



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

JENNIFER COHAN
SECRETARY

June 17, 2019

Mr. Michael Kaszyski
Duffield Associates, Inc.
5400 Limestone Road
Wilmington, DE 19808-1232

Dear Mr. Kaszyski:

The Department has completed its review of the Traffic Impact Study (TIS) for the Incyte Office Expansion (Protocol Tax Parcel 06-136.00-030), prepared by your firm and dated April 2019. The report was prepared in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed development, proposed to be located on the Augustine Cut-Off, just outside of the City of Wilmington, in New Castle County.

The proposed development would consist of the addition of a 199,800 square foot office and laboratory building to the existing 341,300 square foot site. The addition would serve approximately 444 employees, and would be constructed on an approximately 20.55-acre assemblage of parcels (Tax Parcels 06-136.00-030 & 126, 06-143.00-002 & 010, 26-014.10-002, 003 & 004) that includes the existing site. Four access points are to be utilized for the development on Augustine Cut-Off: one existing site entrance across from West 18th Street, one existing site entrance just north of Stone Hill Road, one existing site entrance across from Cantera Road, and a new proposed site entrance that would eliminate existing Love Lane. Construction is anticipated to begin in 2019 and be completed in 2021.

The land is currently zoned as OR (Office Regional) in New Castle County, and the developer does not propose to rezone the land.

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

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

Five intersections were identified by DelDOT and New Castle County as being required for study to satisfy the level of service (LOS) requirements for both the New Castle County Unified Development Code (UDC) and DelDOT's Development Coordination Manual (DCM). Four additional intersections were identified by New Castle County as being required to satisfy the LOS requirements of New Castle County's UDC, while two additional intersections were identified by DelDOT as being required for study to satisfy the LOS requirements of DelDOT's DCM. All eleven intersections are listed in the enclosures.

Of the intersections analyzed in the study, the following exhibit LOS deficiencies:

Intersection	Scenarios for which the deficiencies occur:
North Site Entrance / Augustine Cut-Off / Cantera Road	AM Peak Hour – 2019 Existing, 2021 without development, 2021 with development PM Peak Hour – 2021 with development
Middle Site Entrance / Augustine Cut-Off	PM Peak Hour – 2021 without development, 2021 with development
Augustine Cut-Off / Edgewood Drive	AM Peak Hour – 2019 Existing, 2021 with development PM Peak Hour – 2021 without development, 2021 with development

At the intersections listed above, the deficiencies occur along the minor street(s) of the intersection. While the LOS for the minor street approaches is lower than LOS D, the 95th percentile queues along the minor street(s) are shorter than 100 feet for all of the scenarios listed above. These intersections are all two-way stop-controlled, meaning that they consist of a major street where through traffic does not stop and a minor street or driveway where traffic must stop before proceeding. It is common for the minor street to experience such LOS and queues, and where the minor street volume does not warrant different traffic control, e.g., a roundabout or signal, there is often no remedy. Therefore, for the Middle Site Entrance / Augustine Cut-Off intersection and the Augustine Cut-Off / Edgewood Drive intersection, we do not recommend any improvements.

At both the North Site Entrance / Augustine Cut-Off / Cantera Road intersection and the South Site Entrance / Augustine Cut-Off / West 18th Street intersection, the developer has expressed an interest in assessing the potential for installing roundabouts at these locations.

While the roundabouts would operate at acceptable LOS, there are challenges in the constructability of each. Briefly, for the North Site Entrance / Augustine Cut-Off / Cantera Road intersection, the grade along the Augustine Cut-Off exceeds the allowable limits in DelDOT and Federal Highway Administration design guidance.

For the South Site Entrance / Augustine Cut-Off / West 18th Street intersection, the grade is closer to the allowable limit mentioned above. However, there are other geometric constraints. The existing Incyte building is relatively close to the Augustine Cut-Off (ACO). The commercial buildings across the street are even closer. West 18th Street approaches the ACO at an acute angle and cannot be realigned due to the embankment separating it from the ACO. While a roundabout or similar unsignalized continuous-flow intersection control may be possible, traffic operations in the area would be severely hindered during construction.

If the developer would like to install roundabouts at these locations in the future, DelDOT will require further analysis and detailed construction-level plans to assess the feasibility of their installation.

For the South Site Entrance / Augustine Cut-Off / West 18th Street intersection, the developer entered into a signal agreement for this intersection in 2016 for the prior expansion of the subject site. That agreement still applies.

