

Delaware County Engineer's Office (DCEO) Scope of Services

C-R-S: DEL CR 20 1.04

1. General Information

County: Delaware
PID#: 2410 (DCEO)

	No.	Scope of Services Meeting Date	Approved Final Scope of Services
Prime Agreement	1	TBD	TBD

Refer to exhibits and scope narrative for design designation and project limits.

2. PDP Phases Included in this Agreement: Phase PE through Phase FE Agreement between Consultant and: Delaware County Board of Commissioners

This scope approval includes development through Phase FE final tracings submittal.

3. Funding:

100% county funds will be used for all phases of this project.

4. Project Location:

Intersection of Fancher Road (CR 20) and Miller-Paul Road (CR 18).

5. Project Description:

New single-lane roundabout with minimal approach work.

6. Communication/Contacts:

The respective project managers (DCEO and Consultant) will be the primary points of communication. Rules for communication between project staff listed below will be discussed at the Scope of Services Meeting and further described herein. Technical issues may be discussed directly (between project staff) below the project manager level, but the respective project managers must be informed of such discussions and any decisions resulting there from. Contractual issues should always be communicated at the project manager level.

	Name	Phone	Email
DCEO Project Manager	TBD	740-833-2400	
Consultant	TBD		
Consultant Project Manager	TBD		
Consultant Staff	TBD		

7. Schedule

Completion Time for Phases	Completion of FE Final Tracings: 17 months
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The following commitment dates are to be used by the Consultant in developing the project schedule. 30 day DCEO review period for stage submittals is anticipated.

Milestone	Date
Consultant NTP	1/1/2025
Stage 1 Submittal	8/1/2025
Preliminary R/W Submittal	12/1/2025
Stage 2 Submittal	12/1/2025
Final R/W Submittal	3/1/2026
Stage 3 Submittal	4/1/2026
Final Tracings Submittal	6/1/2026
R/W Acquired	6/1/2027
Sale Date	11/1/2028
Award	12/1/2028
Estimated Begin Construction	6/1/2029
Estimated End Construction	8/1/2029

The Consultant will prepare a detailed Master Schedule Gantt Chart (from initial authorization of the agreement thru completion (final plan package) utilizing Microsoft Project. This schedule is to be included with the price proposal. The Schedule will include beginning and ending dates as well as key milestones on the critical path for the project. Based on the type of Consultant Agreement, the Schedule shall also accommodate appropriate time frames for scoping, negotiation and authorization for the additional Phases. The overall schedule past those phases contracted for may be general in nature meeting the dates as established within this scope. The Consultant will be responsible for timelines of Phases as authorized within this agreement. The Consultant is responsible for updating the schedule as needed throughout the PDP (or as requested by DCEO) and providing these schedules monthly or as mutually agreed at the time of scope meeting (typically with Consultant Invoices). Monthly project updates are required to be submitted to the DCEOs Project Manager at a minimum indicating or identifying work completed this month, expected work next month and identifying any critical items needing action from both the Consultant and DCEO's personnel. These updates are typically provided with monthly invoicing and should be coordinated with the DCEO's Project Manager for an approved format and schedule.

8. Electronic Distribution of Design Information

The development of this project shall be performed in accordance with the ODOT and DCEO design manuals and documents. The consultant shall perform all work required by the design manuals unless a specific exception is included herein. Absence of a specific reference to required elements of the work either in this Scope of Services or the consultant's price proposal shall not relieve the consultant of responsibility to perform the work or justify additional compensation. The consultant's price proposal shall be based on the most current revision of each manual at the date of the Scope of Services Meeting.

The consultant shall also be responsible to revise the plans to conform to the most recent revision of the design manuals and documents. The Department maintains current documents and a summary of the latest revisions through the Design

Reference Resource Center (DRRC) (<http://www.dot.state.oh.us/drrc/>) (the DRRC page of the Department's Website). This site will release all new and revised design information quarterly, on four specific dates. The most significant recent changes made to this page are reflected under the heading "Latest Revision/Revision History."

Minor changes should be routinely incorporated in the work. The consultant shall notify the DCEO in writing of any subsequent changes in design manuals or other documents that would substantially impact work already performed or change the overall impacts of the project including construction costs, right of way impacts or environmental impacts. The DCEO will respond in writing concerning the disposition of any such changes. The DCEO agrees that a substantial change in design policy or plan preparation requirements may constitute a valid request for additional compensation.

The correspondence transmitting final deliverables shall note the last revision date of the Design Reference Resource Center upon which the plans were based.

9. Variations from the Scope of Service

This Scope of Services document is based on the DCEO's knowledge of project requirements at the time when the document was prepared, and serves as the basis for the price proposal and agreed fee. However, changes in the work may be required as the project develops and more complete information becomes available. Such changes also may be dictated by written procedures included in manuals or decisions made by the Department or DCEO. As the project develops, it is the Consultant's responsibility to advise the DCEO of significant changes in the work that may require modification of the agreement, and to maintain separate cost accounting for each specific issue. The DCEO's written comments and other technical decisions concerning development of the project shall not be construed as authorization for extra work for which additional compensation may be claimed. Modification of the agreement or written authorization to proceed is required prior to the performance of additional work. In short, at all times the Consultant remains responsible to advise the DCEO of work that exceeds the scope of services.

Requests for modification will be evaluated from the standpoint of the scope of services in its entirety and not in terms of a single issue. Additions to the scope of services may be offset by reductions in other areas of the work.

10. PDP Process

The Ohio Department of Transportation (ODOT) has developed and implemented a Project Development Process (PDP) that includes regular communication among technical disciplines, results in quality plans and minimizes cost overruns during right-of-way acquisition and project construction. Depending on their size, complexity, and/or potential impact to the environment, ODOT transportation projects are categorized as one of five paths (Path 1– 5). The PDP consists of five phases that projects must advance through prior to construction. These phases include Planning, Preliminary Engineering, Environmental Engineering, Final Engineering and Construction. While all projects advance through these phases, project managers have the flexibility to adjust scope activities within the phases to better support decision-making.

The PDP is a project management and transportation decision-making procedure that outlines project development from concept through completion. Each PDP activity is timed to facilitate informed decision making based on an appropriate level of project development and risk management. The PDP encourages communication among disciplines, requires documentation of the reasoning behind project related decisions, eliminates duplicated effort among disciplines and provides for early identification of potential issues. Involvement of all disciplines during the early stages of project development ensures that issues affecting project type, scope, development schedule and costs can be correctly evaluated and anticipated.

The manual and associated tools provide guidelines to identify activities required during each phase of project development. The project scope determines the amount of work performed within the phases. Although the manual and web-based tool identifies work tasks, deliverables and potential stakeholders for each phase in the process, the process requires coordination of people and tasks between phases to ensure continued review and study of the best possible options.

DCEO utilizes the framework of the ODOT PDP as the basis for developing projects; however, DCEO is not required to complete every step and may omit certain tasks when not required.

Communication and transition among disciplines are critical to a project's success. By establishing communication opportunities and responsibilities throughout the PDP, the project manager ensures that those involved in the project fulfill their project commitments. The project manager for each step is responsible for ensuring appropriate coordination and involvement of other disciplines throughout the process.

11. On-Going Consultant Involvement during the Construction Phase

The Consultant shall provide construction phase services as requested by the DCEO, for the purpose of advising the DCEO concerning interpretations of the plans and specifications prepared by the consultant, advising the DCEO of any changed or unanticipated field conditions that will impact the work, and participating in a formal Partnering process if applicable. The consultant will not have any formal ongoing duties in administration of the construction contract or inspection and testing of the project. The Consultant's personnel assigned to this phase of the work shall be the same personnel that designed the project and prepared the plans (generally the personnel whose initials appear on the drawings).

The Consultant shall provide the following construction phase services as requested by the DCEO:

1. Attend meetings including the preconstruction meeting, job progress meetings, partnering meetings if applicable, and other meetings as requested.
2. In conjunction with job progress meetings or as requested, visit the job site at appropriate intervals to monitor critical areas of the work and advise the DCEO of any conditions that would affect the work.
3. If authorized, provide on-site geotechnical support for construction of geotechnical complex systems.
4. Respond to questions and visit the job site on an as needed basis.
5. Assist the DCEO in evaluation of change orders or claims.
6. If directed by the DCEO, replace right of way monumentation destroyed by the Contractor's construction operations. Monuments shall be $\frac{3}{4}$ inch diameter steel rod, 30 inches long, with an aluminum cap having a minimum diameter of 1 $\frac{1}{2}$ inch, stamped ODOT R/W and bearing the surveyor's Ohio Registration Number and name, and/or company name. In order to support the DCEO's efforts in recovering costs from the Contractor, maintain separate cost accounting records for this work.

Centerline Adjustable Monument Assemblies shown on the Recorded Centerline Plat shall be set by the consultant at an appropriate stage of construction, as directed by the DCEO. After construction of the Centerline Adjustable Monument Assemblies by the contractor, the Consultant shall set the iron pin and cap in the Centerline Adjustable Monument Assembly Box. All centerline monuments, reference monuments and right of way monuments shall conform to Standard Construction Drawing RM-1.1 (pages 1 and 2)

7. Attend the post construction meeting and prepare minutes of the meeting including a discussion of preventable change orders.

Compliance with Health and Safety Requirements

For Consultant personnel visiting the site, the Consultant shall be responsible for compliance with applicable health and safety requirements including OSHA requirements (CFR 29-1926), and medical testing required by OSHA and DCEO rules and regulations.

The Consultant shall provide, as a minimum, the same level of safety equipment as required for DCEO inspectors. Consultant personnel shall be subject to compliance inspections by DCEO personnel.

Responsibilities of the DCEO:

1. The DCEO Project Manager for the design agreement will remain as the point of contact for the consultant during the construction phase
2. DCEO construction personnel may contact the consultant directly regarding any plan questions or interpretations, but the DCEO Project Manager for the design agreement will be notified of all such communications.
3. The DCEO will advise the consultant in writing of any potential errors or omissions which must be corrected without undue delay and without additional costs to the County.
4. The DCEO will direct the consultant to set the iron pin and cap in the Adjustable Monument Assembly Boxes at an appropriate stage of construction.

12. Exceptions/Clarification from Manuals

Delaware County Supplement to the ODOT Location and Design Manual, Bridge Design Manual, CADD Standards Manual, and Traffic Engineering Manual incorporated by reference URL: <https://engineer.co.delaware.oh.us/drp/>

13. Existing Documents (Provided to Selected Consultant After Selection Only)

Intel Area 10-Minute Travel Time Transportation Planning Study (April 2023)

14. Attachments (Attached to the Scope of Services)

Scope Narrative

15. Task List

To be developed by Consultant as part of fee proposal

C-R-S: DEL CR 20 1.04

Scope Narrative

General Information:

County: Delaware County

PID#: 2410

Description: The Consultant's services include preparation of final construction and right of way plans for a new single-lane modern roundabout with minimal approach work.

Traffic Analysis:

No traffic analysis is required for this project. Design designation shall be as follows. No roundabout operational analysis will be required.

Design Designation:

	Fancher Road	Miller-Paul Road
Current ADT (2024)	2310	540
Design Year ADT (2048)	12800	2900
DHV (2048)	1300	300
Directional Distribution	60%	60%
Trucks (24 Hour B&C)	4%	4%
Design Speed:	45 mph	55 mph
Legal Speed	45 mph	55 mph
Current Functional Classification	Rural Minor Arterial	Rural Local Road
Design Functional Classification	Rural Minor Arterial	Rural Minor Collector

Design Exceptions:

None

Survey Parameters:

Based on NGS monuments located near the project location, estimated difference in grid to ground measurements is less than 20 parts per million resulting in an absolute difference of less than 0.02 feet from extreme ends of project limits. At the surveyor’s option, project may be base mapped and designed on state plane coordinates. Ohio North Zone should be used. If the Ohio/Delaware County Low Distortion Projection (LDP) has been implemented and available for use by the time of field survey, the LDP coordinate system may be used.

