

Bank Lane Bicycle Route Feasibility Study

March 2019



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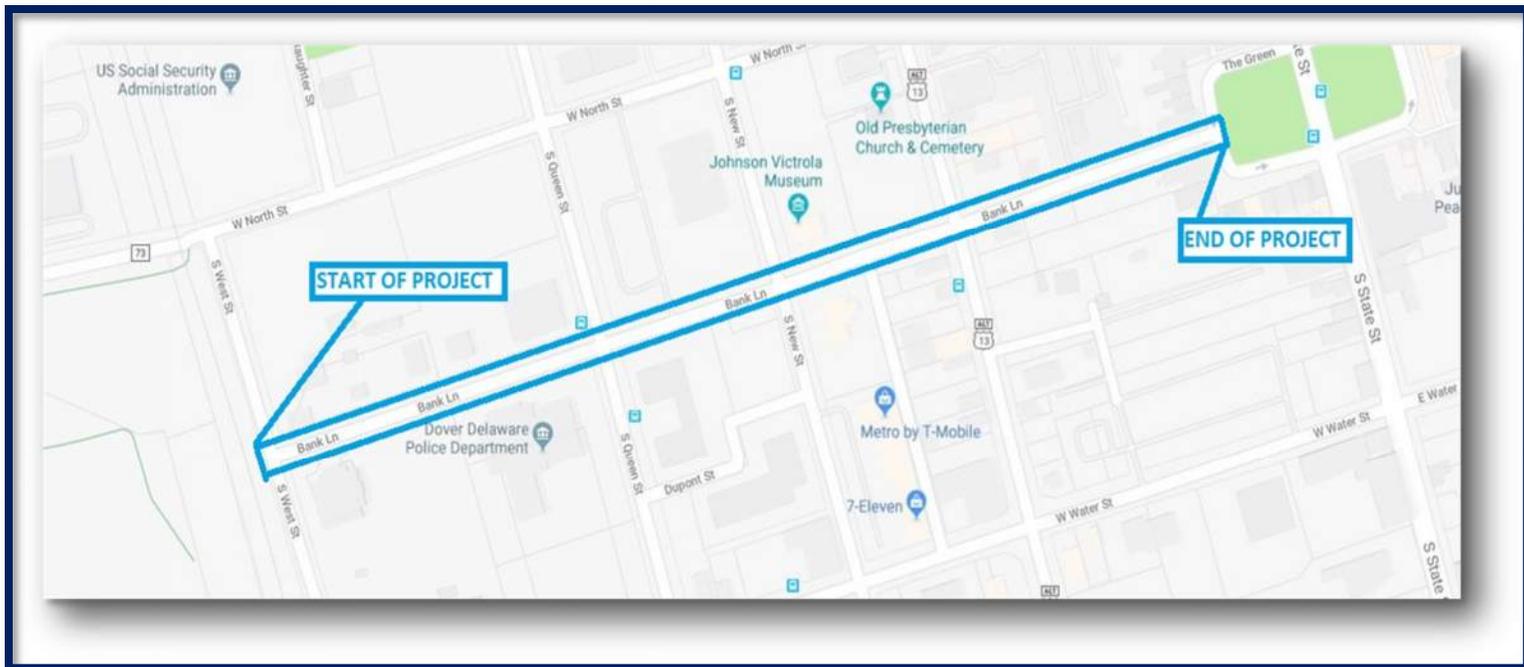
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**SECTION 1
LOCATION MAP**

Project Location Map

Bank Lane – Dover, DE

Not to Scale



SECTION 2
PROJECT NARRATIVE

Project Need

The City of Dover and the Dover/Kent County Metropolitan Planning Organization (Dover/Kent MPO) developed a bicycle route master plan for the City of Dover. A critical missing link in the master plan is a connection from the multi-use path recently constructed along West Street to The Green. Prior to this study it was suggested that Bank Lane, with its mix of commercial, residential, institutional uses and municipal properties would fill this gap.

Currently Bank Lane consists of one lane of traffic in each direction with parking on both sides of the street. There are no pavement markings along Bank Lane between Queen Street and The Green. There are pavement markings denoting parking spaces along Bank Lane between West Street and Queen Street. There are sidewalks on both sides of Bank Lane throughout the corridor. The easternmost block of Bank Lane has a constrained right-of-way with structures immediately adjacent to an existing 5-foot sidewalk. There is no on-street street parking along this block. There are no designated bicycle facilities on Bank Lane currently. Bikes currently share the road with vehicles. Bank Lane in this corridor has a stop sign at each intersecting street (Queen Street, New Street, Governors Avenue and The Green). The intersections do not have striped cross walks or stop bars. Traffic on Bank Lane must wait for a gap in the traffic traveling on the cross street to cross the intersections. Traffic volumes on some cross streets, such as S. Governors Avenue, are more than ten (10) times Bank Lane traffic volumes. Based on models produced by DelDOT, high vehicle volumes contribute to a higher level of stress at intersection crossings, which in turn reduces the success of promoting Bank Lane, as it currently exists, as the missing bicycle link in the master plan. In addition, Bank Lane at S. Governors Avenue is an offset intersection. Particularly in the east bound direction, pedestrians and bicyclists traversing S. Governors Avenue at Bank Lane navigate a longer crossing distance because of the intersection skew. With high traffic volumes along S. Governors Avenue, reaching almost 400 vehicles per hour in the PM Peak and 260 vehicles per hour in the AM Peak, shorter gaps and a longer crossing distance increase the level of stress at this intersection particularly for the recreational bicyclist.

To reduce bicycle level of stress and formalize Bank Lane as the missing connection in the overall bicycle master plan, designated bicycle facilities are necessary. Intersection improvements alone will not impact the corridor enough to reduce conflict points and increase use as much as adding bicycle specific facilities to Bank Lane.

Project Description and Purpose

The purpose of the Bank Lane Bicycle Route Feasibility Study is to determine the viability of adding designated bicycle facilities to Bank Lane between West Street and The Green in Dover. Adding designated bicycle facilities would complete the missing link in the overall Dover Bicycle Master Plan. These proposed improvements would complete an important link in the City's bicycle network and would allow for a continuous connection from destination outside of the City to The Green. Currently bicycle and pedestrian traffic use Bank Lane. There are existing sidewalks on both sides of Bank Lane, but no designated bicycle facilities. Bicycles must share the road with vehicles along Bank Lane. The intersections are configured with stop signs on Bank Lane and no stops on the approaches to Bank Lane.

