



2024 FREIGHT PLAN



2024 FREIGHT PLAN

September 2024

Akron Metropolitan Area Transportation Study
1 Cascade Plaza, Suite 1300
Akron, Ohio 44308

This report is the product of a study financed (in part) by the U.S. Department of Transportation's Federal Highway Administration, Federal Transit Administration and the Ohio Department of Transportation.

The contents of this report reflect the views of the Akron Metropolitan Area Transportation Study which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification or regulation.

Cooperative transportation planning by the Village, City and County governments of Portage and Summit Counties and the Chippewa and Milton Township areas of Wayne County; in conjunction with the U.S. Department of Transportation and the Ohio Department of Transportation.

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

2 INTRODUCTION

- 2 Purpose
- 2 Importance of Freight Movement

4 ROADWAY FREIGHT

- 4 Selected Roadway Freight-Related Employment Statistics in Ohio, May 2023
- 5 Environmental and Safety Concerns
- 5 Table 1-1: Mileages by Roadway Classification
- 5 Table 1-2: Number and Deck Area of Bridges
- 6 The Ohio Turnpike
- 6 Ohio Turnpike Annual Freeflow Traffic (2016-2023)
- 7 Highway / Trucking Network

9 RAILWAY FREIGHT

- 9 Area Rail Carriers
- 9 Intermodal Freight
- 10 Map 2-1 | Rail Line Ownership
- 12 METRO RTA
- 13 Recent Changes to the Rail System
- 13 Concerns
- 14 Congestion
- 14 Highway-Rail Grade Crossings
- 15 Table 2-1 | High-Volume At-Grade Rail Crossings
- 16 Map 2-2 | High Volume At-Grade Crossings
- 17 Quiet Zones
- 17 Rail Network Outlook

19 FREIGHT PROFILES

- 19 What Are Job Hubs?
- 19 Methodology
- 19 AMATS Job Hubs
- 20 Firestone Park Freight Corridor
- 24 Downtown Akron Freight Corridor
- 28 Barberton Freight Corridor
- 32 Green Freight Corridor
- 36 Cuyahoga Falls Freight Corridor
- 40 Chapel Hill Freight Corridor
- 44 East Akron / Airport Freight Corridor
- 48 Akron-Canton Airport Freight Corridor
- 52 Twinsburg Freight Corridor
- 56 Aurora / Streetsboro Freight Corridor
- 60 Richfield Freight Corridor

- 64 Hudson / Stow Freight Corridor
- 68 Brimfield Freight Corridor
- 72 South Kent Freight Corridor
- 76 Gilchrist Road Freight Corridor
- 80 Rolling Acres Freight Corridor

84 PERFORMANCE MEASURES

- 84 Travel Time Reliability and Freight Movement Performance Measures
- 84 Table 4-1 | ODOT Travel Time Reliability Targets
- 85 Table 4-2 | AMATS Travel Time Reliability
- 85 Table 4-3 | Ohio Travel Time Reliability
- 85 Table 4-4 | TIP Projects (FY 2024-2027)

87 RECOMMENDATIONS

88 CONCLUSION

EXECUTIVE SUMMARY

The Akron Metropolitan Area Transportation Study (AMATS) is the federally designated Metropolitan Planning Organization (MPO) for the Greater Akron, Ohio area. AMATS is responsible for directing the continuing, cooperative, and comprehensive transportation planning process for the region in order to receive federal funds for transportation improvements. AMATS is committed to ensuring that transportation improvements meet the needs of the region and that federal transportation funds are used in an efficient, effective, and equitable manner.

The movement of freight is an important part of a fully functioning transportation system. The efficient movement of freight within and through a region is critically important to industry, retail commerce, agriculture, international trade and terminal operators. Metropolitan areas with air cargo airports, freight yards, trucking terminals, and shipping facilities are especially affected by freight movement issues.

The purpose of this report is to identify the transportation systems that exist in the AMATS area used to move freight into, out of, and within the region. This report will also address the factors and trends that affect the multiple modes of traffic and the flow of freight, as well as the procedures used for planning and programming freight-related projects through the AMATS transportation planning process. The projects and strategies recommended in this report will be considered as part of the Regional Transportation Plan update process.

The AMATS freight-planning process includes three primary strategies:

- » Develop and maintain databases and analysis tools for decision-making
- » Interact with freight stakeholders to better understand the freight system, identify common issues and build consensus
- » Incorporate freight into the regional planning process

INTRODUCTION

AMATS and the Ohio Department of Transportation (ODOT) are responsible for ensuring that freight movement is considered in the transportation planning process. This report identifies the elements of the transportation system that are critical for the movement of goods, to determine where improvements can be made, and to offer recommendations for those improvements. Examples of transportation projects that are freight-related or critical to goods movement include bridge replacements, road widening, rail-access improvements, terminal facility enhancements, grade separations for highway and rail, and connections to cargo terminals and new commercial infrastructure. Additionally, job hubs help to identify where products are being manufactured as well as where goods are being delivered. A number of job hubs are studied in this report to determine where goods movement may encounter traffic issues.

This report analyzes the highway and rail freight network. It identifies regional job hubs that generate freight activity and evaluates the freight network's efficiency in these job hubs. Finally, the AMATS Freight Report recommends strategies to improve the freight network in the AMATS region. The recommendations made in the 2024 Freight Report will be considered for inclusion in Transportation Outlook 2050, the area's long-range transportation plan.

Purpose

The movement of freight is an important part of a fully functioning transportation system. The efficient movement of freight within and through a region is critically important to industry, retail commerce, agriculture, international trade, and terminal operators. Metropolitan areas with their higher density of development served by air cargo airports, intermodal freight yards, large trucking terminals, and shipyards are especially affected by freight movement issues.

Examples of transportation projects that are freight-related or critical to goods movement include bridge replacements, road widening, port and rail access improvements, terminal facility enhancements, grade separations for highway and rail and providing connections to air cargo and new commercial infrastructure.

The purpose of this report is to identify the transportation systems in the AMATS area that are used to move freight into, out of, and within the region. This report will also address the factors and trends that affect the multiple modes of traffic and the flow of freight, as well as the procedures used for planning and programming freight-related projects through the AMATS transportation planning process.

AMATS and the Ohio Department of Transportation (ODOT) are responsible for making sure that freight movement is considered in the transportation planning process. Federal legislation calls for the statewide and metropolitan planning processes to include reasonable opportunity for the public and interested parties, including freight shippers and providers of freight transportation services, to participate in the development of transportation plans and programs.

Many state DOTs and MPOs have systematically incorporated freight movement issues into their planning activities. This report attempts to:

- » Define those elements of the area's transportation system that are critical for the efficient movement of freight,
- » Identify ways to measure system performance in terms of freight movement,
- » Develop freight-oriented data collection and modeling in order to identify problems and potential solutions, and
- » Discuss critical issues and identify important bottlenecks in the freight network.

Importance of Freight Movement

Freight movement is an important component of the national, regional, and local economies. The term "freight" is used generically throughout this report to indicate the commercial transport of goods. Goods need to be shipped from their point of origin to their final consumer destination. The term "goods" used in the plan refers to all items, except services, that can be moved commercially. Freight movement can be by truck, rail, air, water, or pipeline; but usually freight movement is accomplished by a combination of modes. Freight arriving from other countries in container ships at major US maritime ports, or goods manufactured in the US, are transferred to rail, trucks, or pipelines and shipped to other distribution centers for additional modal transfers. These goods eventually arrive at shopping malls, grocery stores, car dealers, department stores, other manufacturing centers, or directly to our homes. Freight transportation has grown over time with the expansion or shifting of population and economic activity within the United States and with the increasing interdependence of economies across the globe.

Freight plays a significant role within the AMATS area. As consumer demands increase, the transportation system throughout the region and nation will experience an increase in freight movements (by truck, rail, air, and waterway). According to the Federal Highway Administration (FHWA), the total amount of freight tonnage that moves through the nation's transportation network is expected to double by 2060.

Factors such as population growth and economic growth drive increasing vehicle miles traveled (VMT) and increased demand for goods, resulting in more freight transportation. The growth of on-line commerce and demand for next day delivery have impacted freight movements, with more need for on-demand and short-distance transportation. This has resulted in the development of warehouses and distribution centers on the urban periphery and into urban areas. These new warehouses and distribution centers in these areas generate additional truck traffic near last-mile corridors. Furthermore, on-line commerce growth has driven an increase in parcel delivery traffic on local street networks and two-lane systems. With these changing patterns come new challenges: potential land use conflict and a need to incorporate freight-related land uses into urban area development; the need to match traffic operations and infrastructure to meet increased traffic; and need to mitigate the exacerbation or creation of new problems, such as facility access and corridor management.

For nearly 30 years, the US Congress and the US Department of Transportation (USDOT) have placed a greater emphasis on freight and the efficient movement of goods, incorporating the efficient movement of goods into the last three transportation laws. Consequently, Metropolitan Planning Organizations (MPOs) such as AMATS, and state departments of transportation such as ODOT, have been addressing the public's interest in freight issues as part of the planning process.

ROADWAY FREIGHT

The economy of the AMATS area depends on its roadways. Business and industry depend on an effective freight transportation system to reach state, regional, national, and global markets. Trucks move most of Ohio's freight.

A large number of Ohioans are employed in trucking-related occupations at private and for-hire motor carriers. The table below shows 416,070 workers statewide within six primary categories related to roadway freight.

Selected Roadway Freight-Related Employment Statistics in Ohio, May 2023			
Source: Bureau of Labor Statistics			
OCCUPATION CODE	OCCUPATION TITLE	EMPLOYMENT	ANNUAL MEAN WAGE
53-1047	First-Line Supervisors of Transportation and Material Moving Workers <i>(Except Aircraft Cargo Handling Supervisors)</i>	22,760	\$62,020
53-3032	Heavy and Tractor-Trailer Truck Drivers	89,560	\$55,610
53-3033	Light Truck Drivers	36,370	\$44,200
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	114,010	\$39,330
53-7064	Packers and Packagers, Hand	18,110	\$34,950
53-7065	Stockers and Order Fillers	135,260	\$37,350

Truck traffic originates and terminates primarily in metropolitan areas. As a result, increases in freight-truck traffic have the greatest impact in the metropolitan areas in terms of greater roadway congestion, deteriorating pavement conditions, and increased emissions.

Trucks account for much of the wear and tear on roadways. A large, legally loaded truck weighing 80,000 pounds puts about the same wear and tear on a road as 9,000 to 10,000 cars. Furthermore, a large truck causes as much congestion as 2.5 to 3.5 cars on flat terrain and as much as 15 cars on uphill grades. Building and preserving roads and bridges is vital to the economy. As the economy changes, generating varying types of freight movement and new demands for reliable access to markets, policy-makers need to understand the nature of the freight system and how it affects trucking and the area's roadways.

Commercial transportation companies in Ohio are designated as public utilities under the jurisdiction of the Public Utilities Commission of Ohio (PUCO). These companies pay special fees and taxes in exchange for exemption from other taxes, such as sales tax on equipment. They are also exempt from many forms of local regulation.

In terms of trucking, one responsibility of the PUCO is to improve road safety and ensure quality, equitable service for commercial motor and hazardous materials carriers and their customers. The PUCO registers more than 58,000 general freight carriers; 2,500 hazardous materials transporters; 1,000 towing companies; and 300 household goods movers in the state of Ohio.

The Akron metropolitan area contains 4,775 miles of roadways of all types. Table 1-1 shows the length in miles and lane miles for each roadway classification.

Minor collectors and local roads are not considered part of the federal aid system; therefore, they are not eligible for federal funding. The local jurisdiction or the county in which they are located assumes responsibility for maintaining these roadways.

The Akron metropolitan area contains 1,326 bridges. Table 1-2 shows the number and deck area for each type of bridge based on information from the Ohio Department of Transportation (ODOT). The federal definition of a bridge is a self-supported structure equal to or greater than 20 feet in length. Bridges less than 20 feet are not eligible for federal funds. The railroad bridges listed in Table 1-2 are maintained by the privately held railroad companies operating in the AMATS area.

These roads and bridges support the largest portion of freight movement in the AMATS area. The current Highway Preservation Needs Report (2050) estimates that it will cost nearly \$2.02 billion to maintain the area's roads over the next 25 years. Bridge preservation is estimated to cost \$4.45 billion over the same period. In order for the area to maintain its transportation infrastructure and continue the status quo in terms of freight movement in the area, sufficient and regular funding will need to continue and accelerate.

Taking future growth and development into account, the AMATS Congestion Management Process (CMP) report identifies existing and projected future congestion on our region's freeways, arterial streets and key intersections, and provides recommendations to alleviate identified congestion. The report provides an extensive list of freeway, arterial street and intersection needs for our region.

FEDERAL FUNCTIONAL CLASSIFICATION	LENGTH (IN MILES)	NUMBER OF LANE MILES
Interstate	106	493
Expressway	33	164
Ohio Turnpike (I-80)	34	204
Principal Arterial	194	585
Minor Arterial	354	969
Major Collector	547	1,165
Urban Minor Collector	6	12
Rural Minor Collector	71	142
Local	3,452	6,935
Totals:	4,797	10,669

BRIDGE TYPE	NUMBER OF BRIDGES	DECK AREA (SQ FT)
Bridges (20+ feet)*	908	7,267,473
Turnpike Bridges (20+ feet)	50	1,055,254
Railroad Bridges (20+ feet)	28	124,635
Bridges (<20 feet)	340	183,785
TOTAL	1,326	8,631,147

Environmental and Safety Concerns

Long-haul tractor-trailer operators frequently will run their engines, both overnight and during the workday. The reasons for this idling may be the need to heat and cool the cab and sleeper, avoid cold starting, the need to power electronic equipment or work machinery, or provide for personal safety. Long-haul trucks typically idle several hours per day but may vary from idling one to two nights per week to hardly ever turning the engine off. Buses, locomotives, and marine vehicles can idle for similar reasons. Unfortunately, this practice results in additional air pollution.

The Ohio Department of Transportation (ODOT) and Ohio Environmental Protection Agency (Ohio EPA) provide grants to reduce idling and other diesel-related emissions. Grants are being provided for a number of Idling Reduction Technologies (IRTs) for trucks and buses. U.S. Department of Transportation's Carbon Reduction Program (CRP), administered by the Federal Highway Administration, also provides funds for similar air quality improvements.

Truck stop electrification and onboard equipment can help reduce idling at truck stops, roadsides, and delivery sites. Truck Stop Electrification (TSE) provides power from an external source for important systems such as air conditioning, heating, and appliances, without needing to idle the engine during required stops at rest areas. Auxiliary power units are portable units that are mounted to the vehicle and provide power for climate control and electrical devices in trucks, locomotives, and marine vehicles, without idling the primary vehicle engine. Engine recovery systems use the vehicle's heat-transfer system to keep the truck's heater operating after the engine is turned off, using heat that would otherwise dissipate. Automatic engine stop-start controls sense the temperature in the sleeper cabin and automatically turn the engine on if the sleeper is too hot or cold. Cab or bunk heaters supply warm air to the cab or bunk compartment using small diesel heaters. Heaters can be coupled with air conditioners if needed.

Truck driver access to safe and available truck parking is critical to the efficient movement of freight throughout Ohio. Truck drivers rely on parking locations to get the rest they need, as required by federal Hours of Service (HOS) regulations. Truck parking is also important as drivers wait for pick-up and delivery appointments, known as staging. Inadequate truck parking produces higher economic and social costs for the movement of freight.

Trucks parked in undesignated areas for longer periods of time (seven-plus hours) suggest a truck parking capacity issue for drivers trying to find a place to take long breaks. Trucks parked in undesignated areas for less than seven hours and in urban areas or near freight generators suggest a truck parking capacity issue for drivers waiting for shipper/receiver appointments (staging). Truck drivers often need space to stage, since many shippers/receivers do not allow trucks to park on-site early. Truck parking should be provided at locations with high demand, along existing key freight corridors and near freight-generating facilities, particularly in and near urban areas. Adding truck parking to meet demand in urban areas is further challenged by the high price of land and land-use conflicts in urban areas.

Many truck parking locations are not designed to handle the length and width of today's trucks. At these locations, longer trucks with wider loads have difficulty maneuvering in and out of truck parking facilities and spaces. Without sufficient space, truck drivers may be forced to drive over curbs or through undesignated areas.

Truck drivers, particularly those on long-haul routes that require overnight parking stays, require basic amenities, notably lighting, security, restrooms, showers, food options, and trash cans. However, these amenities are not available at all truck parking locations, particularly those not developed with overnight truck parking needs in mind. Access to restrooms is important at both overnight and staging locations, as shipper/receivers may not allow truck drivers to use their facilities. Amenity issues were further challenged during the COVID-19 Pandemic. As some facilities closed, many drivers were unable to access restrooms and other basic amenities, with limited information about which facilities were open/closed. Additionally, as new trucking technologies emerge, truck parking facilities will need to consider providing additional amenities, such as alternative fuel/electric charging stations and idle reduction technologies.

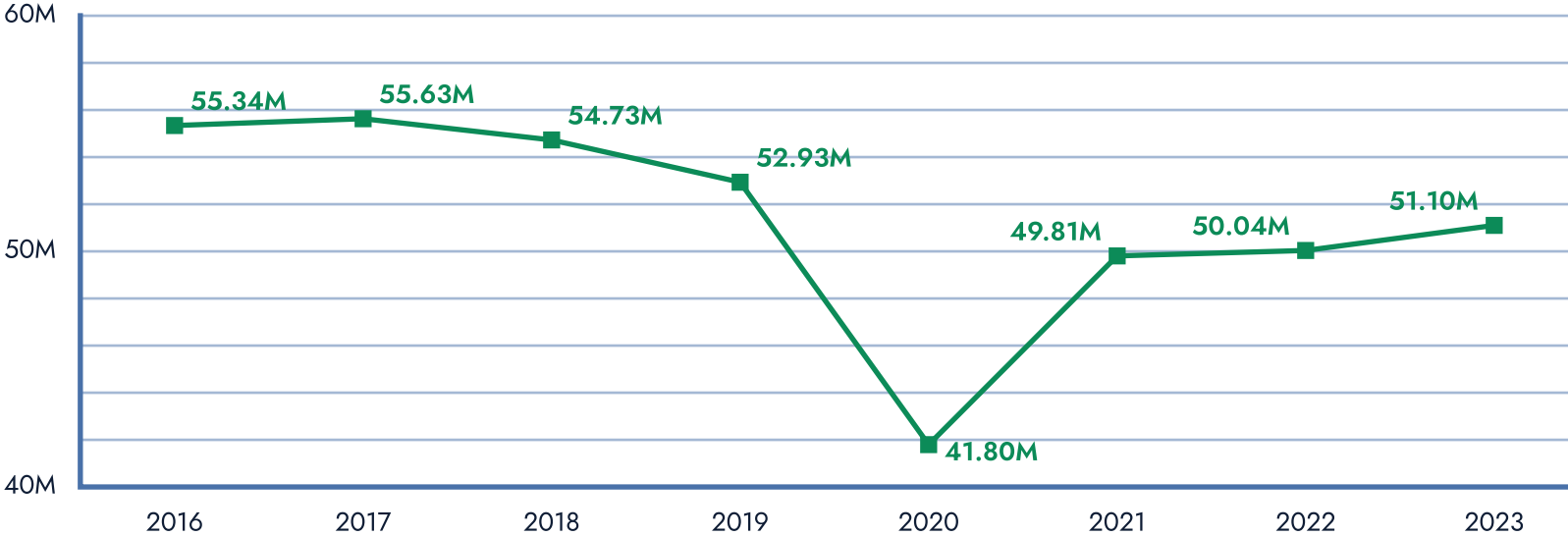
ODOT's statewide freight plan, Transport Ohio, identifies the need for adequate truck parking. The Akron area was identified as a cluster of significant truck parking, with the needs discussed above.

The Ohio Turnpike

Constructed in 1955, the Ohio Turnpike is a 241-mile toll road running east-west across Northern Ohio. The Turnpike traverses the AMATS area through Northern Portage and Summit Counties paralleling SR 303. The Turnpike can be accessed through interchanges with I-77 in Richfield, SR-8 in Boston Heights, I-480/SR-14 in Streetsboro, SR-44 north of Ravenna, and at SR-5 just outside of the AMATS area in Trumbull County. In the AMATS area, the Ohio Turnpike is designated as I-80. The Turnpike is administered by the Ohio Turnpike and Infrastructure Commission, independent of ODOT.

The Turnpike operates under capacity; meaning that the volume of traffic does not exceed the amount of roadway needed for the smooth flow of vehicles at optimal speed. The Ohio Turnpike Commission measures and reports their traffic performance utilizing the term, freeflow traffic, which is the amount of traffic moving freely without delay during the reported year. The reported numbers for the last eight years are reflected in

Ohio Turnpike Annual Freeflow Traffic (2016-2023)



the graph above.

The speed limit on the Turnpike is generally 70 miles per hour. In addition, the Turnpike allows the movement of freight through the use of Long Combination Vehicles (LCVs). LCVs are combinations of multiple trailers on one tractor truck as compared to a standard 5-axle semi-trailer-truck with one trailer. The use of LCVs optimizes freight movement on the highway. The Turnpike is the only facility in the state where LCV (triple trailer) use is permitted.

In 2013 the Ohio assembly passed a \$7.6 billion transportation and public safety bill. This bill allows the state to use toll revenue from the Ohio Turnpike for projects beyond the Turnpike's borders. The bill raised turnpike tolls for each of the next ten years, allowing Ohio to issue \$1.5 billion in bonds and shift funding to road and bridge projects across the state. Of the funding available, ninety percent of the turnpike money is designated for projects within 75 miles of the Turnpike. That means projects from across northern Ohio compete for funding based on need.

Presently, the Turnpike Commission intends to raise tolls at no more than the rate of inflation. The state believes the bond money can leverage an equal amount of federal and local funding, continuing to yield additional funds for roads and bridges in the coming years.

The Ohio Turnpike Commission implemented a new toll collection system in April 2024. This \$250 million project features open road tolling for EZ Pass customers to bypass gates at entrances and exits along the entire Ohio Turnpike. Toll booths are fully automated and streamlined. EZ Pass use on the Ohio Turnpike continued to increase in 2023. Combined EZ Pass use by Turnpike passenger car and commercial truck customers was 74.1%, up 0.7% from 2022. Separately, 64.5% of Turnpike passenger cars used EZ Pass, up 2.1% in 2023; and 89.6% of Turnpike commercial truck customers used EZ Pass, up 0.4% in 2023.

EZ Pass customers in passenger vehicles save an average of about 33% on Ohio Turnpike tolls compared to customers who pay by cash or credit card. EZ Pass toll rates are calculated and deducted electronically from prepaid account balances. There are more than 635,000 active Ohio Turnpike EZ Pass accounts, which includes both passenger vehicle and commercial truck customers. EZ Pass transponders are available for purchase at 448 retail locations in 54 Ohio counties, including all fourteen service locations throughout the Turnpike.

The Turnpike continues to modernize with improvements to its fiber optic network, electric vehicle (EV) charging stations, automatic traffic recorders, license plate readers and weigh-in motion systems (pavement sensors that weigh trucks as they are driving at high speeds).

