



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

December 21, 2020

Ms. Samantha Zimmerman  
A + E Group, Inc.  
140 Maffett Street  
Wilkes-Barre, PA 18705

Dear Ms. Zimmerman:

The enclosed Traffic Impact Study (TIS) letter for the **USPS Dover – Carrier Annex** (Protocol Tax Parcel #2-05-07612-04-2700-00001) development has been completed under the responsible charge of a registered professional engineer whose firm is authorized to work in the State of Delaware. They prepared the TIS in accordance with DelDOT's Development Coordination Manual and other accepted practices and procedures for such studies. DelDOT accepts this letter and concurs with the recommendations. If you have any questions concerning this letter or the enclosed review letter, please contact me at (302) 760-2167.

Sincerely,  
*Troy Brestel*  
Troy Brestel  
Project Engineer

TEB:km

Enclosures

cc with enclosures: Mr. J. Michael Riemann, Becker Morgan Group, Inc.  
Ms. Constance C. Holland, Office of State Planning Coordination  
Mr. David Hugg, City of Dover  
Ms. Dawn Melson-Williams, City of Dover  
Mr. Andrew Parker, McCormick Taylor, Inc.  
DelDOT Distribution

## DelDOT Distribution

Brad Eaby, Deputy Attorney General  
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Todd Sammons, Assistant Director, Development Coordination  
T. William Brockenbrough, Jr., County Coordinator, Development Coordination  
Peter Haag, Chief Traffic Engineer, Traffic, DOTS  
Matthew Lichtenstein, Central District Engineer, Central District  
Richard McCabe, Central District Public Works Engineer, Central District  
Kerry Yost, Traffic Calming and Subdivision Relations, Traffic, DOTS  
Jared Kauffmann, Service Development Planner, Delaware Transit Corporation  
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning  
Wendy Polasko, Subdivision Engineer, Development Coordination  
Olayiwola Okesola, Kent Review Coordinator, Development Coordination  
Joshua Schwartz, Subdivision Manager, Development Coordination  
Mark Galipo, Traffic Engineer, Traffic, DOTS  
Claudy Joinville, Project Engineer, Development Coordination



December 21, 2020

Mr. Troy E. Brestel  
Project Engineer  
DelDOT Division of Planning  
P.O. Box 778  
Dover, DE 19903

RE: Agreement No. 1946F  
Traffic Impact Study Services  
**Task No. 2B: USPS Dover Carrier Annex and Retail Development**

Dear Mr. Brestel:

McCormick Taylor has completed the Traffic Impact Study (TIS) for USPS Dover Carrier Annex and Retail Development. This TIS was assigned as Task Number 2B. McCormick Taylor prepared the report in a manner generally consistent with DelDOT’s Development Coordination Manual.

The TIS evaluates the impacts of a USPS Carrier Annex, bounded on all four sides by West North Street on the north, Bank Lane on the south, South Queen Street (Kent Road 190A) on the east, and South West Street (Kent Road 190) on the west, within the City of Dover in Kent County, Delaware. The proposed site will be a 20,393 square-foot USPS carrier annex and retail development on an approximately 5.03-acre assemblage of parcels. Five access points are proposed: two on Bank Lane (customer entrance), one on West North Street (carrier vehicle entrance), one on South West Street (employee entrance), and one on South Queen Street (tractor-trailer entrance). Construction is anticipated to be completed in 2021.

The land is currently zoned C-3 (Service Commercial) within the City of Dover, and the developer does not plan to rezone the land.

Currently, there are no active DelDOT projects within the study area.

Based on our review, we have the following comments and recommendations:

The following intersection exhibits level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements:

<i>Intersection</i>	<i>Existing Traffic Control</i>	<i>Situations for which deficiencies occur</i>
W. North Street and S. West Street	Unsignalized	2021 without USPS AM & PM (Case 2); 2021 with USPS AM & PM (Case 3)

### West North Street and South West Street

This unsignalized intersection experiences LOS deficiencies in the weekday AM and PM peak hours under 2021 conditions both without and with the USPS development. All LOS deficiencies would occur on the stop-controlled northbound South West Street approach. In the worst-case scenario, which is 2021 PM peak with the USPS development, the northbound approach would experience an average delay of approximately 300 seconds per vehicle with a 95<sup>th</sup> percentile queue length of approximately 400 feet. This average delay is an increase of more than 60 seconds over the delay of 2021 PM peak hour without the USPS development. It is anticipated that the projected LOS deficiencies would be resolved by installing a traffic signal at the intersection, as described below in Item No. 7. It is noted that installing a signal would introduce delays and queues that don't presently exist on the eastbound and westbound approaches of West North Street. Incorporating the traffic signal with the adjacent at-grade railroad crossing is critical for safe and efficient operations.