Should New Castle County 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 replace the existing Augustine Cut-Off / Love Lane intersection with a rights-in / rights-out site entrance. The details of the design and construction of this intersection should be discussed and finalized with DelDOT during the site plan review.
2. During the Entrance Plan review process, DelDOT will determine whether a bituminous concrete overlay of the existing travel lanes is needed on Augustine Cut-Off between the Site Entrance / West 18th Street intersection and the start of the bridge. If DelDOT determines that an overlay is needed, the developer shall provide an overlay within the limits specified by DelDOT and of a thickness specified by DelDOT.
3. The following bicycle and pedestrian improvements should be included:
 - a. Appropriate bicycle symbols, directional arrows, striping (including stop bars), and signing shall be included along bicycle facilities and right-turn lanes within the project limits.
 - b. Utility covers shall be made flush with the pavement.
 - c. Bike parking shall be provided near the building entrances. Where building architecture permits, the parking should be covered.
 - d. The eight-foot multi-use path that presently exists east of the South Site Entrance / Augustine Cut-Off / West 18th Street intersection shall be continued west through the proposed rights-in / rights-out site entrance. The path should be constructed to meet current AASHTO and ADA standards.
 - e. ADA compliant curb ramps and crosswalks shall be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.

Mr. Michael Kaszyski

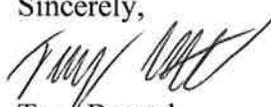
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Improvements in this TIS may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at http://www.deldot.gov/information/pubs_forms/manuals/de_mutcd/index.shtml. For any additional information regarding the work zone impact and mitigation procedures during construction please contact Mr. Mark Buckalew of DelDOT's Traffic Section. Mr. Buckalew can be reached at (302) 659-4073 or by email at Mark.Buckalew@delaware.gov.

Additional details on our review of this TIS are attached. If you have any questions concerning this review, please contact me at (302) 760-2167. My email is Troy.Brestel@delaware.gov.

Sincerely,



Troy Brestel
Project Engineer

TEB:km

Enclosures

cc with enclosures: Ms. Deirdre Smith, Duffield Associates, Inc.
Ms. Tigist Zegeye, WILMAPCO
Mr. Daniel Blevins, WILMAPCO
Mr. George Haggerty, New Castle County Department of Land Use
Mr. Owen Robatino, New Castle County Department of Land Use
Mr. Marco Boyce, New Castle County Department of Land Use
Mr. Mark Wolanski, Jr., New Castle County Department of Land Use
Mr. Brian Mitchell, City of Wilmington
Mr. Brad Eaby, Deputy Attorney General
Mr. Robert McCleary, Director, Transportation Solutions (DOTS)
Mr. Drew Boyce, Director, Planning
Mr. Mark Luszcz, Chief Traffic Engineer, Traffic, DOTS
Ms. Pamela Steinebach, Assistant Director, Project Development North,
DOTS
Mr. J. Marc Coté, Assistant Director, Development Coordination
Mr. T. William Brockenbrough, Jr., County Coordinator, Development
Coordination
Mr. Peter Haag, Traffic Studies Manager, Traffic, DOTS
Mr. Mark Buckalew, Safety Engineer, Traffic, DOTS
Mr. David Dooley, Service Development Planner, Delaware Transit
Corporation
Mr. Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Mr. Todd Sammons, Subdivision Engineer, Development Coordination
Ms. Sireen Muhtaseb, New Castle County Review Coordinator,
Development Coordination
Mr. Jun Xie, Subdivision Manager, Development Coordination
Mr. Claudy Joinville, Project Engineer, Development Coordination

Mr. Michael Kaszyski

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General Information

Report date: April, 2019

Prepared by: Duffield Associates, Inc.

Prepared for: The Incyte Corporation

Tax Parcel: Tax Parcels 06-136.00-030 & 126, 06-143.00-002 & 010, 26-014.10-002, 003 & 004

Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: 199,800 square foot office (research and development) building

Location: West side of the Augustine Cut-Off, north of 18th Street (Wilmington)

Amount of land to be developed: approximately 20.55 acres

Current zoning: OR (Office Regional)

Proposed zoning: OR (Office Regional)

Land use approval(s) needed: County approval

Proposed completion date: 2021

Proposed access locations: Four along the Augustine Cut-Off

Livable Delaware

(Source: Delaware Strategies for State Policies and Spending, 2015 Update)

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

The proposed location of the development is located within Investment Level 1.

Description of Investment Level: *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 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 Level 1 Areas. These areas would be a prime location for designating "pre-permitted areas" to help steer development where the citizens are most prepared to accept it.