Plan Sheets:

The following plan sheets are anticipated.

Title Sheet (1) Schematic Plan (1) Roundabout Geometry (1) Typical Sections (2) General Notes (2) Maintenance of Traffic Notes (2) Detour Plan (1) General Summary (2) Estimated Quantities (2) Drainage Subsummary (1) Plan and Profile at 20 scale (4)	Roundabout Plan (1) Cross Sections at 50’ Plus Driveway Profiles (8) Intersection Detail (4) Splitter Island Details (4) Reference Line Profiles (4) Driveway Subsummary (1) Right of Way Legend Sheet (1) Summary of Additional ROW (1) ROW Topo Sheets at 20 scale (5) ROW Boundary Sheets at 20 scale (5)
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Total Estimated Plan Sheets: 53±

Cross Section:

Lane Width	12’
Treated Shoulder Width	2’ paved (full depth)
Total Shoulder Width	8’ (2’ paved, 6’ graded turf)
Curb Type:	Type 2 at roundabout approaches
Guardrail Type	Do not use guardrail
Maximum Foreslope	4:1
Maximum Backslope	4:1

Pavement:

Consultant should consider widening and overlay of approaches in lieu of full depth reconstruction where no profile adjustment is needed, in order to reduce cost and simplify access to work zone residences. Planing/milling of existing asphalt is not desired due to lack of thickness of existing asphalt.

Pavement buildup for full depth sections:

- 1 1/4" Item 441, Asphalt Concrete Surface Course, Type 1 (448), PG64-22
- Item 407 Tack Coat @ 0.04 gal/sy
- 1 3/4" Item 441, Asphalt Concrete Surface Course, Type 2 (448), PG64-22
- Item 407 Tack Coat @ 0.075 gal/sy
- 7" Item 302, Asphalt Concrete Base
- Item 408 Prime Coat @ 0.4 gal/sy
- 6" Item 304, Aggregate Base

Roadside:

Consultant shall consider use of enclosed ditches (storm sewer and catch basins) in the NE and NW quadrants of the intersection to minimize the ROW limits and lessen the depth of roadside ditches. Do not exceed an open ditch depth of 3 feet measured vertically from the edge of pavement.

Existing leach fields are expected within the areas of proposed roadside work. Consultant shall research Delaware General Health District records and delineate leach fields.

Roundabout:

Proposed roundabout shall be a single lane. Geometric design of roundabout should generally conform to sample plans provided by DCEO with preferred 140' inscribed circle diameter.

Lighting:

Provide lighting design in general conformance with sample plans provided by DCEO. Photometric analysis not required if the spacing of poles is less than 175 feet and poles are located in the typical configuration of the sample plans provided. Lighting shall be designed in accordance with DCEO's Design Resource Page.

Traffic Control:

Provide notes per the DCEO Design Resource Page and from sample plans provided by DCEO for sign sheet and sign support material types. Specify 5-inch pavement markings for centerlines and edge lines.

Maintenance of Traffic:

A full closure with detour plan is anticipated to be the preferred MOT method for roundabout construction.

Hydraulics:

Standards: Hydrologic and hydraulic analysis should be performed in accordance with ODOT L&D Volume 2.

Conduit Material Type: Culvert and storm sewer material preference should be as per the DCEO Supplement to the ODOT L&D Manual.

Geotechnical:

Soil Borings and Geotechnical Investigation: Not required

Pavement Design: The Consultant shall use the pavement design specified above.

Environmental:

Existing stream located about 200' of intersection not anticipated to be impacted. No other jurisdictional wetland or stream impacts are anticipated. DCEO may direct the consultant to provide an encumbrance of funds in the fee proposal for if-authorized environmental studies.

Utilities:

Consultant shall ensure that overhead utilities (electric and telecom) have feasible locations within new or existing public right of way to relocate poles and that overhead utilities do not conflict with proposed light poles. A preliminary layout of relocated utilities should be done during geometric layout of the roundabout. Detailed design of utilities is not required, but conceptual location of new and existing poles and above ground structures should be noted in the preliminary roundabout plan to ensure feasibility of the design.

Public Involvement:

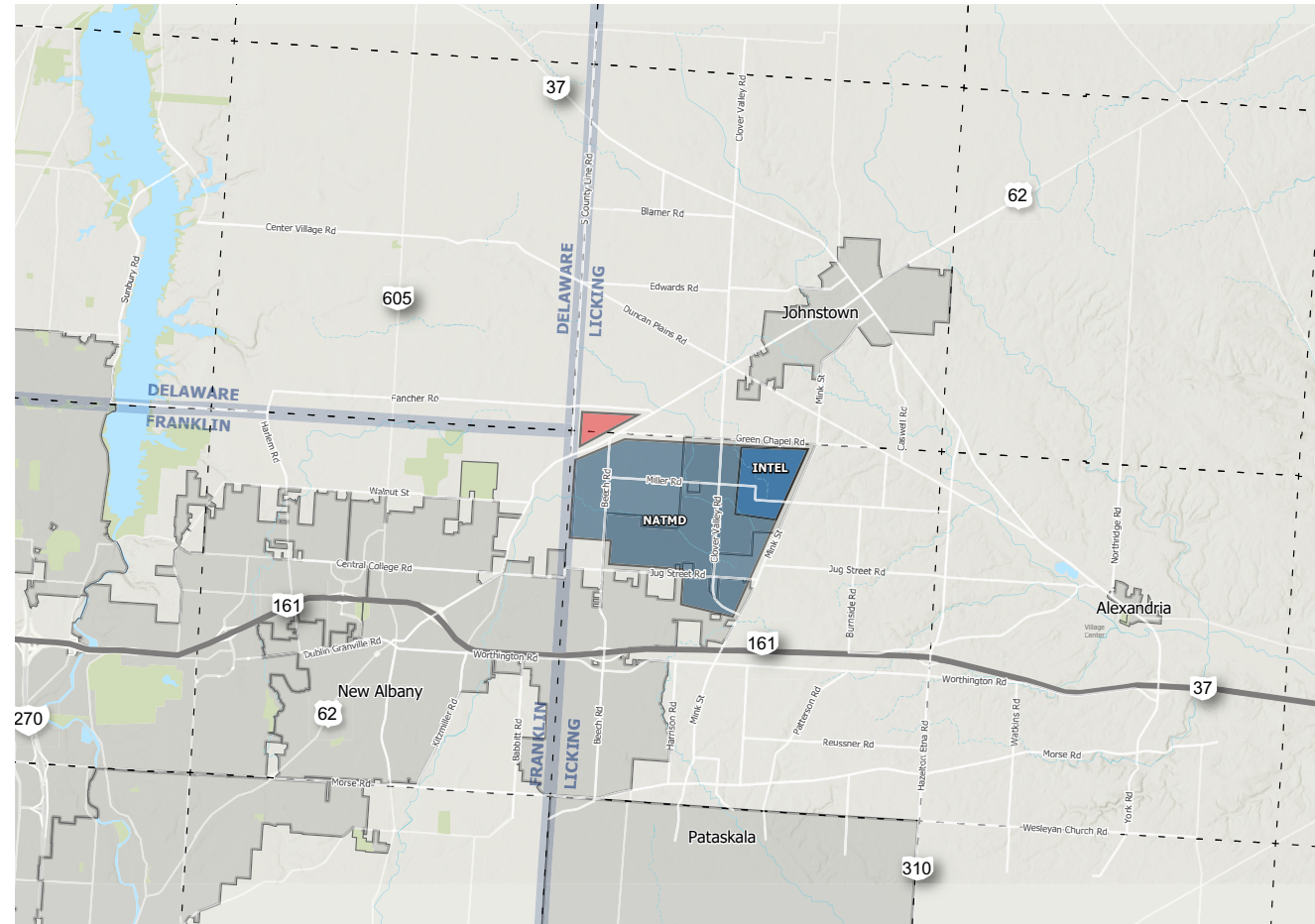
Consultant shall prepare electronic versions of project maps showing proposed work limits and shaded right of way limits in PDF or image format. DCEO anticipates direct mailing to affected property owners and a project information web page hosted on the DCEO website.

Right of Way Design:

Consultant shall specify WD right of way for parcels to be acquired in the name of the Delaware County Board of Commissioners where appropriate. TMP parcels for a duration of 24 months shall be used to minimize the extent of permanent ROW where tie-in grading is required and no significant change to the grading of such areas results from the project.

INTEL AREA 10-MINUTE TRAVEL TIME TIME TRANSPORTATION PLANNING STUDY

APRIL 2023



PREPARED BY:
MS CONSULTANTS

FOR:
FRANKLIN COUNTY TID,
LICKING COUNTY TID,
AND DELAWARE COUNTY TID



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INTRODUCTION

This document serves as a transportation planning study of the local road network in the region around the Intel chip manufacturing plant under construction in Licking County. The goal of this study to gain a cursory understanding of future traffic patterns and potential improvements needed on roadways in southwest Licking County, northeast Franklin County and southeast Delaware County due to current and future land use changes prompted by the addition of Intel, the largest commercial development in Ohio. This information allows the jurisdictions to identify roadway improvements that will be important to have in place or in process within the next few years to support increases in traffic.

A previous study for the new Intel site and surrounding uses, the New Albany Technology Manufacturing District (NATMD) Traffic Impact Study (TIS), was performed by Carpenter-Marty Transportation in March 2022 for the City of New Albany. The NATMD TIS evaluated numerous intersections in and around the proposed manufacturing facilities. However, this study focused on intersections mostly within or adjacent to the City of New Albany.

The Ohio Department of Transportation (ODOT) has formed a 20-Minute Travel Time Group, a 40-Minute Travel Time Group, and a 60-Minute Travel Time Group to assess regional transportation needs associated with the Intel site and related development. To address more localized transportation issues, the Licking County Transportation Improvement District (LCTID), in conjunction with the Franklin County Transportation Improvement District (FCTID), and Delaware County Transportation Improvement District (DCTID) have formed the 10-Minute Travel Time Group.

This new transportation planning study focuses on additional locations, mostly in unincorporated parts of Licking, Franklin, and Delaware Counties within a 10-minute travel time of the Intel site, and identifies future transportation needs resulting from Intel, NATMD, and/or other land use changes. Adjacent townships, Jersey, Monroe, St. Albans, and the City of Johnstown are also included in the 10-Minute Travel Time Group. Several meetings of the 10-Minute Travel Time Group have occurred in 2022 and 2023 to develop study goals, review land use assumptions, and review draft study findings.

It is important to note that this is a planning-level study. Much of the data used in the analysis is preliminary, and

thus any findings only represent the best estimation at this point in time. Development is already rapidly occurring, and land use and zoning changes will continue to evolve in coming months. Therefore, this study should be used as a high-level “snapshot” to gauge big-picture possible effects and needs, not a precise forecast of traffic volumes or congestion.

STUDY AREA

The study area includes adjacent jurisdictions to the Intel and New Albany Technology & Manufacturing District (NATMD) sites that were generally not covered in the NATMD traffic study. This study focuses on areas outside of the City of New Albany and includes the following:

- Jersey Township
- St. Albans Township
- Monroe Township south of SR 37
- City of Johnstown south of SR 37

Selected corridors in Plain Township, Franklin County

- Morse Road
- Dublin-Granville Road
- Central College Road
- Walnut Street
- Babbitt Road
- Harlem Road

Selected corridors in Genoa and Harlem Townships, Delaware County

- Smothers Road
- Fancher Road
- Center Village Road
- Sunbury Road
- Harlem Road

A map of the study area is shown on Figure 1. A concept map of the Intel and NATMD development areas is shown on Figure 2.