Highway / Trucking Network

The highway network and trucking system have a number of strengths and weaknesses affecting the cost and efficiency of moving freight. A broad Strengths, Weaknesses, Opportunities and Threats (SWOT) evaluation was conducted to find the elements that should be considered when planning freight movement. The results of the SWOT assessment help AMATS strategize and plan for the future freight system.

Strengths

- » Direct delivery of goods to stores and consumers
- » Accessibility to other modes of transportation
- » Dense network of roads
- » Publicly owned and managed roadway infrastructure
- » Dedicated funds for maintenance
- » On-line retailing boosts delivery demand
- » Ohio is strategically located for goods movement (60% percent of the US/Canada population is within a one day drive - 600 miles)

Weaknesses

- » Congestion at strategic locations, bottlenecks
- » Limited ability to increase capacity
- » Rising fuel costs
- » Environmental concerns / air quality regulations
- » Shortage of trained drivers, driver fatigue
- » An inadequate supply of truck parking facilities

- » Limited funding for maintenance and improvements
- » Limitations on truck size and weights
- » Speeds limits, varying by location
- » Climate/weather conditions affect movement
- » Economic cycles affect demand

Opportunities

- » The AMATS area should support the adoption of connected and automated vehicle technologies
- » The area should assist in developing additional safe truck parking locations
- » Job re-training programs can assist in alleviating the shortage of truck drivers

Threats

- » Severe weather events (floods, blizzards, tornados) hamper freight movement
- » Cyber security dangers affect the cost and safety of goods
- » Uncertainties in the global supply chain create volatility
- » Increases in population within specific areas would lead to greater traffic congestion

RAILWAY FREIGHT

The level of importance of rail to the AMATS area transportation system is reflected by the concentration of rail lines within the area. The high mileage of rail lines reflects the close integration of rail with the area's economic activity. Although rail volumes and tonnage of freight moved are less than the Akron area's historical peak, the movement of goods by rail remains important to the economy.

Northeast Ohio contains heavily utilized rail routes between Chicago and the US East Coast ports. Northeast Ohio serves as a hub where freight moving east from Chicago can be redirected toward New York, Philadelphia, Baltimore, and Virginia. The rail lines which see heavy traffic are operated by Class 1 carriers Norfolk Southern and CSX Transportation.

Area Rail Carriers

Norfolk Southern's Cleveland line runs from Cleveland, Ohio to Rochester, Pennsylvania, along a former Pennsylvania Railroad line. In the AMATS area, it operates by way of Macedonia, Hudson, Ravenna and Atwater. See Map 2-1 (page 10) for rail ownership. Amtrak's Capitol Limited uses the Cleveland Line between Cleveland and Alliance for passenger service. Both the eastbound and westbound train are scheduled to use the line between midnight and early morning.

Norfolk Southern's line through the AMATS area remains the busiest section of rail, averaging over 74 trains per day. The Norfolk Southern Motor Yard is located near I-271 in Macedonia. At one time this yard was filled with boxcars containing automobile body stampings produced at Ford's Walton Hills plant and the Chrysler plant in Twinsburg a few miles to the southeast. Norfolk Southern closed this yard in November 2018, and today it is used to store a few dozen freight cars. Norfolk Southern has an additional rail yard in Twinsburg. This yard also served the Chrysler plant until the plant closed in 2010. The rail yard would have been filled with boxcars for shipment of auto parts to Chrysler assembly plants around the country.

Once Chrysler ceased operations, the Twinsburg Yard became much less active. The primary business today is inbound stone traffic to Shelly Company, that unloads unit stone trains along the south side of the yard. This activity is seasonal, spring to fall. There is also some local rail traffic, to switch the industrial area south of the yard. The primary business there is inbound corn syrup for Coke and Pepsi bottling plants. There are numerous warehouses and distribution centers now on the former Chrysler property, including FedEx and Amazon, but none have rail sidings.

The other Class 1 rail carrier in the area, CSX, runs approximately forty trains per day through the Akron area. The CSX Line runs from Pittsburgh to Chicago by way of Ravenna, Kent, Akron and Barberton. CSX operates the Hill Yard and adjacent Valley Yard, located between Evans Avenue and Arlington Street in Akron. These rail yards remain active.

Northeast Ohio also has a regional railroad of its own, the Wheeling and Lake Erie Railway (WLE). See map 2-1. The WLE connects the Cleveland/Akron/ Canton area with Pittsburgh, Toledo, and Lima Ohio. As such, the WLE removes a significant number of trucks from Northeast Ohio highways, allowing for less congested highways and less demand for expensive highway maintenance. In addition to easing the burden on our highways, the WLE provides rate competition for the two major railroads and allows the Canadian National Railway (CN) access to Northeast Ohio (which it would not otherwise have). WLE provides this access through CN's Lang yard in Toledo.

Consequently, the WLE provides Northeast Ohio with access for three of the seven Class I railroads. In addition, WLE conveys most of the rail freight with origins or destinations in the Akron area. WLE operates a rail yard near I-76 near Goodyear Heights in Akron (known as the Brittain Yard, or presently called the Akron Yard).

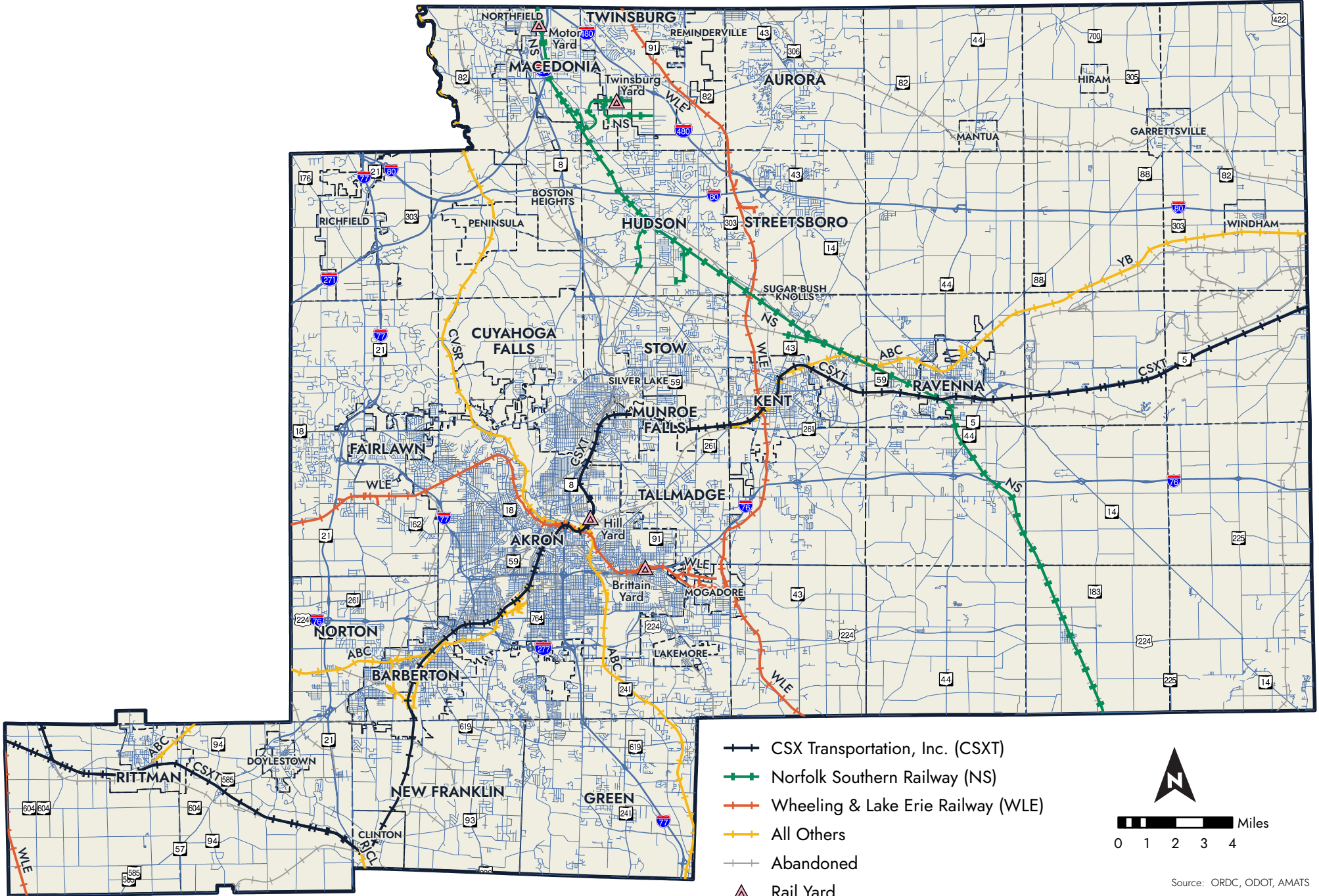
The Akron Barberton Cluster Railway (ABC) is a Class III railroad that operates on 73 miles of track in and around the AMATS area. It serves as a switching service for important industries in the area. Its parent company is the Wheeling & Lake Erie Railway.

Intermodal Freight

Intermodal shipping refers to moving freight by two or more modes of transportation. By loading cargo into intermodal containers, shipments can move seamlessly between trucks, trains and cargo ships. The method reduces cargo handling, and so improves security, reduces damage and loss, and allows freight to be transported faster.

An intermodal container is a standardized reusable steel box used for the safe, efficient and secure storage and movement of materials and products within a global containerized

Map 2-1 | Rail Line Ownership



Source: ORDC, ODOT, AMATS

intermodal freight transport system. The term intermodal indicates that the container can be moved from one mode of transport to another (from ship, to rail, to truck) without unloading and reloading the contents of the container. There are approximately seventeen million intermodal containers in the world of varying types to suit different cargoes. Aggregate container capacity may be expressed as twenty-foot equivalent units.

The Twenty-foot Equivalent Unit (TEU) is an inexact unit of cargo capacity often used to describe the capacity of container ships and container terminals. It is based on the volume of a 20 foot-long intermodal container, a standard-sized metal box which can be easily transferred between different modes of transportation, such as ships, trains and trucks.

One TEU represents the cargo capacity of a standard intermodal container, 20 feet long and 8 feet wide. There is a lack of standardization in regards to height, ranging between 4 feet 3 inches and 9 feet 6 inches, with the most common height being 8 feet 6 inches. Also, it is common to designate a 45 foot container as 2 TEU, rather than 2.25 TEU.

In the US, starting in the 1960s the use of containers increased steadily. Rail intermodal traffic tripled between 1980 and 2002, according to the Association of American Railroads (AAR), from 3.1 million trailers and containers to 9.3 million. Large investments were made in intermodal freight projects. Intermodal facilities were built at the Port of Los Angeles/Port of Long Beach, and the Port of New York/New Jersey.

Since 1984, a mechanism for intermodal shipping known as double-stack rail transport has become increasingly common. Rising to over 70% of United States intermodal shipments, it transports more than one million containers per year. A succession of large, new domestic container sizes was introduced to increase shipping productivity.

Using double stack technology, a freight train of a given length can carry roughly twice as many containers, sharply reducing costs per container. On most railroads, special well cars are used for double-stack to reduce the needed vertical clearance and to lower the center of gravity of a loaded car. In addition, the well car design significantly reduces damage in transit and provides greater cargo security by cradling the lower containers so their doors cannot be opened. A succession of larger container sizes has been introduced to further increase shipping productivity on domestic routes.

To serve its local and Ohio markets, Northeast Ohio has three intermodal terminals which serve as loading and unloading locations for these self-contained units of freight. Norfolk Southern (NS) has a terminal in Maple Heights, CSX has one located in Collinwood (on the east side of Cleveland), and the Wheeling and Lake Erie Railway has an intermodal terminal located in Navarre, called NEOMODAL (near Massillon). These terminals transfer domestic and international containers between rail and truck. Containers arrive at these terminals from coastal ports for local and Ohio delivery and are also shipped out to these ports for export. There are no intermodal terminals in the AMATS area.

The NEOMODAL facility, located in Navarre (in Stark County), is a modern intermodal transfer facility built as part of a public-private partnership and operated by the Wheeling and Lake Erie Railway. Completed in 1995, the NEOMODAL facility functions beneath its capacity.



The Ohio Rail Development Commission (ORDC) has desktop applications and documents with rail information. The website can be found here: <https://rail.ohio.gov/home/ohio-rail-maps>. ORDC is an independent commission within ODOT which represents the state in non-regulatory interactions with the railroad industry. ORDC improves public safety by funding grade crossing safety improvements while providing grants, loans, and other assistance to perform an economic development function by assisting businesses locating or expanding in Ohio with rail spurs and other rail infrastructure; by helping rehabilitate light density branch lines on small short-line and regional railroads; by assist in the acquisition and continued operation of branch lines; by addressing special rail problems such as mainline congestion; by assisting businesses with rail-related issues; and by promoting the rail-related tourism industry.

METRO RTA

METRO RTA is the public transit agency for Summit County, providing both fixed route and demand response bus services.

METRO RTA also owns three rail lines, totaling 51 miles in length. These rail lines were purchased in order to preserve them for future use. Possible uses include passenger service, freight service, or recreational trail usage. The following three rail lines are owned by METRO:

- » The former Conrail Akron Secondary between Hudson and Akron (terminus near Eastwood Avenue)
- » The former Conrail Freedom Secondary between Akron (near Mill Street) and Kent (near Mogadore Road)
- » The former CSX Sandyville Line between Akron (at Howard Street) and Canton (near Marion Avenue SW, outside of Summit County).

The Akron Secondary Line between Hudson and Akron is non-operational. This line has not had service since the early 1990s. It begins as a one-track line in the City of Hudson with an at-grade crossing at Barlow Road, passing 1.5 miles south through Hudson into the City of Stow. The Akron Secondary Line then proceeds 2.75 miles through the City of Stow, entering the Village of Silver Lake at an at-grade crossing at Graham Road. The line then runs adjacent to SR 8 for one-half mile, entering the City of Cuyahoga Falls just west of Ivanhoe Road. The tracked portion of the line runs for 2.25 miles through Cuyahoga Falls before pairing with the CSX line, just north of Broad Boulevard. The final 0.6 miles of the Akron Secondary, between the Cuyahoga Falls Electric Services property and Broad Boulevard, then runs west of, and adjacent to, the main east-west CSX two-track rail line arriving from the east. The Akron Secondary right-of-way then continues south, untracked, for 3.5 miles, running from near Broad Boulevard in Cuyahoga Falls to its connection with the Sandyville Line in the City of Akron, just north of the Hill Rail Yard.

The Akron Secondary Line could be reactivated to provide a connection between the CSX Line in Cuyahoga Falls and NS in Hudson. The line could also provide service to potential clients adjacent to the right-of-way. The right-of-way would need to be restored and upgraded to Class I to meet these needs. Costs to restore this service would run into the millions of dollars.

Most of the Freedom Secondary Line is non-operational. Portions of the track have been removed. The right-of-way extends from a site near Mill Street in Akron to Mogadore Road in Kent. The north end of the Freedom Secondary right-of-way ties into the WLE and NS Lines. The south end of the right-of-way does not have any existing track connecting with existing freight carriers. Portage County owns seven miles of the Freedom Secondary operating between Kent and Ravenna.

The Freedom Secondary could be reactivated to provide a connection between the WLE and NS lines at the north end of the line in Kent with the WLE and CSX lines at the south end in Akron. The line could also provide service to existing or potential clients adjacent to the right-of-way. The right-of-way would need to be reconstructed in order to be put back into service.

Currently, the Freedom Secondary trail is an 8.5 mile long bike and hike trail connecting downtown Akron (Mill Street) to Middlebury Road in Kent. It is operated by the Summit Metro Parks. In Kent, the Freedom Secondary trail connects to the Portage Bike Trail and extends from Middlebury Road to Ravenna. The unused railroad corridor is owned by Metro Regional Transit Authority and leased to the Metro Parks.

The Sandyville Line begins in the City of Akron at Howard Street, at the eastern terminus of the Cuyahoga Valley Scenic Railroad (CVSR). The Sandyville line continues approximately 1.6 miles east, where the Akron Secondary right-of-way joins just south of Eastwood Avenue. From this junction, the Sandyville Line continues approximately 4.75 miles south through the City of Akron into Springfield Township. The line then runs for approximately 3.1 miles southeast through Springfield, where it enters the City of Green at an at-grade crossing at SR 619. From this crossing, the line then continues for approximately 6 miles before exiting Summit County just west of the Akron-Canton Airport. The Sandyville Line enters Stark County in Jackson Township at an at-grade crossing at Mount Pleasant Road, continuing southeast approximately 2.85 miles into Plain Township at an at-grade crossing at Whipple Avenue. The Sandyville Line then proceeds 1.85 miles southeast through Plain Township, entering the City of Canton approximately 300 feet north of the I-77 overpass of 38th Street. The Sandyville Line travels south through the City of Canton for 3.9 miles just east of I-77, ultimately terminating at the Canton Crossing Diamond where it connects to the former Conrail line operated by WLE and NS.

The Sandyville Line and a short section of the Freedom Secondary near Kent are in active use for local freight service. In addition, the Sandyville Line is also used by the CVSR for excursion service to Canton. Despite the costs and liability, METRO continues to invest in the maintenance of this rail line, serving an important role in economic development.

In 2022, the cities of Stow and Hudson approached METRO RTA to discuss a trail conversion project along the inactive Akron Secondary freight rail line, extending from Barlow Road down through the city of Stow. At that time METRO RTA reached out to the FTA for potential concurrence for this project, which is the same process that was followed to complete the Freedom Trail heading east from Akron to Kent. The FTA informed METRO that the previous FTA program “rails to trails” regulations have changed and that the program no longer existed and that if METRO was not using the rail line for its initial planned use of commuter service, that it must pay back the amount of the initial grant or divest themselves from ownership of the rail lines.

METRO RTA has taken the first steps in divesting from these three rail lines. In late 2023, METRO RTA following FTA stipulations hired an independent auditor to assess the value of each rail line. After the appraisals were completed, METRO then contracted an independent auditor to conduct a review appraisal, the appraisal and review appraisal are now under audit by FTA. METRO is currently waiting for FTA to rule on its findings before moving forward with the next step to divest ownership of the rail lines. METRO RTA has several options on how to divest themselves and will decide on that path after the independent audit is confirmed by the FTA. Following that process, METRO will meet with FTA officials once the audit is completed to discuss their ruling.

Recent Changes to the Rail System

Improvements in technology are dramatically improving the operations of the area’s rail network. When combined with evolving industry requirements and a changing commodity mix, the rail network of the future will be quite different in terms of extent, service, and safety compared to the network of the past.

Positive Train Control (PTC) systems are advanced communication-based and processor-based train control technologies that can automatically stop trains to prevent accidents. PTC technology is particularly useful in preventing train-to-train collisions, over-speed derailments, incursions into established work zone limits, and train movements through a misaligned route. After multiple fatal rail incidents around the U.S., including two incidents that involved commuter trains in California, the U.S. Congress passed the Rail Safety Improvement Act (RSIA) in 2008 to address the underlying causes of these incidents. In addition to the highway-rail grade crossing safety, pedestrian safety, and trespasser prevention regulations, the RSIA required PTC systems to be fully implemented on Class I railroad main lines that transport hazardous materials and on any main lines with regularly scheduled intercity or commuter rail passenger service. PTC installation required for Amtrak and Class I railroads serving the area is now fully complete.

Precision Scheduled Railroading (PSR) is an operating model utilized by almost all Class I railroads to increase operational efficiency. PSR focuses on five principles: improve service, control costs, optimize asset utilization, operate safely, and develop employees. Operationally, a railroad using PSR operates trains on a fixed schedule rather than using the number of loaded cars to determine when a train should depart. PSR also focuses on minimizing the number of times a railroad handles a railcar, decreasing network complexity, and eliminating unprofitable origin and destination pairs. Impacts of PSR may include closing rail yards and the elimination of unprofitable rail lines, leading to changes in the rail freight origins/destinations and shipper options. PSR may negatively impact the safety of at-grade rail crossings by using longer trains that block vehicle and pedestrian access at grade crossings.

Concerns

It appears that both major Class I railroads are operating intermodal terminals in Pittsburgh, Columbus, and Toledo. Their investments do not include direct investments in Northeast Ohio, despite the fact that Northeast Ohio is the historical manufacturing center of the state. Thus, the railroads may not foresee a return to traditional manufacturing in the area. In addition, there is the concern that any new intermodal terminals will compete for business with the existing Northeast Ohio intermodal terminals.

The Federal Railroad Administration (FRA) tracks railroad employment trends over time to identify trends in railroad hiring practices, monitors recovery of normal business operations after disruptions, and anticipates issues resulting from workforce hiring and retention challenges. Nationally, railroad employment was decreasing before 2020, and that decrease accelerated once the pandemic began to impact railroad operations in March 2020. Beginning in January 2022, employment levels began to rise back towards pre-pandemic levels, but have still not returned to previous figures.

According to the US Bureau of Labor Statistics (BLS), overall employment of railroad workers is projected to show little or no change from 2022 to 2032. Despite limited employment growth, about 6,500 openings for railroad workers are projected each year, on average, over the decade. Most of those openings are expected to result from the need to replace

workers who transfer to different occupations or exit the labor force, such as retirement.

The expected increase in intermodal freight activity may support demand for railroad workers. However, railroads' efforts to operate more efficiently, such as by deploying automated systems, are likely to limit employment. Furthermore, a decline in the use of coal, which historically has been the largest commodity moved by rail, may decrease the demand for its transportation by rail.

Congestion

ODOT's 2019 State of Ohio Rail Plan noted that, nationally, rail congestion fluctuates mildly year-to-year, but that there has been no consistent trend upward or downward. Although neither the 2019 Rail Plan nor the State's Transport Ohio freight plan cataloged specific locations of rail freight congestion or bottlenecks within Ohio, local and state officials know how frustrating rail congestion can be. Congestion on rail lines not only inhibits the movement of freight; it also poses a safety and traffic congestion problem when stopped or slowed trains block at-grade crossings in the area. Safety vehicles (police, fire, ambulance) are required to drive around blocked at-grade crossings to reach their destination. Moreover, longer train lengths—regardless of speed—can exacerbate roadway congestion issues occurring because of at-grade crossings.

Rail congestion can also be caused when higher-traffic double-track rail lines consolidate to single-track runs. A well-known example of this in the AMATS area is the CSX Lambert (Southwest Akron) to Warwick section near Clinton. It is one of few remaining single-track segments on the CSX main line between Baltimore/Washington and Chicago. A mixture of bulk commodities, merchandise, and intermodal traffic moves between the West Coast and Midwest to and from Mid-Atlantic markets. A proposal to reactivate 9.25 miles of abandoned, parallel, ex-Conrail right-of-way would eliminate this choke point. This project would increase capacity and improve rail service, helping to divert long-haul trucks from the highway network. This project would free highway capacity, lower maintenance costs, improve safety, and mitigate mobile air pollutants, and reduce delays on this section of track, thereby increasing the overall average train speed. However, financial and environmental concerns have stalled this project. As CSX is a private company and the owner of this private right-of-way, improvements can only be made in cooperation with CSX.

Contrary to focusing on the congestion on railways, rail can help to alleviate highway-related congestion. Rail diverts freight and, in some cases, people from trucks and automobiles on roadways. During peak travel times and especially on high tuck freight corridors, transporting goods and people by rail has the potential to significantly reduce congestion.

