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

NICOLE MAJESKI
SECRETARY

July 5, 2024

Nicole Kline-Elsier, P.E.
Bowman Consulting Group, Ltd.
835 Springdale Drive, suite 200
Exton, PA 19341

Dear Ms. Kline-Elsier:

The enclosed Traffic Impact Study (TIS) review letter for **610 W. 7th Street** (Tax Parcels: 21-014.00-132 and 21-017.00-127) residential 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 have found the TIS to conform to 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 Annamaria.Furmato@delaware.gov.

Sincerely,

Annamaria Furmato
TIS Group Project Engineer

AF:km
Enclosures
cc with enclosures: Jonathan Juffe, Freedom Development, LLC
Mark Ziegler, McBride & Ziegler, Inc.
Braden Garrison, McMahon, a Bowman Company
David L. Edgell, Office of State Planning Coordination
Antoni Sekowski, New Castle County Department of Land Use
Bradford Shockley, New Castle County Department of Land Use
Owen C. Robatino, New Castle County Department of Land Use
Andrew J. Parker, McCormick Taylor, Inc.
Tucker Smith, McCormick Taylor, Inc.
DelDOT Distribution

DelDOT Distribution

Brad Eaby, Deputy Attorney General
Shanté Hastings, Director, Deputy Secretary, Transportation Solutions (DOTS)
Mark Luszcz, Deputy Director, Operations and Support, Traffic, DOTS
Matthew Vincent, Assistant Director, DOTS
Peter Haag, Chief Traffic Engineer, Traffic, DOTS
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, Traffic, DOTS
Sean Humphrey, Traffic Engineer, Traffic, DOTS
Brian Schilling, Canal District Engineer, Canal District
Nathan Draper, Canal District Public Works Engineer, Canal District
Jared Kauffman, Service Development Planner, Delaware Transit Corporation
Tremica Cherry, Service Development Planner, Delaware Transit Corporation
Pamela Steinebach, Director, Planning
Todd Sammons, Assistant Director, Development Coordination, Planning
Wendy Polasko, Subdivision Engineer, Development Coordination, Planning
Randhir Sharma, New Castle Review Coordinator, Development Coordination, Planning
Pao Lin, New Castle County Subdivision Reviewer, Development Coordination, Planning
Sireen Muhtaseb, TIS Group Manager, Development Coordination, Planning
Philip Lindsey, TIS Group Engineer, Development Coordination, Planning
Ben Fisher, Tis Group Engineer, Development Coordination, Planning
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Steve Bayer, Regional Transportation Planner, Statewide & Regional Planning

July 3, 2024

Ms. Annamaria Furmato
Project Engineer
DelDOT Division of Planning
P.O. Box 778
Dover, DE 19903

RE: Agreement No. 1946F
Traffic Impact Study Services
Task No. 5A Subtask 09A – 610 W 7th Street

Dear Ms. Furmato:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the 610 W 7th Street development prepared by Bowman Consulting Group, Ltd., dated April 19, 2024. Bowman Consulting Group, Ltd. prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed 610 W 7th Street development to be located on the north side of Delaware Route 9 (W 7th Street), approximately 450 feet west of the Delaware Route 9 intersection with Washington Street in the City of New Castle, New Castle County, Delaware. The proposed development would consist of 396 apartments (252 low-rise and 144 mid-rise), a 2,400 square foot Community Center, and 1,000 square feet of retail. One full-movement access point is proposed on Delaware Route 9 (W 7th Street). Construction is anticipated to be complete in 2028.

The subject land is located on an approximately 17-acre assemblage of parcels. The land is currently zoned as Downtown Gateway and the developer does not propose to rezone the land.

Relevant and On-Going Projects and Studies

Currently, DelDOT has several relevant and ongoing projects within the area of study.

The US 13, US 40 to Memorial Drive Pedestrian Improvements project (DelDOT Contract No. T201601102) includes improvements to address multi-modal needs and pavement rehabilitation in this highly traveled section of US 13 between US 40 and I-495. The improvements include constructing median barrier throughout the project limits to discourage pedestrian mid-block crossings, constructing over 250 new median lighting fixtures, new ADA compliant pedestrian facilities, and reducing lane widths to 11 feet. The project is under construction and anticipated to be completed in 2026. More information regarding the US 13, US 40 to Memorial Drive Pedestrian Improvements project can be found on the project website: https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201601102.

The School Lane Pathway project (DelDOT Contract No. T202201501) proposes a 2,150-foot bike trail from Frenchtown Pike to School Lane within the city limits of New Castle. The path will act as a connector route to the Jack Markell Trail. Construction is expected to start and end in 2024. More information regarding the project can be found on the project website: https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T202201501

The SR 9, River Road Area Improvements, Flood Remediation project (DelDOT Contract No. T200503403) proposes to raise the approaches of SR 9 on either side of the Army Creek bridge to prevent further settling and flooding. Retrofits of the tide gates will be pursued by DNREC. Frequent flooding of SR 9 in the area of the Army Creek makes the road impassable at times.

