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

NICOLE MAJESKI
SECRETARY

September 29, 2023

Mr. Eric Ostimchuk, P.E.
Traffic Planning & Design, Inc.
131 Continental Dr, Suite 103
Newark, DE 19713

Dear Mr. Ostimchuk:

The enclosed Traffic Impact Study (TIS) review letter for the **Woodland Industrial Park** (Tax Parcels: (Tax Parcel: 0903600001) Industrial 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: Frank Vassallo, Fusco Management, Inc.
Colm DeAscanis, CDA Engineering, Inc.
Eileen Thorp, CDA Engineering, Inc.
Troy Brestel, Traffic Planning & Design, Inc.
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
Joanne M. Arellano, Johnson, Mirmiran, & Thompson, Inc.
Mir Wahed, Johnson, Mirmiran, & Thompson, 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
John Pietrobono, New Castle Review Coordinator, Development Coordination, Planning
Ryan Schroder, New Castle County Subdivision Reviewer, Development Coordination, Planning
Sireen Muhtaseb, TIS Group Manager, Development Coordination, Planning
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning

September 29, 2023

Ms. Annamaria Furmato
Project Engineer
Delaware Department of Transportation
Development Coordination, Division of Planning
800 Bay Road
Dover, DE 19901

RE: Agreement No. 1945F
Project Number 202069012/PO#611882
Traffic Impact Study Services
Task 11-14A –Woodland Industrial Park TIS

Dear Ms. Furmato:

Johnson, Mirmiran, and Thompson (JMT) has completed a review of the Traffic Impact Study (TIS) for the Woodland Industrial Park development, which was prepared by Traffic Planning and Design, Inc., dated March 8, 2023. This review was assigned as Task Number 11-14A. The report is prepared in a manner generally consistent with DelDOT's *Development Coordination Manual*.

The TIS evaluates the impacts of a proposed warehousing development consisting of four warehousing facilities totaling 382,500 square feet in New Castle County, Delaware. Of the four facilities, a 210,000 square-foot building will have access on Delaware Route 72 by way of Brookhill Drive and the other three buildings, one measuring 112,500 square feet and two measuring 30,000 square feet each, will have access on Old Baltimore Pike. The site is located on the north side of Old Baltimore Pike (New Castle Road 26), approximately 3,370 feet east of the intersection with Delaware Route 72. The subject property is on an approximately 60.78-acre assemblage of parcels that is currently zoned as I (Industrial) and the developer does not plan to rezone the land. Construction for the development is anticipated to be completed in 2024. Two access points are proposed: one on Delaware Route 72 by way of Brookhill Drive and one on Old Baltimore Pike.

There are DelDOT projects within or adjacent to the study area. The *I-95 and SR 896 Interchange* project (DelDOT Contract No. T201609002) proposes interchange improvements to decrease the amount, frequency, and severity of crashes and also improve the I-95 traffic affected by merging/diverging maneuvers at the interchange. Some of the improvements include a reconfiguration of the existing interchange ramps as well as widening I-95 northbound and southbound for 1 mile for new ramp acceleration/deceleration lanes. The area of SR 72 adjacent to the Woodland Industrial Park would be impacted during construction with SR 72 reduced to a single lane for a large portion of the project. Construction is underway and expected to be completed in 2026. More information about the project can be found on the following websites: https://95896improvements.com/ and https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201609002.

The *Pavement and Rehabilitation, North XII, 2016* project (DelDOT Contract No. T201606112) proposes repaving and signalized intersection upgrades along Delaware Route 72 and Old Baltimore Pike. The proposed paving along Old Baltimore Pike (from east of Delaware Route 72 to east of Salem Church Road) has been completed and the paving along Delaware Route 72 (from Delaware Route 273 to GBC Drive) and is expected to be completed by Fall of 2023. As part of the DelDOT project, the Delaware Route 72 intersection with Dawson Drive and Bellevue Road will be upgraded with new loop detectors, pedestrian pushbuttons, and signal heads, and the existing signal phasing will be maintained.

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

The New Castle County Level of Service (LOS) Standards as stated in Section 40.11.210 of the Unified Development Code (UDC) apply to all signalized, all-way-stop, and roundabout intersections. The proposed development would meet the UDC LOS Standards for all the signalized intersections that were required by New Castle County to be analyzed.

However, separate from the UDC but based on the LOS evaluation criteria as stated in DelDOT's *Development Coordination Manual*, the following study intersections exhibit LOS deficiencies and would require the implementation of physical roadway and/or traffic control improvements.

| **Intersection** | **LOS Deficiencies Occur** | | **Case** |
|---|---|---|---|
| | **AM** | **PM** | |
| Site Entrance A/Lucerne Drive/Old Baltimore Pike (New Castle Road 26) | | X | Case 1 – 2022 Existing |
| | X | X | Case 2 – 2024 without Development |
| | X | X | Case 3 – 2024 with Development |
| Site Entrance B/Brookhill Drive/Delaware Route 72 | X | | Case 2 – 2024 without Development |
| | X | | Case 3 – 2024 with Development |
| Delaware Route 72/AZ Auto Service Center | | X | Case 2 – 2024 without Development |
| | | X | Case 3 – 2024 with Development |
| Delaware Route 72/Peoples Drive | X | X | Case 1 – 2022 Existing |
| | X | X | Case 2 – 2024 without Development |
| | X | X | Case 3 – 2024 with Development |
| Old Baltimore Pike/Royal Farms Access | | X | Case 3 – 2024 with Development |

| Intersection | LOS Deficiencies Occur | | Case |
|---|---|---|---|
| | AM | PM | |
| Old Baltimore Pike/Albe Drive (east)/Christiana Farms Place | | X* | Case 1 – 2022 Existing |
| | X | | Case 2 – 2024 without Development |
| | X | | Case 3 – 2024 with Development |

*LOS deficiency due to impacts from adjacent upstream signalized intersections under Case 1 conditions.

Site Entrance A/Lucerne Drive/Old Baltimore Pike

The unsignalized Site Entrance A/Lucerne Drive and Old Baltimore Pike intersection exhibits LOS deficiencies during the weekday PM peak hour under existing conditions and during the weekday AM and PM peak hours under future conditions with or without the proposed development. Specifically, these deficiencies exist along the northbound Lucerne Drive approach and southbound Site Entrance A approach. During the weekday PM peak hour under future conditions with the proposed development, the northbound Lucerne Drive approach and southbound Site Entrance approach would operate at LOS F with a delay of over 1,000 seconds per vehicle.

The deficiencies at the Site Entrance A/Lucerne Drive and Old Baltimore Pike intersection could be mitigated with the provision of a two-way left turn along Old Baltimore. With the provision of a two-way left turn lane along Old Baltimore Pike, the northbound Lucerne Drive approach would improve to operate at LOS D with a delay of 27.0 seconds per vehicle and a projected 95$^{th}$ percentile queue length of approximately 35 feet during the weekday PM peak hour under future conditions with the proposed development. The southbound Site Entrance approach would improve to operate at LOS C with a delay of 24.1 seconds per vehicle and a projected 95$^{th}$ percentile queue length of approximately 10 feet. As such, it is recommended that the developer install a two-way left turn lane at this intersection. The design of the intersection should take into account the location of the pedestrian crosswalk across Old Baltimore Pike as well as the DART bus stop located approximately 150 feet west of the intersection. Consideration should be given to relocate the pedestrian crossing and the bus stop to the easterly side of the intersection to minimize potential conflicts with adjacent existing entrances.

Site Entrance B/Brookhill Drive/Delaware Route 72

The unsignalized Site Entrance B/Brookhill Drive and Delaware Route 72 intersection exhibits LOS deficiencies during the weekday AM peak hour under future conditions with or without the proposed development. Specifically, the deficiency exists along the westbound Site Entrance B/Brookhill Drive approach. During the weekday AM peak hour under future conditions with the proposed development, the westbound Site Entrance B/Brookhill Drive approach would operate at LOS F with a delay of 224.1 seconds per vehicle and a projected 95$^{th}$ percentile queue length of approximately 100 feet.

The deficiencies at the Site Entrance B/Brookhill Drive and Delaware Route 72 intersection could be reduced with the provision of a two-way left turn along the southern leg of Delaware Route 72.

With the provision of a two-way left turn lane, the westbound Site Entrance B/Brookhill Drive approach would improve to operate at LOS E with a delay of 42.2 seconds per vehicle and a projected 95th percentile queue of approximately 35 feet during the weekday AM peak hour under future conditions with the proposed development. While a traffic signal may improve operations at the site entrance, a traffic signal justification study has not been conducted. As such, it is recommended that the developer construct a two-way left turn lane along Delaware Route 72 from the Site Entrance B/Brookhill Drive intersection to south of the Peoples Drive intersection.