Highway-Rail Grade Crossings

A highway-rail grade crossing is where a railway and roadway intersect. There are approximately 393 grade crossings in the AMATS area (many are on abandoned or out of service rail lines). At-grade crossings are protected either by train-activated, active warning devices (such as gates and flashing lights) or by passive warning devices (such as crossbucks, stop signs, and yield signs). Trains often require a mile or more to stop and are unable to deviate from their path. Consequently, safety at grade crossings is primarily a motorist's responsibility. The warning devices are there to protect motorists, not trains.

As a result, states, not railroads, are responsible for evaluating grade crossing risks and prioritizing grade crossings for improvement. The decision to install a specific type of warning device at a particular public grade crossing is made by ODOT, not by the railroad, with final approval by the Federal Highway Administration.

Ideally, highway-rail grade crossings would be separated if feasible. Grade separation projects eliminate safety and delay concerns by redirecting the vehicle, pedestrian and bicycle traffic above or below the railroad tracks. Construction of overpasses and underpasses are costly, and this is not always feasible due to cost or geographic configuration.

The Association of American Railroads recommends that at-grade crossing accidents can best be reduced through a mix of engineering, education and enforcement, including:

- » Closing unnecessary crossings and adopting a uniform national at-grade crossing closure process, combined with a freeze on the overall number of grade crossings within each state. Ultimately, the goal is to eliminate all at-grade crossings on the National Highway System.
- » Generously funding Operation Lifesaver, a nationwide non-profit organization that educates the public about the need for proper behavior at grade crossings and on railroad property; as well as a research and development program to design effective low-cost active warning systems for at-grade crossings.
- » Examining the effectiveness of other types of warning devices such as four quadrant gates.
- » Requiring that grade crossing safety be part of commercial driver's license educational curricula and administer tough penalties for grade crossing traffic violations.
- » Requiring a minimum set-back or a physical safety barrier between active railroad tracks and adjacent parallel trails and paths.

Ohio has four major grade crossing safety programs that use a combination of both federal and state funds as part of its Highway Safety Improvement Program (HSIP). The use of four programs allows for flexibility to maximize needed improvements at the state's at-grade crossings. The four programs are:

- » The formula-based upgrade program which is based on a calculation of the most hazardous crossings.
- » The corridor-based upgrade program provides a framework for systematically considering, identifying, and prioritizing projects that have public safety benefits at multiple grade crossings along a railroad corridor. Ohio identifies these corridors in collaboration with the railroads. The Heartland Corridor is an example of a corridor-based project that runs through the state.
- » The constituent-identified upgrade program considers project referrals from a number of sources and makes selections based on hazard rankings, extenuating conditions, and funding availability.
- » The preemption program upgrades warning devices and traffic signals to establish appropriate traffic signal preemption when a train approaches a crossing that has a highway traffic signal in close proximity.

Ohio has the fourth largest number of highway rail grade crossings in the country behind Texas, Illinois, and California. As of 2018, 5,737 at-grade vehicular public crossings were located in Ohio, of which 58% have flashing lights and roadway gates, 32% have passive systems such as crossbucks, and 10% have flashing lights.

ORDC administers an average of \$15 million in infrastructure improvements at highway rail grade crossings annually. The AMATS area has a number of at-grade crossings with significant train and vehicle volumes.

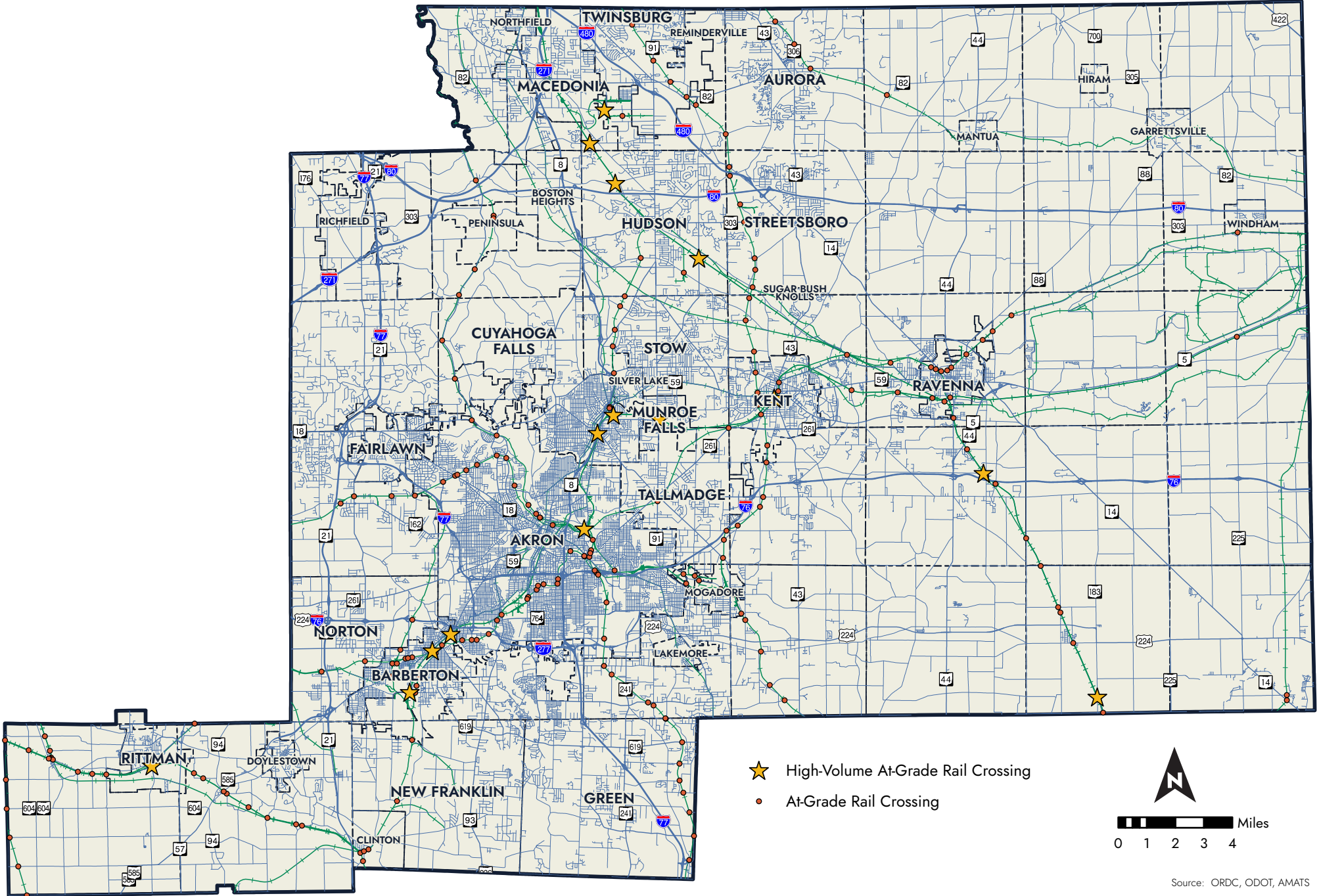
Between the years of 2020 and 2022, the AMATS area suffered eight train-motor vehicle crashes. One of these crashes resulted in a fatality, two resulted in injury (both were non-serious injuries), and the remaining five only resulted in property damage.

Map 2-2 on page 16 shows all at-grade crossings in the AMATS area with high volume crossings highlighted. At-grade crossings are prioritized by scoring the number of trains per day and the daily traffic volume (ADT). Scores greater than 100 are shown in Table 2-1. A description of the top-ranking at-grade crossings follows Table 2-1.

RANK	STREET	TRAINS PER DAY	VEHICLE ADT	SCORE
1	Stow Rd (Hudson)	45	10,257	462
2	N Main St (Munroe Falls)	27	15,580	421
3	Broad Blvd (Cuyahoga Falls)	32	12,872	412
3	Twinsburg Rd (Macedonia)	74	5,573	412
5	Bailey Rd (Cuyahoga Falls)	27	12,716	343
6	Hines Hill Rd (Hudson)	62	4,035	250
7	Summit St (Kent)	27	8,304	224
8	Fairview Ave (Barberton)	38	5,211	198
9	Snyder Ave (Barberton)	32	5,395	173
10	W Waterloo Rd (Barberton)	31	5,558	172
11	SR 183 (Atwater Twp)	45	3,800	171
12	N Arlington St (Akron)	27	5,838	158
13	Lynn Rd (Rootstown Twp)	62	2,328	144
14	E Highland Rd (Twinsburg Twp)	10	10,799	108
15	S Main St (Rittman)	27	3,851	104

- » #1: Stow Road in Hudson, crossing the busy Norfolk-Southern rail line, is the highest-rated candidate for a grade separation. This location recently (2023) underwent safety improvements. Stow Road provides a good alternative to bypass the busy intersection of SR 91 and SR 303 in the center of Hudson.
- » # 2: North Main Street (SR 91) in Munroe Falls places second in priority because of its high daily traffic volume. But the CSX rail line at this location does not have the same level of frequency (trains per day) as the Norfolk-Southern line discussed above.
- » #3 (tie): Twinsburg Road in Macedonia crosses the busy Norfolk-Southern rail line. This crossing has a lower vehicle count, but with many trains per day (74), this crossing is a good candidate for a grade separation when funding becomes available.
- » #3 (tie): #The Broad Boulevard crossing with CSX in Cuyahoga Falls The high number of trains per day and the average daily traffic (ADT) make this a good candidate for a grade separation. However, the geometrics of the area prohibit an easy grade separation at this location due to the close proximity of SR 8.
- » #5: In between the Broad Boulevard and North Main Street (SR 91) crossings on the CSX line is the Bailey Road crossing in Cuyahoga Falls. This location contains a nearly identical ADT to Broad Boulevard but scores lower because the data on trains per day is listed as slightly lower. In reality, the trains per day should be identical between the two crossings.
- » #6: The City of Hudson has received funding to pursue the removal of an at-grade rail crossing at Hines Hill Road, the sixth-highest priority on this list. In January 2024, the Ohio Rail Development Commission (ORDC) approved funding from the Ohio Grade Crossing Elimination Program. The ORDC will contribute 20 percent funding (\$2,886,174) to match the community's additional 20 percent funding commitment to ensure the application to the Federal Railroad Administration's Railroad Crossing Elimination (RCE) Program, is competitive. The city of Hudson confirmed in July 2024 that the ORDC will be submitting, on behalf of the City of Hudson, to this grant opportunity for approximately \$8,580,000 in additional federal funding for the project. The grant application is due in September 2024.

Map 2-2 | High Volume At-Grade Crossings



Source: ORDC, ODOT, AMATS

If the federal application is successful, this \$14 million project will construct a grade separation at Hines Hill Road and permanently close the crossing. The Hines Hill Road corridor, an important connection for the north side of the City, is frequently blocked by train traffic. These blockages have caused traffic interruptions as well as safety concerns due to the increased potential for emergency services delays.

Eliminating at-grade rail crossings is an expensive endeavor, and examples of these projects occur infrequently within the AMATS area. However, the Greater Akron area does have a recent example to showcase: the Evans Avenue Railroad Grade Separation project in Akron, which was completed in 2021. The project consisted of the construction of separated rail grade crossings including an approximately 230' long bridge over the CSX railroad tracks and a tunnel over the Metro RTA railroad tracks. This project also included significant roadway realignment, construction of concrete curbs and gutters, asphalt pavement, storm sewer, sanitary sewer, water main and a cul-de-sac. This new project is approximately 2,200 feet in length with a total project cost of \$9.3 million.

Quiet Zones

The Federal Railroad Administration (FRA) train horn rule provides localities nationwide with the opportunity to establish quiet zones. The federal rule pre-empts all applicable state laws. To qualify, communities wishing to establish quiet zones must equip proposed grade crossings with adequate safety measures (supplemental safety measures - SSM) to overcome the decrease in safety created by silencing the train horns. The additional safety measures must be constructed at the community's own expense and must meet federal specifications.

While the FRA is the only entity that has the ability to approve quiet zones, local communities may take steps to establish a quiet zone:

The public authority of the community is the only entity that can petition for a quiet zone (mayor, city manager, etc). A quiet zone must be at least 0.5 miles long and each crossing must be equipped with:

- » Lights and Gates
- » Power Out indicator on bungalow
- » Constant Warning Time

The AMATS area has four communities with existing quiet zones, covering nine crossings:

- » Cuyahoga Falls (CSX)—Broad Boulevard; established 2016
- » Twinsburg (Wheeling and Lake Erie)—Herrick Road, E. Aurora Road (SR 82), Cannon Road, Darrow Road (SR 91), Glenwood Drive; established 2015
- » Macedonia (NS)—E. Twinsburg Road; established 2010
- » Hudson (NS)—Stow Road and Hines Hill Road; established 2023

Rail Network Outlook

The rail network has a number of strengths and weaknesses affecting the cost and efficiency of moving freight. A broad Strengths, Weaknesses, Opportunities and Threats (SWOT) evaluation was conducted to find the elements that should be considered when planning freight movement. The results of the SWOT assessment help AMATS strategize and plan for the future freight system.

Strengths

- » Most fuel-efficient land transportation mode
- » Developed to transport heavy and repetitive loads
- » Efficiently moves bulk commodities and large volumes over long distances
- » Intercontinental system with connections to multiple shippers
- » Intermodal Connectivity
- » Most of the rail system is privately funded, on private right-of-way
- » The AMATS area has multiple rail providers
- » Rail use reduces highway congestion by providing an alternative to trucking
- » Recent technological advances in scheduling, automation and safety

Weaknesses

- » Rail is less flexible in delivering goods to final destination
- » Some industry does not have access to rail
- » Limited funds to fix existing choke points / bottlenecks
- » Limited funds for capital improvements necessary for forecasted increases in freight movement
- » Private infrastructure may not be eligible for public funds
- » Cooperation is problematic between competing rail companies
- » Rising fuel costs
- » The cost of compliance of environmental regulations

Opportunities

- » The AMATS area should support the adoption of connected and automated rail technologies
- » The area should continue to apply for grade separation funding and other safety-related projects
- » AMATS should support additional safe truck parking locations
- » AMATS should continue to work with our partners and stakeholders on integrating freight planning into the continuing, comprehensive, and cooperative planning (3-C) process

Threats

- » Severe weather events (floods, blizzards, tornados) hamper freight movement
- » Cyber security dangers affect the cost and safety of goods
- » Uncertainties in the global supply chain create volatility
- » Increased international trade could lead to greater demands on rail assets for freight movement

FREIGHT PROFILES

In 2017, AMATS partnered with Fund for Our Economic Future (The Fund) to develop 14 Job Hubs in the AMATS area. More recently, and to adjust to changing economic conditions, two additional Job Hubs were added within the region, bringing the total to 16.

What Are Job Hubs?

According to The Fund, “Job hubs are specific places of concentrated economic activity in a region. They are defined and identified based on the extent to which they exhibit the following four characteristics:

High concentration of traded-sector jobs: We identified job hubs based on the number of traded-sector jobs in a particular area, with a focus on places with job density in the top 5 percent in the region. The research focused specifically on identifying clusters of employment in sectors of the economy like manufacturing or business consulting that can export (or trade) goods and services outside of Northeast Ohio. To learn more about the importance of the traded sector and why we focused on it in this study, download our full report here.

Multiple traded-sector employers: Job hubs represent “clusters” of business activity and other assets like roads, highways, transit, and utilities. Business clustering allows for efficient use of infrastructure and creates other spill-over benefits from the accumulation of human and physical capital.

Alignment with local development patterns: Job hubs reflect local development patterns and the location of businesses, infrastructure, transportation assets, and land inventory in each place. This alignment with the built environment will hopefully facilitate local community planning discussions around potential land use policies, transportation investments or other strategies to enhance each job hub’s market competitiveness.

Alignment with civic priorities and economic development opportunities: Beyond encompassing many existing businesses and jobs, job hubs also contain high-quality sites with existing infrastructure or office inventory that, if occupied, could further add density to the job hub. As we continue to develop the research, we hope to work with local partners across Northeast Ohio to promote the vibrancy and growth of regional job hubs that can compete in the global 21st-century economy.”

Methodology

The data displayed in the last two maps for each corridor was derived from a Streetlight Data analysis project. Using the boundaries for each corridor as both an origin and a destination, data regarding truck trips was collected. That data was then imported into GIS to map the total percentage of truck trips in and out of the corridor by means of each roadway.

AMATS Job Hubs

Having identified these 16 specific focal points within the region, AMATS has been able to pinpoint general areas which serve as primary origins and destinations for freight trips based upon expected demand of businesses in retail, warehousing, manufacturing and medical services, among various others. These areas will be referred to throughout this chapter as Freight Corridors. The identified corridors are as follows: Firestone Park, Downtown Akron, Chapel Hill, Cuyahoga Falls, Barberton, Green, Akron-Canton Airport, Brimfield, Gilchrist Road, Twinsburg, Aurora / Streetsboro, East Akron / Airport, Richfield, Hudson / Stow, South Kent, and Rolling Acres.

The following pages within this chapter focus on providing freight-related information about each of the 16 Freight Corridors. The first page of each of the following profiles provides a general description of the corridor followed by some additional relevant information such as location, accessible Interstate / Freeway routes, number of jobs and pavement conditions in and around the corridor. The second page consists of tables identifying safety and traffic issues in and around the corridor. The third and fourth pages show inbound and outbound truck traffic for the corridor.

Firestone Park Freight Corridor

Characteristics:

The Firestone Park Job Hub is located just south of downtown Akron and is easily accessed by I-76 to the north, I-277 to the south, I-77 to the east and SR 93 to the west. The job hub encompasses the original Firestone Headquarters and campus and Bridgestone Americas still has a presence in the corridor and employs approximately 700 jobs in the technical center. There are an estimated 2,500 jobs located within the job hub, in the industries of manufacturing, transportation and warehousing, and professional, scientific, and technical services. There are a number of locations within the corridor that have the potential to negatively impact freight traffic. These locations include high crash intersections and segments as well as congestion along S. Main Street. This job hub benefits from its proximity to downtown Akron and several interstates.

Key Freeway / Highway Access:

I-77
SR 764

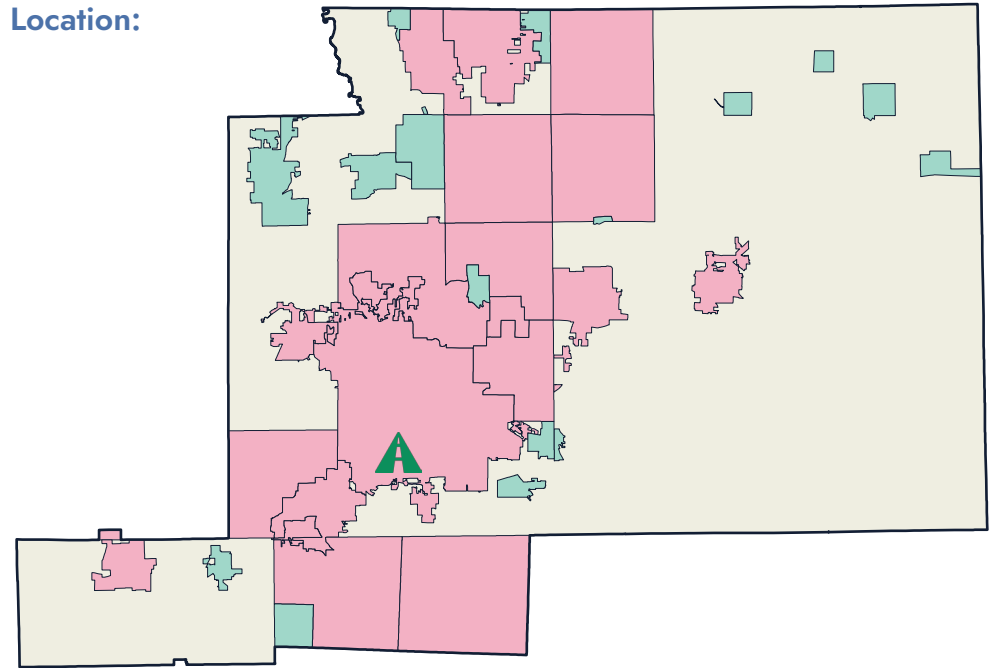
Top 3 Job Types:

1. Transportation and Warehousing
2. Manufacturing
3. Professional, Scientific, and Technical Services

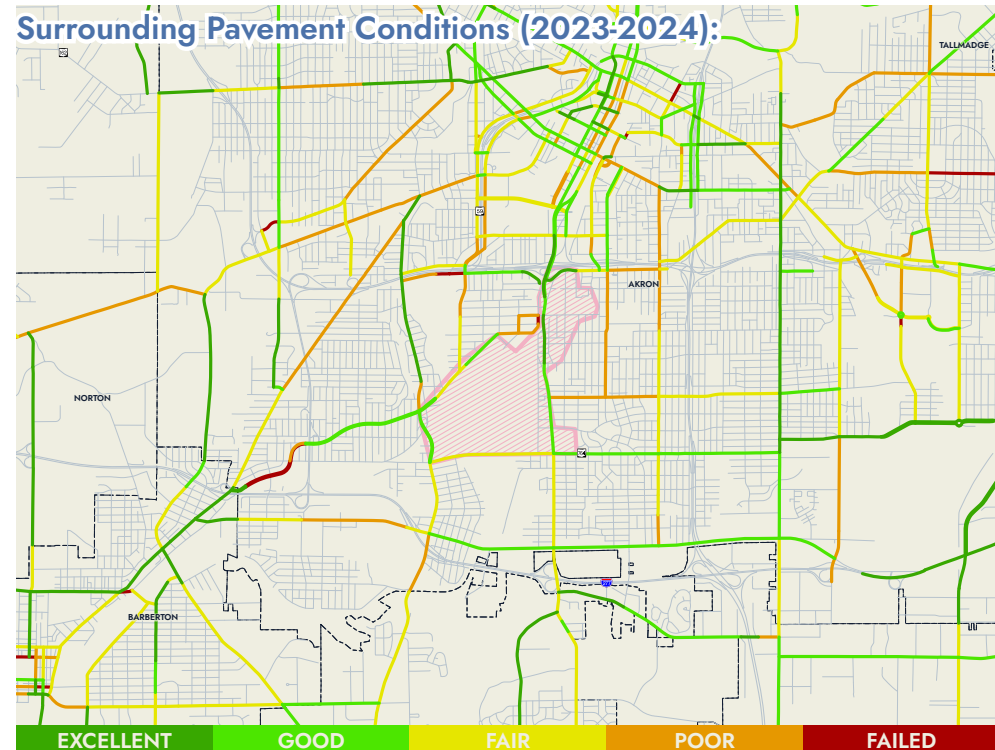
2022 Estimated Jobs:

3,000

Location:



Surrounding Pavement Conditions (2023-2024):



Firestone Park Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Akron	19	45	S Main St from Waterloo Rd to Wilbeth Rd (SR 764)	0.77	18,700	20	8.658
Akron	45	108	South St from S Main St to Wolf Ledges Pkwy / Bellows St	0.46	5,640	10	7.246
Akron	41	101	E Archwood Ave from S Main St to Brown St	0.9	3,880	15	5.556

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Akron	18	53	Kenmore Blvd and Old Manchester Rd	Insufficient Data	13
Akron	24	66	S Main St and E Miller Ave	Insufficient Data	28
Akron	43	107	S Main St and Wilbeth Rd (SR 764)	25,544	41

