide bike facilities on West Street from North Street to Queen Street, through a shared use path and/or through the addition of shoulders.



West Street (looking north)



West Street (looking south)



West Street (looking north)



West Street/Water Street (looking east)

Recommendations - Engineering (On Road)

Walker Road (#5 Ranked)

Walker Road between North State Street and Saulsbury Road is a 0.9-mile roadway that accommodates over 11,000 vehicles per day. Between North State Street and Silver Lake Boulevard, the roadway consists of a two-lane roadway section, with partially designated shoulders and no bike lanes through the intersections. The curb to curb width is about 35 feet (wider at the intersections). On-street parking is permitted on a portion of the south side of this section of Walker Road.

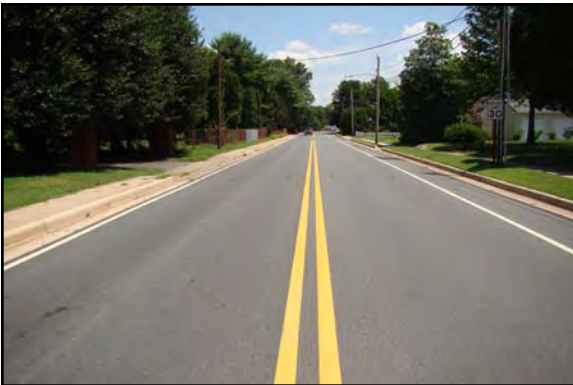
Between Silver Lake Boulevard and Saulsbury Road, the typical section converts into a 3-lane roadway (2 thru lanes and a continuous center turn lane). There are minimal shoulders (less than 4 feet), no bike lanes, and no on-street parking in this section as well. The curb to curb width between Silver Lake Boulevard and Saulsbury Road is about 44 feet.

Given the lack of available pavement width along Walker Road, there is not sufficient width to accommodate a continuous bicycle lane throughout the existing corridor. Between North State Street and Silver Lane Boulevard, there is likely enough pavement width to provide for a 4-foot wide bicycle lane in each direction. However, this would not provide bicycle lanes through the intersections of:

- Walker Road/Silver Lake Boulevard/Carol Street
- Walker Road/Pat Lynn Drive/Pear Street

West of Silver Lake Boulevard, there may be an opportunity to reduce the lane widths slightly, to provide for a 4-foot wide shoulder. This improvement could be done through a future re-surfacing and/or re-striping project.

Recommendation: Provide bike lanes on Walker Road from Saulsbury Road to North State Street, through pavement re-striping



Walker Road (Looking East)



Walker Road (Looking West)



Walker Road (Looking East)



Walker Road (Looking East)

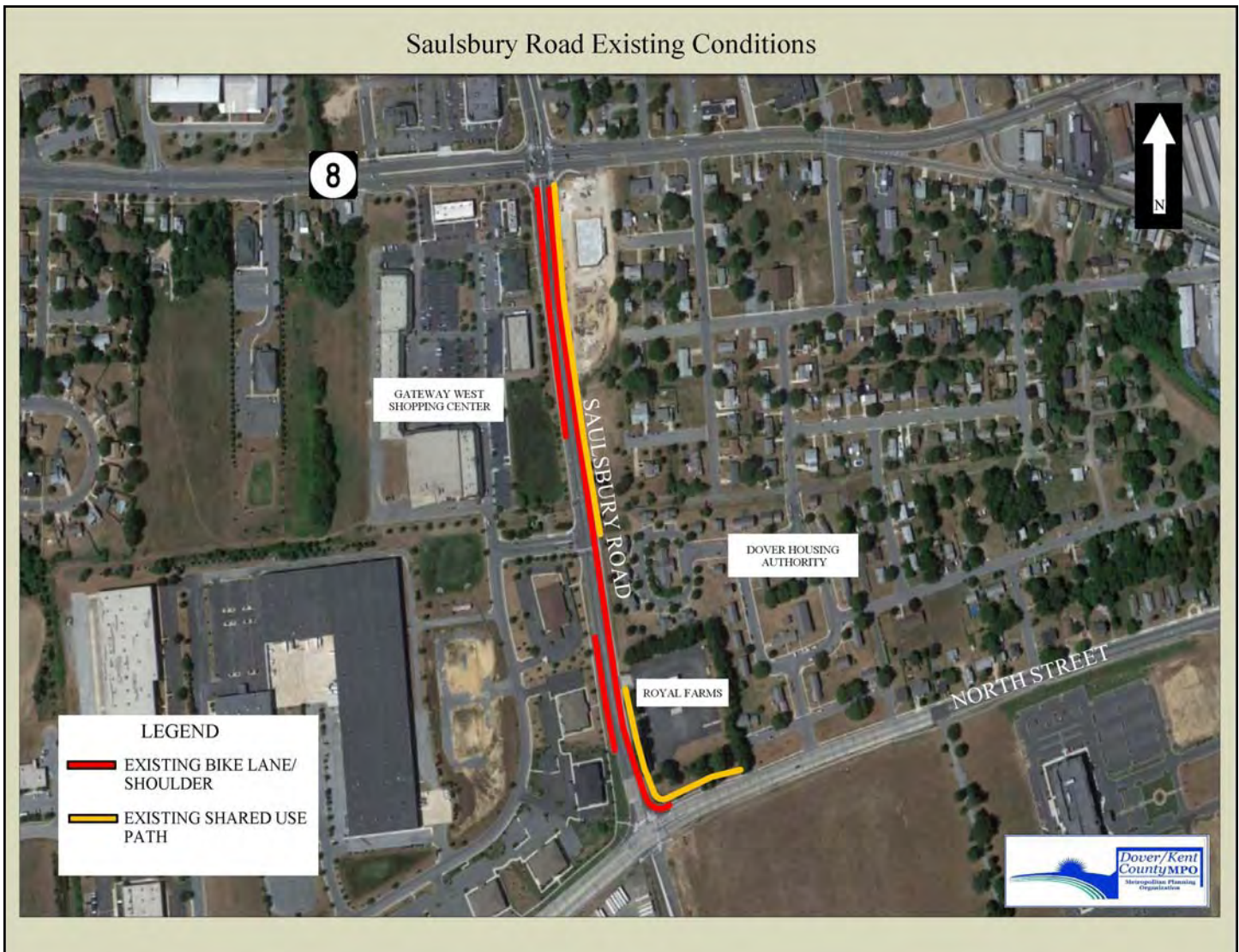
Recommendations - Engineering (On Road)

Saulsbury Road (#6 Ranked)

Saulsbury Road (also designated as Delaware Route 15) is a major north-south route in the west part of Dover. Between Route 8 and North Street, the road currently has average daily traffic volumes that exceed 18,000 vehicles per day, with volumes expected to increase once the West Dover Connector is completed in 2017.

The surrounding land use consists of significant commercial uses (Gateway West shopping center, Royal Farms, several pharmacies), office space on the western side, and residential on the eastern side. Kraft Foods and Procter & Gamble, which are two large industries located along North Street, generate significant truck traffic that consistently utilizes Saulsbury Road. A small City-owned park is also located on the east side of the road. The typical roadway section along Saulsbury Road consists of a through lane in each direction, turn lanes at the intersections, and shoulders throughout the corridor (with the exception of the intersections with Route 8 and North Street).

Saulsbury Road is designated as Bicycle Route 1 and is considered a Statewide Bicycle Route. Saulsbury Road is a vital connection for bicycle travel in this part of the City, as there are no other north-south connectors between Mifflin Road and downtown Dover. The road provides an important link between Route 8 bike routes (and points to the north) with the North Street bikeway (and points to the south). As noted in the graphic below, bike lanes and/or 8-foot wide shoulders are provided throughout the entire corridor in the northbound direction. However, in the southbound direction, bike lanes are not continuous and are not provided at the Saulsbury Road/Gateway Boulevard intersection or the Saulsbury Road/North Street intersection. As shown below, a shared-use path is present along much of the east side of Saulsbury Road, with the exception of a portion adjacent to the Dover Housing Authority property.



Recommendations - Engineering (On Road)

Saulsbury Road (continued)

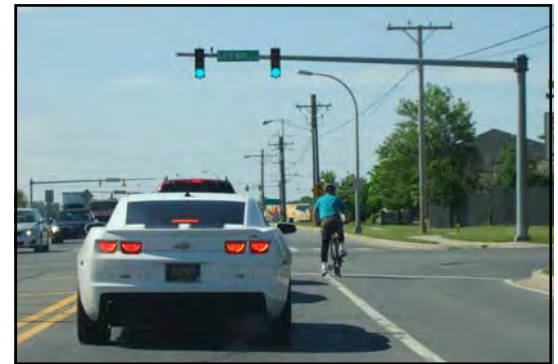
As noted on page 56, Saulsbury Road has several locations that present challenges to bicyclists - the intersections with Gateway Boulevard and North Street, neither of which have bicycle lanes in the southbound direction.

Saulsbury Road/Gateway Boulevard

Along southbound Saulsbury Road, the existing striped shoulder, which provides an area for bicyclists, converts into a right turn lane at the Gateway Boulevard intersection. As noted in the photo below on the left, there is no bike lane through this intersection in the southbound direction, forcing bicyclists to share space with motorists in both the through lane and the turn lane (as evidenced in the photo to the right). DelDOT's Manual on Uniform Traffic Control Devices (MUTCD) does not permit striping a bike lane through a right turn lane unless there is space dedicated solely for bicyclists. DelDOT, in conjunction with the University of Delaware, is currently evaluating several shared bike lane/right turn lane striping alternatives that could eventually be approved, to provide bike facilities through existing turn lanes.



Saulsbury Road /Gateway Boulevard



Saulsbury Road /Gateway Boulevard

In order to facilitate bicycle travel in this important corridor, and eliminate the challenges that exist at the Saulsbury Road/Gateway Boulevard intersection, it is recommended that the existing sidewalk on the west side of Saulsbury Road be widened to provide a shared-use path between Route 8 and North Street. Five-foot wide sidewalk is present along the entire west side of Saulsbury Road.

In addition, on the east side of Saulsbury Road, there is a shared-use path (8 to 10 feet wide) that covers nearly 75% of the corridor between Route 8 and North Street. It is recommended that approximately 550 feet of existing 5-foot wide sidewalk between Royal Farms and Saulsbury Road Park (adjacent to the Dover Housing Authority property) be widened to provide a continuous shared-use path on the east side of the road.

Recommendation: Widen the existing sidewalk on both sides of Saulsbury Road from Route 8 to North Street, to provide a continuous 8-foot wide shared-use path



Saulsbury Road (west side)



Saulsbury Road (east side)

Recommendations - Engineering (On Road)

Saulsbury Road (continued)

Saulsbury Road/North Street

Currently, there are no bike lanes on southbound Saulsbury Road at its intersection with North Street. The intersection currently consists of a through lane, a right turn lane, and a left turn lane in the southbound direction. Along northbound Saulsbury Road, bike lanes were recently installed as part of the Royal Farms development. However, as noted in the photo below, the striping creates confusion for motorists and bicyclists alike. Bike lanes are also present in the westbound direction along North Street through the intersection. As previously noted, there is an existing bike trail located on the south side of North Street, which runs east to west through the Saulsbury Road intersection.



Saulsbury Road (at Royal Farms)



Saulsbury Road /North Street

With the construction of the West Dover Connector (scheduled for completion in 2017), Saulsbury Road will be extended 3.2 miles to the south to connect with U.S. 13. The West Dover Connector will have extensive facilities for bicycle travel, including a shared-use path, shoulders, and bike lanes. It is anticipated that bicycle travel in the area will increase with the opening of this new road.

As part of the West Dover Connector project, the Saulsbury Road/North Street intersection will have bike lanes through the intersection in both the northbound and southbound directions. Bike lanes will also be maintained along westbound North Street through the intersection as part of this project. The existing bike trail located on the south side of North Street will remain intact and continue to provide for bicycle mobility in the eastbound direction.

The photos below show the existing conditions along Saulsbury Road in the northbound direction, as well as an artist rendering of the proposed configuration to be completed as part of the West Dover Connector.



Saulsbury Road /North Street (existing)



Saulsbury Road /North Street (proposed)

Recommendations - Engineering (On Road)

MLK Boulevard/South Little Creek Road (#7 Ranked)

Martin Luther King Boulevard/South Little Creek Road are two roads that compose a primary east-west route connecting the central part of Dover with residential and commercial areas on the eastern limits of the city. Between Babb Drive and U.S. 13, the roads cross Bay Road, one of the primary north-south routes in Kent County. Bay Road is the dividing line between the road names, as South Little Creek Road begins on the east side of Bay Road. In addition, U.S. 13, a major 4-lane highway, runs north to south within the limits.