Delaware Route 72/ AZ Auto Service Center

The unsignalized AZ Auto Service Center and Delaware Route 72 intersection exhibits LOS deficiencies during the weekday PM peak hour under future conditions with or without the proposed development. Specifically, the deficiency exists along the eastbound AZ Auto Service Center approach. During the weekday PM peak hour under future conditions with the proposed development, the eastbound AZ Auto Service Center approach would operate at LOS F with a delay of 66.0 seconds per vehicle and a projected 95th percentile queue of approximately 15 feet.

The deficiencies at the AZ Auto Service Center and Delaware Route 72 intersection could be mitigated with the provision of a two-way left turn along Delaware Route 72. With the provision of a two-way left turn lane, the eastbound AZ Auto Service Center approach would improve to operate at LOS D with a delay of 28.4 seconds per vehicle and a projected 95th percentile queue of approximately 10 feet during the weekday PM peak hour under future conditions with the proposed development. As such, it is recommended that the developer construct a two-way left turn lane along Delaware Route 72 from the Site Entrance B/Brookhill Drive intersection to south of the Peoples Drive intersection.

Delaware Route 72/Peoples Drive

The unsignalized Peoples Drive and Delaware Route 72 intersection exhibits LOS deficiencies during the weekday AM and PM peak hours under existing and future conditions, with or without the proposed development. Specifically, these deficiencies exist along the westbound Peoples Drive approach. During the weekday AM peak hour under future conditions with the proposed development, the westbound Peoples Drive approach would operate at LOS F with a delay of 134.7 seconds per vehicle and a projected 95th percentile queue of approximately 35 feet.

The deficiencies at the Peoples Drive and Delaware Route 72 intersection could be reduced with the provision of a two-way left turn along Delaware Route 72. With the provision of a two-way left turn lane, the westbound Peoples Drive approach would improve to operate at LOS E with a delay of 38.2 seconds per vehicle and a projected 95th percentile queue of approximately 10 feet during the weekday AM peak hour under future conditions with the proposed development. While a traffic signal may improve operations at the intersection, a traffic signal justification study has not been conducted. As such, it is recommended that the developer construct a two-way left turn lane along Delaware Route 72 from the Site Entrance B/Brookhill Drive intersection to south of the Peoples Drive intersection.

Old Baltimore Pike/Royal Farms Access

The unsignalized Royal Farms Access and Old Baltimore Pike intersection exhibits LOS deficiencies during the weekday PM peak hour under future conditions, with the proposed development. Specifically, the deficiency exists along the southbound Royal Farms approach. During the weekday PM peak hour under future conditions with the proposed development, the southbound Royal Farms approach would operate at LOS E with a delay of 35.7 seconds per vehicle and a projected 95$^{th}$ percentile queue of approximately 65 feet.

The deficiencies at the intersection may be mitigated with the provision of traffic signal. However, the Old Baltimore Pike and Delaware Route 72 signalized intersection is located approximately 400 feet west of the Royal Farms Access. Any improvements to the Royal Farms Access and Old Baltimore Pike intersection would have impacts on the adjacent intersection which is outside the scope of this TIS. As such, we do not recommend the developer implement any improvements at this intersection.

Old Baltimore Pike/Albe Drive (east)/Christiana Farms Place

The unsignalized Albe Drive (east)/Christiana Farms Place and Old Baltimore Pike intersection exhibits LOS deficiencies during the weekday PM peak hour under existing conditions and during the weekday AM peak hour under future conditions, with or without the proposed development. Specifically, these deficiencies exist along the northbound Christiana Farms Place approach. During the weekday AM peak hour under future conditions with the proposed development, the northbound Christiana Farms Place approach would operate at LOS F with a delay of 52.4 seconds per vehicle and a projected 95$^{th}$ percentile queue of approximately 30 feet.

The deficiencies at the Albe Drive (east)/Christiana Farms Place and Old Baltimore Pike intersection could be mitigated with the provision of a two-way left turn along Old Baltimore Pike. With the provision of a two-way left turn lane, the northbound Christiana Farms Place approach would improve to operate at LOS C with a delay of 15.6 seconds per vehicle and a projected 95$^{th}$ percentile queue of approximately 10 feet during the weekday AM peak hour under future conditions with the proposed development. As such, it is recommended that the developer construct a two-way left turn lane along Old Baltimore Pike from east of the concrete island at the Albe Drive (west) / Deer Run Road intersection to west of the Albe Drive (east)/Christiana Farms Place intersection.

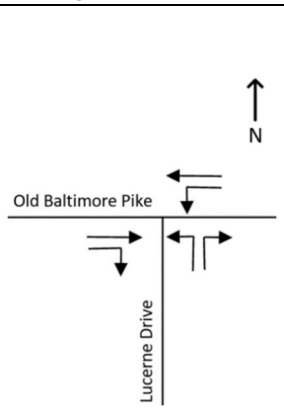
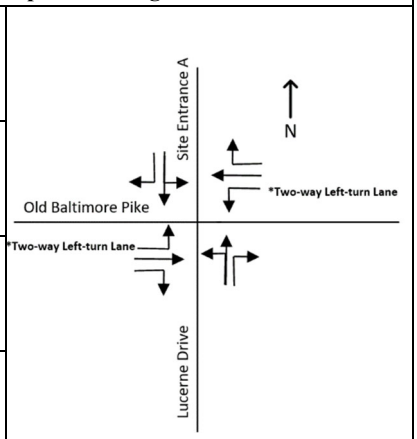
Additionally, the developer should ensure the truck operations on-site would not impact adjacent roadways. Specifically, on-site truck circulation and truck parking accommodations should be provided to minimize truck spillback onto Delaware Route 72 and Old Baltimore Pike.

Should New Castle County approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan, 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 and Design Deviations approved 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.

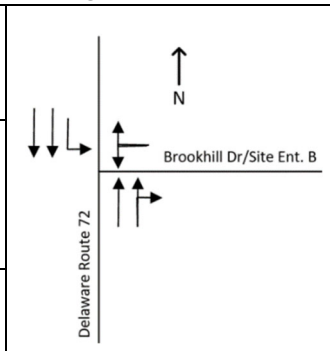
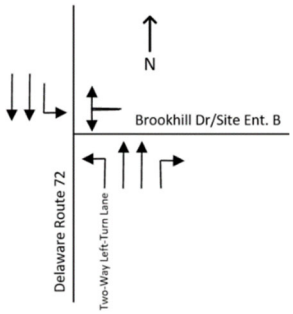
1. The developer shall improve Old Baltimore Pike within the limits of their frontage to meet DelDOT's standards for their Functional Classification as found in Section 1.1 of the *Development Coordination Manual* and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer's lands are on one or both sides of the road. Frontage is defined in Section 1 of the *Development Coordination Manual*, which states "This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway." The developer should coordinate with DelDOT's Development Coordination Section during the site plan review to determine the improvements.

2. The developer should construct a full access for the proposed Woodland Industrial Park development along Old Baltimore Pike, opposite Lucerne Drive and consistent with the location depicted on the attached Recommendations Map on page 10. The intersection should provide a two-way left-turn lane consistent with the lane configurations shown in the table below and the design should take into account the existing pedestrian crossing and DART bus stop located on the westerly side of the intersection. Consideration should be given to relocating the pedestrian crossing and the DART bus stop to the easterly side of the intersection to minimize potential conflicts with existing entrances.

| Approach | Current Configuration | | Proposed Configuration | |
|---|---|---|---|---|
| Eastbound Old Baltimore Pike | One through lane and one right turn lane |  | One two-way left-turn lane, one through lane, and one right turn lane |  |
| Westbound Old Baltimore Pike | One left turn lane and one through lane | | One two-way left-turn lane, one through lane, and one right turn lane | |
| Northbound Lucerne Drive | One left turn lane and one right turn lane | | One shared left turn/through lane and one right turn lane | |
| Southbound Site Entrance A | Approach does not exist | | One shared left turn/through lane and one right turn lane | |

The developer should submit a plan to DelDOT's Development Coordination Section depicting the design. The final design should be determined during the Entrance Plan review process.

3. The developer should construct an unsignalized full access for the proposed Woodland Industrial Park development along Delaware Route 72 via Brookhill Drive. The intersection should be consistent with the lane configurations shown in the table below.

| Approach | Current Configuration | | Proposed Configuration | |
|---|---|---|---|---|
| Eastbound Site Entrance B/Brookhill Drive | One shared left turn/right turn lane |  | No change |  |
| Northbound Delaware Route 72 | One through lane and one shared through/right turn lane | | One two-way left turn lane,* two through lanes, and one right turn lane | |
| Southbound Delaware Route 72 | One left turn lane and two through lanes | | No change | |

*The two-way left turn lane should extend along Delaware Route 72 from the Brookhill Drive/Site Entrance B intersection to south of the Peoples Drive intersection. The developer should coordinate with DelDOT's Development Coordination section during the Entrance Plan review process to determine the design and implementation of the two-way left turn lane.