The Hares Corner (US 13 and SR 273) Grade Separated Intersection Project proposes to provide grade separation with approach improvements, implement the Complete Streets Policy, fill in sidewalk gaps and provide transit, biking, and pedestrian amenities. The objective of the project is to upgrade capacity to support current and future traffic levels, enhance traffic flow, safety, and drainage. DelDOT is in the process of identifying constraints and developing concepts. The project is a candidate for inclusion in the FY 25-30 Capital Transportation Program (CTP). As of May 23, 2024, this project has not been assigned a contract number and there is no design, right-of-way, or construction funding for this project in the current CTP.

Summary of Analysis Results

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:

Intersection	***Existing Traffic Control***	***Situations for which deficiencies occur***
2 – Frenchtown Road / Hares Corner Road (Delaware Route 273) / South DuPont Highway (US Route 13)	Signalized	2023 existing conditions AM and PM (Case 1) 2028 without development AM and PM (Case 2) 2028 with development AM and PM (Case 3)

2 – Frenchtown Road / Hares Corner Road (Delaware Route 273) / South DuPont Highway (US Route 13) (Table 3, Page 17)

This signalized intersection experiences LOS deficiencies during the AM and PM peak hours in Cases 1, 2, and 3. In Case 2 without development, during the PM peak, the intersection is expected to operate at LOS F with 106.0 seconds of delay. With development in Case 3, during the PM peak, the intersection is expected to operate at LOS F with 108.6 seconds of delay. The developer has not proposed any mitigation for this LOS deficiency. The Hares Corner (US 13 and SR 273) Grade Separated Intersection Project will likely mitigate the LOS deficiency at this intersection when constructed. However, as described above, this future DelDOT project doesn't have a contract number and isn't yet included in the current CTP. Based on the small increase in delay

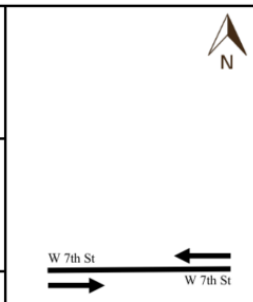
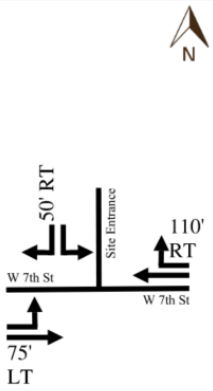
caused by the proposed development (increase of 2.6 seconds), the large scale of improvements needed to mitigate the existing LOS deficiencies, and DelDOT's future project that will address the deficiencies of the existing intersection, the developer is not recommended to make any improvements at this intersection.

Development Improvements

Should the City of New Castle approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan by note or illustration, unless a Design Deviation is requested and approved by the Department. 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. The following items should be implemented at the same time as site construction once all agency approvals and permits are secured and completed in accordance with DelDOT's Standards and Specifications.

1. The developer shall improve the State-maintained Roads on which they front (Delaware Route 9 (W 7th Street)), within the limits of their frontage. 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" means the length along the state right-of-way of a single property tract where an entrance is proposed or required. If a single property tract has frontage along multiple roadways, any segment of roadway including an entrance shall be improved to meet DelDOT's Functional Classification criteria as found in Section 1.1 of the Development Coordination Manual and elsewhere therein, and/or improvements established in the Traffic Operational Analysis and/or Traffic Impact Study. "Secondary Frontage" means the length along the state right-of-way of a single property tract where no entrance is proposed or required. The segment of roadway may be upgraded by improving the pavement condition of the existing roadway width. The Pavement Management Section and Subdivision Section will determine the requirements to improve the pavement condition.

2. The developer should construct the full-movement Site Entrance on Delaware Route 9 (W 7th Street). The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound W 7th St	One through lane.		Eastbound W 7th St	One left turn lane and one through lane.	
Westbound W 7th St	One through lane.		Westbound W 7th St	One through lane and one right turn lane.	
Northbound	Approach does not exist.		Northbound	Approach does not exist.	
Southbound	Approach does not exist.		Southbound Site Entrance	One left turn lane and one right turn lane. Stop control.	

At the proposed Site Entrance intersection, separate left-turn and right-turn lanes are warranted on the Delaware Route 9 (W 7th Street) approaches based on DelDOT's Auxiliary Lane Worksheet. Initial recommended minimum turn lane lengths (excluding tapers) include a 75-foot left-turn lane on eastbound Delaware Route 9 (W 7th Street) and a 110-foot right-turn lane on westbound Delaware Route 9 (W 7th Street). The developer should coordinate with DelDOT's Development Coordination Section to determine final turn lane lengths and other design details during the site plan review.

