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

SHANTÉ A. HASTINGS
SECRETARY

February 14, 2025

Braden Garrison, P.E.
Bowman Consulting Group, Ltd.
835 Springdale Drive, suite 200
Exton, PA 19341

Dear Mr. Garrison,

The enclosed Traffic Impact Study (TIS) review letter for the **5563 Dupont Parkway (Smyrna)** (Tax Parcel: 2800400003 and 2800400006) mixed-use 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 Review Engineer

AF:km
Enclosures
cc with enclosures: Michael Scali, Apennine Development Co LLC
Alan Hill, A.H. Davenport LLC
Nicole Kline-Elsier, Bowman Consulting Group, Ltd.
David L. Edgell, Office of State Planning Coordination
Jake Mitchell, Town of Smyrna
Jeremy Rothwell, Town of Smyrna
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

DelDOT Distribution

Mark Luszcz, Chief Engineer, Transportation Solutions (DOTS)
Brad Eaby, Deputy Attorney General, DOTS
Matthew Vincent, Chief Project Development North, DOTS
Peter Haag, Chief Traffic Engineer, DOTS
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, Traffic, DOTS
Sean Humphrey, Traffic Engineer, Traffic, DOTS
Brian Schilling, Canal District Engineer, M&O
Nathan Draper, Canal District Public Works Engineer, M&O
Jared Kauffman, Service Development Planner, DTC
Tremica Cherry, Service Development Planner, DTC
Pamela Steinebach, Director, Planning
Anthony Aglio, Planning Supervisor, Active Transportation & Community Connections, Planning
Steve Bayer, Planning Supervisor, Statewide & Regional Planning, Planning
Anson Gock, Planner, Statewide & Regional Planning, Planning
Todd Sammons, Assistant Director, Development Coordination, Planning,
Wendy Polasko, Subdivision Engineer, Development Coordination, Planning
Randhir Sharma, New Castle Review Coordinator, Development Coordination, Planning
Michael White, New Castle Review Engineer, Development Coordination, Planning
Sireen Muhtaseb, TIS Engineer, Development Coordination, Planning
Ben Fisher, TIS Review Engineer, Development Coordination, Planning
Tijah Jones, TIS Review Engineer, Development Coordination, Planning

February 14, 2025

Ms. Sireen Muhtaseb, PE
TIS Group Manager
DelDOT Division of Planning
P.O. Box 778
Dover, DE 19903

RE: Agreement No. 1946F
Traffic Impact Study Services
Task No. 5A Subtask 16A – 5563 Dupont Parkway

Dear Ms. Muhtaseb:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the 5563 Dupont Parkway development prepared by Bowman Consulting Group, Ltd., dated August 28, 2024. Bowman prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed 5563 Dupont Parkway development, along the west side of US Route 13 (Dupont Parkway), 1,800 feet north of the intersection of US Route 13 and Joe Goldsborough Road (New Castle Road 487), in the Town of Smyrna, New Castle County, Delaware. The proposed development would consist of 136 low-rise apartment dwellings, a 2,400 square foot fast-food restaurant with drive through, and 11,340 square feet of retail space. One right-in/right-out access point is proposed on US Route 13. Construction is anticipated to be completed in 2028.

The subject land is located on an approximately 9.09-acre assemblage of parcels. The subject land is currently zoned CCM (Corridor Commercial District), and the developer does not plan to rezone the land.

Relevant and On-Going Projects and Studies

Currently, DelDOT has one relevant or ongoing project within the area of study.

The *US 13, Duck Creek to SR 1* (State Contract No. T202012401) project proposes a shared use path along both sides of US Route 13 (Dupont Parkway) and improvements to other bicycle and pedestrian facilities within the project area. The project is currently on hold and a construction start date has not been identified.

Summary of Analysis Results

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

As analyzed, the proposed 5563 Dupont Parkway development does not exhibit level of service (LOS) deficiencies at any intersections included in the scope of study.

However, if the improvements described in the next paragraph, which are anticipated to be completed by other developers, are not constructed by the opening of the 5563 Dupont Parkway development, then LOS deficiencies would be expected at the intersection of US Route 13 and Joe Goldsboro Road / Paddock Road during 2028 without development (Case 2) and 2028 with development (Case 3) conditions. See Table 5 for additional results.