Based on DelDOT's *Development Coordination Manual* and the location of the I-95 bridge which is approximately 260 feet north of the intersection, the recommended minimum storage length (excluding taper) of the northbound Delaware Route 72 right turn lane is 190 feet and of the southbound Delaware Route 72 left turn lane is 160 feet. The projected queue lengths from the Synchro analysis can be accommodated within the recommended storage lengths.

4. The developer should construct a continuous two-way left turn lane along Delaware Route 72 consistent with the location depicted on the attached Recommendations Map on page 10, from the intersection with the proposed Site Entrance B/Brookhill Drive to south of the intersection with Peoples Drive. The developer should coordinate with DelDOT's Development Coordination Section regarding the design and implementation of the two-way left turn lane.

5. The developer should construct a two-way left turn lane along Old Baltimore Pike consistent with the location depicted on the attached Recommendations Map on page 10, from east of the concrete island at the Albe Drive (west) / Deer Run Road intersection to west of the Albe Drive (east)/Christiana Farms Place intersection. The developer should coordinate with DelDOT's Development Coordination Section regarding the design and implementation of the two-way left turn lane.

6. The following bicycle, pedestrian, and transit improvements should be included:

    a. A minimum of fifteen-foot wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT along the Old Baltimore Pike site frontage. Within the easement, the developer should construct a five-foot wide sidewalk with an angled termination into the shoulder to the eastern property limits where the shoulder/bike lane is at least five feet wide and tie into the existing bus stop to the western property limits. The sidewalk should be designed to meet current AASHTO and ADA standards. A minimum five-foot setback should be maintained from the edge of the pavement to the sidewalk. If feasible, the sidewalk should be placed behind utility poles and street trees should be

provided within the buffer area. The developer should coordinate with DelDOT's Development Coordination Section during the plan review process to identify the exact location of the sidewalk.

b. An internal connection from the frontage sidewalk into the site is required.

c. ADA compliant curb ramps and marked crosswalks should be provided along the Site Entrances.

d. Minimum five-foot wide bicycle lanes should be incorporated in the right turn lane along the Delaware Route 72 approach to the site entrance.

e. Utility covers should be moved outside of any designated bicycle lanes and any proposed sidewalks or should be flush with the pavement.

f. Regarding the DART bus stop adjacent to the Old Baltimore Pike and Lucerne Drive intersection (Bus Stop ID 2605), the developer should coordinate with the DTC during the Entrance Plan review process to identify a suitable location to relocate the bus stop.

7. Due to the proximity of the proposed development to the New Castle Airport, we recommend that deed restrictions be required similar to the attached Avigation Nuisance Easement and Non-Suit Covenant. The applicant should contact Mr. Steve Bayer at (302) 760-4834 from DelDOT's Office of Aeronautics to determine whether the proposed development is within the Runway Protection Zone. If so, restrictions may apply.

Please note that this review generally focuses on capacity and level of service issues; additional safety, operational and constructability issues will be further addressed through DelDOT's 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 https://www.deldot.gov//Publications/manuals/de_mutcd/index.shtml.

Additional details on our review of the TIS are attached. Please contact me at (302) 266-9600 if you have any questions concerning this review.

Sincerely,
Johnson, Mirmiran, and Thompson, Inc.

Joanne M. Arellano, P.E., PTOE

cc: Mir Wahed, P.E., PTOE
Janna Brown, P.E.

Enclosure

**Recommendations Map:**

## General Information

**Report date:** March 8, 2023
**Prepared by:** Traffic Planning and Design, Inc.
**Prepared for:** CDA Engineering
**Tax Parcels:** 09-036.00-001 and 11-010.00-013
**Generally consistent with DelDOT's *Development Coordination Manual (DCM)*:** Yes

## Project Description and Background

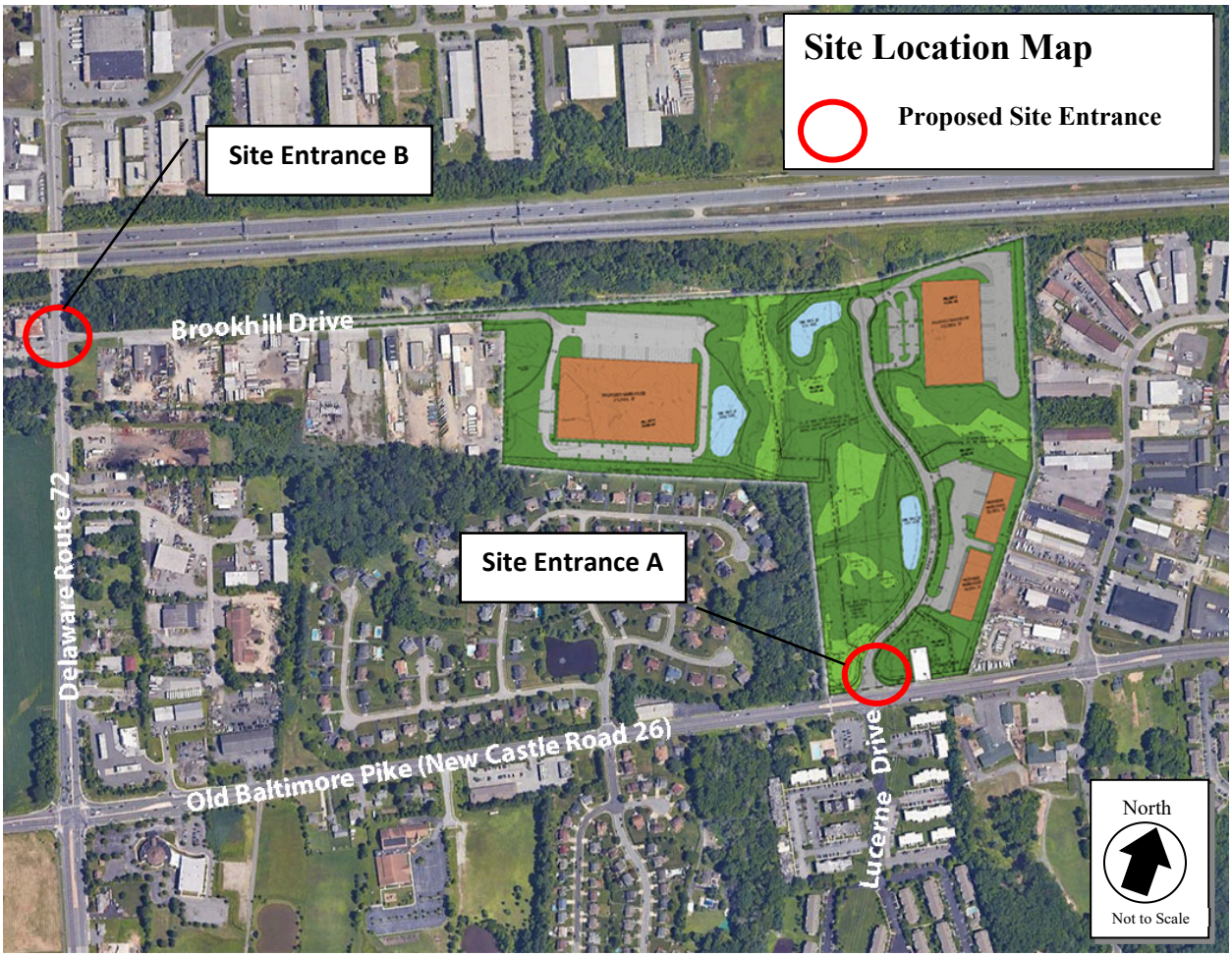
**Description:** The proposed development consists of four warehousing facilities totaling 382,500 square feet. One 210,000 square foot building will have access on Delaware Route 72 by way of Brookhill Drive. The other three warehouses, one 112,500 square foot and two 30,000 square foot each, will have access on Old Baltimore Pike (New Castle Road 26). There is no interconnection between the warehouse with access on Delaware Route 72 and the warehouses with access on Old Baltimore Pike.
**Location:** The site is located on the north side of Old Baltimore Pike, approximately 3,370 feet east of the intersection with Delaware Route 72, in New Castle County, Delaware.
**Amount of Land to be developed:** An approximately 60.78-acre assemblage of parcels.
**Land Use approval(s) needed:** Entrance Plan.
**Proposed completion date:** 2024.
**Proposed access locations:** Two access points are proposed: one on Delaware Route 72 by way of Brookhill Drive and one on Old Baltimore Pike.

**Daily Traffic Volumes:**

- 2022 Average Annual Daily Traffic on Delaware Route 72: 27,234 vehicles per day.
- 2022 Average Annual Daily Traffic on Old Baltimore Pike: 17,251 vehicles per day.

*AADT is sourced from data provided by DelDOT Gateway.