3. The following bicycle and pedestrian improvements should be included:

   a. Per the DelDOT Development Coordination Manual section 5.2.9.2, bicycle lanes are required where right-turn lanes are being installed.

   b. Appropriate bicycle symbols, directional arrows, pavement markings, and signing should be included along bicycle facilities and turn lanes within the project limits.

   c. Utility covers should be made flush with the pavement.

   d. A minimum 15-foot-wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontages along Delaware Route 9 (W 7th Street). Within the easement, a minimum of a 10-foot wide shared-use path should be constructed. The shared-use path should meet AASHTO and ADA standards and should have a minimum of a five-foot buffer from the roadway. At the property boundaries, the shared-use path should connect to the adjacent property or to the

shoulder in accordance with DelDOT's Shared-Use Path and/or Sidewalk Termination Reference Guide dated August 1, 2018. The developer shall coordinate with DelDOT's Development Coordination Section through the plan review process to determine the details of the shared-use path design and connections/terminations at or before both boundaries of the property.

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 and to promote walking as a viable transportation alternative should be constructed within the development. These sidewalks should each be a minimum of five-feet wide (with a minimum of a five-foot buffer from the roadway) and should meet current AASHTO and ADA standards. Internal sidewalks in the development should connect to the proposed shared-use path along the site frontages.

g. Coordinate site plan development with Delaware Transit Corporation (DTC) to determine what transit facilities will be needed within the DelDOT Right-of-Way and/or internal to the site to accommodate future service requests.

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.

Please note that this review 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.

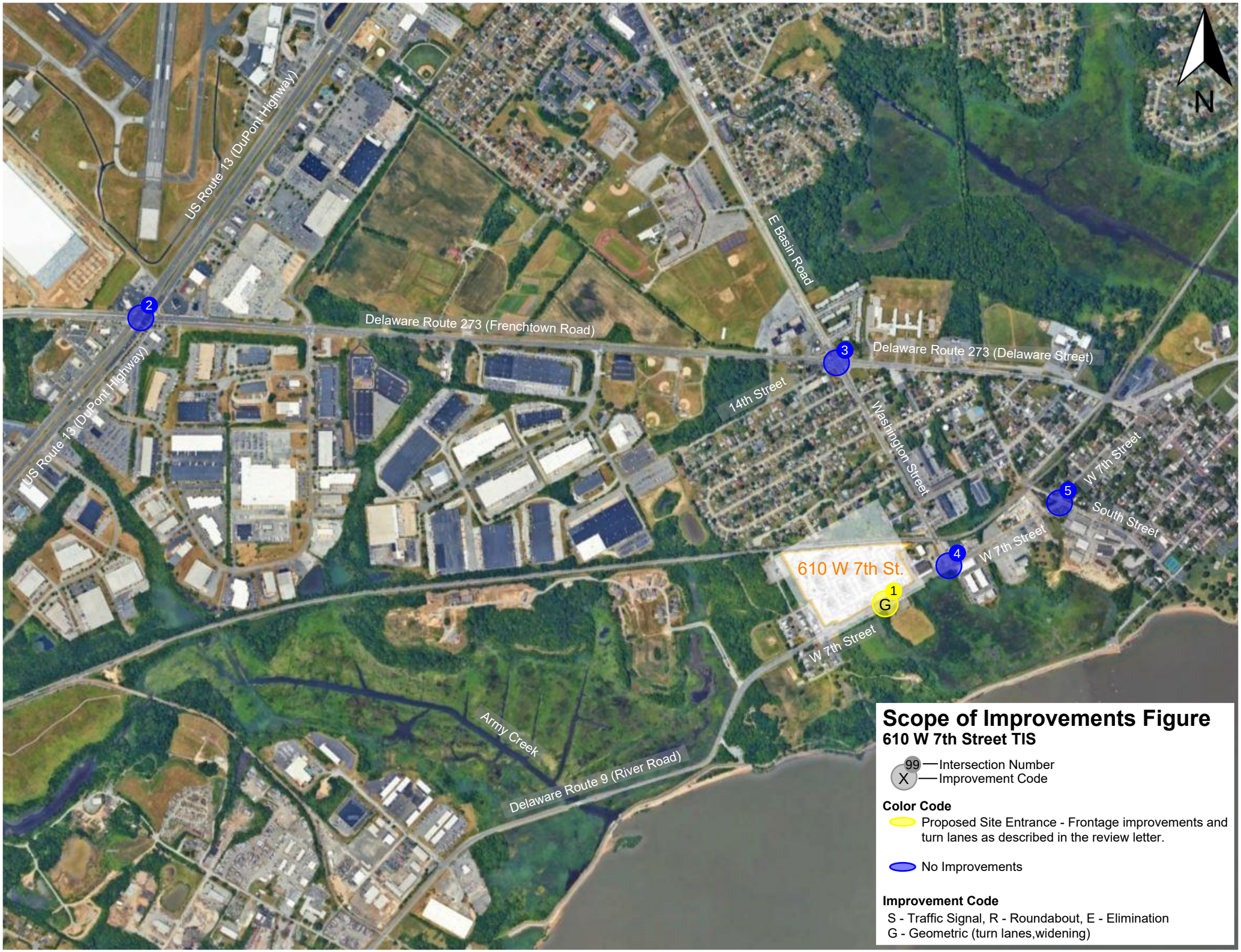
Additional details on our review of this TIS are attached. Please contact me at (610) 640-3500 or through e-mail at ajparker@mccormicktaylor.com if you have any questions concerning this review.