Heavy cross traffic and turning traffic create small, potentially unsafe gaps in traffic flow, which causes the route to be deemed a high bicycle stress corridor.

| Traffic Conflicts along Bank Lane at Intersections - AM Peak | | | |
|---------------------------------------------------------------------|-------------------------------|--------------------------------------------|---------------------------------|
| | Volume of Cross Street | Volume of Turning Traffic Conflicts | Peak Conflicts by Volume |
| Bank Lane & | | | |
| Queen St | 338 | 55 | 393 |
| S. Governors Avenue | 551 | 55 | 606 |
| The Green | 14 | 13 | 27 |

| Traffic Conflicts along Bank Lane at Intersections - PM Peak | | | |
|---------------------------------------------------------------------|-------------------------------|--------------------------------------------|---------------------------------|
| | Volume of Cross Street | Volume of Turning Traffic Conflicts | Peak Conflicts by Volume |
| Bank Lane & | | | |
| Queen St | 454 | 26 | 480 |
| S. Governors Avenue | 700 | 61 | 761 |
| The Green | 20 | 34 | 54 |

Adding designated bicycle lanes will assist in providing a lower stress corridor for bicyclists. While the intersections contribute to the highest levels of stress for cyclists and improvements to the intersections are beneficial, ignoring the corridor links between the intersections is a disservice to all cyclists. In order to fully realize a complete and safe bicycle facility for all users, the corridor itself, as well as the intersections, along Bank Lane are in need of improvements that are beneficial to all users. Designated bicycle lanes will raise awareness to motorists that bicycles are in the area and will provide consistency for which location and direction bicycles will be traveling. Intersection improvements such as crosswalks may be placed on the north side of the intersections to reinforce to drivers that bicycles and pedestrians could be crossing. In addition, placing the bicycles in a designated facility on the north side of Bank Lane reduces the skew at the S. Governors Avenue intersection. The crossing of bicycles and pedestrians in both directions becomes a straight-line crossing, thereby reducing the crossing length. As stated earlier the overall master plan allows for a bicycle connection from destinations outside the City to The Green, so having the bicycles on the northside of Bank Lane from West Street to The Green is crucial to providing that link without requiring the bicycle to also cross Bank Lane to get into position to cross S. Governors Avenue in a straight-line crossing.

Existing Conditions

Bank Lane has existing sidewalks on each side of the roadway. Currently, Bank Lane has no roadway pavement markings other than parking space striping between West Street and Queen Street. Between West Street and Governors Avenue, Bank Lane consists of one lane in each direction and parking on each side. The total width of the existing roadway is approximately 38-feet. The typical section of the roadway changes between Governors Avenue and The Green. In this section, Bank Lane takes on a more historic function. The roadway narrows to 19-foot wide with no parking on either side. There is barrier curb on each side and there are utility poles approximately 2-feet from the face of curb.

Proposed Improvements

Three (3) alternatives were prepared and considered for Bank Lane.

Alternative 1 proposes implementing a road diet along Bank Lane, between West Street and Governors Avenue, to allow for a 10' Multi-Use path on the westbound side of the road. The road diet consists of formally striping Bank Lane to include one 10' lane in each direction. The eastbound parking lane will remain and will be striped to 9-foot wide; however, the westbound parking lane will be removed to allow for the multi-use path. A new westbound curblines will be set at the edge of the travel lane and the multi-use trail will lie directly behind the curb. Eliminating the parking on the westbound side will reduce right of way impacts. The 10-foot-wide path will be concrete to match other City of Dover trails nearby. Between Governors Avenue and The Green, the eastbound travel lane will remain unchanged. The westbound lane will be removed to allow for a 10-foot wide multi-use trail. The trail will be separated from the travel lane by a 4-foot wide buffer. Brick banding will be placed on either side of the trail to differentiate the multi-use path from the roadway. The total width of the multi-use trail and buffers is 12-feet. This alternative aligns the multi-use trail on the westbound side so that the existing offset encountered on the eastbound direction does not affect the bicyclist. All intersections will be improved for ADA compliance. The roadway will be milled and paved, as well. The existing off-street "pull-in" parking and the parking lot entrance between Governors Avenue and The Green will remain. This alternative is estimated to cost \$1,675,500. In this alternative bicycles and pedestrians will share the same facility without separation.

Alternative 2 proposes a road diet between West Street and Governors Avenue. The roadway will be milled, paved, and re-striped to accommodate one 10-foot wide lane in each direction. Eastbound parking will remain and will be striped to 9-foot wide. The westbound parking lane will be removed and replaced with a 10-foot wide cycle track. The cycle track will be separated from the travel lane by a 4-foot buffer. The cycle track will accommodate two-way bicycle traffic. A new sidewalk is proposed behind the new curblines. Between Governors Avenue and The Green, the eastbound travel lane will remain unchanged. The westbound lane will be removed to allow for a 10-foot wide multi-use trail. The trail will be separated from the travel lane by a 4-foot wide

buffer. Brick banding will be placed on either side of the trail to differentiate the multi-use path from the roadway. The total width of the multi-use trail and buffers is 12-feet. This alternative aligns the multi-use trail on the westbound side so that the existing offset encountered on the eastbound direction does not affect the bicyclist. All intersections will be improved for ADA compliance. The existing off-street “pull-in” parking and the parking lot entrance between Governors Avenue and The Green will remain. This alternative is estimated to cost \$1,854,500. In this alternative, bicycles will be separated from the pedestrians.

Alternative 3 maintains the existing roadway between West Street and Governors Avenue without improvements or changes. This alternative proposes maintaining the existing curblines and placing a new 10-foot wide multi-use trail behind the westbound curpline. This alternative is the least costly and includes minimal construction. Between Governors Avenue and The Green, the eastbound travel lane will remain unchanged. The westbound lane will be removed to allow for a 10-foot wide multi-use trail. The trail will be separated from the travel lane by a 4-foot wide buffer. Brick banding will be placed on either side of the trail to differentiate the multi-use path from the roadway. The total width of the multi-use trail and buffers is 12-feet. This alternative aligns the multi-use trail on the westbound side so that the existing offset encountered on the eastbound direction does not affect the bicyclist. All intersections will be improved for ADA compliance. The existing off-street “pull-in” parking and the parking lot entrance between Governors Avenue and The Green will remain. This alternative is estimated to cost the least at \$1,294,700. In this alternative, bicycles and pedestrians share the same multi-use trail. Mill and overlay of the roadway are not proposed with this alternative.

Assumptions and Limiting Conditions

The following assumptions and limiting conditions were considered in the preparation of this feasibility study:

- Utility pole relocations are outside of the scope of this project
- Concept was developed on aerial photography without topographic survey
- No topographic or boundary survey was performed; all roadway data and utility locations were derived from aerial photography, GIS, and field investigation
- All services and work products will conform to current AASHTO Standards, Policies and Procedures
- Conceptual right-of-way impacts were estimated based on aerial. Actual right-of-way impacts and costs may vary.
- The project is anticipated to comply with the Delaware Sediment and Stormwater Regulations (DSSR) based on standard plan criteria for Sidewalk, Trail or Other Linear Impervious Surfaces.

Conclusion

In conclusion, multi-use trail facilities are feasible along Bank Lane. Three (3) alternatives were developed with varying degrees of impact. Two (2) alternatives remove westbound parking and one (1) alternative maintains all parking. All three (3) alternatives propose the same typical section for Bank Lane between Governors Avenue and The Green. Temporary construction easements and permanent easements will be required for each alternative.

Cost Estimates for each alternative are as follows:

| Alternative | Total Estimated Project Cost (USD) |
|-------------------------------|------------------------------------|
| Alternative 1: Multi-Use Path | \$1,675,500.00 |
| Alternative 2: Cycle Track | \$1,854,500.00 |
| Alternative 3: No Widening | \$1,294,700.00 |

The costs included in this report include costs for temporary construction easements and permanent easements. It is possible, depending upon the type of funding used for this project and the community's interest in seeing this project come to fruition that the right-of-way costs could be donated. This would result in significant cost savings to the project.

