

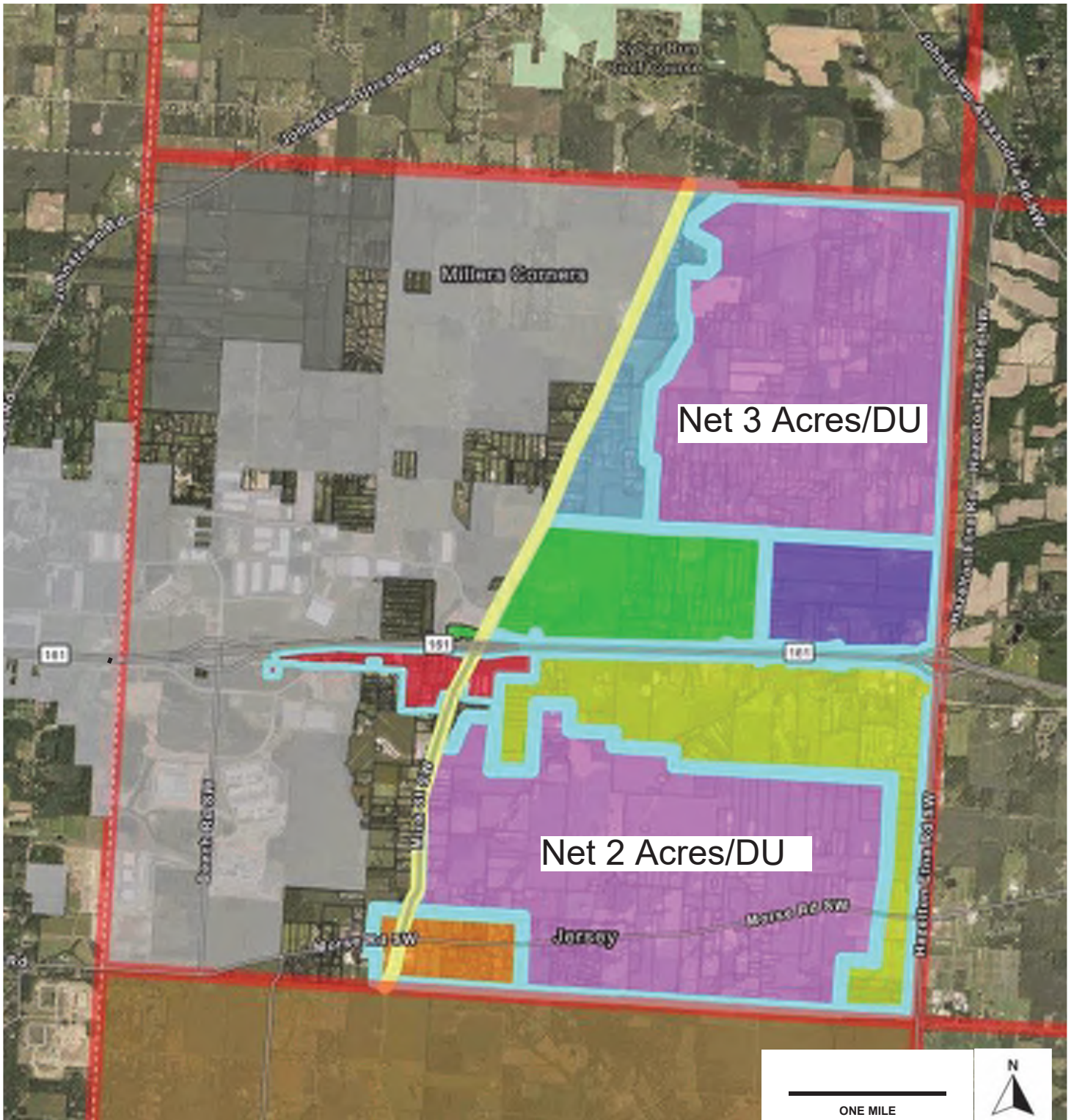


APPENDIX A: LAND USE PLANS & CORRESPONDENCE WITH LOCAL JURISDICTIONS

**INTEL AREA 10-MINUTE TRAVEL TIME
TRANSPORTATION PLANNING STUDY
FEBRUARY 15, 2023**



Jersey Township Future Land Use Map Draft 1/13/23



Proposed Land Uses

- Residential
- Commercial
- Jersey Village Center
- Mixed Use

**Overlay Land Uses
(Approved)**

- Innovation Employment
- Commercial Professional Office
- Mixed Use

Corporation Boundaries

- New Albany (Current Boundaries)
- New Albany (Anticipated Annexations)
- Johnstown
- Pataskala

Bush, Ryan

From: Holly Mattei <hollym@crossroadscommunityplanning.com>
Sent: Friday, January 13, 2023 6:52 AM
To: William Lozier
Cc: chermann@mkskstudios.com; jlenner@stalbanstwp.org; blane@stalbanstwp.org; Brent A. Welch; Nick Gill; woodrowcfox@gmail.com; kmay@mkskstudios.com; rplatte@jerseytownship.us; mollyr@crossroadscommunityplanning.com; scotthendren@monroetownship.org; Troy Hendren; Joseph Robertson; Scott Ryan (Scott.ryan@development.ohio.gov); sgwinn@lcounty.com; cbauserman@co.delaware.oh.us; W. Fritz Crosier, P.E.; Howdysshell, Jennifer; Cornell R. Robertson, P.E., P.S.; mlove@co.delaware.oh.us; Dan Wetzel; Hill, Matt; Knerr, Jared; Bush, Ryan; Schlekie, Melissa; Croasmun, Valerie
Subject: Re: File Transfer: 10-Minute Travel Time Group - Volume Map - Etna-Licking TID Study
Attachments: Future Land Use 12-20-22 (4).pdf; Drivetime 5 chandler b.pdf; Future Land Use Map Draft 1_with labels.pdf

[EXTERNAL MESSAGE] This message has originated outside of ms consultants. Do not open attachments or click on links from unknown or unexpected senders.

Hi Bill,

Thank you for the opportunity to provide comments on the draft traffic study being prepared by MS Consultants. This is such an important project for the region.

Below are my comments regarding the LCTID 10-minute travel time traffic study. I have also attached future land use maps for both Jersey and Harlem Townships. Harlem Township's map has been adopted by their Strategic Planning Committee and is currently going through Zoning Commission and Trustee approval. Jersey Township's map is still at the steering committee level.

Jersey Township

The land uses utilized for the traffic study are correct, except as follows:

- The Worthington Corridor zoning overlay, now in effect, allows commercial residential of up to 12 dwelling units per gross acre in the CPO areas which are along the south side of 161 and the west side of SR 310. I would recommend adding some residential along the south side of 161 at these densities. The west side of SR 310 is showing residential densities of 7 du/acre. I would increase this to 12 du/acre to be consistent with the approved overlay zoning district.
- The Township has revised its draft land use map to include commercial uses at the intersection of SR 161 and 310. The map used for the traffic study shows residential for this area.
- The Township has revised its draft land use map to show mixed use along the east side of Mink Street. I anticipate the density being similar to that of the Worthington Road overlay (12 du/acre) but that has not yet been determined.

Harlem Township

- While Harlem Township currently has a 2-net acre minimum for one dwelling unit, the township is planning for significant growth with increased densities due to incoming sewers. I am attaching the

land use map that the Harlem Township Strategic Planning Committee has adopted, which calls for mixed use development along Fancher Road. Mixed Use - B would allow up to 12 dwelling units/acre near Fancher/Harlem intersection. Mixed Use - A would allow up to 8 du/acre. While these are long range numbers, the township is in the process of developing an overlay district within their zoning code to reflect these densities. There has been significant development interest in this area already and the City of Columbus will have sewers to the Harlem/Smothers Road intersection by early 2025/2026. So I think development is imminent along Fancher Road.

- The Harlem Township's land use map also calls for up to 3 dwelling units for the area north of Fancher and south of Center Village between the east and west townships borders. Developers are already assembling land, and we expect this area to develop as soon as the sewers reach there. Once the sewers get to Smothers Road in 2025/2026, they will be close enough that a developer could easily extend them to start building out this area.

I also agree with Chris Herman's comment at the meeting that the study should include some additional intermittent build out scenarios (i.e. 5yr, 10yr, etc). To help with this exercise, I am also attaching a drive time map that Crossroads has prepared for Harlem Township that shows the date development occurred around the original Intel plant in Chandler. I think we should take this map into consideration as we consider various build out scenarios. There is a lot going on with this map. So I will try to break it down for you:

Inside the drive time lines, each parcel is color coded to show the year it developed. Intel was built in 1979.

Red Parcels = Developed prior to 1980

White Parcels to purple (gradient scale). The more white a parcel is, the closer to 1980 it developed. The more purple a parcel is, the later it developed.

As you can see, within the 10 minute drive time, there are very few parcels that are red, meaning most of the surrounding land was undeveloped at the time Intel was built. Most of the parcels in 10-minute area are white to very light purple, and there are very few dark purple parcels in the 10-minute drive time map. This means that most of the 10-minute drive time developed within the first 10 years of Intel arriving. If history repeats itself, then the expectation should be that the 10-minute area we are studying will be developed within the first 10 years. We should take this into consideration as we study the traffic needs.

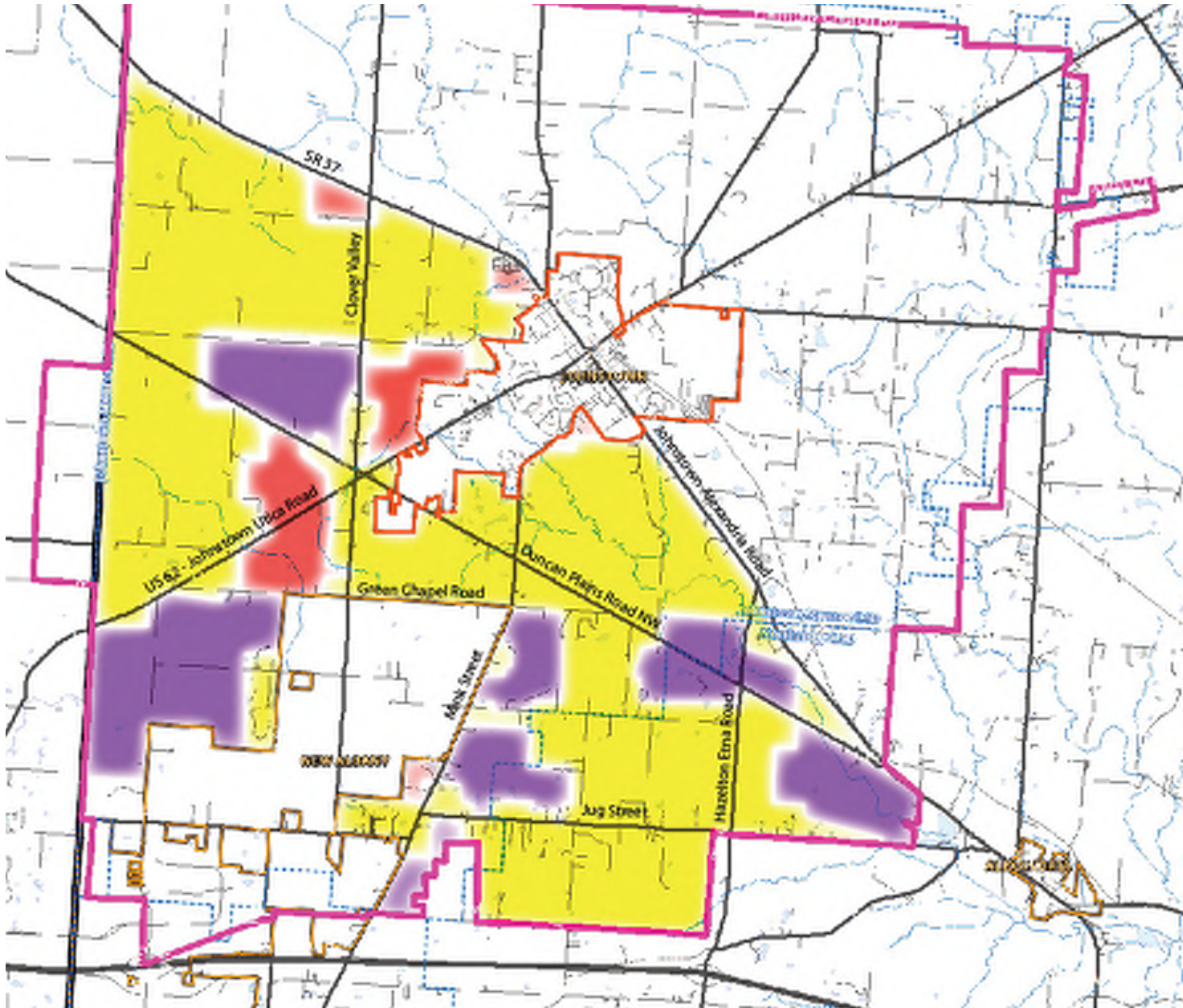
I hope these comments are useful. If you have any questions or need anything else, let me know. Thanks for all that the LCTID is doing to help transportation in this area.

Holly Mattei
614-772-0190



On Thu, Jan 12, 2023 at 10:57 AM William Lozier <wlozier@transconohio.com> wrote:

All
Final reminder please send comments today or tomorrow, as of yesterday MS had not received anything. I would like to reconvene our group as soon as we can, maybe late next week or early the week after. We have had a lot of requests for this information and we will need to start sharing in order to keep up with everything else going on.
Thanks!



RESIDENTIAL

10,658 Total Acres
 Yield @ 1 DUA (Gross): 10,658 Units
 Yield @ 2 DUA (Gross): 21,316 Units



COMMERCIAL

1,056 Total Acres
 Yield @ 0.2 FAR: 9.2M SF
 Yield @ 0.4 FAR: 18.4M SF



INDUSTRIAL

3,296 Total Acres
 Yield @ 0.4 FAR: 57.5M SF
 Yield @ 0.6 FAR: 86.2M SF

Build-Out Absorption

5 Years

10% Build-Out
Residential: 1,065 – 2,131 DU
Commercial: 920K – 1.8M SF
Industrial: 5.7M – 11.5M SF

10 Years

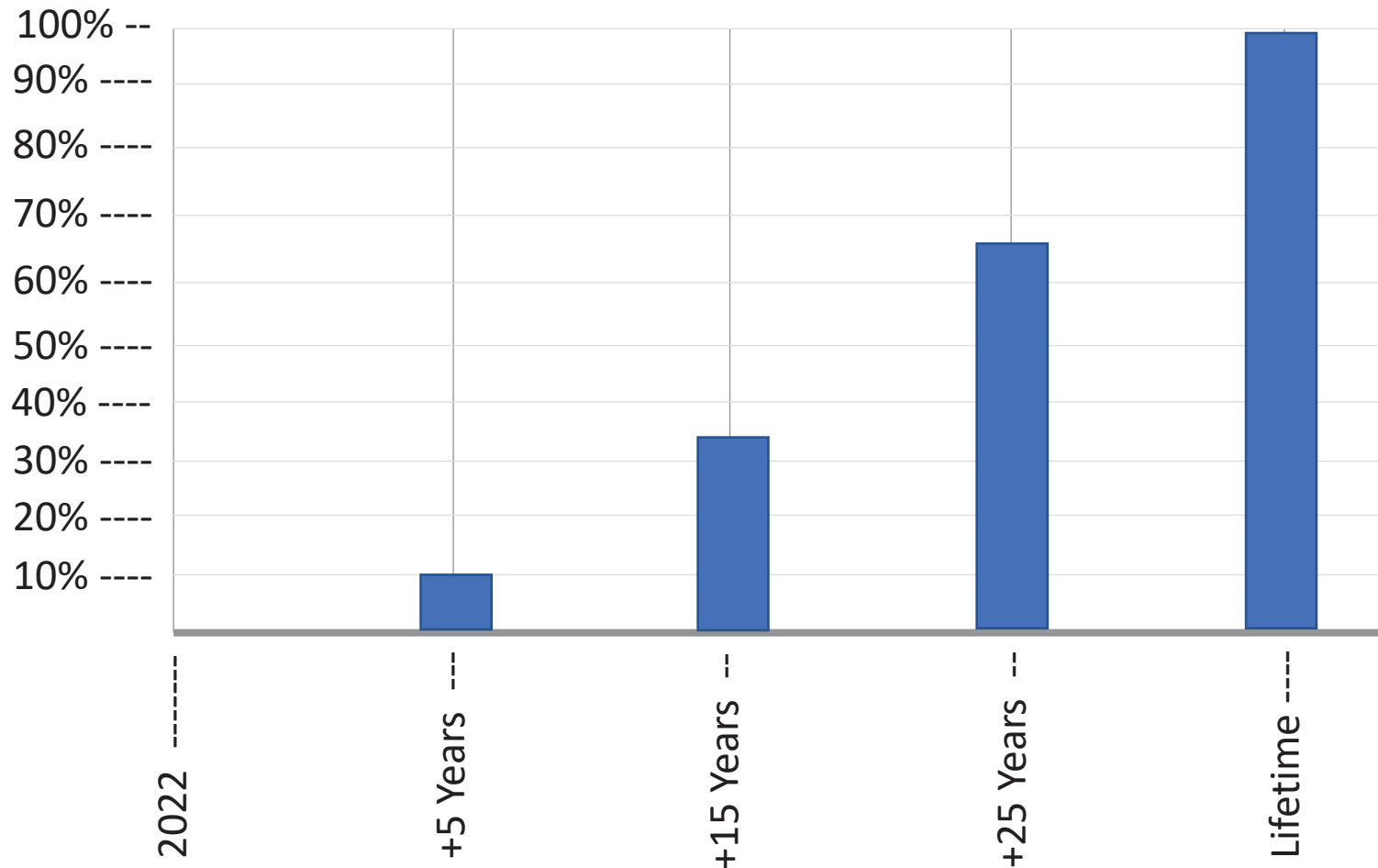
35% Build-Out
Residential: 3,730 – 7,460 DU
Commercial: 3.2M – 6.4M SF
Industrial: 20.1M – 30.1M SF

25 Years

65% Build-Out
Residential: 6,927 – 13,855 DU
Commercial: 5.9M – 11.9M SF
Industrial: 37.3M – 56.0M SF

Lifetime

100% Build-Out
Residential: 10,658 – 21,316 DU
Commercial: 9.2M – 18.4M SF
Industrial: 57.5M – 86.2M SF



January 13, 2023



Bill Lozier
Licking County Transportation Improvement District
c/o Licking County Engineer's Office
20 S. Second St.
Newark, OH 43055

RE: Project 60-10691 Etna-Licking TID Study – Dec. 20, 2022 Meeting Presentation Feedback

Dear Mr. Lozier:

Thank you for convening the team, project, and meetings. On behalf of the city of Johnstown, MKSK appreciates the opportunity to provide feedback on the December 20, 2022 draft traffic impact presentation and materials shared by ms consultants. It is important to note that MKSK is in the early stages of working with the city on developing an Updated Comprehensive Plan and these comments are based upon our early understanding. As you know, future land use decisions are up to City Staff and Council, so these comments are based upon our professional opinion at this time.

We have divided our feedback into four general categories:

1. Land Use Assumptions

Several thoughts on Land Use assumptions:

- a. **Densities:** We understand the reasoning for assuming the current zoning codes for baseline densities, but the reality is that this area is going to develop at densities not currently contemplated by the township zoning codes. If we want to use this for the Intel Opening Day counts (i.e. 2 years), that is OK, but it does not make sense to us for Build Out calculations. Higher densities will only be unlocked through significant investment in enabling utilities, but these are expected within the next 5-10 years.
- b. This may be a reason to create a **range of scenarios** for potential Buildout in this study area. The Low Scenario could use existing zoning, the Medium Scenario could use the numbers we provide below, and the High Scenario could use another set of densities (or expectations of more development outside the study area than currently contained in the MORPC model due to the "Intel Effect").
- c. We expect **Monroe Township** and **Johnstown** to be developed at a substantially higher density and type than is currently shown on their Future Land Use Maps (FLUMs). How much higher is not resolved, but the proximity and impact of this

Intel/TMD/New Albany development on the surrounding land as well as the cost to extend central water and sewer to these areas will drive higher densities. Johnstown will likely desire/need to capture revenue generating employment-based land use in this area – probably at least 1/3rd again the size of the planned TMD. The remaining land will likely have commercial development near major intersections and residential development in the remaining areas.

- d. In looking at the **draft map on slide 13**, for **Full Build Out Scenario** consider the points below. However, it is important to acknowledge that development will not be uniformly distributed. We are in the process of drafting a map with more detailed, initial thoughts. At the most general level we could see:
 - i. Likely additional **retail/commercial** (light blue) in the Mink/Green Chapel Road intersection area.
 - ii. Housing is a major need in Central Ohio. There is going to be strong pressure in this space for residential in non-prime employment-centered areas. For **residential**, consider using 3 du/ac average for the area. As a benchmark, adjacent Plain Township – which was largely undeveloped 30 years ago – shows two dwelling units per acre in New Albany proper and a lot more in the Columbus portions of the Plain Local School District (6+ du/ac, with some areas over 12 du/ac).
 - iii. As a result, the numbers will be even greater on slide 14 (and for all the roadways).
 - iv. One can debate when Full Build Out might occur. Judging by other areas in the region, it is probably a 20+/- year build-out... but we need to be planning for that now in terms of infrastructure and especially securing/preserving ROW.

2. Johnstown Through Traffic

For Johnstown, a major concern is through traffic on SR 37 and US 62. From the city's viewpoint, the goal should be to provide alternative routes for through traffic desire lines/paths. Do we have a sense of what those O & Ds are for traffic that will pass through Downtown Johnstown and what interventions could help alleviate that? Looking at the Draft Network Volumes (that are likely going up based upon the suggested land use revisions being shared):

- a. **US 62 S of SR 37** goes from: 16,455 to 20,900 to 36,900.
- b. **US 62 N of SR 37** goes from: 13,086 to 20,100 to 35,200.
- c. **SR 37 E of US 62** goes from: 8,075 to 13,400 to 24,100.
- d. **SR 37 W of US 62** goes from: 3,956 to 4,500 to 5,200.
- e. As a comparison, the Village Center of New Albany (US 62/SR 605 intersection) has between 10,000 and 15,000 ADT today and those volumes are expected to be stable

or reduced due to improvements being made to connect US 62 around the east side of the Village Center. The same thinking needs to be applied to Johnstown.

3. **Future Connections**

We realize that the focus is about existing ROW, but we support some critical thought on additional needed connections.

- a. We like the idea of a strong **Clover Valley N-S connection** to SR 37 suggested in these plans. Obviously thought is needed in how it crosses US 62 & Duncan Plains.
- b. We appreciate the inclusion of slide 20 and opportunities for a **connection between SR 37/310 and US 62 east of Johnstown**. These additional conversations are necessary.
- c. As part of the Comprehensive Plan, MKSK would like to recommend the **dedication of additional ROW and new ROW** to match the thoroughfare needs of the future build-out condition. The more this study can inform those recommendations, the stronger the plan will be. The point of this is also that we should not shy away from new corridor recommendations for fear of ROW needs because they could be achieved as development around Johnstown occurs.
- d. Stepping outside and looking at the region, there appears to be some reasons to examine Mink Road as a connector to I-70 from the point of view of SR 310 ability to increase capacity and lessening the negative community and safety impacts as well as the slow-downs that occur at the village centers of Pataskala and Etna.