Should the City of Dover choose to approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan by note or illustration. All applicable agreements (i.e. letter agreements for off-site improvements and traffic signal agreements) should be executed prior to entrance plan approval for the proposed development.

1. The developer shall improve the State-maintained road(s) on which they front (South West Street and South Queen Street), within the limits of their frontage, to meet DelDOT's standards for their Functional Classification as found in Section 1.1 of the Development Coordination Manual and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer's lands are on one or both sides of the road. Frontage is defined in Section 1 of the Development Coordination Manual, which states "This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway." Questions on or appeals of this requirement should be directed to the DelDOT Subdivision Review Coordinator in whose area the development is located.

If the developer finds they cannot improve South West Street and South Queen Street within their frontage to meet DelDOT's standards, they may apply for design deviation(s). Details of the improvements and/or possible design deviation(s) must be coordinated with DelDOT's Development Coordination Section.

2. The developer should construct Site Access A along West North Street. The desired access location is directly across from Jerusalem Way, although there may be utility conflicts making that location impractical. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Northbound USPS Site Access A	Does not exist	One shared left/through/right-turn lane
Southbound Jerusalem Way	One shared left/right-turn lane	One shared left/through/right-turn lane
Eastbound W. North Street	One shared left-turn/through lane	One shared left/through/right-turn lane
Westbound W. North Street	One shared through/right-turn lane	One shared left/through/right-turn lane

Note that West North Street is maintained by the City of Dover, not the State of Delaware. As such, the City's requirements apply, not the State's.

3. The developer should construct Site Access B (eastern driveway) along Bank Lane. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Southbound USPS Site Access B	Does not exist	One shared left/right-turn lane
Eastbound Bank Lane	One through lane	One shared left-turn/through lane
Westbound Bank Lane	One through lane	One shared through/right-turn lane

Note that Bank Lane is maintained by the City of Dover, not the State of Delaware. As such, the City's requirements apply, not the State's.

4. The developer should construct Site Access C (western driveway) along Bank Lane. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Southbound USPS Site Access C	Does not exist	One shared left/right-turn lane
Eastbound Bank Lane	One through lane	One shared left-turn/through lane
Westbound Bank Lane	One through lane	One shared through/right-turn lane

Note that Bank Lane is maintained by the City of Dover, not the State of Delaware. As such, the City's requirements apply, not the State's.

5. The developer should construct Site Access D along South West Street. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Northbound S. West Street	One through lane	One through lane and one right-turn lane
Southbound S. West Street	One through lane	One shared left-turn/through lane
Westbound USPS Site Access D	Does not exist	One shared left/right-turn lane

Initial recommended minimum turn-lane lengths (excluding tapers) of the separate turn lanes are listed below. The developer should coordinate with DelDOT's Development Coordination Section to determine final turn-lane lengths during the site plan review.

<b>Approach</b>	<b>Left-Turn Lane</b>	<b>Right-Turn Lane</b>
Northbound S. West Street	N/A	100 feet *
Southbound S. West Street	N/A	N/A

\* Initial turn-lane length based on DelDOT's *Auxiliary Lane Worksheet*

If the developer desires to not construct the warranted right-turn lane on northbound South West Street, they may apply for a design deviation. Details of the turn lane design or possible design deviation must be coordinated with DelDOT's Development Coordination Section.

6. The developer should construct Site Access E along South Queen Street. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Northbound S. Queen Street	One through lane	One shared left-turn/through lane
Southbound S. Queen Street	One through lane	One shared through/right-turn lane
Eastbound USPS Site Access E	Does not exist	One shared left/right-turn lane

7. The developer should enter into a traffic signal agreement with DelDOT for design and construction of a future traffic signal for the intersection of West North Street and South West Street. The agreement should include pedestrian signals, crosswalks, interconnection, and ITS equipment such as CCTV cameras and railroad preemption at DelDOT's discretion. Incorporating the traffic signal with the adjacent at-grade railroad crossing is critical for safe and efficient operations. The construction schedule of the new traffic signal is yet to be determined by DelDOT. The developer should coordinate with DelDOT on the design details and implementation of the traffic signal. The agreement should provide for installation and activation of the signal at DelDOT's discretion.