The three alternatives provide a feasible solution to the project need statement: "to reduce bicycle level of stress and increase the perception that Bank Lane is providing the missing connection in the overall bicycle master plan, designated bicycle facilities are necessary". The solutions presented to address this project need are corridor solutions. Three of the four intersections along this corridor of Bank Lane are high stress intersections resulting in the corridor as a whole to be viewed as a high stress island, based on DelDOT Bicycle Stress Models. To reduce the stress island, the corridor must be improved in its entirety. Placing a designated bicycle facility to the north side of Bank Lane will place the bicyclist on the correct side to reduce intersection crossing skews and increase driver awareness of where bicycles will be located.

After discussions with the City of Dover Planning and Public Works offices, public workshop attendees, and various individuals on the City of Dover Bike Subcommittee Alternative 1: Multi-use Path with Roadway Widening is the suggested alternative to move forward to design. This Preferred Alternative accommodates bicycle users and pedestrians in a shared facility on the westbound side of Bank Lane. This facility will provide a consistent and visible location for bicycles and pedestrians that will improve the safety and function of the entire corridor. This location will also reduce the length of crossing time at the Bank Lane and S. Governors Avenue intersection by creating a straightforward crossing that is perpendicular to the cross street; thereby reducing travel time spent inside the intersection.

While a corridor approach is recommended in this study, Alternative 1 can be implemented in a phased approach as funding becomes available. The portion of Bank Lane Improvements between

Governors Avenue and The Green can also be constructed on its own. The cost to implement this portion of the alternative is \$450,000.00.

In conclusion, multi-use facilities along Bank Lane are feasible and provide a lower level of stress for bicyclists with relatively minor impacts to most properties. The information in this study may be used to secure funding and prioritize improvements. It may also be used as guidance that the City of Dover and the Dover/Kent County MPO may direct developers to follow as new properties and site plans are developed. We look forward to working with the Dover/Kent County MPO to realize the goals of this study and develop a Preferred Alternative in the near future.

**SECTION 3
MEETING MINUTES**

Meeting Minutes Summary

The Delaware State Housing Authority (DHA) met with the project team September 12, 2018. The goals of the project were discussed as well as potential alternatives for bicycle facilities. DHA discussed their parking options and preferences for parking spaces. It was determined that a follow up meeting could be necessary to discuss alternatives proposed in the study.

Additional stakeholders were contacted through telephone and/or email. The City of Dover Police Department, Justice of the Peace Court (owned by the City of Dover), the City of Dover Department of Public Works and Chesapeake Utilities. All four did not feel a meeting was warranted to discuss the project. The City of Dover Department of Public Works answered an email directing the project study to suggest the multi-use path material be concrete with a brick bank to match other City initiatives.

A public workshop was held on Thursday December 6, 2018 at the Dover, Delaware Police Department from 4 pm to 7 pm. Thirteen people attended the workshop. The attendees included representatives from the City of Dover Bike Subcommittee, City of Dover Department of Public Works, DelDOT, Delaware State Housing Authority, Office of State Planning, Dover Kent County MPO, Delaware State News, and local residents. Overall the feedback was positive. The information from the public workshop was available on-line and was circulated through the City of Dover Planning Office and Dover Bike-Subcommittee. In total, sixteen comments were received. All of the written comments received were positive.



Two stakeholders voiced concerns. One concern centered around the proposed one-way direction of Bank Lane between Governors Avenue and The Green. Handicap parking spaces for # The Green are located behind the building and are accessed from this section of Bank Lane. Signs along The Green offer parking directions to this location by turning right from The Green onto Bank Lane. Motorists looking for handicap parking from The Green will no longer be able to turn right onto Bank Lane to access these parking spaces. It will be possible for them to access these parking spaces from Bank Lane heading eastbound and can use North Street or Water Street to access Bank Lane from this direction.

Another concern was whether the project could be implemented using pavement markings and signs, without additional infrastructure improvements. Due to the level of stress at the intersections and the offset angle crossing Bank Lane at the Governors Avenue intersection it was deemed that adding only pavement markings and signage to Bank Lane will not reduce the level of stress for recreational bicyclists. Therefore, it will not encourage additional bicyclists to view Bank Lane as the missing link in the bike network completion.

The project was presented at the January 2, 2019 Dover Bike Subcommittee meeting. The same concern was voiced about whether bicycle implementation could be achieved only using pavement markings and signs with no additional infrastructure improvements. The group discussed the alternatives, the possibility of phasing the project, and the analysis of level of stress through the corridor. The subcommittee was not prepared to make a recommendation on the alternatives presented, as a result the discussion was tabled for the February subcommittee meeting.

The Dover Bike Subcommittee discussed the Bank Lane Feasibility Study alternatives at the February 6, 2019 meeting. A motion was requested to reject all of the alternatives presented in the study in favor of new pavement marking and signing improvements. The motion was not seconded. The Subcommittee voted in favor of infrastructure improvements to the Bank Lane Corridor but tabled a motion to choose an alternative. The City of Dover will coordinate with the engineer in design.

A follow up meeting with the Delaware Housing Authority (DHA) was held on January 10, 2019 to discuss concerns the Authority expressed at the Public Workshop. Two concerns centered around the portion of Bank Lane improvements between Governors Avenue and The Green. Currently DHA has one handicap accessible parking space behind their building that is accessed via Bank Lane between Governors Avenue and The Green. There are existing signs on the front of their building directing motorists to the parking area by turning right onto Bank Lane from The Green. Motorists following directions and/or GPS are directed to the front of the building which then has signage to direct them to the accessible parking space. This will need to be revised if the direction of Bank Lane is only eastbound and motorists can no longer turn right onto Bank Lane from The Green. It is possible that an additional accessible handicap space could be added to The Green in front of DHA. This will be coordinated during design. Assistance for new signage can also be accommodated during design as well as pamphlet materials for new parking directions during design.

The other discussion with DHA centered around the existing parking area along Bank Lane. This parking area will continue to be accessible in the proposed improvements; however, representatives from DHA are concerned about the conflict points between bicyclists and cars reversing out of parking spaces. Some options that were discussed that can be refined in design are signage warning the bicyclists to use caution, colored concrete pavement or additional brick banding so that this area looks different than the remaining multi-use path, and signage at each

parking space reminding motorists to use caution when reversing to exit a parking space. The idea of back in parking only can also be analyzed in design.

The project was presented on January 18, 2019 to the City of Dover Planning Department. David Hugg and Eddie Diaz attended the meeting with representatives from the study team. The alternatives were presented including options for phasing the project as funding becomes available. The feedback was positive.