4. **Multimodal Connectivity**

We realize that this is looking at roadways, but I think we all recognize that we should also be keeping in mind bike facilities and multi-use trails. This area is a popular on-road cycling area. We found this as part of the Bike New Albany planning effort. Planning for how such facilities are integrated into improvements and ROW considerations should be happening as part of this effort. Furthermore, there will be leisure trails (multi-use paths) around and through most of the TMD district as required by New Albany. We are going to recommend an expanded pedestrian network from Johnstown into the TMD as part of the Johnstown Comprehensive Plan efforts. This will also connect into the TJ Evans rail-trail from Johnstown to Granville to Newark (through OSU Newark!) and likewise to the RAPID 5/Franklin County/Ohio-to-Erie Trail system. These are improvements that will benefit the entire region and the desirability of working and living in this area.

Respectfully Submitted,
MKSK, Inc.

MKSK

A handwritten signature in black ink that reads "Chris Hermann". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Chris Hermann, AICP, Principal
CHermann@mkskstudios.com

Cc: Sean Staneart, City Manager, City of Johnstown

MKSK Thoughts Related to Licking County TID Dec. 20, 2022 Presentation Materials

1. Land Use Assumptions

Several thoughts on Land Use assumptions:

- a. **Densities:** We understand the reasoning for assuming the current zoning codes for baseline densities, but the reality is that this area is going to develop at densities not currently contemplated by the township zoning codes. If we want to use this for the Intel Opening Day counts (i.e. 2 years), that is OK, but it does not make sense for any Build Out calculations. Higher densities will only be unlocked through significant investment in enabling utilities. These are expected, however, within the next 5-10 years.
- b. This may be a reason to create a **range of scenarios** for potential Buildout in this study area. The Low Scenario could use existing zoning, the Medium Scenario could use the numbers we provide below, and the High Scenario could use another set of higher densities (or expectations of more development outside the study area than currently contained in the MORPC model due to the “Intel Effect”).
- c. **Jersey Township** has a new future land use plan. The Jersey Twp representatives or Holly Mattei at Crossroads Community Planning have probably already provided this to you.
- d. **Monroe Township** and **Johnstown** will be developed at a substantially higher density and type than is currently shown on their Future Land Use Maps (FLUMs). How much higher is not resolved, but the proximity and impact of this Intel/TMD/New Albany development on the surrounding land as well as the cost to extend central water and sewer to these areas will drive higher densities. Johnstown will likely desire/need to capture revenue generating employment-based land use in this area – probably at least 1/3rd again the size of the planned TMD. The remaining land will likely have commercial development near major intersections and residential development in the remaining areas.
- e. In looking at the **draft map on slide 13**, for **Full Build Out Scenario** consider the points below. However, it is important to acknowledge that development will not be uniformly distributed. We have attached a file with more detailed, initial thoughts. At the most general level we could see:
 - i. Likely additional **retail/commercial** (light blue) in the Mink/Green Chapel Road intersection area.
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area. As a benchmark, adjacent Plain Township – which was largely undeveloped 30 years ago – shows two dwelling units per acre in New Albany proper (2 du/ac) and a lot more in the Columbus portions of the Plain Local School District (6+ du/ac).

- iii. As a result, the numbers will be even greater on slide 14 (and for all the roadways).
- iv. One can debate when Full Build Out might occur. Judging by other areas in the region, it is probably a 20+/- year build-out... but we need to be planning for that now in terms of infrastructure and especially securing/preserving ROW.

2. **Johnstown Through Traffic**

For Johnstown, a major concern is through traffic on SR 37 and US 62. From the city's viewpoint, the goal should be to provide alternative routes for through traffic desire lines/paths. Do we have a sense of what those O & Ds are for traffic that will pass through Downtown Johnstown and what interventions could help alleviate that?

Looking at the Draft Network Volumes:

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- e. As a comparison, the Village Center of New Albany (US 62/SR 605 intersection) has between 10,000 and 15,000 ADT today and those volumes are expected to be stable or reduced due to improvements being made to connect US 62 around the east side of the Village Center. The same thinking needs to be applied to Johnstown.

3. **Future Connections**

I realize that this is about existing ROW, but it seems like there should be some thought about additional needed connections.

- a. One area, if I were Jersey Twp., is creating a parallel roadway system on the north side of SR 161 that picks up from Innovation Campus Way... and maybe connects Jersey Mill Rd... and eventually Davidson Lane.
- b. We appreciate the inclusion of slide 20. These additional conversations are necessary.

4. **Clover Valley Extension**

We like the idea of a strong Clover Valley N-S connection to SR 37. We will need to think about how it crosses US 62 & Duncan Plains.

5. **Mink Road Corridor**

Since working for Licking County Planning Commission in the 1990's, I (and others) have always been intrigued by the potential of Mink Road as a more major N-S

roadway that interchanges with I-70. This connection was shown in the LCATS plans in the mid-to-late 1990s. In fact, LCATS pushed for Mink to be the interchange rather than Beech when the improved SR 161 was being planned at that time, but their argument fell on deaf ears. Part of the thinking then, which is even more true today, is that a focus on Mink Road north-south rather than SR 310 lessens the negative community and safety impacts as well as the slow-downs that occur at the village centers of Pataskala and Etna.

6. **Multimodal Connectivity**

We realize that this is looking at roadways, but we should also be keeping in mind multi-use trails and bike facilities. This area is a major cycling area for clubs. We found this as part of the Bike New Albany planning effort. Planning for how such facilities are integrated into improvements and ROW considerations should be happening as part of this effort. Furthermore, there will be leisure trails (multi-use paths) around and through most of the TMD district as required by New Albany. We are going to recommend an expanded pedestrian network from Johnstown into the TMD as part of the Comprehensive Plan efforts. This will also connect into the TJ Evans rail-trail from Johnstown to Granville to Newark (through OSU Newark!) and likewise to the RAPID 5/Franklin County/Ohio-to-Erie Trail system.

January 12, 2023



Mr. Bill Lozier
Licking County Transportation Improvement District
c/o Licking County Engineer Office
20 S. Second Street
Newark, Ohio 43055

Dear Mr. Lozier,

St. Albans Township appreciates the opportunity to comment on the December 20, 2022 draft traffic impact study conducted by ms consultants. We have reviewed the report which is the basis for our comments. We have included a PDF mark-up of the areas in which we have commented. In additions to our mark-ups, we have the following comments:

Comment #1 - During the meeting on December 20th, 2022, ms consultants mentioned the traffic counts predicted for opening year and full build out have been reduced to not scare anyone. We believe the true traffic counts should be delivered as part of the plan so we can plan our surface and transit infrastructure accordingly.

Comment #2 - There is no mention of non-motorized travel options, public transit and intelligent transportation systems (ITS) components. We believe these items will be beneficial to plan now for implementation in the future and ask they be considered.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim Lenner".

Jim Lenner
Township Administrator

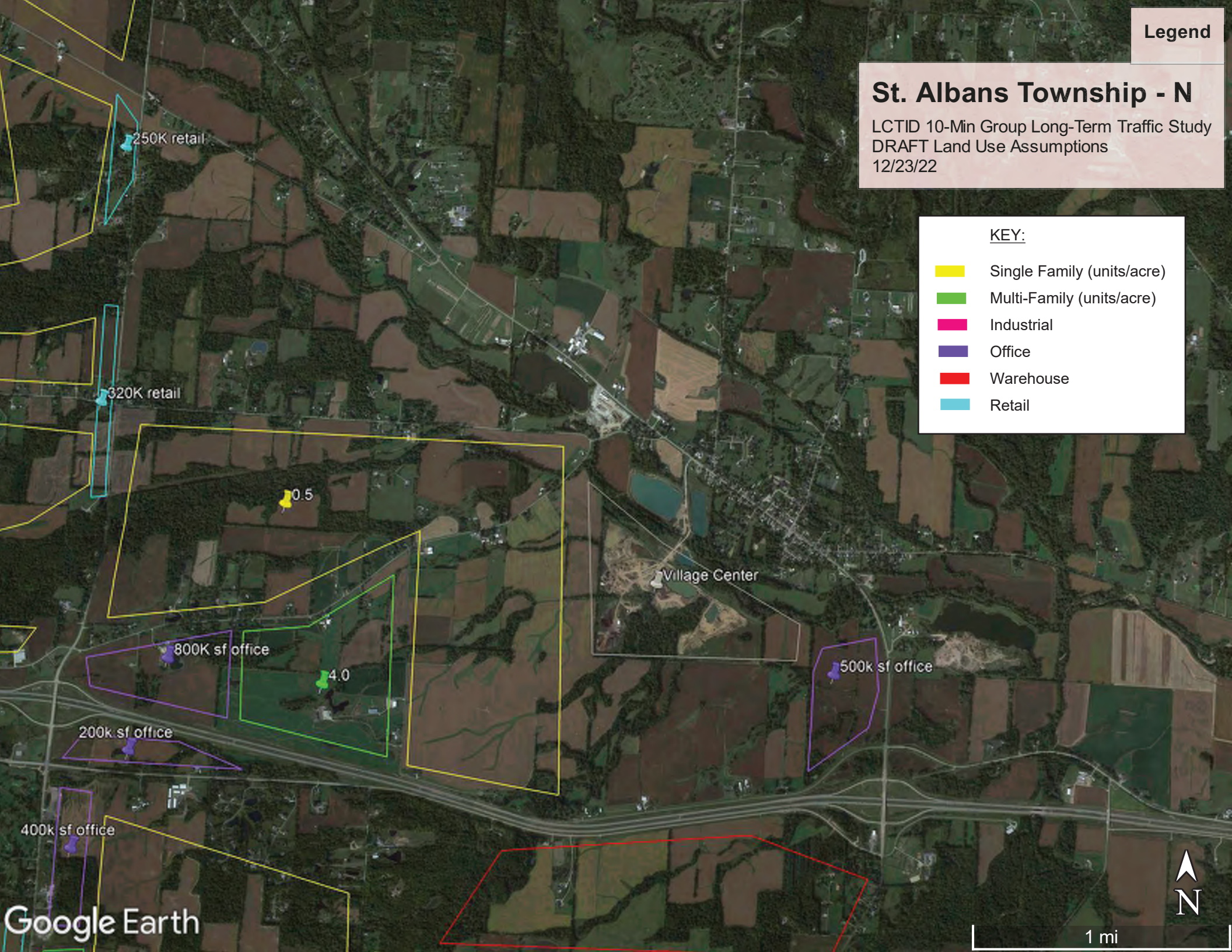
cc: St. Albans Township Trustees

St. Albans Township - N

LCTID 10-Min Group Long-Term Traffic Study
DRAFT Land Use Assumptions
12/23/22

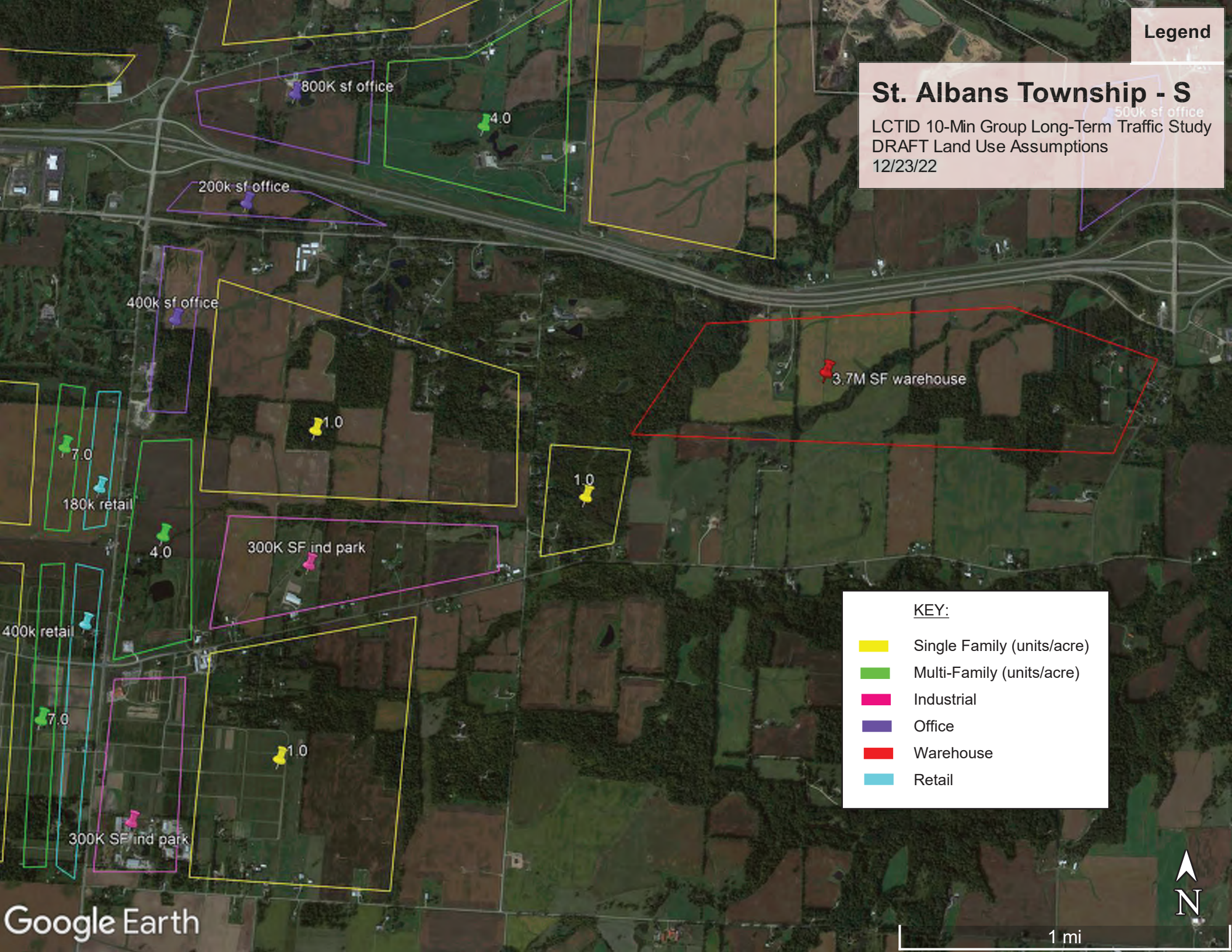
KEY:

- Single Family (units/acre)
- Multi-Family (units/acre)
- Industrial
- Office
- Warehouse
- Retail



St. Albans Township - S

LCTID 10-Min Group Long-Term Traffic Study
DRAFT Land Use Assumptions
12/23/22



KEY:

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- Industrial
- Office
- Warehouse
- Retail





APPENDIX B: TRAFFIC ANALYSIS ZONES

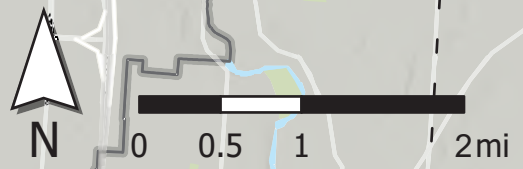
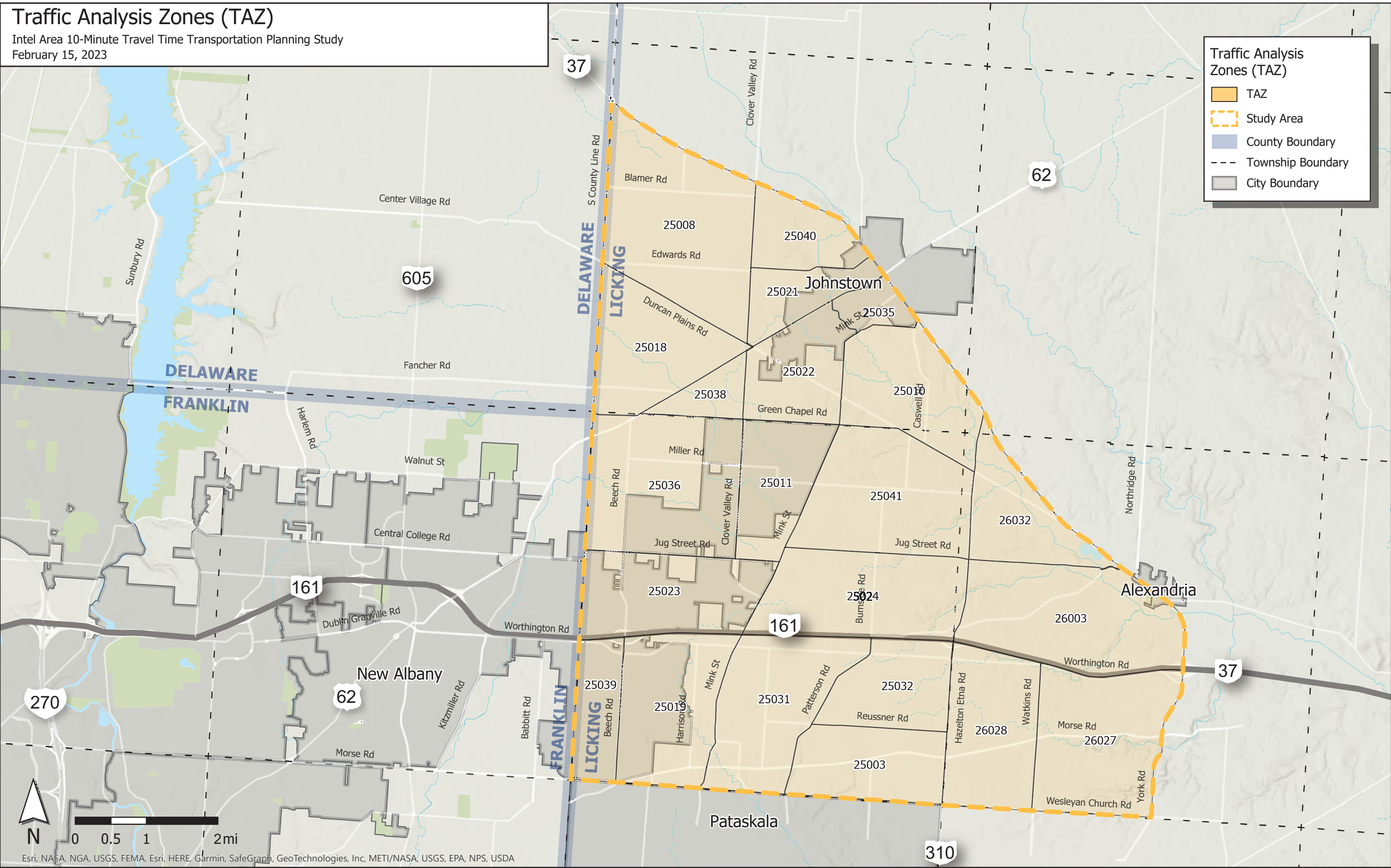
**INTEL AREA 10-MINUTE TRAVEL TIME
TRANSPORTATION PLANNING STUDY
FEBRUARY 15, 2023**

Traffic Analysis Zones (TAZ)

Intel Area 10-Minute Travel Time Transportation Planning Study
February 15, 2023

Traffic Analysis Zones (TAZ)

- TAZ
- Study Area
- County Boundary
- Township Boundary
- City Boundary



Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA



APPENDIX C: NEW ALBANY TECHNOLOGY & MANUFACTURING DISTRICT TRAFFIC STUDY

**INTEL AREA 10-MINUTE TRAVEL TIME
TRANSPORTATION PLANNING STUDY
FEBRUARY 15, 2023**



Ryan Ohly
City Engineer
City of New Albany
99 W. Main Street
New Albany, OH 43054

RE: New Albany Technology Manufacturing District Traffic Study - Cover Letter
Date: March 25, 2022

Mr. Ohly,

Attached is the traffic study for the New Albany Technology Manufacturing District (TMD). This report and traffic analyses include the proposed Intel development located in northeast New Albany. The report provides an in-depth overview and analysis of the expected daily and peak hour traffic volumes for Phase 1 traffic plus anticipated construction traffic in accordance with similar sites recently constructed by Intel. Additionally, Full Build traffic for the Intel development and estimated future development in the study area is included. The traffic study is intended to provide a basis for future transportation infrastructure planning in the New Albany TMD. In summary, the traffic report includes the following information for the study area:

- Full weekday, AM peak, and PM peak traffic volume estimates for the years 2025 and 2035
- Recommended cross sections for all public roadways within the New Albany TMD
- Recommended control and lane configurations for all public road intersections in the TMD and Intel access points
- Turn lane warrant and length recommendations
- Supporting capacity and queuing analysis results

The purpose of the report is to set the roadway infrastructure expectations for the study area, which is generally bounded by SR-161, Mink Street, Green Chapel Road, and US-62. The report and analysis herein do not address geometric design considerations, impacts to existing right-of-way, impacts to existing utilities, access points for expected future development (other than Intel), and roadways/intersections outside of the TMD. These variables will be considered and evaluated during detailed design or other regional traffic impact studies. The report does not provide final engineering recommendations for the study area which will be constructed. Rather, it is a “living”, planning-level document that will continue to be updated and modified, as necessary. Other regional studies outside the TMD may be considered by ODOT and other municipalities but are not a part of this study.

The below text includes a high-level summary of the traffic volume development and analysis for the reader’s knowledge, prior to reviewing the full report.

Traffic volumes for the study area were developed using a combination of count data, StreetLight data, supporting trip data from Intel, and ODOT’s travel demand model. Baseline 2019 average daily traffic (ADT), AM peak, and PM peak traffic volumes were developed and forecasted to the years 2025 and 2035 using a 0.5% background growth rate. A future land use map was utilized to estimate future background development trips within the study area not attributed to Intel for both 2025 and 2035 analysis years.



The 2025 and 2035 analysis years were determined based on the expected construction timeline of the Intel development. In 2025, Phase 1 will be developed and will include trips for both Phase 1 Intel employees and construction traffic for future phases. In 2035, the entire Intel development was estimated to be constructed (i.e., Full Build), and construction traffic is not included. Trips for the Full Build Intel development were obtained from data collected at other Intel campuses.

With input from Intel's traffic consultant, preliminary ODOT model estimates determined that Phase 1 plus construction traffic would be approximately 78% of the Full Build trips generated by the site. It should be noted that the trip estimates for Intel based on the ODOT model were very similar to the data provided by Intel. Thus, the 78% factor was applied to the Full Build trip generation to estimate Phase 1 plus construction trips for the study. This estimate is expected to be conservative as arrival and departure times for construction traffic are intentionally staggered and offset from Intel employee arrival and departure times to reduce traffic impacts during typical AM and PM peak hours.

The Full Build Intel site is estimated to have approximately 14,000 employees. Phase 1 is estimated to have 3,500 employees and approximately 6,000 trade workers on site for construction. Trips for Phase 1 plus construction and Full Build were distributed differently to account for a dedicated construction traffic route and a restriction of using US-62.