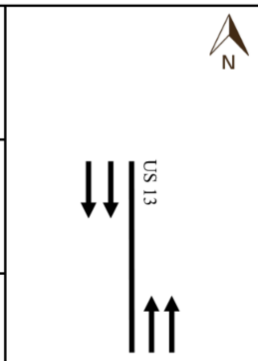
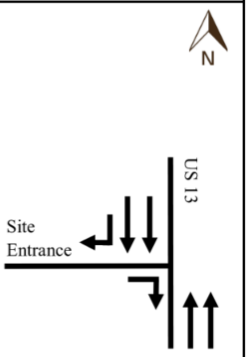
As part of the Duck Creek Business Campus TIS review letter dated July 18, 2014, both the eastbound Joe Goldsborough Road and the westbound Paddock Road approaches to US Route 13 were recommended to be widened. Specifically, the eastbound Joe Goldsborough Road approach was recommended to be widened to provide one left-turn lane and one shared through/right-turn lane and the westbound Paddock Road approach was recommended to be widened to provide one left-turn lane, one through lane, and one right-turn lane. The Duck Creek Business Campus TIS review letter indicates that the implementation of the recommended additional lanes can be deferred until the Duck Creek Business Campus entrance along Paddock Road is constructed. Under existing conditions, an entrance to the Duck Creek Business Campus is not available along Paddock Road.

Development Improvements

Should the Town of Smyrna 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 (US Route 13), 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 right-in/right-out Site Entrance on US Route 13. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound	Approach does not exist.		Eastbound Site Entrance	One right-turn lane. Stop or yield control.	
Westbound	Approach does not exist.		Westbound	No Change.	
Northbound US 13	Two through lanes.		Northbound US 13	No Change.	
Southbound US 13	Two through lanes.		Southbound US 13	Right-turn lane and two through lanes.	

At the proposed Site Entrance intersection, a southbound right-turn lane is warranted on US Route 13 based on DelDOT's Auxiliary Lane Worksheet. Initial recommended minimum turn lane length (excluding taper) includes a 410-foot right-turn lane on southbound US Route 13. However, due to storage length limitations as a result of the distance between the Site Entrance and the adjacent traffic signal at the Smyrna Rest Area, 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. Utility covers should be made flush with the pavement.

   c. A minimum 15-foot-wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontage along US Route 13. Along the frontage, 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 Development Coordination Manual. 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 location and connections/terminations.

   d. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.

   e. 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 frontage.

   f. Construct one new Type 2 (17'x8') bus stop on southbound US Route 13, just south of the proposed site entrance. Bus stop pads should connect to shared use paths and sidewalks. Location, size, and type of bus stop pad will be determined through coordination with the Delaware Transit Corporation (DTC) and DelDOT's Subdivision Section during the plan review process.

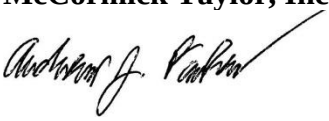
Improvements in this TIS may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at http://deldot.gov/Publications/manuals/de_mutcd/index.shtml.

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.