Sincerely,

McCormick Taylor, Inc.

Andrew J. Parker, PE, PTOE
Project Manager

Enclosure


N
US Route 13 (DuPont Highway)
US Route 13 (DuPont Highway)
Delaware Route 273 (Frenchtown Road)
Delaware Route 273 (Delaware Street)
E Basin Road
14th Street
Washington Street
W 7th Street
South Street
W 7th Street
W 7th Street
610 W 7th St.
Army Creek
Delaware Route 9 (River Road)
2
3
4
5
1
G
Scope of Improvements Figure
610 W 7th Street TIS
99 — Intersection Number
X — Improvement Code
Color Code
Proposed Site Entrance - Frontage improvements and turn lanes as described in the review letter.
No Improvements
Improvement Code
S - Traffic Signal, R - Roundabout, E - Elimination
G - Geometric (turn lanes,widening)

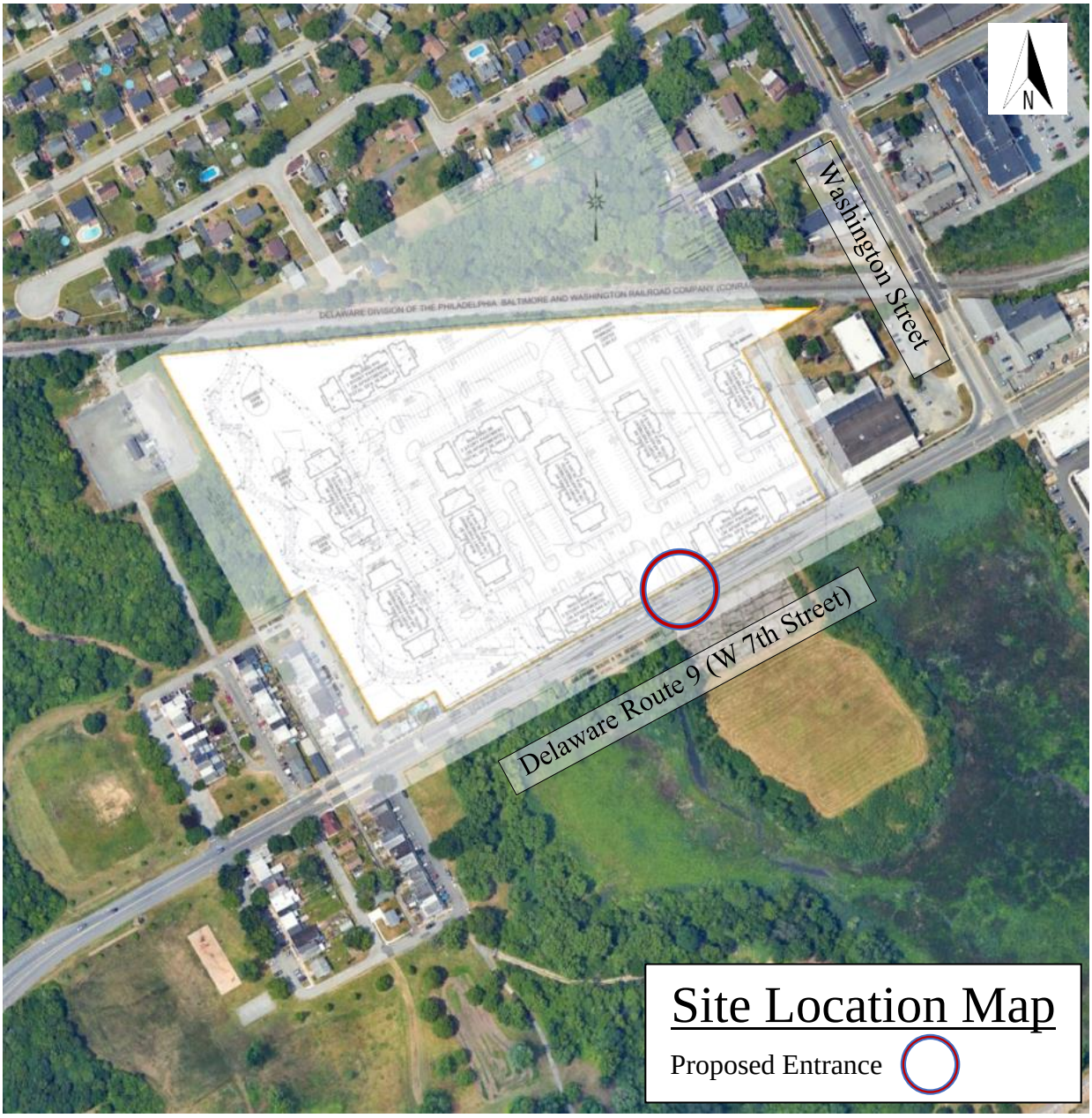
General Information

Report date: April 2024
Prepared by: Bowman Consulting Group, Ltd.
Prepared for: Freedom Development, LLC.
Tax parcels: 21-014.00-132 and 21-017.00-127
Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed development would consist of 396 apartments (252 low-rise and 144 mid-rise), a 2,400 square foot Community Center, and 1,000 square feet of retail.
Location: The site is to be located on the north side of Delaware Route 9 (W 7th Street), approximately 450 feet west of the Delaware Route 9 intersection with Washington Street in the City of New Castle, New Castle County, Delaware. A site location map is included on page 8.
Amount of land to be developed: approximately 17-acres.
Land use approval(s) needed: The land is currently zoned as Downtown Gateway and the developer does not propose to rezone the land.
Proposed completion year: 2028
Proposed access locations: Site access is proposed via a full-movement access point along Delaware Route 9 (W 7th Street).
Average Daily Traffic Volumes (per DelDOT Traffic Summary 2023):

- Delaware Route 9 (W 7th Street): 5,846 vehicles/day


N
Washington Street
Delaware Route 9 (W 7th Street)
Site Location Map
Proposed Entrance

2020 Delaware Strategies for State Policies and Spending

Location with respect to the Strategies for State Policies and Spending Map of Delaware: The proposed Gallery Pointe development 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 uses, such as a business on the first floor and apartments above.

In Investment Level 1 areas, state investments and policies should support and encourage a wide range of uses and densities, promote a variety of 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 Level 1 areas. These areas would be a prime location for designating "pre-permitted areas" to help steer development where the local government and citizens are most prepared to accept it.

Proposed Development's Compatibility with Strategies for State Policies and Spending:
The proposed 610 W 7th Street development would include 396 apartments (252 low-rise and 144 mid-rise), a 2,400 square foot Community Center, and 1,000 square feet of retail, in the City of New Castle, within Investment Level 1. As such, the proposed development generally appears to comply with the guidelines for Investment Levels as described in the 2020 "Strategies for State Policies and Spending."

Comprehensive Plan

New Castle County Comprehensive Plan:
(Source: New Castle County Comprehensive Plan 2050, July 2022)