Entering into a Traffic Signal Revolving Fund (TSRF) agreement for this intersection is an option instead of the traditional traffic signal agreement. If the TSRF is utilized, DelDOT has determined the amount of the developer's contribution will not exceed \$10,576.39. The developer should coordinate with DelDOT's Development Coordination Section regarding the appropriate type of agreement needed and details thereof.

We recommend keeping the existing lane configurations on each approach when this intersection is signalized. The left-turn restriction on westbound West North Street should remain in place, and additional signing and/or other physical measures should be incorporated into the design to prevent illegal left turns onto South West Street.

8. Because each site access is intended for specific types of traffic only (employees on South West Street, customers on Bank Lane, carrier vehicles on West North Street, and tractor-trailers on South Queen Street), the developer must install appropriate signage to inform drivers on the adjacent street of the intended usage and restrictions for each site access.
9. The following bicycle, pedestrian, and transit improvements should be included:
  - a. Appropriate bicycle symbols, directional arrows, pavement markings, and signing should be included along bicycle facilities within the project limits.
  - b. Utility covers should be made flush with the pavement.
  - c. A minimum 15-foot wide easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontage along South West Street and South Queen Street.
  - d. Maintain all existing shared-use paths and sidewalks on all four sides of the property. For any existing driveways that are being closed as part of the redevelopment of the property, shared-use path or sidewalk as appropriate will need to be constructed within the footprint of the former driveway to connect the existing pedestrian facilities on either side.



- e. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
- f. Internal sidewalks for pedestrian safety should be constructed within the development. These sidewalks should each be a minimum of five feet wide and should meet current AASHTO and ADA standards. These internal sidewalks should connect to the shared-use paths and sidewalks on all four sides of the property.
- g. Where internal sidewalks are located alongside of parking spaces, a buffer should be added to prevent vehicular overhang onto the sidewalk.
- h. The developer should coordinate with the Delaware Transit Corporation (DTC) regarding the possibility of including a bus stop to be located along the South Queen Street site frontage.

Improvements in this TIS may be considered “significant” under DelDOT’s *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT’s website at [http://deldot.gov/Publications/manuals/de\\_mutcd/index.shtml](http://deldot.gov/Publications/manuals/de_mutcd/index.shtml).

Please note that this study generally focuses on capacity and level of service issues; additional safety and operational issues will be further addressed through DelDOT’s site plan review process.

Additional details regarding this TIS are attached. Please contact me at (610) 640-3500 or through e-mail at [ajparker@mccormicktaylor.com](mailto:ajparker@mccormicktaylor.com) if you have any questions concerning this TIS.

Sincerely,

**McCormick Taylor, Inc.**

A handwritten signature in black ink, appearing to read "Andrew J. Parker".

Andrew J. Parker, P.E., PTOE  
Project Manager

Enclosure



## **General Information**

**Report date:** November 2020

**Prepared by:** McCormick Taylor, Inc.

**Prepared for:** A + E Group, inc.

**Tax parcel:** ED-05-076.12-04-27.00, 32.00, 32.01, 33.00

## **Project Description and Background**

**Description:** The proposed site would consist of a 20,393 square-foot USPS carrier annex and retail development

**Location:** The project site is bounded on all four sides by West North Street on the north, Bank Lane on the south, South Queen Street (Kent Road 190A) on the east, and South West Street (Kent Road 190) on the west, within the City of Dover in Kent County, Delaware. A site location map is included on page 8, along with a site plan on page 9.

**Amount of land to be developed:** approximately 5.03-acre assemblage of parcels

**Land use approval(s) needed:** Subdivision approval. The land is currently zoned C-3 (Service Commercial) within the City of Dover, and the developer does not plan to rezone the land.

**Proposed completion date:** 2021

**Proposed access locations:** Five access points are proposed: two on Bank Lane (customer entrance), one on West North Street (carrier vehicle entrance), one on South West Street (employee entrance), and one on South Queen Street (tractor-trailer entrance).

### **Daily Traffic Volumes (per DelDOT Traffic Summary 2019):**

- 2019 Average Annual Daily Traffic on South Queen Street: 7,943 vpd
- 2019 Average Annual Daily Traffic on South West Street: 8,475 vpd





**Livable Delaware**

*(Source: Delaware Strategies for State Policies and Spending, July 2004)*

**Location with respect to the Strategies for State Policies and Spending Map of Delaware:**

The proposed USPS Dover is located within Investment Level 1.