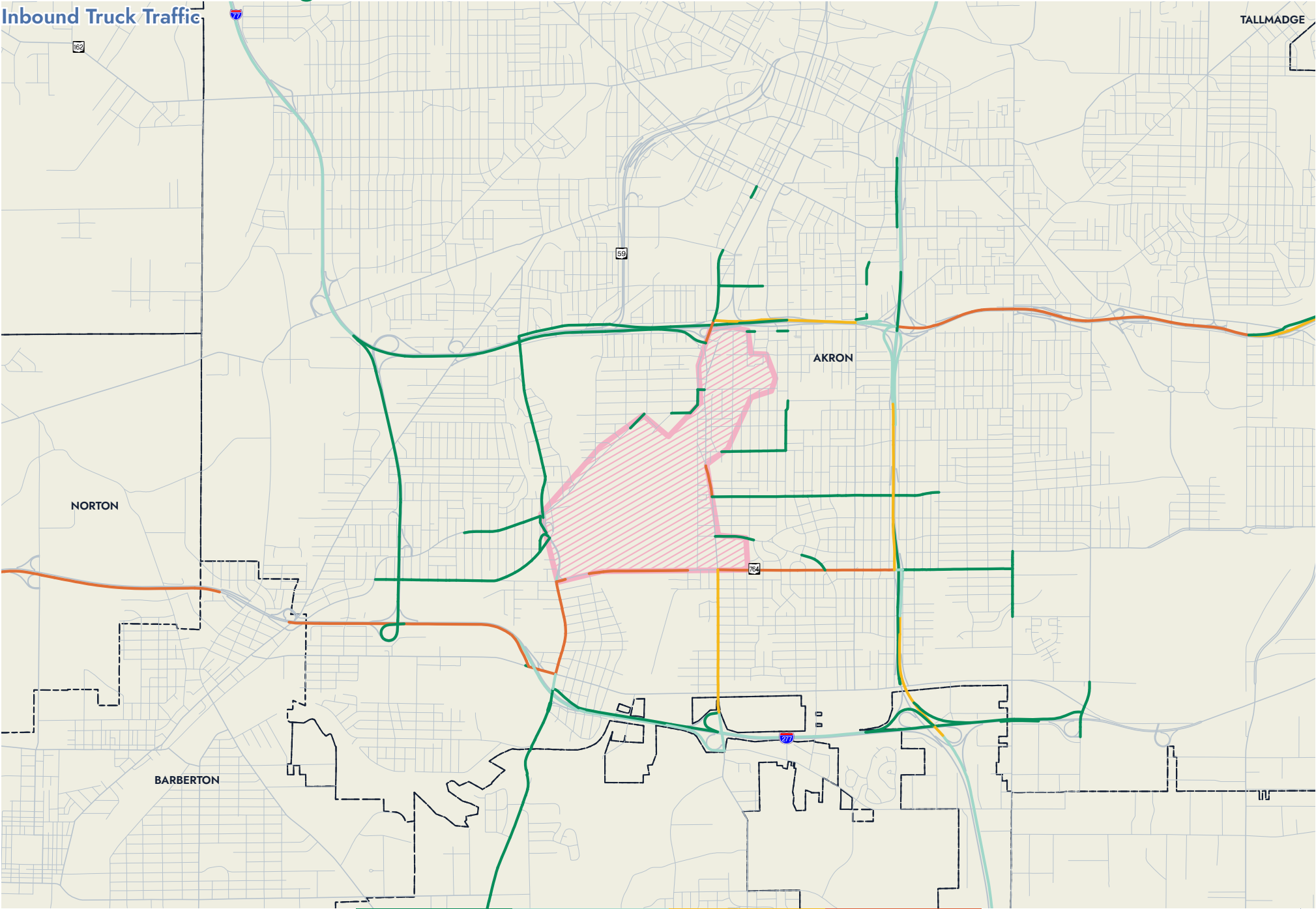
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Akron	S Main St from Miller Ave to I-76 EB / I-77 SB Off-ramp / E South St	0.297	Mid-Day	Arterial	NB	70.99
Akron	S Main St from Wilbeth Rd to Firestone Blvd	0.212	Peak PM	Arterial	NB / SB	71.17
Akron	S Main St from W Mapledale Ave to E Archwood Ave	0.072	Peak PM	Arterial	NB / SB	74.18

Firestone Park Freight Corridor

Inbound Truck Traffic



Percentage of Inbound Truck Trips:

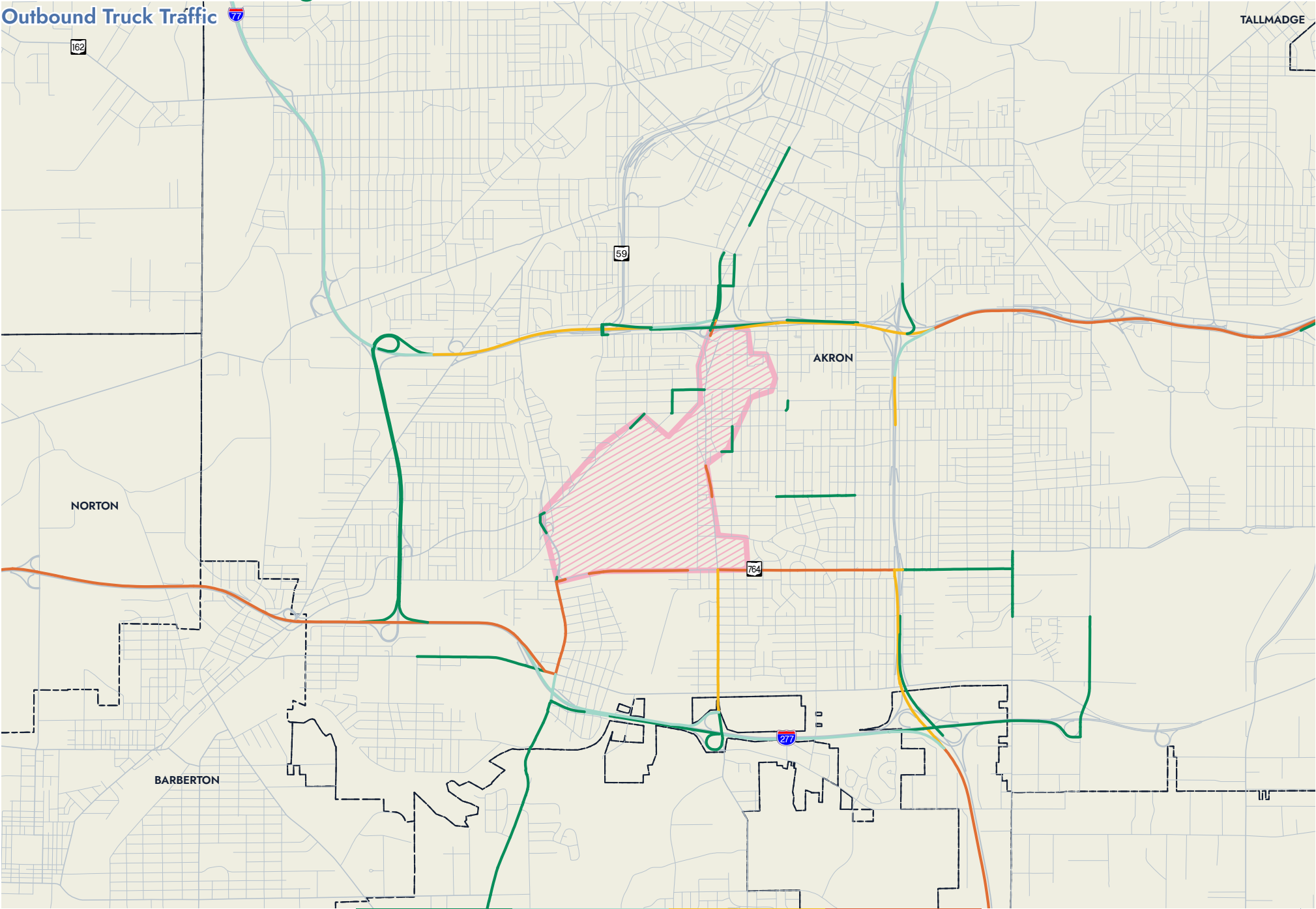


Firestone Park Freight Corridor

Outbound Truck Traffic



TALLMADGE



Percentage of Outbound Truck Trips:



Downtown Akron Freight Corridor

Characteristics:

An estimated 34,500 jobs are located within the Downtown Akron Job Hub, the majority of which are in the healthcare and social assistance, public administration, and educational services industries. This job hub is located in central Summit County and has easy access to I-76 and SR 8. Home to the University of Akron, downtown Akron is also a destination for art, music, retail, and restaurants, drawing travelers from surrounding areas for public events, baseball games, and fairs. Several intersections and segments within the job hub are contained in the AMATS crash listings. These locations, coupled with congestion on SR 8 and S. Main Street near I-76, contribute to potential freight delays in the area.

Key Freeway / Highway Access:

I-76
SR 8

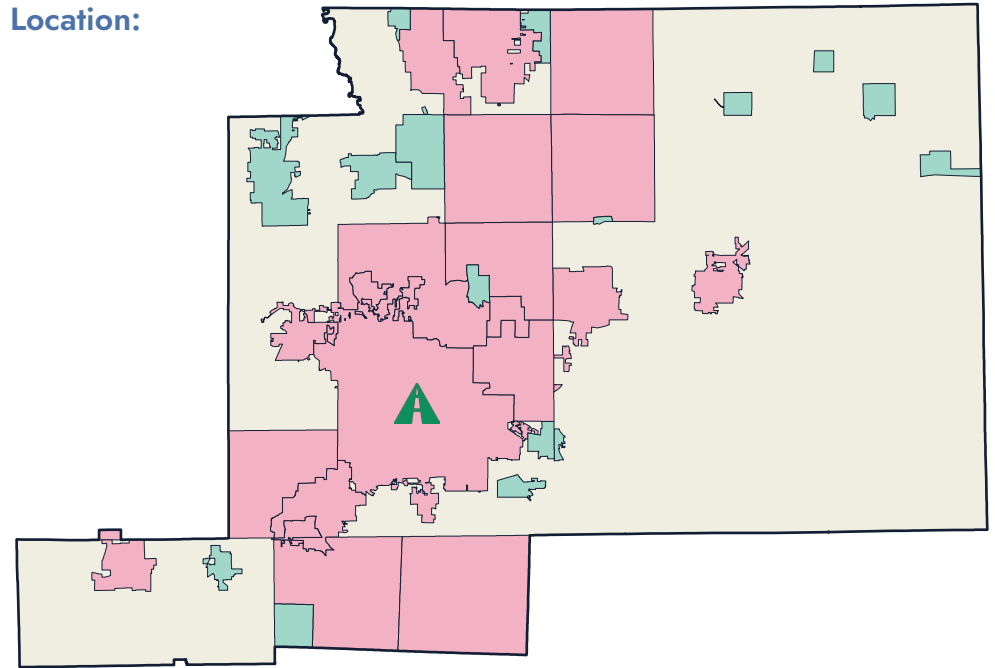
Top 3 Job Types:

1. Health Care and Social Assistance
2. Public Administration
3. Educational Services

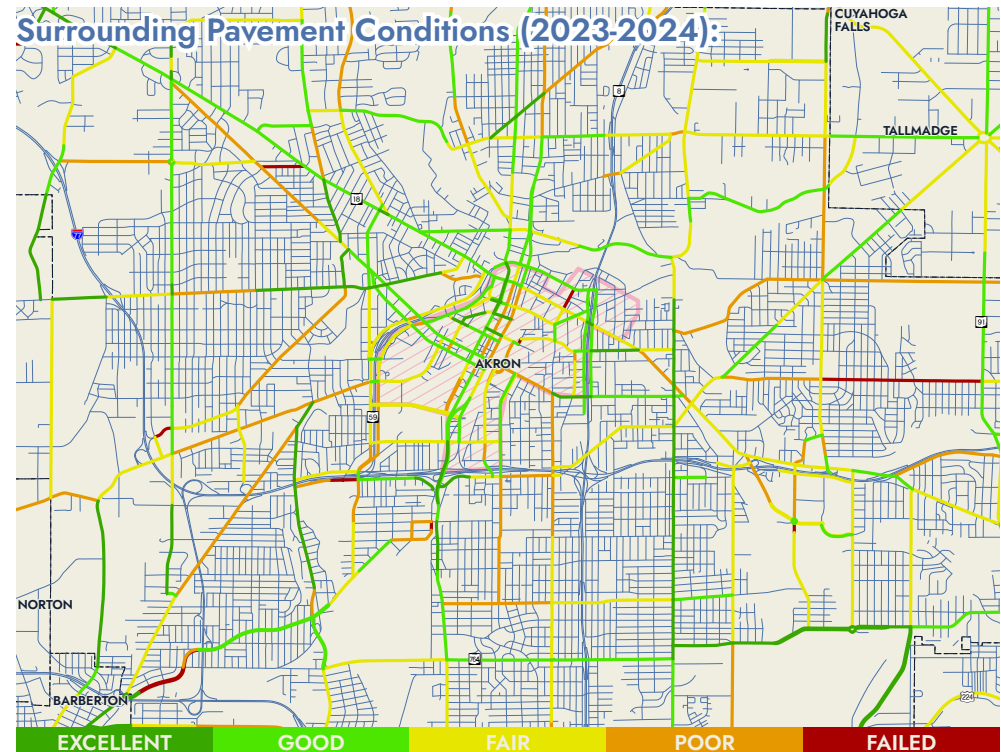
2022 Estimated Jobs:

34,500

Location:



Surrounding Pavement Conditions (2023-2024):



Downtown Akron Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Akron	1	3	M.L. King Blvd (SR 59) from W Market St Overpass to N Broadway St	0.18	17,817	21	38.889
Akron	7	16	N Forge St from Fountain St to N Arlington St	0.70	6,500	13	6.190
Akron	14	34	Akron General Ave from W Cedar St to W Exchange St	0.09	2,800	1	3.704

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Akron	2	5	S Broadway St and Rosa Parks Dr	Insufficient Data	24
Akron	3	6	S High St and Bartges St	12,855	25
Akron	4	11	Bartges St and Dart Ave	Insufficient Data	15

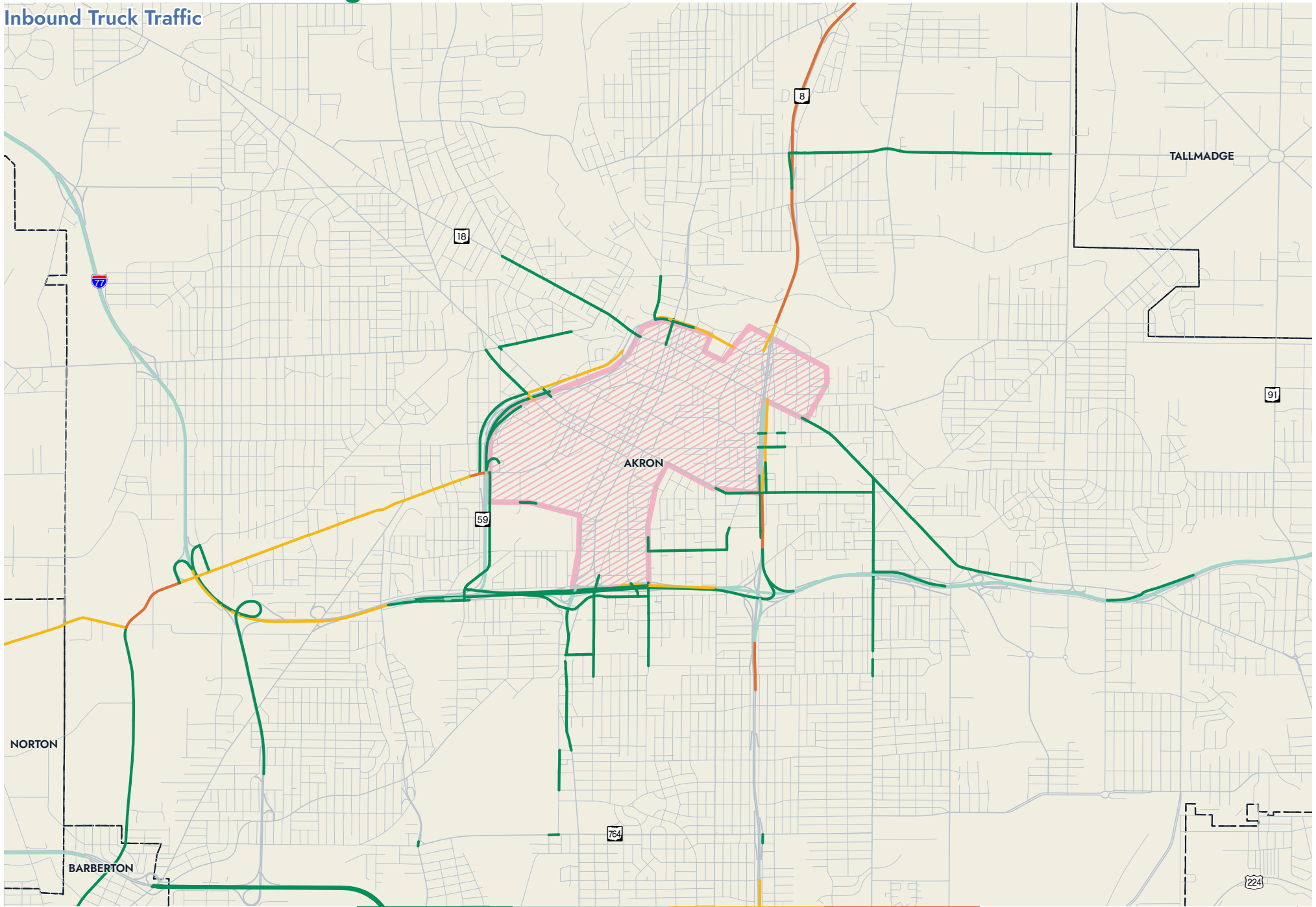
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Akron	Arc Dr from Wolf Ledges Pkwy to E Exchange St	0.349	Peak AM / Mid-Day	Arterial	EB	50.18
Akron	W Bowery St from W Exchange St to W State St	0.177	Peak AM	Arterial	NB	51.19
Akron	S Main St from North of St. Mary's School to W Thornton St	0.079	Mid-Day	Arterial	SB	53.36

Downtown Akron Freight Corridor

Inbound Truck Traffic

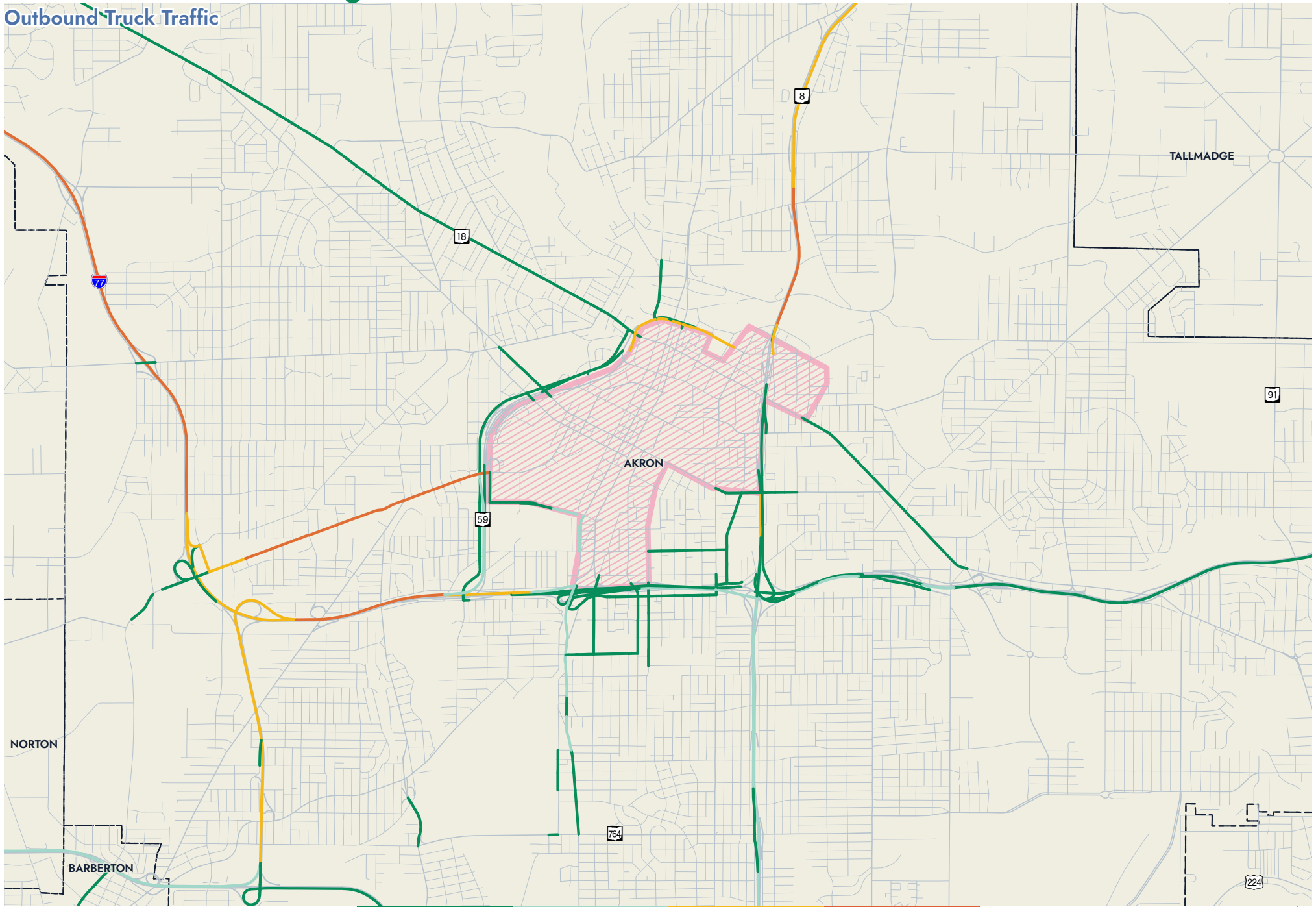


Percentage of Inbound Truck Trips:



Downtown Akron Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Barberton Freight Corridor

Characteristics:

The city of Barberton was established as a planned industrial community in the late 1800's and the city's core was centered on a natural glacial lake called Lake Anna. Businesses such as the Diamond Match Company and Babcock & Wilcox helped establish Barberton as an industrial center and major employment hub. Although the region's industrial landscape has changed, Barberton remains an attractive location for businesses. The city boasts a vibrant downtown and is in close proximity to the Ohio and Erie Canal Towpath Trail via the Magic Mile. Barberton is home to 1,500 jobs in manufacturing, retail trade, and wholesale trade. Barberton is located in southwest Summit County, with I-76 highway access nearby. Robinson Avenue and Wooster Road North can have some moderate congestion issues, creating the potential for freight delay.