## Site Map




**Graphic is an approximation based on the Figure 2 Site Plan prepared by Traffic Planning and Design, Inc. contained within the March 8, 2023 Transportation Impact Study.*

## Relevant and On-going Projects

There are DelDOT projects within or adjacent to the study area. The *I-95 and SR 896 Interchange* project (DelDOT Contract No. T201609002) proposes interchange improvements to decrease the amount, frequency, and severity of crashes and also improve the I-95 traffic affected by merging/diverging maneuvers at the interchange. Some of the improvements include a reconfiguration of the existing interchange ramps as well as widening I-95 northbound and southbound for 1 mile for new ramp acceleration/deceleration lanes. The area of SR 72 adjacent to the Woodland Industrial Park would be impacted during construction with SR 72 reduced to a single lane for a large portion of the project. Construction is underway and expected to be completed in 2026. More information about the project can be found on the following websites: https://95896improvements.com/ and https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201609002.

The *Pavement and Rehabilitation, North XII, 2016* project (DelDOT Contract No. T201606112) proposes repaving and signalized intersection upgrades along Delaware Route 72 and Old Baltimore Pike. The proposed paving along Old Baltimore Pike (from east of Delaware Route 72 to east of Salem Church Road) has been completed and the paving along Delaware Route 72 (from Delaware Route 273 to GBC Drive) and is expected to be completed by Fall of 2023. As part of the DelDOT project, the Delaware Route 72 intersection with Dawson Drive and Bellevue Road will be upgraded with new loop detectors, pedestrian pushbuttons, and signal heads, and the existing signal phasing will be maintained.

**Livable Delaware**

*(Source: Delaware Strategies for State Policies and Spending, 2020)*

**Location with respect to the Strategies for State Policies and Spending Map of Delaware:**
The proposed development is located within Investment Level 1 and Investment Level 2.

*Investment Level 1*

These areas are often municipalities, towns, or urban/urbanizing places in counties where density is generally higher than in surrounding areas. 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, and to promote well-designed and efficient new growth in Investment Level 1 Areas.

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. Investment Level 1 Areas are ideal locations for Transportation Improvement Districts as well as Complete Community Enterprise Districts. Further, Level 1 areas are the first priority for planning projects and studies, bicycle facilities, signal-system enhancements, and the promotion of interconnectivity of neighborhoods and public facilities.

*Investment Level 2*

These areas can be composed of less developed areas within municipalities, rapidly growing areas in the counties that have or will have public water and wastewater services and utilities, areas that are generally adjacent to or near Investment Level 1 Areas, smaller towns and rural villages that should grow consistently with their historic character, and suburban areas with public water, wastewater, and utility services. They serve as transition areas between Level 1 and the state's more open, less populated areas. They generally contain a limited variety of housing types, predominantly detached single-family dwellings.

In Investment Level 2 Areas, like 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. Investments should encourage departure from the typical single-family-dwelling developments and promote a broader mix of housing types and commercial sites encouraging compact, mixed-use development where applicable. Overall, the State's intent is to use its spending and management tools to promote well-designed development in these areas. Such development provides for a variety of housing types, user-friendly transportation systems, essential open spaces and recreational facilities, other public facilities, and services to promote a sense of community.

Level 2 Areas share similar priorities as with the Level 1 Areas where the aim remains to: make context sensitive transportation system capacity enhancements, preserve existing facilities, make safety enhancements, make transportation system capacity improvements, create transit system enhancements, ensure ADA accessibility, and close gaps in the pedestrian system, including the Safe Routes to School projects. Investment Level 2 Areas are ideal locations for Transportation Improvement Districts and Complete Community Enterprise Districts. Other priorities for Level 2 Areas include: Corridor Capacity Preservation, off-alignment multi-use paths, interconnectivity of neighborhoods and public facilities, and signal-system enhancements.

**Proposed Development's Compatibility with Livable Delaware:**
The proposed site is located in Investment Level 1 and Investment Level 2. Investment Level 1 and 2 areas are the most favorable locations for mixed-use type development. The proposed site is located in an area with residential housing, various businesses, churches, and shopping centers. Also, Investment Level 1 and 2 areas should provide additional community resources and employment. The proposed warehouse facilities will provide employment opportunities for the community. Therefore, the proposed development is generally consistent with the 2020 update of the *Delaware Strategies for State Policies and Spending*.

## Comprehensive Plan

*(Source: New Castle County Comprehensive Plan 2050)*

**New Castle County Comprehensive Plan:**
Per the *New Castle County Comprehensive Plan Existing Land Use Map*, the proposed development is currently zoned as Industrial. Per the *New Castle County Comprehensive Plan Future Land Use Map,* the proposed development is designated as Business Flex.

**Proposed Development's Compatibility with the New Castle County Comprehensive Plan:**
The *New Castle County Comprehensive Plan* states that Business Flex areas include land zoned as Industrial District. Therefore, the proposed development is generally consistent with the *New Castle County Comprehensive Plan.*

## Trip Generation
The trip generation for the proposed development was determined by using the comparable land use and rates/equations contained in the *Trip Generation, 11th Edition: An ITE Informational*

*Report*, published by the Institute of Transportation Engineers (ITE) for ITE Land Use Code 150 (Warehousing). Trip generation was reviewed by DelDOT as part of the Preliminary TIS (PTIS) submission.

**Table 1**
Woodland Industrial Park Trip Generation

| Land Use | ADT | Weekday AM Peak Hour | | | Weekday PM Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| 382,500 square feet Warehousing (ITE – 150) | 654 | 54 | 16 | 70 | 20 | 52 | 72 |

## Overview of TIS

**Intersections examined:**

1. Site Entrance A / Lucerne Drive / Old Baltimore Pike (New Castle Road 26)
2. Site Entrance B / Brookhill Drive / Delaware Route 72
3. Delaware Route 72 / Dawson Drive / Bellevue Road
4. Delaware Route 72 / Aearo Technologies Entrance
5. Delaware Route 72 / AZ Auto Service Center Entrance
6. Delaware Route 72 / Peoples Drive
7. Old Baltimore Pike / Westover Woods Drive / Torrington Way
8. Old Baltimore Pike / Old Baltimore Pike Shopping Center East Entrance
9. Old Baltimore Pike / Royal Farms Access
10. Old Baltimore Pike / Albe Drive West Entrance / Deer Run Drive
11. Old Baltimore Pike / Albe Drive East Entrance / Christiana Farms Place
12. Old Baltimore Pike / Astra Zeneca Entrance / Hanna Drive

**Conditions examined:**

1. Case 1 – 2022 Existing
2. Case 2 – 2024 without Development
3. Case 3 – 2024 with Development

**Committed Developments considered:**

1. Astra Zeneca Newark (Unbuilt 95,060 square foot research and development facility)
2. Delaware Interstate Industrial Park (Lots 21, 37, and 39 totaling approximately 38,481 square foot warehousing)
3. Glasgow Commons (Parcels B, D, and F) (Unbuilt 1,087,600 square foot office/manufacturing/warehouse buildings)
4. 100 GBC Drive (Unbuilt 92,640 square foot additions)
5. Glasgow Business Community (Parcel 2C-2) (Unbuilt 112,260 square foot office buildings)

6. North American Training Academy (Unbuilt 54,000 square foot office buildings)
7. Dunkin (Unbuilt 2,251 square foot restaurant with drive thru window)
8. Delaware Industrial Park
    a. Lot 34 (Unbuilt 7,000 square foot office building)
    b. Lot 37 (Unbuilt 20,755 square foot warehouse additions)
    c. Lot 8 (Unbuilt 57,700 square foot warehouse/office buildings)
    d. Lot 8B (Unbuilt 25,000 square foot warehouse)
9. JKF Industries (19,171 square foot light industrial park)
10. French Park (Unbuilt 139 townhouses; unbuilt 372 apartment units)
11. Whitewood Village (Unbuilt 117 townhouses)

**Peak hours evaluated:** Weekday AM and weekday PM.

## Intersection Descriptions

1. **Site Entrance A / Lucerne Drive / Old Baltimore Pike (New Castle Road 26)**
   **Type of Control:** Proposed two way stop-controlled intersection (Four-legged).
   **Eastbound Approach:** (Old Baltimore Pike) Existing one through lane and one right turn lane; proposed one left turn, one through lane, and one right turn lane.
   **Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane and one through lane; proposed one left turn lane, one through lane, and one right turn lane.
   **Northbound Approach:** (Lucerne Drive) Existing one left turn lane and one channelized right turn lane, stop-controlled; proposed one shared left turn/through lane and one channelized right turn lane, stop-controlled.
   **Southbound Approach:** (Site Entrance A) Proposed one shared left turn/through/right turn, stop-controlled.

   *Site Entrance A will provide access to three warehouses totaling 172,500 square feet.

2. **Site Entrance B / Brookhill Drive / Delaware Route 72**
   **Type of Control:** Existing two way stop-controlled intersection (T-intersection).
   **Westbound Approach:** (Site Entrance B / Brookhill Drive) Existing one shared left turn/right turn lane, stop-controlled.
   **Northbound Approach:** (Delaware Route 72) Existing one through lane and one shared through/right turn lane; proposed two through lanes and one right turn lane
   **Southbound Approach:** (Delaware Route 72) Existing one left turn lane and two through lanes.