*Investment Level 1*

Investment Level 1 Areas are often municipalities, towns, or urban/urbanizing places in counties. Density is generally higher than in the surrounding areas. There are a variety of transportation opportunities available. Buildings may have mixed used, such as a business on the first floor and apartments above.

In Investment Level 1 Areas, the state investments and policies should support and encourage a wide range of uses and densities, promote other transportation options, foster efficient use of existing public and private investments, and enhance community identity and integrity. Overall, it is the state's intent to use its spending and management tools to maintain and enhance community character, to promote well-designed and efficient new growth, and to facilitate redevelopment in Investment 1 Areas. These areas would be prime location for designating "pre-permitted areas" to help steer development where citizens are most prepared to accept it.

**Proposed Development's Compatibility with Livable Delaware:**

The proposed USPS Dover Carrier Annex and Retail Development falls within Investment Levels 1 and is to be developed as commercial site. The proposed development is consistent with the character of Investment Level 1. It is therefore concluded that the proposed development generally complies with the policies stated in the 2010 update of the Livable Delaware "Strategies for State Policies and Spending."

**Comprehensive Plan**

**Kent County Comprehensive Plan:**

*(Source: Kent County Comprehensive Plan Update, June 2008)*

The Kent County Comprehensive Plan Future Land Use Map indicates that the USPS Dover Carrier Annex is in the City of Dover, a municipality. Kent County strongly favors directing development to municipalities that desire it. The specific permitted uses and densities governing new construction within an incorporated municipality will continue to be governed by that municipality's zoning ordinance, its public water and sewer capacities, and its comprehensive planning policies.

**City of Dover Comprehensive Plan:**

*(Source: City of Dover Comprehensive Plan, 2019)*

The City of Dover’s Comprehensive Plan Future Land Use Map indicates that the proposed USPS Dover Carrier Annex site is planned for “Mixed Use” land use. It would appear that the proposed post office fits within the intended land use for this location.

**Proposed Development’s Compatibility with Comprehensive Plan:**

The proposed development appears to comply with the City of Dover’s Comprehensive Plan. The USPS Carrier Annex is proposed on land that is planned for mixed use, and the land is currently zoned C-3 (Service Commercial). The proposed commercial facility generally aligns with both the Future Land Use Map and the existing zoning.

**Relevant Projects in the DelDOT Capital Transportation Program**

DelDOT has no existing projects within the study area.

**Trip Generation**

Trip generation for the proposed development was computed using comparable land uses and equations contained in Trip Generation, Tenth Edition, published by the Institute of Transportation Engineers (ITE). The following land uses were utilized to estimate the amount of new traffic generated for this development:

- 20,393 square-foot USPS carrier annex and retail. (Post Office - ITE Land Use Code 732)

Table 1  
USPS DOVER CARRIER ANNEX PEAK HOUR TRIP GENERATION

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
USPS Dover Carrier Annex (20,393 SF)	115	106	221	117	112	229
<b>TOTAL NEW TRIPS</b>	<b>115</b>	<b>106</b>	<b>221</b>	<b>117</b>	<b>112</b>	<b>229</b>

Table 2  
USPS DOVER CARRIER ANNEX DAILY TRIP GENERATION

Land Use	Weekday Daily		
	In	Out	Total
USPS Dover Carrier Annex (20,393 SF)	1060	1060	2120
<b>TOTAL NEW TRIPS</b>	<b>1060</b>	<b>1060</b>	<b>2120</b>

## **Overview of TIS**

### **Intersections examined:**

- 1) Site Access A & W. North Street
- 2) Site Access B & Bank Lane – East
- 3) Site Access C & Bank Lane – West
- 4) Site Access D & S. West Street (Kent Road 190)
- 5) Site Access E & S. Queen Street (Kent Road 190A)
- 6) W. North Street & S. Queen Street
- 7) W. North Street & S. West Street
- 8) S. West Street & Bank Lane
- 9) S. Queen Street & Bank Lane
- 10) Water Street & S. West Street
- 11) Water Street & S. Queen Street
- 12) S. West Street & S. Queen Street / New Burton Road (Kent Road 190)
- 13) W. North Street & S. Governors Avenue (Kent Road 3)
- 14) Loockerman Street (Kent Road 23) & S. Queen Street