Key Freeway / Highway Access:

I-76
SR 619

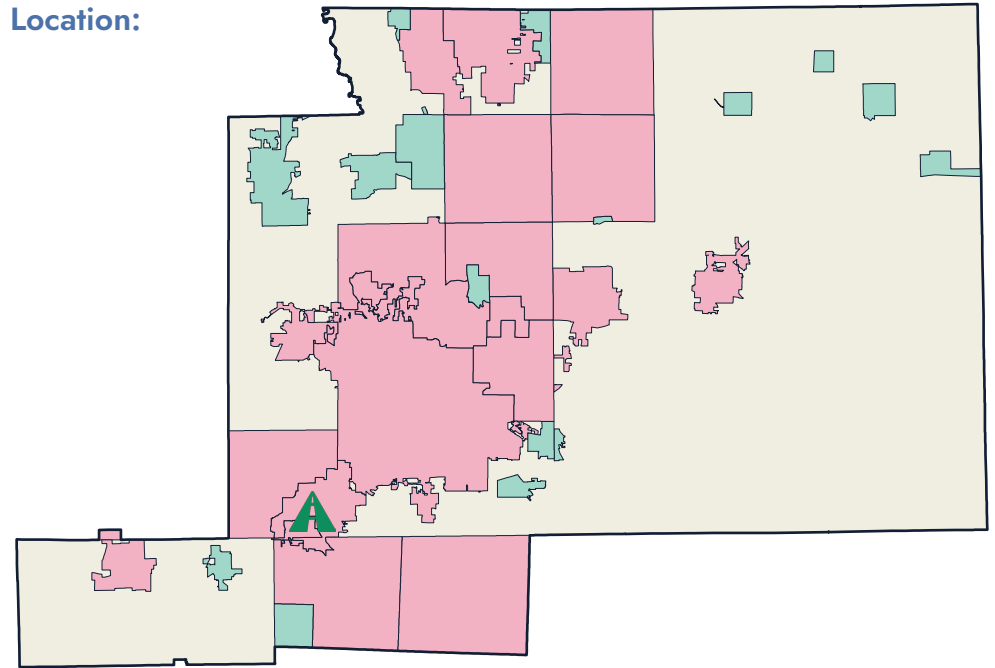
Top 3 Job Types:

1. Manufacturing
2. Professional, Scientific, and Technical Services
3. Retail Trade

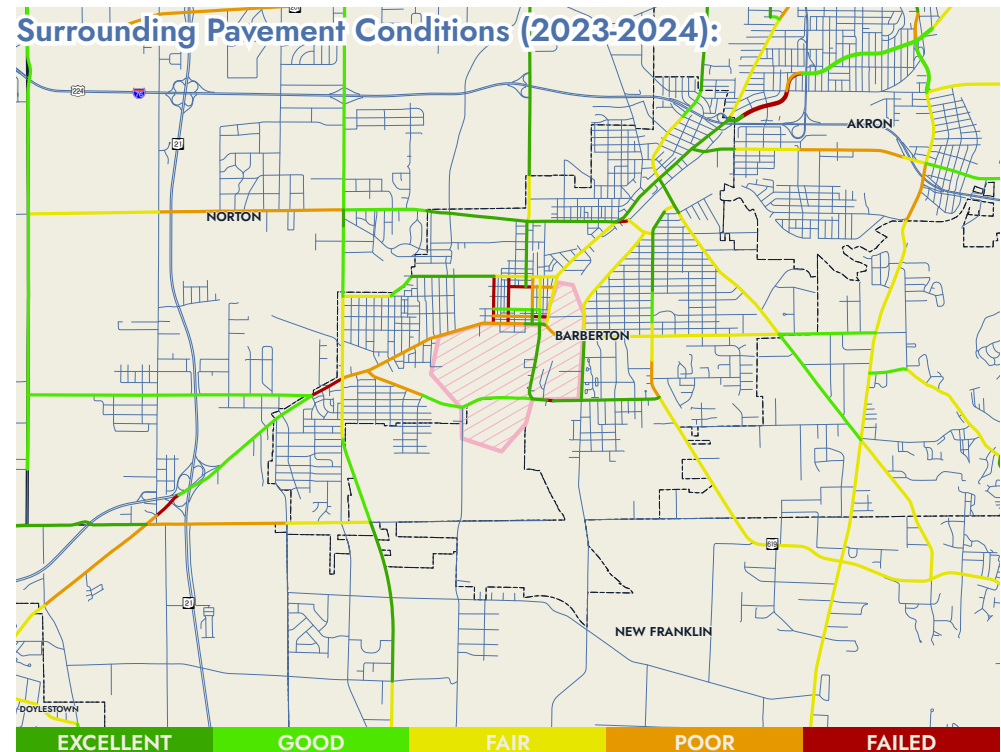
2022 Estimated Jobs:

1,500

Location:



Surrounding Pavement Conditions (2023-2024):



Barberton Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Barberton	4	25	Snyder ave from Van Buren Ave to 5th St SE	0.65	5,240	9	4.615
Barberton	4	25	Wooster Rd N from Hopocan Ave to Norton Ave	0.67	7,740	15	7.463
Barberton	7	61	Wooster Rd W from 31st St to 14th St NW	1.01	7,837	43	14.191

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the 2020-2022 Traffic Crashes Report					

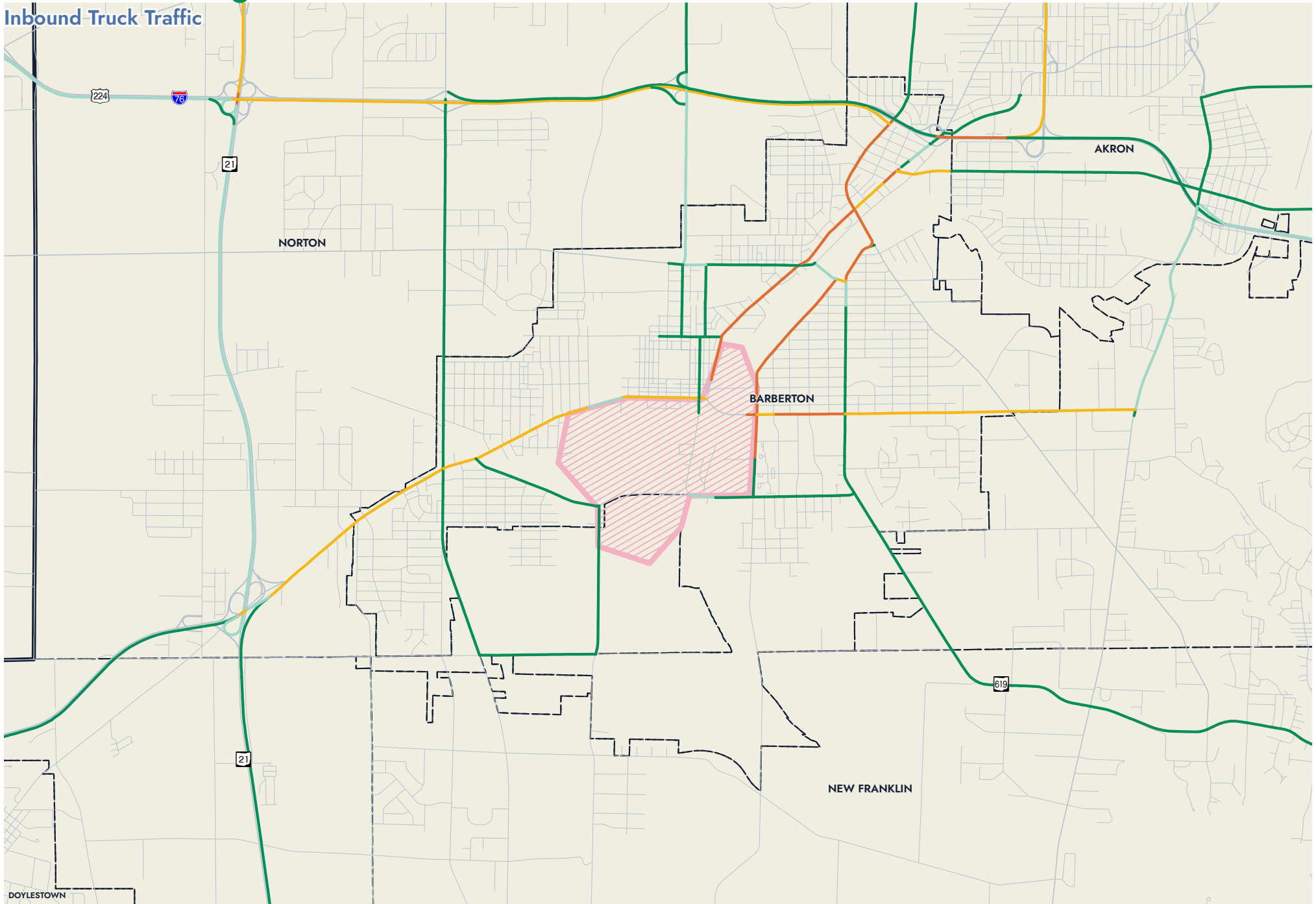
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Barberton	Wooster Rd N from .029 Miles North of Wooster Rd W to W Hopocan Ave	0.384	Mid-Day / Peak PM	Arterial	NB / SB	71.45
Barberton	Wooster Rd N from Wooster Rd W to .029 Miles North of Wooster Rd W	0.029	Mid-Day / Peak PM	Arterial	NB / SB	71.96
Barberton	Robinson Ave from 0.041 Miles East of Wooster Rd N to Wooster Rd N	0.041	Mid-Day	Arterial	EB / WB	85.14

Barberton Freight Corridor

Inbound Truck Traffic

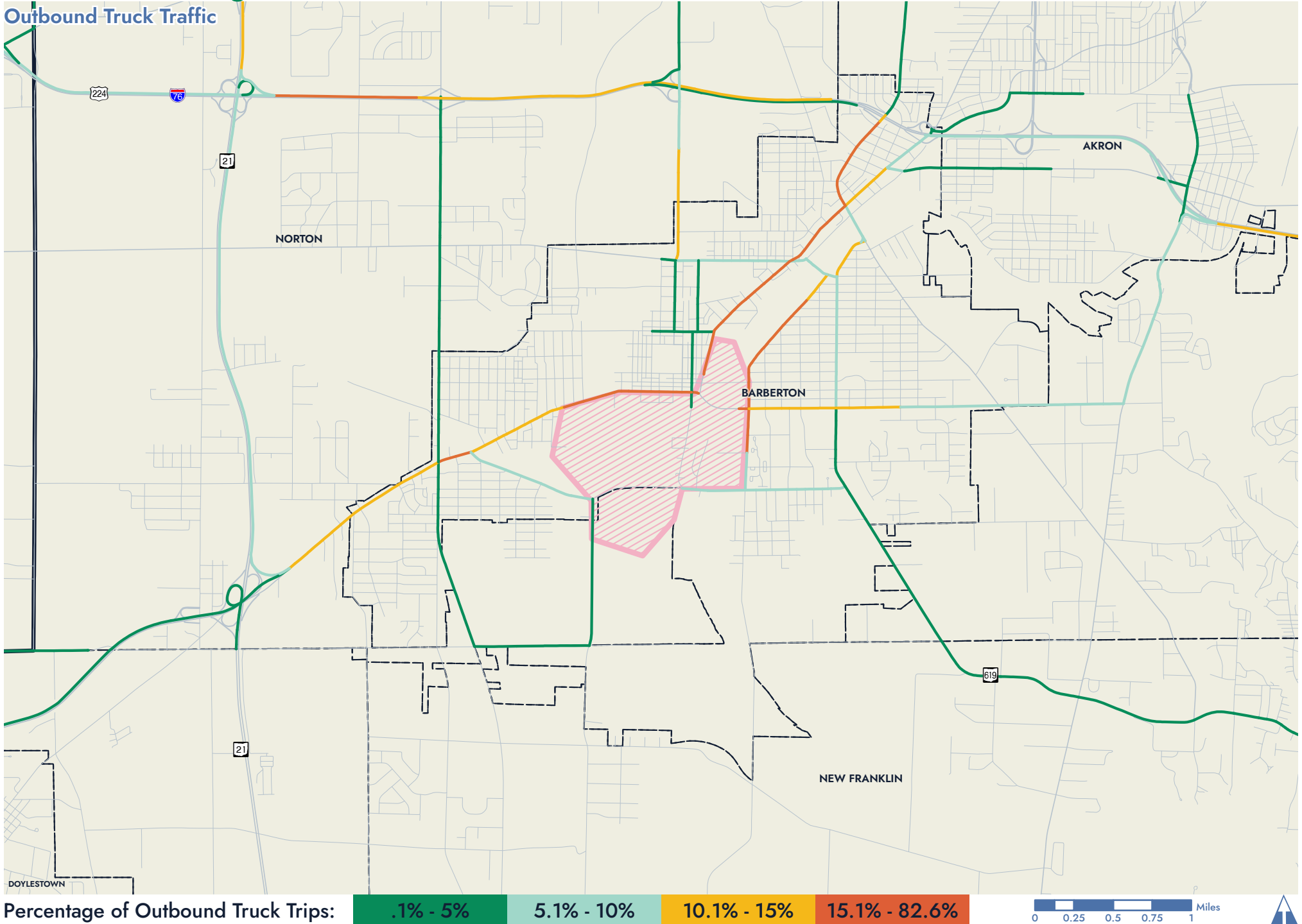


Percentage of Inbound Truck Trips:



Barberton Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Green Freight Corridor

Characteristics:

The city of Green is the southernmost city in Summit County, with I-77 and SR 619 serving as key access roads. This job hub is home to approximately 7,000 jobs in health care and social assistance, and transportation and warehousing. Massillon Road (SR 241) runs north and south through the corridor and is one of the region's highest-volume roadways due to the rapid growth of businesses and residences surrounding the corridor. Massillon Road was very recently improved with several new roadway enhancements including roundabouts. The corridor will continue to be monitored to assess how these improvements affect both congestion and safety.

Key Freeway / Highway Access:

I-76
SR 8

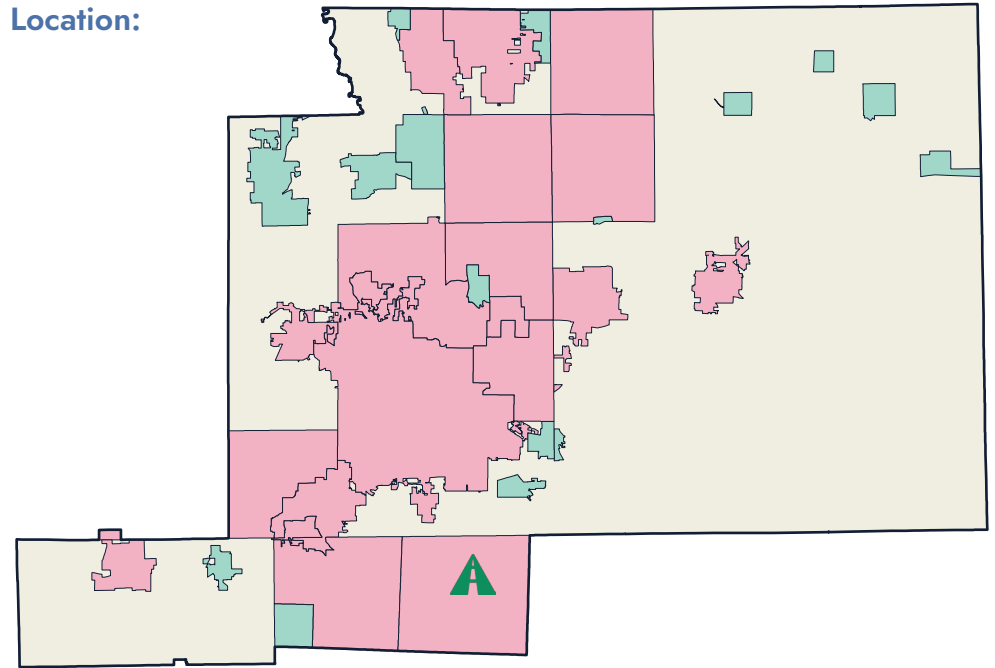
Top 3 Job Types:

1. Health Care and Social Assistance
2. Public Administration
3. Educational Services

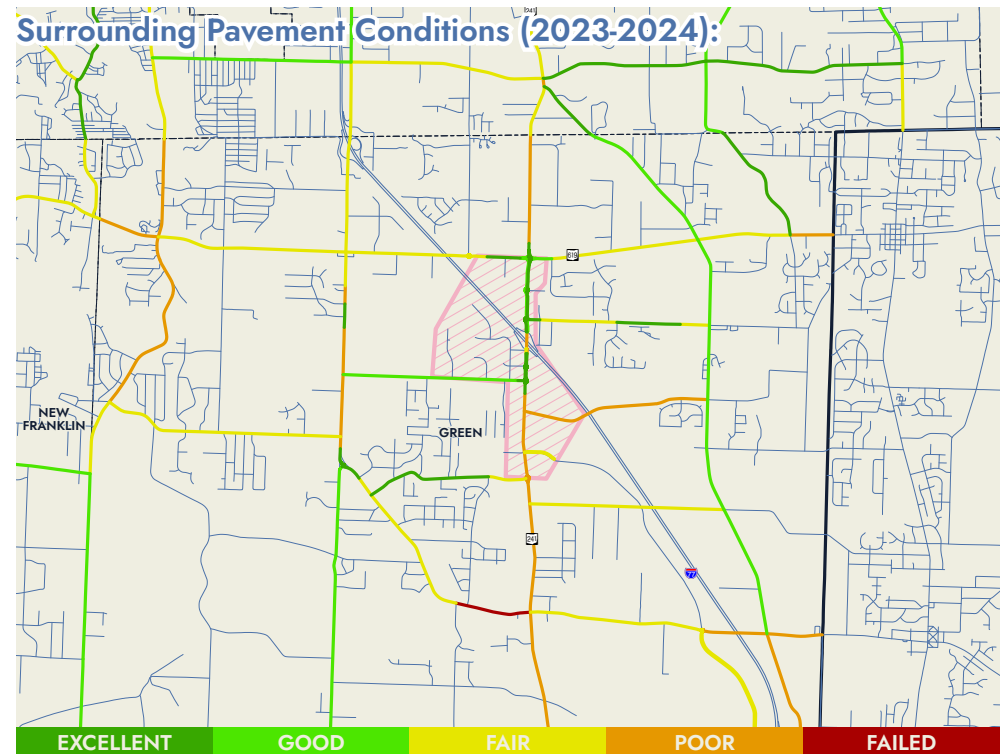
2022 Estimated Jobs:

7,000

Location:



Surrounding Pavement Conditions (2023-2024):



Green Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Green	3	22	Sandy Knoll Dr from Corporate Woods Pkw to Massillon Rd (SR 241)	0.13	Data Not Available	2	5.128
Green	6	122	E Turkeyfoot Lake Rd (SR 619) from Massillon Rd (SR 241) to Green ECL	2.51	9,055	24	3.187
Green	7	131	Massillon Rd (SR 241) from Turkeyfoot Lake Rd (SR 619) to Killian Rd	1.5	9,979	14	3.111

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Green	5	163	Massillon Rd (SR 241) and Corporate Woods Cir / Thorn Dr	Insufficient Data	10
Green	7	202	Massillon Rd (SR 241) and Town Park Blvd	Insufficient Data	9

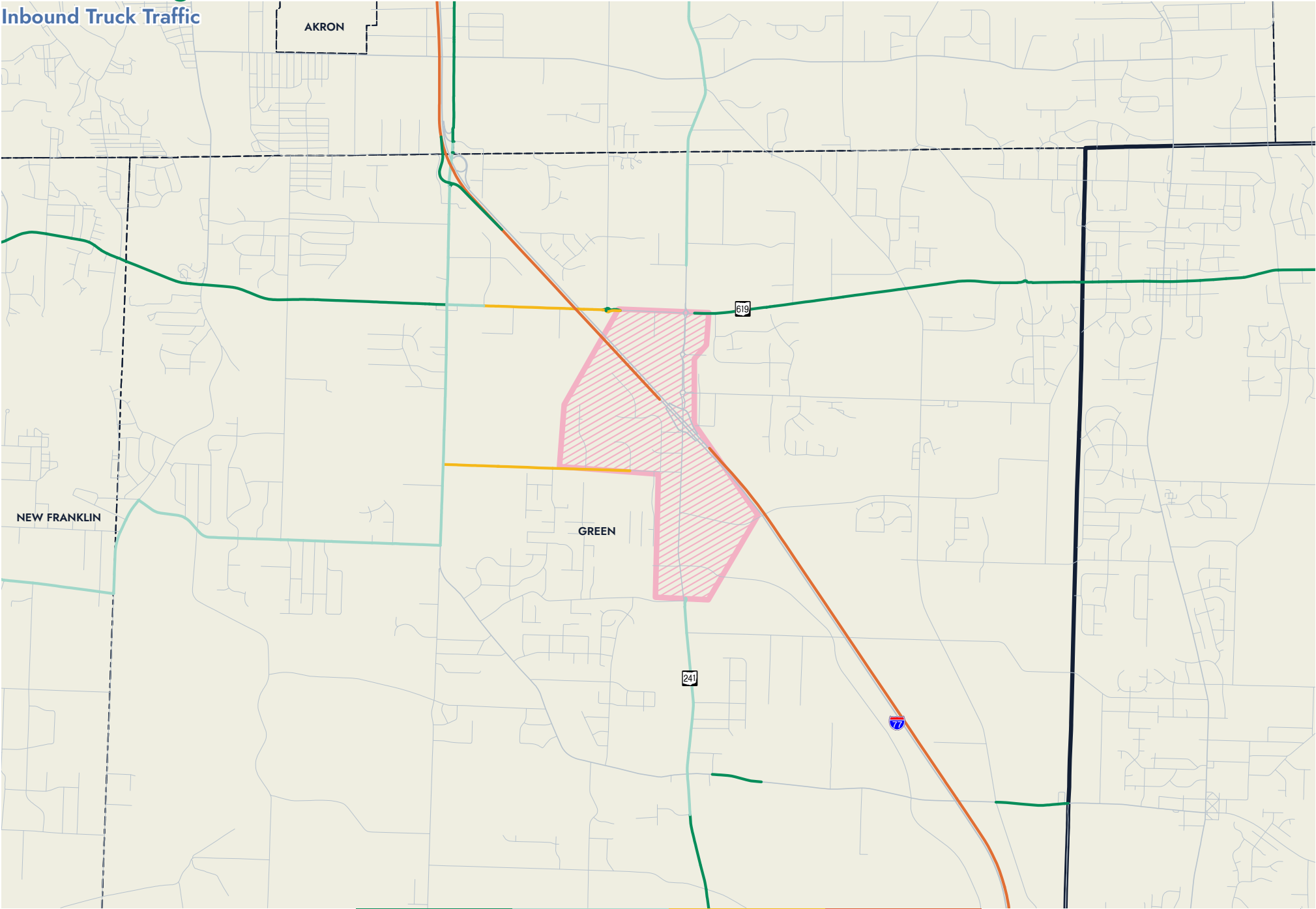
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Green	Massillon Rd (SR 241) from 0.068 Miles North of I-77 N Ramps to I-77 N Ramps	0.068	Peak PM	Arterial	SB	58.42
Green	Massillon Rd (SR 241) from Boettler Rd to 0.03 Miles South of Sandy Knoll Dr	0.224	Mid-Day / Peak PM	Arterial	NB / SB	59.07
Green	Massillon Rd (SR 241) from Graybill Rd to Boettler Rd	0.248	Mid-Day	Arterial	NB / SB	61.76