This study focuses on the local roadway network - collectors and arterial roadways. This study does not evaluate the SR 161 freeway or its interchange ramps, for which ODOT is currently studying and designing improvements.

ANALYSIS CONDITIONS

This study has developed daily traffic volumes for study area roadway links for three timeframes:

EXISTING YEAR

Existing year volumes were compiled using a variety of data sources including the ODOT TIMS website and the MORPC traffic count database. This includes dozens of traffic counts MORPC collected in the study area locations in 2022. Existing daily traffic volumes are shown on Figure 3.

OPENING YEAR (2025) CONDITION

The Opening Year condition is expected to coincide with the beginning of production at the Intel chip manufacturing facility in 2025. The Opening Year condition includes the following traffic components:

- Background traffic counts increased to 2025 levels
- Full buildout of the Intel manufacturing facility (all fabrication units)
- A small portion of the New Albany Technology & Manufacturing District (NATMD). It is assumed that 10% of the NATMD will be developed and operational by 2025.

FULL BUILD (2050) CONDITION

The Full Build condition reflects anticipated conditions by 2050. This condition assumes that Intel and NATMD have been fully built out and that adjacent Licking County jurisdictions have fully developed based on newly-evolving land use plans and zoning codes. Traffic volumes for the Full Build condition include the following components:

- MORPC 2050 travel demand model projections (based on a MORPC model developed without Intel-related development)
- Full buildout of the Intel manufacturing facility (all fabrication units)
- Full buildout of the NATMD
- Revised land use changes in adjacent Licking County jurisdictions, in excess of growth forecasts in the MORPC travel demand model. See Future Land Use Changes section for further details.

No construction traffic is included for any of the analysis conditions in this report. Table 1 summarizes the traffic volume condition:

Table 1: Study Analysis Conditions

	EXISTING YEAR	OPENING YEAR (2025)	FULL BUILD (2050)
Traffic Volumes	Traffic Counts	Traffic Counts	MORPC travel demand model
Intel	None	100% built out	100% built out
NATMD	None	10% built out	100% built out
Land Use Changes in Adjacent Licking County Jurisdictions	None	None	All land use changes