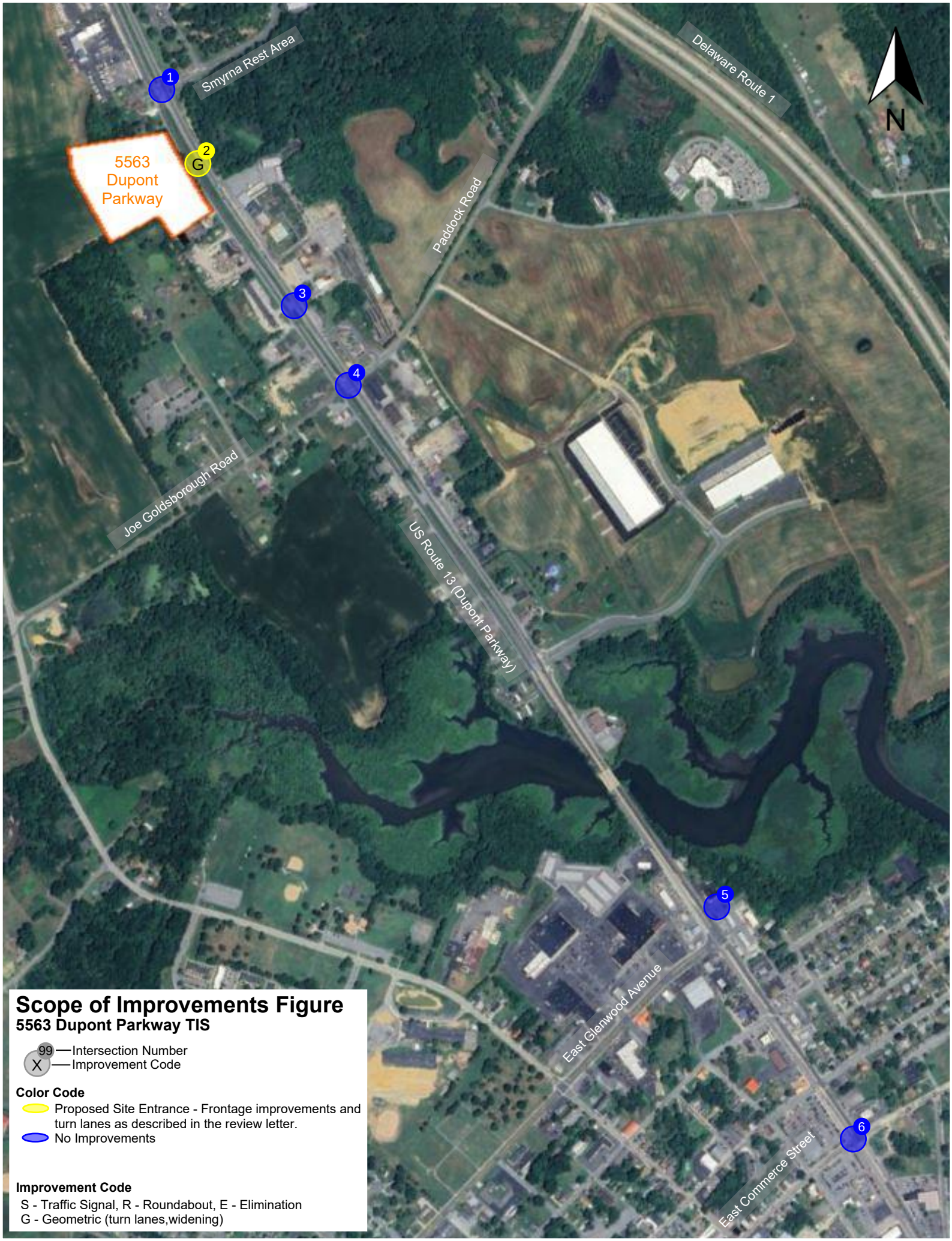
Sincerely,

McCormick Taylor, Inc.



Andrew J. Parker, PE, PTOE
Project Manager

Enclosure



Scope of Improvements Figure

5563 Dupont Parkway 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: August 28, 2024
Prepared by: Bowman Consulting Group, Ltd.
Prepared for: Apennine Development Co, LLC
Tax parcel: 28-004.00-003 and 28-004.006
Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed 5563 Dupont Parkway development consists of 136 low-rise apartment dwellings, a 2,400 square foot fast-food restaurant with drive through, and 11,340 square feet of retail space.
Location: The site is located along the west side of US Route 13 (Dupont Parkway), 1,800 feet north of the intersection of US Route 13 and Joe Goldsborough Road (New Castle Road 487), in the Town of Smyrna, New Castle County, Delaware. A site location map is included on page 7.
Amount of land to be developed: an approximately 9.09-acre assemblage of parcels.
Land use approval(s) needed: The subject land is currently zoned CCM (Corridor Commercial District), and the developer does not plan to rezone the land.
Proposed completion year: 2028
Proposed access locations: One right-in/right-out access point is proposed on US Route 13.
Average Daily Traffic Volumes (per DelDOT Traffic Summary 2023):

- US Route 13: 28,337 vehicles/day


Smyrna Rest Area
N
US 13 (Dupont Parkway)
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 5563 Dupont Parkway 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 5563 Dupont Parkway development falls within Investment Level 1 and is to be developed as 136 low-rise apartment dwellings, a 2,400 square foot fast-food restaurant with drive through, and 11,340 square feet of retail space. The proposed development is consistent with the character of Investment Level 1. It is therefore concluded that the proposed development appears to generally comply with the policies stated 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 Town of Smyrna, 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.