Bank Lane Multi-Modal Feasibility Study

December 6, 2018



| | | | |
|---|---------------------------------------------|-----------------------------------------------|-----------------------|
| 1 | Name GARY O'NEILL | Address 203 East Carl Anna Conder Rd 19934 | Phone 410-219-3178 |
| | Organization | Email Address | |
| 2 | Name Chris Asay | Address 516 Carol St. 19904 | Phone 302-382-8486 |
| | Organization Dover Bike Ped Subcommittee | Email Address Chris Asay@aol.com | |
| 3 | Name Eddie Diaz | Address 15 Lookerman Plaza | Phone 302-736-7196 |
| | Organization City of Dover Planning | Email Address ediaz@dover.de.us | |
| 4 | Name Steve Gherke | Address 18 The Green, Dover | Phone 302-739-4263 |
| | Organization DSHA | Email Address Steve@destatehousing.com | |
| 5 | Name DAVID EDGELL | Address 122 MKK ON Blvd S. | Phone 735-3090 |
| | Organization OSPC/MPO TAC | Email Address david.edgell@state.de.us | |
| 6 | Name Helen Wiles | Address | Phone |
| | Organization Dover Kent MPO | Email Address | |
| 7 | Name Gerry Remington | Address | Phone 302-678-1477 |
| | Organization Dover Bike Ped SubCom. | Email Address | |

Bank Lane Multi-Modal Feasibility Study

December 6, 2018



| | | | |
|----|-----------------------------------|---------------------------------------------|-----------------------|
| 8 | Name Attard, Nathan | Address PO Box 778, Dover DE 19901 | Phone 302-760-2174 |
| | Organization DeIDOT | Email Address nathan.attard@state.de.us | |
| 9 | Name JASON LYON | Address PO BOX 475, DOVER, DE 19903 | Phone 302-736-7025 |
| | Organization CITY OF DOVER DPW | Email Address jlyon@dover.de.us | |
| 10 | Name Mike Finney | Address 287 Attix Drive, Dover, DE 19904 | Phone 362-633-1166 |
| | Organization Del. State News | Email Address mfinney@news2pca | |
| 11 | Name Jim Galvin | Address 1183 Friends Alley, Camden | Phone |
| | Organization DKC MPO | Email Address | |
| 12 | Name Carolyn Courtney | Address 24 Lamphighter Ln | Phone |
| | Organization | Email Address llane2411@gmail.com | |
| 13 | Name Cary Johnston | Address Felton DE 19943 | Phone |
| | Organization | Email Address | |
| 14 | Name | Address | Phone |
| | Organization | Email Address | |

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

Yes - All information was available and planners/engineers were most helpful

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

I ~~like~~ like the multi-use path - it meets needs of bikes + pedestrians
only "con" is the cost of re-paving

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

Innovative idea, but... I don't think that the cycle track is needed - not enough cycle traffic. Not the solution for this street.
~~I~~ I also don't like lost parking

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

I like the multi-modal path - benefits both bikes + peds. Also least cost - no re-pave.
~~This~~

5. Which alternative do you like the most? Please explain.

Alt. # 3 - least cost and most benefit
or: if a re-pave is needed; then go with Alt # 1. Can be done ~~in~~ phases.

6. Did you request any additional information from a member of the project team at the workshop? If so, please describe and provide your name and address at the end of this form so we are certain to follow up on your request.

not at this time.

Optional: Please provide your information:

Name: DAVID EDGELL

Organization: STATE PLANNING / MPO TAC

Address: _____

Email Address: david.edgell@state.de.us

Please add my/our name(s) to the Project Mailing List.

Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by Dover/Kent County MPO. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 7, 2019 to:

Dover/Kent County Metropolitan Planning Organization

1783 Friends Way #3

Camden, DE 19934

Email: James.Galvin@doverkentmpo.org

Phone: (302) 387-6030

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

Yes - no issues, well presented but not many attendees.

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

Like - It maintains a reasonable road width - limits right-of-way required.

Dislike - Currently this level of parking is not required

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

Like - Cycle track - it would be a very visible piece of bike infrastructure that would be representative of DE's bike culture.

Dislike - So wide - lots of ROW required

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

Like - This is my least favorite, limited parking

Dislike - less accessible cycle infrastructure - less conducive to use by more experienced cyclists

5. Which alternative do you like the most? Please explain.

2 - great demonstration project for all of Dover

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

yes it provide a good understanding

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

the poster/picture boards gave good insight to the concepts - this option seems most useful for all

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

the buffer between traffic however most useful maybe #1

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

5. Which alternative do you like the most? Please explain.

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

YES, I WAS LOOKING FOR TIMELINE, CONCEPTS

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

I LIKED THE MULTI-USE PATH OFF ROAD, & REPAVING, ADA UPGRADES

NO ISSUES

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

DID NOT CARE FOR BIKE LANE IN ROAD, SAFETY ISSUES

MAINTENANCE OF DELINEATORS

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

LIKED MULTI-USE OFF OF ROAD

NO UPGRADES TO STREET, ADA

5. Which alternative do you like the most? Please explain.

#1, SAFETY, LESS MAINTENANCE, ADDRESS ADA

ISSUES

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

Who will pay, and how much?

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

I think striping the street may encourage cars to move down the street faster. The crosswalks + last block are the best part, but shared w/ other options.

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

I like this one because ~~we~~ we don't have any other cycle tracks yet and so it looks like an "innovative" solution. Makes people more aware of what's possible. Not particularly useful in this location though - doesn't line up w/ crosswalks.

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

This one I like because it affects Bank Lane overall the least. The road is pretty good as is.

5. Which alternative do you like the most? Please explain.

~~Alternative 1~~ Alternative 3 I think has both the least impact and equal benefit to the other options, and for that I like it the most.

6. Did you request any additional information from a member of the project team at the workshop? If so, please describe and provide your name and address at the end of this form so we are certain to follow up on your request.

Optional: Please provide your information:

Name: Eddie Diaz
Organization: Dover Planning Office
Address: 15 Lockerman Plaza
Email Address: ediaz@dover.de.us

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by Dover/Kent County MPO. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 7, 2019 to:

Dover/Kent County Metropolitan Planning Organization
1783 Friends Way #3
Camden, DE 19934
Email: James.Galvin@doverkentmpo.org
Phone: (302) 387-6030

Sonia Marichic-Goudy

From: James Galvin <James.Galvin@doverkentmpo.org>
Sent: Monday, December 3, 2018 3:07 PM
To: Terry Jaywork
Cc: Sonia Marichic-Goudy; Reed Macmillan
Subject: RE: Bike Lane Study

Mr. Jaywork,

Thank you for your comments. We certainly appreciate comments from interested members of the public too! I hope you get a chance to attend the workshop on Thursday afternoon. Century Engineering has developed a few innovative ways to provide for bicyclists in the Bank Lane corridor. Either way, we'll record your comments in our records of this plan.

Thanks again.

Jim

James J. Galvin, Jr. AICP
Dover/Kent County MPO
302.387.6030 (ph)

From: Terry Jaywork <tjaywork@delawarelaw.com>
Sent: Monday, December 3, 2018 2:44 PM
To: James Galvin <James.Galvin@doverkentmpo.org>
Subject: Bike Lane Study

James,

I am not an interested property owner but an interested member of the public. For what it is worth, I heartily urge the creation of this (and many other bike paths) in Dover and its environs. The Gordon's Pond Bike Loop (Lewes to Rehoboth and working gradually now towards Georgetown) is great. During 9 months of the year it is used by many and in the summer months, by literally 100s of people a day.