As noted in the photo below, the area is predominantly urban, with a wide variety of commercial land uses adjacent to the roads. These commercial uses include major traffic generators such as Safeway, Target, Royal Farms, and Wawa. MLK Boulevard also provides direct access to the government facilities located along the Legislative Mall area. Residential areas are present on the east and west side of Babb Drive and U.S. 13, respectively.

Road	2013 Traffic Volume
U.S. 13	29,100
Bay Road	27,300
South Little Creek Road	1,190
MLK Blvd.	10,400

Source: 2013 DelDOT Traffic Summary



There is a bike lane on westbound South Little Creek Road, between Babb Drive and Bay Road. However, as noted in the photo below, there is currently no space available for bicyclists within the existing pavement between Bay Road and U.S. 13, either eastbound or westbound. In addition, there are no bicycle lanes on eastbound South Little Creek Road. Sidewalks are present throughout the corridor but are only 5 feet wide. The Capital City Trail, a 10-foot wide shared-use path, is located along U.S. 13 and MLK Boulevard and facilitates bicycle access into downtown Dover. However, the 0.2-mile stretch between Babb Drive and U.S. 13 provides a significant challenge for bicycle mobility from the areas east of Bay Road (including South Little Creek Road) to access this new trail.



MLK Boulevard (Looking West)

It is recommended that the existing sidewalk between Bay Road and U.S. 13 be widened to facilitate a 10-foot wide shared use path. Widening the sidewalk on either the north side or the south side of MLK Boulevard would be determined as part of the final design process, and would take into consideration such items as utilities, right-of-way, drainage, and connectivity to other bike facilities in the area (such as the Capital City Trail and the bike lanes on South Little Creek Road). A 10-foot wide shared use pathway would facilitate 2-way bicycle traffic.

Recommendation: Widen the existing sidewalk along MLK Boulevard between Bay Road and U.S. 13 to provide a shared-use path

Recommendations - Engineering (On Road)

Listed below are the recommended on-road improvements, as developed by the Bicycle and Pedestrian Subcommittee. These projects are also shown on Figure 9.

Recommended On-Road Projects to Improve Citywide Bicycle Use			
Rank	Road	Limits	Recommended Solution
1	Route 8 (Forrest Avenue/ Division Street)	Dover High School to South Edgehill Avenue	Implement the "Senator Bikeway", through widening existing sidewalks, creating new trail connections, providing a bicycle boulevard
2	North State Street	Walker Road to U.S. 13	Widen existing sidewalk to provide a shared use path
3	College Road	McKee Road to Kenton Road	Add shoulders to provide bike lanes and/or provide a shared use path
4	West Street	North Street to Queen Street	Add shoulders and/or install a shared use path to provide continuous bike lanes
5	Walker Road	North State Street to Saulsbury Road	Provide bike lanes through re-striping
6	Saulsbury Road	North Street to Route 8	Widen sidewalk on both sides to provide a shared use path
7	MLK Boulevard/ South Little Creek Road	Babb Drive to U.S. 13	Widen sidewalks to provide a shared use path

Recommendations - Engineering (Planning Studies)

Based on feedback received from the Bicycle and Pedestrian Subcommittee, there are several areas within the City that are recommended for future detailed planning studies. These areas are described in more detail below.

New Burton Road

New Burton Road is a 2-lane local road that provides direct access from Camden and Wyoming to Dover, a distance of nearly 2 miles. North of Webb's Lane, all of New Burton Road lies within City limits. South of Webb's Lane, only the west side of the road lies within the City's boundaries. The Norfolk Southern Railroad lies on the west side of the road.

In the northbound direction, New Burton Road has continuous shoulders throughout the entire City limits. However, in the southbound direction, there are no shoulders from Webb's Lane to north of Kesselring Avenue, forcing bicyclists to share the travel lane with motor vehicles in this 0.5-mile segment.



New Burton Road (looking south)

The proposed West Dover Connector will tie into Webb's Lane near New Burton Road. Once the West Dover Connector is completed in 2017, it is likely that there will be additional bicycle traffic along New Burton Road, as the new connector will provide significantly improved bicycle access to the west part of Dover. It is recommended that DelDOT Planning further evaluate potential improvements along New Burton Road, as it relates to the anticipated increase in bicycle volumes resulting from the West Dover Connector. An analysis of the speed limit along New Burton Road should also be included in the study, to determine if a speed limit reduction would make conditions more conducive for bicycling. The current speed limit is 45 MPH.

Recommendation: Conduct a planning study of New Burton Road, to determine if additional improvements (such as shoulder installation and speed limit reduction) are warranted.

Dover Downs

Dover Downs hosts several large-scale events throughout the year at its facilities on the north side of Dover. NASCAR races are annually held in the late spring and early fall at Dover Downs, bringing between 70,000 and 80,000 fans to the event. The Firefly Music Festival, held at the Woodlands of Dover International Speedway, topped 85,000 attendees in 2014, with more anticipated in 2015. Finally, the initial Big Barrel Country Music Festival will be held in 2015, with an anticipated crowd of over 30,000 people expected to attend.

These events bring a significant volume of pedestrian traffic along U.S. 13 and Leipsic Road in the vicinity of Dover Downs. There is also the potential for a large increase in bicycle travel along these routes, particularly for local residents who want to use their bicycle to access the events as opposed to their car.

The Subcommittee is recommending that DelDOT, Dover Downs, and the event organizers continue to ensure that bicycle travel is incorporated into the traffic and access plans developed for each event. The Subcommittee also wishes to encourage every effort to increase bicycle access to these events, through education and public awareness campaigns.

Recommendations - Engineering (Off Road)

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 - Engineering (Off Road)

Fox Hall West/Mallard Pond/Route 8 Connector

Fox Hall West and Mallard Pond are residential communities in the west part of Dover, comprising over 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 and shoulders 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 August 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 a trail from Fox Hall West and Mallard Pond communities to Route 8, through Mallard Pond Park



Mallard Pond Park (Existing)



Mallard Pond Park (Proposed)



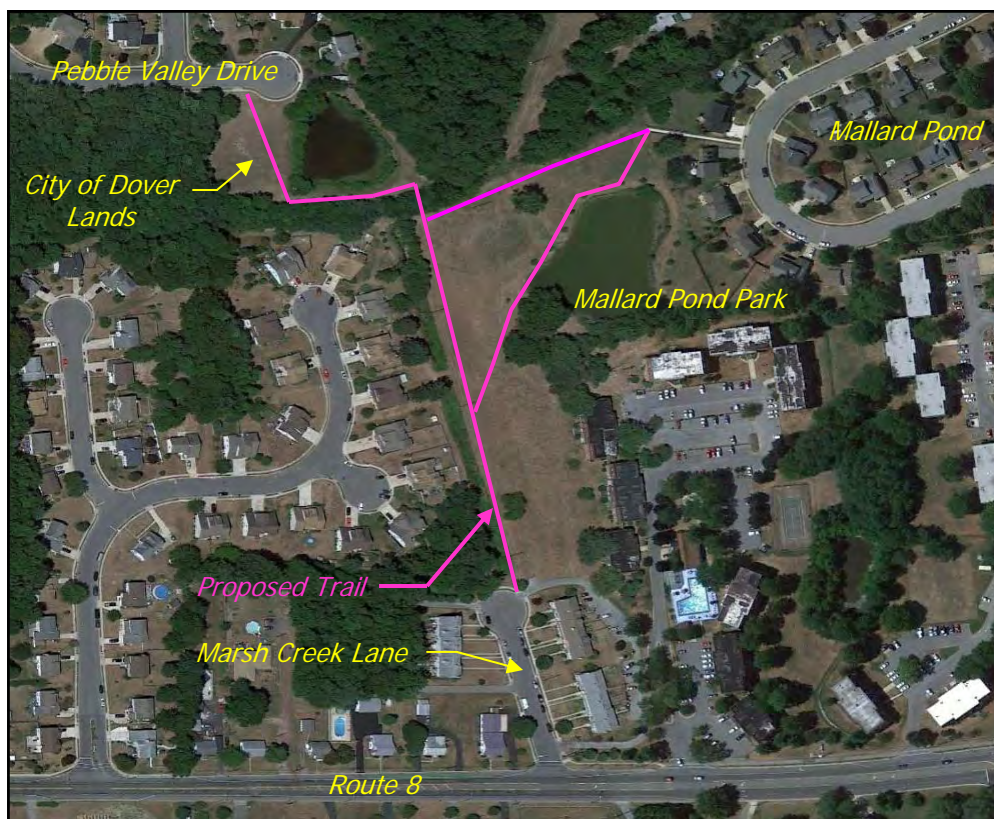
Pebble Valley Drive (Existing)



Pebble Valley Drive (Proposed)

Recommendations - Engineering (Off Road)

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



Recommendations - Engineering (Off Road)

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 bicyclist 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 bicycling 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 bicycling 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. 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. Naming the trail would provide a sense of place and could potentially increase its use. An improved trail would also facilitate two-way bicycle travel, as westbound North Street lacks shoulders for much of its length and provides a challenging environment for cyclists.

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 - Engineering (Off Road)

St. Jones River Trail

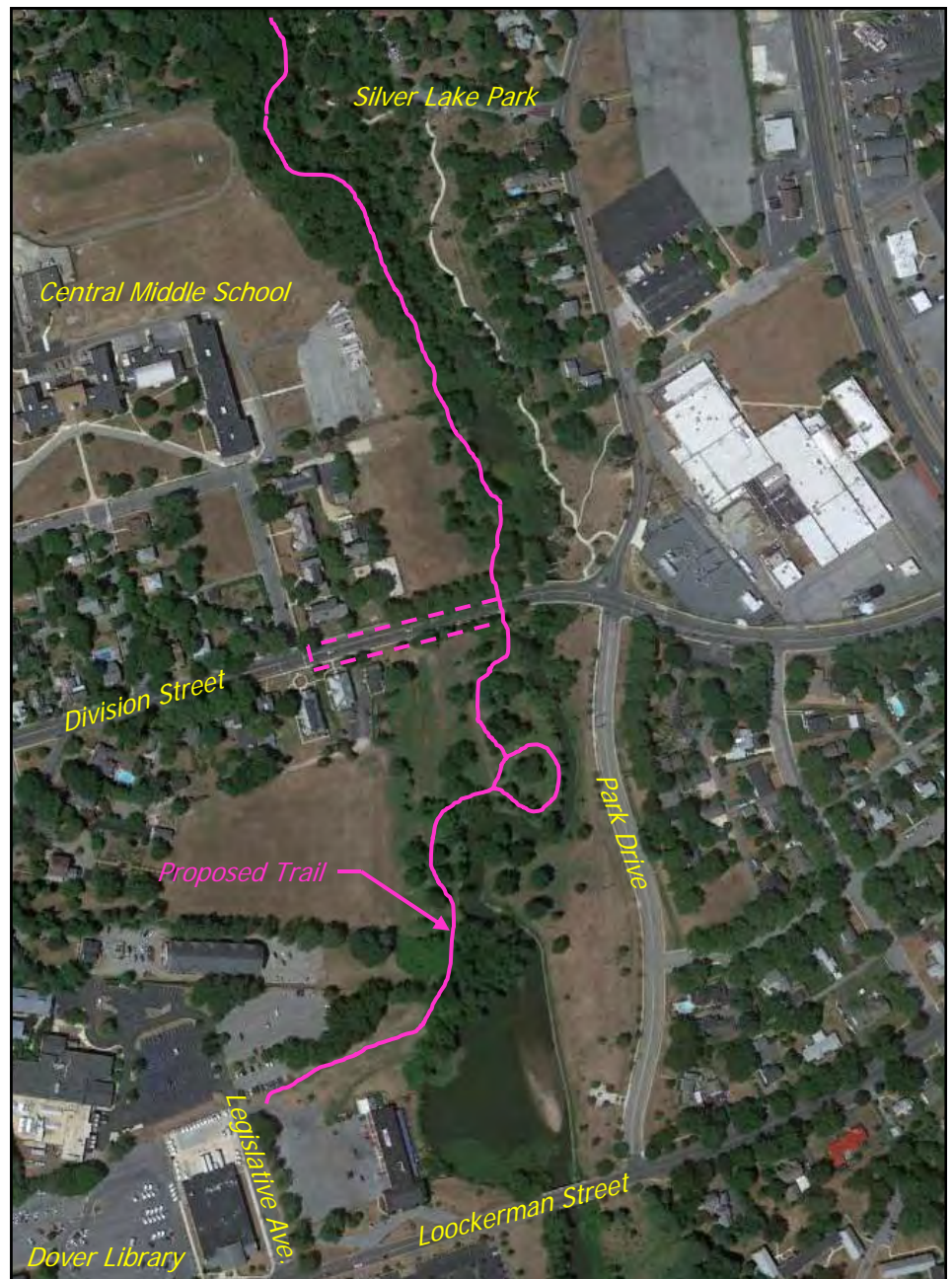
As part of the plan's public involvement effort, the City of Dover's Silver Lake Commission requested that a new trail be constructed on the west side of the St. Jones River, from Silver Lake Park to Legislative Avenue near the Dover Post Office. This trail would provide recreational access to Silver 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."