Town of Smyrna Comprehensive Plan:
(Source: Town of Smyrna: 2020 Comprehensive Plan, July 2021)

The Town of Smyrna Comprehensive Plan includes zoning, future land use, and annexation future lane use maps that were completed before the 5563 Dupont Parkway development was proposed and before the land parcel was annexed into the Town of Smyrna.

Proposed Development's Compatibility with Comprehensive Plan:
Although the proposed development was not included in the Town of Smyrna Comprehensive Land Use Plan, the proposed land use appears to be compatible with Zoning and Annexation Future Land Use, identified as "Corridor Commercial".

Relevant Projects in the DelDOT Capital Transportation Program

Currently, DelDOT has one relevant or ongoing project within the area of study.

The *US 13, Duck Creek to SR 1* (State Contract No. T202012401) project proposes a shared use path along both sides of US Route 13 (Dupont Parkway) and improvements to other bicycle and pedestrian facilities within the project area. The project is currently on hold and a construction start date has not been identified.

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:

- 136 Multifamily Housing (Low-Rise) Units (ITE Land Use Code 220)
- 11,340 square feet of Strip Retail Plaza (<40k) (ITE Land Use Code 822)
- 2,400 square feet of Fast-Food Restaurant with Drive-Through (ITE Land Use Code 934)

Table 1
5563 Dupont Parkway Peak Hour Trip Generation

ITE Land Use Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
LUC 220	--	16	49	65	50	29	79	28	28	56
LUC 822	--	16	11	27	43	42	85	38	37	75
LUC 934	--	55	52	107	41	38	79	68	65	133
Total Trips	**2,777**	**87**	**112**	**199**	**134**	**109**	**243**	**134**	**130**	**264**
Internal & Pass-by	-206	-35	-38	-73	-69	-64	-133	-82	-77	-159
New Trips	**2,571**	**52**	**74**	**126**	**65**	**45**	**110**	**52**	**53**	**105**

Overview of TIS

Intersections examined:

1) US Route 13 (Dupont Parkway) and Smyrna Rest Area Entrance
2) US Route 13 (Dupont Parkway) and Site Entrance
3) US Route 13 (Dupont Parkway) and Crossover
4) US Route 13 (Dupont Parkway) and Joe Goldsborough Road / Paddock Road
5) US Route 13 (Dupont Parkway) and East Glenwood Avenue
6) US Route 13 (Dupont Parkway) and Delaware Route 6 (East Commerce Street)

Conditions examined:

1) 2024 Existing (Case 1)
2) 2028 without development (Case 2)
3) 2028 with development (Case 3)

Peak hours evaluated: Weekday morning, weekday evening, and Saturday midday peak hours.

Committed developments considered:

1) Duck Creek Business Campus (420,000 square feet of general office space and 273,000 square feet of light industrial space)
2) Tappahanna at Watson Farm (436 residential units: 300 low-rise multifamily housing and 136 townhomes)
3) Wawa – Smyrna (5,585 square foot convenience market with 16 fueling positions)
4) DCHI New Hospital (additional 67,721 square feet of medical office space within existing DCHI campus)

Intersection Descriptions

1) **US Route 13 (Dupont Parkway) and Smyrna Rest Area Entrance**
   Type of Control: Signalized
   Eastbound Approach: (Driveway) one shared left/through/right-turn lane.
   Westbound Approach: (Smyrna Rest Area Entrance) one shared left/through lane and one channelized right turn lane.
   Northbound Approach: (US 13) one left-turn lane, two through lanes, and one channelized right turn lane.
   Southbound Approach: (US 13) one left-turn lane and two through lanes.