The New Castle County Comprehensive Plan Future Land Use Map indicates that the proposed development is in the City of New Castle, a municipality. The specific permitted uses and densities governing new construction within an incorporated municipality will continue to be governed by the zoning ordinance for that municipality, its public water and sewer capacities, and its comprehensive planning policies.

City of New Castle Comprehensive Plan:
(Source: City of New Castle 2020 Comprehensive Plan, December 8, 2020)

The City of New Castle's official adopted Zoning Map, dated July 14, 2020, indicates that the land included in the proposed 610 W 7th Street development is within the City Limits. The map also confirms that the parcels are currently zoned D-G (Downtown Gateway). The Downtown Gateway district is intended to create a mixed-use pedestrian-oriented neighborhood commercial district. Permitted uses include a variety of commercial uses and residential dwelling unit types.

Proposed Development's Compatibility with Comprehensive Plan:
The proposed 610 W 7th Street development with multifamily housing, community center, and retail generally meets the intended land use in this area.

Relevant Projects in the DelDOT Capital Transportation Program

Currently, DelDOT has several relevant and ongoing projects within the area of study.

The US 13, US 40 to Memorial Drive Pedestrian Improvements project (DelDOT Contract No. T201601102) includes improvements to address multi-modal needs and pavement rehabilitation in this highly traveled section of US 13 between US 40 and I-495. The improvements include constructing median barrier throughout the project limits to discourage pedestrian mid-block crossings, constructing over 250 new median lighting fixtures, new ADA compliant pedestrian facilities, and reducing lane widths to 11 feet. The project is under construction and anticipated to be completed in 2026. More information regarding the US 13, US 40 to Memorial Drive Pedestrian Improvements project can be found on the project website: https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201601102.

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Trip Generation

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

- Multifamily Housing (Low-rise) (Land Use Code 220)
- Multifamily Housing (Mid-rise) (Land Use Code 221)
- Recreational Community Center (Land Use Code 495)
- Strip Retail Plaza (< 40k) (Land Use Code 822)

Table 1: 610 W 7th Street Development Trip Generation

Land Use	Size	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
LUC 220	252 units	1,691	24	77	101	81	48	129
LUC 221	144 units	640	12	40	52	34	23	57
LUC 495	2,400 sq ft	72	3	2	5	3	3	6
LUC 822	1,000 sq ft	54	1	1	2	3	4	7
Total Trips		**2,457**	**40**	**120**	**160**	**121**	**78**	**199**

Overview of TIS

Intersections examined:

1) River Road / W 7th Street (Delaware Route 9) & Site Entrance
2) Frenchtown Road / Hares Corner Road (Delaware Route 273) / South DuPont Highway (US Route 13)
3) Frenchtown Road / Delaware Street (Delaware Route 273) & Washington Street / E Basin Road & 14th Street
4) W 7th Street & Washington Street
5) W 7th Street & South Street

Conditions examined:

1) 2023 Existing (Case 1)
2) 2028 without development (Case 2)
3) 2028 with development (Case 3)

Peak hours evaluated: Weekday morning and weekday evening peak hours.