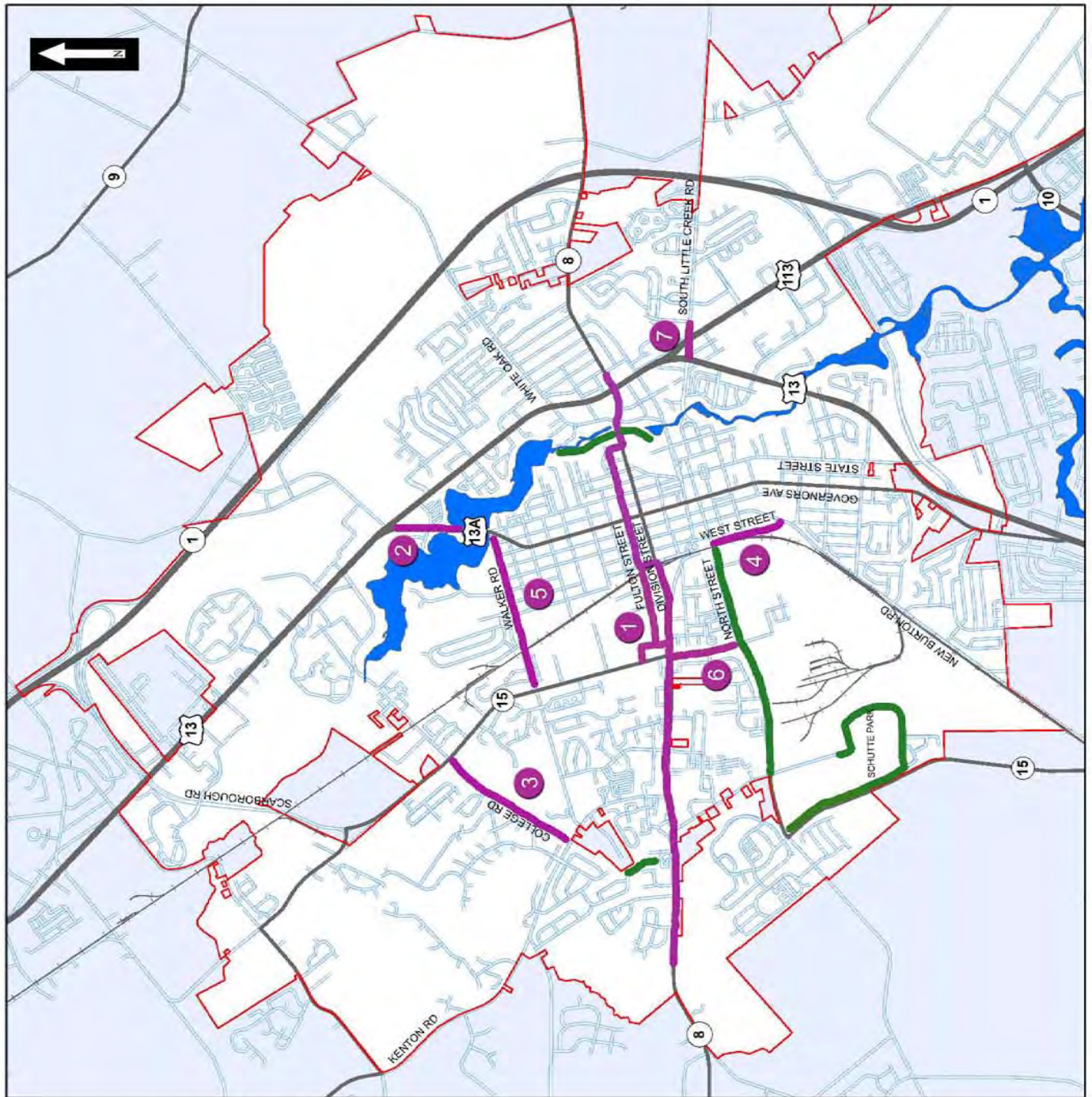
As shown on the adjacent graphic, the trail would complete a loop network around the St. Jones River by connecting Silver Lake Park with the existing sidewalks near the Post Office, Library, and DNREC facilities. Sidewalks are currently located only on the east side of the St. Jones River, along Park Drive.

Phase III of the Capital City Trail, completed in the fall of 2014, widened the 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 DelDOT.



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



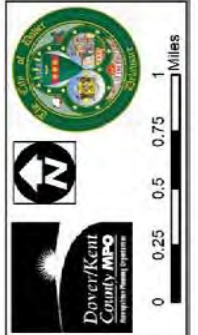
City of Dover Bicycle Plan Update

Figure 9
Recommended Bicycle
Project Prioritization

1. Route 8 (Senator Bikeway) -
Dover High School to S. Edgehill Ave
2. North State Street -
Walker Rd to U.S. 13
3. College Road -
McKee Rd to Kenton Rd
4. West Street -
North St. to Queen St
5. Walker Road -
North State St. to Saulsbury Rd
6. Saulsbury Rd -
North St. to Route 8
7. South Little Creek Rd / MLK Blvd.
Babb Drive to U.S. 13

Legend

- Recommended On-Road Improvement
- Recommended Off-Road Improvement



Recommendations - Education

This community will undertake the following actions, once in each of the years indicated:

1. **Classes:**

League-Certified Instructor Seminar	2015, 2018
Traffic Skills 101	2015, 2016, 2017, 2018, 2019, 2020
Traffic Skills 201	2016, 2018, 2020

The League-Certified Instructor (LCI) Seminar is not offered in any nearby state, so our offering will be advertised in all neighboring states, facilitating the development of bicycle education programs in other states as well as in our own. Members of our own community who complete the League-Certified Instructor Seminar will then be able to lead the Traffic Skills 101 classes that will be offered annually, and the Traffic Skills 201 classes that will be offered biannually. It is anticipated that DelDOT would be the host and sponsor of the classes, given the fact that they currently sponsor LCI classes.

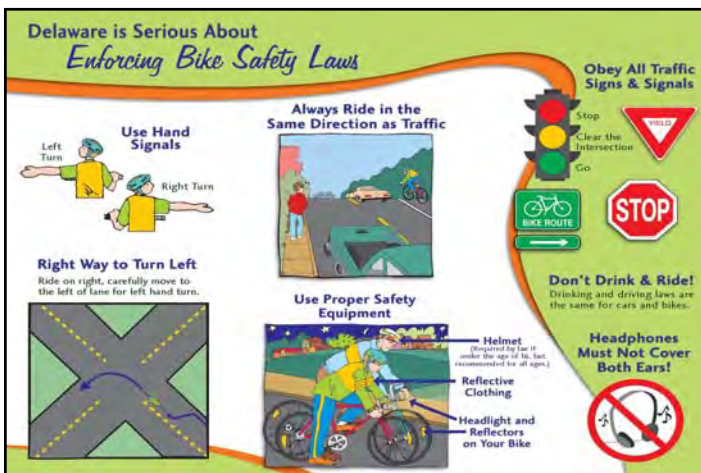
2. **Workshops:**

Bicycle Maintenance	2015, 2016, 2017, 2018, 2019, 2020
Bicycle Safety Workshop	2015, 2016, 2017, 2018, 2019, 2020
Multi-Sport Clinic	2015, 2016, 2017, 2018, 2019, 2020

The Bicycle Maintenance Workshops will be hosted by the partnership of two local businesses - Dave's Road Bikes and Bike Werx Bike Shop. It is anticipated that the workshops will be 1 to 2 hours in length, with a nominal fee. The registration will be coordinated through the City's Parks and Recreation Department.

3. Educational Support:

Support the Delaware Bicycle Council in having driver's education programs include information on bicyclist's right to use the road in Delaware, including the 3-foot passing law.



Delaware Bicycle Safety Brochure



League of American Bicyclists Safety Shirt

Recommendations - Encouragement

This community will undertake the following actions to further encourage cycling awareness within the City:

1. [Amish Country Bike Tour](#) - Annually, first Saturday in September

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

2. [Ride of Silence](#) - Annually, beginning in 2015, on Wednesday May 20, 2015

Inaugural ride will be one mile in length, through downtown Dover. The event will be organized by the City of Dover, and it is anticipated that the police department will assist with traffic management as required.

3. [Capital City Trail Inaugural Ride](#) - April 2015

This event celebrates the completion of the newly constructed multi-use path that runs through downtown Dover, connecting Silver Lake Park with the St. Jones River Bikeway.

4. [Bike Rack Contest](#) - Spring 2015

The Subcommittee will solicit bike rack designs from schools throughout the state, for installation in the City. The Subcommittee will judge the design based on factors such as functionality, uniqueness, and constructability.

5. [Mayor's Bicycle & Fun Ride](#) - Summer

Hosted by our Mayor once a year, beginning in 2015, we encourage children and parents to ride their bikes with our Chief Executive in a procession that circles through Dover.

6. [Bicycle Rodeo](#) - Spring

In conjunction with the YMCA, we host a minimum of 3 bike rodeos for kids, supporting them in developing their bicycle skills. It is anticipated that one will be held at the YMCA Swim Club and one at the Police Department. The City anticipates holding the bike rodeos before the Ride of Silence, before the Capital City Trail Grand Opening, and prior to the Mayor's Bike Ride. An additional rodeo could be held before one of the City's Thursday Night Concerts on the Green.

7. [DU - Dover](#) - April 2016

This annual duathlon event, in which participants run and bicycle in a format similar to a triathlon, begins at a City park and winds its way throughout the streets of Dover.



Capital City Trail Ribbon Cutting



DelDOT Bicycle Rodeo

Recommendations - Enforcement

The City of Dover Police Department currently has police officers patrolling on bicycles in the downtown area. It is strongly recommended that this presence be continued.

In addition, the Bicycle & Pedestrian subcommittee strongly encourages the enforcement of existing traffic laws for both motorists and bicyclists.

The subcommittee recommends that the City Planning Department, as well as members of the subcommittee, meet with the Dover Police Department to discuss potential enforcement issues and actions. These could include the following:

- Ensure that the police officers are aware of the proposed 3-foot passing law
- Use targeted information and enforcement to encourage motorists and cyclists to share the road safely
- Use positive enforcement ticketing
- Appoint a law-enforcement contact person to interact with the local bicycling community



Recommendations - Evaluation & Planning

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

1. Using a pedestrian/bicycle counter, monitor use of the following off-road trails, at least once every season (4 times a year):
 - A. Capital City Trail
 - B. Isaac's Branch of the St. Jones River Trail
 - C. North Street bike trail
 - D. Route 8 shared-use trail
2. Make live counts of cyclists using:
 - A. The new Senator Bikeway and bicycle boulevard
 - B. State Street
 - C. Loockerman Street
 - D. South Governors Avenue



Bicycle Counter Loop

To continue with the progress and development of our Bicycle-Friendly Community, we will take the following actions:

- Update the Bicycle Plan every five years. The next update will be published in 2020, thus the production of that update will begin no later than the beginning of 2019.
- Incorporate this Bicycle Plan into the City of Dover Comprehensive Plan.
- Continue to hold monthly public meetings of the Bicycle and Pedestrian Subcommittee to assess conditions and address problems pertaining to bicycling in our community.

In late 2014, the City of Dover received an active living grant from Nemours, to provide additional bike racks throughout the City. It is anticipated that the additional bike racks will be installed near Loockerman Street and State Street in the downtown. It is recommended that the usage of the bike racks be monitored as part of the Evaluation component of this Bicycle Plan.



Bicycle/Pedestrian Counter

DeIDOT has installed bicycle counters on several trail projects throughout the state, and in 2014 installed a bicycle/pedestrian counter as part of Phase II of the Capital City Trail project, as shown in the photo to the left.

Public Involvement

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

Bicycle and Pedestrian Subcommittee

February 11, 2014	October 7, 2014	March 3, 2015
April 1, 2014	November 4, 2014	
July 1, 2014	December 9, 2014	
August 12, 2014	January 20, 2015	
September 2, 2014	February 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 of Dover, DelDOT, 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, DelDOT, and the MPO provided staff assistance.