### **Conditions examined:**

- 1) 2019 existing conditions (case 1)
- 2) 2021 without USPS Dover Carrier Annex (case 2)
- 3) 2021 with USPS Dover Carrier Annex (case 3)

**Peak hours evaluated:** Weekday morning and evening peak hours

### **Committed developments considered:**

- 1) Eden Hill (324 apartments, 217 townhouses, 110 duplexes, 88 single-family detached houses, 153,380 square feet of commercial space, 149,600 square feet of medical office space, 650,000 square-foot skilled nursing facility)
- 2) 1436 New Burton Road (635,000 square-foot business park)
- 3) DGKP Property (71,000 square-foot general office)

## **Intersection Descriptions**

### **1) Site Access A & W. North Street**

**Type of Control:** existing one-way stop (T-intersection); proposed two-way stop controlled

**Northbound approach:** (Site Access A) proposed one shared left/through/right-turn lane, stop controlled

**Southbound approach:** (Jerusalem Way) existing one shared left/right lane, stop controlled; proposed one shared left/through/right-turn lane, stop controlled

**Eastbound approach:** (W. North Street) existing one shared left-turn/through lane; proposed one shared left/through/right-turn lane

**Westbound approach:** (W. North Street) existing one shared through/right-turn lane; proposed one shared left/through/right-turn lane

- 2) **Site Access B & Bank Lane - East**  
**Type of Control:** proposed one-way stop (T-intersection), stop controlled  
**Southbound approach:** (Site Access B) proposed one shared left/right-turn lane, stop controlled  
**Eastbound approach:** (Bank Lane) one shared left-turn/through lane  
**Westbound approach:** (Bank Lane) one shared through/right-turn lane
  
- 3) **Site Access C & Bank Lane - West**  
**Type of Control:** proposed one-way stop (T-intersection), stop controlled  
**Southbound approach:** (Site Access C) proposed one shared left/right-turn lane, stop controlled  
**Eastbound approach:** (Bank Lane) one shared left-turn/through lane  
**Westbound approach:** (Bank Lane) one shared through/right-turn lane
  
- 4) **Site Access D & S. West Street**  
**Type of Control:** proposed one-way stop (T-intersection), stop controlled  
**Northbound approach:** (S. West Street) one through lane and one right-turn lane  
**Southbound approach:** (S. West Street) one shared left-turn/through lane  
**Westbound approach:** (Site Access D) proposed one shared left/right-turn lane, stop controlled
  
- 5) **Site Access E & S. Queen Street**  
**Type of Control:** proposed one-way stop (T-intersection), stop controlled  
**Northbound approach:** (S. Queen Street) one shared left-turn/through lane  
**Southbound approach:** (S. Queen Street) one shared through/right-turn lane  
**Eastbound approach:** (Site Access E) proposed one shared left/right-turn lane, stop controlled
  
- 6) **W. North Street & S. Queen Street**  
**Type of Control:** signalized four-leg intersection  
**Northbound approach:** (S. Queen Street) one left-turn lane and one shared through/right-turn lane  
**Southbound approach:** (S. Queen Street) one left-turn lane and one shared through/right-turn lane  
**Eastbound approach:** (W. North Street) one shared left/through/right-turn lane  
**Westbound approach:** (W. North Street) one shared left/through/right-turn lane
  
- 7) **W. North Street & S. West Street**  
**Type of Control:** unsignalized  
**Northbound approach:** (W. West Street) one shared left/right-turn lane, stop controlled  
**Eastbound approach:** (W. North Street) one through lane and one free-flow right-turn lane  
**Westbound approach:** (W. North Street) one through lane

- 8) **S. West Street & Bank Lane**  
**Type of Control:** unsignalized  
**Northbound approach:** (S. West Street) one shared through/right-turn lane  
**Southbound approach:** (S. West Street) one shared left-turn/through lane  
**Westbound approach:** (Bank Lane) one shared left/right-turn lane, stop controlled
  
- 9) **S. Queen Street & Bank Lane**  
**Type of Control:** unsignalized  
**Northbound approach:** (S. Queen Street) one shared left/through/right-turn lane, stop controlled  
**Southbound approach:** (S. Queen Street) one shared left/through/right-turn lane, stop controlled  
**Eastbound approach:** (Bank Lane) one shared left/through/right-turn lane, stop controlled  
**Westbound approach:** (Bank Lane) one shared left/through/right-turn lane, stop controlled
  