Committed developments considered:

1) 312 Carroll Drive: 107,025 sq ft warehousing (39,385 sq ft to be constructed)
2) Christiana Care Logistics Center: 125,000 sq ft warehousing
3) Waler Farm Warehouse / Logistics Development: 837,600 sq ft warehousing
4) 650 Churchmans Road: 890,600 sq ft warehousing
5) The Battery: 3,000 sq ft liquor store and 152 multifamily low-rise housing units

Intersection Descriptions

1) **River Road / W 7th Street (Delaware Route 9) & Site Entrance**
   Type of Control: proposed one-way stop (T-intersection)
   Eastbound Approach: (DE 9 / River Road) one left-turn lane and one through lane.
   Westbound Approach: (DE 9 / W 7th Street) one through lane and one right-turn lane.
   Southbound Approach: (Site Entrance) shared left / right-turn lane. Stop-controlled.

2) **Frenchtown Road / Hares Corner Road (Delaware Route 273) / South DuPont Highway (US Route 13)**
   Type of Control: signalized
   Eastbound Approach: (DE 273 / Christiana Road) two left-turn lanes, two through lanes, and one right-turn lane.
   Westbound Approach: (DE 273 / Frenchtown Road) two left-turn lanes, two through lanes, and one right-turn lane.
   Northbound Approach: (US 13) two left-turn lanes, four through lanes, and one right-turn lane.
   Southbound Approach: (US 13) two left-turn lanes, four through lanes, and one right-turn lane.

3) **Frenchtown Road / Delaware Street (Delaware Route 273) & Washington Street / E Basin Road & 14th Street**
   Type of Control: signalized
   Eastbound Approach: (DE 273 / Frenchtown Road) one left-turn lane, and one shared through / right-turn lane.
   Westbound Approach: (DE 273 / Delaware Street) two left-turn lanes, one through lane, and one right-turn lane.
   Northbound Approach: (Washington Street) one left-turn lane, one through lane, and one shared through / right-turn lane.
   Southbound Approach: (E Basin Road) one left-turn lane, one through lane, and one shared through / right-turn lane.
   Northeast Approach: (W 14th Street): one-way receiving lane.

4) **W 7th Street & Washington Street**
   Type of Control: all-way stop
   Eastbound Approach: (W 7th Street) one left-turn lane and one through lane. Stop controlled.
   Westbound Approach: (W 7th Street) one through lane and one right-turn lane. Stop controlled.
   Southbound Approach: (Washington Street) one stop controlled left-turn lane and one yield controlled right-turn lane.

5) **W 7th Street & South Street**
   Type of Control: three-way stop
   Eastbound Approach: (W 7th Street) shared left / through / right- turn lane. Stop-controlled.
   Westbound Approach: (W 7th Street) shared left / through / right- turn lane. Stop-controlled.
   Northbound Approach: (South Street) shared left / through / right- turn lane.
   Southbound Approach: (South Street) shared left / through / right- turn lane. Stop-controlled.

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in the TIS for the three-year period from December 11, 2020, to December 11, 2023. A total of 284 crashes occurred within the study area during the three-year period. Of those 284 collisions, 64 resulted in personal injury. The most common type of collision was front-to-rear (50 percent). At the intersection of Delaware Route 273 and US Route 13 there were 2 pedestrian crashes

Sight Distance: The study area generally consists of relatively flat roadways and there are few visual obstructions. Sight distance appears adequate throughout the study area. No problematic sight distance issues have been reported or indicated by crash data. As always, the adequacy of available sight distance should be confirmed during the site plan review process for all proposed movements at the site accesses.

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Based on the current DART Bus Stop Map, the Delaware Transit Corporation (DTC) currently operates fixed-route transit bus service in the study area of the proposed development. DART Route 13 (Philadelphia Pike/DuPont Hwy) runs on DuPont Highway and on Frenchtown Road/Christiana Road. DART Route 15 (New Castle Avenue/Basin Road/Christiana Mall) runs along South Street, W 7th Street, Washington Street, and E Basin Road. DART Route 25 (Miller Road Shopping Center/Wilmington/DuPont Highway/Wrangle Hill) provides service within New Castle and runs along DuPont Highway and Christiana Road. DART Route 40 (Glasgow/US Routes 13 & 40/Wilmington) runs along DuPont Highway. DART Route 51 (New Castle Ave./DE 273/Christiana Mall) runs on Frenchtown Road/Christiana Road.

Planned transit service: Based on coordination with DTC representatives, there are no additional transit amenities proposed at this time. DTC has requested that the developer coordinate site plan development with DTC to determine what transit facilities will be needed within the DelDOT Right-of-Way and/or internal to the site to accommodate future service requests.