Concerning transportation, in Level 1 areas, the State's first priority will be for preserving existing facilities and making safety improvements. Level 1 areas will also be the highest priority for: context sensitive transportation system capacity enhancements; transit -system enhancements; ADA accessibility; and for closing gaps in the pedestrian system, including the Safe Routes to School projects. Additionally, Level 1 areas are a first priority for planning projects and studies, bicycle facilities, signal-system enhancements, the promotion of

interconnectivity of neighborhoods and public facilities. Street design and access should also be compatible to the context of an area.

Proposed Development’s Compatibility with Livable Delaware: Based on the above description, it appears that this development proposal is generally consistent with the 2015 update of the Livable Delaware “Strategies for State Policies and Spending.”

Comprehensive Plans

The proposed development is located within New Castle County.

New Castle County Comprehensive Plan: (Source: New Castle County Comprehensive Plan Update, 2012)

The site is located in an area with a Future Land Use designated as an Office / Commercial / Industrial Development Area (OCI).

Proposed Development’s Compatibility with Comprehensive Plan: Based on the above description, the proposed development generally adheres to the New Castle County Comprehensive Plan.

Trip Generation

Table 1
Trip Generation for the Incyte Office Expansion
Based on Site Data

Land Use	Morning Peak Hour			Evening Peak Hour		
	In	Out	Total	In	Out	Total
<i>199,800 square foot research and development center / 444 employees</i>	157	25	182	18	160	178

Overview of TIS

The following intersections were included to satisfy the conditions set forth in the Development Coordination Manual and New Castle County's Unified Development Code.

- 1) North Site Entrance / Augustine Cut-Off (New Castle Road 49) / Cantera Road
- 2) Middle Site Entrance / Augustine Cut-Off
- 3) South Site Entrance / Augustine Cut-Off / West 18th Street (New Castle Road 504)
- 4) Augustine Cut-Off / Love Lane (Proposed Future Site Entrance)
- 5) Augustine Cutoff / Alapocas Drive (New Castle Road 268)

The following intersections were included to satisfy the conditions set forth in New Castle County's Unified Development Code. They were not needed to satisfy the conditions set forth in the Development Coordination Manual.

- 6) Alapocas Drive / School Road
- 7) Alapocas Drive / Edgewood Road
- 8) Augustine Cut-Off / Edgewood Drive
- 9) Augustine Cut-Off / West Park Drive / US 202 Connector

The following intersections were included to satisfy the conditions set forth in the Development Coordination Manual. They were not needed to satisfy the conditions set forth in New Castle County's Unified Development Code.

- 10) Augustine Cut-Off / Lovering Avenue (New Castle Road 49)
- 11) West 18th Street / North Broom Street (New Castle Road 217)

Conditions examined:

- 1) Existing (2019);
- 2) 2021 without proposed development;
- 3) 2021 with proposed development.

Peak hours evaluated: All intersections were examined during the weekday morning and weekday evening peak hours.

Committed developments considered:

- 1) AstraZeneca (1,763,746 square feet of office space)
- 2) DuPont Experimental Station (1,069,974 square feet of office space)
- 3) Rockford Falls (343 condominiums, 32 townhouses)

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Currently, local transit service is provided on 18th street in Wilmington.

Planned transit service: Currently, there is no future planned service other than maintaining the existing local service.

Existing bicycle and pedestrian facilities: The New Castle County Bicycle Map indicates that the Augustine Cut-Off, 18th Street, Broom Street, and Alapocas Road are considered Connector Bicycle Routes. Augustine Cut-Off has a separate bikeway.

Planned bicycle and pedestrian facilities: Other than those made on page 3, item 3, of this document, minor comments relating to bicycle and pedestrian improvements may be made during DelDOT's site plan review process.

General HCS Analysis Comments

(see table footnotes on the following page for specific comments)

- 1) For various scenarios analyzed, the Consultant did not utilize the peak hour factors (PHF) correctly. The PHFs should be utilized in accordance with Chapter 2 of the DCM.
- 2) For various scenarios analyzed, the Consultant did not utilize the heavy vehicle percentages correctly. The heavy vehicle percentages should be utilized in accordance with Chapter 2 of the DCM.