Safety Advisory and Transportation Committee

City Council

Acknowledgements

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

City of Dover Bicycle and Pedestrian Subcommittee

Jim Hutchinson
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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

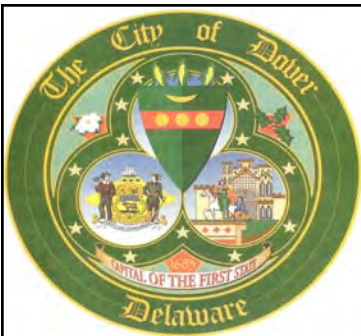
Anthony Aglio
Sarah Coakley

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](#)

Approved by the Dover City Council on [April 13, 2015](#)



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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

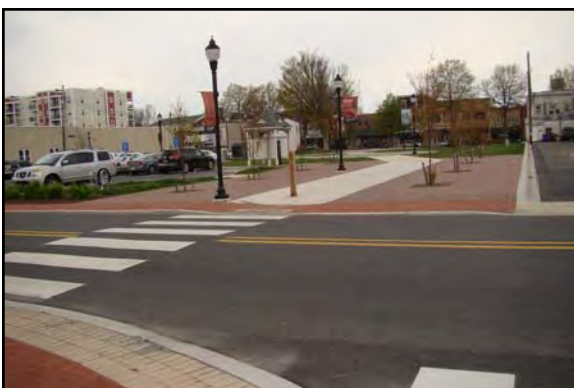
Goal 2 - Incorporate pedestrian elements into land-use and development planning

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



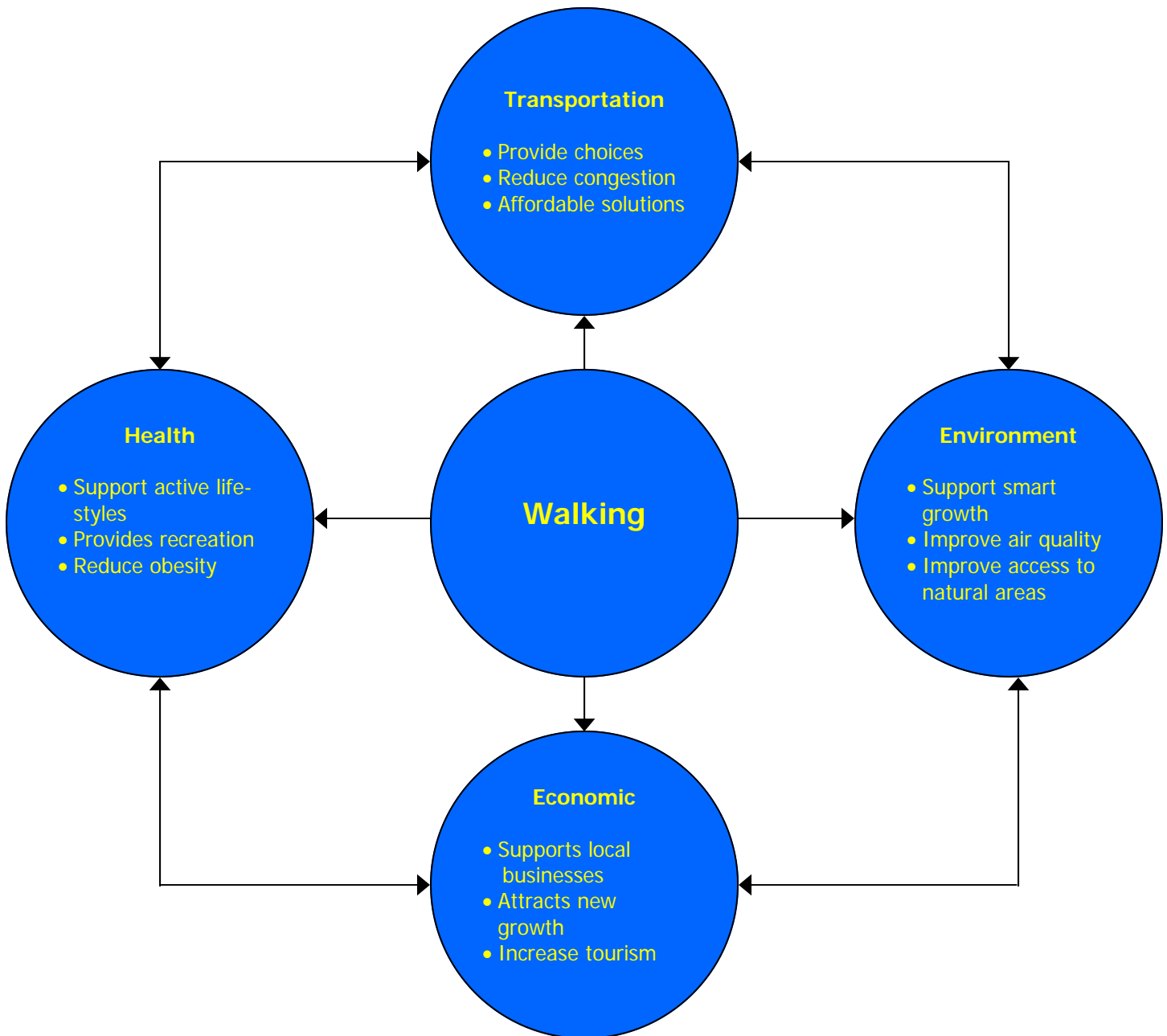
Loockerman Plaza



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 DelDOT 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 DelDOT'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 DelDOT 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

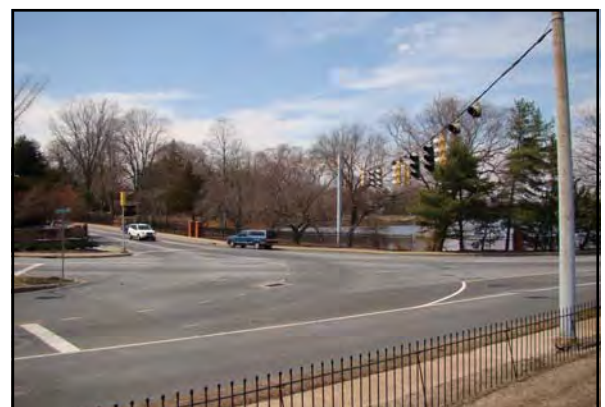
Kenton Road/College Road

Kenton Road/Denneys Road

McKee Road/Denneys Road

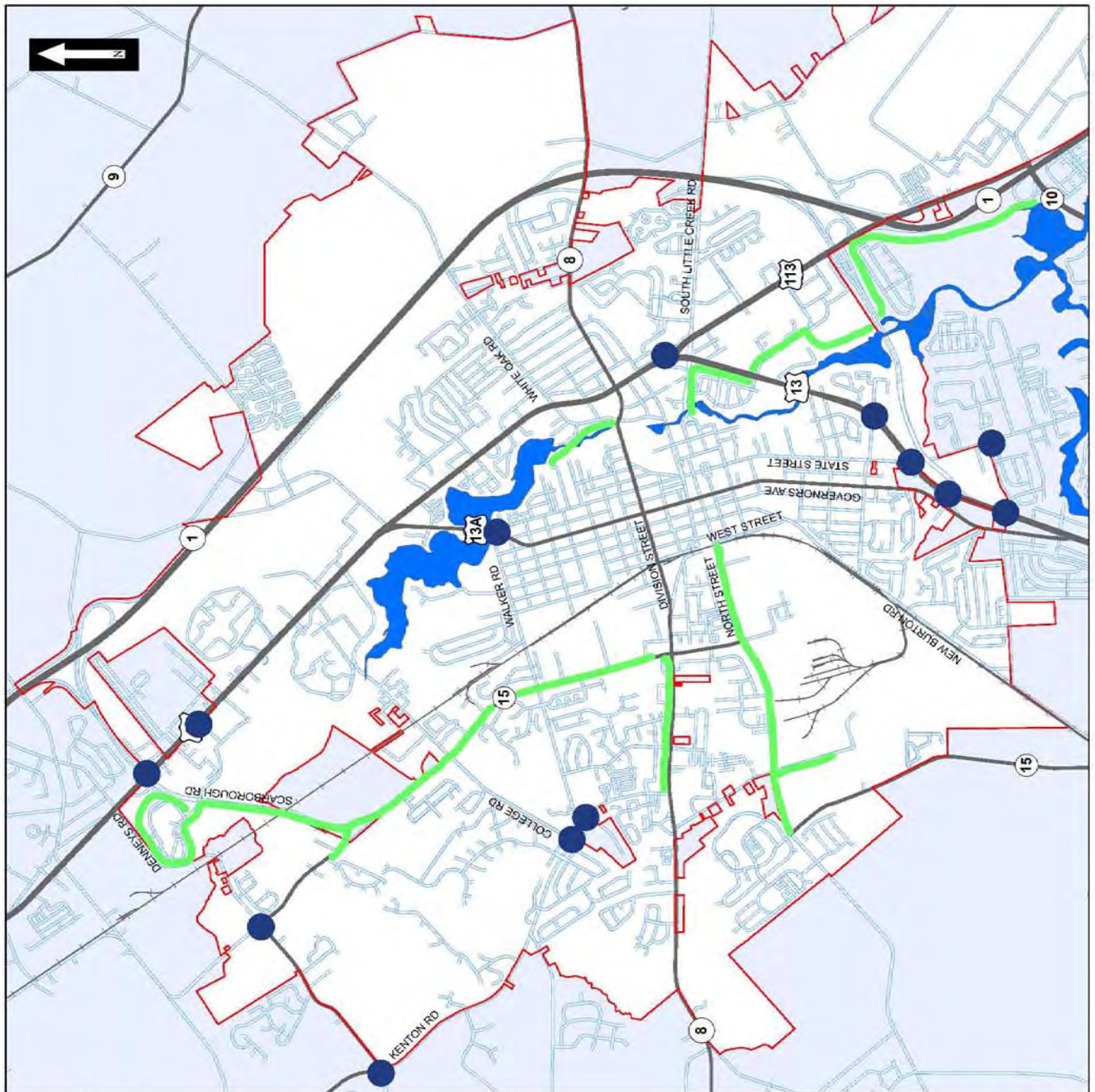


U.S. 13/Webbs Lane



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

0 0.25 0.5 0.75 1 Miles

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 Lookerman 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

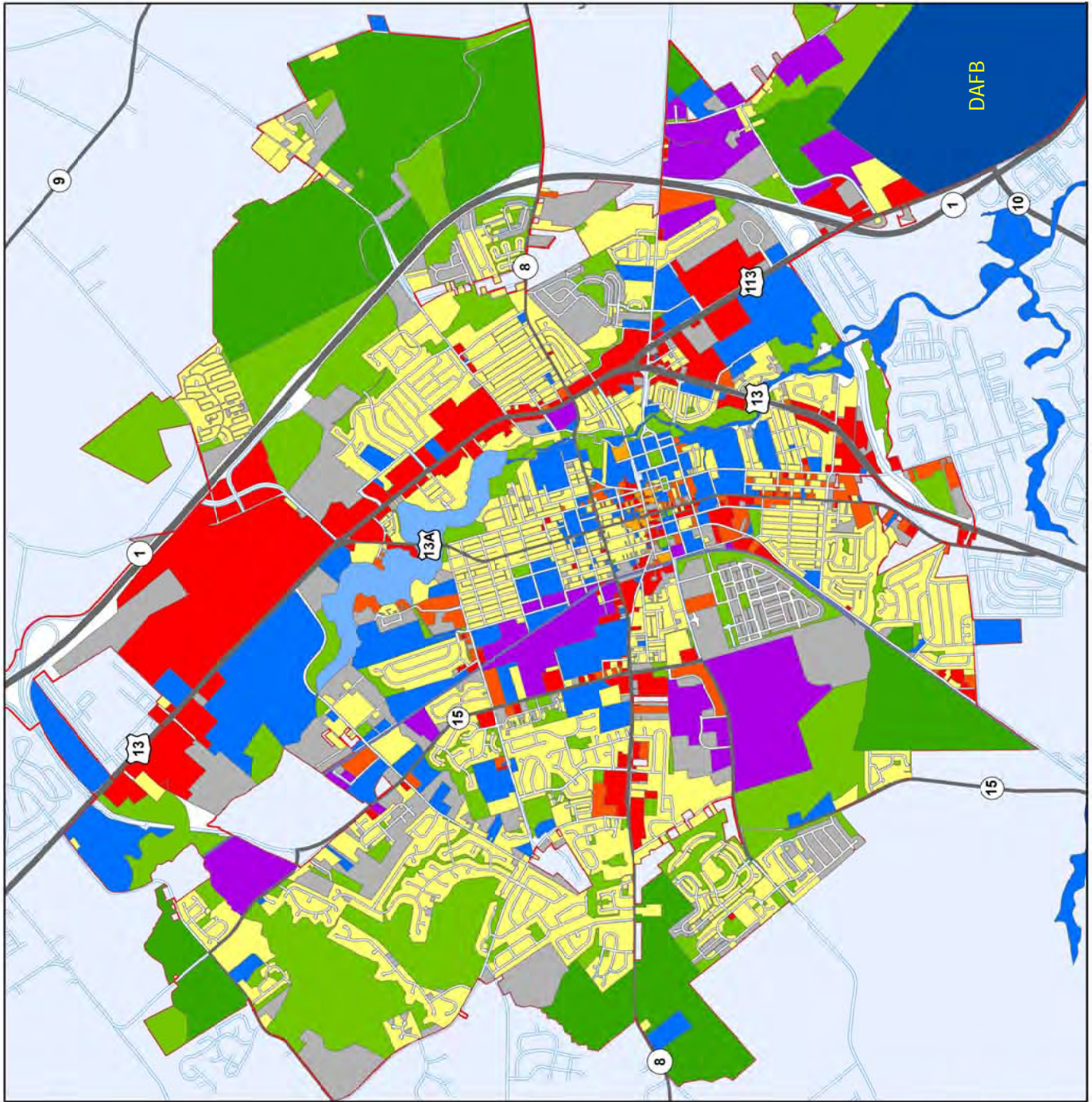
The State of Delaware owns a variety of government buildings in Dover, including Legislative Hall, the State Archives, and the Kent County Courthouse. The downtown area also houses City Hall, a new library, the regional hospital, several museums, a vibrant historic district, and the Kent County transit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