Existing bicycle and pedestrian facilities: According to DelDOT's New Castle County Bicycle Map, US Route 13 south of Delaware Route 273 is a high-volume Connector Bicycle Route with Bikeway. US Route 13 north of Delaware Route 273 is a high-volume road with a Bikeway. Delaware Route 273 is a high-volume Regional Bicycle Route with a Bikeway between Harmony Road and E Basin Road / Washington Street. Delaware Route 273 between Churchmans Road and E Basin Road / Washington Street is part of the East Coast Greenway Route. Delaware Route 273 east of E Basin Road / Washington Street is a high-volume Statewide Bicycle Route with Bikeway. Washington Street is a high-volume Statewide Bicycle Route without a Bikeway. W 7th Street / River Road is a Statewide Bicycle Route with Bikeway. W 7th Street, between Clark Street and Washington Street, is a high-volume statewide bicycle route with a bikeway and it is part of the East Coast Greenway Route. To the north, the Jack A. Markell Trail and Industrial Track Greenway provide a continuous shared-use path between Wilmington and New Castle.

On the north side of W 7th Street there is a sidewalk that provides access to New Castle and other areas to the north and east. The sidewalk is in poor condition and in need of accessibility upgrades.

Planned bicycle and pedestrian facilities: A 10-foot shared-use path is requested along the W 7th Street property frontage with a bicycle lane to be included between the through lane and right-turn lane into the site. The developer is asked to repair or replace the existing sidewalk along the north side of W 7th Street from the site to South Street. At the intersection of W 7th Street & Washington Street, the developer is asked to refresh existing faded marked crosswalks and reconstruct existing curb ramps to eliminate ponding. At the intersection of W 7th Street & South Street, the developer is asked to refresh the existing faded marked crosswalk to cross W 7th Street.

Previous Comments

The initial scoping memorandum between the developer and DelDOT was dated November 17, 2023.

In a review letter dated January 3, 2024, DelDOT commented on the traffic counts and seasonally adjusted traffic volumes. The developer was asked to provide justification for missing count data, to revise some volume figures, and then resubmit the traffic counts.

In a second review dated January 11, 2024, DelDOT commented on the second submission of the traffic counts and seasonally adjusted traffic volumes. The developer was asked to add a note and then proceed with the Preliminary TIS.

In a third review letter dated February 12, 2024, DelDOT reiterated the comments that were not addressed from the January 11, 2024, review letter, requested supporting correspondence, and directed the developer to resubmit the Preliminary TIS.

In a fourth review letter dated March 5, 2024, DelDOT requested supporting documentation for a committed development, modifications to the trip generation table for a committed development, and revisions to a volume figure. The developer was asked to address the comments and resubmit the Preliminary TIS.

In a fifth review letter dated March 28, 2024, DelDOT requested revisions to the committed development trip generation and all associated volume figures. In subsequent email correspondence, the developer was permitted to address the review comments and proceed with the Final TIS.

It appears that all substantive comments from DelDOT's TIS Scoping Memorandum, Traffic Count Review, Preliminary TIS Review, and other correspondence were addressed in the Final TIS submission.

General HCS Analysis Comments
(see table footnotes on the following pages for specific comments)

1) The TIS used Synchro Software, Version 12, and McCormick Taylor used Synchro Software, Version 11 to complete the traffic analyses. Synchro was selected because the analysis of some intersection's geometry was not supported by Highway Capacity Software (HCS).

2) The TIS and McCormick Taylor generally used heavy vehicle percentages (HV%) from turning movement counts for existing and future conditions (as per DelDOT's Development Coordination Manual section 2.2.8.11.6.H). McCormick Taylor and the TIS assumed 3% HV at proposed site entrances in future conditions.

3) The TIS and McCormick Taylor determined overall intersection peak hour factors (PHF) for each intersection based on the turning movement counts. Future PHFs were determined as per the DelDOT Development Coordination Manual section 2.2.8.11.6.F where applicable.

4) For analyses of all intersections, McCormick Taylor and the TIS assumed 0% grade for all movements.

Table 2
Peak Hour Levels of Service (LOS)
Based on 610 W 7th Street Traffic Impact Study – April 2024
Prepared by Bowman Consulting Group, Ltd.

Unsignalized Intersection [1] Two-Way Stop-Control	**LOS per TIS**		**LOS per McCormick Taylor**	
1 - River Road / W 7th Street (Delaware Route 9) & Site Entrance	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2023 Existing Condition (Case 1)				
Eastbound River Road – Left	-	-	-	-
Southbound Site Entrance A	-	-	-	-
2028 No Build (Case 2)				
Eastbound River Road – Left	-	-	-	-
Southbound Site Entrance A	-	-	-	-
2028 Build (Case 3)				
Eastbound River Road – Left	A (8.1)	A (9.8)	A (8.1)	A (9.8)
Southbound Site Entrance A	C (23.4)	D (30.8)	C (23.5)	D (30.9)

[1] 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 3
Peak Hour Levels of Service (LOS)
Based on 610 W 7th Street Traffic Impact Study – April 2024
Prepared by Bowman Consulting Group, Ltd.