Green Freight Corridor

Inbound Truck Traffic

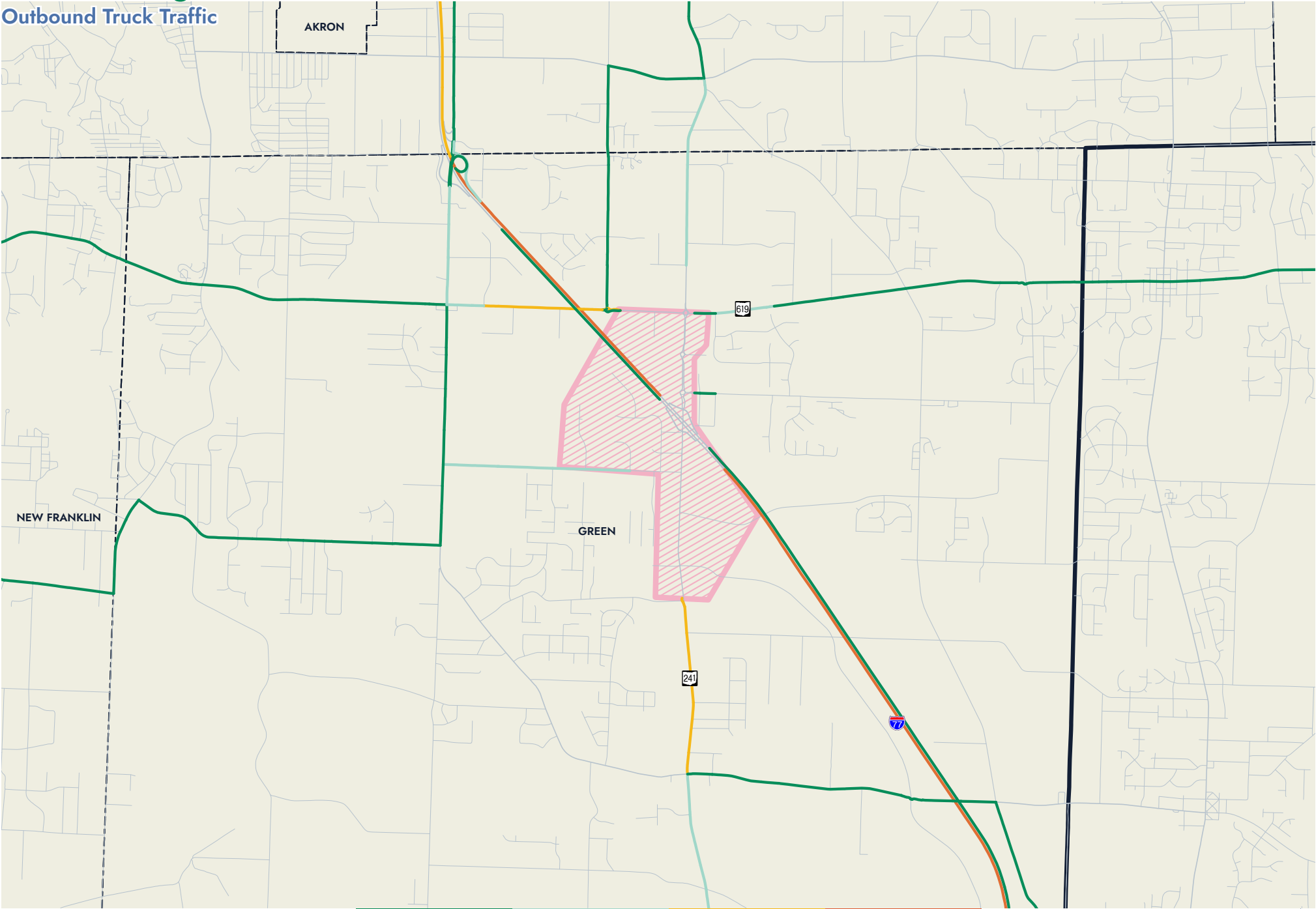


Percentage of Inbound Truck Trips:



Green Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



0 0.25 0.5 0.75 1 Miles



Cuyahoga Falls Freight Corridor

Characteristics:

The Cuyahoga Falls job hub is located north of Akron in central Summit County. The city of Cuyahoga Falls has a population of 50,000, making it one of the county's larger cities. With access from SR 8 and SR 59, this job hub includes over 5,000 jobs in the industries of manufacturing, management of companies and enterprises, administrative and support, and waste management and remediation. The city of Cuyahoga Falls has witnessed a resurgence recently due to the reconstruction and reopening of Front Street and its Portage Crossing development. These developments provide attractive amenities to employers that locate within the job hub. There are no significant safety concerns within the job hub and only some moderate congestion along sections of State Road. An upcoming project on State Road from Steels Corners Road to the northern city line may help to address some issues.

Key Freeway / Highway Access:

- SR 8
- SR 59

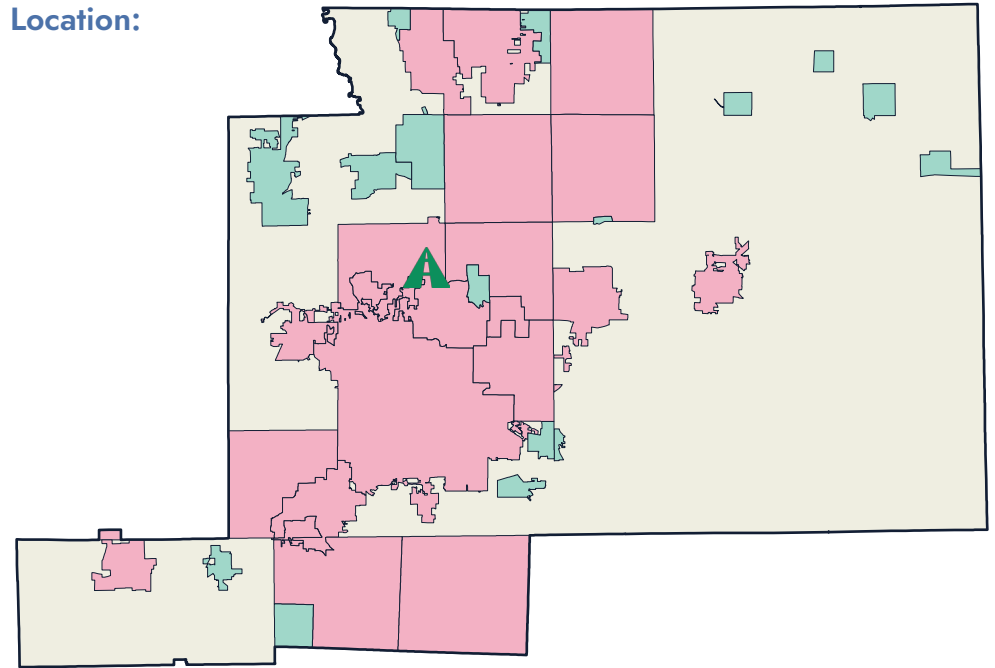
Top 3 Job Types:

1. Manufacturing
2. Management of Companies and Enterprises
3. Administrative and Support and Waste Management and Remediation Services

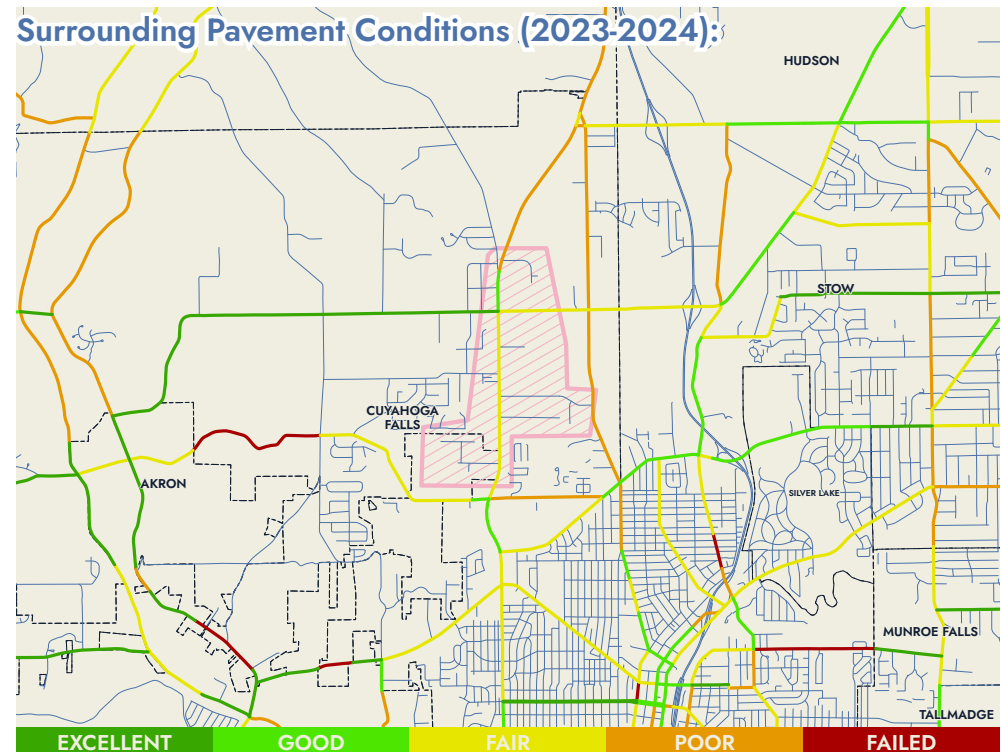
2022 Estimated Jobs:

5,000

Location:



Surrounding Pavement Conditions (2023-2024):



Cuyahoga Falls Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
No Nearby Segments in the 2020-2022 Traffic Crashes Report							

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the 2020-2022 Traffic Crashes Report					

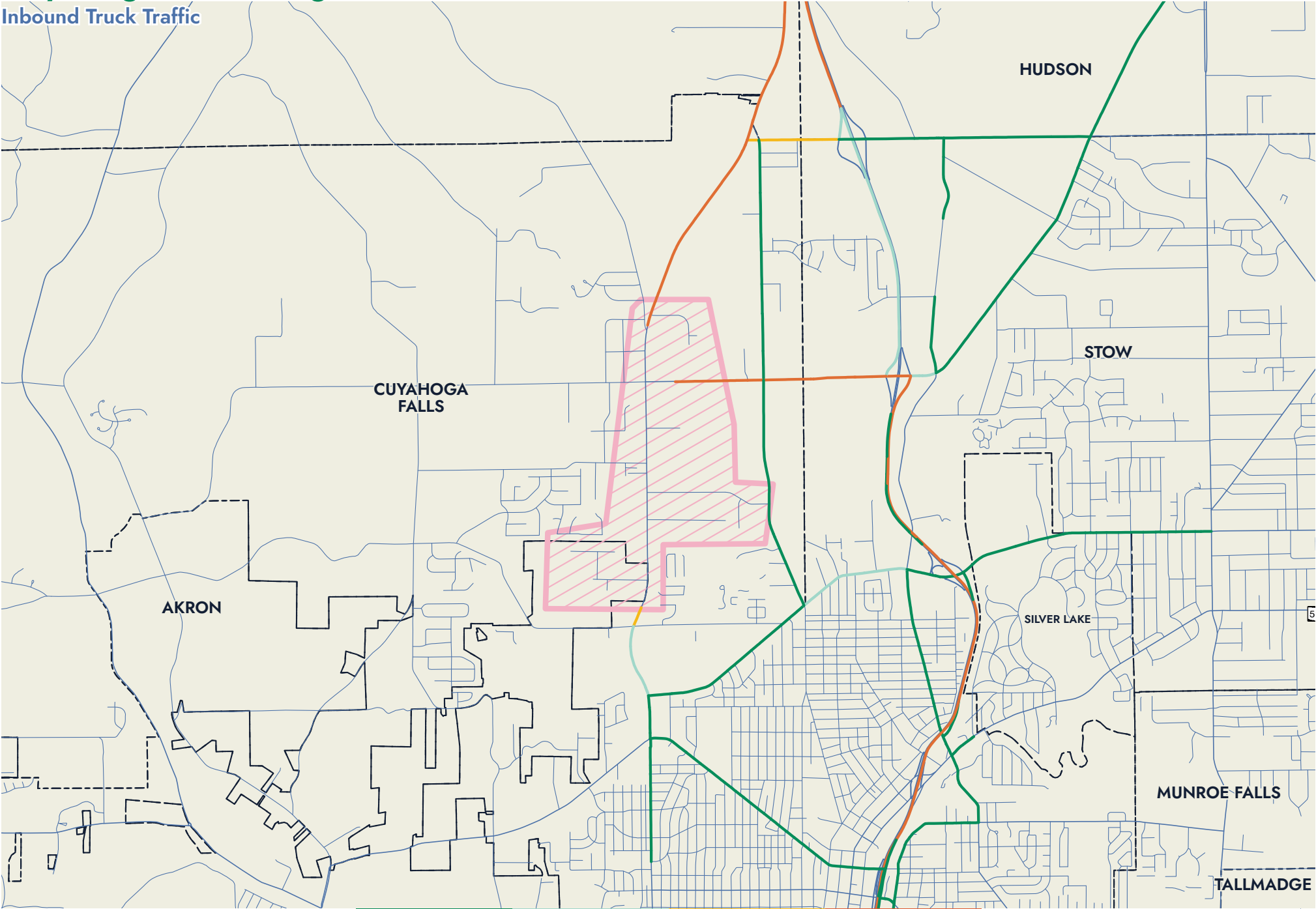
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Cuyahoga Falls	State Rd from Steels Corners Rd to Quick Rd	0.326	Mid-Day / Peak PM	Arterial	NB / SB	74.83
Cuyahoga Falls	State Rd from Chart Rd to Steels Corners Rd	0.516	Mid-Day	Arterial	NB / SB	77.30
Cuyahoga Falls	State Rd from Bath Rd to Chart Rd	1.052	Mid-Day / Peak PM	Arterial	NB / SB	79.18

Cuyahoga Falls Freight Corridor

Inbound Truck Traffic



Percentage of Inbound Truck Trips:

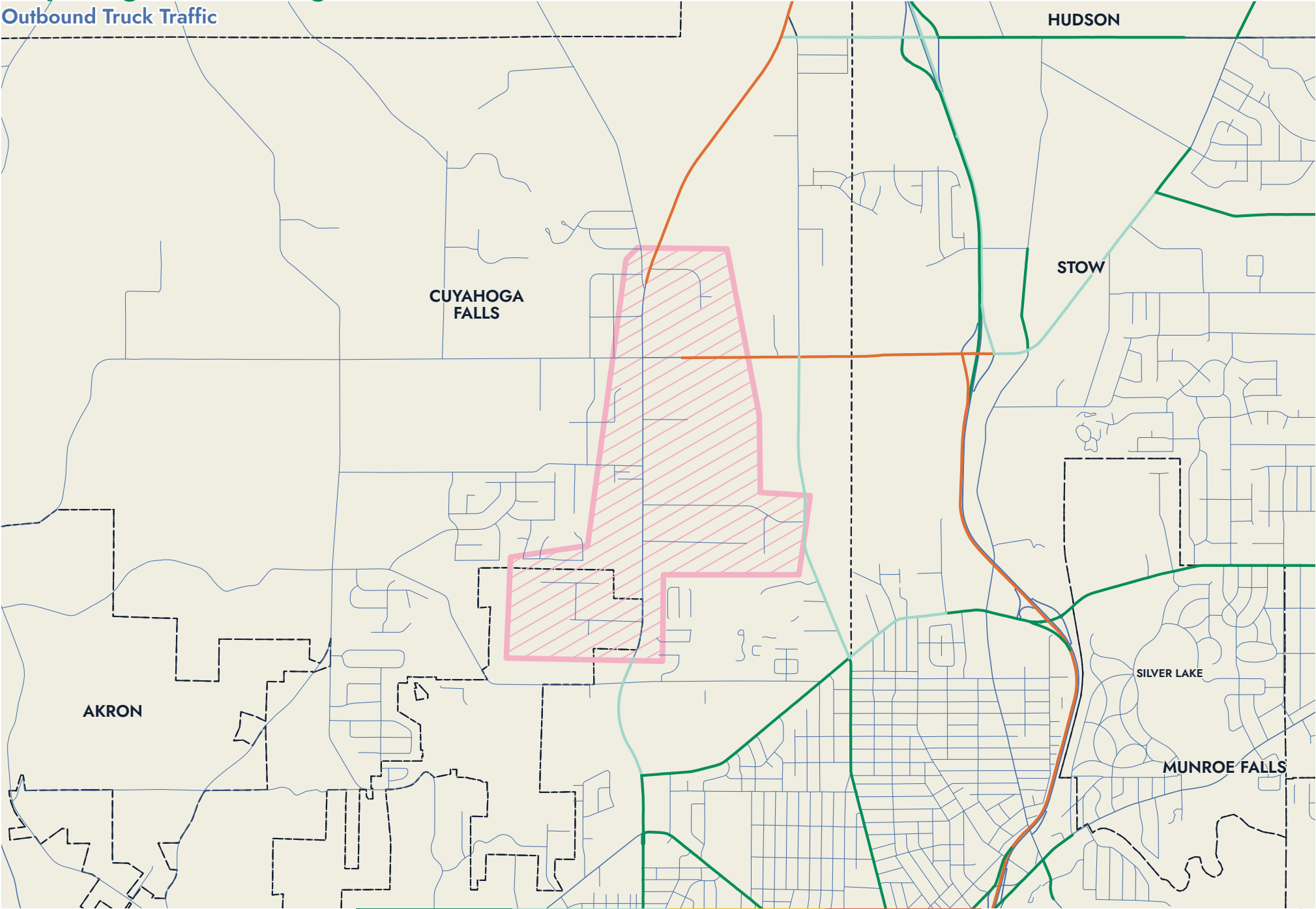


0 0.25 0.5 0.75 1 Miles



Cuyahoga Falls Freight Corridor

Outbound Truck Traffic



Chapel Hill Freight Corridor

Characteristics:

Located in central Summit County just north of downtown Akron, the Chapel Hill job hub employs 4,000 people in the areas of manufacturing, management of companies and enterprises, and information. Anchored by the Chapel Hill Mall built in 1967, this job hub is easily accessed by SR 8 and continues to be a destination for retail and restaurants. In addition to SR 8, SR 261 connects the Chapel Hill area to communities to the east and west. AMATS has identified several high crash locations and intersections near the job hub, as well as highly congested areas that could interfere with freight traffic in the corridor.

Key Freeway / Highway Access:

SR 8
SR 261

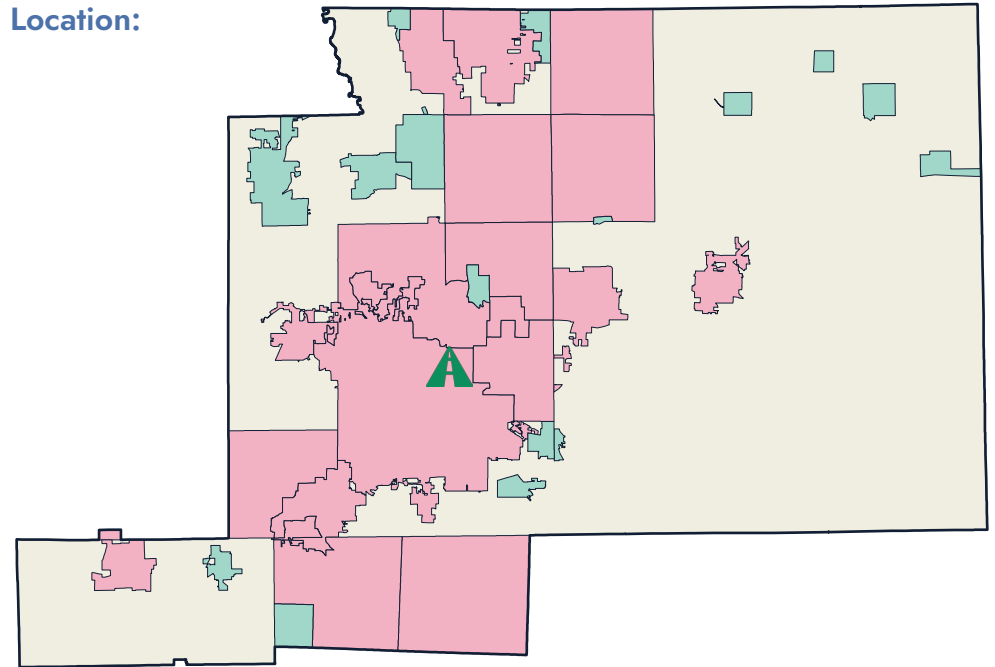
Top 3 Job Types:

1. Manufacturing
2. Transportation and Warehousing
3. Management of Companies and Enterprises

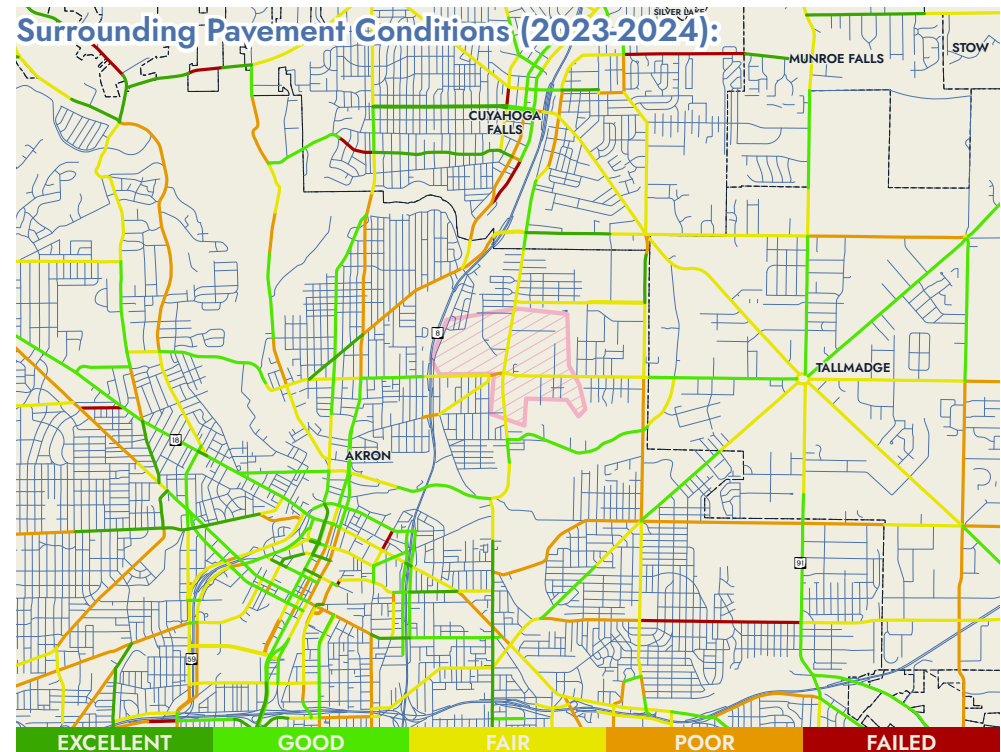
2022 Estimated Jobs:

4,000

Location:



Surrounding Pavement Conditions (2023-2024):