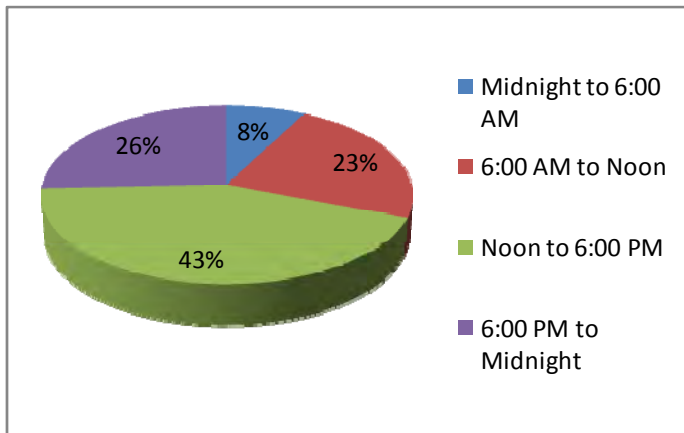
Pedestrian Crash Analysis

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



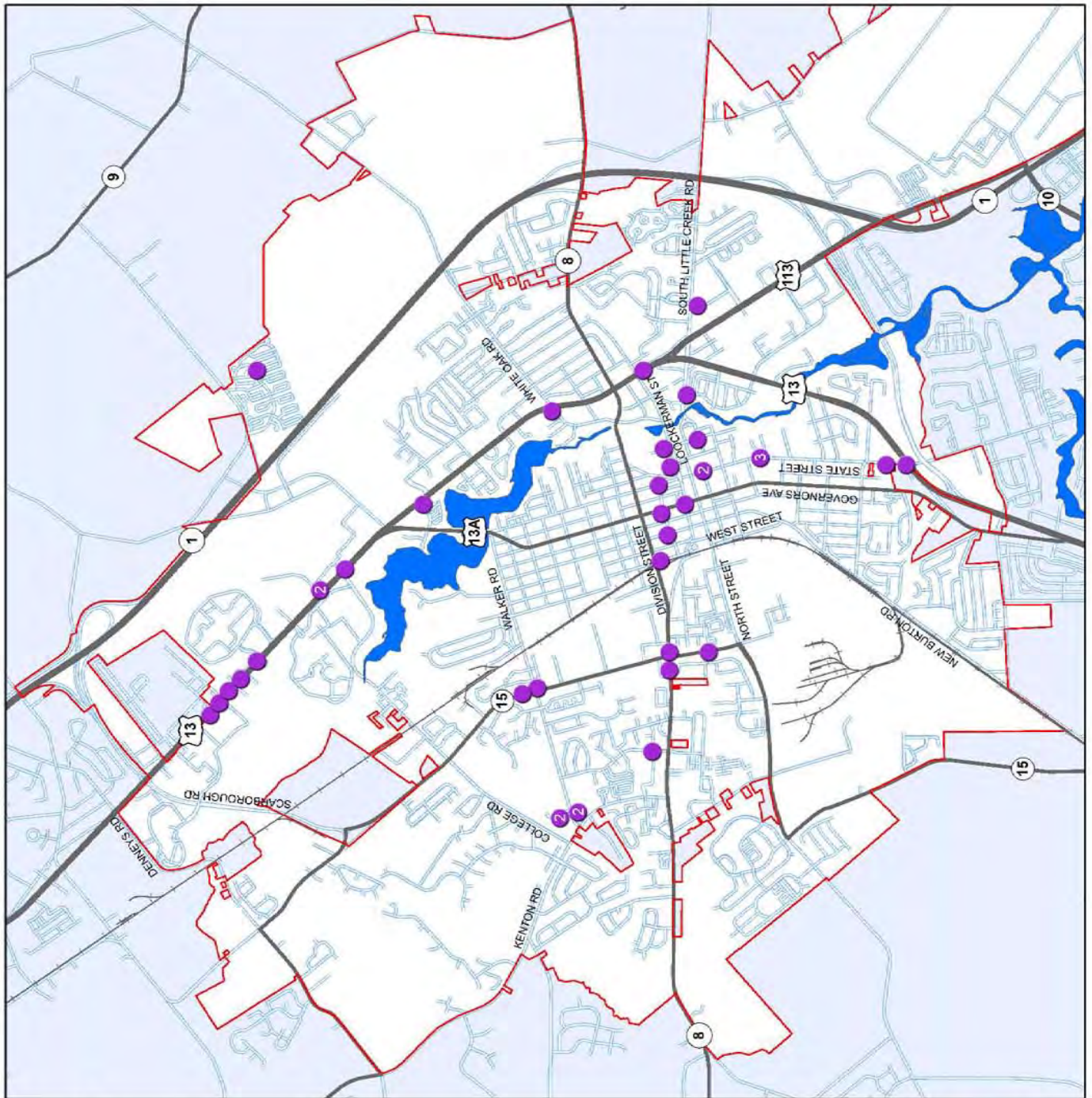
South New Street/Water Street

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.

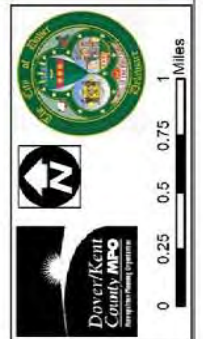


South State Street at Bayhealth



City of Dover
Pedestrian Plan Update
Figure 3
Pedestrian Crash Data

Legend
● Pedestrian Related Crash
Based on reported crashes between 2011-2013



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.

Project	Status
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/Hazlettsville 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:

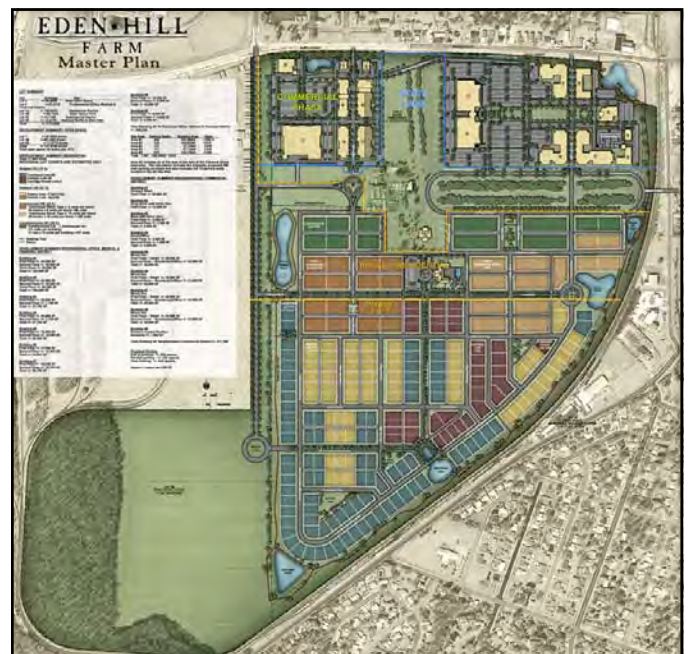
- Promote superior urban design
- Foster connections among adjacent properties
- Preserve the function and efficiency of the roadway
- Achieve a balanced streetscape which is friendly to the pedestrian and motorist alike

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 DelDOT 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 Loocker-man 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.

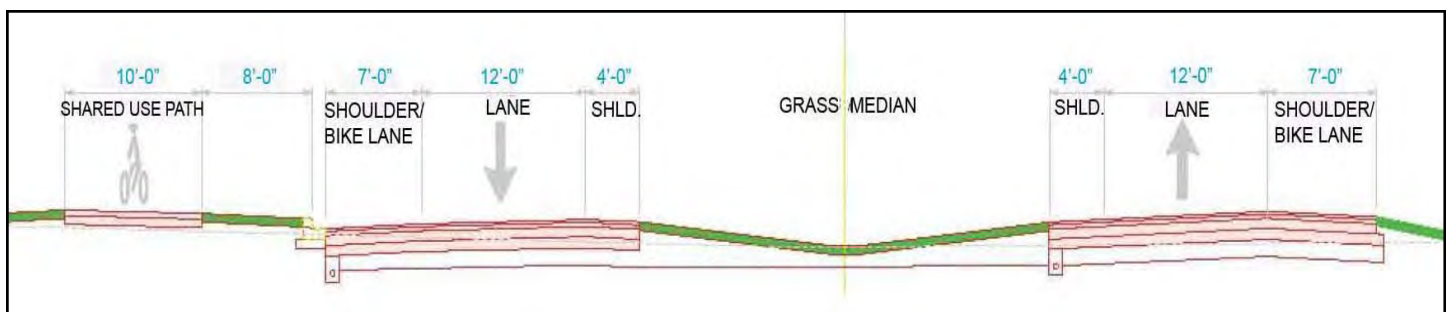
In 2010, DelDOT adopted its Complete Streets Policy. As noted in the Policy, “the term Complete Street means a roadway that accommodates all travelers, particularly public transit users, bicyclists, pedestrians, and motorists, to enable all travelers to use the roadway safely and efficiently.” The purpose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

Existing Plans, Policies, and Programs

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

Existing Plans, Policies, and Programs

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.).

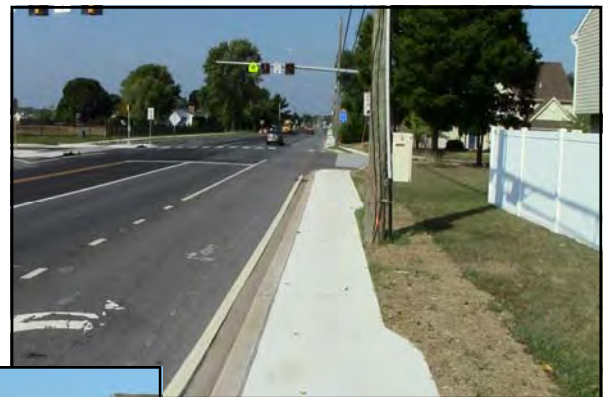
The study evaluated 4 primary roads that are located within the 2-mile walking radius - Route 8, Kenton Road, Mifflin Road, and Hazletville Road. Listed below is a summary of the study recommendations for each road.

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, DelDOT 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.

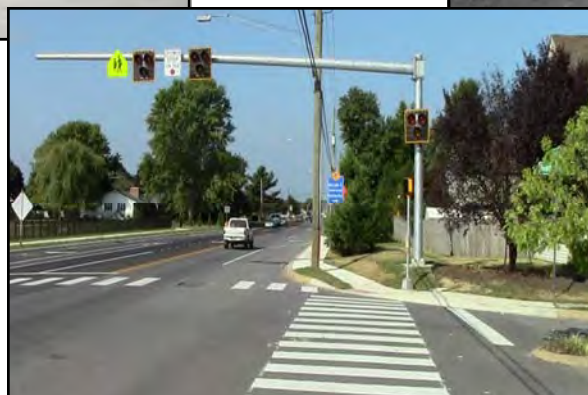
In addition, as part of the new sidewalk project, DelDOT installed a High-Intensity Activated Crosswalk (HAWK) signal at the intersection of Route 8, Heatherfield Way, and the east entrance to the high school. The HAWK signal is a traffic signal that turns to red upon activation by a pedestrian. The 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.