Signalized Intersection [2]	**LOS per TIS**		**LOS per McCormick Taylor**	
2 - Frenchtown Road / Hares Corner Road (Delaware Route 273) / South DuPont Highway (US Route 13)	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2023 Existing Condition (Case 1)				
Overall	E (63.8)	F (80.5)	E (63.1)	F (81.6)
2028 No Build (Case 2)				
Overall	E (69.2)	F (96.6)	E (69.2)	F (106.0)
2028 Build (Case 3)				
Overall	E (72.3)	F (97.4)	E (70.1)	F (108.6)

[2] 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)
Based on 610 W 7th Street Traffic Impact Study – April 2024
Prepared by Bowman Consulting Group, Ltd.

Signalized Intersection [3]	**LOS per TIS**		**LOS per McCormick Taylor**	
3 - Frenchtown Road / Delaware Street (Delaware Route 273) & Washington Street / E Basin Road & 14th Street	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2023 Existing Condition (Case 1)				
Overall	D (46.5)	D (47.8)	D (39.9)	D (37.3)
2028 No Build (Case 2)				
Overall	D (49.5)	D (50.0)	D (40.5)	D (40.5)
2028 Build (Case 3)				
Overall	D (51.1)	D (50.7)	D (41.3)	D (40.9)

[3] 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)
Based on 610 W 7th Street Traffic Impact Study – April 2024
Prepared by Bowman Consulting Group, Ltd.

Unsignalized Intersection [4] All-Way Stop-Control	**LOS per TIS**		**LOS per McCormick Taylor**	
4 - W 7th Street & Washington Street	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2023 Existing Condition (Case 1)				
Eastbound W 7th Street	B (13.9)	B (12.6)	B (13.9)	B (12.6)
Westbound W 7th Street	A (9.8)	C (18.5)	A (9.8)	C (18.5)
Southbound Washington Street	B (11.8)	C (15.2)	B (11.8)	C (15.2)
Overall	B (12.6)	C (15.7)	B (12.6)	C (15.7)
2028 No Build (Case 2)				
Eastbound W 7th Street	B (15.0)	B (13.6)	B (14.9)	B (13.6)
Westbound W 7th Street	B (10.3)	C (21.0)	B (10.3)	C (21.0)
Southbound Washington Street	B (12.5)	C (16.3)	B (12.5)	C (16.3)
Overall	B (13.3)	C (17.3)	B (13.3)	C (17.3)
2028 Build (Case 3)				
Eastbound W 7th Street	C (19.5)	C (16.7)	C (19.5)	C (16.7)
Westbound W 7th Street	B (11.0)	D (32.0)	B (11.0)	D (32.0)
Southbound Washington Street	B (13.9)	C (24.6)	B (13.9)	C (24.6)
Overall	C (16.4)	C (24.8)	C (16.4)	C (24.8)

[4] 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)
Based on 610 W 7th Street Traffic Impact Study – April 2024
Prepared by Bowman Consulting Group, Ltd.

Unsignalized Intersection [5] Three-Way Stop-Control	**LOS per TIS**		**LOS per McCormick Taylor**	
5 - W 7th Street & South Street [6]	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2023 Existing Condition (Case 1)				
Eastbound W 7th Street	A (3.1)	A (2.7)	A (4.9)	A (4.0)
Westbound W 7th Street	A (5.2)	A (8.1)	A (4.1)	A (7.6)
Northbound South Street	A (0.2)	A (0.4)	A (0.2)	A (0.5)
Southbound South Street	A (3.4)	A (5.6)	A (3.5)	A (6.0)
Overall	A (2.5)	A (2.4)	A (3.2)	A (2.8)
2028 No Build (Case 2)				
Eastbound W 7th Street	A (3.1)	A (2.9)	A (5.3)	A (4.1)
Westbound W 7th Street	A (4.3)	A (8.5)	A (5.7)	A (7.9)
Northbound South Street	A (0.2)	A (0.4)	A (0.2)	A (0.5)
Southbound South Street	A (5.3)	A (6.1)	A (4.4)	A (5.4)
Overall	A (2.5)	A (2.6)	A (3.6)	A (2.8)
2028 Build (Case 3)				
Eastbound W 7th Street	A (3.5)	A (3.0)	A (5.1)	A (3.9)
Westbound W 7th Street	A (4.8)	A (8.7)	A (5.6)	A (7.4)
Northbound South Street	A (0.2)	A (0.4)	A (0.2)	A (0.5)
Southbound South Street	A (3.8)	A (6.0)	A (5.1)	A (5.6)
Overall	A (2.8)	A (2.5)	A (3.5)	A (2.8)

[5] 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.
[6] Analysis performed with Sim Traffic.