2) **US Route 13 (Dupont Parkway) and Site Entrance**
   Type of Control: Proposed Right-In/Right-Out, stop-controlled
   Eastbound Approach: (Site Entrance) one proposed right-turn lane, stop-controlled.
   Northbound Approach: (US 13) two through lanes.
   Southbound Approach: (US 13) two existing through lanes and one proposed right-turn lane.

3) **US Route 13 (Dupont Parkway) and Crossover**
   Type of Control: Two-way stop controlled
   Eastbound Approach: (Crossover) one shared left/through/right-turn lane.
   Westbound Approach: (Crossover) one shared left/through/right-turn lane.
   Northbound Approach: (US 13) one left-turn lane and two through lanes.
   Southbound Approach: (US 13) one left-turn lane and two through lanes.

4) **US Route 13 (Dupont Parkway) and Joe Goldsborough Road / Paddock Road**
   Type of Control: Signalized
   Eastbound Approach: (Joe Goldsborough Road) one proposed (by others) left-turn lane and one existing shared through/right-turn lane.
   Westbound Approach: (Paddock Road) one proposed (by others) left-turn lane, one through lane, and one channelized right-turn lane.
   Northbound Approach: (US 13) one channelized left-turn lane, two through lanes, and one channelized right-turn lane.
   Southbound Approach: (US 13) one channelized left-turn lane, two through lanes, and one channelized right-turn lane.

5) **US Route 13 (Dupont Parkway) and East Glenwood Avenue**
   Type of Control: Signalized
   Eastbound Approach: (East Glenwood Avenue) one left-turn lane, one shared left/through lane and one right-turn lane.
   Westbound Approach: (Royal Farms Driveway) one left-turn lane and one shared left/through/right-turn lane.
   Northbound Approach: (US 13) one left-turn lane, two through lanes and one right-turn lane.
   Southbound Approach: (US 13) one left-turn lane, two through lanes and one right-turn lane.

6) **US Route 13 (Dupont Parkway) and Delaware Route 6 (East Commerce Street)**
Type of Control: Signalized
Eastbound Approach: (East Commerce Street) one left-turn lane and one shared through/right-turn lane.
Westbound Approach: (East Commerce Street) one left-turn lane, one through lane, and one right-turn lane.
Northbound Approach: (US 13) one left-turn lane, two through lanes, and one right-turn lane.
Southbound Approach: (US 13) one left-turn lane, two through lanes, and one right-turn lane.

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in the TIS for the three-year period from July 1, 2021, through June 30, 2024. A total of 126 crashes occurred within the study area, with the intersection of US Route 13 & East Glenwood Avenue having the most, at 64 crashes. The most common crash within the study area was front-to-rear, with 46 crashes, or 37% of all crashes.

A fatal pedestrian crash occurred at the intersection of US Route 13 and Paddock Road / Joe Goldsborough Road. The crash involved a pedestrian traveling northbound on US Route 13 in the southbound right turn-lane, just north of Joe Goldsborough Road, who was struck by a vehicle. A second fatal vehicular crash occurred at the intersection of US Route 13 and Smyrna Rest Area Entrance. This crash involved a vehicle that made an improper turn with disregard for the traffic signal.

Sight Distance: The study area generally consists of relatively flat roadways and there are few visual obstructions. 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 three fixed-route transit bus routes in the area of the proposed 5563 Dupont Parkway development. Route 120 (Dover/Cheswold/Smyrna) and Route 302 (Intercounty Dover/Middletown) run along US Route 13 with stops located south of the site at US Route 13 between E. North Street and E. Mt. Vernon Street, plus at the Smyrna Rest Area. Route 301 (Intercounty Wilmington/Dover) also stops at the Smyrna rest Area. These are the only stops within the study area.

Planned transit service: Delaware Transit Corporation (DTC) was contacted regarding the existing and planned transit service in the area. Bill Williamson from DTC reiterated DTC's request from the May 2024 PLUS submission for a Type 2 (17'x8') shelter pad (at full curb height and not flush with the roadway) per the DelDOT M-9 Specs and placed south of the entrance.