The traffic volumes developed for 2025 and 2035 were analyzed for recommended intersection control, roadway cross sections, turn lane lengths, capacity, and queuing for the entire study network. The report and analysis provide a basis for future transportation planning in the TMD which will continue to evolve in the future. Please review the attached report for further description of all topics discussed in this cover letter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Drew Laurent". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

Drew Laurent, AICP
Transportation Planner
Carpenter Marty Transportation

New Albany Technology Manufacturing District

Traffic Study

March 25, 2022



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I. Purpose of Report & Study Objectives

The purpose of this report is to document the analysis completed to evaluate proposed roadway alternatives and traffic impacts for the Technology Manufacturing District (TMD) in New Albany, OH. The traffic analysis herein is driven by an anchor development located on the southwest corner of Mink Street & Green Chapel Road, referred to as Intel. This report is expected to continue to be updated and modified, as necessary, based on changes to the study area. This report is intended to be used as a planning tool that provides the City of New Albany with infrastructure recommendations for the roadway network, which would benefit both the residents and businesses in the region. This report does not address geometric design considerations and other variables such as right-of-way and utilities. Additionally, this report does not consider roadways and/or intersections outside of the study area and is a micro-level evaluation of the TMD only.

II. Study Area

A. Overview

The study area is generally bounded by US-62 to the west, Mink Street to the east, Green Chapel Road NW to the north, and SR-161 to the south. The area consists of a mixture of existing residential, retail, and industrial sites as well as undeveloped agricultural land. This study considers the impacts that the Intel development and various, estimated background developments will have on the road network and the improvements that would be needed to support the additional traffic generated by new development. See **Figure 1** for a general location of the study area in central Ohio. See **Figure 2** for the study area map. See **Figure 3** for a map of the proposed access points for the Intel development.

Figure 1 – Location of Study Area in Central Ohio

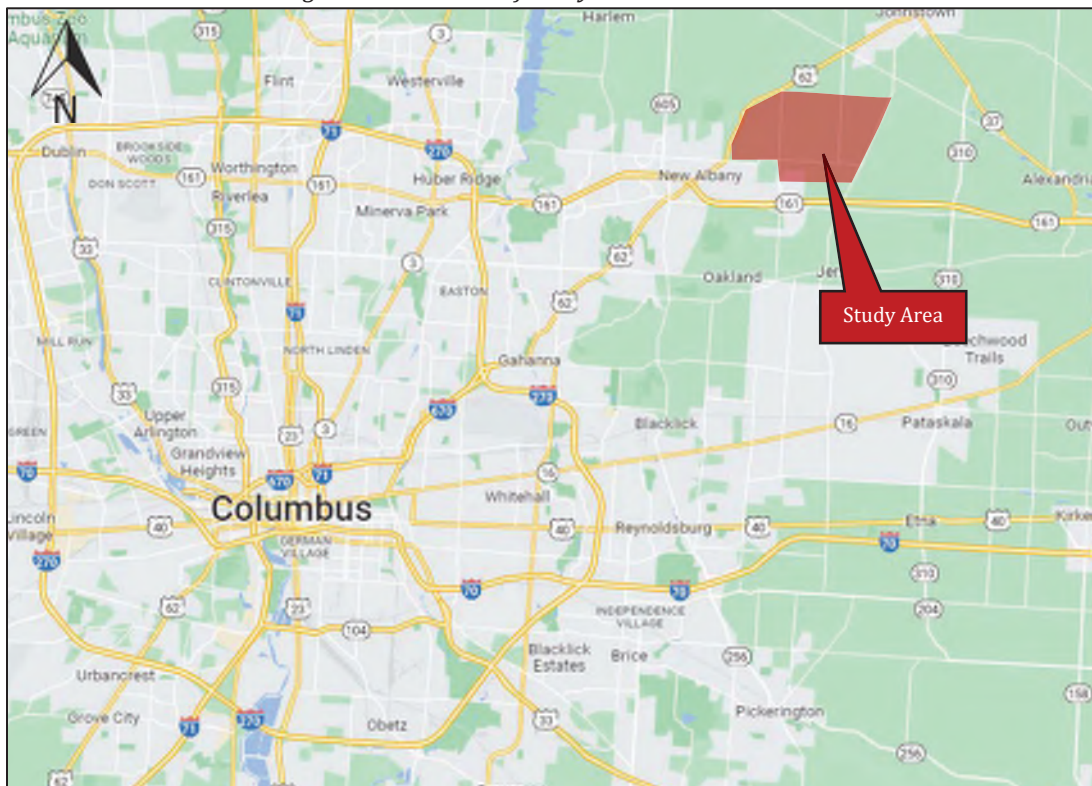


Figure 2 – Study Roads, Regional Intersections, and Intel Site (Yellow)

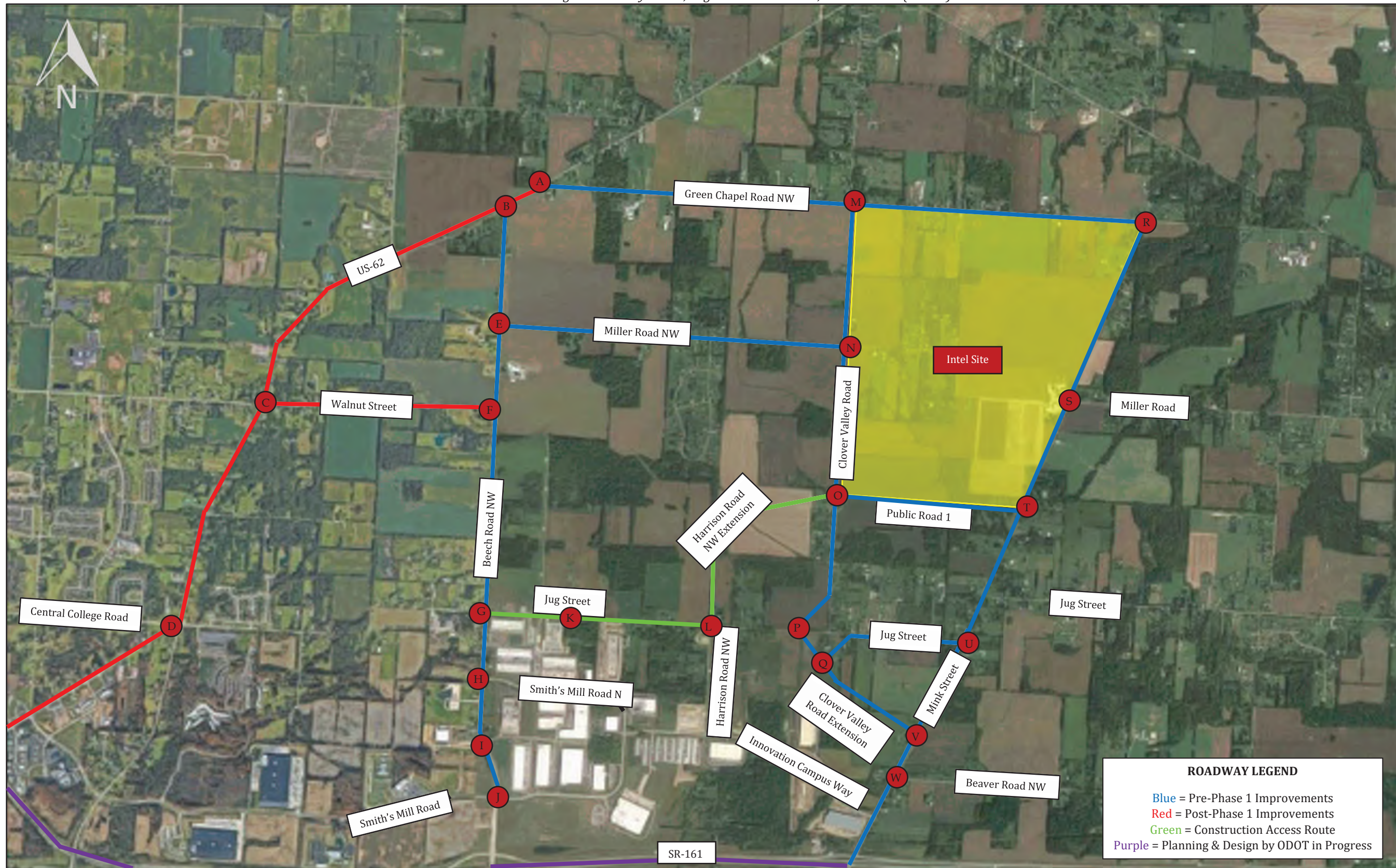
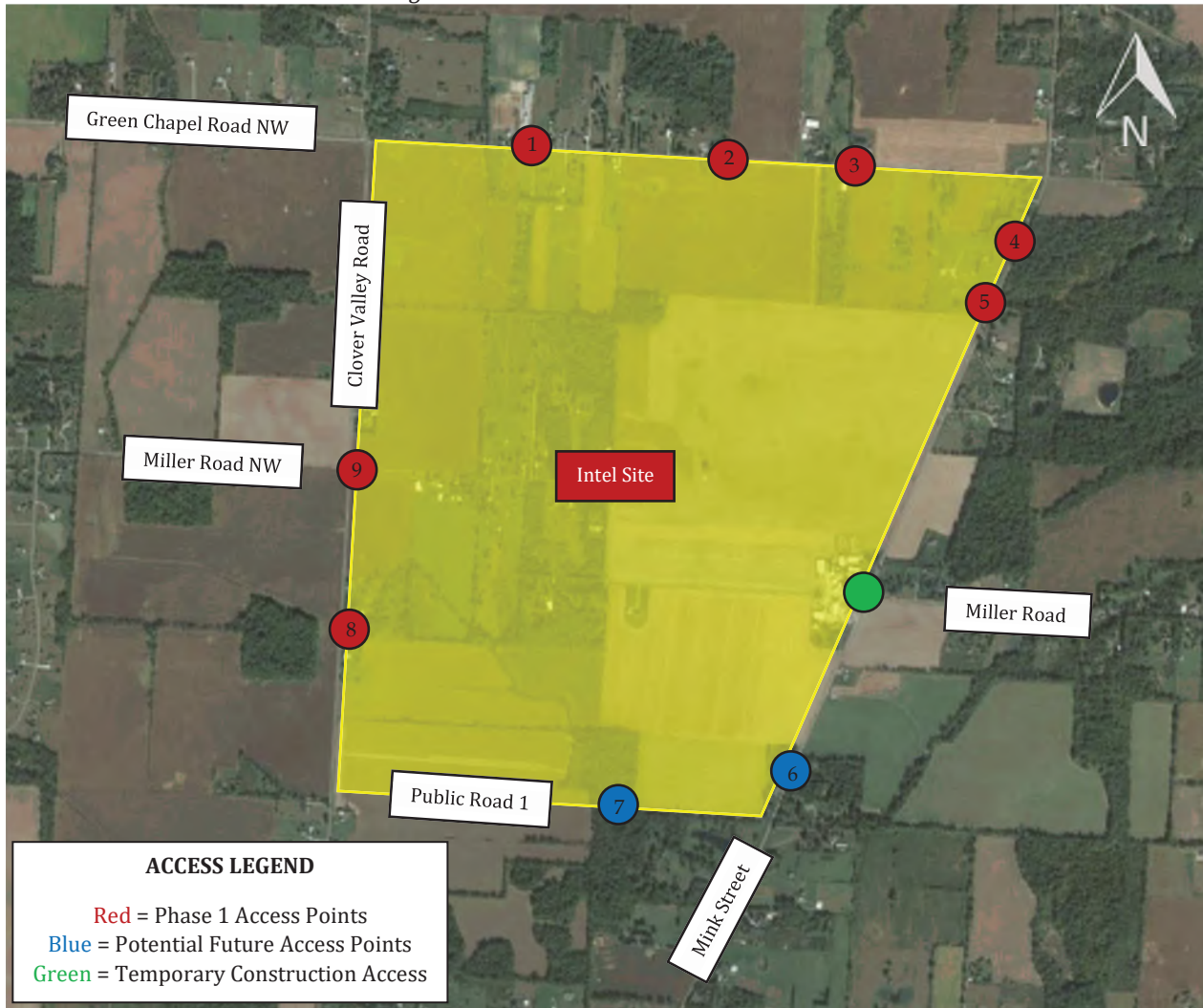


Figure 3 – Intel Site Access Intersections



Several planned improvements to the roadway network are assumed to be implemented in the analysis. These include the addition of a new east/west roadway located approximately halfway between Miller Road (west of Mink Street) and Jug Street (west of Mink Street). This road was called Public Road 1 in the analysis and will provide additional east/west connectivity between Clover Valley Road and Mink Street. Harrison Road NW was assumed to have an extension added north of Jug Street which would connect to Clover Valley at the new Public Road 1 intersection.

Additionally, an extension of Clover Valley Road from Jug Street to Mink Street was also assumed. Through comments and feedback from the City of New Albany, ODOT, the New Albany Company, and during the iterative process used in the development of the volumes, this connection is assumed to result in realignment of the current layout of the Jug Street & Clover Valley Road intersection. The new alignment would result in Jug Street (east of Clover Valley Road) veering south to connect into the Clover Valley Road Extension, with Jug Street (west of Clover Valley Road) connecting in at a three-leg intersection. Jug Street east of Clover Valley Road would be expected to serve primarily local traffic, with regional traffic utilizing the Extension. These roadway assumptions, as per the conceptual layouts, can be

seen in **Figure 2**. Geometrics and property impacts for these assumed layouts are to be considered in a final intersection geometrics study.

B. Proposed Future Development

A variety of future development in the area was considered in the analysis. The majority of the future development considered is expected to be located between US-62 and Mink Street and from Green Chapel Road NW to Jug Street, in what will be known as the New Albany TMD. The developable area was broken into sections with assumptions applied for the type and density of development that would be expected in each section per coordination with the City of New Albany.

Included in this study were sections of future development. These sections include a variety of land uses. However, the expected development for the area is generally industrial warehousing, manufacturing, and data centers. Also included in some sections are residential and supporting retail developments. A future land use map can be found in the **Appendix**.

The anchor development in the TMD is the Intel site, which is expected to develop as manufacturing and office uses on approximately 850 acres. This area is encompassed between Clover Valley Road, Mink Street, Green Chapel Road NW, and Public Road 1. Phase 1 of the development is expected to be completed by 2025 with full build out expected in 2035. Phase 1 of the development includes the first phase of the site plus anticipated construction traffic. The Full Build includes the fully constructed site and no construction traffic.

The Full build Intel site is estimated to have approximately 14,000 employees. Phase 1 is estimated to have 3,500 employees and approximately 6,000 trade workers on site for construction. Start times, end times, and shift changes for construction employees and Intel employees are expected to be staggered to help distribute site traffic throughout the day and not overload public roadways during typical AM and PM Peak hours. Thus, the Phase 1 analysis is expected to be conservative. Trips for Phase 1 plus construction and Full Build were distributed differently to account for a dedicated construction traffic route and a restriction of using US-62 which are described further in the report.

Additional details regarding the estimated background developments and Intel development are provided later in this report.

III. Area Conditions

A. Area of Influence

This study has several layers of analyses including planning-level average daily traffic (ADT) analysis, public road intersection analysis, and Intel site access intersection analysis. ADT analysis was conducted for the below listed roadways, broken down by segments between intersections. Additionally, the recommended design speed is included for each roadway. Posted speed limits will be coordinated by the City of New Albany per code requirements. The roadways and study intersections studied are listed below.

North/South Roads

- US-62 (varies, maintains existing)
- Beech Road NW (45 MPH)
- Harrison Road Extension (35 MPH)
- Clover Valley Road (35 MPH)
- Clover Valley Road Extension (35 MPH)
- Mink Street (45 MPH)

East/West Roads

- Green Chapel Road NW (45 MPH)
- Miller Road (35 MPH)
- Walnut Street (35 MPH)
- Public Road 1 (35 MPH)
- Jug Street (35 MPH)

TMD intersection analysis for the study area includes the intersections listed below. Letters correspond to **Figure 2**.

- A. US-62 & Green Chapel Road NW
- B. US-62 & Beech Road NW
- C. US-62 & Walnut Street
- D. US-62 & Central College Road
- E. Beech Road NW & Miller Road NW
- F. Beech Road NW & Walnut Street
- G. Beech Road NW & Jug Street
- H. Beech Road NW & Smith's Mill Road N
- I. Beech Road NW & Innovation Campus Way
- J. Beech Road NW & Smith's Mill Road
- K. Jug Street & Horizon Court
- L. Jug Street & Harrison Road NW
- M. Clover Valley Road & Green Chapel Road NW
- N. Clover Valley Road & Miller Road NW/Site Access 9
- O. Clover Valley Road & Public Road 1/Harrison Road NW
- P. Clover Valley Road & Jug Street
- Q. Jug Street & Clover Valley Road Extension
- R. Mink Street & Green Chapel Road NW
- S. Mink Street & Miller Road
- T. Mink Street & Public Road 1
- U. Mink Street & Jug Street
- V. Mink Street & Clover Valley Road Extension
- W. Mink Street & Beaver Road NW

Intel site access intersection analysis includes the intersections listed below. Numbers correspond to **Figure 3**. Note that access 6, 7, and 8 are planned for after Phase 1 and are subject to change.

1. Green Chapel Road NW & Access 1
2. Green Chapel Road NW & Access 2
3. Green Chapel Road NW & Access 3
4. Mink Street & Access 4
5. Mink Street & Access 5
6. Mink Street & Access 6
7. Public Road 1 & Access 7
8. Clover Valley Road & Access 8
9. Clover Valley Road & Miller Road NW/Access 9

Note, a temporary access and temporary signal may be installed at the existing intersection of Miller Road & Mink Street as an additional access and staging area for construction traffic. This access was proposed after the analysis was completed. The construction traffic is included in the overall traffic analysis. However, the temporary access is not represented in this study. This access is expected to reduce construction volumes and impacts to intersections west and southwest of the Intel development.

B. Jurisdictions

There are several jurisdictions within the study area including the City of New Albany, Licking County, Franklin County, Madison Township, Jersey Township, and ODOT.

C. Traffic Volumes

Segment ADT data, AM peak, and PM peak turning movement volumes from 2019 were obtained using StreetLight data for all intersections/segments with the exception of the intersections of Jug Street & Harrison Road NW, US-62 & Beech Road NW, and Beech Road NW & Jug Street.

Count data for the Beech Road NW & Jug Street intersection was collected in 2019 and provided by the City of New Albany. Count data for the US-62 & Beech Road NW intersection was collected in 2021 and provided by the City of New Albany. Count data for the Jug Street & Harrison Road NW intersection was collected in 2021 by Carpenter Marty.

StreetLight produces origin-destination (OD) data by utilizing cell phone location services, which can be manipulated to track travel patterns. The OD data shows the relative amount of traffic that starts, or enters, a user-defined zone (the origin) and exits, or stops, at a separate zone (the destination). Existing ADT and turning movement volumes were estimated by coupling these OD zones with ADT volumes at permanent count stations. Volumes are broken into 15-minute bins which were used to determine peak hour turning movement volumes. Data obtained was an average of typical weekdays (Tuesday-Thursday) for the entire year of 2019.

ODOT travel demand modeling was utilized to develop site traffic distributions in conjunction with count data and StreetLight data which are explained later in this report.

All count data, StreetLight data, and model outputs can be found in the **Appendix**.

IV. Projected Traffic

A. Background Traffic

For analysis, the Phase 1 analysis year of the Intel development is 2025 and the Full Build analysis year is 2035. The majority of the traffic added to the roadway network is expected to be from new development within the study area, which will be addressed in the following section. Thus, a linear, annual growth rate of 0.5% was applied to the 2019 count data and StreetLight data to develop Background volumes for the Intel Phase 1 (2025) and Intel Full Build (2035) years. This growth rate accounts for growth outside of the study area that is not represented in the trip generation for background developments and the Intel development.

B. Trip Generation

Background Developments

Trips for the background sections mentioned previously were generated using standard Institute of Transportation Engineers (ITE) practices and the *Trip Generation Manual*, 11th edition, data via the OTISS program¹. **Table 1** shows the trip generation for the various sections as well as the expected time frame for the developments (before Intel Phase 1 or after Intel Phase 1). A breakdown of all proposed future development sections, except for the Intel development, including both assumptions made for trip generation, and the approximate locations assumed for each section can be found in the **Appendix**. The full trip generation outputs can be found in the **Technical Support Appendix**.

¹ Online Traffic Impact Study Software developed by ITE and Transoft Solutions.

Table 1 – Background Zone Non-Pass-By Trip Generation Summary

Section (Phases Applied)	Land Use	Size (SF GFA) ²	AM Peak		PM Peak		Weekday
			Entry	Exit	Entry	Exit	Entry/Exit
Mink Unspecified (Phase 1 & Full Build)	150 - Warehousing	1,900,000	194	58	71	183	1520
	160 - Data Center	1,000,000	68	56	31	73	495
	Total		262	114	102	156	2015
Section 1 (Full Build)	150 - Warehousing	2,700,000	268	80	98	252	2152
	160 - Data Center	1,800,000	126	103	58	135	891
	Total		394	183	156	387	3043
Standard Development- Section 2 (Full Build)	820 - Shopping Center (500k SF)	500,000	266	163	570	617	9459
	Total		266	163	570	617	9459
Sections 3, 4, & 5 (Full Build)	150 - Warehousing	3,750,000	365	109	133	343	2982
	Total		365	109	133	343	2982
Section 5 (Phase 1)	150 - Warehousing	1,500,000	157	47	58	149	1204
	Total		157	47	58	149	1204
Section 6 (Full Build)	150 - Warehousing	700,000	83	25	31	80	572
	160 - Data Center	500,000	33	27	15	35	248
	Total		116	52	46	115	820
Section 7 (Phase 1)	150 - Warehousing	500,000	64	19	24	62	414
	160 - Data Center	350,000	22	18	10	23	173
	Total		86	37	34	85	587
Section 7 (Full Build)	150 - Warehousing	500,000	111	33	41	105	809
	160 - Data Center	350,000	72	59	33	77	520
	Total		183	92	74	182	1329
Section 8 (Full Build)	150 - Warehousing	1,200,000	129	39	48	123	967
	160 - Data Center	800,000	54	44	25	58	396
	Total		183	83	73	181	1363
Section 9 (Full Build)	150 - Warehousing	1,500,000	157	47	58	149	1204
	Total		157	47	58	149	1204
Sections 11 & 12 (Full Build)	150 - Warehousing	4,000,000	388	116	142	365	3179
	Total		388	116	142	365	3179

It should be noted that pass-by trips and internal capture between various sections/developments was not considered. Final access point locations will be resolved during detailed design as new development occurs. General locations have been coordinated with the City of New Albany for purposes of traffic distributions.

The trip distribution for the background development sections was determined using a combination of the 2019 StreetLight data, count data, and the ODOT model distribution of Intel site trips. The general distribution of traffic through the entire study area is as follows:

- 15% to/from the north along US-62
- 9% to/from the north along Mink Street
- 3% to/from the east along Green Chapel Road NW
- 2% to/from the west along Walnut Street
- 3% to/from the west along Central College Road
- 22% to/from the south along US-62

² Square foot gross floor area, unless otherwise noted

- 11% to/from the south along Beech Road NW
- 35% to/from the south along Mink Street

Anticipated development traffic for the study area was added to grown Background traffic to produce No Build traffic for the Phase 1 and Full Build analysis years.

Graphics depicting the regional traffic distribution utilized, the global distribution based on count data, and modeling can be found in the **Appendix**.

Intel Development

Trips for the Intel site were estimated based on data obtained at other Intel campuses. ODOT model estimated volumes, based on data provided by Intel, were used to approximate the ratio of Phase 1 traffic as compared to Full Build traffic. Per the ODOT model ratio of Phase 1 plus construction compared to Full Build trips, a factor of 78% was applied to Full Build trips to estimate Phase 1 plus construction trips for the Intel site. **Table 2** shows the trip generation for the Intel site.