   *Site Entrance B will provide access to one 210,000 square foot warehouse.
   **One two-way left turn lane exists on Delaware Route 72 between the northbound and southbound travel lanes.

3. **Delaware Route 72 / Dawson Drive / Bellevue Road**

**Type of Control:** Existing signalized intersection (Four-legged).
**Eastbound Approach:** (Bellevue Road) Existing one shared left turn/through/right turn lane.
**Westbound Approach:** (Dawson Drive) Existing one shared left turn/through lane and one right turn lane.
**Northbound Approach:** (Delaware Route 72) Existing one left turn lane, one through lane and one shared through/right turn lane.
**Southbound Approach:** (Delaware Route 72) Existing one left turn lane, one through lane and one shared through/right turn lane.

4. **Delaware Route 72 / Aearo Technologies Entrance**

**Type of Control:** Existing two way stop-controlled intersection (T-intersection).
**Westbound Approach:** (Aearo Technologies Entrance) Existing one shared left turn/right turn lane, stop-controlled.
**Northbound Approach:** (Delaware Route 72) Existing one left turn lane, one through lane and one shared through/right turn lane.
**Southbound Approach:** (Delaware Route 72) Existing one left turn lane and two through lanes.

*A private driveway exists at the eastbound leg of the intersection.
**One two-way left turn lane exists on Delaware Route 72 between the northbound and southbound travel lanes.

5. **Delaware Route 72 / AZ Auto Service Center Entrance**

**Type of Control:** Existing two way stop-controlled intersection (T-intersection).
**Eastbound Approach:** (AZ Auto Service Center Entrance) Existing one shared left turn/right turn lane, stop-controlled.
**Northbound Approach:** (Delaware Route 72) Existing one left turn lane and two through lanes.
**Southbound Approach:** (Delaware Route 72) Existing one through lane and one shared through/right turn lane.

*One two-way left turn lane exists on Delaware Route 72 between the northbound and southbound travel lanes.

6. **Delaware Route 72 / Peoples Drive**

**Type of Control:** Existing two way stop-controlled intersection (T-intersection).

**Westbound Approach:** (Peoples Drive) Existing one shared left turn/right turn lane, stop-controlled.
**Northbound Approach:** (Delaware Route 72) Existing one through lane and one shared through/right turn lane.
**Southbound Approach:** (Delaware Route 72) Existing one left turn lane and two through lanes.

**7. Old Baltimore Pike / Westover Woods Drive / Torrington Way**
**Type of Control:** Existing signalized intersection (Four-legged).
**Eastbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Northbound Approach:** (Torrington Way) Existing one shared left turn/through lane and one right turn lane.
**Southbound Approach:** (Westover Woods Drive) Existing one shared left turn/through lane and one right turn lane.

**8. Old Pike Baltimore / Old Baltimore Pike Shopping Center East Entrance**
**Type of Control:** Existing two way stop-controlled intersection (T-intersection).
**Eastbound Approach:** (Old Baltimore Pike) Existing one shared through/right turn lane.
**Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane and one through lane.
**Northbound Approach:** (Old Baltimore Pike Shopping Center East Entrance) Existing one shared left turn/right turn lane, stop-controlled.

**9. Old Baltimore Pike / Royal Farms Access**
**Type of Control:** Existing two way stop-controlled intersection (T-intersection).
**Eastbound Approach:** (Old Baltimore Pike) Existing two through lanes and one right turn lane.
**Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one channelized right turn lane.
**Southbound Approach:** (Royal Farms Access) Existing one left turn lane and one right turn lane, stop-controlled.

*A private entrance to *Word of Life Christian Center* exists at the northbound leg of the intersection.

**10. Old Baltimore Pike / Albe Drive West Entrance / Deer Run Drive**

**Type of Control:** Existing signalized intersection (Four-legged).
**Eastbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Northbound Approach:** (Deer Run Drive) Existing one shared left turn/through/right turn lane.
**Southbound Approach:** (Albe Drive West Entrance) Existing one shared left turn/through lane and one right turn lane.

**11. Old Baltimore Pike / Albe Drive East Entrance / Christiana Farms Place**
**Type of Control:** Existing two way stop-controlled intersection (Four-legged).
**Eastbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Northbound Approach:** (Christiana Farms Place) Existing one shared left turn/through/right turn lane, stop-controlled.
**Southbound Approach:** (Albe Drive East Entrance) Existing one shared left turn/through lane and one right turn lane, stop-controlled.

**12. Old Baltimore Pike / Astra Zeneca Entrance / Hanna Drive**
**Type of Control:** Existing signalized intersection (Four-legged).
**Eastbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one right turn lane.
**Westbound Approach:** (Old Baltimore Pike) Existing one left turn lane, one through lane and one channelized right turn lane.
**Northbound Approach:** (Hanna Drive) Existing one shared left turn/through lane and one channelized right turn lane.
**Southbound Approach:** (Astra Zeneca Entrance) Existing one shared left turn/through lane and one channelized right turn lane.

## Transit, Pedestrian, and Bicycle Facilities

**Existing transit service**: Per DelDOT Gateway, DART Route 53 and Route 55 operate within the study area and have a total of 13 stops within the study area. The bus stops are located along Old Baltimore Bike and Delaware Route 72. Route 53 provides 11 round trips from 4:31 AM to 11:01 PM on weekdays. Route 55 provides 25 round trips from 5:50 AM to 10:40 PM on weekdays, and 13 round trips from 6:20 AM to 8:29 PM on Saturdays.

**Planned transit service**: Per email correspondence on April 6, 2023, with Mr. Jared Kauffman, Fixed-Route Planner for DART, the following improvements were recommended:

- The existing stop on Old Baltimore Pike (ID 2605) should be moved to the near side of the crosswalk.
- A pedestrian pathway along Brookhill Drive is needed so those walking are not doing so with vehicular traffic.
- Covered bicycle parking or a place to store employees' bikes inside the site is recommended.

**Existing bicycle and pedestrian facilities**: According to DelDOT's New Castle County Delaware Bicycle Map, some study roadways are considered bicycle routes. Old Baltimore Pike is considered a connector bicycle route. Delaware Route 72 is considered a regional bicycle route. Marked pedestrian crosswalks exist along Old Baltimore Pike, and at the Delaware Route 72, Dawson Drive and Bellevue Road intersection. Bicycle lanes exist along Old Baltimore Pike.

**Planned bicycle and pedestrian facilities**: Per email correspondence on April 11, 2023, with Mr. John Fiori, DelDOT's Bicycle Coordinator and Ms. Linda Osiecki, DelDOT's Pedestrian Coordinator, the following improvements were recommended:

- Referring to the State Strategies and Spending Map this site is within Level 1. Per the DelDOT SUP/Sidewalk Policy a non-motorized facility is required unless there is physical impossibility. It would be recommended to install a 5' wide sidewalk along the property frontage of Old Baltimore Pike with angled terminations into the shoulder to the eastern property limits and tie into the existing bus stop to the western property limits.
- If a right turn lane is warranted, then a separate 5' wide bike lane shall be provided along the limits of the right turn lane and follow the striping as per the DE MUTCD, Figure 9C-1E.
- Provide pedestrian access into the site from the frontage sidewalk.
- Currently Active Transportation & Community Connections (ATCC) has no bicycle/pedestrian improvement projects within the area of this project.
- All entrance, roadway and/or intersection improvements required shall incorporate bicycle and pedestrian facilities. Per the DCM, if the right turn lane is warranted, then a separate bike lane shall be incorporated along the right turn lane; if a left turn lane is required any roadway improvements shall include a shoulder matching the roadway functional classification or existing conditions (minimum 5-feet).
- There could be additional and/or revised comments once the project is discussed at a pre-submittal meeting and/or plans are submitted for LONO/ENT review/approval.

**Bicycle Level of Traffic Stress in Delaware:** Researchers with the Mineta Transportation Institute developed a framework to measure low-stress connectivity, which can be used to evaluate and guide bicycle network planning. Bicycle LTS analysis uses factors such as the speed of traffic, volume of traffic, and the number of lanes to rate each roadway segment on a scale of 1 to 4, where 1 is a low-stress place to ride and 4 is a high-stress place to ride. It analyzes the total connectivity of a network to evaluate how many destinations can be accessed using low-stress routes. Developed by planners at the Delaware Department of Transportation (DelDOT), the bicycle Level of Traffic Stress (LTS) model will be applied to bicycle system planning and evaluation throughout

the state. The Bicycle LTS for the roadways under existing conditions along the site frontage are summarized below. The Bicycle LTS was determined utilizing DelDOT Gateway.

- Delaware Route 72 LTS: 4
- Old Baltimore Pike LTS: 3

**Crash Evaluation**

Per the crash data included in the TIS from October 6, 2018, to October 6, 20221, provided by the Delaware Department of Transportation (DelDOT), a total of 67 crashes were reported within the study area. Of the 67 crashes reported, no fatalities occurred.