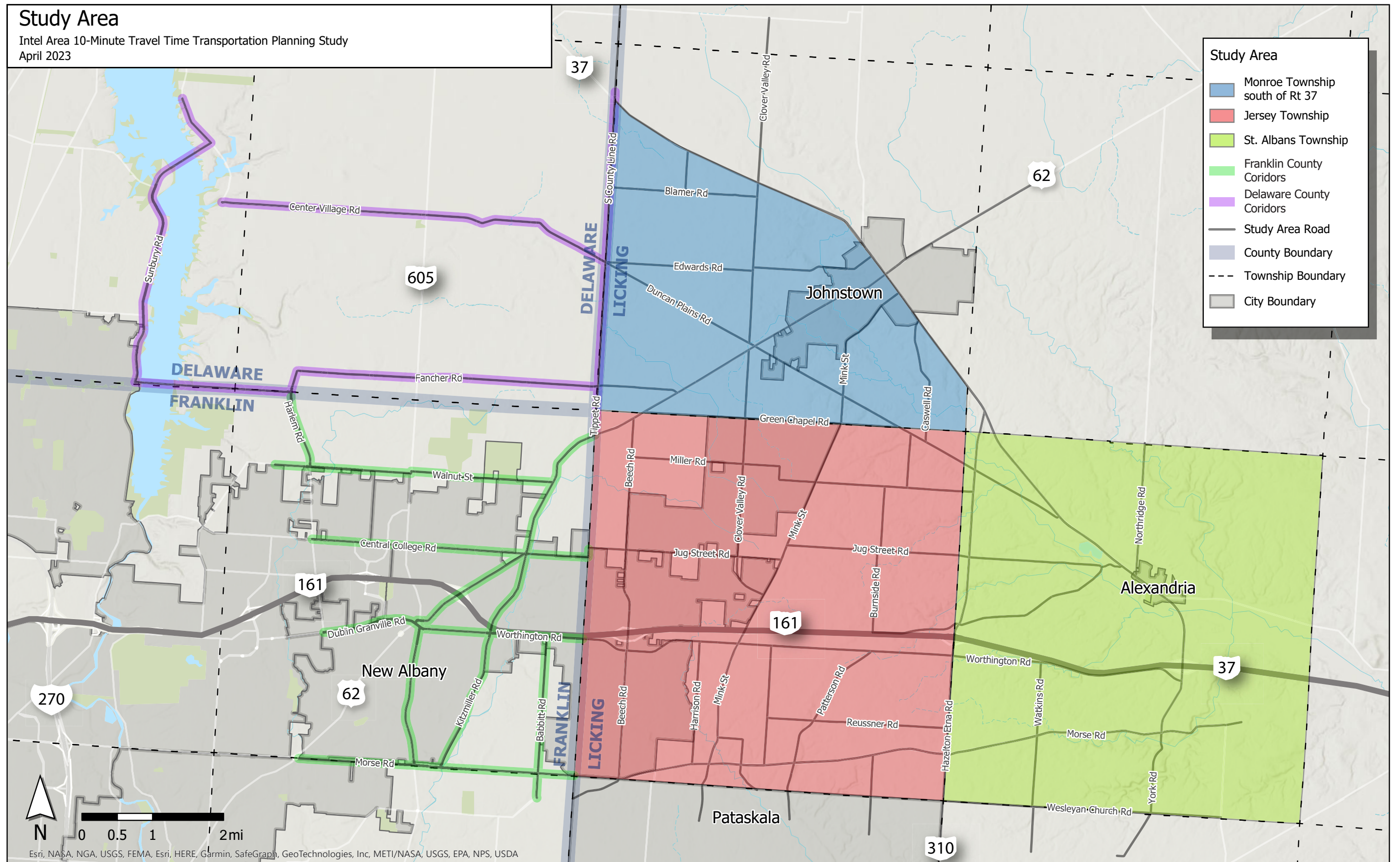


Figure 1: Study Area

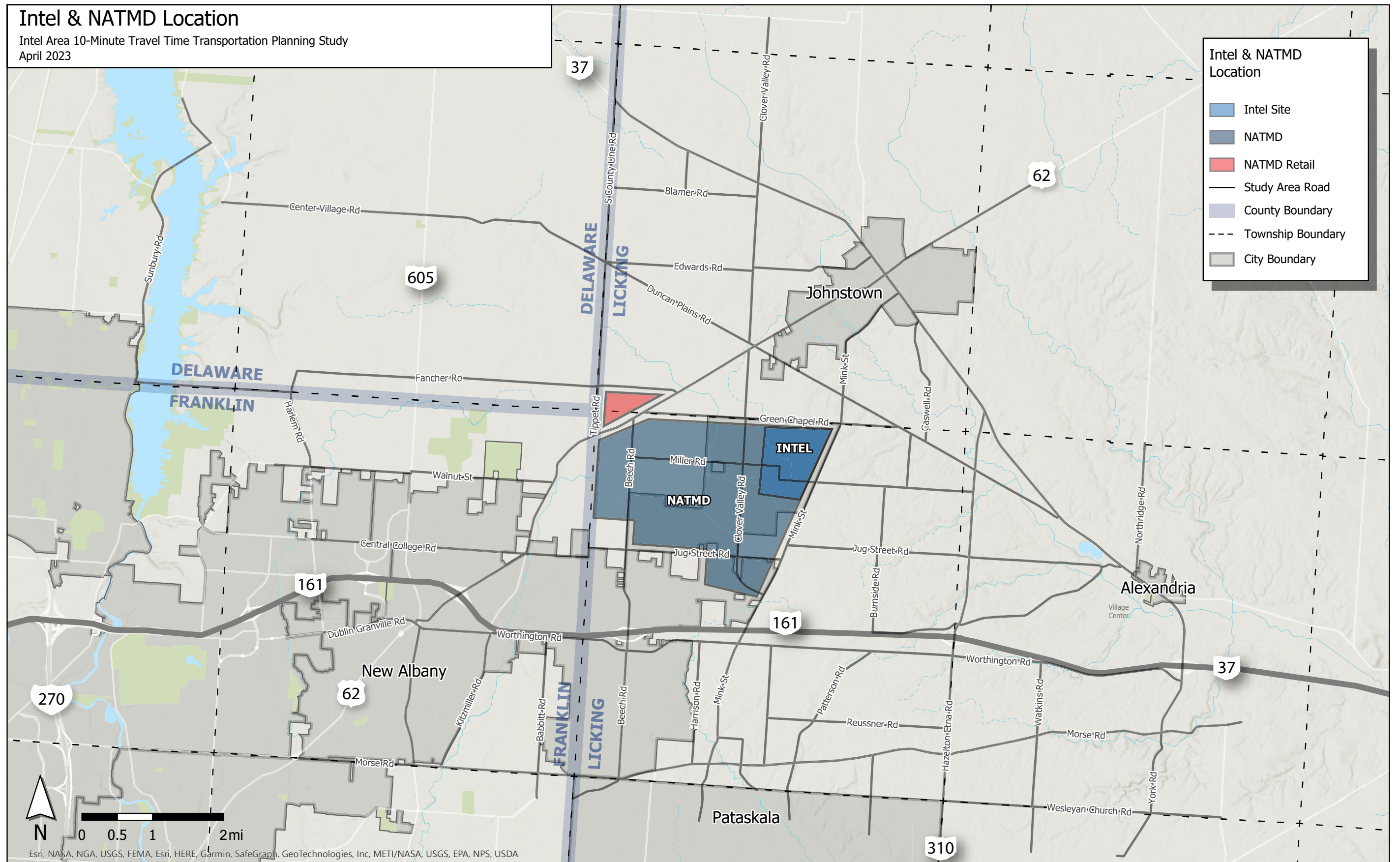


Figure 2: Intel & NATMD Location

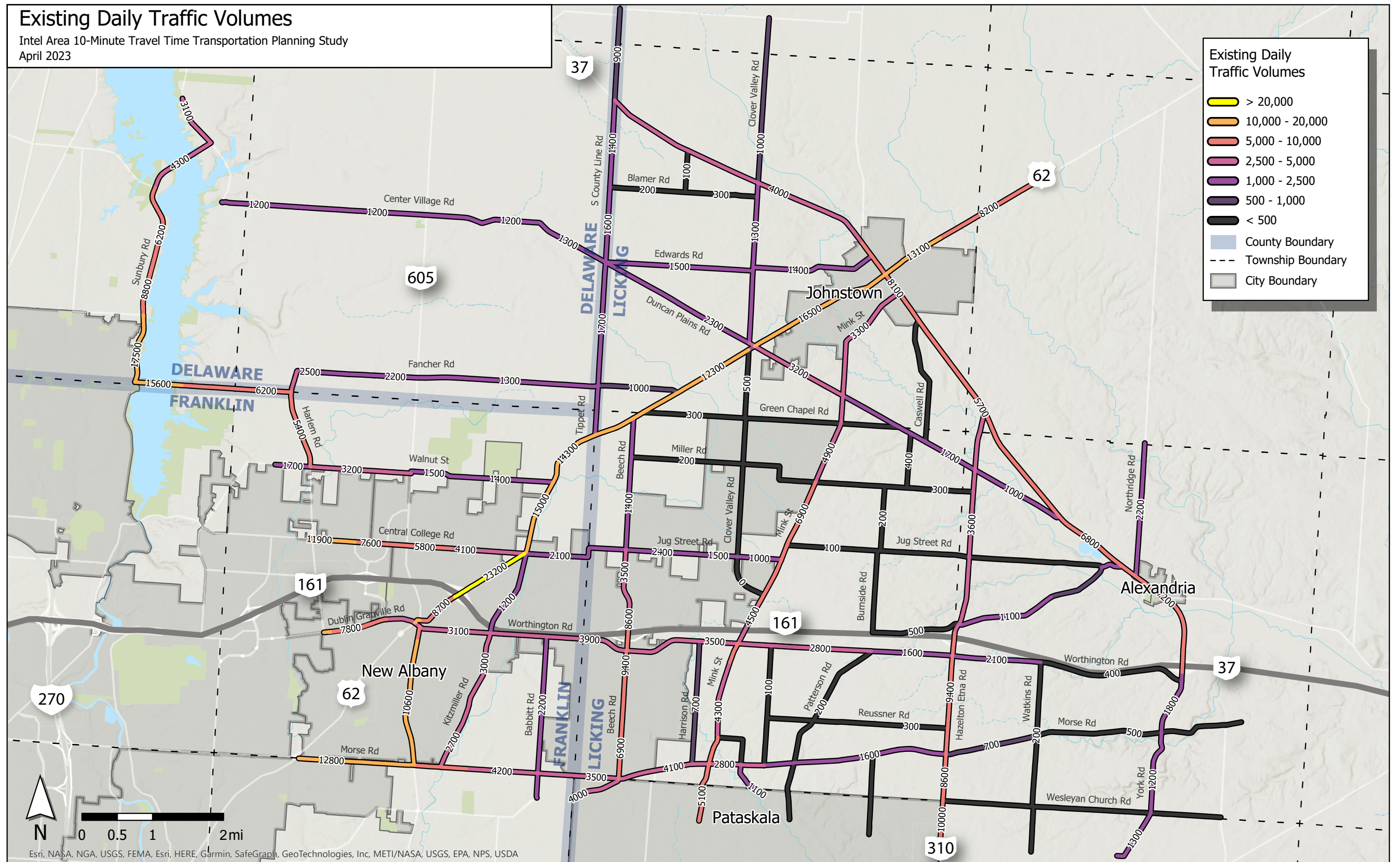


Figure 3: Existing Daily Traffic Volumes

FUTURE LAND USE CHANGES

Due to the presence of Intel and related developments, it is expected that land use in the surrounding areas of Licking County will change. The largely rural areas surrounding the township will see increased densities and more intense land use types. All of the jurisdictions in the study area are in the process of reviewing and/or updating their land use plans, zoning codes, or comprehensive plans to reflect and direct these changes. Representatives from each Licking County study area jurisdiction have attended a series of 10-Minute Travel Time Group meetings regarding this study and have provided updates on land use and zoning changes. The current assumptions for projected land uses are shown on Figure 4.

No additional land use changes were applied to Delaware County or Franklin County portions of the study area. It is assumed that the available MORPC model includes current development plans for these locations.

A summary of each jurisdiction’s land use changes is provided below. Appendix A contains further details on the land use assumptions, including correspondence with the local jurisdictions and draft land use maps where available.

JERSEY TOWNSHIP

Jersey Township is currently in the process of revising its land use plan. The township provided its latest draft land use map to ms consultants on January 13, 2023, along with written comments via email.

The draft land use plan indicates large areas of industrial land uses east of Mink Street north of SR 161. Retail land uses are anticipated near the SR 310 interchange. Higher-density residential land use is expected south of the Worthington Road corridor east of Mink Street, with lower-density residential areas north of SR 161 and near Morse Road

MONROE TOWNSHIP & CITY OF JOHNSTOWN

Monroe Township and Johnstown are discussed together because the planning area of Johnstown extends and covers much of currently unincorporated Monroe Township. The City of Johnstown provided comments on land use projections via email on January 12, 2023. Monroe Township provided feedback on land use projections during meetings on December 20, 2022 and January 25, 2023.

Increased residential densities are anticipated in most of Monroe Township. Additional retail areas are anticipated along the north side of US 62 east of Duncan Plains Road and near the Mink Street/Duncan

Plains Road intersection. Industrial and warehousing land uses are anticipated south of US 62 and Duncan Plains Road.

ST. ALBANS TOWNSHIP

St. Albans Township adopted a new comprehensive plan, including a future land use plan, on December 13, 2022. The future land use plan indicates planned commercial areas along the SR 310 corridor, as well as along both sides of SR 161 near the SR 37 interchange. For the purposes of this study, it has been assumed that retail is developed immediately adjacent to the SR 37 interchange and along the east side of SR 310 between Morse Road and Worthington Road. Light industrial or office land uses would comprise the remainder of the planned commercial acreage. Residential land uses are planned north and south of SR 161. The area north of Jersey Mill Road is anticipated to remain rural.

Residential land use acreages were converted to dwelling units using net densities provided by the local jurisdictions and current/future zoning codes. Commercial/industrial acreages were converted into square footages (commercial/industrial) based on rule-of-thumb development data. The proposed land use changes among these Licking County jurisdictions would greatly increase the population and employment over the levels previously planned for the study area. These changes would translate into over 20,000 new housing units, over 50,000 new residents and millions of square feet of new retail and industrial land uses.

TRIP GENERATION

Trip generation calculations were performed for the anticipated study area developments. This study focuses on daily traffic volumes – not peak hour traffic volumes. A summary of the trip generation, categorized by jurisdiction is provided in Table 1. The detailed trip generation calculations are provided in Appendix D.

INTEL

Intel is in the process of constructing computer chip fabrication facilities on property recently annexed into New Albany. The Intel site (shown on Figure 2) is bounded by Green Chapel Road, Mink Street, Miller Road, and Clover Valley Road. The main employee parking entrance is expected to be located on Green Chapel Road, with other access points on Clover Valley Road and Mink Street.

Trip generation for the Intel chip plant was taken from the 2022 NATMD Traffic Impact Study, prepared by Carpenter-Marty Transportation (Appendix C). But

unlike the NATMD, it was assumed that the entire Intel campus will be fully built out in the Opening Year (2025) condition, as well as the Full Build (2050) condition. Thus, the full buildout of 44,000 trips per day was used in both Opening and Full Build conditions.

Trips to/from the Intel facility were distributed per forecasts from the Ohio Department of Transportation (ODOT) Office of Statewide Planning and Research. This ODOT modeling projected where Intel employees would likely live. The ODOT projections are provided in Appendix E.

NEW ALBANY TECHNOLOGY & MANUFACTURING DISTRICT (NATMD)

The NATMD borders the Intel site to the south and west. The NATMD is expected to consist of approximately 20 million square feet of warehousing or data center land uses. As indicated in the NATMD Traffic Impact Study, several roads within the NATMD will be improved, realigned, or extended.

Trip generation for the NATMD was taken from the NATMD TIS. For the Opening Year, it is assumed that 10% of the NATMD will be constructed and operational (Phase 1 of NATMD). In the Full Build condition, all of the NATMD is expected to be built.

The majority of the NATMD is expected to be warehousing, industrial, or data center land uses. However, one portion of the NATMD – a triangular area north of US 62, east of County Line Road, and south of Fancher Road - is anticipated to be developed as retail. The NATMD TIS indicated that 500,000 square feet

of shopping center would be developed in this area, which would generate a large volume of traffic.

Industrial/warehouse trips to/from the NATMD were distributed to the road network using the same distribution as the Intel trips – using the ODOT modeling data shown in Appendix E. Trips to/from the NATMD retail component were distributed based on the location of surrounding population and residential areas.

LAND USE CHANGES

Outside of Intel and NATMD, no changes to surrounding land uses was assumed in the Opening Year condition. Land use and zoning changes were only assumed in the Full Buildout condition.

Daily trips were generated for the study area using *ITE Trip Generation, 11th Edition*. Because the 2050 MORPC traffic forecasts were used as a baseline in developing the Full Build condition traffic projections, development already included in MORPC’s travel demand model was removed from the trip generation totals.

For each land use area, trips were distributed onto the study area roadway network. Residential traffic distribution was based on proximity to employment centers, retail and education facilities. Office and industrial traffic distribution was based on regional workforce population. Retail trips were distributed according to nearby residential areas. Because of the rapidly changing dynamics, the accelerated timeframe needed for this study, travel demand modeling was not used in this study. MORPC is currently in the process of updating their travel demand model for the area and is expected to have updated forecasts later in 2023.

Table 2: Daily Trip Generation Summary

	OPENING YEAR (2025)	FULL BUILD (2050)
Intel	44,000	44,000
NATMD	4,600	46,000
Jersey Township land use changes	0	185,000
Monroe Township/Johnstown land use changes	0	95,000
St. Albans Township land use changes	0	110,000
TOTAL TRIPS	48,600	480,000

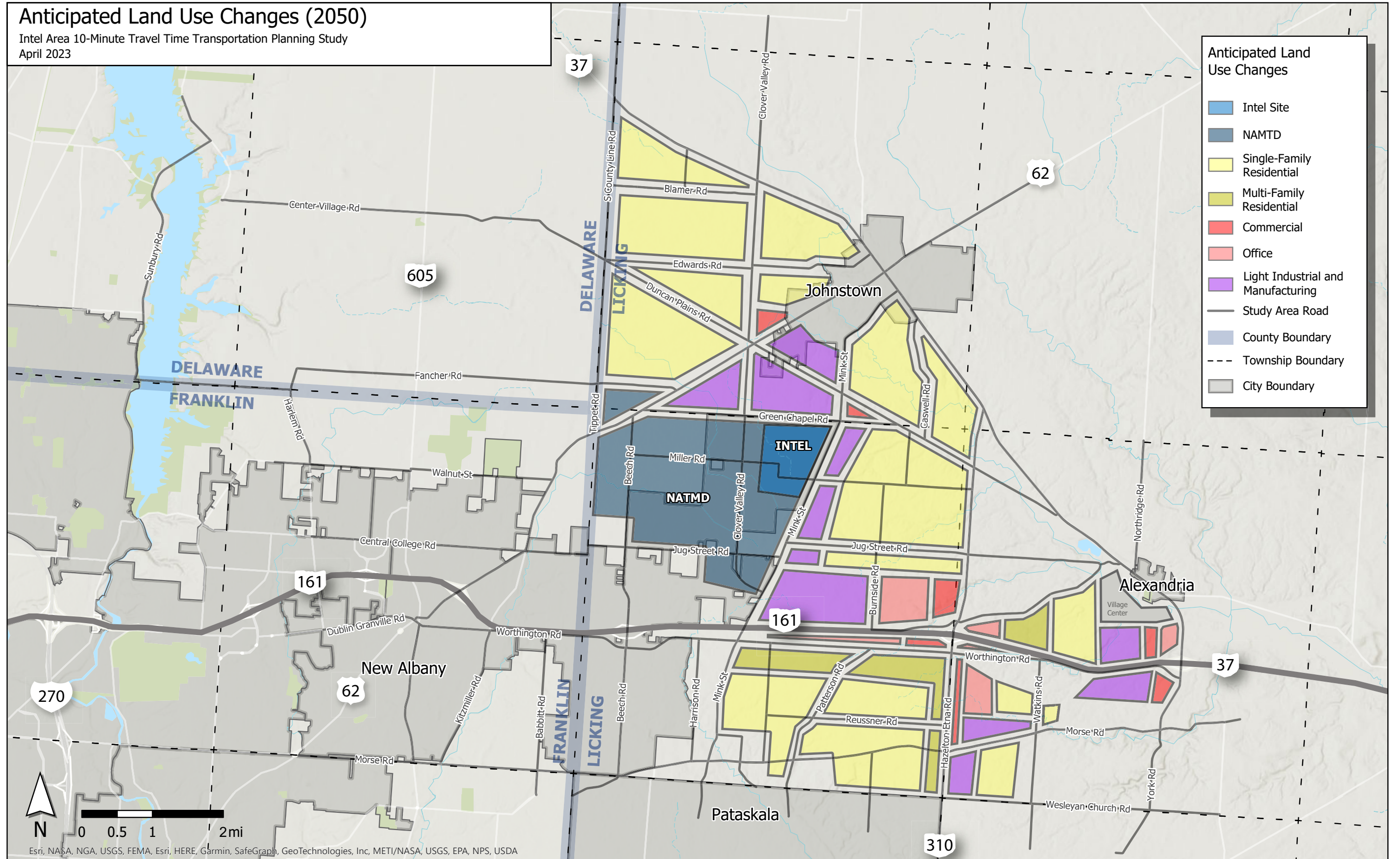


Figure 4: Anticipated Land Use Changes (2050)

OPENING YEAR (2025) CONDITION

Opening Year traffic projections are shown on Figure 5. In the Opening Year condition, traffic volumes are expected to increase substantially on many roadways serving as routes to and from the Intel and NATMD sites. Traffic volumes on many routes expected to be used by Intel traffic are expected to increase by 2-3 times current levels (Figure 6). Most of these roadways are county roads with narrow lane widths and narrow or non-existent shoulders, and are not designed to carry heavier volumes of traffic. Traffic volumes will also increase at already-congested intersections (US 62/SR 37, SR 37/ Jersey Street) in the City of Johnstown.