Table 2 – Intel Site Trip Generation Summary

Intel Phase	AM Peak		PM Peak		Weekday
	Entry	Exit	Entry	Exit	Entry/Exit
Phase 1 + Construction	2658	664	264	3005	17160
Full Build	3408	851	339	3852	22000

The trip distribution for the Intel traffic was developed using a combination of the 2019 StreetLight data, the ODOT model distribution of Intel site trips, engineering judgement, knowledge of the surrounding area, and comments/feedback from the project team. Due to the nature of the Intel site and how it will be developed, the Phase 1 analysis and Full Build analysis were determined to have different distributions. For example, generated traffic for Phase 1 employees will be directed to not use US-62 due to the timing of planned roadway improvements for the study area. Additionally, construction traffic will have a dedicated route to utilize as shown in **Figure 2**. The general distribution of traffic to/from the Intel site is as follows:

Phase 1

- 10% to/from the north along US-62
- 5% to/from the north along Clover Valley Road
- 9% to/from the north along Mink Street
- 3% to/from the east along Green Chapel Road NW
- 2% to/from the west along Walnut Street
- 3% to/from the west along Central College Road
- 5% to/from the south along US-62
- 35% to/from the south along Beech Road NW
- 28% to/from the south along Mink Street

Full Build

- 10% to/from the north along US-62
- 5% to/from the north along Clover Valley Road

- 9% to/from the north along Mink Street
- 3% to/from the east along Green Chapel Road NW
- 2% to/from the west along Walnut Street
- 3% to/from the west along Central College Road
- 17% to/from the south along US-62
- 20% to/from the south along Beech Road NW
- 31% to/from the south along Mink Street

Intel site traffic was added to the No Build traffic to produce Build traffic volumes for the Phase 1 and Full Build analysis years for TMD study intersections and site drive intersections for AM and PM peak hours. Additionally, ADT of roadway segments in the study area were produced. AM and PM peak hour Build traffic was rounded to ensure that all allowable turning movements had a minimum of 10 vehicles utilizing the movement. The full volume calculations can be found in the **Appendix**.

V. Traffic Analysis

A. Planning-Level ADT Estimate Analysis

The ADT volumes (seen in the **Appendix**) were used to develop a planning-level evaluation of the number of through lanes needed for the study area. The analyses described in the next sub-sections use these recommended number of lanes to complete micro-level analyses which recommend intersection configurations anticipated for each analysis year. A summary of the ADT estimates for the Phase 1 Opening Day and Full Build scenarios and the recommended number of lanes for each roadway section in the study area can be seen in **Table 3**.

Table 3 - ADT Estimates for Phase 1 Opening Day and Full Build as Compared to Recommended Cross Sections

Segment	From	To	Existing Lanes	Phase 1 Opening Day		Full Build	
				ADT	Cross Section	ADT	Cross Section
North-South Roadways							
US-62	Central College Rd	Cross Point Church Access	2/3-Lane	14084	2-Lane	28724	5-Lane
	Cross Point Church Access	Clouse Rd	2-Lane	14084	2-Lane	28724	5-Lane
	Clouse Rd	E Walnut St	2-Lane	13438	2-Lane	28048	5-Lane
	E Walnut St	Tippet Rd	2-Lane	12896	2-Lane	26046	5-Lane
	Tippet Rd	Beech Rd NW	2-Lane	12622	2-Lane	25758	5-Lane
	Beech Rd NW	Green Chapel Rd NW	2-Lane	12970	2-Lane	35224	5-Lane
Beech Rd NW	SR-161 WB Ramps	Smith's Mill Rd	4/5-Lane	22069	5-Lane	24053	5-Lane
	Smith's Mill Rd	Innovation Campus Way	3/4-Lane	19228	5-Lane	21074	5-Lane
	Innovation Campus Way	Smith's Mill Rd N	2/3-Lane	16746	5-Lane	18494	5-Lane
	Smith's Mill Rd N	Jug St	3-Lane	16746	5-Lane	18494	5-Lane
	Jug St	Walnut Rd	2-Lane	3782	3-Lane	14456	3-Lane
	Walnut Rd	Miller Rd NW	2-Lane	4316	3-Lane	13350	3-Lane
	Miller Rd NW	US-62	2-Lane	2538	3-Lane	8378	3-Lane
Harrison Rd Extension	Jug St	Clover Valley Rd/ Public Road 1	N/A	11086	3-Lane	7546	3-Lane
Clover Valley Rd Extension	Mink St	Jug St	N/A	4098	3-Lane	20520	3-Lane
Clover Valley Rd	Jug St	Public Road 1	2-Lane	5062	3-Lane	17176	3-Lane
	Public Road 1	Miller Rd NW	2-Lane	15720	3-Lane	14694	3-Lane
	Miller Rd NW	Green Chapel Rd NW	2-Lane	3856	3-Lane	18516	3-Lane
Mink St	SR-161 WB Ramps	Innovation Campus Way	3/4-Lane	17270	5-Lane	36658	5-Lane
	Innovation Campus Way	Beaver Rd NW	2-Lane	17096	5-Lane	36474	5-Lane
	Beaver Rd NW	Clover Valley Rd Extension	2-Lane	17132	5-Lane	36514	5-Lane
	Clover Valley Rd Extension	Jug St (S)	2-Lane	14404	5-Lane	18152	5-Lane
	Jug St (S)	Jug St (N)	2-Lane	14404	5-Lane	18152	5-Lane
	Jug St (N)	Public Road 1	2-Lane	14508	5-Lane	18260	5-Lane
	Public Road 1	Miller Road	2-Lane	14936	5-Lane	15676	5-Lane
	Miller Road	Green Chapel Rd NW	2-Lane	15098	5-Lane	13204	5-Lane
East-West Roadways							
Jug St	Beech Rd NW	Harrison Rd NW	2-Lane	17824	3-Lane	16476	3-Lane
	Harrison Rd NW	Clover Valley Rd	2-Lane	7006	3-Lane	9352	3-Lane
	Clover Valley Rd	Clover Valley Rd Extension	2-Lane	4464	3-Lane	20888	3-Lane
	Clover Valley Rd Extension	Mink St	2-Lane	310	2-Lane	324	2-Lane
Public Road 1	Clover Valley Rd	Mink St	N/A	428	3-Lane	8596	3-Lane
Walnut St	US-62	Beech Rd NW	N/A	N/A	N/A	3330	3-Lane
Miller Rd NW	Beech Rd NW	Clover Valley Rd	2-Lane	1864	3-Lane	9044	3-Lane
Green Chapel Rd NW	US-62	Clover Valley Rd	2-Lane	8654	3-Lane	27970 ³	3-Lane
	Clover Valley Rd	Mink St	2-Lane	7958	5-Lane	22624	5-Lane

Recommended 3-lane and 5-lane sections are inclusive of a two-way left turn lane, which may include dedicated left turn lanes at intersections. The evaluation considered the ADT volume to capacity (V/C) ratio for each segment between study intersections. A V/C ratio of less than 0.80 represents a roadway that operates efficiently. The following ADT capacity thresholds were assumed:

- 16,000 for a two-lane roadway (12,800 for a 0.8 V/C)
- 32,000 for a four-lane roadway (25,600 for a 0.8 V/C)
- 48,000 for a six-lane roadway (38,400 for a 0.8 V/C)

³ Note, additional capacity studies will be completed with potential modifications to US-62 in the Full Build conditions.

B. Turn Lane Analysis

Turn lane length analysis was conducted for all turn lanes proposed at study intersections. Turn lane warrant analysis was conducted for free-flowing approaches to stop-controlled intersections. All turn lane analyses were based on methodologies in the ODOT Location and Design (L&D) Manual. Turn lane lengths include necessary storage space and deceleration space for higher speed roadways. Recommended turn lane lengths also consider through lane queue blockage and truck lengths.

C. Capacity Analysis

The Highway Capacity Manual (HCM) 6th Edition of Synchro 11 was used to analyze capacity at all stop-controlled and signalized study intersections. Sidra version 8 software was used to analyze capacity at roundabout intersections. A minimum Level-of-Service (LOS) of D for the overall intersection and E for each individual movement during peak traffic hours was considered acceptable unless otherwise noted. Cycle lengths for signalized intersections were optimized and are subject to change during design. Consistent cycle lengths were assumed for corridors where signal coordination is expected. Recommendations for intersection configurations were provided based on these criteria. It should be noted that stop-controlled approaches to arterial roadways will often experience increased delays due to the volume of traffic on the arterial roadway. For those approaches that are expected to service primarily local traffic, higher delay/LOS was considered acceptable.

D. Queuing Analysis

The SimTraffic module of Synchro 11 software was used to analyze queuing at all study intersections, except for those recommended to be roundabouts. Roundabout queuing outputs from Sidra software were utilized. Queuing analysis is largely provided for reference and was considered for the final recommendations.

VI. Phase 1 Results

A. Recommended Control Types and Lane Configurations

Table 4 and **Table 5** below summarize the recommended lane configurations and intersection control types for all study area intersections and the Intel site access intersections. Lane configurations were determined using the cross sections presented in **Table 3** as a starting point. Recommended lane configurations listed correspond with the control type recommended. The recommended control type and lane configurations listed were used in the Phase 1 analysis described in the next sub-sections. Note, US-62 improvements are planned for after Phase 1 of the Intel development, but recommended intersection control type and lane configurations are still provided. A forward slash indicates shared lane use.

Table 4 – Phase 1 Study Area Control Type and Lane Configuration Recommendations Summary

Intersection (Figure 2 Letter Reference)	Recommended Control Type	Recommended Lane Configuration	Intersection (Figure 2 Letter Reference)	Recommended Control Type	Recommended Lane Configuration
US-62 & Green Chapel Road NW (A)	Signal	WB: L/R NB: T/R SB: L, T	Jug Street & Harrison Road NW (L)	Roundabout	Single Lane Approaches and Circulating
US-62 & Beech Road NW (B)	Northbound Stop-Control	EB: T/R WB: L, T NB: L/R	Clover Valley Road & Green Chapel Road NW (M)	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, R SB: L, T/R (Taper to 3-lane section west of intersection)
US-62 & Walnut Street (C)	Westbound Stop-Control	EB: L/T/R WB: L/T/R NB: L/T/R SB: L/T/R	Clover Valley Road & Miller Road NW/Access 9 (N)	Signal	EB: L, T/R WB: L, T/R NB: L, T, R SB: L, T/R
US-62 & Central College Road (D)	Signal	EB: L, T/R WB: L, T/R NB: L, T, R SB: L, T/R	Clover Valley Road & Public Road 1 (O)	Signal	EB: L, T/R WB: L, T/R NB: L, T/R SB: L, T, Slip R
Beech Road NW & Miller Road NW (E)	Roundabout	Single Lane Approaches and Circulating	Jug Street & Clover Valley Road (P)	Roundabout	Single Lane Approaches and Circulating
Beech Road NW & Walnut Street (F)		N/A	Jug Street & Clover Valley Extension (Q)	Westbound Stop-Control	WB: R NB: T/R SB: T
Jug Street & Beech Road NW (G)	Signal	EB: L, T, R WB: L, T/R NB: L, T, R SB: L, T/R	Mink Street & Green Chapel Road NW (R)	Roundabout	Single Circulating Lane EB: L/T, R WB: L/T/R NB: L/T, R SB: L/T/R
Beech Road NW & Smith's Mill Road N (H)	Signal	WB: L, R NB: T, T, R SB: L, T, T	Mink Street & Miller Road (S)	Westbound Stop-Control	WB: L, R NB: T, T/R SB: L, T, T
Beech Road NW & Innovation Campus Way (I)	Signal	EB: L/T/R WB: L/T/R NB: L, T, T/R SB: L, T, T/R	Mink Street & Public Road 1 (T)	Roundabout	2x1 Circulating EB: L/R NB: L/T, T SB: T, T/R
Beech Road NW & Smith's Mill Road (J)	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, T/R SB: L, T, T/R	Jug Street & Mink Street (U)	Eastbound Stop-Control	EB: L/R NB: L, T, T SB: T, T/R
Jug Street & Horizon Court (K)	Southbound Stop-Control	EB: L, T WB: T/R SB: L, R	Mink Street & Clover Valley Road Extension (V)	Signal	EB: L, R NB: L, T, T SB: T, T/R
			Mink Street & Beaver Road NW (W)	Signal	WB: L, R NB: T, T/R SB: L, T, T

Table 5 – Phase 1 Intel Site Access Control Type and Lane Configuration Recommendations Summary (see Figure 3 for location reference)

Intersection	Recommended Control Type	Recommended Lane Configuration	Intersection	Recommended Control Type	Recommended Lane Configuration
Green Chapel Road NW & Access 1	Signal	EB: T, T/R WB: L, T, T NB: L, R	Mink Street & Access 5	Signal	EB: L, R NB: L, T, T SB: T, T/R
Green Chapel Road NW & Access 2	Roundabout	2 Circulating Lanes EB: T, T/R WB: L/T, T NB: L, R	Mink Street & Access 6		N/A
Green Chapel Road NW & Access 3	Roundabout	2 Circulating Lanes EB: T, T/R WB: L/T, T NB: L, R	Public Road 1 & Access 7		N/A
Mink Street & Access 4	Eastbound Stop-Control	EB: R NB: L, T, T SB: T, T/R	Clover Valley Road & Access 8	Signal	WB: L, R NB: T, R SB: L, T

B. Turn Lane Analysis

Results of the turn lane warrant analysis for Phase 1 are summarized in **Table 6**. Results of the turn lane length analysis for Phase 1 are summarized in **Table 7**. Calculated turn lane lengths are inclusive of a 50' diverging taper and include storage space plus deceleration space for higher speed roadways. Note, all intersections that assume the same lane configurations/intersection control in Phase 1 and Full Build analyses use turn lane lengths calculated using Full Build volumes. Additionally, existing turn lanes which are longer than the calculated length are shown as their existing length in the table. Turn lane lengths of approaches to roundabouts were calculated based on Sidra queuing outputs, per the ODOT L&D Manual. Recommendations for turn lane lengths consider through volume queues.

Table 6 – Phase 1 Turn Lane Warrant Calculations

Intersection	Movement	Turn Lane Warrant Result and Length Calculated	Recommended Length Used in Analysis
US-62 & Green Chapel Road NW	Northbound Right	Warrant Met – 175'	None
	Southbound Left	Warrant Met – 440'	440'
US-62 & Beech Road NW	Eastbound Right	Warrant Not Met	None
	Westbound Left	Warrant Met – 285'	200'
Jug Street & Horizon Court	Eastbound Left	Warrant Met – 150'	150'
	Westbound Right	Warrant Not Met	None
Jug Street & Clover Valley Extension	Northbound Right	Warrant Not Met	None
Mink Street & Miller Road	Northbound Right	Warrant Not Met	None
	Southbound Left	Warrant Not Met	175'
Jug Street & Mink Street	Eastbound Left	150'	150'
	Eastbound Right	100'	100'
	Northbound Left	Warrant Met – 175'	175'
	Southbound Right	Warrant Not Met	None
Mink Street & Access 4	Northbound Left	Warrant Met – 325'	225'
	Southbound Right	Warrant Not Met	None

Table 7 – Phase 1 Turn Lane Length Calculations

Intersection	Movement	Turn Lane Length Calculated	Recommended Length Used in Analysis
US-62 & Central College Road	Eastbound Left	275'	185'
	Westbound Left	600'	50'
	Northbound Left	275'	240'
	Northbound Right	500'	500'
	Southbound Left	315'	300'
Jug Street & Beech Road NW	Eastbound Left	225'	225'
	Eastbound Right	200'	200'
	Westbound Left	1515'	590'
	Northbound Left	275'	275'
	Northbound Right	1405'	Drop Right ⁴
Beech Road NW & Smith's Mill Road N	Southbound Left	175'	300'
	Westbound Left	200'	575'
	Westbound Right	150'	575'
	Northbound Right	225'	320
Beech Road NW & Innovation Campus Way	Southbound Left	225'	290
	Northbound Left	175'	175'
	Southbound Left	175'	290
Beech Road NW & Smith's Mill Road	Eastbound Left	100'	135'
	Eastbound Right	425'	400'
	Westbound Left	225'	265'
	Northbound Left	750'	400'
	Southbound Left	175'	285'
Jug Street & Horizon Court	Southbound Left	100'	100'
	Southbound Right	150'	150'
Clover Valley Road & Green Chapel Road NW	Eastbound Left	175'	175'
	Westbound Left	325'	675'
	Northbound Left	150'	525'
	Northbound Right	225'	500'
	Southbound Left	150'	150'
Clover Valley Road & Miller Road NW/Access 9	Eastbound Left	225'	500'
	Westbound Left	1055'	200'
	Northbound Left	100'	225'
	Northbound Right	935'	250'
	Southbound Left	100'	250'
Clover Valley Road & Public Road 1	Eastbound Left	825'	100'
	Westbound Left	100'	250'
	Northbound Left	100'	100'
	Southbound Left	100'	100'
Mink Street & Miller Road	Westbound Left	100'	100'
	Westbound Right	100'	100'
Mink Street & Clover Valley Road Extension	Eastbound Left	100'	100'
	Eastbound Right	250'	None
	Northbound Left	325'	1000'
Mink Street & Beaver Road NW	Westbound Left	100'	100'
	Westbound Right	100'	100'
	Southbound Left	175'	175'
Green Chapel Road NW & Access 1	Westbound Left	175'	175'
	Northbound Left	150'	150'
	Northbound Right	100'	100'
Green Chapel Road NW & Access 2	Northbound Left	-	175'
	Northbound Right	-	50'
Green Chapel Road NW & Access 3	Northbound Left	-	100'
	Northbound Right	-	50'
Mink Street & Access 5	Eastbound Left	100'	200'
	Eastbound Right	425'	225'
	Northbound Left	450'	325'
Clover Valley Road & Access 8	Westbound Left	500'	200'
	Westbound Right	100'	100'
	Northbound Right	425'	200'
	Southbound Left	100'	150'

⁴ Based on existing configuration.

Note, calculated turn lane lengths at the Beech Road & Jug Street intersection are driven by expected construction traffic. These lengths and associated analysis are expected to be less impacted with the inclusion of the construction access at Mink Street & Miller Road. This also applies to the Clover Valley Road & Miller Road NW/Access 9 intersection. The Phase 1 turn lane analysis can be found in the **Technical Support Appendix**.

C. Capacity Analysis

Results of the capacity analysis for the Phase 1 analysis can be seen in **Tables 8** and **9**. The total delay for stop-controlled intersections is represented by the worst approach LOS. Red text signifies an approach and/or movement delay that exceeds acceptable LOS standards. An assumed 10% heavy vehicle factor was used for all movements/intersections. Lane configurations were determined by the planned number of lanes for each roadway and necessary turn lanes for capacity.

Lane configurations and control types used in the analysis are summarized in **Tables 4** and **5**. The Phase 1 capacity analysis can be found in the **Technical Support Appendix**.

Table 8 – Phase 1 Study Area Capacity Analysis Summary (LOS/Delay in seconds)

Intersection	Approach	AM Peak	PM Peak
US-62 & Green Chapel Road NW	Westbound	D/51.9	D/53.2
	Northbound	A/3.5	D/42.6
	Southbound	A/8.1	C/22.7
	Total	B/11.1	D/40.4
US-62 & Beech Road NW	Eastbound	A/0.0	A/0.0
	Westbound	A/0.9	A/1.0
	Northbound	C/15.6	D/31.0
	Total	C/15.6	D/31.0
US-62 & Walnut Street	Eastbound	C/22.2	C/20.8
	Westbound	C/20.5	C/21.6
	Northbound	A/5.3	B/12.1
	Southbound	B/13.3	A/6.2
Total	B/13.1	B/11.8	
US-62 & Central College Road	Eastbound	E/69.8	E/67.1
	Westbound	D/44.8	E/59.4
	Northbound	B/15.6	D/46.4
	Southbound	D/44.6	C/27.1
Total	D/39.6	D/49.0	
Beech Road NW & Miller Road NW	Westbound	A/9.4	A/10.9
	Northbound	A/3.0	A/3.0
	Southbound	A/4.0	B/5.1
	Total	A/4.3	A/6.5
Jug Street & Beech Road NW	Eastbound	E/71.2	E/77.7
	Westbound	D/43.2	F/107.6
	Northbound	E/75.9	C/34.9
	Southbound	B/17.7	D/50.0
Total	E/64.0	F/89.2	
Beech Road NW & Smith's Mill Road N	Westbound	C/26.4	D/50.8
	Northbound	A/4.4	A/2.5
	Southbound	A/4.1	A/3.7
	Total	A/4.8	A/7.3
Beech Road NW & Innovation Campus Way	Eastbound	C/22.1	D/38.6
	Westbound	C/24.0	D/46.9
	Northbound	A/9.6	A/5.4
	Southbound	A/5.1	A/9.2
Total	A/9.8	B/13.1	
Beech Road NW & Smith's Mill Road	Eastbound	D/46.7	D/54.9
	Westbound	D/52.2	D/36.6
	Northbound	A/8.2	B/11.6
	Southbound	B/10.1	C/25.4
Total	B/10.1	C/28.8	
Jug Street & Horizon Court	Eastbound	A/0.7	A/2.0
	Westbound	A/0.0	A/0.0
	Southbound	C/20.4	F/57.9
	Total	C/20.4	F/57.9
Jug Street & Harrison Road NW	Eastbound	A/9.0	A/6.4
	Westbound	B/13.7	A/4.0
	Northbound	C/30.2	A/6.7
	Southbound	A/4.5	F/83.7
Total	A/9.2	D/51.0	
Clover Valley Road & Green Chapel Road NW	Eastbound	C/21.6	B/19.8
	Westbound	B/12.4	B/14.1
	Northbound	C/26.5	C/20.8
	Southbound	C/23.5	C/25.7
Total	C/20.9	B/16.0	

Table 8 (Cont.) – Phase 1 Study Area Capacity Analysis Summary (LOS/delay in seconds)

Intersection	Approach	AM Peak	PM Peak
<i>Clover Valley Road & Miller Road NW/Access 9</i>	Eastbound	C/25.9	D/46.2
	Westbound	C/23.3	F/103.6
	Northbound	F/311.4	D/44.5
	Southbound	B/12.5	E/61.7
	Total	F/210.8	F/89.3
<i>Clover Valley Road & Public Road 1</i>	Eastbound	D/44.6	D/36.0
	Westbound	A/6.3	C/32.8
	Northbound	D/54.7	A/3.5
	Southbound	D/36.0	A/4.2
	Total	D/44.7	B/12.2
<i>Jug Street & Clover Valley Road</i>	Eastbound	A/9.0	A/5.0
	Westbound	A/4.7	A/3.3
	Southbound	A/7.0	A/4.8
	Total	A/7.2	A/4.6
<i>Jug Street & Clover Valley Extension</i>	Westbound	A/9.7	A/9.0
	Northbound	A/0.0	A/0.0
	Southbound	A/0.0	A/0.0
	Total	A/9.7	A/9.0
<i>Mink Street & Green Chapel Road NW</i>	Eastbound	A/8.4	A/8.0
	Westbound	A/6.5	A/9.6
	Northbound	A/7.0	A/5.5
	Southbound	A/5.3	A/3.5
	Total	A/6.3	A/6.4
<i>Mink Street & Miller Road</i>	Westbound	D/32.6	C/17.7
	Northbound	A/0.0	A/0.0
	Southbound	A/0.2	A/0.1
	Total	D/32.6	C/17.7
<i>Mink Street & Public Road 1</i>	Eastbound	A/8.8	B/12.7
	Northbound	A/3.0	A/3.2
	Southbound	A/2.9	A/2.9
	Total	A/3.1	A/3.2
<i>Jug Street & Mink Street</i>	Eastbound	C/16.4	E/47.4
	Northbound	A/0.3	A/0.4
	Southbound	A/0.0	A/0.0
	Total	C/16.4	E/47.4
<i>Mink Street & Clover Valley Road Extension</i>	Eastbound	D/44.9	D/45.7
	Northbound	A/0.7	A/0.6
	Southbound	A/5.4	A/7.1
	Total	A/2.4	A/5.2
<i>Mink Street & Beaver Road NW</i>	Westbound	D/40.5	D/42.1
	Northbound	A/3.6	A/2.1
	Southbound	A/6.3	A/0.5
	Total	A/5.3	A/1.5

Table 9 – Phase 1 Site Access Capacity Analysis Summary (LOS/delay in seconds)

Intersection	Approach	AM Peak	PM Peak
Green Chapel Road NW & Access 1	Eastbound	B/17.7	B/19.4
	Westbound	B/10.2	B/18.3
	Northbound	B/12.7	A/5.6
	Total	B/15.8	B/17.3
Green Chapel Road NW & Access 2	Eastbound	A/4.3	A/3.1
	Westbound	A/8.7	A/5.4
	Northbound	A/8.5	A/8.0
	Total	A/6.3	A/6.8
Green Chapel Road NW & Access 3	Eastbound	A/4.4	A/3.0
	Westbound	A/6.7	A/6.5
	Northbound	A/6.5	A/7.6
	Total	A/6.0	A/5.7
Mink Street & Access 4	Eastbound	A/9.8	B/12.6
	Northbound	A/4.7	A/0.5
	Southbound	A/0.0	A/0.0
	Total	A/9.8	B/12.6
Mink Street & Access 5	Eastbound	C/26.8	D/53.4
	Northbound	A/4.4	A/7.9
	Southbound	A/9.8	B/15.2
	Total	A/7.4	C/22.2
Clover Valley Road & Access 8	Westbound	D/42.3	D/48.8
	Northbound	A/3.9	A/8.8
	Southbound	A/2.3	C/23.8
	Total	A/6.4	C/29.4

As seen above, there are several intersections that exceed typically acceptable LOS standards in the Phase 1 analysis. This is primarily caused by site construction traffic which is anticipated to utilize set routes and therefore heavily load certain movements. This is seen at the intersections of Jug Street & Beech Road NW and Clover Valley Road & Miller Road NW/Access 9. The improvements recommended at the Jug Street & Beech Road NW intersection, and future planned improvements, will accommodate traffic volumes for the Full Build conditions. Thus, overbuilding the infrastructure for the Phase 1 construction traffic is not recommended. During the PM Peak, exiting traffic causes Jug Street & Harrison Road, Jug Street & Horizon Court, and Clover Valley Road & Miller Road NW/Access 9 to all have delay exceeding typically acceptable standards. However, it is reiterated that the additional construction access at Mink Street & Miller Road will reduce impacts to these intersections.