At the Old Baltimore Pike, Albe Drive East Entrance and Christiana Farms Place intersection, ten crashes were reported including four rear-end, one head-on, four angle, and one was a collision not between two vehicles.

At the Delaware Route 72, Dawson Drive and Bellevue Road intersection, 14 crashes were reported including six rear-end, one head-on, five angle, one sideswipe, and one was a collision not between two vehicles.

The remaining intersections each reported less than ten incidents within the three-year study period.

**Previous Comments**

All comments from the PTIS have been addressed in the Final TIS.

**Sight Distance Evaluation**

No sight distance constraints were noted at the proposed site entrance locations per a field visit conducted on March 31, 2023.

**General HCS Analysis Comments**

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

1) The TIS and JMT used Synchro 11 to complete the analysis. The results are based on HCM 6th Edition.

2) The TIS and JMT utilized the existing heavy vehicle percentage for each movement greater than 100 vph in the Case 1 existing scenario.

3) Per DelDOT's Development Coordination Manual, JMT used a heavy vehicle percentage of 3% for each movement greater than 100 vph in the Case 2 and Case 3 future scenario analysis, unless the existing heavy vehicle percentage was greater than 3% and there was no significant increase of vehicles along that movement, in which case the existing heavy vehicle percentage was used for the analysis of future scenarios. The TIS used existing heavy vehicle percentages for all cases.

4) Per DelDOT's *Development Coordination Manual* and coordination with DelDOT Planning, JMT used a heavy vehicle percentage of 5% for each movement less than 100 vph along roadways in the analyses, whereas the TIS utilized the existing heavy vehicle percentage.

5) Per DelDOT's *Development Coordination Manual,* both the TIS and JMT utilized the existing PHF for the Case 1 scenario and a future PHF for Case 2 and 3 scenarios of 0.80 for roadways with less than 500 vph, 0.88 for roadways between 500 and 1,000 vph, and 0.92 for roadways with more than 1,000 vph or the existing PHF, whichever was higher. The TIS utilized the existing PHF for all cases.

6) At signalized intersections JMT included pedestrian signal phases, whereas the TIS did not.

7) At signalized intersections, JMT kept the cycle length the same for future cases but optimized splits and offsets, whereas the TIS did not.

8) At unsignalized intersections where applicable, JMT selected the Include Upstream Signal HCS6 option (due to proximity of upstream signals) whereas the TIS did not.

Table 2
Peak Hour Levels Of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T-Intersection in Case 1 & 2)**[1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Site Entrance A / Lucerne Drive / Old Baltimore Pike (New Castle Road 26)**[2] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Old Baltimore Pike Left Turn | A (8.4) | A (9.0) | A (8.3) | A (9.1) |
| Northbound Lucerne Drive Left Turn | C (23.3) | E (42.7) | C (24.8) | F (89.8) |
| Northbound Lucerne Drive Right Turn | B (11.5) | B (13.5) | B (11.6) | B (13.5) |
| Northbound Lucerne Drive Approach | C (16.5) | D (27.1) | C (17.1) | E (49.1) |
| | | | | |
| 2024 Without Development (Case 2) | | | | |
| Westbound Old Baltimore Pike Left Turn | A (8.8) | A (9.9) | A (8.8) | A (9.9) |
| Northbound Lucerne Drive Left Turn | E (40.2) | F (95.4) | F (89.6) | F (*) |
| Northbound Lucerne Drive Right Turn | B (12.9) | C (16.8) | B (13.0) | C (16.7) |
| Northbound Lucerne Drive Approach | C (24.4) | F (53.4) | E (45.2) | F (482.6) |

*Indicates delay greater than 1,000 seconds per vehicle

[1] For signalized and unsignalized analysis, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.
[2] JMT selected the Include Upstream Signal HCS6 option (due to proximity of upstream signals) whereas the TIS did not.

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T-Intersection in Case 1 & 2)[1]** | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Site Entrance A / Lucerne Drive / Old Baltimore Pike (New Castle Road 26)[2, 3]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2024 with Development (Case 3) | | | | |
| Eastbound Old Baltimore Pike Left Turn | A (9.2) | A (9.4) | B (10.1) | B (10.4) |
| Westbound Old Baltimore Pike Left Turn | A (8.8) | A (9.9) | A (9.1) | B (11.5) |
| Northbound Lucerne Drive Left Turn | F (63.3) | F (194.3) | F (253.9) | F (*) |
| Northbound Lucerne Drive Right Turn | C (23.7) | C (24.3) | C (15.3) | B (10.0) |
| Northbound Lucerne Drive Approach | E (40.3) | F (103.5) | F (115.6) | F (*) |
| Southbound Site Entrance Left Turn | E (41.8) | F (97.0) | F (71.7) | F (*) |
| Southbound Site Entrance Through/Right Turn | B (13.6) | B (14.6) | B (12.5) | B (13.2) |
| Southbound Site Entrance Approach | D (29.7) | F (61.2) | E (46.3) | F (*) |

*Indicates delay greater than 1,000 seconds per vehicle

[3] Case 3 was modeled with an eastbound left-turn lane, westbound right-turn lane, a northbound through/right-turn lane, and southbound left-turn and through/right-turn lanes. Other lanes remained consistent with existing conditions.

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T-Intersection in Case 1 & 2)[1]** *with two-way left turn lane[4]* | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Site Entrance A / Lucerne Drive / Old Baltimore Pike (New Castle Road 26)[2]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2024 Without Development (Case 2) | | | | |
| Westbound Old Baltimore Pike Left Turn | - | - | A (8.8) | A (9.9) |
| Northbound Lucerne Drive Approach | - | - | C (16.7) | C (23.6) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Eastbound Old Baltimore Pike Left Turn | - | - | B (10.1) | B (10.4) |
| Westbound Old Baltimore Pike Left Turn | - | - | A (9.1) | B (11.5) |
| Northbound Lucerne Drive Approach | - | - | C (16.9) | D (27.0) |
| Southbound Site Entrance Approach | - | - | C (17.1) | C (24.1) |

[4] Intersection was modeled with the two-way left-turn lane along Old Baltimore Pike extended from the start of the westbound left turn lane at the intersection with Westover Woods Drive/Torrington Way to the Lucerne Drive/Site Entrance A intersection.

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Roundabout**[1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Site Entrance A / Lucerne Drive / Old Baltimore Pike (New Castle Road 26)**[5] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Eastbound Old Baltimore Pike Approach | - | - | A (5.6) | A (7.5) |
| Westbound Old Baltimore Pike Approach | - | - | A (7.1) | A (9.0) |
| Northbound Lucerne Drive Approach | - | - | A (5.0) | A (6.0) |
| Overall LOS | - | - | A (6.3) | A (8.1) |
| | | | | |
| 2024 Without Development (Case 2) | | | | |
| Eastbound Old Baltimore Pike Approach | - | - | A (6.9) | B (10.9) |
| Westbound Old Baltimore Pike Approach | - | - | A (10.0) | B (12.0) |
| Northbound Lucerne Drive Approach | - | - | A (5.8) | A (7.7) |
| Overall LOS | - | - | A (8.4) | B (11.2) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Eastbound Old Baltimore Pike Approach | - | - | A (7.0) | B (11.5) |
| Westbound Old Baltimore Pike Approach | - | - | B (10.5) | B (12.2) |
| Northbound Lucerne Drive Approach | - | - | A (5.9) | A (7.9) |
| Southbound Lucerne Drive Approach | - | - | A (6.3) | A (7.4) |
| Overall LOS | - | - | A (8.7) | B (11.6) |

[5] JMT conducted additional analysis of the intersection as a single-lane roundabout.

Table 3
Peak Hour Levels Of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T Intersection)[1]** | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Site Entrance B / Brookhill Drive / Delaware Route 72[2]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Site Entrance / Brookhill Drive Approach | F (105.2) | E (41.4) | E (41.5) | B (14.6) |
| Southbound Delaware Route 72 Left Turn | B (13.7) | B (10.2) | B (13.7) | B (10.4) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Westbound Site Entrance / Brookhill Drive Approach | F (431.8) | F (161.0) | F (141.7) | D (26.4) |
| Southbound Delaware Route 72 Left Turn | C (16.5) | B (11.7) | C (16.5) | B (12.1) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Site Entrance / Brookhill Drive Approach | F (675.1) | F (292.7) | F (224.1) | D (33.3) |
| Southbound Delaware Route 72 Left Turn | C (17.3) | B (11.8) | C (17.3) | B (12.2) |

Table 3 (continued)
Peak Hour Levels Of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T Intersection)[1]** *with two-way left turn lane[6]* | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Site Entrance B / Brookhill Drive / Delaware Route 72[2]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2024 without Development (Case 2) | | | | |
| Westbound Site Entrance / Brookhill Drive Approach | - | - | E (37.9) | C (23.5) |
| Southbound Delaware Route 72 Left Turn | - | - | C (16.5) | B (12.1) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Site Entrance / Brookhill Drive Approach | - | - | E (42.2) | D (27.1) |
| Southbound Delaware Route 72 Left Turn | - | - | C (17.3) | B (12.2) |

[6] Intersection was modeled with the two-way left-turn lane along Delaware Route 72 from the southern leg of the Site Entrance B/Brookhill Drive intersection to south of Peoples Drive.