Chapel Hill Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Akron	32	81	Gorge Blvd from Tallmadge Ave (SR 261) to Cuyahoga Falls Ave	0.95	4,220	12	4.211
Akron	52	134	E Glenwood Ave from SR 8 to Tallmadge Ave (SR 261)	0.63	5,370	6	3.175

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Akron	57	132	E Tallmadge Ave (SR 261) and Gorge Blvd / SR 8 NB Off Ramp	23,633	33

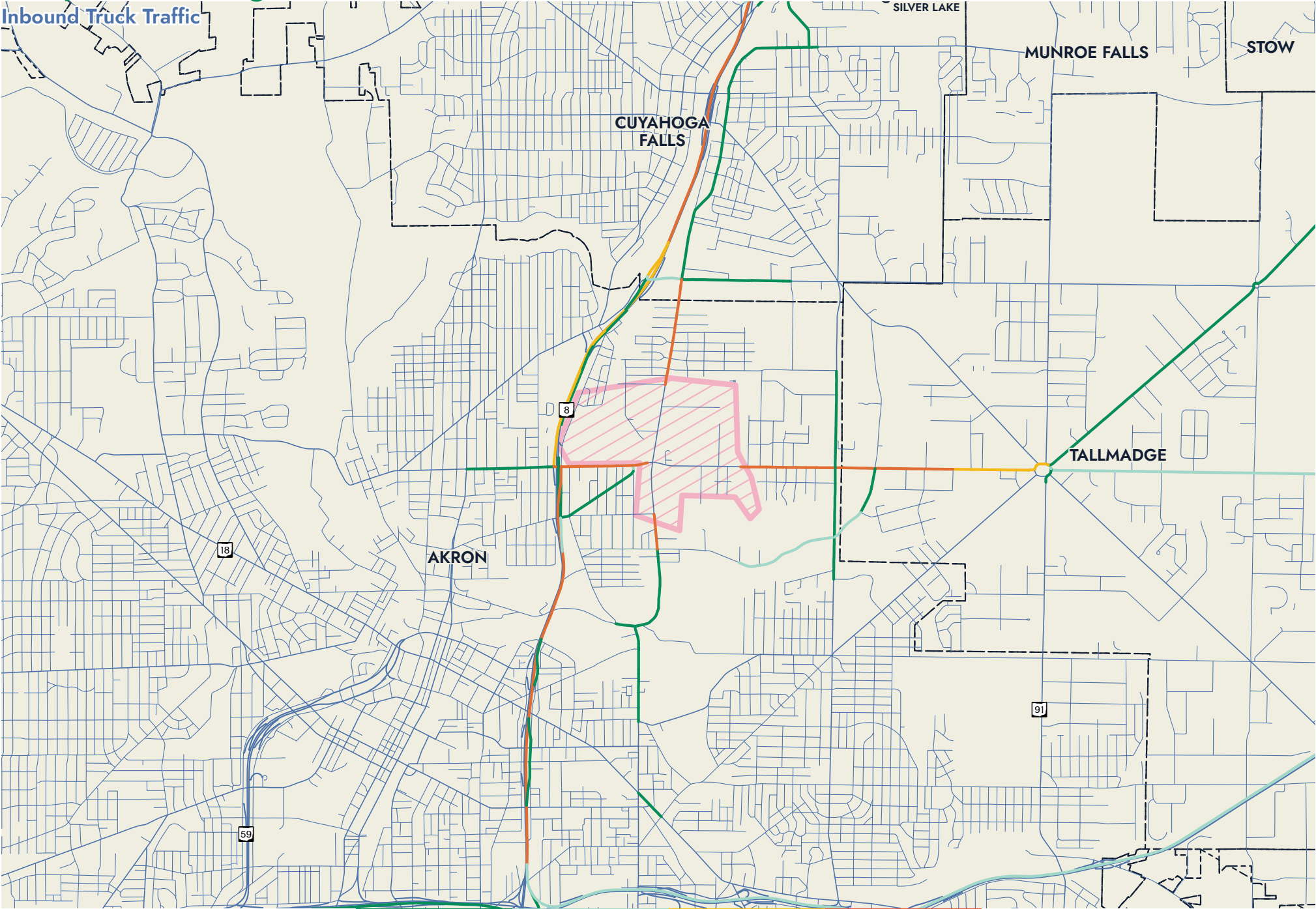
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Akron	E Tallmadge Ave (SR 261) from E Glenwood Ave to Home Ave	0.121	Mid-Day / Peak PM	Arterial	EB / WB	73.20
Akron	Home Ave from E Tallmadge Ave (SR 261) to Independence Ave	0.605	Mid-Day	Arterial	NB / SB	79.64
Akron	E Tallmadge Ave (SR 261) from Home Ave to Brittain Rd	1.145	Mid-Day / Peak PM	Arterial	EB / WB	79.88

Chapel Hill Freight Corridor

Inbound Truck Traffic

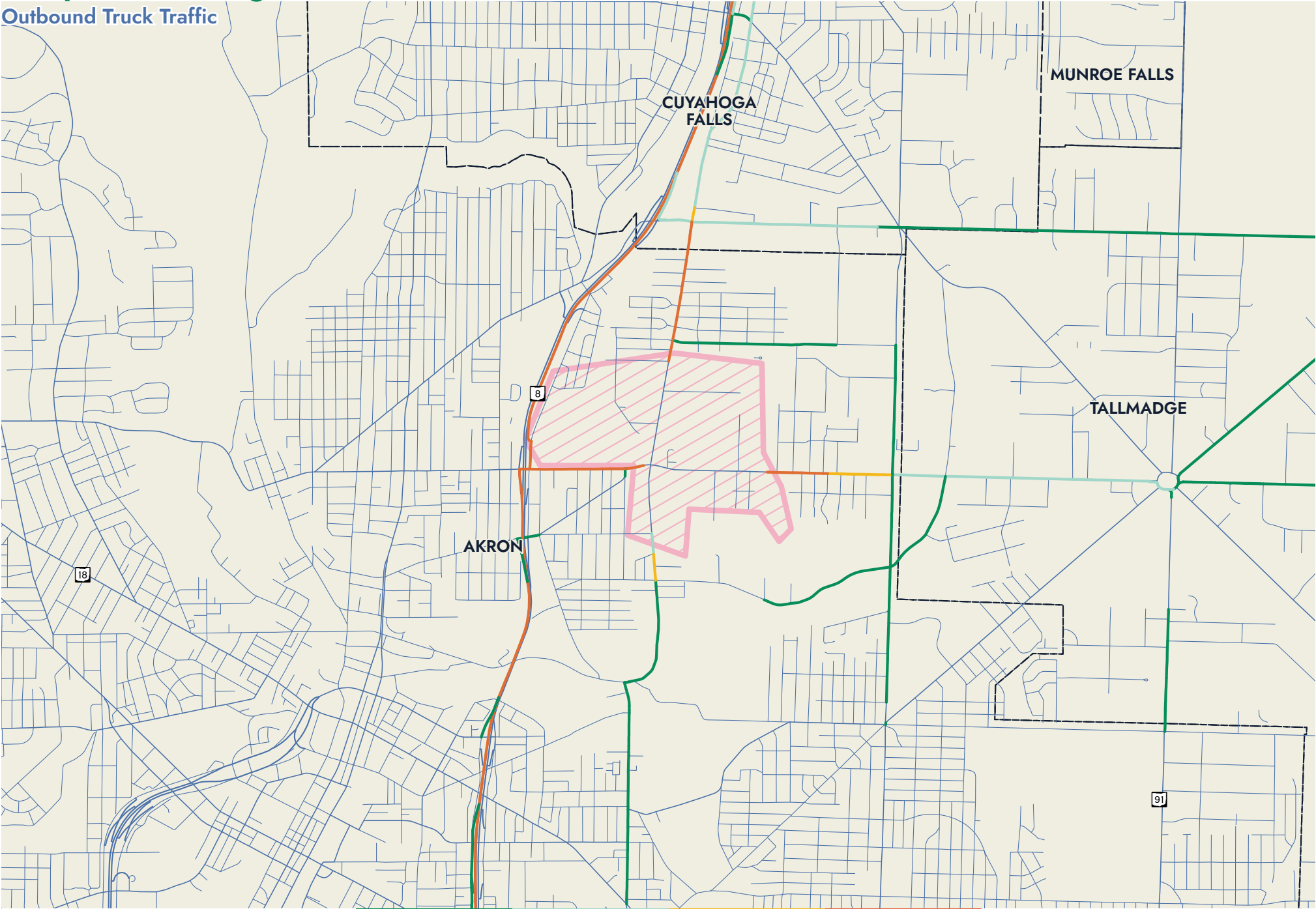


Percentage of Inbound Truck Trips:



Chapel Hill Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



East Akron / Airport Freight Corridor

Characteristics:

The East Akron / Airport Job Hub is located in the southeast corner of Akron, between Springfield Township and downtown Akron. This job hub is home to 8,000 jobs in the areas of manufacturing, construction, and transportation and warehousing. This job hub is dense with employers benefiting from the nearby access to I-76 and US 224, including the Goodyear Tire's World Headquarters. There are some nearby areas of congestion and a few high crash locations that could impact freight traffic.

Key Freeway / Highway Access:

- I-76
- US 224

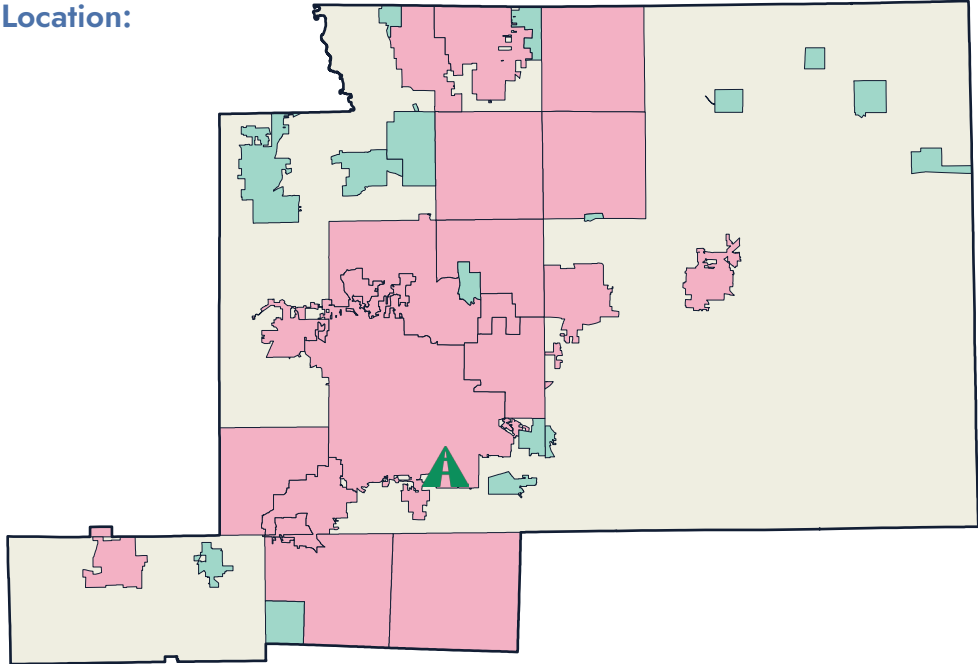
Top 3 Job Types:

1. Management of Companies and Enterprises
2. Manufacturing
3. Transportation and Warehousing

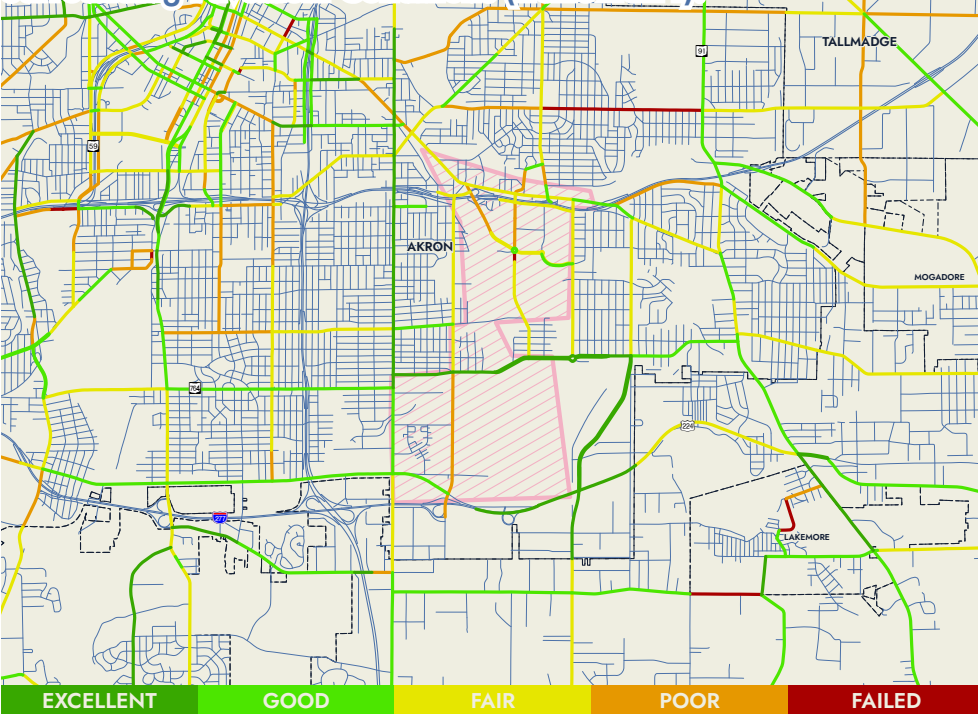
2022 Estimated Jobs:

8,000

Location:



Surrounding Pavement Conditions (2033-2034):



East Akron / Airport Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Akron	6	13	Massillon Rd / Geo Washington Blvd (SR 241) from Oaks Dr / Akron CL to E Waterloo Rd (US 224)	0.55	14,193	18	10.909
Akron	23	64	E Archwood Ave from S Arlington St to Kelly Ave	0.49	3,500	8	5.442
Akron	26	70	S Arlington St from E Waterloo Rd to E Wilbeth Rd (SR 764)	0.70	12,800	69	3.857

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Akron	26	68	S Arlington St and E Waterloo Rd	19,965	36
Akron	69	150	Kelly Ave and 4th Ave / I-76 EB Off-Ramp	Insufficient Data	9
Akron	87	195	S Arlington St and Palmetto St	Insufficient Data	13

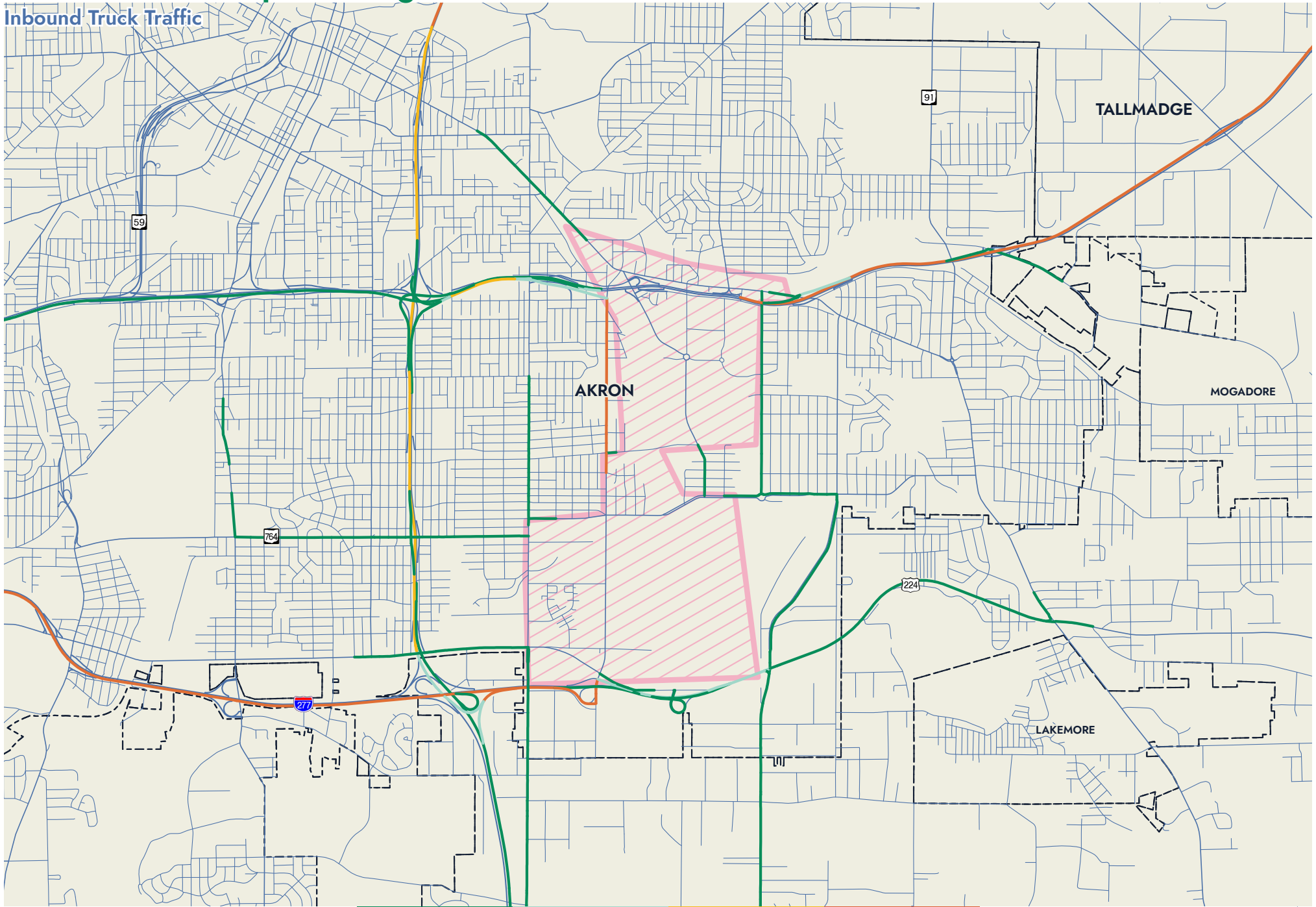
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Akron	Innovation Way (SR 241) from 3rd Ave to E Market St (SR 18)	0.067	Peak AM	Arterial	NB / SB	62.52
Akron	E Waterloo Rd from 0.11 Miles East of Exeter Rd Merge to S Arlington St	0.178	Mid-Day	Arterial	WB	63.70
Akron	S Arlington St from Arlington Circle to E Waterloo Rd	0.097	Mid-Day / Peak PM	Arterial	NB	64.10

East Akron / Airport Freight Corridor

Inbound Truck Traffic

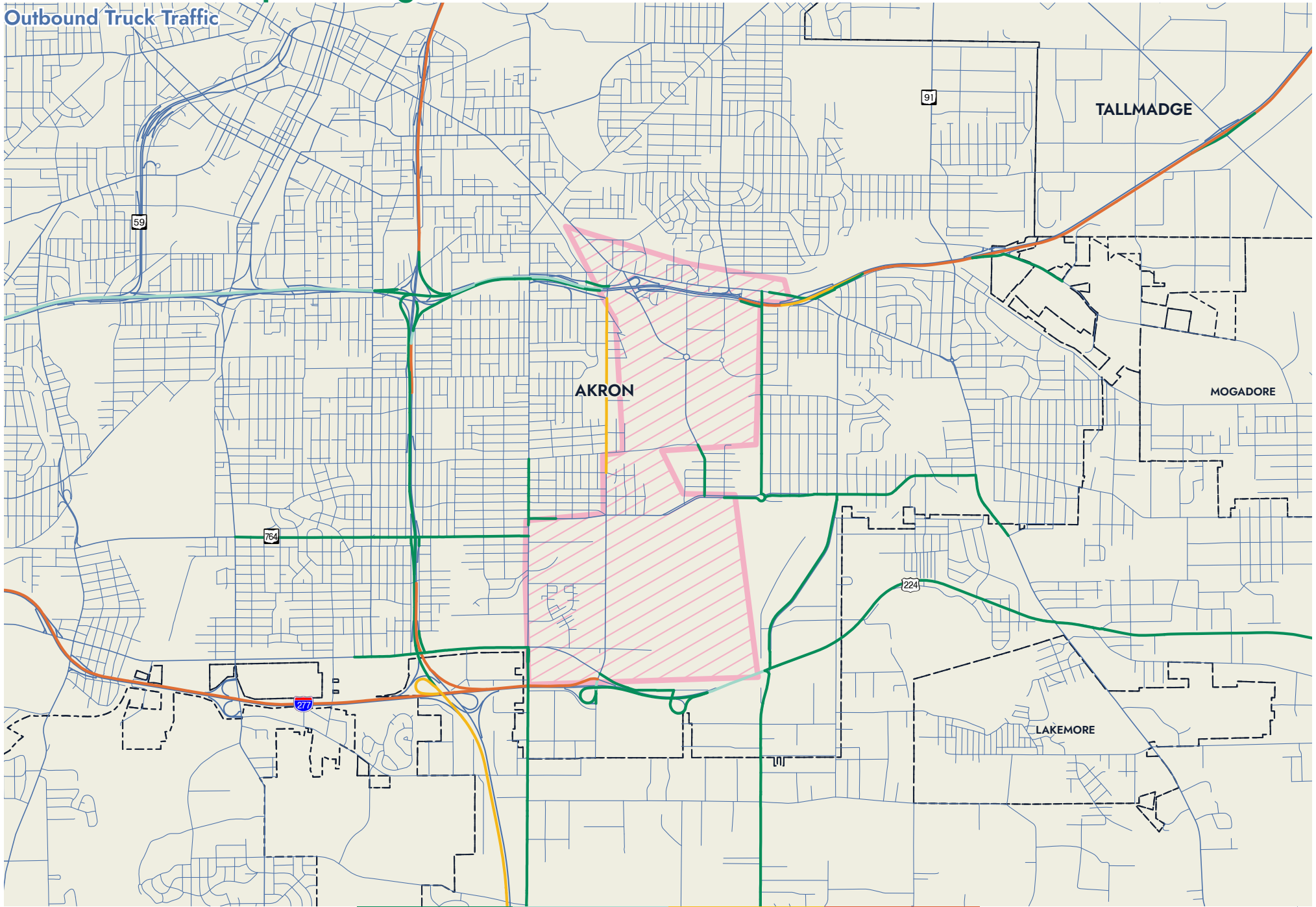


Percentage of Inbound Truck Trips:



East Akron / Airport Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Akron-Canton Airport Freight Corridor

Characteristics:

The Akron-Canton Airport Job Hub is located in the southeast corner of the City of Green. There are an estimated 2,500 jobs located in the hub with the top industries being manufacturing, management and transportation and warehousing. This job hub benefits from being centrally located between Akron and Canton. The Akron-Canton Airport is nestled next to the job hub on 2,700 acres of land providing a competitive advantage to businesses nearby. Primary transportation to and from the Akron-Canton Airport job hub is Interstate I-77. AMATS has identified a number of crash locations near the corridor that would impact local freight traffic that have the potential to generate incident level congestion. This job hub also benefits from access to the ABC Railway rail line.