Note, the intersection of Clover Valley Road & Miller Road NW/Access 9 is anticipated to have movements restricted when Intel Phase 1 opens and improvements are made to Clover Valley Road south of Miller Road. Miller Road will be disconnected from Clover Valley Road which would provide free-flowing northbound right and westbound left turn movements. This restriction would remove much of the delay experienced at the intersection by removing conflicting movements and allowing near continuous turning movements between the south and east legs and the north and west legs. Unacceptable delay at the Jug Street & Horizon Court intersection is considered acceptable as side street volumes are not high enough to warrant additional improvements and queue lengths are acceptable.

D. Queuing Analysis

Results of the queuing analysis for the study intersections can be seen in **Tables 10** and **11**. The Phase 1 queuing analysis can be found in the **Technical Support Appendix**. Note, US-

62 intersections are planned to be improved just after the 2025 analysis year in this study. Additionally, it is anticipated that the additional construction access at Mink Street & Miller Road will provide relief for longer queues shown at intersections west of the site. Note, Sidra queuing outputs only provide 95th percentile queue lengths. Average queue and 95th percentile queue are provided for each movement.

Table 10 – Phase 1 Study Area Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
US-62 & Green Chapel Road NW	Westbound	L/R	47'/99'	238'/441'
	Northbound	T/R	35'/89'	306'/488'
	Southbound	L	109'/199'	83'/179'
T		83'/174'	96'/173'	
US-62 & Beech Road NW	Westbound	L	18'/53'	23'/61'
	Northbound	L/R	12'/40'	60'/128'
US-62 & Walnut Street	Eastbound	L/T/R	61'/115'	38'/81'
	Westbound	L/T/R	30'/67'	60'/109'
US-62 & Central College Road	Eastbound	L	22'/87'	50'/136'
		T/R	150'/261'	126'/248'
	Westbound	L	65'/88'	73'/86'
		T/R	218'/398'	1017'/1689'
	Northbound	L	35'/78'	67'/195'
		T	52'/113'	310'/563'
		R	66'/146'	49'/233'
	Southbound	L	76'/243'	20'/74'
T/R		416'/800'	157'/290'	
Beech Road NW & Miller Road NW	Westbound	L/R	---/7'	---/21'
	Northbound	T/R	---/22'	---/19'
	Southbound	L/T	---/10'	---/12'
Jug Street & Beech Road NW	Eastbound	L	126'/287'	16'/63'
		T	509'/1189'	115'/228'
		R	63'/217'	38'/107'
	Westbound	L	119'/227'	500'/679'
		T/R	38'/97'	310'/1054'
	Northbound	L	40'/89'	29'/79'
		T	705'/1840'	100'/189'
	Southbound	R	975'/1872'	12'/40'
L		13'/46'	10'/36'	
Beech Road NW & Smith's Mill Road N	Westbound	L	19'/54'	66'/126'
		R	7'/26'	20'/47'
	Northbound	T	421'/1183'	12'/43'
		R	122'/380'	2'/13'
	Southbound	L	51'/102'	3'/18'
		T	17'/61'	62'/139'
Beech Road NW & Innovation Campus Way	Eastbound	L/T/R	23'/62'	26'/66'
	Westbound	L/T/R	61'/115'	132'/220'
		L	8'/41'	5'/20'
	Northbound	T	138'/360'	12'/39'
		T/R	180'/395'	14'/45'
	Southbound	L	14'/41'	4'/20'
T		16'/52'	88'/196'	
		T/R	32'/78'	103'/212'

Table 10 (Cont.) – Phase 1 Study Area Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>Beech Road NW & Smith's Mill Road</i>	Eastbound	L	11'/38'	15'/46'
		T	11'/41'	7'/28'
		R	9'/35'	136'/231'
	Westbound	L	17'/53'	87'/163'
		T	21'/56'	21'/57'
		T/R	16'/47'	20'/54'
	Northbound	L	133'/238'	13'/38'
		T	69'/169'	28'/64'
		T/R	90'/183'	29'/83'
	Southbound	L	7'/29'	6'/27'
		T	54'/122'	154'/285'
		T/R	68'/144'	167'/294'
<i>Jug Street & Horizon Court</i>	Eastbound	L	112'/243'	22'/57'
	Southbound	L	22'/75'	19'/51'
		R	37'/83'	48'/91'
<i>Jug Street & Harrison Road NW</i>	Eastbound	L/T/R	---/601'	---/31'
	Westbound	L/T/R	---/85'	---/61'
	Northbound	L/T/R	---/29'	---/4'
	Southbound	L/T/R	---/42'	---/1786'
<i>Clover Valley Road & Green Chapel Road NW</i>	Eastbound	L	5'/25'	8'/33'
		T	73'/132'	17'/47'
		R	89'/160'	18'/50'
	Westbound	L	30'/71'	63'/121'
		T	25'/65'	101'/181'
		T/R	9'/34'	50'/125'
	Northbound	L	15'/49'	40'/96'
		T	8'/31'	7'/31'
		R	55'/105'	18'/51'
	Southbound	L	33'/73'	7'/30'
		T/R	14'/46'	13'/44'
	<i>Clover Valley Road & Miller Road NW/Access 9</i>	Eastbound	L	77'/140'
T/R			20'/56'	21'/56'
Westbound		L	133'/212'	224'/226'
		T/R	27'/127'	1054'/1280'
Northbound		L	5'/23'	9'/34'
		T	111'/404'	67'/138'
		R	200'/306'	42'/80'
Southbound		L	12'/42'	9'/36'
		T/R	44'/93'	93'/177'
<i>Clover Valley Road & Public Road 1</i>	Eastbound	L	120'/138'	61'/117'
		T/R	166'/316'	33'/93'
	Westbound	L	4'/21'	8'/33'
		T/R	15'/47'	17'/47'
	Northbound	L	6'/32'	5'/23'
		T/R	106'/188'	24'/63'
	Southbound	L	8'/31'	2'/17'
		T	63'/123'	62'/142'
R	0'/0'	39'/286'		
<i>Jug Street & Clover Valley Road</i>	Eastbound	L/T	---/49'	---/32'
	Westbound	T/R	---/41'	---/19'
	Southbound	L/R	---/22'	---/49'
<i>Jug Street & Clover Valley Extension</i>	Westbound	R	41'/69'	18'/42'
<i>Mink Street & Green Chapel Road NW</i>	Eastbound	L/T	---/12'	---/51'
		R	---/5'	---/21'
	Westbound	L/T/R	---/22'	---/10'
	Northbound	L/T	---/30'	---/68'
		R	---/1'	---/6'
Southbound	L/T/R	---/93'	---/25'	
<i>Mink Street & Miller Road</i>	Westbound	L	24'/58'	6'/22'
		R	11'/38'	8'/32'
	Southbound	L	5'/22'	3'/19'

Table 10 (Cont.) – Phase 1 Study Area Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>Mink Street & Public Road 1</i>	Eastbound	L/R	---/2'	---/6'
	Northbound	L/T	---/55'	---/29'
		T	---/55'	---/30'
	Southbound	T	---/24'	---/64'
T/R		---/24'	---/63'	
<i>Jug Street & Mink Street</i>	Eastbound	L	6'/22'	38'/85'
		R	9'/33'	24'/60'
<i>Mink Street & Clover Valley Road Extension</i>	Northbound	L	10'/36'	8'/32'
	Eastbound	L	13'/40'	10'/36'
		L	45'/93'	34'/73'
	Northbound	T	18'/76'	9'/43'
		T	15'/54'	29'/98'
	Southbound	T/R	18'/66'	29'/98'
<i>Mink Street & Beaver Road NW</i>		Westbound	L	13'/44'
	R		14'/42'	9'/33'
	Northbound	T	24'/87'	9'/40'
		T/R	23'/89'	6'/35'
Southbound	L	7'/28'	4'/22'	
	T	6'/32'	16'/74'	

Table 11 – Phase 1 Site Access Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>Green Chapel Road NW & Access 1</i>	Eastbound	T	65'/124'	20'/50'
		T/R	95'/164'	29'/68'
	Westbound	L	10'/39'	6'/24'
		T	35'/73'	100'/149'
	Northbound	L	8'/30'	24'/60'
R		6'/26'	3'/18'	
<i>Green Chapel Road NW & Access 2</i>	Eastbound	T	---/27'	---/6'
		T/R	---/42'	---/6'
	Westbound	L/T	---/22'	---/15'
		T	---/11'	---/15'
	Northbound	L	---/9'	---/37'
R		---/7'	---/26'	
<i>Green Chapel Road NW & Access 3</i>	Eastbound	T	---/11'	---/16'
		T/R	---/19'	---/16'
	Westbound	L/T	---/25'	---/4'
		T	---/25'	---/4'
	Northbound	L	---/4'	---/22'
R		---/6'	---/1'	
<i>Mink Street & Access 4</i>	Eastbound	R	34'/62'	68'/110'
	Northbound	L	41'/80'	7'/27'
<i>Mink Street & Access 5</i>	Eastbound	L	10'/36'	9'/32'
		R	34'/67'	106'/185'
	Northbound	L	50'/97'	13'/41'
		T	16'/64'	8'/37'
	Southbound	T	37'/78'	75'/130'
T/R		44'/99'	65'/115'	
<i>Clover Valley Road & Access 8</i>	Westbound	L	55'/103'	121'/130'
		R	10'/44'	262'/491'
	Northbound	T	60'/138'	39'/94'
		R	37'/100'	13'/50'
	Southbound	L	8'/34'	7'/50'
T		34'/104'	226'/389'	

VII. Full Build Results

A. Recommended Control Types and Lane Configurations

Tables 12 and 13 below summarize the recommended lane configurations and intersection control types that were used in the following Full Build analysis for the overall study area intersections and the Intel site access intersections. Lane configurations were determined using the cross sections presented in **Table 3** as a starting point. Turn lanes were then added as necessary to achieve acceptable delay. Recommended lane configurations listed correspond with the control type recommended. The recommended control type and lane configurations listed were used in the Full Build analysis described in the next sub-sections. Note that alternative intersection designs/considerations are expected in the future at the US-62 intersections with Green Chapel Road NW and Beech Road NW. A forward slash indicates shared lane use.

Table 12 – Study Area Control Type Recommendations Summary

Intersection (Figure 2 Letter Reference)	Recommended Control Type	Recommended Lane Configuration	Intersection (Figure 2 Letter Reference)	Recommended Control Type	Recommended Lane Configuration
US-62 & Green Chapel Road NW (A)	Signal	WB: L, L, R NB: T, T, R SB: L, T, T	Jug Street & Harrison Road NW (L)	Roundabout	Single Lane Approaches and Circulating
US-62 & Beech Road NW (B)	Roundabout	2x1 Circulating Single Lane Approach NB EB: T, T/R WB: L/T, T	Clover Valley Road & Green Chapel Road NW (M)	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, R SB: L, T/R (Taper to 3-lane section west of intersection)
US-62 & Walnut Street (C)	Roundabout	2x1 Circulating Single Lane Approaches EB & WB NB & SB: L/T, T/R	Clover Valley Road & Miller Road NW/Access 9 (N)	Signal	EB: L, T/R WB: L, T/R NB: L, T, R SB: L, T/R
US-62 & Central College Road (D)	Signal	EB: L, T/R WB: L, L, T/R NB: L, T, T, R SB: L, T, T, R	Clover Valley Road & Public Road 1 (O)	Signal	EB: L, T/R WB: L, T/R NB: L, T/R SB: L, T/R
Beech Road NW & Miller Road NW (E)	Roundabout	Single Lane Approaches and Circulating	Jug Street & Clover Valley Road (P)	Roundabout	Single Lane Approaches and Circulating
Beech Road NW & Walnut Street (F)	Roundabout	Single Lane Approaches and Circulating	Jug Street & Clover Valley Extension (Q)	Westbound Stop-Control	WB: R NB: T/R SB: T
Jug Street & Beech Road NW (G)	Signal	EB: L, T, R WB: L, T/R NB: L, T, R SB: L, T/R	Mink Street & Green Chapel Road NW (R)	Roundabout	Single Circulating Lane EB: L/T, R WB: L/T/R NB: L/T, R SB: L/T/R
Beech Road NW & Smith's Mill Road N (H)	Signal	WB: L, R NB: T, T, R SB: L, T, T	Mink Street & Miller Road (S)	Westbound Stop-Control	WB: L, R NB: T, T/R SB: L, T, T
Beech Road NW & Innovation Campus Way (I)	Signal	EB: L/T/R WB: L/T/R NB: L, T, T/R SB: L, T, T/R	Mink Street & Public Road 1 (T)	Roundabout	2x1 Circulating EB: L/R NB: L/T, T SB: T, T/R
Beech Road NW & Smith's Mill Road (J)	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, T/R SB: L, T, T/R	Jug Street & Mink Street (U)	Eastbound Stop-Control	EB: L/R NB: L, T, T SB: T, T/R
Jug Street & Horizon Court (K)	Southbound Stop-Control	EB: L, T WB: T/R SB: L, R	Mink Street & Clover Valley Road Extension (V)	Signal	EB: L, R NB: L, T, T SB: T, T/R
			Mink Street & Beaver Road NW (W)	Signal	WB: L, R NB: T, T/R SB: L, T, T

Table 13 – Site Access Control Type Recommendations Summary (see Figure 3 for location reference)

Intersection	Recommended Control Type	Recommended Lane Configuration	Intersection	Recommended Control Type	Recommended Lane Configuration
Green Chapel Road NW & Access 1	Signal	EB: T, T/R WB: L, T, T NB: L, R	Mink Street & Access 5	Signal	EB: L, R NB: L, T, T SB: T, T/R
Green Chapel Road NW & Access 2	Roundabout	2x1 Circulating EB: T, T/R WB: L/T, T NB: L, R	Mink Street & Access 6	Signal	EB: L, R NB: L, T, T SB: T, T/R
Green Chapel Road NW & Access 3	Roundabout	2x1 Circulating EB: T, T/R WB: L/T, T NB: L, R	Public Road 1 & Access 7	Southbound Stop-Control	EB: L, T WB: T/R SB: L, R
Mink Street & Access 4	Eastbound Stop-Control	EB: R NB: L, T, T SB: T, T/R	Clover Valley Road & Access 8	Signal	WB: L, R NB: T, R SB: L, T

B. Turn Lane Analysis

Results of the turn lane warrant analysis for Full Build is summarized in **Table 14**. Results of the turn lane length analysis for Full Build is summarized in **Table 15**. Calculated turn lane lengths are inclusive of a 50' diverging taper and include storage space plus deceleration space for higher speed roadways. Turn lane lengths for approaches to roundabouts were calculated based on queuing outputs per the ODOT L&D Manual. Recommendations for turn lane lengths consider through volume queues.

Table 14 – Full Build Turn Lane Warrant Calculations

Intersection	Movement	Turn Lane Warrant Result & Length Calculated	Recommended Length Used in Analysis
Jug Street & Horizon Court	Eastbound Left	Warrant Met – 150'	150'
	Westbound Right	Warrant Not Met	None
Jug Street & Clover Valley Extension	Northbound Right	Warrant Not Met	None
Mink Street & Miller Road	Northbound Right	Warrant Not Met	None
	Southbound Left	Warrant Not Met	175'
Jug Street & Mink Street	Eastbound Left	150'	150'
	Eastbound Right	100'	100'
	Northbound Left	Warrant Met – 175'	175'
	Southbound Right	Warrant Met – 225'	None
Mink Street & Access 4	Northbound Left	Warrant Met – 225'	225'
	Southbound Right	Warrant Met – 225'	None
Public Road 1 & Access 7	Eastbound Left	Warrant Met – 450'	450'
	Westbound Right	Warrant Met – 225'	None

Table 15 – Full Build Turn Lane Length Calculations

Intersection	Movement	Turn Lane Length Calculated	Recommended Length Used in Analysis
US-62 & Green Chapel Road NW	Westbound Left	515'/565'	515'/565'
	Westbound Right	675'	675'
	Northbound Right	725'	725'
	Southbound Left	650'	650'
US-62 & Central College Road	Eastbound Left	325'	325'
	Westbound Dual Lefts	515'/565'	515'/565'
	Northbound Left	275'	275'
	Northbound Right	650'	650'
	Southbound Left	285'	285'
Jug Street & Beech Road NW	Southbound Right	440'	440'
	Eastbound Left	200'	200'
	Eastbound Right	150'	150'
	Westbound Lefts	590'	590'
	Northbound Left	225'	225'
	Northbound Right	625'	Drop Right ⁵
Beech Road NW & Smith's Mill Road N	Southbound Left	300'	300'
	Westbound Left	200'	575'
	Westbound Right	150'	575'
	Northbound Right	300'	320'
Beech Road NW & Innovation Campus Way	Southbound Left	275'	290'
	Northbound Left	175'	175'
Beech Road NW & Smith's Mill Road	Southbound Left	175'	290'
	Eastbound Left	100'	135'
	Eastbound Right	400'	400'
	Westbound Left	225'	265'
	Northbound Left	775'	400'
Jug Street & Horizon Court	Southbound Left	175'	285'
	Southbound Right	100'	100'
Clover Valley Road & Green Chapel Road NW	Southbound Left	150'	150'
	Eastbound Left	175'	175'
	Westbound Left	750'	750'
	Northbound Left	550'	550'
	Northbound Right	575'	575'
Clover Valley Road & Miller Road NW/Access 9	Southbound Left	200'	200'
	Eastbound Left	500'	500'
	Westbound Left	200'	200'
	Northbound Left	225'	225'
	Northbound Right	250'	250'
Clover Valley Road & Public Road 1	Southbound Left	250'	250'
	Eastbound Left	100'	100'
	Westbound Left	250'	250'
	Northbound Left	100'	100'
Mink Street & Miller Road	Southbound Left	100'	100'
	Westbound Left	100'	100'
Mink Street & Clover Valley Road Extension	Westbound Right	100'	100'
	Eastbound Left	100'	100'
	Eastbound Right	1145'	None
Mink Street & Beaver Road NW	Northbound Left	1100'	1000'
	Westbound Left	100'	100'
	Westbound Right	100'	100'
Green Chapel Road NW & Access 1	Southbound Left	175'	175'
	Westbound Left	175'	175'
	Northbound Left	150'	150'
Green Chapel Road NW & Access 2	Northbound Right	100'	100'
	Northbound Left	-	175'
			50'

⁵ Based on planned 5-lane section along Beech Road south of Jug Street.

Table 15 (Cont.) – Full Build Turn Lane Length Calculations

Intersection	Movement	Turn Lane Length Calculated	Recommended Length Used in Analysis
Green Chapel Road NW & Access 3	Northbound Left	-	100'
	Northbound Right	-	50'
Mink Street & Access 5	Eastbound Left	200'	200'
	Eastbound Right	225'	225'
	Northbound Left	325'	325'
Mink Street & Access 6	Eastbound Left	150'	150'
	Eastbound Right	375'	375'
	Northbound Left	400'	400'
Public Road 1 & Access 7	Southbound Left	500'	500'
	Southbound Right	250'	250'
Clover Valley Road & Access 8	Westbound Left	100'	100'
	Westbound Right	100'	100'
	Northbound Right	100'	100'
	Southbound Left	150'	150'

The Full Build turn lane analysis can be found in the **Technical Support Appendix**.

C. Capacity Analysis

Results of the capacity analysis for the Full Build analysis can be seen in **Tables 16** and **17**. The total delay for stop-controlled intersections is represented by the worst approach LOS. Red text signifies an approach and/or movement delay that exceeds acceptable LOS standards. A 10% heavy vehicle factor was assumed for all movements/intersections. Lane configurations were determined by the planned number of lanes for each roadway and necessary turn lanes for capacity.

Lane configurations and control types used in the analysis are summarized in **Tables 12** and **13**. Full Build capacity analysis can be found in the **Technical Support Appendix**.