Having traveled and biked in the Netherlands, true dedicated bike paths encourage people to use bikes instead of cars – less traffic, less parking issues, less pollution, less expense, better health, etc. etc. etc.

I hope this moves forward and encourages bike paths in more areas of the city.

Terry Jaywork



DOVER

(302) 739-4263
(302) 739-6122 FAX
(302) 739-7428 TDD

18 THE GREEN
DOVER, DELAWARE
TOLL FREE: (888) 363-8808
WWW.DESTATEHOUSING.COM

WILMINGTON

(302) 577-5001
(302) 577-5021 FAX

December 12, 2018

Mr. James Galvin
Dover/Kent MPO
P.O. Box 383
Dover, DE 19903

RE: Bank Lane Bicycle Facility Feasibility Study – December 6, 2018 Public Workshop

Dear Mr. Galvin:

This letter serves as an official response from DSHA with regard to the Thursday, December 6, 2018 Public Workshop for the proposed Bank Lane traffic flow changes. Please consider our requests as listed below:

- 1) We would recommend Bank Lane to remain a 2-way street so to mitigate congestion.
- 2) If Bank Lane is to be 1-way, we would suggest that traffic flow to Governor's Avenue so traffic entering The Green can access our parking areas.
- 3) We recommend moving the bike lane to the south side of Bank Lane so that vehicles can arrive/depart our parking spaces without egress into the active bike lane. This approach could be safer for cyclists.
- 4) Lastly, one accessible parking spot is located on Bank Lane. Employees or guests who identify this parking from the front of our building will not be able to access by turning West on Bank Lane if traffic flows towards The Green. Rather, the driver would need to circle the block.

Thank you for your consideration of the above requests. If you have any questions, please feel free to contact me at (302)739-4263 at extension 252 or via e-mail at steve@destatehousing.com.

Sincerely,

STEVEN G. GHERKE
Construction and Procurement Manager

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?
Yes

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.
I did not like alternative one at all. It did not allow for realistic safe bike lanes.

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.
I liked the bike and pedestrian setup on this one the best. It may have not been the best for motor vehicles but if I had to pick one out of the three, this would be it.

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.
This was the second best option allowing for fairly safe bike and pedestrian lanes and walks but I did not like the expense for the value.

5. Which alternative do you like the most? Please explain.
Number 2 best, then 3 then one for the reasons I explained above.

6. Did you request any additional information from a member of the project team at the workshop? If so, please describe and provide your name and address at the end of this form so we are certain to follow up on your request.

No

Optional: Please provide your information:

Name: David Moses

Organization: Bike and Pedestrian Sub Committee

Address: N/A

Email Address: airwave.dave@verizon.net

X Please add my/our name(s) to the Project Mailing List.

More on back of page →

Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by Dover/Kent County MPO. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 7, 2019 to:

Dover/Kent County Metropolitan Planning Organization

1783 Friends Way #3

Camden, DE 19934

Email: James.Galvin@doverkentmpo.org

Phone: (302) 387-6030

Sonia Marichic-Goudy

From: Fran Riddle <frances.riddle@comcast.net>
Sent: Monday, January 14, 2019 10:15 AM
To: Sonia Marichic-Goudy
Cc: 'Courtney, Carolyn'
Subject: Bank Lane Bike Path Proposals

My thanks to you and your colleagues for last week's presentation to the Bicycle & Pedestrian Subcommittee. It was thorough and helpful (the DelDOT color codes notwithstanding!). I don't pretend to more than a layperson's grasp of design issues, but I do have a few comments:

1. In general, I am in favor of multi-use paths separated from traffic – low stress and efficient, given the volume of walkers & bikers. Thus Alternative 2 is my least favorite.
2. As between Alternatives 1 and 3, I'm ambivalent but do lean toward the one-way option between Governors and the Green. There is very little space to work with in that stretch, and this seems to be a good way to maximize the space for parkers, cars, bikes, and walkers.
3. I am still concerned about the "stress levels" at the intersections and am unclear about how the new paths and new signage will reduce the stress.
4. This seems to me to be a good path for recreational bikers, given links to the Green and the path to Schutte Park, but I wonder about bike commuters – actually and potential. If I were commuting, I'd probably prefer North &/or Water Streets as more direct east/west routes. Are there plans to reduce stress on these roads? This may be beyond the scope of the Bike Lane study and grant options, but I don't want to lose track of the bigger picture for a more "bikeable/walkable" Dover.

Fran Riddle, Member
Bicycle & Pedestrian Subcommittee

Marys

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

good: best option

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

Liked #1 best

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

didn't like

5. Which alternative do you like the most? Please explain.

fix up section from Gov to The Green

Hayes

6. Did you request any additional information from a member of the project team at the workshop? If so, please describe and provide your name and address at the end of this form so we are certain to follow up on your request.

Staff was helpful

Optional: Please provide your information:

Name: Mary Johnston
Organization: Resident of Kent County
Address: 1693 Barratts Chapel Rd Filton
Email Address: gej31957@gmail.com

- Please add my/our name(s) to the Project Mailing List.
- Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by Dover/Kent County MPO. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 7, 2019 to:
Dover/Kent County Metropolitan Planning Organization
1783 Friends Way #3
Camden, DE 19934
Email: James.Galvin@doverkentmpo.org
Phone: (302) 387-6030

Comments:

1. Did the workshop help you better understand the proposed improvements? If not, what questions were unanswered?

Yes. It is a good project.

2. What did you like most about Alternative 1? What did you like least about Alternative 1? Please explain.

I like #1 but is there really room for that?

3. What did you like most about Alternative 2? What did you like least about Alternative 2? Please explain.

Liked how bikes had a separate area

4. What did you like most about Alternative 3? What did you like least about Alternative 3? Please explain.

It ok but doesnt address the problem as much as 1 and 2

5. Which alternative do you like the most? Please explain.

Got Ave to The Green
This section needs the most improvement for safety and aesthetics

6. Did you request any additional information from a member of the project team at the workshop? If so, please describe and provide your name and address at the end of this form so we are certain to follow up on your request.

No but staff was friendly and knowledgeable on the subject.

Optional: Please provide your information:

Name: Carolyn Courtney
Organization: Resident of Dover
Address: 24 Lamplighter Lane
Email Address: LLLane24@gmail.com

Please add my/our name(s) to the Project Mailing List.

Please delete my/our name(s) from the Project Mailing List.

Your comments and opinions are very important. All information provided on this form will be carefully reviewed by Dover/Kent County MPO. Under state law, this form is public domain, and if requested, a copy of it must be provided to the media or public. Thank you for your participation and contributions to this important transportation project.