Hazlettsville Road - Hazlettsville 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 Hazlettsville 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 Hazlettsville Road. There are no other plans at this time to install any additional sidewalk along Hazlettsville Road, near its intersection with Mifflin Road.



Hazlettsville Road

Existing Plans, Policies, and Programs

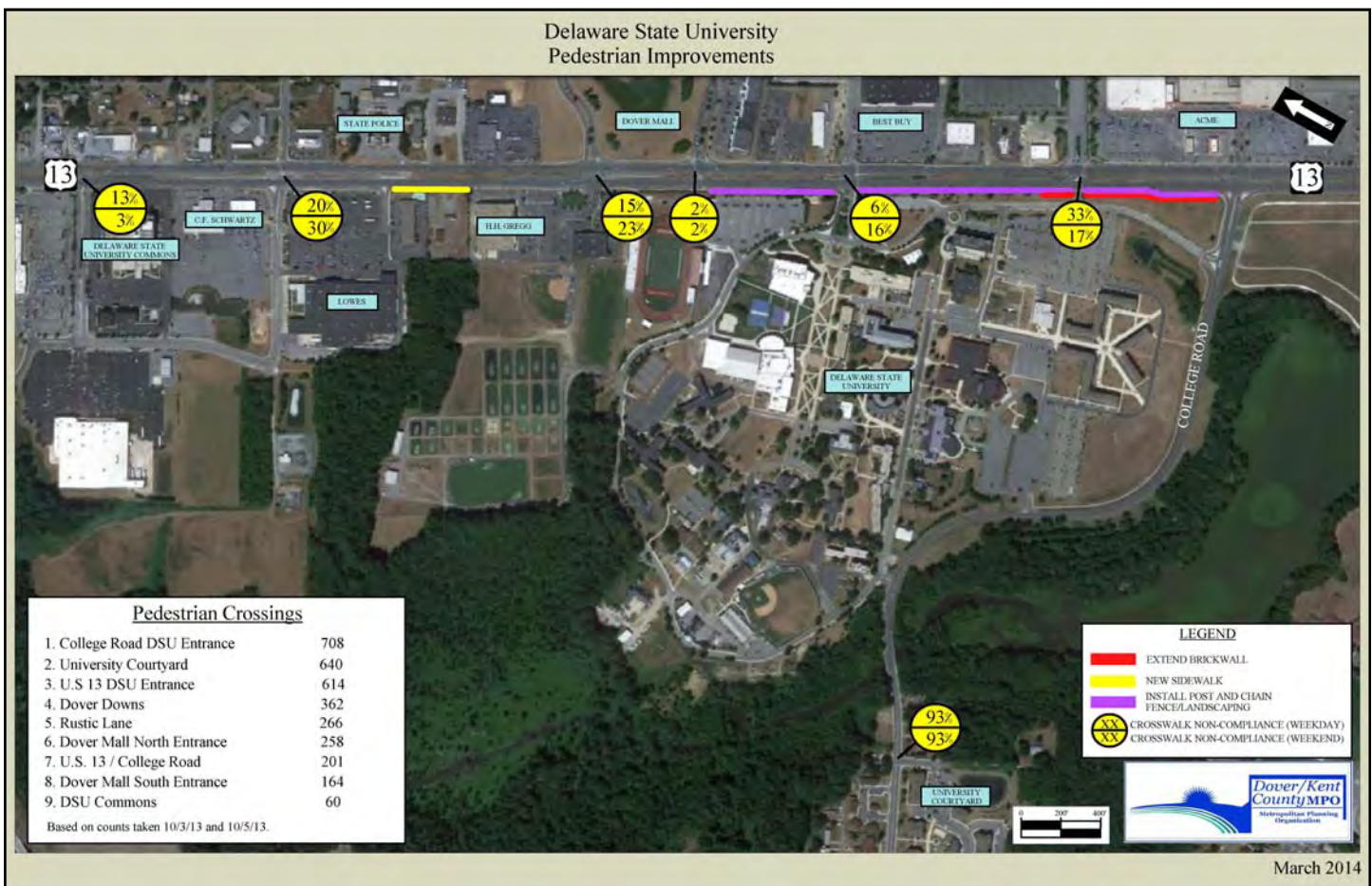
Delaware State University Pedestrian Study

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 week-day 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)



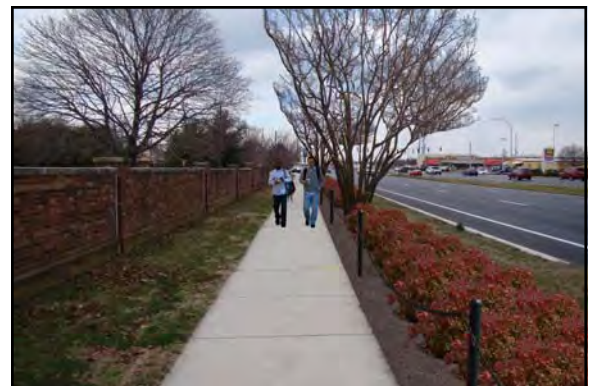
U.S. 13 (After)

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..."

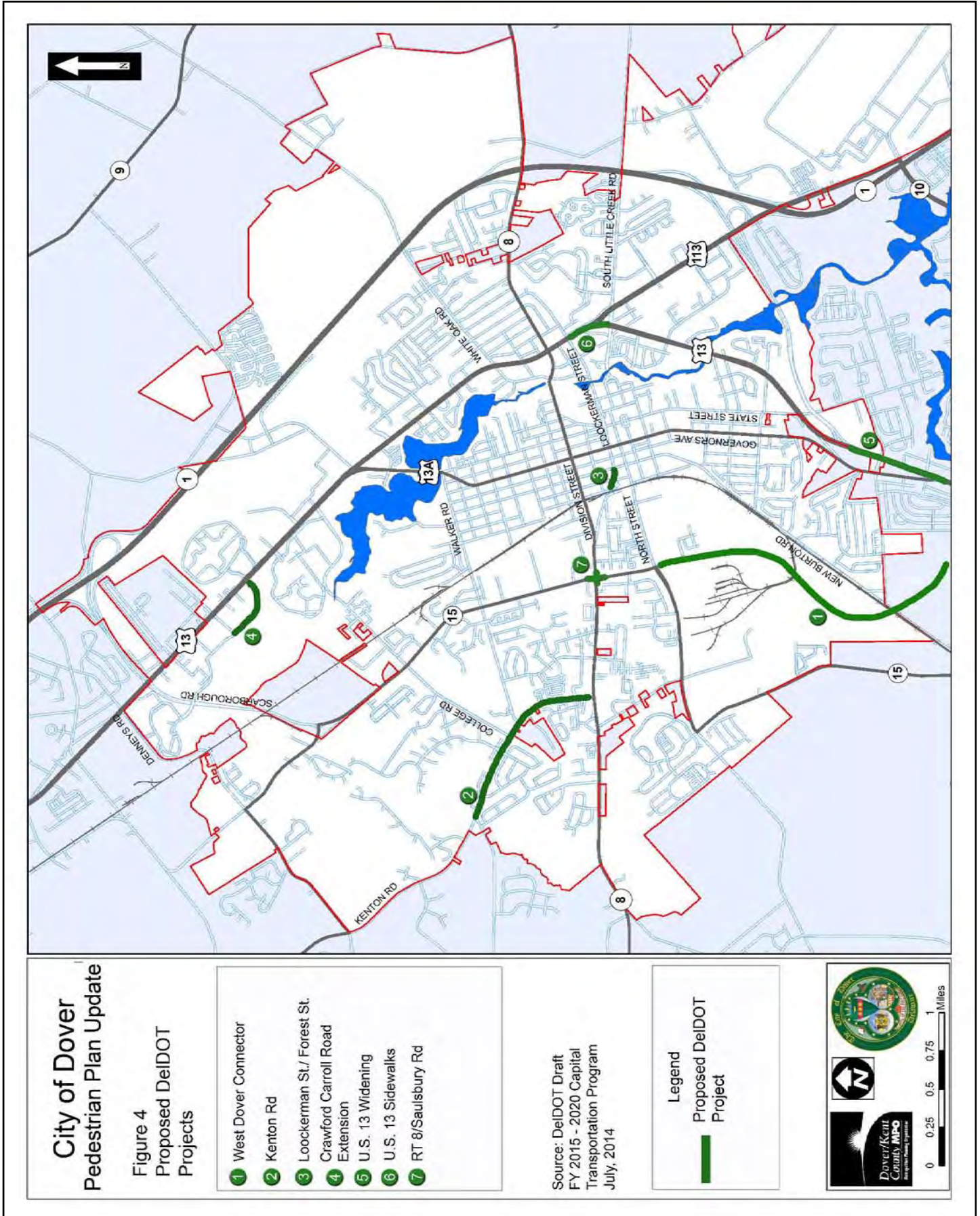
In practice, the City's Public Works Department repairs and reconstructs sidewalks as financial and personnel resources allow. An adjacent property owner is not responsible for making structural repairs to an existing sidewalk, based on current practice. Adjacent property owners are required to adhere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



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.



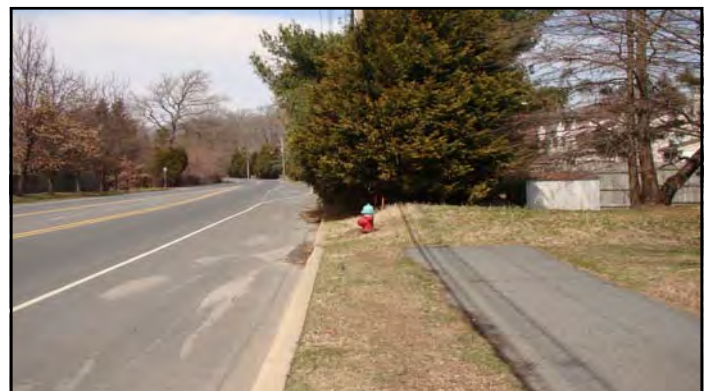
Hazletville Road



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.

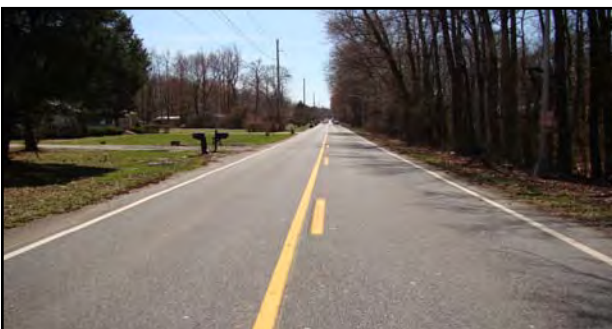


Dover Public Library

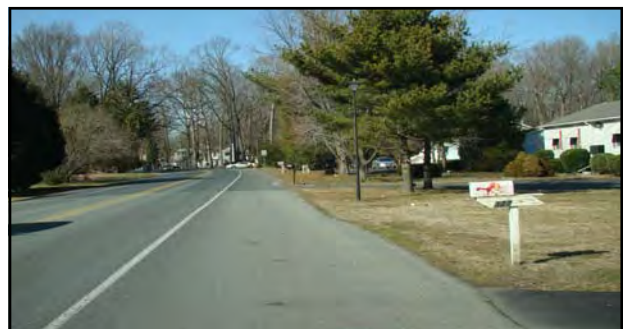


State Archives

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 Edgemoor 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)

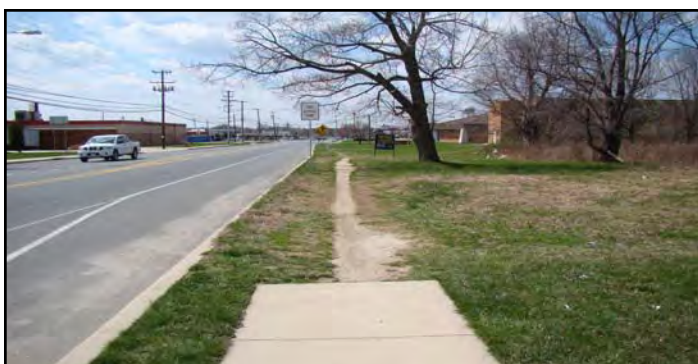
The existing land use along South Little Creek Road between U.S. 13 and Route 1 is marked by a mixture of high-density apartments, single-family residential, light industrial, and large-scale commercial uses. The commercial uses include high-pedestrian attractors such as Target, Safeway, Royal Farms, 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/envIRON. 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/envIRON. 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/envIRON. 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.