Table 4
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Signalized Intersection**[1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Delaware Route 72 / Dawson Drive / Bellevue Road**[7] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | B (11.9) | B (16.3) | B (10.3) | B (18.4) |
| | | | | |
| 2024 without Development (Case 2) | B (17.5) | C (21.5) | B (14.0) | C (24.7) |
| | | | | |
| 2024 with Development (Case 3) | B (17.6) | C (21.7) | B (14.0) | C (24.1) |

[7] JMT included pedestrian signal calls based on traffic count pedestrian volumes, whereas the TIS did not.

Table 5
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Controlled (T Intersection)[1]** | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Delaware Route 72 / Aearo Technologies Entrance[2,8]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Aearo Technologies Entrance Approach | E (39.3) | - | B (13.6) | B (14.2) |
| Southbound Delaware Route 72 Left Turn | C (16.7) | - | A (9.4) | A (9.0) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Westbound Aearo Technologies Entrance Approach | F (61.3) | - | C (16.1) | C (16.9) |
| Southbound Delaware Route 72 Left Turn | C (19.8) | - | B (10.3) | A (9.9) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Aearo Technologies Entrance Approach | F (63.2) | - | C (16.2) | C (17.0) |
| Southbound Delaware Route 72 Left Turn | C (19.9) | - | B (10.3) | A (9.9) |

[8] For approaches or lanes where there was no volume present in the traffic data, JMT assumed a volume of 1 vehicle to allow for a LOS calculation, whereas the TIS did not.

Table 6
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T Intersection)[1]** | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Delaware Route 72 / AZ Auto Service Center[9]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Eastbound AZ Auto Service Center Approach | B (10.7) | E (49.0) | B (10.8) | E (37.2) |
| Northbound Delaware Route 72 Left Turn | A (9.1) | B (13.7) | A (9.3) | B (14.3) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Eastbound AZ Auto Service Center Approach | B (11.9) | F (103.8) | B (12.1) | F (66.0) |
| Northbound Delaware Route 72 Left Turn | B (10.2) | C (16.1) | B (10.4) | C (16.8) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Eastbound AZ Auto Service Center Approach | B (12.0) | F (103.8) | B (12.2) | F (66.0) |
| Northbound Delaware Route 72 Left Turn | B (10.2) | C (16.3) | B (10.5) | C (17.0) |

[9] JMT modeled the intersection with one left turn lane and two through lanes on the northbound approach to match existing conditions. The TIS modeled the intersection with one shared left turn/through lane and one through lane along the northbound approach.

Table 6 (continued)
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T Intersection)[1]** *with two-way left turn lane* [6] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Delaware Route 72 / AZ Auto Service Center[10]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2024 without Development (Case 2) | | | | |
| Eastbound AZ Auto Service Center Approach | - | - | B (12.2) | D (28.0) |
| Northbound Delaware Route 72 Left Turn | - | - | B (10.5) | C (16.8) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Eastbound AZ Auto Service Center Approach | - | - | B (12.2) | D (28.4) |
| Northbound Delaware Route 72 Left Turn | - | - | B (10.5) | C (17.0) |

[10] JMT modeled the intersection with one left turn lane and two through lanes on the northbound approach to match existing conditions. The TIS modeled the intersection with one shared left turn/through lane and one through lane along the northbound approach.

Table 7
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T-Intersection)** [1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Delaware Route 72 / Peoples Drive** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Peoples Drive Approach | F (55.9) | E (46.3) | F (60.6) | E (42.5) |
| Southbound Delaware Route 72 Left Turn | B (13.6) | B (11.8) | B (14.1) | B (10.8) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Westbound Peoples Drive Approach | F (115.8) | F (133.2) | F (126.5) | F (112.0) |
| Southbound Delaware Route 72 Left Turn | C (16.0) | B (14.2) | C (16.8) | B (12.6) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Peoples Drive Approach | F (122.7) | F (140.5) | F (134.7) | F (117.4) |
| Southbound Delaware Route 72 Left Turn | C (16.2) | B (14.2) | C (16.9) | B (12.7) |

Table 7 (continued)
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T-Intersection)** [1] *with two-way left turn lane* [6] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Delaware Route 72 / Peoples Drive** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Peoples Drive Approach | - | - | D (27.9) | C (19.1) |
| Southbound Delaware Route 72 Left Turn | - | - | B (14.1) | B (10.8) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Westbound Peoples Drive Approach | - | - | E (37.9) | D (25.3) |
| Southbound Delaware Route 72 Left Turn | - | - | C (16.8) | B (12.6) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Peoples Drive Approach | - | - | E (38.2) | D (25.6) |
| Southbound Delaware Route 72 Left Turn | - | - | C (16.9) | B (12.7) |

Table 8
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Signalized Intersection**[1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Westover Woods Drive / Torrington Way**[11,12] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | C (20.4) | A (9.7) | B (11.3) | B (12.1) |
| | | | | |
| 2024 Without Development (Case 2) | B (17.4) | A (8.9) | B (12.7) | B (14.8) |
| | | | | |
| 2024 With Development (Case 3) | B (17.4) | A (9.1) | B (12.8) | B (11.6) |

[11] JMT modeled the intersection with pedestrian phasing on all approaches based on the DelDOT timing plans provided, whereas the TIS did not have a pedestrian phase on the southbound approach.
[12] JMT adjusted the northbound pedestrian timing so that the northbound phase minimum split would be less than the maximum split. JMT subtracted the yellow and all red times from the calculated pedestrian clearance times to determine the pedestrian timing.

Table 9
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control (T-Intersection)[1]** | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Old Baltimore Pike Shopping Center (East Entrance)[2]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Old Baltimore Pike Left Turn | A (8.3) | A (9.0) | A (8.4) | A (9.1) |
| Northbound Shopping Center Entrance Approach | B (12.2) | B (14.8) | B (12.4) | C (15.2) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Westbound Old Baltimore Pike Left Turn | A (8.7) | A (9.9) | A (8.8) | A (10.0) |
| Northbound Shopping Center Entrance Approach | B (14.1) | C (18.6) | B (14.2) | C (19.7) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Old Baltimore Pike Left Turn | A (8.7) | A (10.0) | A (8.8) | B (10.0) |
| Northbound Shopping Center Entrance Approach | B (14.2) | C (18.8) | B (14.4) | C (19.9) |

Table 10
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection Two-Way Stop Control[1]** | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Royal Farms Access[8]** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Westbound Old Baltimore Pike Left Turn | - | A (8.6) | A (8.2) | A (8.7) |
| Northbound Church Entrance Approach | - | B (10.1) | A (9.6) | B (10.2) |
| Southbound Royal Farms Entrance Left Turn | C (18.8) | D (27.4) | C (18.3) | D (28.2) |
| Southbound Royal Farms Entrance Right Turn | B (12.7) | B (13.7) | B (12.1) | B (13.8) |
| Southbound Royal Farms Entrance Approach | C (15.9) | C (21.0) | C (15.3) | C (21.5) |
| | | | | |
| 2024 without Development (Case 2) | | | | |
| Westbound Old Baltimore Pike Left Turn | - | A (9.3) | A (8.6) | A (9.5) |
| Northbound Royal Farms Entrance Approach | - | B (10.9) | B (10.0) | B (11.0) |
| Southbound Royal Farms Entrance Left Turn | D (29.1) | E (47.8) | D (28.0) | F (50.4) |
| Southbound Royal Farms Entrance Right Turn | C (15.5) | C (15.9) | B (14.6) | C (16.1) |
| Southbound Royal Farms Approach | C (22.6) | D (33.0) | C (21.6) | D (34.5) |
| | | | | |
| 2024 with Development (Case 3) | | | | |
| Westbound Old Baltimore Pike Left Turn | - | A (9.3) | A (8.6) | A (9.5) |
| Northbound Royal Farms Entrance Approach | - | B (11.0) | B (10.1) | B (11.1) |
| Southbound Royal Farms Entrance Left Turn | D (29.9) | E (49.9) | D (28.6) | F (52.6) |
| Southbound Royal Farms Entrance Right Turn | C (15.6) | C (16.1) | B (14.8) | C (16.3) |
| Southbound Royal Farms Approach | C (23.0) | D (34.2) | C (22.0) | E (35.7) |

Table 11
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Signalized Intersection** [1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Albe Drive (west) / Deer Run Drive**[13] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) *with DelDOT timings* | B (12.6) | B (12.4) | A (9.0) | B (13.6) |
| | | | | |
| 2024 Without Development (Case 2) *with signal optimization* | B (13.6) | A (8.1) | A (10.0) | B (12.8) |
| | | | | |
| 2024 With Development (Case 3) *with signal optimization* | B (13.7) | A (8.1) | A (6.2) | A (7.9) |

[13] While no pedestrian phases were shown on the DelDOT provided signal plans, based on field conditions JMT included pedestrian phases across the south leg and east leg of the intersection using calculated crossing times, whereas the TIS did not.