- 10) **Water Street & S. West Street**  
**Type of Control:** unsignalized  
**Northbound approach:** (S. West Street) one shared through/right-turn lane  
**Southbound approach:** (S. West Street) one shared left-turn/through lane  
**Westbound approach:** (Water Street) one shared left/right-turn lane, stop controlled
  
- 11) **Water Street & S. Queen Street**  
**Type of Control:** signalized four-leg intersection  
**Northbound approach:** (S. Queen Street) one left-turn lane, one through lane, and one right-turn lane  
**Southbound approach:** (S. Queen Street) one left-turn lane and one shared through/right-turn lane  
**Eastbound approach:** (Water Street) one shared left-turn/through lane and one right-turn lane  
**Westbound approach:** (Water Street) one shared left-turn/through lane and one right-turn lane
  
- 12) **S. West Street & S. Queen Street / New Burton Road**  
**Type of Control:** unsignalized  
**Northbound approach:** (New Burton Road) one left-turn lane and one shared through/right-turn lane  
**Southbound approach:** (S. Queen Street) one left-turn lane and one shared through/right-turn lane  
**Eastbound approach:** (S. West Street) one shared left/through/right-turn lane, stop controlled  
**Westbound approach:** (medical office driveway) one shared left/through/right-turn lane, stop controlled



- 13) **W. North Street & S. Governors Avenue**  
**Type of Control:** signalized four-leg intersection  
**Northbound approach:** (S. Governors Avenue) one left-turn lane and one shared through/right-turn lane  
**Southbound approach:** (S. Governors Avenue) one left-turn lane and one shared through/right-turn lane  
**Eastbound approach:** (W. North Street) one shared left/through/right-turn lane  
**Westbound approach:** (W. North Street) one shared left/through/right-turn lane
- 14) **Loockerman Street & S. Queen Street**  
**Type of Control:** signalized four-leg intersection  
**Northbound approach:** (S. Queen Street) one left-turn lane and one shared through/right-turn lane  
**Southbound approach:** (S. Queen Street) one left-turn lane and one shared through/right-turn lane  
**Eastbound approach:** (Loockerman Street) one left-turn lane and one shared through/right-turn lane  
**Westbound approach:** (Loockerman Street) one shared left/through/right-turn lane

### **Safety Evaluation**

**Crash Data:** Per current DelDOT policy, review of crash data was not conducted at this time.

**Sight Distance:** Sight distance is not anticipated to be a problem at the proposed site accesses, but as always adequacy of available sight distance should be confirmed during the site plan review process for all proposed movements at the site accesses. The designer must verify that adequate sight distance will be provided for both ingress and egress movements at the proposed site driveways.

### **Transit, Pedestrian, and Bicycle Facilities**

**Existing transit service:** Fifteen DART bus routes travel through the Dover Transit Center, located just two blocks from the site. Two of those routes, 101 and 102, serve a bus stop of the southeast corner of the future USPS site, on S. Queen Street just north of Bank Lane. Route 101 provides service between Dover Transit Center and Dover High School in the city of Dover. Route 102 provides service between Dover Transit Center and Gateway West Shopping Center in the city of Dover. Weekday service on these routes generally runs from 6:00 AM to 10:00 PM, with headways ranging from 30 to 60 minutes during the peak periods.

**Planned transit service:** There are no known planned changes to transit service in the vicinity of the proposed USPS site. The USPS developer should plan to include a bus stop along the S. Queen Street site frontage and should coordinate with Delaware Transit Corporation (DTC) regarding details of that bus stop.

**Existing bicycle and pedestrian facilities:** According to the Kent County bicycle map, Bank Lane is an undesignated road, in terms of bicycling routes, and it does not have a bikeway (i.e.

shoulders). South Queen Street in the vicinity of the USPS site is also an undesignated road, in terms of bicycling routes. South of Water Street it is shown on the map as a high traffic roadway (over 5,000 vehicles daily). Neither Bank Lane nor South Queen Street have any marked bike lanes in the vicinity of the USPS area. West North Street to the east of South West Street does not have any bicycle route designation, however it does have sharrow pavement markings. South West Street is designated as a Connector Bicycle Route with high traffic volumes. It also has an off-road trail, which is a 10-foot wide shared-use path along the east side of S. West Street, running from the Dover Transit Center (south of Water Street) up to W. North Street where it connects to other off-road trails and sidewalks.