Table 2
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Unsignalized Intersection ¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
North Site Entrance / Augustine Cut-Off / Cantera Road				
2019 Existing				
Northbound Augustine Cut-Off Left-Turn	A (9.1)	A (8.6)	A (9.8)	A (8.5)
Southbound Augustine Cut-Off Left-Turn	A (8.5)	A (9.1)	A (8.7)	A (9.9)
Eastbound Site Entrance	C (24.9)	D (28.6)	E (40.6) ²	D (27.7)
Westbound Cantera Road	B (13.6)	B (13.8)	C (15.2)	B (14.2)
2021 without development				
Northbound Augustine Cut-Off Left-Turn	A (9.4)	A (8.9)	A (9.8)	A (8.8)
Southbound Augustine Cut-Off Left-Turn	N/A	A (9.4)	A (8.7)	B (10.)
Eastbound Site Entrance	D (29.6)	C (23.3)	E (40.7) ²	D (33.4)
Westbound Cantera Road	B (14.9)	B (11.0)	C (15.4)	B (14.7)
2021 with development				
Northbound Augustine Cut-Off Left-Turn	A (9.6)	A (8.9)	B (10.0)	A (8.8)
Southbound Augustine Cut-Off Left-Turn	A (8.8)	A (9.6)	A (8.8)	B (10.3)
Eastbound Site Entrance	E (32.6)	E (38.1)	E (45.3) ²	E (36.6) ²
Westbound Cantera Road	C (15.4)	C (15.0)	C (15.8)	C (15.5)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² For the period analyzed, 95% queues along this approach are less than 1 vehicle.

Table 3
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Roundabout ¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
North Site Entrance / Augustine Cut-Off / Cantera Road				
2021 with development	A (9.1)	A (9.2)	A (9.2)	A (9.2)
2021 with development and modification to middle entrance ²	A (9.1)	B (10.2)	A (9.2)	B (10.2)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² Modification to middle entrance assumes the left-turn at the middle entrance would be eliminated, and all left-turning vehicles would exit at this location.

Table 4
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Unsignalized Intersection ¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Middle Site Entrance / Augustine Cut-Off				
2019 Existing				
Northbound Augustine Cut-Off Left-Turn	A (9.2)	A (8.6)	A (9.5)	A (8.5)
Eastbound Site Entrance	C (17.9)	D (32.7)	C (23.4)	D (31.0)
2021 without development ²				
Northbound Augustine Cut-Off Left-Turn	A (9.5)	A (8.9)	A (9.4)	A (8.8)
Eastbound Site Entrance	C (16.9)	D (25.4)	C (23.2)	E (40.9) ³
2021 with development				
Northbound Augustine Cut-Off Left-Turn	A (9.7)	A (8.9)	A (9.6)	A (8.8)
Eastbound Site Entrance	C (21.8)	E (49.0)	C (25.0)	E (47.0) ⁴
2021 with development and modification to entrance ⁵				
Northbound Augustine Cut-Off Left-Turn	N/A	N/A	A (9.6)	A (8.8)
Eastbound Site Entrance	N/A	N/A	B (13.8)	B (13.1)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² The consultant used incorrect lane assignments for this scenario – the major street turning movements were coded with a shared through lane.

³ For the period analyzed, 95% queues along this approach are less than 3 vehicles.

⁴ For the period analyzed, 95% queues along this approach are less than 4 vehicles.

⁵ Modification assumes that, as part of the roundabout option at the north entrance, the left-turn at the middle entrance would be eliminated, and all left-turning vehicles would exit at the north entrance.

Tables 5 & 6
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Signalized Intersection¹	LOS per TIS		LOS per DelDOT²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
South Site Entrance / Augustine Cut-Off / West 18 th Street				
2019 Existing	C (21.8)	C (27.3)	B (18.9)	C (21.7)
2021 without development	C (22.2)	C (28.2)	B (18.4)	C (24.4)
2021 with development	C (27.2)	D (40.4)	D (38.7)	D (48.9)

Roundabout¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
South Site Entrance / Augustine Cut-Off / West 18 th Street ³				
2021 with development	B (13.3)	B (11.0)	B (14.7)	B (12.1)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² DelDOT used Synchro to analyze this intersection, where the consultant used HCS 7. DelDOT also used a constant 120-second cycle length to analyze the intersection.

³ Roundabout was configured as single-lane, with an eastbound right-turn bypass lane along the Augustine Cut-Off.

Table 7
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Two-Way Stop-Controlled Intersection ¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Augustine Cut-Off / Love Lane (Proposed Future Site Entrance)				
2019 Existing				
Southbound Love Lane	N/A	N/A	C (21.6)	D (29.6)
Eastbound Augustine Cut-Off Left-Turn	N/A	N/A	A (8.8)	A (9.5)
2021 without development				
Southbound Love Lane	N/A	N/A	C (23.9)	D (34.0)
Eastbound Augustine Cut-Off Left-Turn	N/A	N/A	A (9.0)	A (9.8)
2021 with development ²				
Southbound Site Entrance	B (13.2)	C (17.4)	B (13.2)	C (17.4)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² The proposed site entrance is proposed as rights-in, rights-out.