Existing bicycle and pedestrian facilities: According to DelDOT's Kent County Bicycle Map, US Route 6 (E. Commerce Street) is designated as a Regional Bicycle Route with a Bikeway. US Route 13 (Dupont Parkway) is designated as a High-Traffic Connector Bicycle Route with a Bikeway. Joe Goldsborough Road and Paddock Road are designated as Connector Bicycle Routes without a Bikeway.

Planned bicycle and pedestrian facilities: A shared-use path (SUP) is recommended along the west side of US Route 13 (Dupont Parkway), within the extents of the property frontage. The SUP shall extend north approximately 350' (connecting to the existing SUP at Parkview RV Center). To the south, the angled termination shall be removed and the SUP shall tie into the existing entrance at FILEC Services, LLC. DTC and DelDOT are requesting covered bike shelters within the proposed site. John Fiori (DelDOT) requests establishing an internal sidewalk/SUP connection to the proposed drive-thru building in addition to pedestrian routes to the proposed apartment buildings. Additionally, the mid-block crossing within the site is recommended to be a raised crossing to slow down vehicular traffic. Lastly, as a right-turn lane is warranted for the site entrance, a separate bike lane (5' minimum) shall be incorporated along the proposed right-turn lane.

Previous Comments

The initial scoping memorandum between the developer and DelDOT was dated May 28, 2024.

In a review letter dated July 9, 2024, DelDOT commented on the raw peak hour traffic volumes. The developer was asked to adjust the turning movements on US Route 13 to include U-turns near the proposed site entrance. Additionally, the developer was asked to revise the committed development distributions to be consistent with those provided in the enclosure. The developer was directed to revise their figures and resubmit the traffic counts.

In a second review letter dated July 18, 2024, DelDOT requested the inclusion of the DHCI New Hospital as a committed development in the Preliminary TIS. DelDOT also commented on the seasonally adjusted volumes. DelDOT provided the developer with growth factors to apply to the seasonally adjusted volumes. The developer was directed to revise their figures and proceed to the Preliminary TIS.

In a third review letter dated August 16, 2024, DelDOT requested revisions to the site trip generation table, instructed specific applications of background growth factors, and requested additional revisions to the volume figures. The developer was directed to proceed to the resubmit the Preliminary TIS.

In a fourth review letter dated August 26, 2024, DelDOT requested additional revisions to the volume figures. The developer was directed to proceed to 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) Both the TIS and McCormick Taylor utilized Synchro to complete the traffic analyses.

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 for future movements and at the proposed site entrance.

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. The application of future PHFs in the TIS was inconsistent between intersections and volume scenarios.

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 5563 Dupont Parkway Traffic Impact Study – August 2024
Prepared by Bowman Consulting Group, Ltd.

Signalized Intersection [1]	**LOS per TIS**			**LOS per McCormick Taylor**		
1 - US Route 13 and Smyrna Rest Area Entrance	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2024 Existing (Case 1)						
Overall	A (4.1)	A (5.1)	A (8.5)	B (10.4)	B (11.0)	B (13.3)
2028 No Build (Case 2)						
Overall	A (4.6)	A (4.9)	B (12.6)	A (4.6)	A (4.9)	B (12.5)
2028 Build (Case 3)						
Overall	A (5.3)	A (5.6)	B (13.0)	A (5.3)	A (5.6)	B (12.8)

[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 5563 Dupont Parkway Traffic Impact Study – August 2024
Prepared by Bowman Consulting Group, Ltd.

Unsignalized Intersection [2] One-Way Stop (T-Intersection)	**LOS per TIS**			**LOS per McCormick Taylor**		
2 – US Route 13 and Site Entrance	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2028 Build (Case 3)						
Eastbound Site Entrance – Right	B (10.7)	B (10.3)	B (10.6)	B (12.6)	B (11.9)	B (12.7)

[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 5563 Dupont Parkway Traffic Impact Study – August 2024
Prepared by Bowman Consulting Group, Ltd.