Table 16 – Full Build Study Area Capacity Analysis Summary (LOS/delay in seconds)

Intersection	Approach	AM Peak	PM Peak
US-62 & Green Chapel Road NW	Westbound	C/27.3	D/50.1
	Northbound	C/30.7	C/25.2
	Southbound	B/12.2	B/14.6
	Total	C/20.6	C/34.0
US-62 & Beech Road NW	Eastbound	A/4.4	A/4.1
	Westbound	A/4.7	A/4.5
	Northbound	A/7.1	B/10.4
	Total	A/4.7	A/5.1
US-62 & Walnut Street	Eastbound	A/8.2	B/11.5
	Westbound	A/9.8	B/12.1
	Northbound	A/3.8	A/3.7
	Southbound	A/3.7	A/5.3
	Total	A/4.4	A/5.6
US-62 & Central College Road	Eastbound	D/44.0	D/54.6
	Westbound	D/39.5	D/53.8
	Northbound	C/22.7	C/31.5
	Southbound	B/19.9	D/46.4
	Total	C/26.0	D/43.7
Beech Road NW & Miller Road NW	Westbound	A/8.6	B/12.1
	Northbound	A/3.5	A/3.6
	Southbound	A/5.8	A/9.3
	Total	A/5.2	A/8.8

Table 16 (Cont.) – Full Build Study Area Capacity Analysis Summary (LOS/delay in seconds)

Intersection	Approach	AM Peak	PM Peak
<i>Beech Road NW & Walnut Street</i>	Eastbound	B/11.1	B/11.7
	Northbound	A/3.7	A/3.2
	Southbound	A/2.9	A/3.0
	Total	A/4.3	A/3.3
<i>Jug Street & Beech Road NW</i>	Eastbound	D/54.4	D/42.4
	Westbound	D/31.2	D/52.2
	Northbound	D/49.0	B/18.3
	Southbound	C/27.0	D/50.6
	Total	D/43.3	D/45.2
<i>Beech Road NW & Smith's Mill Road N</i>	Westbound	D/54.9	D/45.2
	Northbound	A/2.8	A/2.8
	Southbound	A/0.5	A/0.1
	Total	A/3.3	A/4.4
<i>Beech Road NW & Innovation Campus Way</i>	Eastbound	D/49.6	C/34.4
	Westbound	E/55.5	D/42.1
	Northbound	A/5.7	A/5.8
	Southbound	A/3.4	A/9.4
	Total	A/8.9	B/12.5
<i>Beech Road NW & Smith's Mill Road</i>	Eastbound	D/46.7	D/52.8
	Westbound	D/52.2	C/32.7
	Northbound	A/8.3	B/12.4
	Southbound	B/10.8	C/26.9
	Total	B/10.3	C/28.7
<i>Jug Street & Horizon Court</i>	Eastbound	A/0.8	A/1.1
	Westbound	A/0.0	A/0.0
	Southbound	C/18.3	D/29.0
	Total	C/18.3	D/29.0
<i>Jug Street & Harrison Road NW</i>	Eastbound	A/7.3	A/4.6
	Westbound	A/7.0	A/3.6
	Northbound	B/13.8	A/7.4
	Southbound	A/5.6	A/8.5
	Total	A/7.2	A/5.9
<i>Clover Valley Road & Green Chapel Road NW</i>	Eastbound	E/65.5	F/88.8
	Westbound	D/40.1	E/55.9
	Northbound	E/63.9	D/40.1
	Southbound	C/34.7	D/42.0
	Total	E/58.4	E/58.8
<i>Clover Valley Road & Miller Road NW/Access 9</i>	Eastbound	D/41.0	D/35.4
	Westbound	D/37.3	D/39.2
	Northbound	C/21.4	B/11.5
	Southbound	C/21.8	C/21.8
	Total	C/28.3	C/23.2
<i>Clover Valley Road & Public Road 1</i>	Eastbound	D/36.4	C/23.8
	Westbound	C/25.5	C/34.0
	Northbound	C/28.9	B/19.0
	Southbound	B/15.1	C/30.0
	Total	C/28.0	C/28.6
<i>Jug Street & Clover Valley Road</i>	Eastbound	A/7.8	B/17.1
	Westbound	A/6.6	A/3.4
	Southbound	B/11.5	B/13.0
	Total	A/7.9	B/10.9
<i>Jug Street & Clover Valley Extension</i>	Westbound	C/23.5	B/13.0
	Northbound	A/0.0	A/0.0
	Southbound	A/0.0	A/0.0
	Total	C/23.5	B/13.0

Table 16 (Cont.) – Full Build Study Area Capacity Analysis Summary (LOS/delay in seconds)

Intersection	Approach	AM Peak	PM Peak
<i>Mink Street & Green Chapel Road NW</i>	Eastbound	A/9.2	A/8.0
	Westbound	A/8.1	B/14.8
	Northbound	A/7.2	A/7.7
	Southbound	A/9.6	A/3.7
	Total	A/8.7	A/7.4
<i>Mink Street & Miller Road</i>	Westbound	C/21.8	C/17.3
	Northbound	A/0.0	A/0.0
	Southbound	A/0.2	A/0.1
	Total	C/21.8	C/17.3
<i>Mink Street & Public Road 1</i>	Eastbound	A/6.4	A/9.5
	Northbound	A/4.6	A/3.4
	Southbound	A/4.1	A/3.0
	Total	A/4.6	A/4.2
<i>Jug Street & Mink Street</i>	Eastbound	C/21.4	F/126.9
	Northbound	A/0.2	A/0.4
	Southbound	A/0.0	A/0.0
	Total	C/21.4	F/126.9
<i>Mink Street & Clover Valley Road Extension</i>	Eastbound	E/60.5	E/60.5
	Northbound	B/13.0	B/17.6
	Southbound	C/26.5	B/17.7
	Total	B/15.9	B/17.8
<i>Mink Street & Beaver Road NW</i>	Westbound	D/40.4	E/56.4
	Northbound	B/10.1	A/2.5
	Southbound	A/3.0	A/5.3
	Total	A/8.3	A/4.8

Note, additional improvements will be evaluated at the Clover Valley & Green Chapel Road NW intersection in the future. A five-lane section is being considered along Green Chapel Road between US-62 and Clover Valley Road. Additionally, delays shown at the Jug Street & Mink Street intersection are expected to be reduced as the stretch of Jug Street here will be residential traffic only and diversion of Intel traffic is expected along the Clover Valley extension.

Table 17 – Full Build Site Access Capacity Analysis Summary (LOS/delay in seconds)

Intersection	Approach	AM Peak	PM Peak
Green Chapel Road NW & Access 1	Eastbound	C/21.4	A/9.1
	Westbound	A/7.3	B/12.2
	Northbound	C/22.7	C/22.0
	Total	B/17.5	B/12.0
Green Chapel Road NW & Access 2	Eastbound	A/4.3	A/3.0
	Westbound	A/6.0	B/17.9
	Northbound	B/12.0	B/12.6
	Total	A/5.6	B/12.5
Green Chapel Road NW & Access 3	Eastbound	A/4.0	A/3.0
	Westbound	A/5.4	A/6.3
	Northbound	A/9.3	B/11.6
	Total	A/5.2	A/7.5
Mink Street & Access 4	Eastbound	B/10.5	B/10.9
	Northbound	A/1.9	A/0.1
	Southbound	A/0.0	A/0.0
	Total	B/10.5	B/10.9
Mink Street & Access 5	Eastbound	C/29.2	C/32.7
	Northbound	A/3.5	A/4.5
	Southbound	A/8.7	A/8.6
	Total	A/7.0	B/11.4
Mink Street & Access 6	Eastbound	C/28.1	D/50.9
	Northbound	A/4.3	A/6.9
	Southbound	A/9.9	B/13.2
	Total	A/7.7	B/19.8
Public Road 1 & Access 7	Eastbound	B/11.2	A/4.6
	Westbound	A/0.0	A/0.0
	Southbound	F/90.1	C/16.4
	Total	F/90.1	C/16.4
Clover Valley Road & Access 8	Westbound	C/34.9	C/33.5
	Northbound	A/3.6	A/4.8
	Southbound	A/2.6	A/5.9
	Total	A/4.2	A/8.2

As seen above, the Public Road 1 & Access 7 shows an LOS F in the AM Peak. The southern portion of the Intel site does not currently have a set access plan established. This would allow for variation of this access to another control type, a change in lane configuration, or the possibility of additional access points on Public Road 1 to reduce traffic volumes at this access and improve LOS/delay.

Based on the above support, all intersections are considered to have acceptable capacity with the lane configurations recommended in **Tables 12** and **13**.

D. Queuing Analysis

Results of the queuing analysis for the study intersections can be seen in **Table 18** and **19**. The Full Build queuing analysis can be found in **Technical Support Appendix**. Note, Sidra queuing outputs only provide 95th percentile queue lengths. Average queue and 95th percentile queue are provided for each movement.

Table 18 – Full Build Study Area Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>US-62 & Green Chapel Road NW</i>	Westbound	L	52'/103'	142'/219'
		R	32'/77'	159'/273'
	Northbound	T	114'/290'	226'/348'
		R	340'/594'	45'/106'
	Southbound	L	419'/722'	57'/107'
		T	319'/964'	84'/152'
<i>US-62 & Beech Road NW</i>	Eastbound	T	---/66'	---/69'
		T/R	---/68'	---/73'
	Westbound	L/T	---/78'	---/115'
		T	---/80'	---/119'
	Northbound	L/R	---/32'	---/91'
	<i>US-62 & Walnut Street</i>	Eastbound	L/T/R	---/38'
Westbound		L/T/R	---/20'	---/64'
Northbound		L/T	---/74'	---/84'
		T/R	---/77'	---/86'
Southbound		L/T	---/79'	---/120'
		T/R	---/81'	---/122'
<i>US-62 & Central College Road</i>	Eastbound	L	98'/164'	63'/114'
		T/R	106'/178'	122'/213'
	Westbound	L	115'/182'	289'/405'
		T/R	102'/183'	92'/177'
	Northbound	L/T	28'/60'	61'/152'
		T	159'/248'	236'/356'
	Southbound	R	97'/188'	15'/46'
		L/T	43'/83'	20'/95'
		T	140'/229'	233'/351'
		R	23'/59'	30'/69'
<i>Beech Road NW & Miller Road NW</i>	Westbound	L/R	---/39'	---/125'
	Northbound	T/R	---/111'	---/63'
	Southbound	L/T	---/33'	---/92'
<i>Beech Road NW & Walnut Street</i>	Eastbound	L/R	---/15'	---/6'
	Northbound	L/T	---/88'	---/46'
	Southbound	T/R	---/37'	---/104'
<i>Jug Street & Beech Road NW</i>	Eastbound	L	93'/239'	39'/95'
		T	452'/759'	114'/200'
		R	31'/125'	41'/109'
	Westbound	L	87'/162'	234'/369'
		T/R	126'/221'	265'/411'
	Northbound	L	108'/282'	33'/99'
		T	640'/1164'	161'/265'
		R	339'/765'	25'/66'
	Southbound	L	59'/122'	119'/303'
		T/R	133'/250'	315'/540'

Table 18 (Cont.) – Full Build Study Area Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>Beech Road NW & Smith's Mill Road N</i>	Westbound	L	21'/62'	56'/115'
		R	7'/24'	18'/42'
	Northbound	T	18'/71'	27'/76'
		R	6'/27'	2'/14'
	Southbound	L	54'/111'	3'/17'
		T	2'/14'	82'/144'
<i>Beech Road NW & Innovation Campus Way</i>	Eastbound	L/T/R	23'/61'	23'/57'
	Westbound	L/T/R	94'/181'	126'/218'
	Northbound	L	11'/63'	6'/24'
		T	147'/159'	17'/48'
	Southbound	T/R	155'/274'	19'/58'
		L	13'/38'	5'/23'
		T	14'/44'	104'/182'
		T/R	22'/59'	111'/184'
<i>Beech Road NW & Smith's Mill Road</i>	Eastbound	L	9'/33'	13'/43'
		T	11'/38'	13'/39'
		R	9'/35'	143'/244'
	Westbound	L	22'/55'	92'/163'
		T	21'/54'	21'/58'
	Northbound	T/R	18'/51'	15'/47'
		L	146'/270'	12'/37'
		T	64'/148'	32'/73'
	Southbound	T/R	85'/172'	34'/80'
		L	8'/31'	4'/21'
		T	57'/126'	162'/279'
T/R		69'/141'	171'/285'	
<i>Jug Street & Horizon Court</i>	Eastbound	L	34'/99'	22'/56'
	Southbound	L	8'/31'	17'/47'
		R	30'/59'	46'/77'
<i>Jug Street & Harrison Road NW</i>	Eastbound	L/T/R	---/189'	---/56'
	Westbound	L/T/R	---/85'	---/57'
	Northbound	L/T/R	---/10'	---/4'
	Southbound	L/T/R	---/31'	---/167'
<i>Clover Valley Road & Green Chapel Road NW</i>	Eastbound	L	14'/86'	8'/33'
		T	263'/368'	100'/174'
		R	311'/421'	185'/317'
	Westbound	L	140'/246'	186'/294'
		T	62'/121'	172'/263'
		T/R	34'/79'	125'/225'
	Northbound	L	120'/209'	257'/433'
		T	11'/43'	9'/35'
		R	144'/245'	39'/77'
	Southbound	L	44'/93'	7'/28'
T/R		16'/48'	19'/54'	

Table 18 (Cont.) – Full Build Study Area Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>Clover Valley Road & Miller Road NW/Access 9</i>	Eastbound	L	239'/384'	89'/161'
		T/R	31'/71'	63'/112'
	Westbound	L	19'/54'	73'/135'
		T/R	17'/47'	37'/86'
	Northbound	L	90'/171'	41'/93'
		T	75'/170'	89'/203'
		R	43'/83'	5'/27'
	Southbound	L	90'/171'	8'/51'
T/R		120'/228'	156'/291'	
<i>Clover Valley Road & Public Road 1</i>	Eastbound	L	12'/60'	31'/76'
		T/R	218'/326'	53'/105'
	Westbound	L	38'/85'	144'/283'
		T/R	77'/134'	272'/467'
	Northbound	L	28'/92'	13'/53'
		T/R	226'/338'	149'/275'
	Southbound	L	10'/44'	7'/41'
		T/R	95'/189'	294'/731'
<i>Jug Street & Clover Valley Road</i>	Eastbound	L/T	---/75'	---/259'
	Westbound	T/R	---/339'	---/113'
	Southbound	L/R	---/75'	---/285'
<i>Jug Street & Clover Valley Extension</i>	Westbound	R	85'/203'	49'/654'
<i>Mink Street & Green Chapel Road NW</i>	Eastbound	L/T	---/40'	---/72'
		R	---/27'	---/26'
	Westbound	L/T/R	---/10'	---/38'
		L/T	---/45'	---/156'
	Northbound	R	---/2	---/14'
		L/T/R	---/257'	---/44'
<i>Mink Street & Miller Road</i>	Westbound	L	26'/56'	6'/25'
		R	11'/35'	9'/34'
Southbound	L	3'/19'	3'/19'	
<i>Mink Street & Public Road 1</i>	Eastbound	L/R	---/10'	---/66'
		L/T	---/33'	---/34'
	Northbound	T	---/35'	---/35'
		T	---/76'	---/62'
		T/R	---/77'	---/62'
<i>Jug Street & Mink Street</i>	Eastbound	L	7'/26'	49'/114'
		R	7'/28'	29'/71'
	Northbound	L	12'/38	10'/35'
<i>Mink Street & Clover Valley Road Extension</i>	Eastbound	L	13'/42'	13'/63'
		R	3'/38'	1357'/2104' ⁶
	Northbound	L	258'/504'	241'/402'
		T	22'/131'	10'/47'
	Southbound	T	124'/235'	214'/376'
		T/R	119'/231'	170'/365'
<i>Mink Street & Beaver Road NW</i>	Westbound	L	10'/32'	8'/31'
		R	18'/55'	11'/39'
	Northbound	T	74'/213'	23'/88'
		T/R	51'/161'	11'/52'
	Southbound	L	8'/29'	6'/28'
		T	26'/96'	36'/129'

⁶ Additional eastbound right turn lane to be considered in design.

Table 19 – Full Build Site Access Queuing Analysis Results for Recommended Lane Configurations

Intersection	Approach	Movement	AM Peak	PM Peak
<i>Green Chapel Road NW & Access 1</i>	Eastbound	T	124'/234'	42'/97'
		T/R	165'/271'	60'/119'
	Westbound	L	9'/34'	6'/26'
		T	61'/106'	122'/182'
	Northbound	L	13'/46'	40'/84'
		R	8'/34'	6'/28'
<i>Green Chapel Road NW & Access 2</i>	Eastbound	T	---/115'	---/27'
		T/R	---/119'	---/28'
	Westbound	L/T	---/38'	---/203'
		T	---/39'	---/230'
	Northbound	L	---/29'	---/172'
		R	---/9'	---/32'
<i>Green Chapel Road NW & Access 3</i>	Eastbound	T	---/24'	---/36'
		T/R	---/62'	---/37'
	Westbound	L/T	---/38'	---/21'
		T	---/39'	---/22'
	Northbound	L	---/12'	---/87'
		R	---/5'	---/29'
<i>Mink Street & Access 4</i>	Eastbound	R	20'/51'	41'/62'
	Northbound	L	27'/60'	3'/17'
<i>Mink Street & Access 5</i>	Eastbound	L	18'/49'	72'/132'
		R	24'/56'	54'/95'
	Northbound	L	40'/82'	9'/35'
		T	15'/56'	45'/94'
	Southbound	T	37'/78'	54'/106'
		T/R	39'/86'	53'/102'
<i>Mink Street & Access 6</i>	Eastbound	L	15'/45'	51'/98'
		R	30'/61'	93'/158'
	Northbound	L	49'/92'	13'/40'
		T	15'/55'	42'/91'
	Southbound	T	46'/95'	70'/136'
		T/R	56'/119'	65'/129'
<i>Public Road 1 & Access 7</i>	Eastbound	L	109'/205'	5'/28'
	Southbound	L	48'/97'	79'/193'
		R	44'/66'	136'/236'
<i>Clover Valley Road & Access 8</i>	Westbound	L	12'/39'	45'/89'
		R	8'/29'	21'/59'
	Northbound	T	38'/133'	75'/209'
		R	3'/29'	3'/23'
	Southbound	L	4'/20'	5'/33'
		T	18'/71'	107'/289'

VIII. Recommendations and Conclusions

The final, recommended intersection control and lane configurations can be seen in **Tables 20** and **21** below. A forward slash indicates shared lane use. The analysis herein should be referenced going forward as the Intel and surrounding area developments continue to be constructed. It should again be noted that all analysis herein will continue to be evaluated as various projects continue to develop and change.

Table 20 – Study Area Control Type Recommendations Summary

Intersection	Phase 1		Full Build	
	Control Type	Lane Configuration	Control Type	Lane Configuration
<i>US-62 & Green Chapel Road NW</i>	Signal	WB: L/R NB: T/R SB: L, T	Roundabout	2 Circulating Lanes WB: L, L, Slip R NB: T, T/R SB: L/T, T
<i>US-62 & Beech Road NW</i>	Northbound Stop-Control	EB: T/R WB: L, T NB: L/R	Signal	2x1 Circulating NB: L/T/R EB: T, T/R WB: L/T, T
<i>US-62 & Walnut Street</i>	Westbound Stop-Control	EB: L/T/R WB: L/T/R NB: L/T/R SB: L/T/R	Roundabout	2x1 Circulating EB and WB: L/T/R NB and SB: L/T, T/R
<i>US-62 & Central College Road</i>	Signal	EB: L, T/R WB: L, T/R NB: L, T, R SB: L, T/R	Signal	EB: L, T/R WB: L, L, T/R NB: L, T, T, R SB: L, T, T, R
<i>Beech Road NW & Miller Road NW</i>	Roundabout	Single Lane Approaches and Circulating	Roundabout	Single Lane Approaches and Circulating
<i>Beech Road NW & Walnut Street</i>	N/A		Roundabout	Single Lane Approaches and Circulating
<i>Jug Street & Beech Road NW</i>	Signal	EB: L, T, R WB: L, T/R NB: L, T, R SB: L, T/R	Signal	EB: L, T, R WB: L, T/R NB: L, T, R SB: L, T/R
<i>Beech Road NW & Smith's Mill Road N</i>	Signal	WB: L, R NB: T, T, R SB: L, T, T	Signal	WB: L, R NB: T, T, R SB: L, T, T
<i>Beech Road NW & Innovation Campus Way</i>	Signal	EB: L/T/R WB: L/T/R NB: L, T, T/R SB: L, T, T/R	Signal	EB: L/T/R WB: L/T/R NB: L, T, T/R SB: L, T, T/R
<i>Beech Road NW & Smith's Mill Road</i>	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, T/R SB: L, T, T/R	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, T/R SB: L, T, T/R
<i>Jug Street & Horizon Court</i>	Southbound Stop-Control	EB: L, T WB: T/R SB: L, R	Southbound Stop-Control	EB: L, T WB: T/R SB: L, R
<i>Jug Street & Harrison Road NW</i>	Roundabout	Single Lane Approaches and Circulating	Roundabout	Single Lane Approaches and Circulating
<i>Clover Valley Road & Green Chapel Road NW</i>	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, R SB: L, T/R (Taper to 3-lane section west of intersection)	Signal	EB: L, T, T, R WB: L, T, T/R NB: L, T, R SB: L, T/R (Taper to 3-lane section west of intersection)
<i>Clover Valley Road & Miller Road NW/Access 9</i>	Signal	EB: L, T/R WB: L, T/R NB: L, T, R SB: L, T/R	Signal	EB: L, T/R WB: L, T/R NB: L, T, R SB: L, T/R
<i>Clover Valley Road & Public Road 1</i>	Signal	EB: L, T/R WB: L, T/R NB: L, T/R SB: L, T, Slip R	Signal	EB: L, T/R WB: L, T/R NB: L, T/R SB: L, T/R
<i>Jug Street & Clover Valley Road</i>	Roundabout	Single Lane Approaches and Circulating	Roundabout	Single Lane Approaches and Circulating
<i>Jug Street & Clover Valley Extension</i>	Westbound Stop-Control	WB: R NB: T/R SB: T	Westbound Stop-Control	WB: R NB: T/R SB: T
<i>Mink Street & Green Chapel Road NW</i>	Roundabout	Single Circulating Lane EB: L/T, R WB: L/T/R NB: L/T, R SB: L/T/R	Roundabout	Single Circulating Lane EB: L/T, R WB: L/T/R NB: L/T, R SB: L/T/R
<i>Mink Street & Miller Road</i>	Westbound Stop-Control	WB: L, R NB: T, T/R SB: L, T, T	Westbound Stop-Control	WB: L, R NB: T, T/R SB: L, T, T
<i>Mink Street & Public Road 1</i>	Roundabout	2x1 Circulating EB: L/R NB: L/T, T SB: T, T/R	Roundabout	2x1 Circulating EB: L/R NB: L/T, T SB: T, T/R
<i>Jug Street & Mink Street</i>	Eastbound Stop-Control	EB: L, R NB: L, T, T SB: T, T/R	Eastbound Stop-Control	EB: L/R NB: L, T, T SB: T, T/R
<i>Mink Street & Clover Valley Road Extension</i>	Signal	EB: L, R NB: L, T, T SB: T, T/R	Signal	EB: L, R NB: L, T, T SB: T, T/R
<i>Mink Street & Beaver Road NW</i>	Signal	WB: L, R NB: T, T/R SB: L, T, T	Signal	WB: L, R NB: T, T/R SB: L, T, T