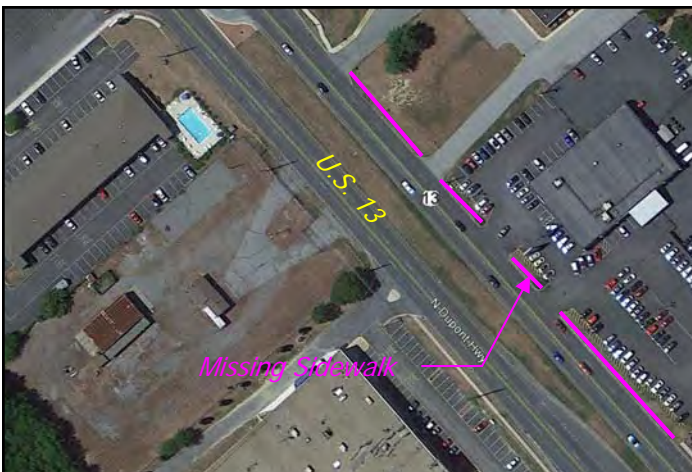
In addition to the day-to-day pedestrian demand generated by the commercial activity, there are several national events in Dover that create significant pedestrian volumes along U.S. 13 - NASCAR races and the Firefly Music Festival, each of which have attendance that exceed 80,000 people (twice as much 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/envIRON. impacts	Yes

Recommendations - New Sidewalks (DeIDOT 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 DeIDOT FY 2016 - 2021 Capital Transportation Program (as of September 2014), there is one DeIDOT 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.

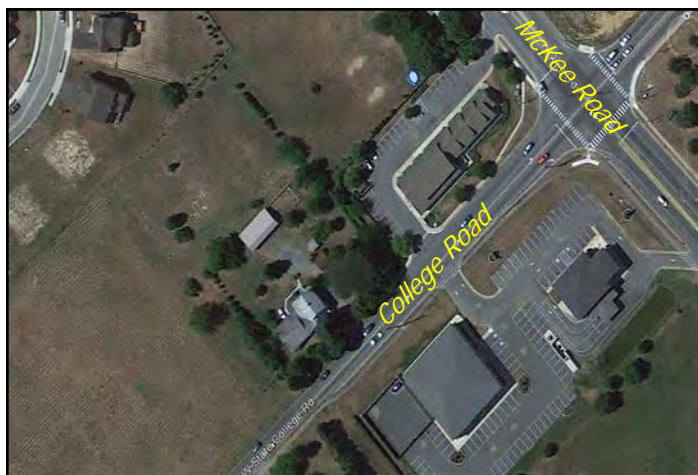
Land use along College Road consists primarily of single-family residential, including the Fox Hall and Hidden Oak communities on the north side of the road. The south side of College Road consists primarily of low-density residential, a church, and a significant amount of undeveloped land. The only 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/envIRON. 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.

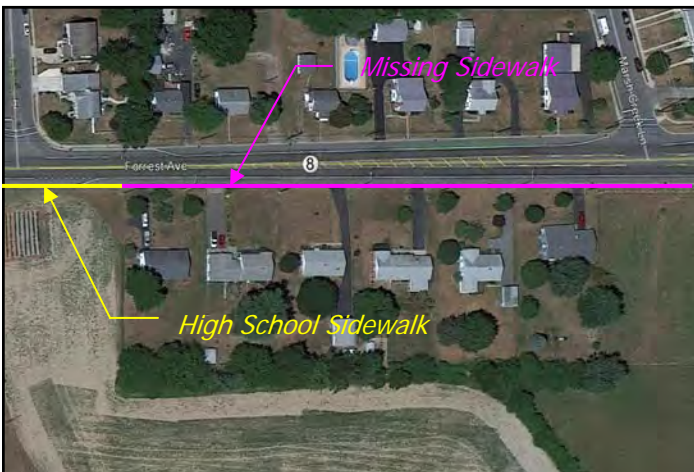
The land use in this area is predominantly low-density residential and agricultural. However, because of the location of the new high school, there are significantly higher pedestrian volumes traveling on Route 8 now that the school is open. The high school has installed a 10-foot wide shared use path 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/envIRON. 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/envIRON. 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.

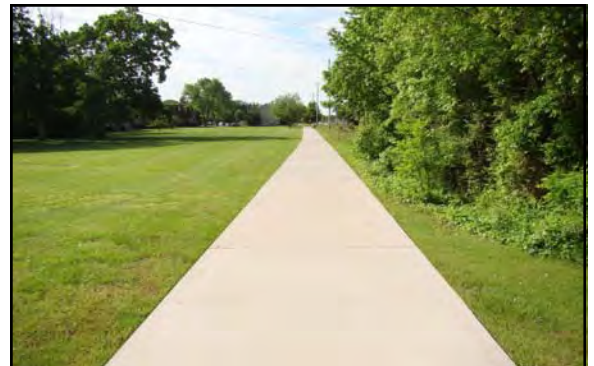
The City of Dover owns 2 parcels of land in between Route 8 and Fox Hall West, comprising 8.7 acres of open space (including Mallard Pond Park). It is recommended that the City of Dover evaluate the feasibility of constructing a bicycle/pedestrian trail connection from Fox Hall West (via Pebble Valley 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)



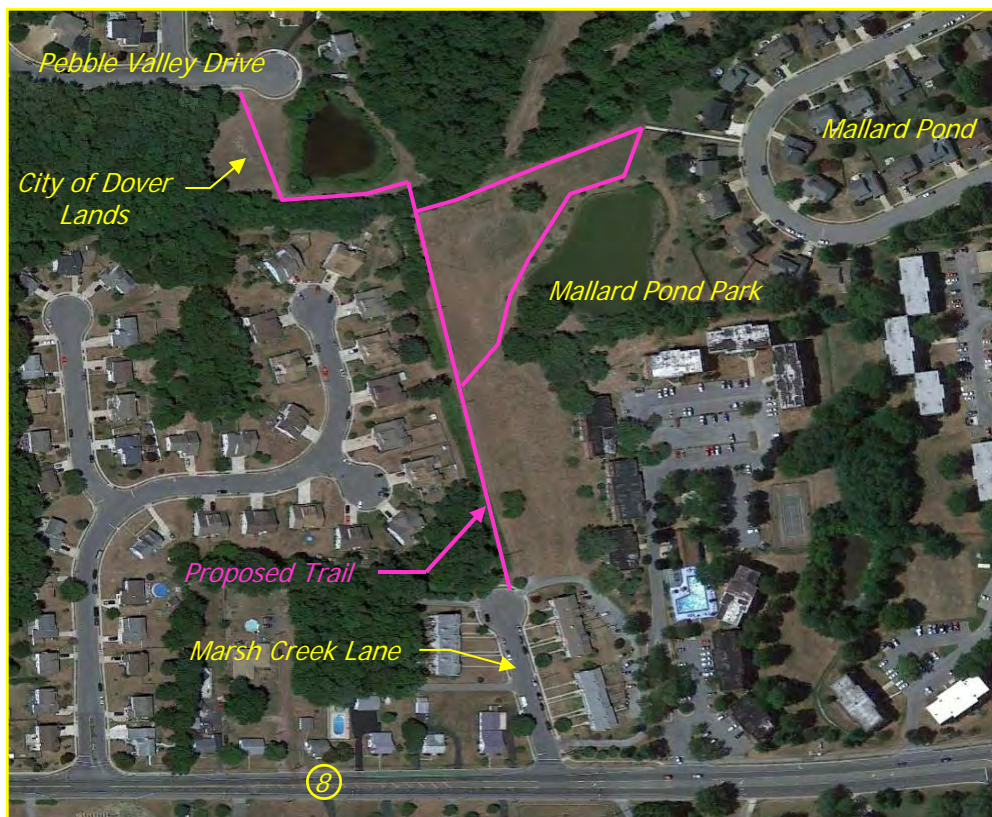
Pebble Valley Drive (Existing)



Pebble Valley Drive (Proposed)

Recommendations - New Sidewalk (City of Dover)

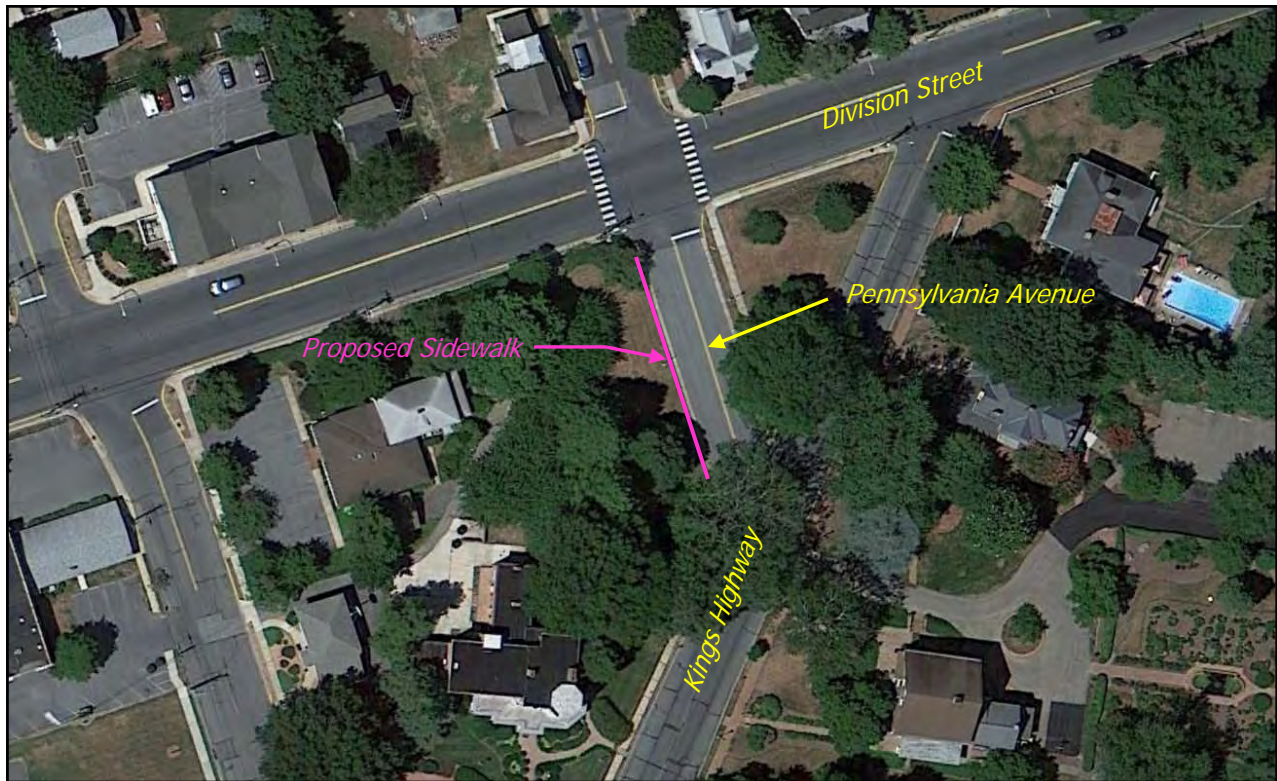
Fox Hall West/Mallard Pond/Route 8 Connector (Continued)



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)