There are sidewalks or shared-use paths on all four site frontages of the USPS site, and sidewalks along most of the other roads in the study area, often on both sides of the road. This sidewalk network creates a near-comprehensive system for pedestrian travel in each direction from the proposed site. Curb ramps are provided at all essential crossings and at each intersection within the study area. The signalized intersections in the study area have crosswalks, as do some of the unsignalized intersections.

**Planned bicycle and pedestrian facilities:** Anthony Aglio with DelDOT's Statewide and Regional Planning Section was contacted to determine recommended pedestrian and bicycle accommodations for the proposed development. Mr. Aglio recommended maintaining the existing shared-use path and sidewalks in the vicinity of the site.

### **General HCS Analysis Comments**

*(See table footnotes on the following pages for specific comments)*

- 1) For unsignalized and signalized intersections, McCormick Taylor applied 3% heavy vehicle factors (HV). McCormick Taylor assumed 3% HV for future movements to and from the proposed site access points (as per DelDOT's Development Coordination Manual), with the exception of Site Access E (tractor-trailer entrance) which was assumed as 100% HV for all entering and exiting movements.
- 2) For existing conditions, McCormick Taylor determined and utilized overall intersection peak hour factors (PHF) based on existing data when available or assumed as 3% when existing data wasn't available. For future conditions, McCormick Taylor generally assumed existing PHF for all intersections other than the proposed site entrances. At the site entrances, future PHF were based on the DelDOT Development Coordination Manual section 2.2.8.11.6.F.
- 3) For analyses of all intersections, McCormick Taylor used a base saturation flow rate of 1,750 pc/hr/ln per DelDOT's Development Coordination Manual.

Table 3  
PEAK HOUR LEVELS OF SERVICE (LOS)

Unsignalized Intersection <sup>1</sup> Two-Way Stop	LOS	
	Weekday AM	Weekday PM
Site Access A & W. North Street		
2021 with USPS (Case 3)		
Northbound Site Access A	C (15.9)	C (18.1)
Southbound Jerusalem Way	C (20.3)	C (23.1)
Eastbound W. North St – Left	A (8.2)	A (8.5)
Westbound W. North St – Left	A (8.4)	A (8.5)

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<sup>1</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 4  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>2</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Site Access B &amp; Bank Lane - East</b>		
2021 with USPS (Case 3)		
Southbound Site Access B	A (9.1)	A (9.0)
Eastbound Bank Lane – Left	A (7.4)	A (7.4)

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<sup>2</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 5  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>3</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Site Access C &amp; Bank Lane - West</b>		
2021 with USPS (Case 3)		
Southbound Site Access C	A (9.1)	A (9.0)
Eastbound Bank Lane – Left	A (7.4)	A (7.4)

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<sup>3</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 6  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>4</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Site Access D &amp; S. West Street</b>		
2021 with USPS (Case 3)		
Southbound S. West Street – Left	A (7.4)	A (7.5)
Westbound Site Access D	B (11.6)	B (11.0)

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<sup>4</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 7  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>5</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Site Access E &amp; S. Queen Street</b>		
2021 with USPS (Case 3)		
Northbound S. Queen Street – Left	A (8.0)	A (8.0)
Eastbound Site Access E	B (10.6)	B (10.8)

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<sup>5</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 8  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Signalized Intersection <sup>6</sup></b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>W. North Street &amp; S. Queen Street</b>		
2019 Existing (Case 1)	C (29.7)	C (28.7)
2021 without USPS (Case 2)	C (30.0)	C (31.8)
2021 with USPS (Case 3)	C (32.2)	D (37.4)

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<sup>6</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.



Table 9  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>7</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>W. North Street &amp; S. West Street</b>		
2019 Existing (Case 1)		
Northbound S. West Street	D (32.2)	D (30.9)
2021 without USPS (Case 2)		
Northbound S. West Street	F (188.4)	F (234.2)
2021 with USPS (Case 3)		
Northbound S. West Street	F (257.9)	F (300.9)

<b>Signalized Intersection <sup>7</sup></b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>W. North Street &amp; S. West Street</b>		
2021 with USPS (Case 3) <i>With Improvement Option 1: signalization of the intersection</i>	B (17.6)	C (22.8)

<sup>7</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 10  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>8</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>S. West Street &amp; Bank Lane</b>		
2019 Existing (Case 1)		
Southbound S. West Street – Left	A (7.5)	A (7.5)
Westbound Bank Lane	A (8.7)	A (8.9)
2021 without USPS (Case 2)		
Southbound S. West Street – Left	A (7.5)	A (7.5)
Westbound Bank Lane	A (8.7)	A (8.9)
2021 with USPS (Case 3)		
Southbound S. West Street – Left	A (7.6)	A (7.6)
Westbound Bank Lane	B (10.5)	B (10.1)