Table 21 – Site Access Control Type Recommendations Summary

Intersection	Phase 1		Full Build	
	Control Type	Lane Configuration	Control Type	Lane Configuration
<i>Green Chapel Road NW & Access 1</i>	Signal	EB: T, T/R WB: L, T, T NB: L, R	Signal	EB: T, T/R WB: L, T, T NB: L, R
<i>Green Chapel Road NW & Access 2</i>	Roundabout	2x1 Circulating EB: T, T/R WB: L/T, T NB: L, R	Roundabout	2x1 Circulating EB: T, T/R WB: L/T, T NB: L, R
<i>Green Chapel Road NW & Access 3</i>	Roundabout	2 x 1 EB: T, T/R WB: L/T, T NB: L, R	Roundabout	2 x 1 EB: T, T/R WB: L/T, T NB: L, R
<i>Mink Street & Access 4</i>	Eastbound Stop-Control	EB: R NB: L, T, T SB: T, T/R	Eastbound Stop-Control	EB: R NB: L, T, T SB: T, T/R
<i>Mink Street & Access 5</i>	Signal	EB: L, R NB: L, T, T SB: T, T/R	Signal	EB: L, R NB: L, T, T SB: T, T/R
<i>Mink Street & Access 6</i>	N/A		Signal	EB: L, R NB: L, T, T SB: T, T/R
<i>Public Road 1 & Access 7</i>	N/A		Southbound Stop-Control	EB: L, T WB: T/R SB: L, R
<i>Clover Valley Road & Access 8</i>	Signal	WB: L, R NB: T, R SB: L, T	Signal	WB: L, R NB: T, R SB: L, T

IX. Appendices

Appendix

- Land Use Map & Future Development Breakdown
- Count Data, StreetLight Data, and Model Outputs
- Distributions and Volume Calculations

Technical Support Appendix (can be provided upon request)

- Trip Generation Outputs
- Turn Lane Analysis
- Capacity Analysis
- Queuing Analysis

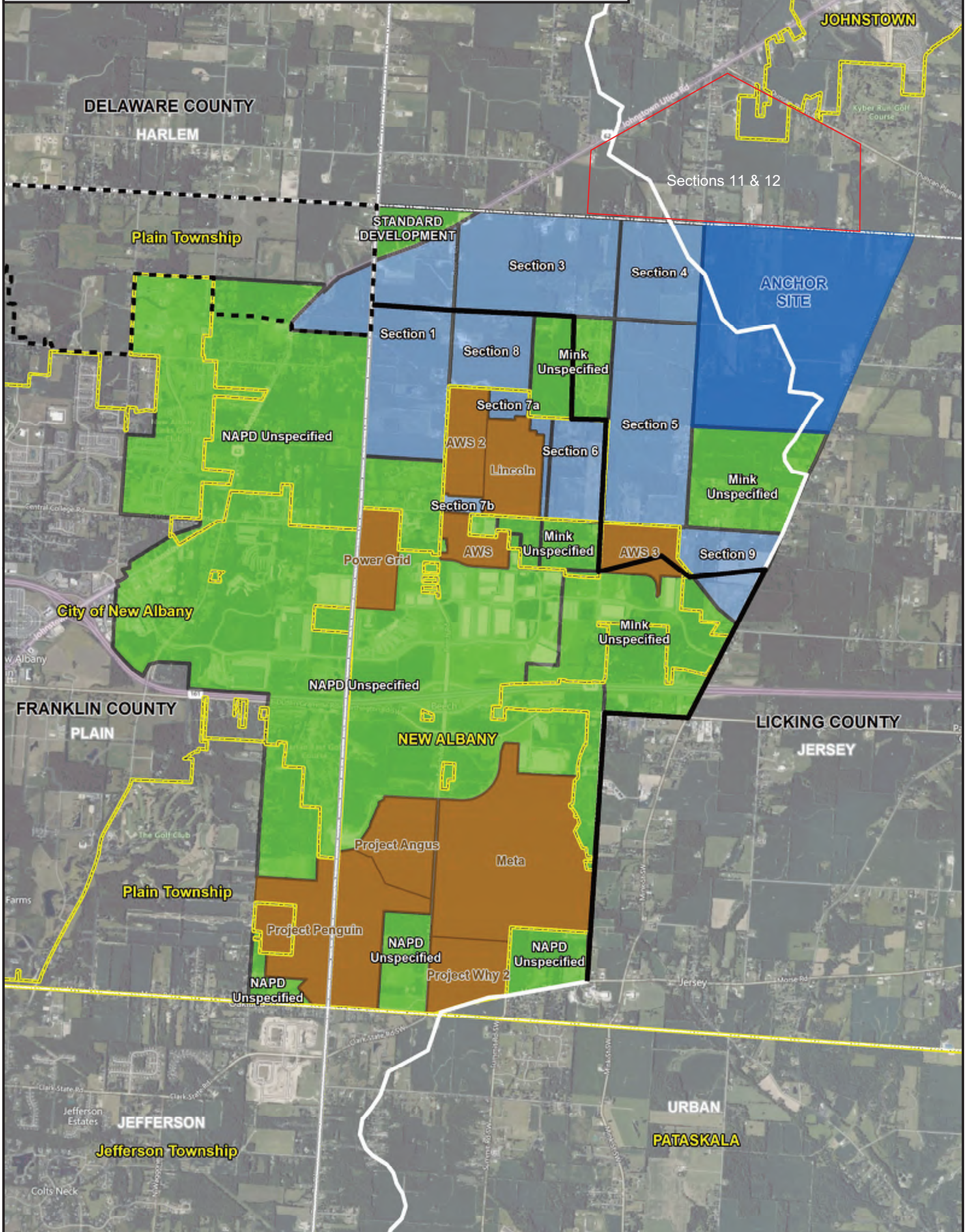
Appendix



Land Use Map and Future Development Breakdown

LEGEND FOR TRAFFIC REPORT

- Expansion Area Boundary
- Regional Facilities Planning Area
- Columbus Exclusive Expansion Area
- Township Boundary
- Municipal Boundary
- County Boundary
- Anchor Site
- Industrial/Warehousing/Data Center
- Standard Development



Date:	March, 2022
Scale:	Not To Scale
Job No.:	2021-1151

CITY OF NEW ALBANY, FRANKLIN & LICKING COUNTIES, OHIO

LAND USE MAP



RE: Intel Background Development Trip Generation Summary

Date: March 23, 2022

Below is a summary of the background development trips surrounding the Dragonfly development. All of the sections described below refer to the attached land use map.

Section #1

- Approximately 450 acres of industrial/data centers
- 60% industrial, 40% data centers
- Expected to be developed after Dragonfly Phase 1
- LUC 150 – Warehousing: 2.7 million SF
- LUC 160 – Data Center: 1.8 million SF

Standard Development (Section #2)

- Mixed-use retail development
- Approx. 100 acres developed
- Expected to be developed after Dragonfly Phase 1
- LUC 820 – Shopping Center: 500k SF

Sections #3 & #4

- Dragonfly suppliers and supporting developments
- Expected to be developed after Dragonfly Phase 1
- LUC 150 – Warehousing: 3.75 million SF

Section #5

- Dragonfly suppliers
- Expected to be developed before/with Dragonfly Phase 1
- LUC 150 – Warehousing: 1.5 million SF

Section #6

- Lincoln Property Company (LPC) Phase 2
- 700k SF Industrial, 500k SF, data center
- Expected to be developed after Dragonfly Phase 1
- LUC 150 – Warehousing: 700k SF
- LUC 160 – Data Center: 500k SF

Section 7

- Amazon Warehouse Services and LPC Phase 1
- Before Dragonfly Phase 1 = 350k SF data center, 500k SF industrial
- LUC 160 – Data Center: 350k SF
- LUC 150 – Warehousing: 500k SF
- After Dragonfly Phase 1 = 1.05 million SF data center, 1 million SF industrial
- LUC 160 – Data Center: 1.05 million SF
- LUC 150 – Warehousing: 1 million SF

Section #8

- Approx. 200 acres of industrial/data center
- Expected to be developed after Dragonfly Phase 1
- LUC 150 – Warehousing: 1.2 million SF
- LUC 160 – Data Center: 800k SF

Section #9

- Industrial Development
- Expected to be developed after Dragonfly Phase 1
- LUC 150 – Warehousing: 1.5 million SF

Section #11 & #12

- Approx. 400 acres of industrial
- Expected to be developed after Dragonfly Phase 1
- LUC 150 – Warehousing: 4 million SF

Mink Unspecified

- Miscellaneous industrial developments approved and/or under construction
- Vantrust, Skimmel, Hims, Axiom, Animatic, Ailean Candles, AWS
- LUC 150 – Warehousing: 1.9 million SF
- LUC 160 – Data Center: 1 million SF



APPENDIX D: TRIP GENERATION BY TAZ TABLES

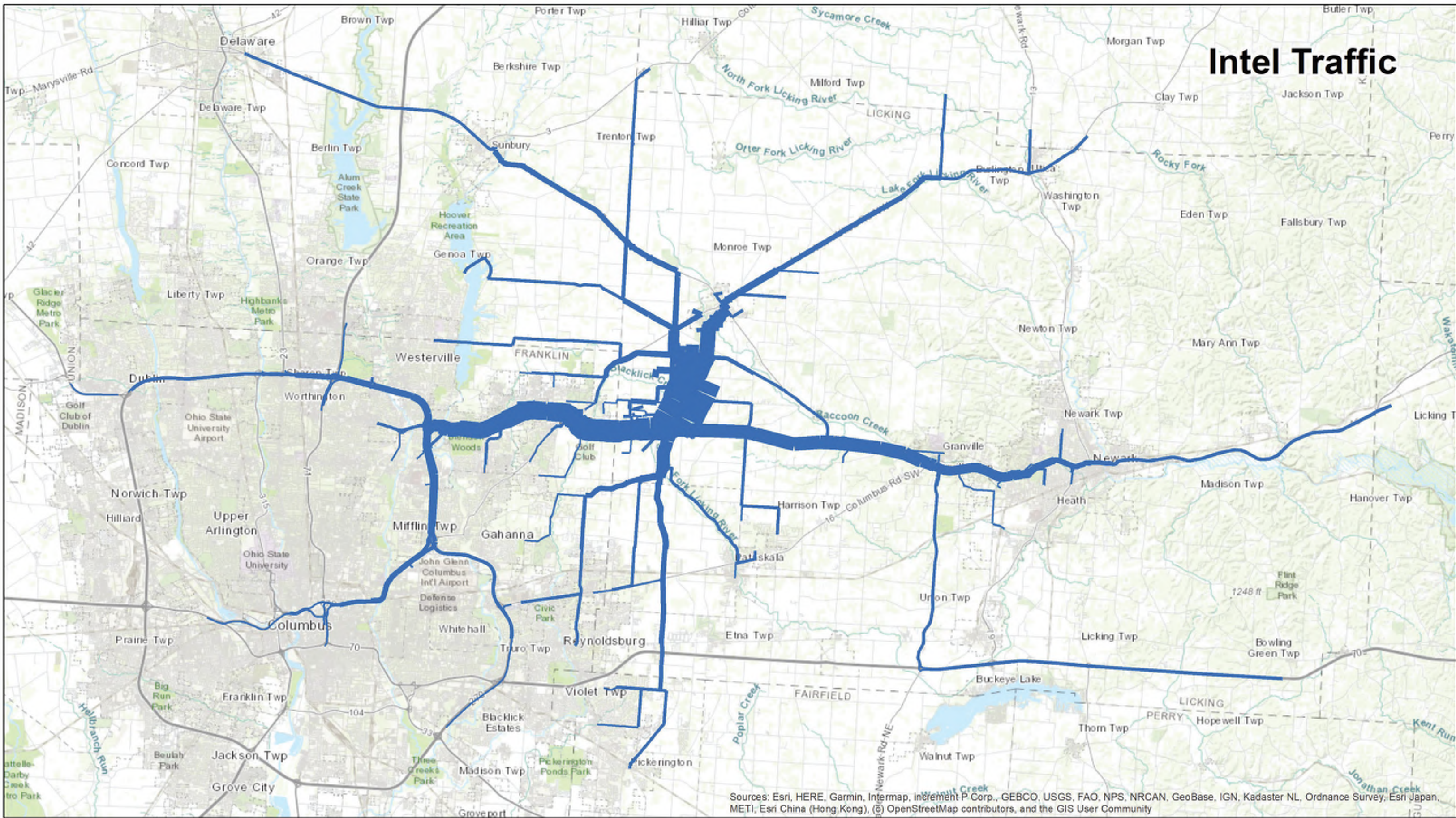
**INTEL AREA 10-MINUTE TRAVEL TIME
TRANSPORTATION PLANNING STUDY
FEBRUARY 15, 2023**



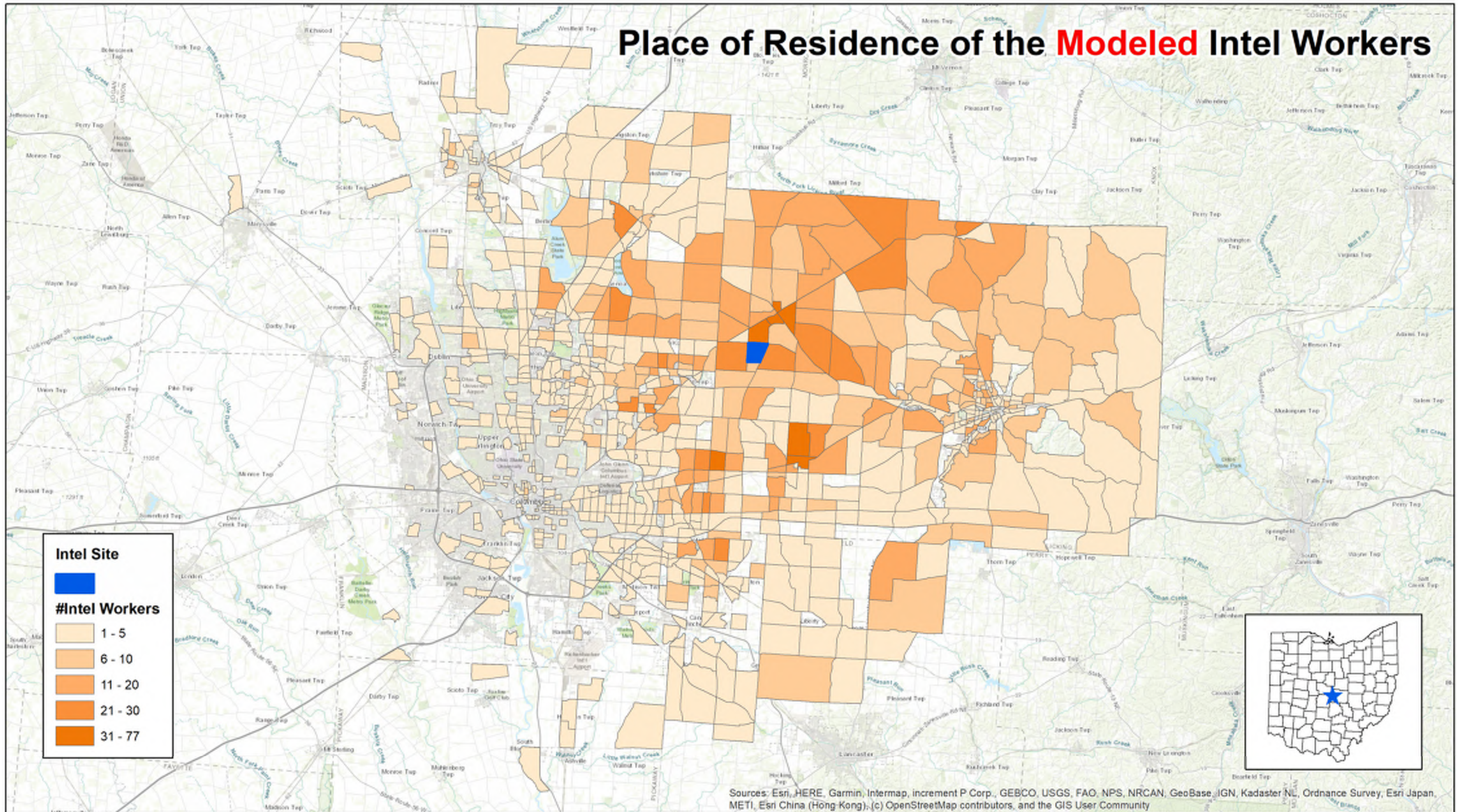
APPENDIX E: TRIP DISTRIBUTIONS

**INTEL AREA 10-MINUTE TRAVEL TIME
TRANSPORTATION PLANNING STUDY
FEBRUARY 15, 2023**

Intel Traffic



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



NATMD/Intel
TAZ 25011 Distributions

NATMD portion (without Anchor/Intel)				ANCHOR/INTEL site					
	Total Trips		7,392		Total Trips		44,000		
	Internal Trips	0.0%	0		Internal Trips	15.0%	6,600		
	External Trips		7,392		External Trips		37,400		
A	US 62	3.4%	300	43.3%	A	US 62	3.4%	1,300	46.4%
B	SR 161 west of US 62	19.9%	1,500		B	SR 161 west of US 62	19.9%	7,400	
C	Central College	1.8%	100		C	Central College	1.8%	700	
D	Walnut Street	3.3%	200		D	Walnut Street	3.3%	1,200	
E	Fancher/County Line	3.1%	200		E	Fancher/County Line	4.0%	1,500	
F	Duncan Plains west	5.6%	400		F	Duncan Plains west	3.0%	1,100	
G	Clover Valley north	6.2%	500		G	SR 37 west	8.0%	3,000	
H	Johnstown via 62	5.3%	400		H	County Line north	2.3%	900	
I	Johnstown via Mink	16.1%	1,200		I	Clover Valley north	0.7%	300	
J	Duncan Plains east	4.4%	300		J	west side of Johnstown	3.0%	1,100	
K	SR 161 east of 310	14.1%	1,000		K	US 62 east of SR 37	12.6%	4,700	
L	SR 310 south	3.2%	200		L	Concord Road	3.1%	1,200	
M	Mink south	13.6%	1,000		M	Granville/Alexandria	1.6%	600	
N	Beech south	0.0%	0		N	SR 161 east of SR 37	15.0%	5,600	
		100.0%	7,300		O	SR 310 south	3.2%	1,200	
					P	Mink south	14.1%	5,300	
					Q	Beech south	0.5%	200	
					R	Kitzmilller Road	0.5%	200	
							100.0%	37,500	

NATMD

TAZ 25036 Distributions

	Industrial/Intel		Retail	
Total Trips		16,106		
Internal Trips	0.0%	0		18,918
External Trips		16,106	0.0%	0
				18,918
A US 62	3.4%	600	A US 62 south of 161	3.0% 600
B SR 161 west of US 62	19.9%	3,200	B SR 161 west of US 62	0.0% 0
C Central College	1.8%	300	C Central College	5.0% 900
D Walnut Street	3.3%	500	D Walnut Street	8.0% 1,500
E Fancher/County Line	3.1%	500	E Fancher/County Line	20.0% 3,800
F Duncan Plains west	5.6%	900	F Duncan Plains west	6.0% 1,100
G Clover Valley north	6.2%	1,000	G Clover Valley/Co. Line north	15.0% 2,800
H Johnstown via 62	14.0%	2,300	H Johnstown west of 37	18.0% 3,400
I Johnstown via Mink	7.4%	1,200	I East of SR 37 via 62	8.0% 1,500
J Duncan Plains east	4.4%	700	J east of Mink via DP	8.0% 1,500
K SR 161 east of 310	14.1%	2,300	K SR 161 east of 310	0.0% 0
L SR 310 south	3.2%	500	L SR 310 south	0.0% 0
M Mink south	6.0%	1,000	M Mink south	0.0% 0
N Beech south	7.6%	1,200	N Beech south	0.0% 0
	100.0%	16,200	O Intel/NATMD	9.0% 1,700
				100.0% 18,800

NATMD

TAZ 25023 Distributions

	Total Trips		4,423
	Internal Trips	0.0%	0
	External Trips		4,423
A	US 62	3.4%	200
B	SR 161 west of US 62	19.9%	900
C	Central College	1.8%	100
D	Walnut Street	3.3%	100
E	Fancher/County Line	3.1%	100
F	Duncan Plains west	5.6%	200
G	Clover Valley north	6.2%	300
H	Johnstown via 62	5.3%	200
I	Johnstown via Mink	16.1%	700
J	Duncan Plains east	4.4%	200
K	SR 161 east of 310	14.1%	600
L	SR 310 south	3.2%	100
M	Mink south	13.6%	600
N	Beech south	0.0%	0
		100.0%	4,300

NW Johnstown
TAZ 25040 Distributions

Residential

Total Trips		8,555
Internal Trips	0.0%	0
External Trips		8,555

A US 62 south of 161	1.0%	100
B SR 161 west of US 62	13.0%	1,100
C Central College	3.0%	300
D Walnut Street	0.0%	0
E Fancher/County Line	7.0%	600
F Duncan Plains west	10.0%	900
G Clover Valley north	5.0%	400
H Johnstown west of 37	30.0%	2,600
I US 62 east of 37	7.0%	600
J east of SR 37 btw 62 & 161	2.0%	200
K SR 161 east of 310	12.0%	1,000
L SR 310 south	2.0%	200
M Mink south	5.0%	400
N Beech south	2.0%	200
O Intel/NATMD	2.0%	200
	101.0%	8,800

Total Trips		0
Internal Trips	0.0%	0
External Trips		0

A US 62 south of 161	2.0%	0
B SR 161 west of US 62	17.0%	0
C Central College	2.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	6.0%	0
F Duncan Plains west	12.0%	0
G Clover Valley north	5.0%	0
H Johnstown west of 37	8.0%	0
I US 62 east of 37	11.0%	0
J east of SR 37 btw 62 & 161	8.0%	0
K SR 161 east of 310	13.0%	0
L SR 310 south	3.0%	0
M Mink south	7.0%	0
N Beech south	2.0%	0
O Intel	2.0%	0
	100.0%	0

Retail

		0
	0.0%	0
		0

A US 62 south of 161	0.0%	0
B SR 161 west of US 62	0.0%	0
C Central College	0.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	10.0%	0
F Duncan Plains west	13.0%	0
G Clover Valley north	10.0%	0
H Johnstown west of 37	29.0%	0
I East of SR 37 via 62	16.0%	0
J east of Mink via DP	15.0%	0
K SR 161 east of 310	0.0%	0
L SR 310 south	0.0%	0
M Mink south	0.0%	0
N Beech south	0.0%	0
O Intel/NATMD	5.0%	0
	100.0%	0

SW Johnstown
TAZ 25021 Distributions

Residential

Total Trips		4,566
Internal Trips	0.0%	0
External Trips		4,566

A US 62 south of 161	2.0%	100
B SR 161 west of US 62	17.0%	800
C Central College	5.0%	200
D Walnut Street	0.0%	0
E Fancher/County Line	5.0%	200
F Duncan Plains west	5.0%	200
G Clover Valley north	4.0%	200
H Johnstown west of 37	28.0%	1,300
I US 62 east of 37	10.0%	500
J east of SR 37 btw 62 & 161	5.0%	200
K SR 161 east of 310	10.0%	500
L SR 310 south	0.0%	0
M Mink south	5.0%	200
N Beech south	0.0%	0
O Intel/NATMD	4.0%	200
	100.0%	4,600