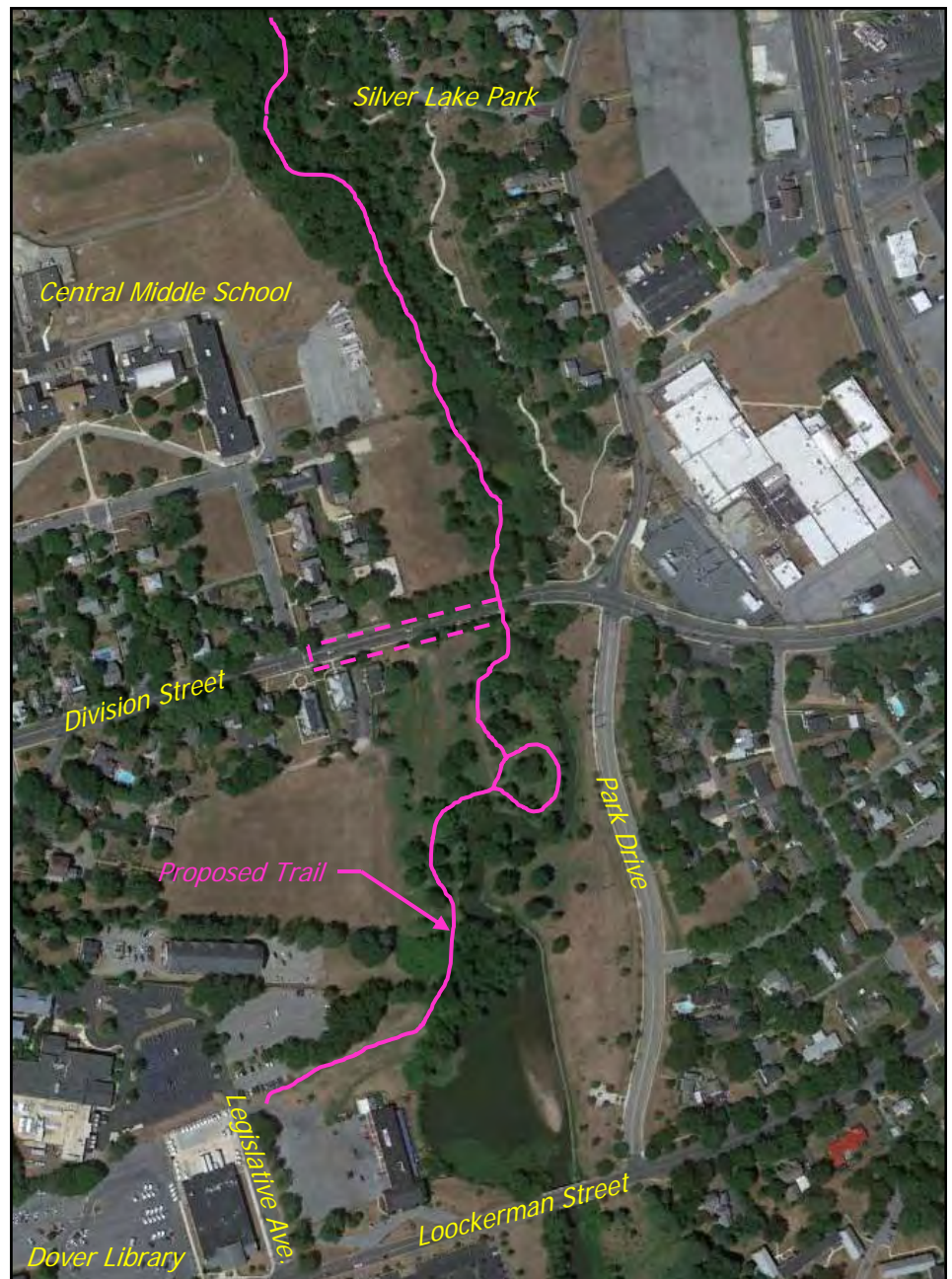
St. Jones River Trail

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 DelDOT'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 DelDOT's Kenton Road project limits. Design scheduled in FY 2016.
- Kenton Road/College Road - Included in DelDOT'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 DelDOT 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



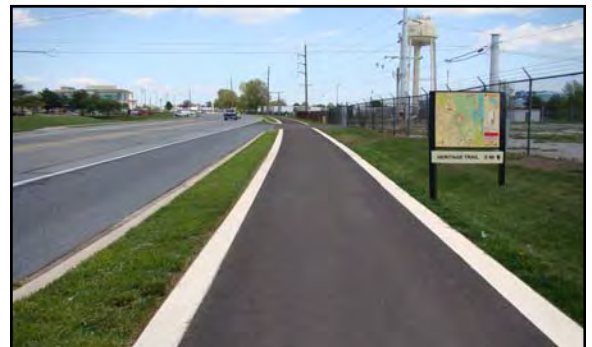
North Street Trail (Existing)



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

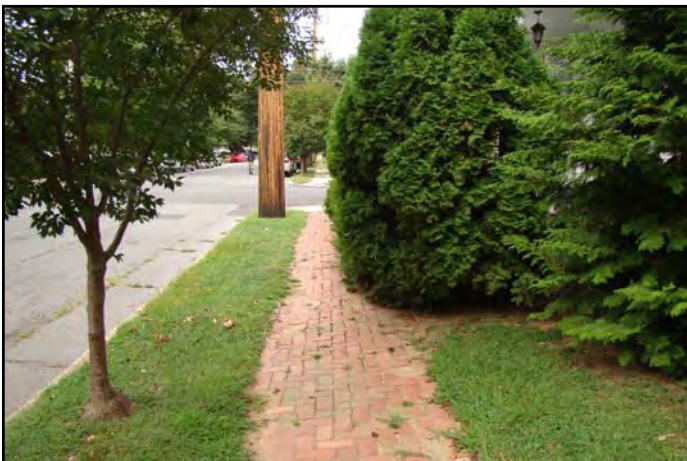
Recommendations - Maintenance

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,



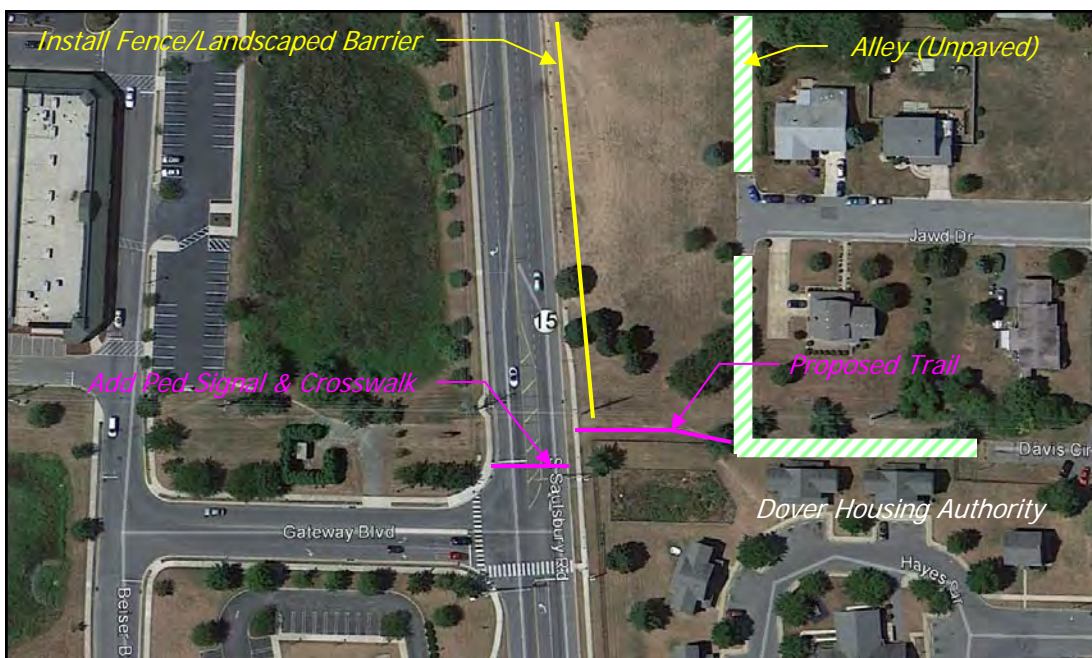
Saulsbury Road & Gateway Boulevard

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:

- 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)

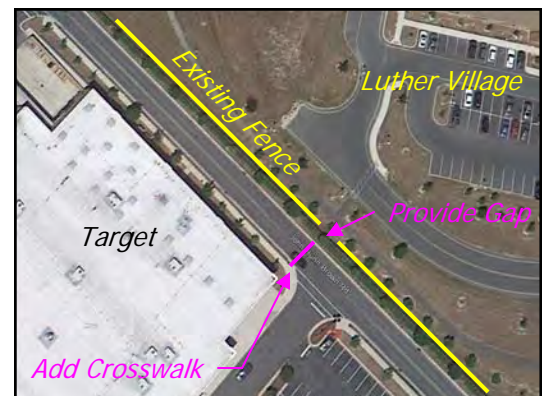
A continuous wooden fence runs along the north side of the road, from Babb Drive west past the Target store. As shown in the photos, this fence is a barrier that prevents direct pedestrian access from Luther Village to Target. Because of the fence location, pedestrians from Luther Village have to walk 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

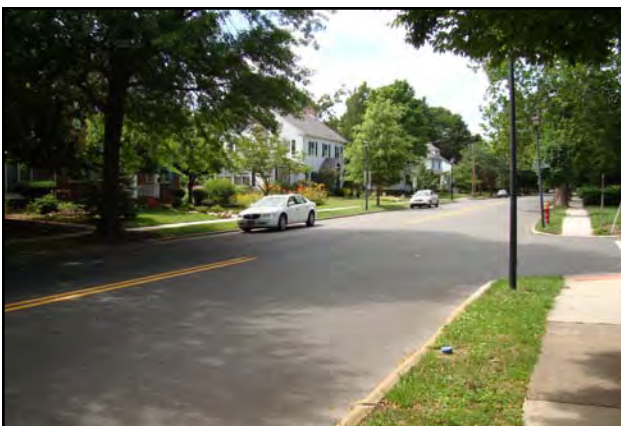
As a result of public input, there is a need to provide an improved pedestrian crossing at North State Street and Washington Street. As noted in the aerial photo below, Washington Street provides the only vehicular and pedestrian access from the residential areas in north Dover to Silver Lake Park. Washington 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, DelDOT 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. DelDOT 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 standalone 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 DeIDOT 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

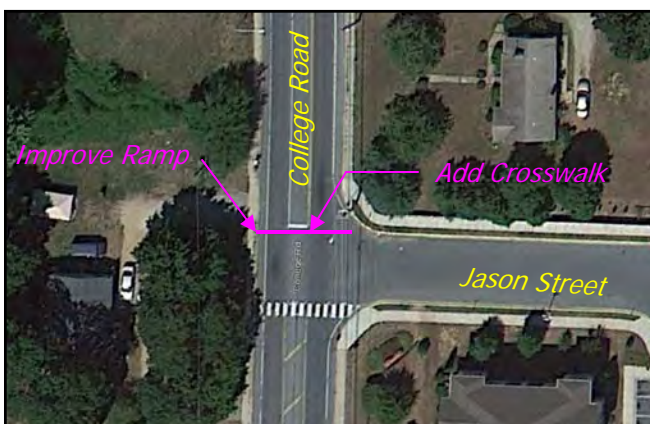
There is sidewalk located on the north side of College Road between the campus and the apartment complex. On the south side, the sidewalk ends just east of the Silver Lake bridge. Based on visual observations taken as part of the DSU Pedestrian Study, most pedestrians crossed the road before they reached 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 DeIDOT Traffic Section provided the following recommendations (shown on the graphics below):

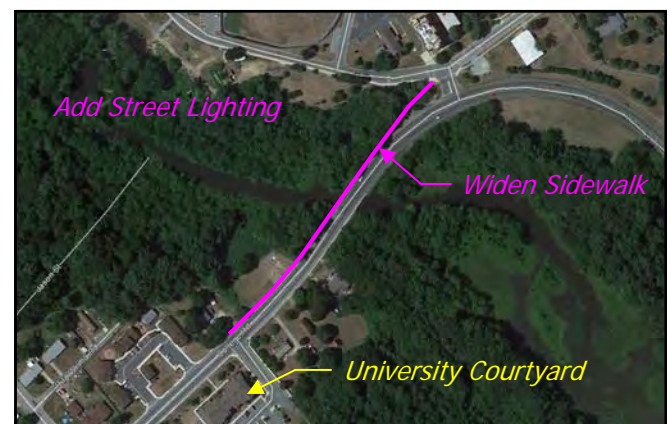
- Provide an additional crosswalk on the east side of the College Road/Jason Street intersection
- Evaluate widening the existing sidewalk on the north side of College Road, between University Courtyard and the main campus.

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 DeIDOT 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



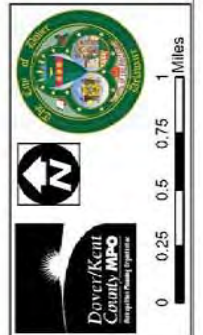
City of Dover Pedestrian Plan Update

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



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 Loockerman 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, DelDOT, 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, DelDOT, and the MPO provided staff assistance.



Safety Advisory and Transportation Committee

City Council

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

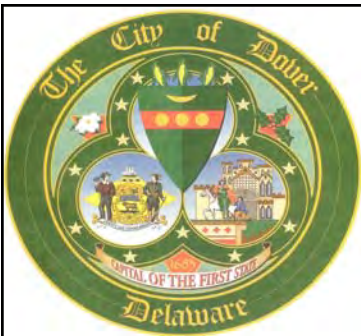
Anthony Aglio
Sarah Coakley

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](#)

Approved by the Dover City Council on [April 13, 2015](#)



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