Figure 7 shows roadways with narrow widths (less than 24' total width) that are expected to see volumes rise to levels in excess of 2,000 vehicles per day in the Opening Year (2025). Narrow low-volume roads are unlikely to be able to safely support daily volumes of 2,000 or more vehicles. At that level of traffic, full-depth pavement reconstruction is likely needed to provide a safe roadway or maintain structural integrity of the pavement.

In Licking County, Clover Valley Road, Fancher Road, most of Duncan Plains Road, and Jug Street Road west of Beech Road are narrow roads expected to carry over 2,000 daily vehicles in the 2025 Opening Year. In Delaware County, traffic volumes on Center Village Road, County Line Road, and Fancher Road are expected to cross the 2,000 vehicle-per-day threshold. Most roadways in Franklin County already have pavement widths and designs suitable to carry larger volumes of traffic, and would not require reconstruction to accommodate larger volumes in Opening Year.

Based on the projected traffic volumes and existing roadway/pavement conditions, the following recommendations in Table 3 have been developed for the Opening Year:

Table 3: Opening Year (2025) Roadway Recommendations

COUNTY	ROADWAY	PROJECT LIMITS	RECOMMENDED IMPROVEMENT
Licking	Clover Valley Road	Green Chapel Rd. to US 62	Full-depth reconstruction
	Clover Valley Road	Duncan Plains Rd. to SR 37	Full-depth reconstruction
	Duncan Plains Road	County Line Rd. to SR 310	Full-depth reconstruction
	Fancher Road	County Line Rd. to US 62	Full-depth reconstruction
	Mink Street	Green Chapel Rd. to Duncan Plains Rd.	Full-depth reconstruction
	Duncan Plains Road	SR 310 to SR 37	Resurfacing
	Miller Road	Mink Street to SR 309	Resurfacing
	Jug Street Road	Mink Street to SR 310	Resurfacing
Delaware	Center Village Road	Red Bank Rd. to County Line Rd.	Full-depth reconstruction
	County Line Road	FRA Co. line to SR 37	Full-depth reconstruction
	Fancher Road	Harlem Rd. to County Line Rd.	Full-depth reconstruction
Franklin	Central College Road	Sunbury Rd. to FRA/LIC Co. line	Resurfacing
	Tippet Road	US 62 to DEL Co. line	Full-depth reconstruction
	Walnut Street	Harlem Rd. to US 62	Resurfacing

These Opening Year recommendations comprise 12 miles of reconstruction and 6 miles of resurfacing in Licking County, 14 miles of reconstruction in Delaware County, and 9 miles of resurfacing in Franklin County.

In addition to the roadway links, numerous intersections along these routes will see substantial increases in traffic. Many of these locations have geometric challenges such as skew angles, sight distance (nearby vertical curves), or over 4 legs at the intersection. Most of these are stop-controlled locations with high speeds, which may not be suitable to serve higher traffic volumes. Recommended intersections/spot locations for Opening Year improvements are summarized in Table 4.

Table 4: Opening Year (2025) Intersection Improvement Recommendations

COUNTY	INTERSECTION
Licking	US 62 & Duncan Plains Rd./Clover Valley Rd.
	Mink Street & Duncan Plains Rd.
	Duncan Plains Rd. & Green Chapel Rd.
	Duncan Plains Rd. & Caswell Rd.
	SR 37 & Clover Valley Rd.
	SR 310 & Duncan Plains Rd.
	US 62 & Fancher Rd.
Delaware	SR 37 & County Line Rd.
	Center Village Rd. & County Line Rd./Edwards Rd.
	Fancher Rd. & County Line Rd.
Franklin	Central College Rd./Jug Street Rd. S-curve at FRA/LIC Co. line
	Central College Road

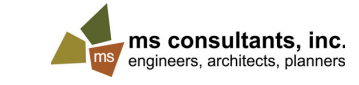
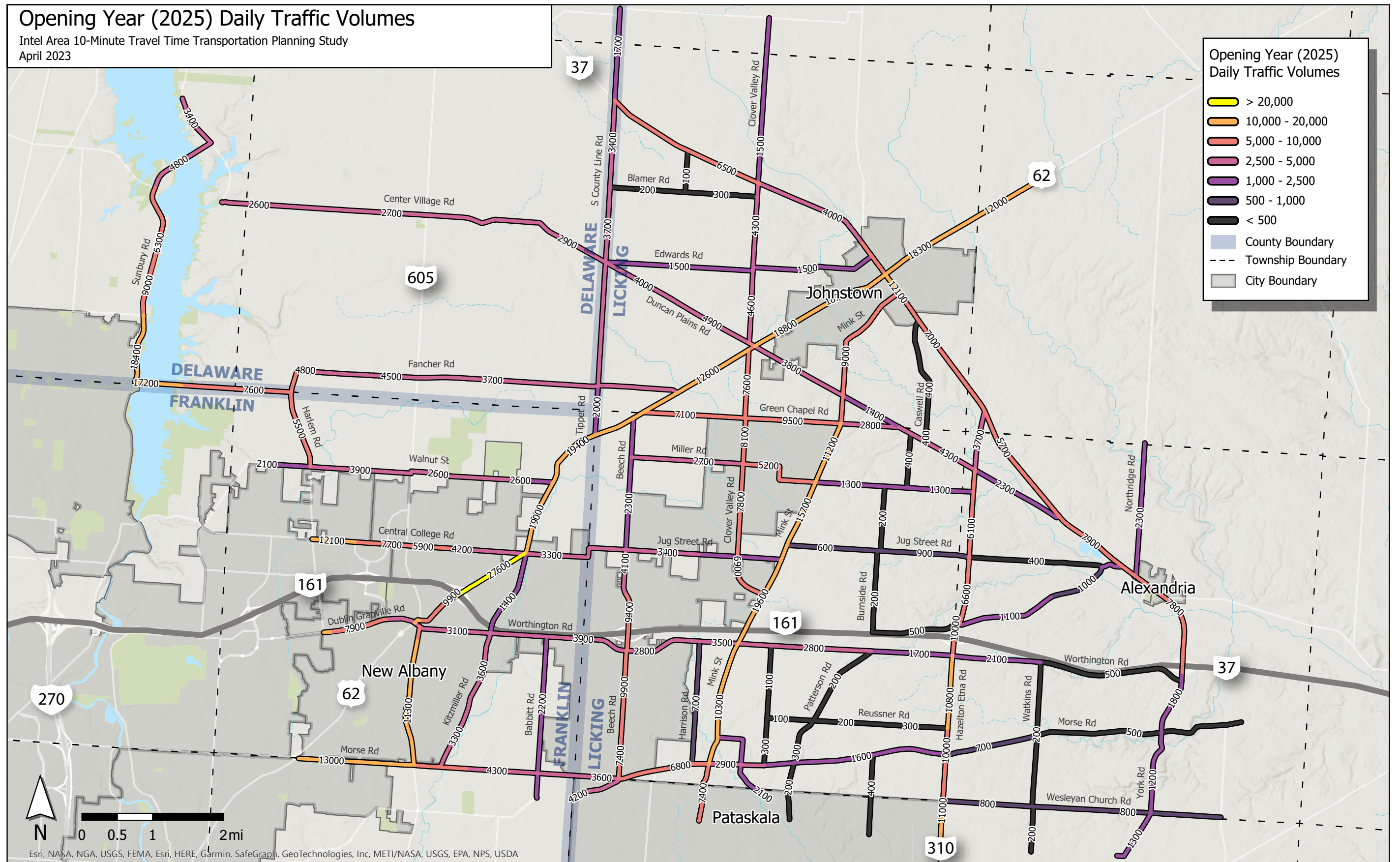