Table 8
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Signalized Intersection¹	LOS per TIS		LOS per DeIDOT²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Augustine Cut-Off / Alapocas Drive				
2019 Existing	B (17.6)	B (15.5)	C (21.9)	B (14.7)
2021 without development	B (18.6)	C (23.9)	C (20.9)	B (18.3)
2021 with development	B (19.1)	B (17.5)	C (21.5)	B (18.3)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² DeIDOT analyzed the intersection using a constant 120-second cycle length.

Table 9
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

All-Way Stop-Controlled Intersection ¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Alapocas Drive / School Road				
2019 Existing	B (10.4)	A (8.2)	B (14.5)	A (8.6)
2021 without development	B (11.8)	A (8.9)	B (12.4)	A (9.4)
2021 with development	B (11.9)	A (8.9)	B (12.6)	A (9.4)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

Table 10
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

All-Way Stop-Controlled Intersection ¹	LOS per TIS		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Alapocas Drive / Edgewood Drive				
2019 Existing	A (9.4)	A (7.8)	B (10.6)	A (7.9)
2021 without development	B (10.3)	A (8.2)	B (10.6)	A (8.6)
2021 with development	B (10.4)	A (8.3)	B (10.7)	A (8.6)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

Table 11
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Two-Way Stop-Controlled Intersection ¹	LOS per TIS ²		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Augustine Cut-Off / Edgewood Drive ³				
2019 Existing				
Northbound Augustine Cut-Off Left-Turn	A (9.3)	A (8.8)	B (10.2)	A (8.8)
Eastbound Edgewood Drive	C (17.1)	D (31.2)	E (41.8) ⁴	D (32.1)
2021 without development				
Northbound Augustine Cut-Off Left-Turn	A (9.7)	A (9.0)	A (10.0)	A (9.0)
Eastbound Edgewood Drive	C (18.9)	C (20.1)	D (32.5)	E (39.4) ⁴
2021 with development				
Northbound Augustine Cut-Off Left-Turn	A (9.9)	A (9.0)	B (10.2)	A (9.0)
Eastbound Edgewood Drive	C (19.7)	C (20.8)	E (35.7) ⁴	E (43.1) ⁴

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² The Consultant analyzed this intersection as a two-way stop-controlled intersection with four approaches, one of which is a private driveway; they also included an option for left-turn median storage. DelDOT did not include the private driveway or the median storage in the review of the analysis.

³ The reported results improve between Cases 1 and 2 as a result of increasing the peak hour factor (PHF).

⁴ For the period analyzed, 95% queues along this approach are less than 2 vehicles.

Table 12
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Signalized Intersection ¹	LOS per TIS ²		LOS per DeIDOT ³	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Augustine Cut-Off / West Park Drive / US 202 Connector				
2019 Existing	B (17.2)	C (25.1)	A (7.7)	A (5.1)
2021 without development	B (18.8)	C (21.7)	A (7.8)	A (5.1)
2021 with development	C (21.5)	C (23.3)	A (7.8)	A (5.1)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² The Consultant analyzed this intersection using HCS 7 and included the right-turn movement from northbound Augustine Cut-Off to southbound US Route 202.

³ DeIDOT analyzed this intersection using HCS 7 and did not include the right-turn movement from northbound Augustine Cut-Off to southbound US Route 202.

Table 13
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Signalized Intersection¹	LOS per TIS		LOS per DeIDOT²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Augustine Cut-Off / Lovering Avenue				
2019 Existing	B (16.7)	B (19.8)	C (31.8)	C (27.7)
2021 without development	B (18.7)	C (24.9)	D (35.9)	C (33.9)
2021 with development	C (26.2)	C (29.4)	D (45.3)	D (40.2)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² DeIDOT analyzed the signal with the Lovering Avenue left-turn as protected-only.

Table 14
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Incyte – Campus Expansion
 Prepared by Duffield Associates, Inc.

Signalized Intersection ¹	LOS per TIS		LOS per DeIDOT ²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
West 18 th Street / Broom Street ³				
2019 Existing	A (8.7)	A (9.8)	B (19.5)	B (19.3)
2021 without development	B (11.3)	B (12.1)	B (19.2)	B (19.0)
2021 with development	B (12.0)	A (9.9)	B (18.9)	B (18.7)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² DeIDOT analyzed the signal with the West 18th Street left-turn as protected-only.

³ The reported results improve in Cases 2 and 3 as a result of balancing due to increased volume.