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<sup>8</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 11  
PEAK HOUR LEVELS OF SERVICE (LOS)

Unsignalized Intersection <sup>9</sup> Two-Way Stop	LOS	
	Weekday AM	Weekday PM
<b>S. Queen Street &amp; Bank Lane</b>		
2019 Existing (Case 1)		
Northbound S. Queen Street – Left	A (7.8)	A (7.9)
Southbound S. Queen Street – Left	A (8.5)	A (8.9)
Eastbound Bank Lane	C (20.9)	C (23.6)
Westbound Bank Lane	C (15.6)	C (15.8)
2021 without USPS (Case 2)		
Northbound S. Queen Street – Left	A (7.8)	A (7.9)
Southbound S. Queen Street – Left	A (8.5)	A (8.9)
Eastbound Bank Lane	C (21.6)	C (24.6)
Westbound Bank Lane	C (16.1)	C (16.5)
2021 with USPS (Case 3)		
Northbound S. Queen Street – Left	A (7.9)	A (8.0)
Southbound S. Queen Street – Left	A (8.5)	A (9.0)
Eastbound Bank Lane	C (24.8)	D (28.4)
Westbound Bank Lane	C (17.9)	C (18.8)

<sup>9</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 12  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>10</sup> One-Way Stop (T-Intersection)</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Water Street &amp; S. West Street</b>		
2019 Existing (Case 1)		
Southbound S. West Street – Left	A (8.1)	A (7.7)
Westbound Water Street	B (10.3)	A (10.0-)
2021 without USPS (Case 2)		
Southbound S. West Street – Left	A (8.4)	A (8.2)
Westbound Water Street	B (10.8)	B (10.9)
2021 with USPS (Case 3)		
Southbound S. West Street – Left	A (8.5)	A (8.2)
Westbound Water Street	B (11.0)	B (11.2)

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<sup>10</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 13  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Signalized Intersection <sup>11</sup></b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Water Street &amp; S. Queen Street</b>		
2019 Existing (Case 1)	B (19.4)	C (20.1)
2021 without USPS (Case 2)	B (18.8)	B (19.6)
2021 with USPS (Case 3)	B (19.1)	B (19.8)

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<sup>11</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 14  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Unsignalized Intersection <sup>12</sup> Two-Way Stop</b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>S. West Street &amp; S. Queen Street / New Burton Road</b>		
2019 Existing (Case 1)		
Northbound New Burton Road – Left	A (8.0)	A (8.3)
Southbound S. Queen Street – Left	A (8.5)	A (8.0)
Eastbound S. West Street	B (12.8)	B (11.8)
Westbound medical office driveway	B (11.6)	C (15.5)
2021 without USPS (Case 2)		
Northbound New Burton Road – Left	A (8.1)	A (8.3)
Southbound S. Queen Street – Left	A (8.6)	A (8.0)
Eastbound S. West Street	B (13.6)	B (12.5)
Westbound medical office driveway	B (11.6)	C (17.4)
2021 with USPS (Case 3)		
Northbound New Burton Road – Left	A (8.2)	A (8.4)
Southbound S. Queen Street – Left	A (8.6)	A (8.0)
Eastbound S. West Street	B (14.2)	B (12.9)
Westbound medical office driveway	B (11.8)	C (18.9)

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<sup>12</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 15  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Signalized Intersection <sup>13</sup></b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>W. North Street &amp; S. Governors Avenue</b>		
2019 Existing (Case 1)	B (19.3)	C (22.6)
2021 without USPS (Case 2)	C (21.6)	C (31.3)
2021 with USPS (Case 3)	C (22.0)	C (34.4)

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<sup>13</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 16  
PEAK HOUR LEVELS OF SERVICE (LOS)

<b>Signalized Intersection <sup>14</sup></b>	<b>LOS</b>	
	Weekday AM	Weekday PM
<b>Loockerman Street &amp; S. Queen Street</b>		
2019 Existing (Case 1)	B (11.5)	B (14.4)
2021 without USPS (Case 2)	B (11.7)	B (14.5)
2021 with USPS (Case 3)	B (12.8)	B (15.4)

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<sup>14</sup> For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.