Figure 5: Opening Year (2025) Daily Traffic Volumes

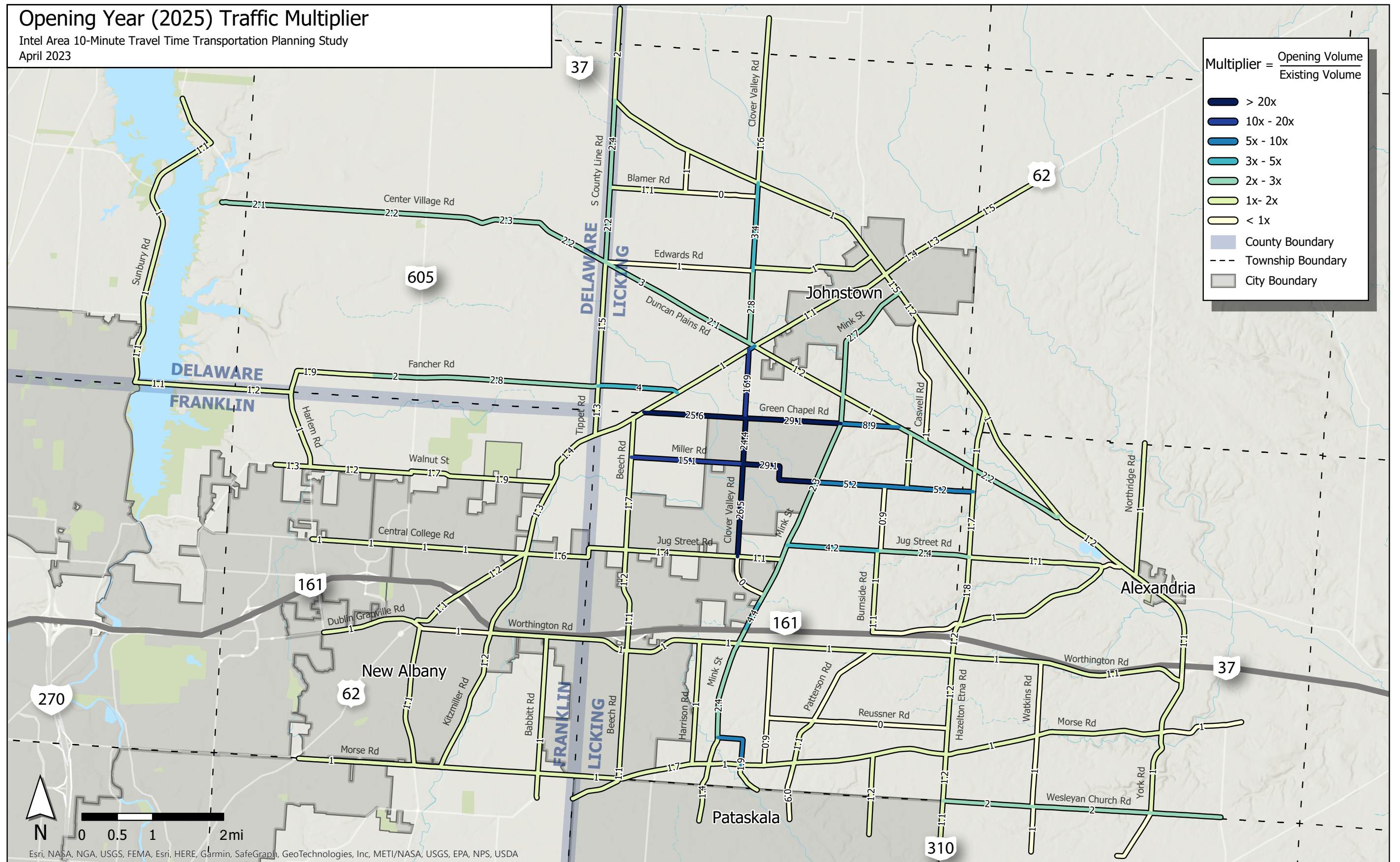


Figure 6: Opening Year (2025) Traffic Multiplier

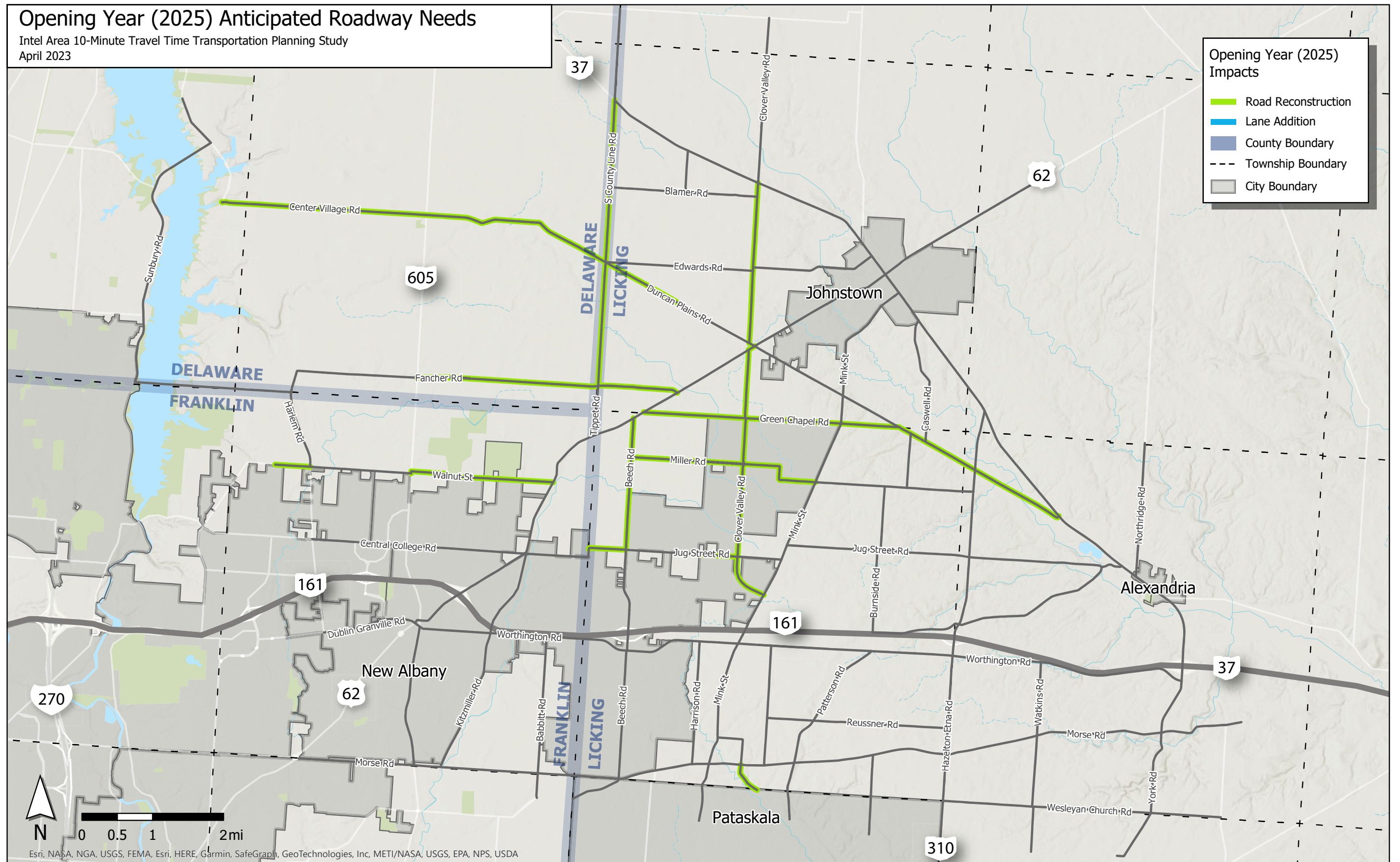


Figure 7: Opening Year (2025) Anticipated Roadway Needs

FULL BUILD (2050) CONDITION

The Full Build condition traffic volumes were obtained by adding Intel, NATMD, and future land use changes to MORPC 2050 volume projections. The MORPC 2050 traffic volume projections, which were developed prior to the Intel announcement, are shown on Figure 8. The resulting Full Build (2050) traffic projections are shown on Figure 9. In the Design Year, nearly every study area roadway is expected to see large traffic increases. Many county roads are expected to see traffic volumes 5-10 times higher than current volume levels (Figure 10).

Nearly every county road is expected to have volumes in excess of 2,000 vehicles per day, which would imply that reconstruction will be needed for facilities that are currently narrow low-volume roads. It should be noted that local land use changes, as opposed to Intel and NATMD, are responsible for most of the projected volume increases. Thus, many improvements may be constructed or paid for by private entities in conjunction with development projects. The expected increase in traffic volumes associated with Intel and NATMD traffic is shown on Figure 11.

A collector or arterial roadway, designed to current standards, can typically accommodate up to approximately 20,000 vehicles per day with just a single through lane in each direction. Daily volumes in excess of 20,000 often require two through lanes (4 or 5 total lanes) to adequately handle traffic. Based on the traffic volumes in Figure 9, it appears that the majority of county road segments would function acceptably with a single through lane in each direction, and are not expected to require widening for additional through lanes (Figure 12). However, widening for turn lanes may be needed at major intersections to obtain capacity for traffic to operate acceptably.

CONCLUSION

By Opening Year (2025) several county road segments are expected to need improvements to operate safely due to the increase in traffic. By the Design Year, nearly every county road in the study area is expected to require improvements. Figure 13 shows the Existing, Opening Year, and Full Build condition traffic volumes for each road segment in the study area.

Continued study is needed to develop Full Build improvements/priorities. Key study area intersections should be studied for long-term needs, prior to development occurring that could hinder the implementation of potential solutions. Traffic volume projections for this area will continue to be refined as MORPC updates land use projections into their regional travel demand model.

Based on the findings of this study, a list of projects recommended for implementation by Opening Year (2025) has been developed. These projects are shown on Figure 14. Implementation of these projects will help to safely and efficiently deliver traffic to/from the Intel site on the local road system.

It is recommended that several key Licking County roadways should be considered to become Federal-aid eligible routes. These roadways, highlighted in Figure 15, will see substantial increases in traffic volumes and be crucial links for mobility to/from Intel and its surrounding future job centers. Commuter traffic and truck traffic to/from the north and east of the Intel area will be reliant on the routes highlighted on Figure 15.

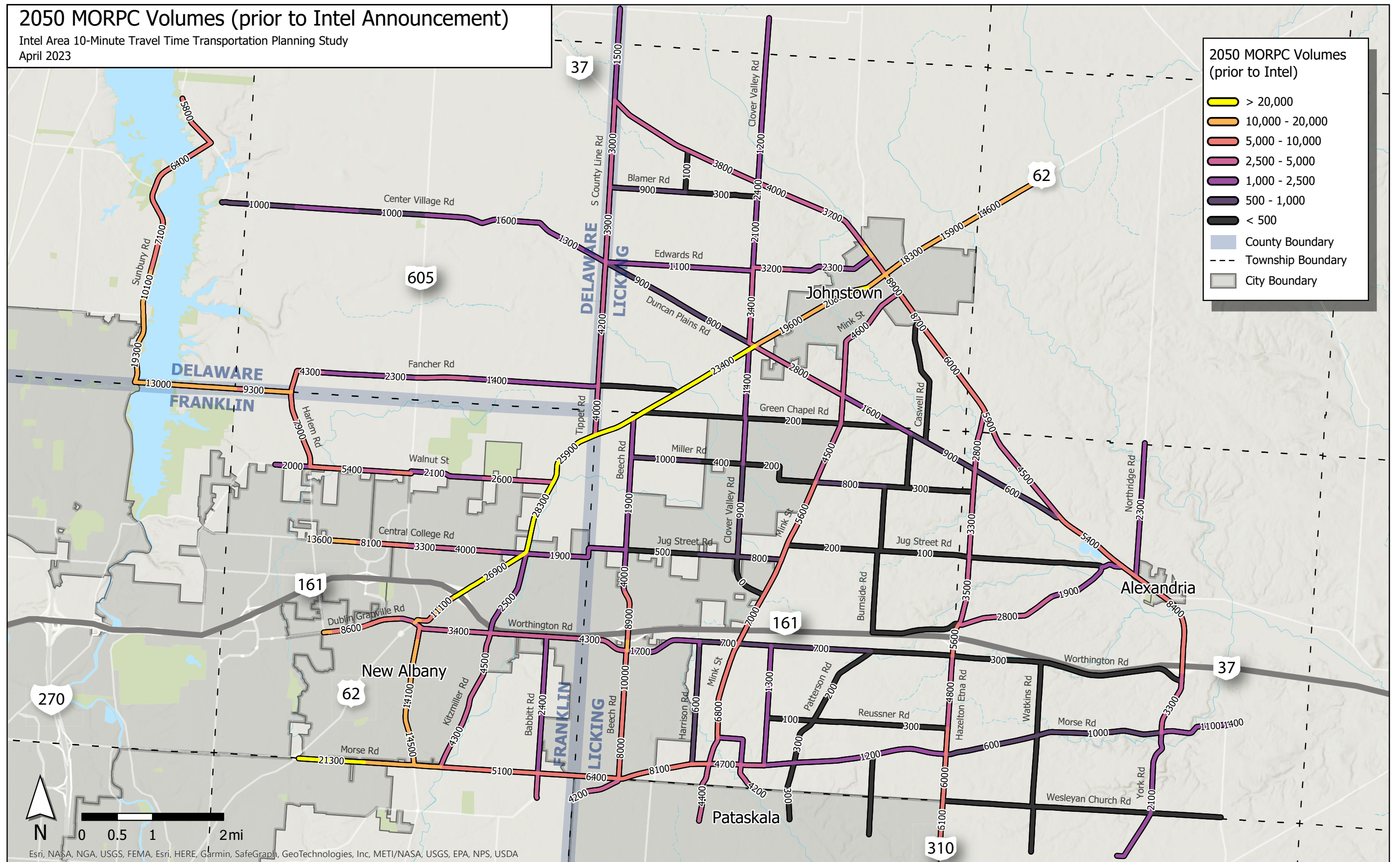


Figure 8: 2050 MORPC Volumes (prior to Intel Announcement)