Total Trips		0
Internal Trips	0.0%	0
External Trips		0

A US 62 south of 161	2.0%	0
B SR 161 west of US 62	17.0%	0
C Central College	2.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	6.0%	0
F Duncan Plains west	12.0%	0
G Clover Valley north	5.0%	0
H Johnstown west of 37	8.0%	0
I US 62 east of 37	11.0%	0
J east of SR 37 btw 62 & 161	8.0%	0
K SR 161 east of 310	13.0%	0
L SR 310 south	3.0%	0
M Mink south	7.0%	0
N Beech south	2.0%	0
O Intel	2.0%	0
	100.0%	0

Retail

		11,843
	0.0%	0
		11,843

A US 62 south of 161	0.0%	0
B SR 161 west of US 62	0.0%	0
C Central College	0.0%	0
D Walnut Street	2.0%	200
E Fancher/County Line	10.0%	1,200
F Duncan Plains west	13.0%	1,500
G Clover Valley north	10.0%	1,200
H Johnstown west of 37	29.0%	3,400
I East of SR 37 via 62	16.0%	1,900
J east of Mink via DP	15.0%	1,800
K SR 161 east of 310	0.0%	0
L SR 310 south	0.0%	0
M Mink south	0.0%	0
N Beech south	0.0%	0
O Intel/NATMD	5.0%	600
	100.0%	11,800

Duncan/Clover triangle (west)
TAZ 25038 Distributions

		Residential
Total Trips		0
Internal Trips	0.0%	0
External Trips		0
A Worthington Road west		0
B SR 161 west of Mink		0
C Mink Street north		0
D SR 310 north of 161		0
E SR 161 east of SR 310		0
F SR 310 retail		0
G Morse Road east of 310		0
H SR 310 south of Morse		0
I Headley's Mill S of Jersey		0
J Mink Street south of Jersey		0
K Morse Road west of Jersey		0
L		0
M		0
N		0
	0.0%	0

		Industrial
Total Trips		6,358
Internal Trips	0.0%	0
External Trips		6,358
A US 62 south of 161	2.0%	100
B SR 161 west of US 62	18.0%	1,100
C Central College	2.0%	100
D Walnut Street	2.0%	100
E Fancher/County Line	6.0%	400
F Duncan Plains west	6.0%	400
G Clover Valley north	7.0%	400
H Johnstown west of 37	8.0%	500
I US 62 east of 37	11.0%	700
J GC/Duncan Plains east	10.0%	600
K SR 161 east of 37	15.0%	1,000
L SR 310 south	2.0%	100
M Mink south	3.0%	200
N Beech south	5.0%	300
O Intel	3.0%	200
	100.0%	6,200



Duncan/Clover triangle (east)
TAZ 25038 Distributions

Total Trips		
Internal Trips	0.0%	0
External Trips		0

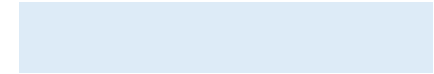
A Worthington Road west		0
B SR 161 west of Mink		0
C Mink Street north		0
D SR 310 north of 161		0
E SR 161 east of SR 310		0
F SR 310 retail		0
G Morse Road east of 310		0
H SR 310 south of Morse		0
I Headley's Mill S of Jersey		0
J Mink Street south of Jersey		0
K Morse Road west of Jersey		0
L		0
M		0
N		0
	0.0%	0

Residential

Industrial

Total Trips		11,290
Internal Trips	0.0%	0
External Trips		11,290

A US 62 south of 161	2.0%	200
B SR 161 west of US 62	17.0%	1,900
C Central College	2.0%	200
D Walnut Street	2.0%	200
E Fancher/County Line	6.0%	700
F Duncan Plains west	12.0%	1,400
G Clover Valley north	5.0%	600
H Johnstown west of 37	8.0%	900
I US 62 east of 37	11.0%	1,200
J east of SR 37 btw 62 & 161	8.0%	900
K SR 161 east of 310	13.0%	1,500
L SR 310 south	3.0%	300
M Mink south	7.0%	800
N Beech south	2.0%	200
O Intel	2.0%	200
	100.0%	11,200



SW Monroe

TAZ 25018 Distributions

Residential

Total Trips		10,328
Internal Trips	0.0%	0
External Trips		10,328

A US 62 south of 161	4.0%	400
B SR 161 west of US 62	19.0%	2,000
C Central College	4.0%	400
D Walnut Street	0.0%	0
E Fancher/County Line	10.0%	1,000
F Duncan Plains west	9.0%	900
G Clover Valley north	2.0%	200
H Johnstown west of 37	23.0%	2,400
I US 62 east of 37	6.0%	600
J SR 310 retail	3.0%	300
K SR 161 east of 310	9.0%	900
L SR 310 south	4.0%	400
M Mink south	4.0%	400
N Beech south	0.0%	0
O Intel/NATMD	3.0%	300
	100.0%	10,200

Total Trips		0
Internal Trips	0.0%	0
External Trips		0

A US 62 south of 161	2.0%	0
B SR 161 west of US 62	17.0%	0
C Central College	2.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	6.0%	0
F Duncan Plains west	12.0%	0
G Clover Valley north	5.0%	0
H Johnstown west of 37	8.0%	0
I US 62 east of 37	11.0%	0
J east of SR 37 btw 62 & 161	8.0%	0
K SR 161 east of 310	13.0%	0
L SR 310 south	3.0%	0
M Mink south	7.0%	0
N Beech south	2.0%	0
O Intel	2.0%	0
	100.0%	0

Retail

	0.0%	0
		0

A US 62 south of 161	0.0%	0
B SR 161 west of US 62	0.0%	0
C Central College	0.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	10.0%	0
F Duncan Plains west	13.0%	0
G Clover Valley north	10.0%	0
H Johnstown west of 37	29.0%	0
I East of SR 37 via 62	16.0%	0
J east of Mink via DP	15.0%	0
K SR 161 east of 310	0.0%	0
L SR 310 south	0.0%	0
M Mink south	0.0%	0
N Beech south	0.0%	0
O Intel/NATMD	5.0%	0
	100.0%	0

Monroe Twp NW
TAZ 25008 Distributions

Residential

Total Trips		12,456
Internal Trips	0.0%	0
External Trips		12,456
A US 62 south of 161	2.0%	200
B SR 161 west of US 62	14.0%	1,700
C Central College	3.0%	400
D Walnut Street	0.0%	0
E Fancher/County Line	7.0%	900
F Duncan Plains west	12.0%	1,500
G Clover Valley north	4.0%	500
H Johnstown west of 37	29.0%	3,600
I US 62 east of 37	7.0%	900
J SR 310 retail	3.0%	400
K SR 161 east of 310	11.0%	1,400
L SR 310 south	1.0%	100
M Mink south	3.0%	400
N Beech south	2.0%	200
O Intel/NATMD	2.0%	200
	100.0%	12,400

Total Trips		0
Internal Trips	0.0%	0
External Trips		0
A US 62 south of 161	2.0%	0
B SR 161 west of US 62	17.0%	0
C Central College	2.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	6.0%	0
F Duncan Plains west	12.0%	0
G Clover Valley north	5.0%	0
H Johnstown west of 37	8.0%	0
I US 62 east of 37	11.0%	0
J east of SR 37 btw 62 & 161	8.0%	0
K SR 161 east of 310	13.0%	0
L SR 310 south	3.0%	0
M Mink south	7.0%	0
N Beech south	2.0%	0
O Intel	2.0%	0
	100.0%	0

Retail

	0.0%	0
A US 62 south of 161	0.0%	0
B SR 161 west of US 62	0.0%	0
C Central College	0.0%	0
D Walnut Street	2.0%	0
E Fancher/County Line	10.0%	0
F Duncan Plains west	13.0%	0
G Clover Valley north	10.0%	0
H Johnstown west of 37	29.0%	0
I East of SR 37 via 62	16.0%	0
J east of Mink via DP	15.0%	0
K SR 161 east of 310	0.0%	0
L SR 310 south	0.0%	0
M Mink south	0.0%	0
N Beech south	0.0%	0
O Intel/NATMD	5.0%	0
	100.0%	0

Johnstown SE

TAZ 25010 Distributions

Total Trips		22,906
Internal Trips	0.0%	0
External Trips		22,906

A SR 161 west of Beech	13.0%	3,000
B Central College/New Albany	4.0%	900
C Intel	2.0%	500
D Fancher/County Line	5.0%	1,100
E Duncan Plains west	6.0%	1,400
F cut through to US 62 retail	14.0%	3,200
G SR 37 west of Johnstown	2.0%	500
H Johnstown	20.0%	4,600
I US 62 east of Johnstown	6.0%	1,400
J Concord/Hardscrabble	2.0%	500
K SR 161 east of SR 37	10.0%	2,300
L SR 310 retail	7.0%	1,600
M SR 310 south of SR 161	4.0%	900
N Mink south of SR 161	5.0%	1,100
	100.0%	23,000

Residential

Industrial/Office

Internal Trips	10.0%	0
External Trips		0

A SR 161 west of Beech	20.0%	0
B Intel	6.0%	0
C Fancher west	5.0%	0
D Duncan Plains west	4.0%	0
E Clover Valley north	7.0%	0
F Mink north	10.0%	0
G SR 37 via SR 310 north	5.0%	0
H Alexandria via Jug	5.0%	0
I SR 161 east of SR 310	20.0%	0
J SR 310 south of SR 161	7.0%	0
K Mink south of 161	7.0%	0
L western arterial (Jug, Walnut)	4.0%	0
M		0
N		0
	100.0%	0

Retail

Total Trips		11,843
Internal Trips	20.0%	2,369
External Trips		9,474

A SR 161 west of Beech	3.0%	400
B Central College/New Albany	0.0%	0
C Intel/NATMD	5.0%	600
D Fancher/County Line	2.0%	200
E Duncan Plains west	2.0%	200
F US 62 retail	3.0%	400
Monroe Twp NW	5.0%	600
G SR 37 west of Johnstown	2.0%	200
H Johnstown via Mink or Caswell	29.0%	3,400
I US 62 east of Johnstown	8.0%	900
J Concord/Hardscrabble	4.0%	500
K Alexandria/Granville	2.0%	200
L SR 161 east of SR 37	2.0%	200
M Caswell south of DP	4.0%	500
N SR 310 south of SR 161	3.0%	400
O Mink south of SR 161	6.0%	700
	100.0%	9,400

TAZ 26003 Distributions

	Residential	
Total Trips		7,953
Internal Trips	0.0%	0
External Trips		7,953
A Jersey Mill retail/office	5.0%	400
B SR 310 retail	15.0%	1,200
C Jug Street to Mink Street	5.0%	400
D SR 37 west of SR 310	5.0%	400
E SR 310 north of SR 37	2.0%	200
F Alexandria	26.0%	2,100
G SR 161 east of SR 37	16.0%	1,300
H SR 310 south of SR 161	11.0%	900
I SR 161 west of SR 310	15.0%	1,200
J		0
K		0
L		0
M		0
N		0
	100.0%	8,100

indicates volumes accounted for in another TAZ/distribution

**Industrial/Office
along SR 310**

Internal Trips	0.0%	0
External Trips		7,007
A Jersey Mill residential	6.0%	400
B SR 310 retail	0.0%	0
C Duncan Plains west of US 62	6.0%	400
D northwest of Johnstown	7.0%	500
E northeast of Johnstown	7.0%	500
F SR 310 north of SR 37	4.0%	300
G Alexandria	13.0%	900
H SR 161 east of SR 37	14.0%	1,000
I SR 310 south of SR 161	13.0%	900
J SR 161 west of SR 310	20.0%	1,400
K residential/Industrial Jersey	10.0%	700
L		0
M		0
N		0
	100.0%	7,000

Retail

Internal Trips	20.0%	3,701
External Trips		14,804
A Jersey Mill residential	4.0%	600
B SR 310 retail	2.0%	300
C Duncan Plains west of SR 310	5.0%	700
D SR 37 west of SR 310	5.0%	700
E SR 310 north of SR 37	9.0%	1,300
F Alexandria	15.0%	2,200
G SR 161 east of SR 37	9.0%	1,300
H York south of SR 161	20.0%	3,000
I SR 161 west of SR 310	6.0%	900
J Granville via old 161	5.0%	700
K		0
L		0
M		0
N		0
	100.0%	11,700

Industrial/Office along SR 37

Internal Trips	0.0%	0
External Trips		14,066
A Jersey Mill residential	4.0%	600
B adjacent retail	5.0%	700
C Duncan Plains west of US 62	7.0%	1,000
D northwest of Johnstown	7.0%	1,000
E northeast of Johnstown	7.0%	1,000
F SR 310 north of SR 37	4.0%	600
G Alexandria	13.0%	1,800
H SR 161 east of SR 37	15.0%	2,100
I Jersey residential	5.0%	700
J SR 161 west of SR 310	17.0%	2,400
K York south of SR 161	8.0%	1,100
L SR 310 south of SR 161	3.0%	200
M Mink south of SR 161	5.0%	400
N		0
	100.0%	13,600

TAZ 26028 Distributions

	Residential	
Total Trips		3,170
Internal Trips	0.0%	0
External Trips		3,170
A SR 310 retail/residential - Jersey	15.0%	500
B SR 161 west of SR 310	15.0%	500
C Duncan Plains west of SR 310	3.0%	100
D northwest of Johnstown	3.0%	100
E northeast of Johnstown	0.0%	0
F SR 310 north of SR 37	0.0%	0
G Alexandria	3.0%	100
H SR 161 east of SR 37	15.0%	500
I SR 37 interchange area	12.0%	400
J Wesleyan Church Road	6.0%	200
K SR 310 south of SR 161	14.0%	400
L Morse Road west	8.0%	300
M Worthington Road west	6.0%	200
N		0
	100.0%	3,300

Industrial/Office

	Industrial/Office	
Internal Trips	0.0%	0
External Trips		20,788
A SR 310 retail/residential - Jersey	10.0%	2,100
B SR 161 west of SR 310	17.0%	3,500
C Duncan Plains west of SR 310	6.0%	1,200
D northwest of Johnstown	3.0%	600
E northeast of Johnstown	3.0%	600
F SR 310 north of SR 37	2.0%	400
G Alexandria	6.0%	1,200
H SR 161 east of SR 37	15.0%	3,100
I SR 37 interchange area	5.0%	1,000
J Wesleyan Church Road	6.0%	1,200
K SR 310 south of SR 161	18.0%	3,700
L Morse Road west	9.0%	1,900
M		0
N		0
	100.0%	20,500

Retail

	Retail	
Internal Trips	15.0%	4,164
External Trips		23,594
A Worthington Road west	8.0%	1,900
B SR 161 west of Mink	8.0%	1,900
C Mink Street north	0.0%	0
D SR 310 north of Jersey Mill	12.0%	2,800
E Jersey Mill east of SR 310	8.0%	1,900
F SR 161 east of SR 310	11.0%	2,600
G SR 310 retail	0.0%	0
H Morse Road east of 310	10.0%	2,400
I SR 310 south of Morse	14.0%	3,300
J Headley's Mill S of Jersey	0.0%	0
K Mink Street south of Jersey	5.0%	1,200
L Morse Road west of Jersey	14.0%	3,300
M Reussner Road west (TAZ 25032)	10.0%	2,400
N		0
	100.0%	23,700

TAZ 26027 Distributions

		Residential
Total Trips		484
Internal Trips	0.0%	0
External Trips		484
A SR 161 west of SR 310	20.0%	100
B Morse west	20.0%	100
C SR 161 east of SR 37	20.0%	100
D Wesleyan Chapel east	20.0%	100
E SR 310 south of SR 161	20.0%	100
F		0
G		0
H		0
I		0
J		0
K		0
L		0
M		0
N		0
	100.0%	500

		Industrial
Internal Trips	0.0%	12,350
External Trips		0
Internal Trips	0.0%	12,350
External Trips		0
A SR 310 retail/residential - Jersey	0.0%	0
B SR 161 west of SR 310	22.0%	2,700
C Duncan Plains west of SR 310	5.0%	600
D Johnstown	5.0%	600
E northeast of Johnstown	0.0%	0
F Northridge Road north of Alexand	8.0%	1,000
G old 161 east to Granville	6.0%	700
H SR 161 east of SR 37	18.0%	2,200
I SR 37 interchange area	5.0%	600
J Wesleyan Chapel east	5.0%	600
K Outville Road south	5.0%	600
L SR 310 south of SR 161	11.0%	1,400
M Morse Road west	10.0%	1,200
N		0
	100.0%	12,200

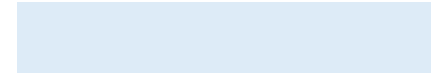
		Retail
Internal Trips	10.0%	12,583
External Trips		1,258
Internal Trips	10.0%	1,258
External Trips		11,325
A TAZ 26027/28 residential	10.0%	1,100
B SR 161 west of SR 310	10.0%	1,100
C TAZ 25032 residential	10.0%	1,100
D Morse Road west of SR 310	10.0%	1,100
E SR 310 north of SR 37	5.0%	600
F Alexandria	12.0%	1,400
G SR 161 east of SR 37	15.0%	1,700
H York south of SR 161	10.0%	1,100
I Morse east of York	12.0%	1,400
J SR 310 south of Morse	5.0%	600
K		0
L		0
M		0
N		0
	99.0%	11,200

Jersey south, along Mink, south of 161
 TAZ 25031 Distributions

Residential

Total Trips		34,581
Internal Trips	0.0%	0
External Trips		34,581

A Worthington Road west	5.0%	1,700
B SR 161 west of Mink	25.0%	8,600
C Mink Street north	10.0%	3,500
D SR 310 north of 161	5.0%	1,700
E SR 161 east of SR 310	15.0%	5,200
F SR 310 retail	10.0%	3,500
G Morse Road east of 310	0.0%	0
H SR 310 south of Morse	0.0%	0
I Headley's Mill S of Jersey	10.0%	3,500
J Mink Street south of Jersey	10.0%	3,500
K Morse Road west of Jersey	10.0%	3,500
L		0
M		0
N		0
	100.0%	34,700



Jersey east of Jersey Mill
TAZ 25003 & TAZ 25032 Distributions

	Single Family	Multi-Family	Retail
Total Trips	4,100	38,973	0
Internal Trips	10.0%	0	0
External Trips	3,690	38,973	0
A Worthington Road west	5.0%	1,900	5.0%
B SR 161 west of Mink	25.0%	9,700	10.0%
C Mink Street north	12.0%	3,900	0.0%
D SR 310 north of 161	3.0%	1,900	15.0%
E SR 161 east of SR 310	15.0%	5,800	20.0%
F SR 310 retail	15.0%	7,800	0.0%
G Morse Road east of 310	0.0%	0	10.0%
H SR 310 south of Morse	10.0%	3,900	25.0%
I Headley's Mill S of Jersey	0.0%	0	0.0%
J Mink Street south of Jersey	5.0%	1,900	5.0%
K Morse Road west of Jersey	10.0%	1,900	10.0%
L		0	
M		0	
N		0	
	100.0%	3,800	100.0%

Internal Trips	43,073
External Trips	42,663
A Worthington Road west	2,100
B SR 161 west of Mink	10,600
C Mink Street north	4,300
D SR 310 north of 161	2,000
E SR 161 east of SR 310	6,400
F SR 310 retail	8,400
G Morse Road east of 310	0
H SR 310 south of Morse	4,300
I Headley's Mill S of Jersey	0
J Mink Street south of Jersey	2,100
K Morse Road west of Jersey	2,300
L	0
M	0
N	0
	0.0%
	42,500

TAZ 25041 Distributions

Total Trips		4,320
Internal Trips	0.0%	0
External Trips		4,320

A SR 161 west of Beech	15.0%	600
B Intel	8.0%	300
C Clover Valley north	3.0%	100
D Mink north	8.0%	300
E Johnstown via Casewell/DP	7.0%	300
F SR 310 north	5.0%	200
G adjacent retail	12.0%	500
H Alexandria via DP	2.0%	100
I Alexandria via Jug	12.0%	500
J SR 161 east of SR 310	10.0%	400
K SR 310 south of SR 161	8.0%	300
L SR 310 interchange area	5.0%	200
M Mink south of 161	5.0%	200
N		0
	100.0%	4,000

Residential

Industrial/Office

Internal Trips	10.0%	607
External Trips		5,459

A SR 161 west of Beech	20.0%	1,100
B Intel	6.0%	300
C Fancher west	5.0%	300
D Duncan Plains west	4.0%	200
E Clover Valley north	7.0%	400
F Mink north	10.0%	500
G SR 37 via SR 310 north	5.0%	300
H Alexandria via Jug	5.0%	300
I SR 161 east of SR 310	20.0%	1,100
J SR 310 south of SR 161	7.0%	400
K Mink south of 161	7.0%	400
L western arterial (Jug, Walnut)	4.0%	200
M		0
N		0
	100.0%	5,500

Retail

Internal Trips	3.0%	0
External Trips		0

A Jug Street residential west	7.0%	0
B Miller Road west	15.0%	0
C Green Chapel west	4.0%	0
D Duncan Plains west of 62	6.0%	0
E Mink into Johnstown	2.0%	0
F Caswell into Johnstown	6.0%	0
G SR 310 to SR 37 Johnstown	10.0%	0
H SR 310 north of SR 37	10.0%	0
I Duncan Plains to SR 37	14.0%	0
J Jug Street east residential	8.0%	0
K SR 310 interchange	7.0%	0
L SR 310 south of interchange	11.0%	0
M		0
N		0
	100.0%	0

TAZ 25024 Distributions

	Residential		Industrial/Office		Retail (with pass-by deduction)			
Total Trips		21		111,241	44,412			
Internal Trips	0.0%	0	10.0%	11,124	6,662			
External Trips		21		100,117	37,750			
A SR 161 west of Beech	15.0%	0	A SR 161 west of Beech	21.0%	21,000	A SR 161 west of Beech	5.0%	1,900
B Intel	15.0%	0	B Intel	6.0%	6,000	B Intel/NAMTD	5.0%	1,900
C Clover Valley north	5.0%	0	C Fancher west	4.0%	4,000	C Burnside/Caswell S	6.0%	2,300
D Mink north	7.0%	0	D Duncan Plains west	4.0%	4,000	D Duncan Plains west	4.0%	1,500
E Johnstown via Casewell/DP	8.0%	0	E Clover Valley north	7.0%	7,000	E Clover Valley north	3.0%	1,100
F SR 310 north	5.0%	0	F Mink north	7.0%	7,000	F Caswell N	6.0%	2,300
G Alexandria via Jug	15.0%	0	G SR 37 via SR 310 north	8.0%	8,000	G Johnstown via SR 310	8.0%	3,000
H SR 161 east of SR 310	10.0%	0	H Alexandria via Jug	7.0%	7,000	H NE via SR 310	6.0%	2,300
I SR 310 south of SR 161	10.0%	0	I SR 161 east of SR 310	20.0%	20,000	I Jug Street east	9.0%	3,400
J Mink south of 161	10.0%	0	J SR 310 south of SR 161	2.0%	2,000	J Jersey Mill east	7.0%	2,600
K		0	K Mink south of 161	10.0%	10,000	K Jersey Twp SW of 310 int.	16.0%	6,000
L		0	L western arterial (Jug, Walnut)	4.0%	4,000	L St. Albans Twp SE of 310 int.	8.0%	3,000
M		0	M		0	M SR 310 south	8.0%	3,000
N		0	N		0	N SR 161 east of SR 310	9.0%	3,400
	100.0%	0		100.0%	100,000		100.0%	37,700