Please hand your comment sheets in at the workshop or mail/email prior to January 7, 2019 to:
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Camden, DE 19934
Email: James.Galvin@doverkentmpo.org
Phone: (302) 387-6030

| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | TOTAL PROJECT QUANTITY | TOTAL PROJECT COST |
|----------|-------------------------------------------------------------------------------------------------|--------|-------------|------------------------|-----------------------|
| 201000 | CLEARING AND GRUBBING | LS | \$10,000.00 | 1.00 | \$10,000.00 |
| 202000 | EXCAVATION AND EMBANKMENT | CY | \$40.00 | 630.00 | \$25,200.00 |
| 209001 | BORROW, TYPE A | CY | \$70.00 | 10.00 | \$700.00 |
| 209006 | BORROW, TYPE F | CY | \$65.00 | 160.00 | \$10,400.00 |
| 211000 | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | \$5,000.00 | 1.00 | \$5,000.00 |
| 211001 | REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK | SY | \$25.00 | 1590.00 | \$39,750.00 |
| 301001 | GRADED AGGREGATE BASE COURSE, TYPE B | CY | \$65.00 | 210.00 | \$13,650.00 |
| 301002 | GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING | CY | \$120.00 | 90.00 | \$10,800.00 |
| 401005 | BITUMINOUS CONCRETE, SUPERPAVE TYPE C, 160 GYRATIONS PG 64-22 (CARBONATE STONE) | TON | \$105.00 | 761.00 | \$79,905.00 |
| 401030 | BITUMINOUS CONCRETE, SUPERPAVE TYPE B, 160 GYRATIONS PG 64-22 PATCHING | TON | \$150.00 | 94.00 | \$14,100.00 |
| 401031 | BITUMINOUS CONCRETE, SUPERPAVE BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS PG 64-22 PATCHING | TON | \$150.00 | 92.00 | \$13,800.00 |
| 601032 | REINFORCED CONCRETE PIPE, 15", CLASS IV | LF | \$100.00 | 4.00 | \$400.00 |
| 602003 | DRAINAGE INLET, 34" X 24" | EACH | \$3,000.00 | 1.00 | \$3,000.00 |
| 602130 | ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET | EACH | \$2,000.00 | 6.00 | \$12,000.00 |
| 602132 | ADJUSTING AND REPAIRING EXISTING MANHOLE | EACH | \$1,000.00 | 13.00 | \$13,000.00 |
| 602501 | CONVERTING DRAINAGE INLET TO JUNCTION BOX | EACH | \$2,500.00 | 1.00 | \$2,500.00 |
| 619001 | BRICK MASONRY | SF | \$20.00 | 1340.00 | \$26,800.00 |
| 701012 | P.C.C. CURB, TYPE 1-6 | LF | \$38.00 | 1485.00 | \$56,430.00 |
| 701019 | I.P.C.C. CURB AND GUTTER, TYPE 2 | LF | \$45.00 | 1330.00 | \$59,850.00 |
| 705001 | PCC SIDEWALK, 4" | SF | \$8.00 | 12090.00 | \$96,720.00 |
| 705002 | PCC SIDEWALK, 6" | SF | \$12.00 | 2100.00 | \$25,200.00 |
| 705005 | PCC SIDEWALK, 8" | SF | \$25.00 | 5870.00 | \$88,050.00 |
| 705007 | SIDEWALK SURFACE DETECTABLE WARNING SYSTEM | SF | \$35.00 | 192.00 | \$6,720.00 |
| 705504 | BRICK AND/OR BLOCK SIDEWALK | SF | \$25.00 | 3220.00 | \$80,500.00 |
| 710002 | ADJUST WATER VALVE BOXES | EACH | \$500.00 | 7.00 | \$3,500.00 |
| 710003 | ADJUST FIRE HYDRANTS | EACH | \$5,000.00 | 1.00 | \$5,000.00 |
| 711500 | ADJUST AND REPAIR EXISTING SANITARY MANHOLE | EACH | \$5,000.00 | 1.00 | \$5,000.00 |
| 720557 | BOLLARD, STEEL | EACH | \$750.00 | 4.00 | \$3,000.00 |
| 760012 | PAVEMENT MILLING, BITUMINOUS CONCRETE/PAVEMENT, VARIABLE DEPTH | SYIN | \$5.00 | 13500.00 | \$67,500.00 |
| 762000 | SAW CUTTING, BITUMINOUS CONCRETE | LF | \$5.00 | 2815.00 | \$14,075.00 |
| 801000 | MAINTENANCE OF TRAFFIC | LS | \$40,000.00 | 1.00 | \$40,000.00 |
| 806001 | TRAFFIC OFFICERS | HOURLY | \$75.00 | 560.00 | \$42,000.00 |
| 811002 | FLAGGER, KENT COUNTY, STATE | HOURLY | \$55.00 | 1200.00 | \$66,000.00 |
| 811014 | FLAGGER, KENT COUNTY, STATE, OVERTIME | HOURLY | \$82.50 | 600.00 | \$49,500.00 |
| 817002 | PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC | SF | \$15.00 | 762.00 | \$11,430.00 |
| 817013 | PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5" | LF | \$8.50 | 6100.00 | \$51,850.00 |
| 819018 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGNPOST | EACH | \$95.00 | 32.00 | \$3,040.00 |
| 819018 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGNPOST | EACH | \$95.00 | 32.00 | \$3,040.00 |
| 905001 | SILT FENCE | LF | \$4.00 | 2820.00 | \$11,280.00 |
| 905005 | INLET SEDIMENT CONTROL, CURB INLET | EACH | \$200.00 | 7.00 | \$1,400.00 |
| 908004 | TOPSOIL, 6" DEPTH | SY | \$8.00 | 1060.00 | \$8,480.00 |
| 908014 | PERMANENT GRASS SEEDING, DRY GROUND | SY | \$2.50 | 1060.00 | \$2,650.00 |
| 908017 | TEMPORARY GRASS SEEDING | SY | \$1.00 | 1060.00 | \$1,060.00 |
| | SUBTOTAL | | | | \$1,087,540.00 |
| | MISCELLANEOUS CONSTRUCTION ITEMS | LS | 15% | 1.00 | \$54,377.00 |
| | SUBTOTAL | | | | \$1,141,917.00 |
| 763000 | INITIAL EXPENSE/DE-MOBILIZATION | LS | \$0 | 1.00 | \$57,095.85 |
| 763501 | CONSTRUCTION ENGINEERING | LS | \$0 | 1.00 | \$57,095.85 |
| | TOTAL CONSTRUCTION COST | | | | \$1,256,109.00 |

| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | TOTAL PROJECT QUANTITY | TOTAL PROJECT COST |
|--------------------------------|---------------------------------|------|--------------|------------------------|-----------------------|
| ADDITIONAL DELDOT COSTS | | | | | |
| | CONSTRUCTION CONTINGENCY | LS | \$125,610.90 | 1 | \$125,610.90 |
| | CE | LS | \$30,000.00 | 1 | \$30,000.00 |
| | ITMS | LS | \$0.00 | 0 | \$0.00 |
| | UTILITIES | LS | \$50,000.00 | 1 | \$50,000.00 |
| | ASPHALT ADJUSTMENTS | LS | \$7,439.65 | 1 | \$7,439.65 |
| | TEMPORARY CONSTRUCTION EASEMENT | SF | \$5.00 | 0 | \$0.00 |
| | PERMANENT EASEMENT | SF | \$7.50 | 7,506 | \$56,295.00 |
| | SUBTOTAL | | | | \$1,525,500.00 |
| | PRELIMINARY ENGINEERING | LS | \$150,000.00 | 1.00 | \$150,000.00 |
| TOTAL PROJECT COST | | | | | \$1,675,500.00 |