Table 12
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection** [1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Albe Drive (east) / Christiana Farms Place**[2] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Eastbound Old Baltimore Pike Left Turn | A (8.9) | A (9.1) | A (8.8) | A (9.4) |
| Westbound Old Baltimore Pike Left Turn | A (8.5) | A (9.0) | A (8.6) | A (9.3) |
| Northbound Christiana Farms Place Approach | C (18.6) | D (26.0) | C (19.0) | E (43.7) [14] |
| Southbound Albe Drive Approach | C (21.9) | E (42.2) | B (13.7) | C (18.5) |
| | | | | |
| 2024 Without Development (Case 2) | | | | |
| Eastbound Old Baltimore Pike Left Turn | A (9.7) | A (9.6) | B (10.2) | B (10.3) |
| Westbound Old Baltimore Pike Left Turn | A (9.0) | A (9.8) | A (9.0) | B (11.0) |
| Northbound Christiana Farms Place Approach | D (28.0) | E (45.8) | E (44.7) | B (14.4) |
| Southbound Albe Drive Approach | E (35.0) | F (106.2) | C (17.5) | D (25.4) |
| | | | | |
| 2024 With Development (Case 3) | | | | |
| Eastbound Old Baltimore Pike Left Turn | A (9.8) | A (9.6) | B (10.2) | B (10.3) |
| Westbound Old Baltimore Pike Left Turn | A (9.0) | A (9.9) | A (9.2) | B (11.5) |
| Northbound Christiana Farms Place Approach | D (29.1) | E (48.3) | F (52.4) | C (15.2) |
| Southbound Albe Drive Approach | E (36.6) | F (115.7) | C (17.5) | D (26.6) |

*Indicates delay greater than 1,000 seconds per vehicle

[14] LOS deficiency due to impacts from adjacent upstream signalized intersections under Case 1 conditions.

Table 12 (continued)
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Unsignalized Intersection** [1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Albe Drive (east) / Christiana Farms Place** *with two-way left turn lane* [2] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2024 Without Development (Case 2) | | | | |
| Eastbound Old Baltimore Pike Left Turn | | | B (10.2) | B (10.3) |
| Westbound Old Baltimore Pike Left Turn | | | A (9.0) | B (11.0) |
| Northbound Christiana Farms Place Approach | | | C (15.1) | C (20.2) |
| Southbound Albe Drive Approach | | | C (17.5) | D (25.4) |
| | | | | |
| 2024 With Development (Case 3) | | | | |
| Eastbound Old Baltimore Pike Left Turn | - | - | B (10.2) | B (10.3) |
| Westbound Old Baltimore Pike Left Turn | - | - | A (9.2) | B (11.5) |
| Northbound Christiana Farms Place Approach | - | - | C (15.6) | C (21.3) |
| Southbound Albe Drive Approach | - | - | C (17.5) | D (26.6) |

*Indicates delay greater than 1,000 seconds per vehicle

Table 12 (continued)
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Roundabout**[1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / Albe Drive (east) / Christiana Farms Place**[5] | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | | | | |
| Eastbound Old Baltimore Pike Approach | - | - | A (6.7) | A (8.7) |
| Westbound Old Baltimore Pike Approach | - | - | A (7.6) | A (8.5) |
| Northbound Christiana Farms Place Approach | - | - | A (5.3) | A (6.4) |
| Southbound Albe Drive Approach | - | - | A (5.6) | A (7.2) |
| Overall LOS | - | - | A (7.1) | A (8.5) |
| | | | | |
| 2024 Without Development (Case 2) | | | | |
| Eastbound Old Baltimore Pike Approach | - | - | A (8.2) | B (13.1) |
| Westbound Old Baltimore Pike Approach | - | - | B (11.0) | B (10.9) |
| Northbound Christiana Farms Place Approach | - | - | A (6.1) | A (8.2) |
| Southbound Albe Drive Approach | - | - | A (7.2) | A (8.8) |
| Overall LOS | - | - | A (9.6) | B (11.7) |
| | | | | |
| 2024 With Development (Case 3) | | | | |
| Eastbound Old Baltimore Pike Approach | - | - | A (8.3) | B (13.6) |
| Westbound Old Baltimore Pike Approach | - | - | B (11.4) | B (11.0) |
| Northbound Christiana Farms Place Approach | - | - | A (6.2) | A (8.3) |
| Southbound Albe Drive Approach | - | - | A (7.4) | A (8.9) |
| Overall LOS | - | - | A (9.8) | B (12.1) |

Table 13
Peak Hour Levels of Service (LOS)
Based on Final Traffic Impact Study for Woodland Industrial Park
Report Dated: March 8, 2023
Prepared by: Traffic Planning and Design, Inc.

| **Signalized Intersection**[1] | **LOS per TIS** | | **LOS per JMT** | |
|---|---|---|---|---|
| **Old Baltimore Pike / AstraZeneca Entrance / Hanna Drive** | Weekday AM | Weekday PM | Weekday AM | Weekday PM |
| 2022 Existing (Case 1) | A (5.6) | A (8.0) | A (5.6) | A (9.4) |
| | | | | |
| 2024 Without Development (Case 2) | A (9.0) | B (10.6) | A (9.1) | B (11.2) |
| | | | | |
| 2024 With Development (Case 3) | B (10.0) | B (10.7) | A (8.4) | B (10.5) |

# Avigation Nuisance Easement & Non-Suit Covenant

This indenture made this _____ day of _____, 20_____, by and between _____, hereinafter referred to as Grantor, and _____ hereinafter referred to as Grantee, witnesseth:

WHEREAS the Grantor is the owner in fee of a certain parcel of land ("the Property") in the County of _____, State of Delaware; and

WHEREAS said parcel of land is near or adjacent to _____, an operating airport ("Airport"); and

WHEREAS the Grantee is the owner of said airport; and

WHEREAS the Grantor proposes to make a use of said Property and to develop thereon the following:

_____
_____

_____
_____
, which use and development require approval by Municipal and County authorities subject to the applicable provisions of law; and

WHEREAS the Grantor has been advised that the subject Property is located adjacent to the Airport; that the present and future impacts of Airport operations might be considered annoying to users of the Property for its stated purpose and might interfere with the unrestricted use and enjoyment of the Property in its intended use; that these Airport impacts might change over time, for example and not by way of limitation by an increase in the number of aircraft using the Airport, louder aircraft, seasonal variations, and time-of-day variations; that changes in Airport, air traffic control operating procedures or in Airport layout could result in increased noise impacts; and that the Grantor's and users' own personal perceptions of the noise exposure could change and that his or her sensitivity to aircraft noise could increase;

NOW, THEREFORE, for and in consideration of the mutual covenants, agreements and conditions contained herein, the parties hereto agree as follows:

Grantor does hereby grant a permanent nuisance and avigation easement ("Easement") to Grantee over all of the following described real estate:

By virtue of this agreement, the Grantor, for and on behalf of himself and all successors in interest to any and all of the real property above described, waives as to Grantee or any successor agency legally authorized to operate said airport, any and all claims for damage of any kind whatsoever incurred as a result of aircraft using the Easement granted herein regardless of any future changes in volume or character of aircraft overflights, or changes in airport design and operating policies, or changes in air traffic control procedures.

The Grantor, for and on behalf of himself and all successors in interest to any and all of the real property above described, does further hereby covenant and agree with the Grantee, its successors and assigns, that it will not, from and after the effective date hereof, sue, prosecute, molest, or trouble the Grantee, its successors and assigns, in

These covenants and agreements shall run with the land of the Grantor, as hereinabove described, for the benefit of the Grantee, and its successors and assigns in the ownership, use and operation of the aforesaid Airport.

Grantee, its successors and assigns, shall have and hold said Easement and all rights appertaining thereto until said Airport shall be abandoned and shall cease to be used for airport purposes.

If any provision of this Easement or any amendments hereto, or the application thereof to any person, thing or circumstances is held invalid, such invalidity shall not affect the provisions or application of this Easement or such amendments that can be given effect without the invalid provisions or application, and to this end the provisions of this Easement and such amendments are declared to be severable.

IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal the day and year first above written.

_____(SEAL)

_____(SEAL)

# NOTARY ACKNOWLEDGEMENT

STATE OF DELAWARE

ss.

COUNTY OF KENT

**BE IT REMEMBERED** that on this _____ day of _____, 20_____ personally, came before me, the subscriber, a Notary Public for the State and County aforesaid, _____, party(ies) to this Indenture, known to me personally to be such, and acknowledged this Indenture, to his/her (their) act or deed.

**GIVEN** under my Hand and Seal of office the day and year first above written.

_____

Notary Public, State of Delaware

My Commission Expires _____