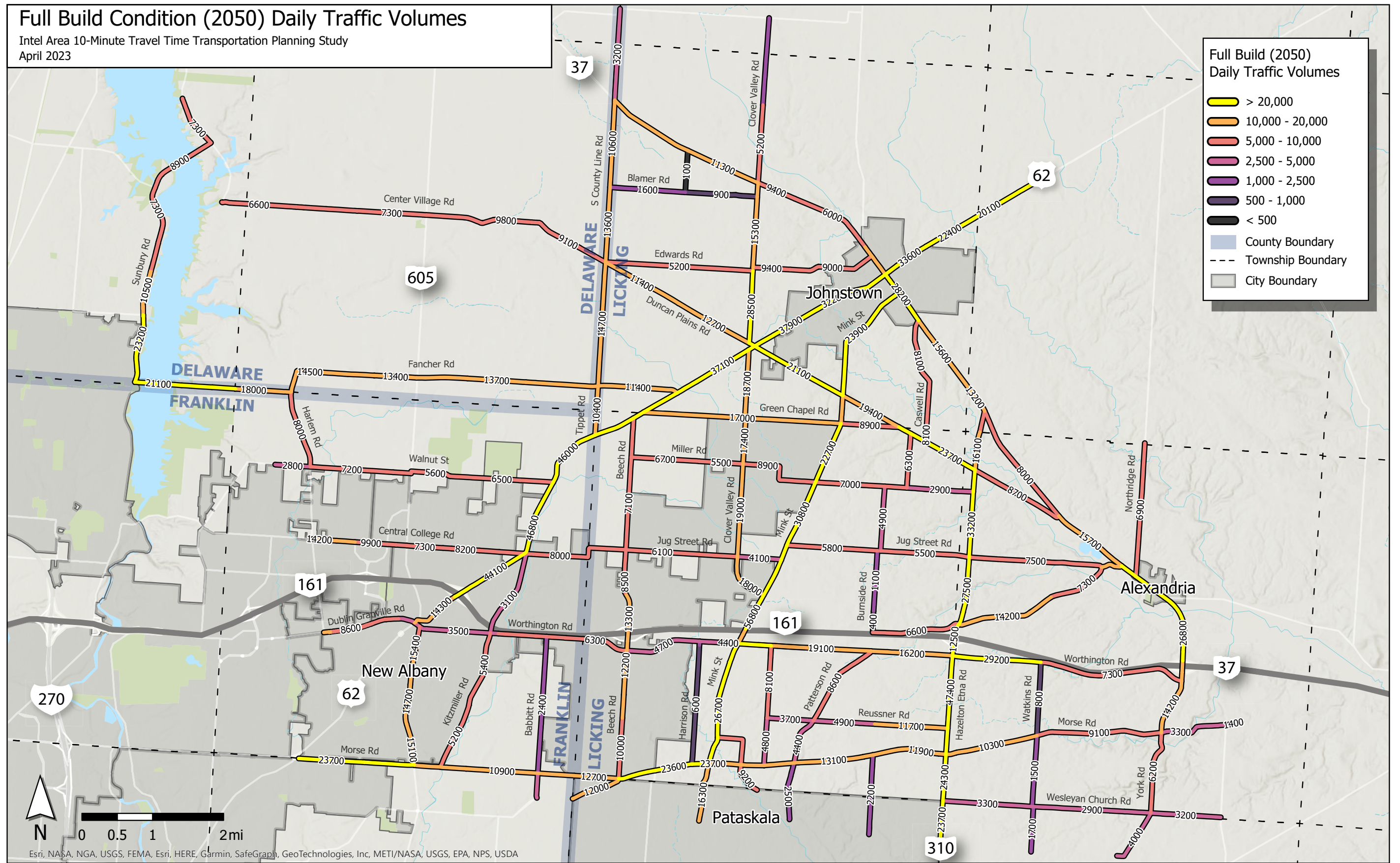


Figure 9: Full Build (2050) Daily Traffic Volumes

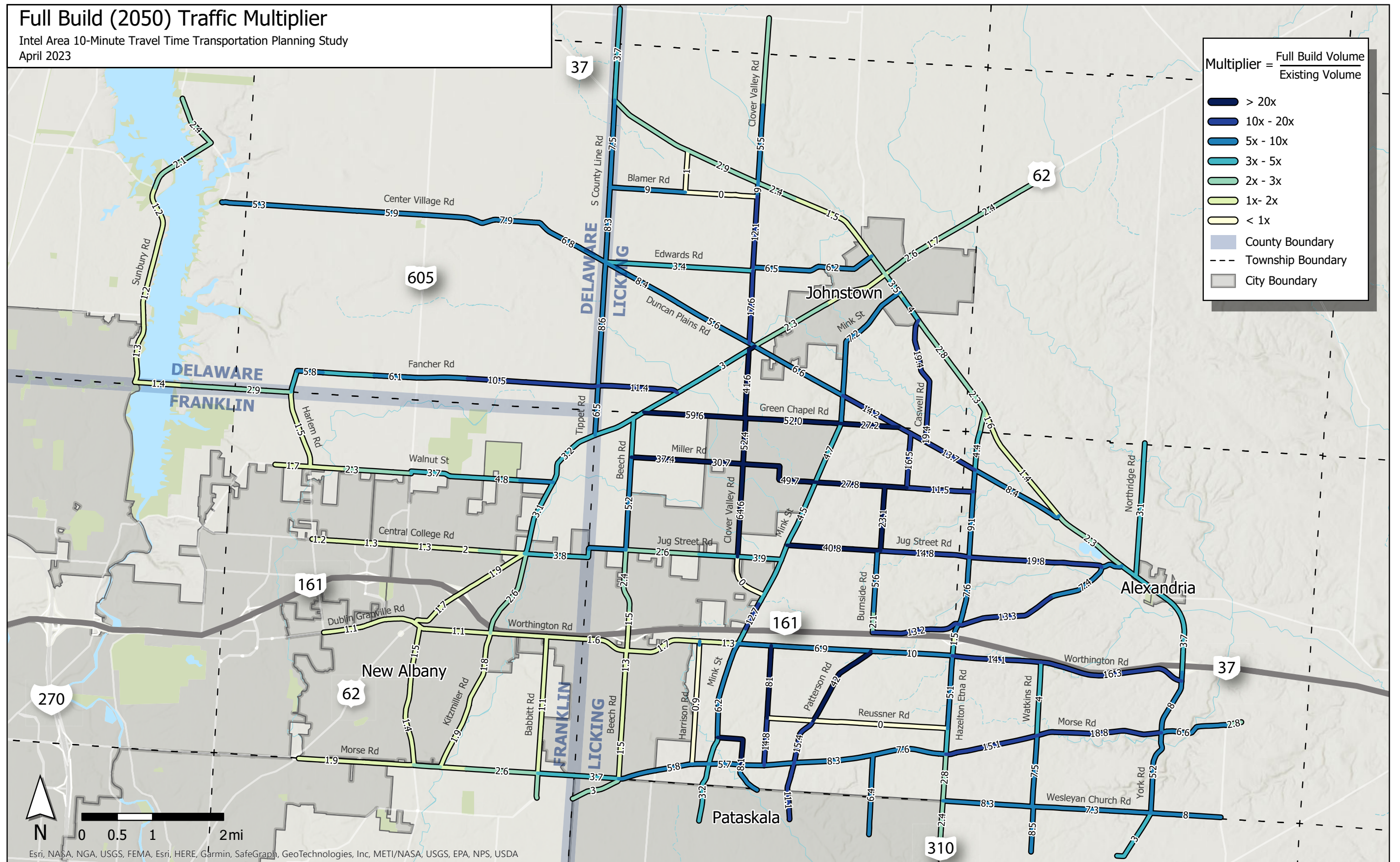


Figure 10: Full Build (2050) Traffic Multipliers

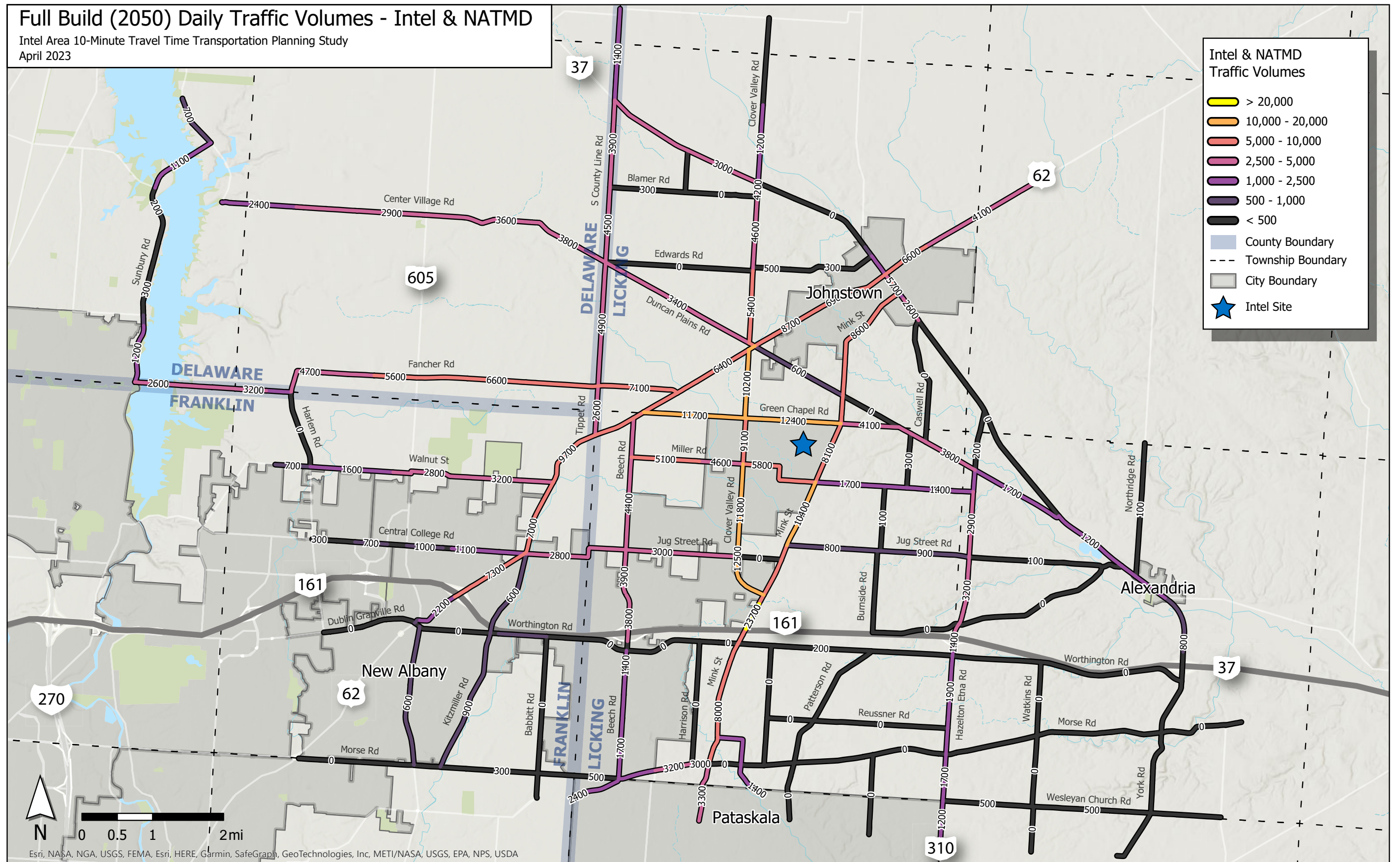


Figure 11: Full Build (2050) Daily Traffic Volumes - Intel & NATMD