Unsignalized Intersection [3] Two-Way Stop-Controlled	**LOS per TIS**			**LOS per McCormick Taylor**		
3 – US Route 13 and Crossover	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2024 Existing (Case 1)						
Eastbound Crossover	B (11.8)	B (12.3)	B (10.8)	C (17.6)	C (18.4)	C (15.3)
Westbound Crossover	A (0.0)	C (17.3)	C (15.7)	A (0.0)	D (25.9)	C (23.4)
Northbound US 13 - Left	A (9.3)	B (10.0)	B (10.6)	B (11.4)	B (13.0)	C (15.2)
Southbound US 13 - Left	B (11.7)	A (0.0)	B (10.8)	C (15.7)	A (0.0)	B (13.9)
2028 No Build (Case 2)						
Eastbound Crossover	C (18.5)	B (14.8)	B (12.0)	B (14.7)	B (13.6)	B (12.6)
Westbound Crossover	A (0.0)	D (27.7)	C (21.6)	A (0.0)	C (18.2)	C (18.2)
Northbound US 13 - Left	B (13.5)	B (11.5)	B (12.3)	A (9.8)	A (9.4)	A (9.7)
Southbound US 13 - Left	B (14.3)	C (15.4)	B (12.7)	A (9.6)	A (9.7)	A (9.2)
2028 Build (Case 3)						
Eastbound Crossover	C (22.9)	C (16.0)	B (13.2)	C (16.2)	B (14.2)	B (13.3)
Westbound Crossover	A (0.0)	D (30.0)	D (29.5)	A (0.0)	C (19.6)	D (27.9)
Northbound US 13 - Left	B (14.3)	B (11.9)	B (12.6)	A (10.0)	A (9.4)	A (10.0)
Southbound US 13 - Left	C (15.7)	C (16.5)	C (20.6)	A (9.8)	B (10.0)	C (20.5)

[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 5563 Dupont Parkway Traffic Impact Study – August 2024
Prepared by Bowman Consulting Group, Ltd.

Signalized Intersection [4]	**LOS per TIS**			**LOS per McCormick Taylor**		
4 – US Route 13 and Joe Goldsborough Road / Paddock Road	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2024 Existing (Case 1)						
Overall	B (15.8)	B (12.4)	B (10.5)	C (20.6)	C (20.5)	B (19.6)
2028 No Build (Case 2)						
Without Improvements by Others Overall	--	--	--	E (69.8)	D (39.1)	C (30.5)
With Improvements by Others Overall	D (45.0)	B (18.1)	C (23.6)	D (45.0)	B (18.1)	B (19.9)
2028 Build (Case 3)						
Without Improvements by Others Overall	--	--	--	E (77.2)	D (41.3)	C (31.6)
With Improvements by Others Overall	D (46.3)	B (19.9)	C (26.4)	D (46.3)	B (19.9)	C (26.3)

[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 5563 Dupont Parkway Traffic Impact Study – August 2024
Prepared by Bowman Consulting Group, Ltd.

Signalized Intersection [5]	**LOS per TIS**			**LOS per McCormick Taylor**		
5 - US Route 13 and E. Glenwood Avenue / Royal Farms Entrance	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2024 Existing (Case 1)						
Overall	C (20.3)	C (30.4)	C (27.3)	C (23.3)	C (26.0)	C (27.9)
2028 No Build (Case 2)						
Overall	C (26.5)	D (36.4)	C (32.6)	C (26.5)	D (36.4)	C (31.5)
2028 Build (Case 3)						
Overall	C (26.7)	D (37.1)	C (33.2)	C (26.7)	D (37.1)	C (32.0)

[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.

Table 7
Peak Hour Levels of Service (LOS)
Based on 5563 Dupont Parkway Traffic Impact Study – August 2024
Prepared by Bowman Consulting Group, Ltd.

Signalized Intersection [6]	**LOS per TIS**			**LOS per McCormick Taylor**		
6 - US Route 13 and E. Commerce Street	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2024 Existing (Case 1)						
Overall	B (11.8)	B (12.8)	B (16.9)	B (15.7)	B (14.1)	B (16.9)
2028 No Build (Case 2)						
Overall	B (13.9)	B (14.1)	B (18.1)	B (13.9)	B (14.1)	B (17.6)
2028 Build (Case 3)						
Overall	B (13.9)	B (14.3)	B (18.2)	B (13.9)	B (14.3)	B (17.7)

[6] 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.