NOTES: THIS IS A 150 CALENDAR DAY CONTRACT.

| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | TOTAL PROJECT QUANTITY | TOTAL PROJECT COST |
|--------------------------------|-------------------------------------------------------------------------------------------------|--------|--------------|------------------------|------------------------|
| 201000 | CLEARING AND GRUBBING | LS | \$ 10,000.00 | 1.00 | \$ 10,000.00 |
| 202000 | EXCAVATION AND EMBANKMENT | CY | \$ 40.00 | 1040.00 | \$ 41,600.00 |
| 209001 | BORROW, TYPE A | CY | \$ 70.00 | 10.00 | \$ 700.00 |
| 209006 | BORROW, TYPE F | CY | \$ 65.00 | 160.00 | \$ 10,400.00 |
| 211000 | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | \$ 5,000.00 | 1.00 | \$ 5,000.00 |
| 211001 | REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK | SY | \$ 25.00 | 1590.00 | \$ 39,750.00 |
| 301001 | GRADED AGGREGATE BASE COURSE, TYPE B | CY | \$ 65.00 | 210.00 | \$ 13,650.00 |
| 301002 | GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING | CY | \$ 120.00 | 240.00 | \$ 28,800.00 |
| 401005 | BITUMINOUS CONCRETE, SUPERPAVE TYPE C, 160 GYRATIONS PG 64-22 (CARBONATE STONE) | TON | \$ 105.00 | 1802.00 | \$ 189,210.00 |
| 401030 | BITUMINOUS CONCRETE, SUPERPAVE TYPE B, 160 GYRATIONS PG 64-22 PATCHING | TON | \$ 150.00 | 242.00 | \$ 36,300.00 |
| 401031 | BITUMINOUS CONCRETE, SUPERPAVE BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS PG 64-22 PATCHING | TON | \$ 150.00 | 240.00 | \$ 36,000.00 |
| 601032 | REINFORCED CONCRETE PIPE, 15", CLASS IV | LF | \$ 100.00 | 8.00 | \$ 800.00 |
| 602003 | DRAINAGE INLET, 34" X 24" | EACH | \$ 3,000.00 | 1.00 | \$ 3,000.00 |
| 602130 | ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET | EACH | \$ 2,000.00 | 6.00 | \$ 12,000.00 |
| 602132 | ADJUSTING AND REPAIRING EXISTING MANHOLE | EACH | \$ 1,000.00 | 13.00 | \$ 13,000.00 |
| 602501 | CONVERTING DRAINAGE INLET TO JUNCTION BOX | EACH | \$ 2,500.00 | 1.00 | \$ 2,500.00 |
| 619001 | BRICK MASONRY | SF | \$ 20.00 | 1340.00 | \$ 26,800.00 |
| 701012 | P.C.C. CURB, TYPE 1-6 | LF | \$ 38.00 | 1485.00 | \$ 56,430.00 |
| 701019 | I.P.C.C. CURB AND GUTTER, TYPE 2 | LF | \$ 45.00 | 1330.00 | \$ 59,850.00 |
| 705001 | PCC SIDEWALK, 4" | SF | \$ 8.00 | 5800.00 | \$ 46,400.00 |
| 705002 | PCC SIDEWALK, 6" | SF | \$ 12.00 | 1050.00 | \$ 12,600.00 |
| 705005 | PCC SIDEWALK, 8" | SF | \$ 15.00 | 5870.00 | \$ 88,050.00 |
| 705007 | SIDEWALK SURFACE DETECTABLE WARNING SYSTEM | SF | \$ 35.00 | 192.00 | \$ 6,720.00 |
| 710002 | ADJUST WATER VALVE BOXES | EACH | \$ 500.00 | 7.00 | \$ 3,500.00 |
| 710041 | RELOCATING FIRE HYDRANT | EACH | \$ 5,000.00 | 1.00 | \$ 5,000.00 |
| 720557 | BOLLARD, STEEL | EACH | \$ 750.00 | 4.00 | \$ 3,000.00 |
| 711500 | ADJUST AND REPAIR EXISTING SANITARY MANHOLE | EACH | \$ 5,000.00 | 1.00 | \$ 5,000.00 |
| 762000 | SAW CUTTING, BITUMINOUS CONCRETE | LF | \$ 5.00 | 2815.00 | \$ 14,075.00 |
| 760012 | PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH | SYIN | \$ 5.00 | 14100.00 | \$ 70,500.00 |
| 801000 | MAINTENANCE OF TRAFFIC | LS | \$ 40,000.00 | 1.00 | \$ 40,000.00 |
| 806001 | TRAFFIC OFFICERS | HOURLY | \$ 75.00 | 560.00 | \$ 42,000.00 |
| 811002 | FLAGGER, KENT COUNTY, STATE | HOURLY | \$ 55.00 | 1200.00 | \$ 66,000.00 |
| 811014 | FLAGGER, KENT COUNTY, STATE, OVERTIME | HOURLY | \$ 82.50 | 600.00 | \$ 49,500.00 |
| 817002 | PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC | SF | \$ 15.00 | 762.00 | \$ 11,430.00 |
| 817013 | PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5" | LF | \$ 8.50 | 9600.00 | \$ 81,600.00 |
| 817015 | PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL | EACH | \$ 350.00 | 18.00 | \$ 6,300.00 |
| 819018 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGNPOST | EACH | \$ 95.00 | 32.00 | \$ 3,040.00 |
| 905001 | SILT FENCE | LF | \$ 4.00 | 2820.00 | \$ 11,280.00 |
| 905005 | INLET SEDIMENT CONTROL, CURB INLET | EACH | \$ 200.00 | 7.00 | \$ 1,400.00 |
| 908004 | TOPSOIL, 6" DEPTH | SY | \$ 8.00 | 1060.00 | \$ 8,480.00 |
| 908014 | PERMANENT GRASS SEEDING, DRY GROUND | SY | \$ 2.50 | 1060.00 | \$ 2,650.00 |
| 908017 | TEMPORARY GRASS SEEDING | SY | \$ 1.00 | 1060.00 | \$ 1,060.00 |
| | SUBTOTAL | | | | \$ 1,211,575.00 |
| | MISCELLANEOUS CONSTRUCTION ITEMS | LS | 15% | 1.00 | \$ 60,578.75 |
| | SUBTOTAL | | | | \$ 1,272,153.75 |
| 763000 | INITIAL EXPENSE/DE-MOBILIZATION | LS | 5% | 1.00 | \$ 63,607.69 |
| 763501 | CONSTRUCTION ENGINEERING | LS | 5% | 1.00 | \$ 63,607.69 |
| | TOTAL CONSTRUCTION COST | | | | \$ 1,399,369.00 |
| ADDITIONAL DELDOT COSTS | | | | | |

| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | TOTAL PROJECT QUANTITY | TOTAL PROJECT COST |
|---------------------------|---------------------------------|------|---------------|------------------------|------------------------|
| | CONSTRUCTION CONTINGENCY | LS | \$ 139,936.90 | 1.00 | \$ 139,936.90 |
| | CE | LS | \$ 30,000.00 | 1.00 | \$ 30,000.00 |
| | ITMS | LS | \$ - | 0.00 | \$ - |
| | UTILITIES | LS | \$ 50,000.00 | 1.00 | \$ 50,000.00 |
| | ASPHALT ADJUSTMENTS | LS | \$ 17,892.20 | 1.00 | \$ 17,892.20 |
| | TEMPORARY CONSTRUCTION EASEMENT | SF | \$ 5.00 | 0.00 | \$ - |
| | PERMANENT EASEMENT | SF | \$ 7.50 | 8980.00 | \$ 67,350.00 |
| | SUBTOTAL | | | | \$ 1,704,500.00 |
| | PRELIMINARY ENGINEERING | LS | \$ 150,000.00 | 1.00 | \$ 150,000.00 |
| TOTAL PROJECT COST | | | | | \$ 1,854,500.00 |

NOTES: THIS IS A 150 CALENDAR DAY CONTRACT.

| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | TOTAL PROJECT QUANTITY | TOTAL PROJECT COST |
|--------------------------------|-------------------------------------------------------------------------------------------------|--------|--------------|------------------------|-----------------------|
| 201000 | CLEARING AND GRUBBING | LS | \$10,000.00 | 1.00 | \$10,000.00 |
| 202000 | EXCAVATION AND EMBANKMENT | CY | \$40.00 | 440.00 | \$15,400.00 |
| 209001 | BORROW, TYPE A | CY | \$70.00 | 50.00 | \$2,500.00 |
| 209006 | BORROW, TYPE F | CY | \$65.00 | 160.00 | \$4,800.00 |
| 211000 | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | \$5,000.00 | 1.00 | \$5,000.00 |
| 211001 | REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK | SY | \$25.00 | 1590.00 | \$39,750.00 |
| 301001 | GRADED AGGREGATE BASE COURSE, TYPE B | CY | \$65.00 | 490.00 | \$31,850.00 |
| 301002 | GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING | CY | \$120.00 | 30.00 | \$3,600.00 |
| 401005 | BITUMINOUS CONCRETE, SUPERPAVE TYPE C, 160 GYRATIONS PG 64-22 (CARBONATE STONE) | TON | \$105.00 | 230.00 | \$24,150.00 |
| 401030 | BITUMINOUS CONCRETE, SUPERPAVE TYPE B, 160 GYRATIONS PG 64-22 PATCHING | TON | \$150.00 | 30.00 | \$4,500.00 |
| 401031 | BITUMINOUS CONCRETE, SUPERPAVE BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS PG 64-22 PATCHING | TON | \$150.00 | 30.00 | \$4,500.00 |
| 619001 | BRICK MASONRY | SF | \$20.00 | 1340.00 | \$26,800.00 |
| 701012 | P.C.C. CURB, TYPE 1-6 | LF | \$38.00 | 1485.00 | \$56,430.00 |
| 705001 | PCC SIDEWALK, 4" | SF | \$8.00 | 5800.00 | \$46,400.00 |
| 705002 | PCC SIDEWALK, 6" | SF | \$12.00 | 1620.00 | \$19,440.00 |
| 705005 | PCC SIDEWALK, 8" | SF | \$20.00 | 5870.00 | \$117,400.00 |
| 705007 | SIDEWALK SURFACE DETECTABLE WARNING SYSTEM | SF | \$35.00 | 192.00 | \$6,720.00 |
| 710003 | ADJUST FIRE HYDRANTS | EACH | \$5,000.00 | 1.00 | \$5,000.00 |
| 720557 | BOLLARD, STEEL | EACH | \$750.00 | 4.00 | \$3,000.00 |
| 760012 | PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH | SYIN | \$5.00 | 1200.00 | \$6,000.00 |
| 762000 | SAW CUTTING, BITUMINOUS CONCRETE | LF | \$5.00 | 2815.00 | \$14,075.00 |
| 801000 | MAINTENANCE OF TRAFFIC | LS | \$40,000.00 | 1.00 | \$40,000.00 |
| 806001 | TRAFFIC OFFICERS | HOURLY | \$75.00 | 560.00 | \$42,000.00 |
| 811002 | FLAGGER, KENT COUNTY, STATE | HOURLY | \$55.00 | 1200.00 | \$66,000.00 |
| 811014 | FLAGGER, KENT COUNTY, STATE, OVERTIME | HOURLY | \$82.50 | 600.00 | \$49,500.00 |
| 817002 | PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC | SF | \$15.00 | 540.00 | \$8,100.00 |
| 817013 | PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5" | LF | \$8.50 | 2100.00 | \$17,850.00 |
| 819018 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGNPOST | EACH | \$95.00 | 32.00 | \$3,040.00 |
| 819018 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGNPOST | EACH | \$95.00 | 32.00 | \$3,040.00 |
| 905005 | INLET SEDIMENT CONTROL, CURB INLET | EACH | \$200.00 | 7.00 | \$1,400.00 |
| 908004 | TOPSOIL, 6" DEPTH | SY | \$8.00 | 1060.00 | \$8,480.00 |
| 908014 | PERMANENT GRASS SEEDING, DRY GROUND | SY | \$2.50 | 1060.00 | \$2,650.00 |
| 908017 | TEMPORARY GRASS SEEDING | SY | \$1.00 | 1060.00 | \$1,060.00 |
| | SUBTOTAL | | | | \$690,435.00 |
| | MISCELLANEOUS CONSTRUCTION ITEMS | LS | 5% | 1.00 | \$34,684.75 |
| | SUBTOTAL | | | | \$728,379.75 |
| 763000 | INITIAL EXPENSE/DE-MOBILIZATION | LS | \$0 | 1.00 | \$36,418.99 |
| 763501 | CONSTRUCTION ENGINEERING | LS | \$0 | 1.00 | \$36,418.99 |
| | TOTAL CONSTRUCTION COST | | | | \$801,000.00 |
| ADDITIONAL DELDOT COSTS | | | | | |
| | CONSTRUCTION CONTINGENCY | LS | \$80,100.00 | 1 | \$80,100.00 |
| | CE | LS | \$200,000.00 | 1 | \$200,000.00 |
| | ITMS | LS | \$0.00 | 0 | \$0.00 |
| | UTILITIES | LS | \$5,000.00 | 1 | \$5,000.00 |
| | ASPHALT ADJUSTMENTS | LS | \$2,273.50 | 1 | \$2,273.50 |
| | TEMPORARY CONSTRUCTION EASEMENT | SF | \$5.00 | 0 | \$0.00 |
| | PERMANENT EASEMENT | SF | \$7.50 | 7,506 | \$56,295.00 |
| | PRELIMINARY ENGINEERING | LS | \$150,000.00 | 1.00 | \$150,000.00 |
| | TOTAL PROJECT COST | | | | \$1,294,700.00 |

NOTES: THIS IS A 150 CALENDAR DAY CONTRACT.