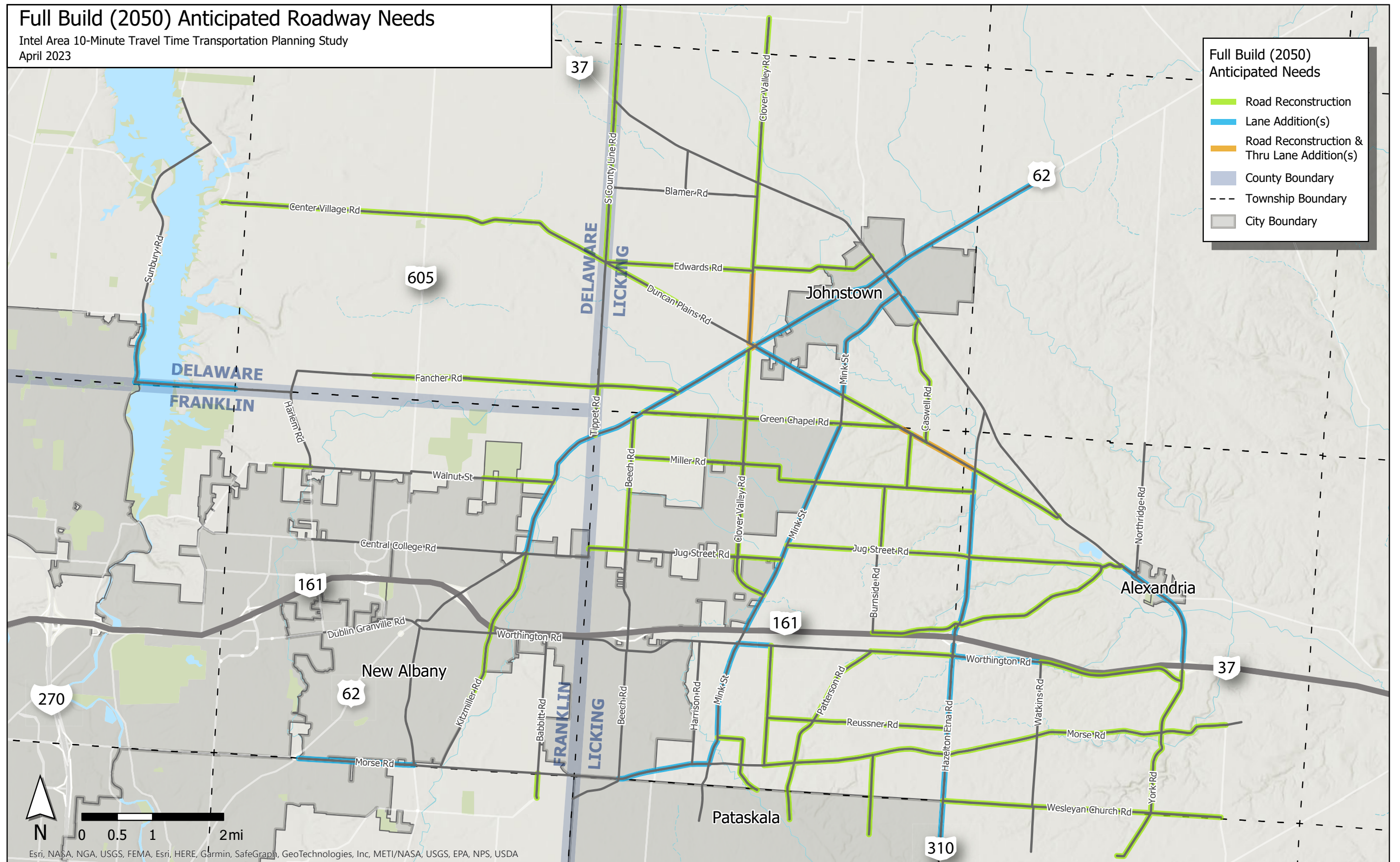


Figure 12: Full Build (2050) Anticipated Roadway Needs

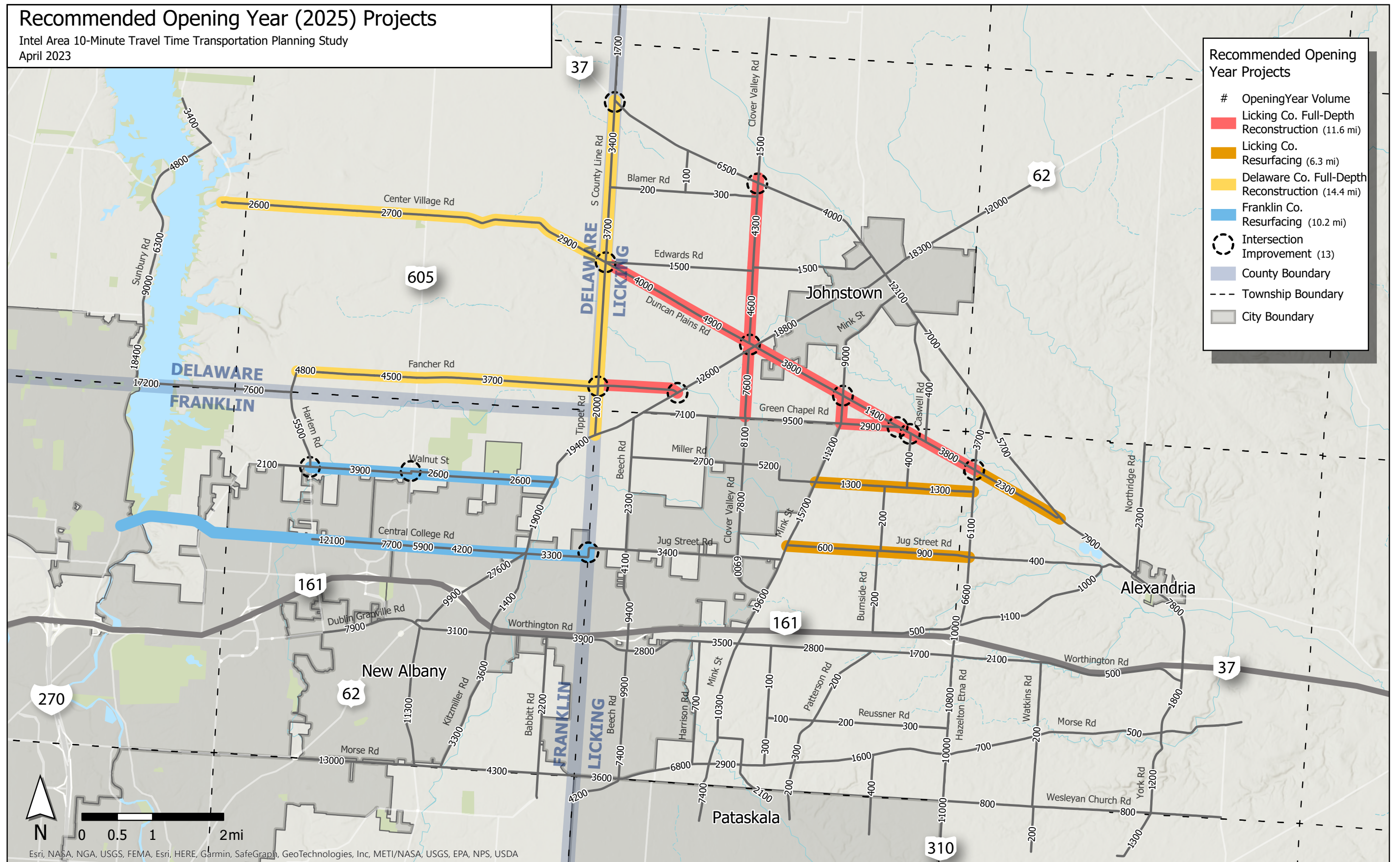


Figure 14: Opening Year Recommendations

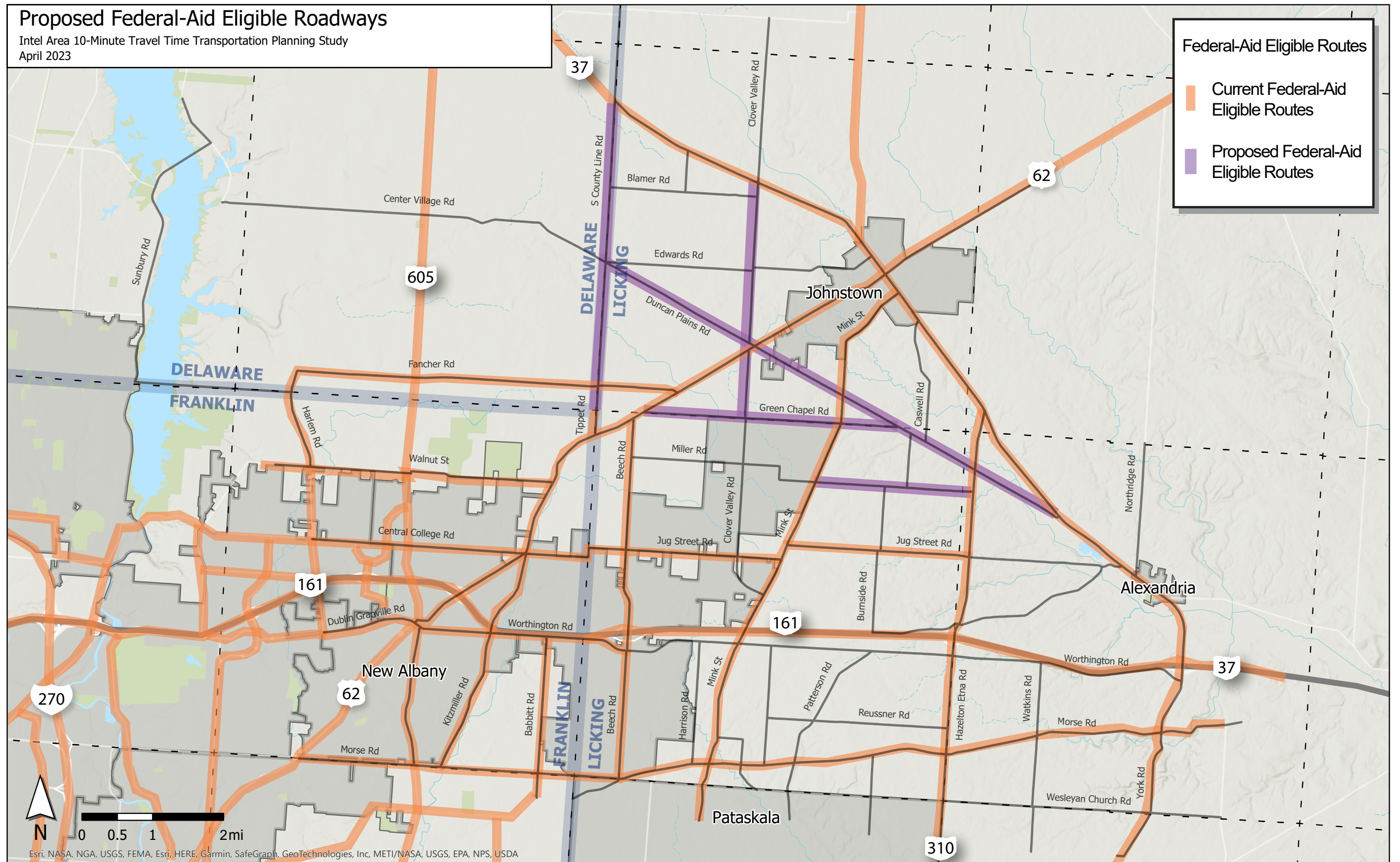


Figure 15: Proposed Federal-Aid Eligible Roadways