Key Freeway / Highway Access:

I-77
SR 241

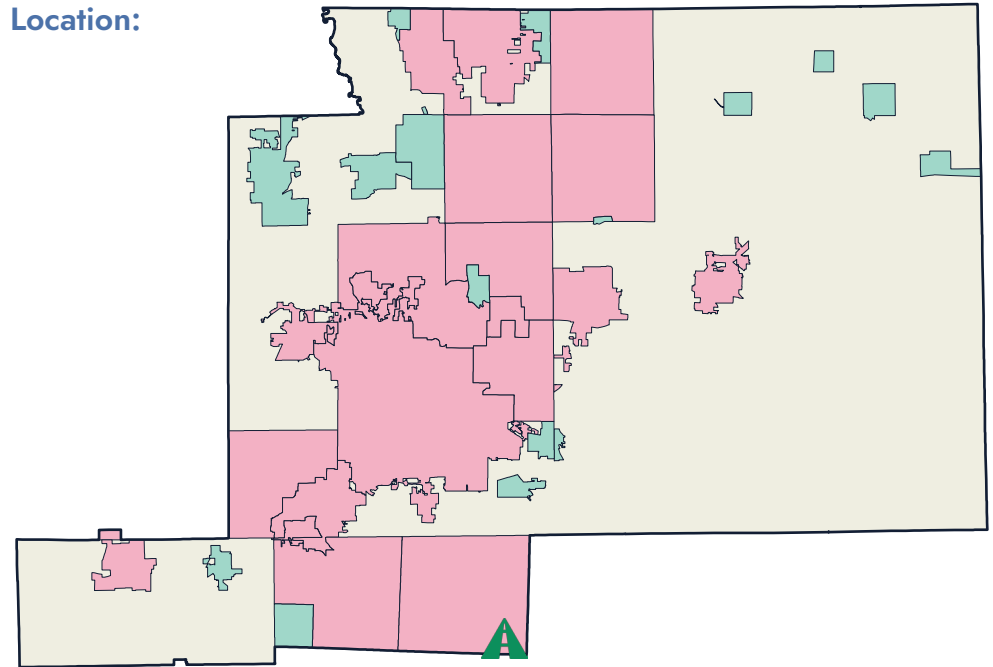
Top 3 Job Types:

1. Manufacturing
2. Transportation and Warehousing
3. Administrative and Support and Waste Management and Remediation Services

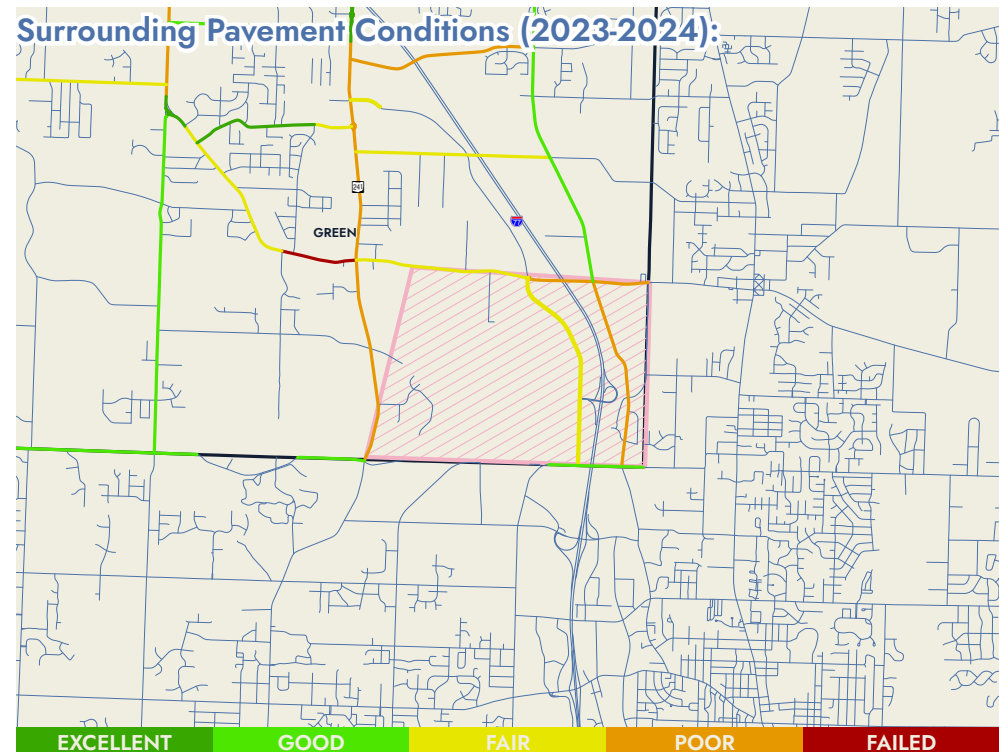
2022 Estimated Jobs:

2,500

Location:



Surrounding Pavement Conditions (2023-2024):



Akron-Canton Airport Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Green	9	142	Lauby Rd from Mt. Pleasant Rd to Greensburg Rd	1.70	9,245	16	3.137

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Green	8	223	Mayfair Rd and Mt. Pleasant Rd	Insufficient Data	10

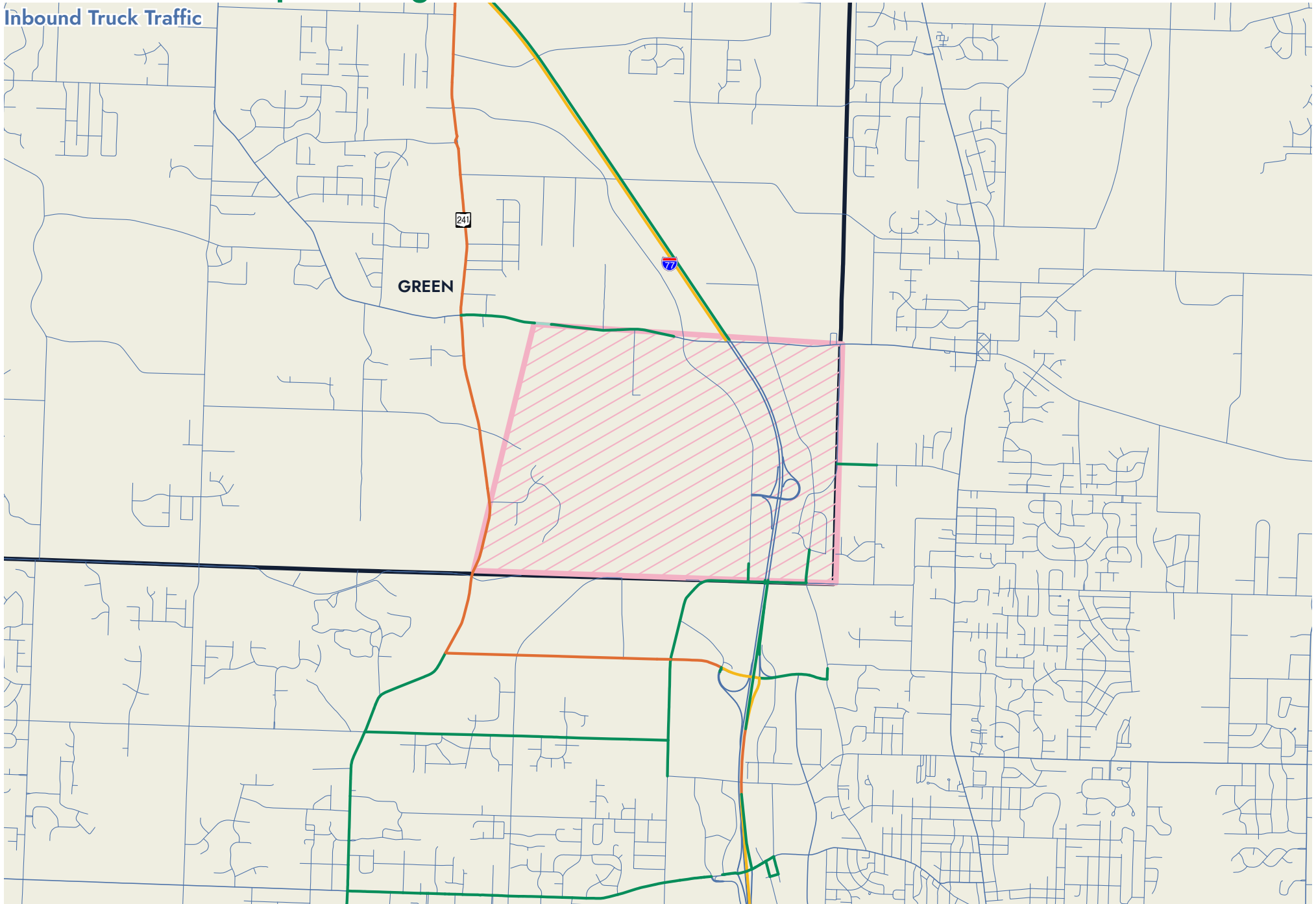
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Green	Greensburg Rd Westbound Approach to Lauby Rd Roundabout	0.063	Peak PM	Arterial	WB	77.15
Green	Greensburg Rd Eastbound Approach to Lauby Rd Roundabout	0.060	Peak AM / Mid-Day / Peak PM	Arterial	EB	78.76
Green	Greensburg Rd from Lauby Rd Roundabout Merge to Mayfair Rd	0.459	Peak PM	Arterial	EB / WB	82.35

Akron-Canton Airport Freight Corridor

Inbound Truck Traffic



Percentage of Inbound Truck Trips:



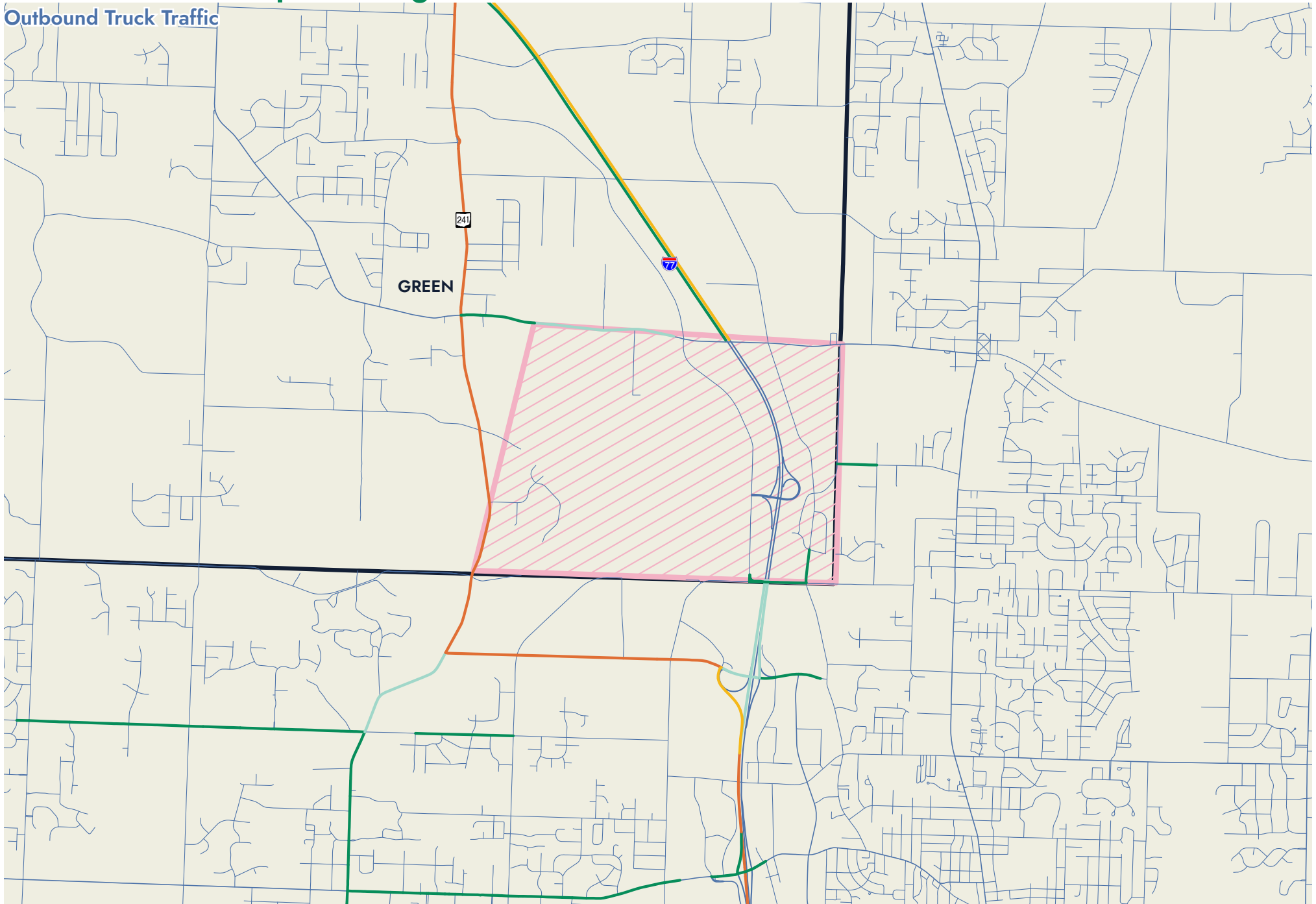
2024 FREIGHT PLAN

50

Freight Profiles

Akron-Canton Airport Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Twinsburg Freight Corridor

Characteristics:

The Twinsburg Job Hub is located in northern Summit County and is the largest traded sector employment hub in greater Akron with 14,500 jobs in manufacturing, wholesale trade, and retail trade. With access nearby to I-271, I-480 and I-80, as well as being halfway between Cleveland and Akron, this location is ideal for businesses and employees alike. State Routes 82 and 91 have some congestion and high crash locations. There is the potential for delays to freight traffic. Recent improvements to SR 91 include a roundabout and operational improvements to help ease some of the safety and congestion issues.

Key Freeway / Highway Access:

I-80
I-271

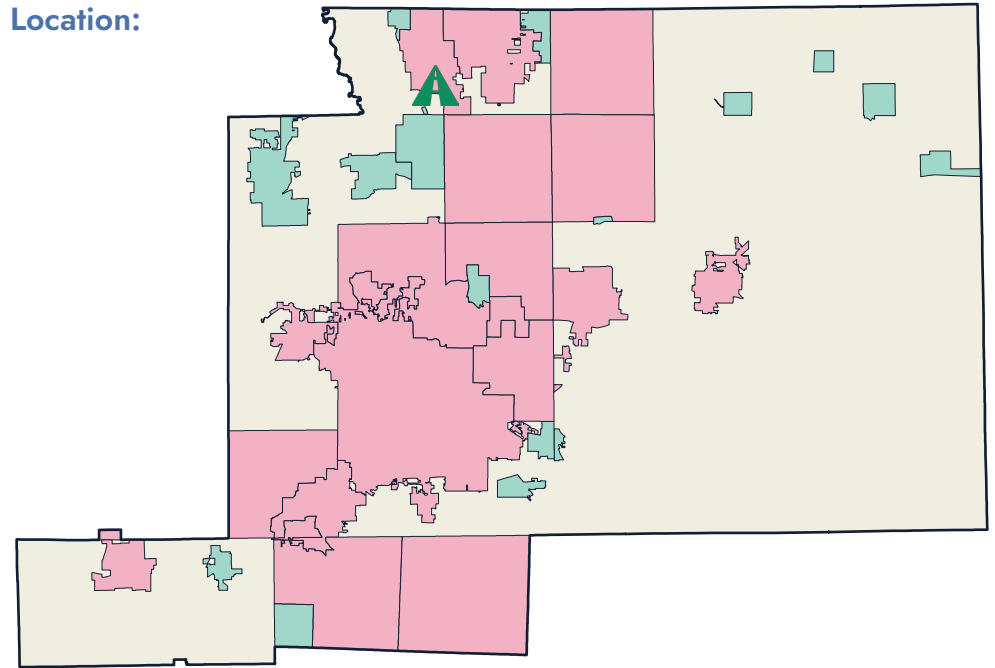
Top 3 Job Types:

1. Manufacturing
2. Wholesale Trade
3. Transportation and Warehousing

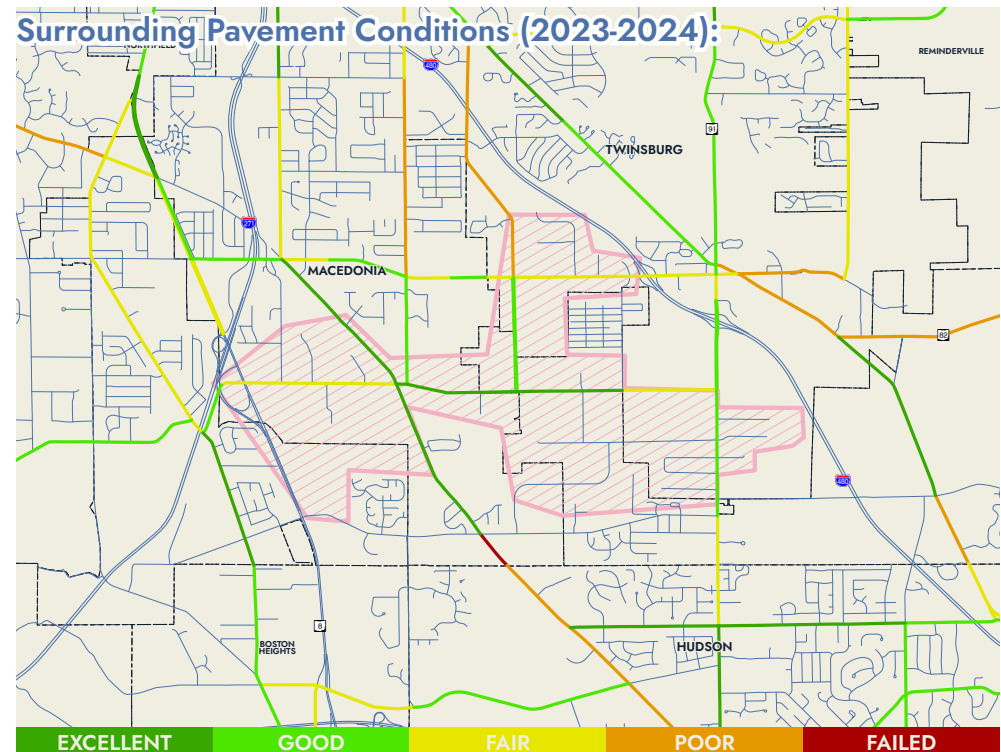
2022 Estimated Jobs:

14,500

Location:



Surrounding Pavement Conditions (2023-2024):



Twinsburg Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Macedonia	1	94	E Highland Rd from Valley View Rd to Macedonia ECL	0.99	14,650	18	6.061
Twinsburg	3	111	Darrow Rd (SR 91) from Twinsburg SCL (E-W) to E Highland Rd	0.9	17,130	11	4.074

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Twinsburg	1	33	E Aurora Rd (SR 82) and Chamberlin Rd	20,630	13
Twinsburg	3	129	E Aurora Rd (SR 82) and I-480 / SR 14 EB Ramps	22,609	25

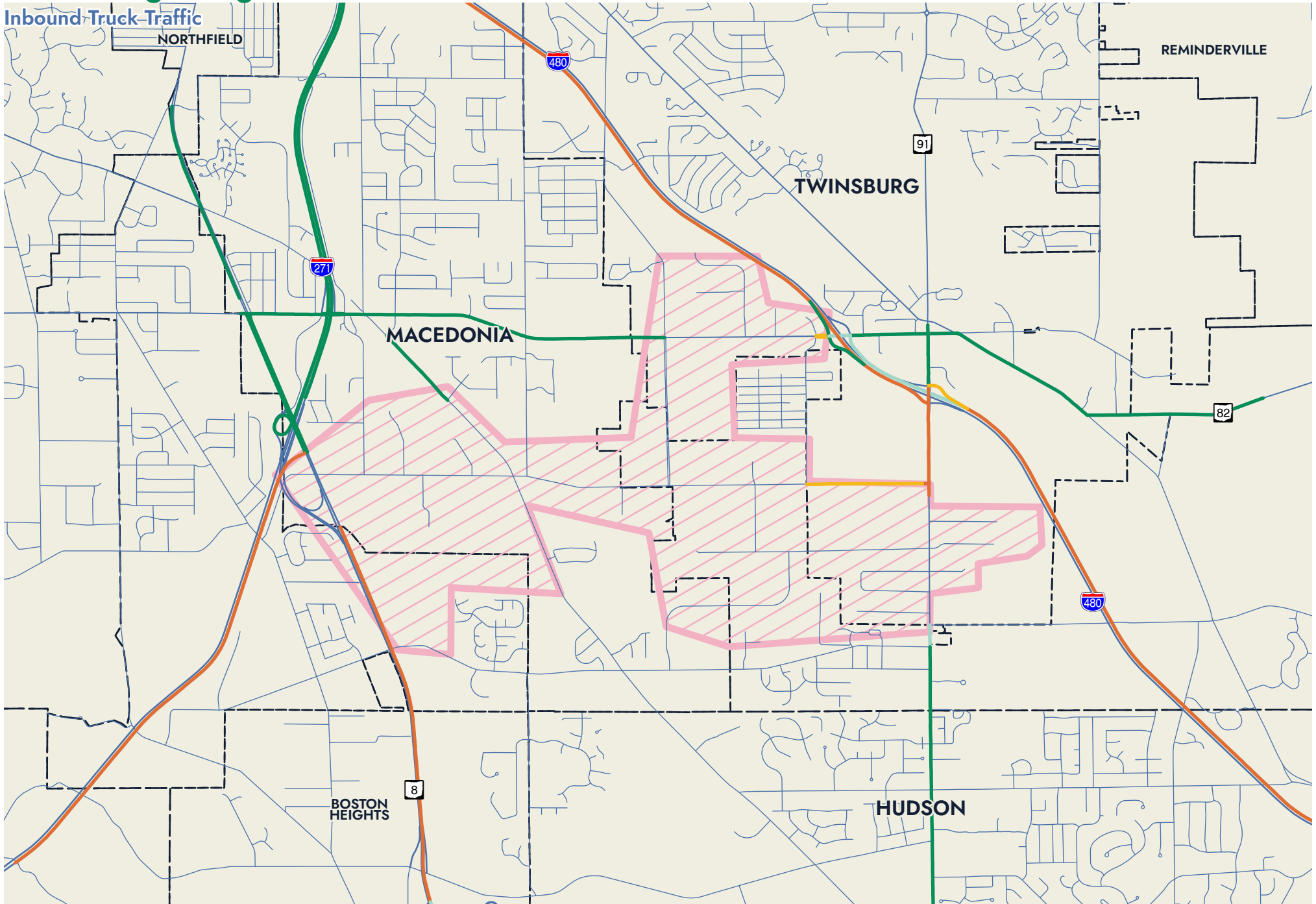
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Twinsburg	Darrow Rd (SR 91) from E Twinsburg Rd to Akron Children's Hospital Pediatrics - Twinsburg	0.143	Mid-Day	Arterial	NB / SB	74.07
Twinsburg	E Aurora Rd (SR 82) from Wilcox Dr / Hadden Rd to I-480 EB Ramps	0.083	Peak PM	Arterial	EB	75.30
Twinsburg	Darrow Rd (SR 91) from Akron Children's Hospital Pediatrics - Twinsburg to E Highland Rd	0.899	Mid-Day / Peak PM	Arterial	NB / SB	83.31

Twinsburg Freight Corridor

Inbound Truck Traffic



Percentage of Inbound Truck Trips:



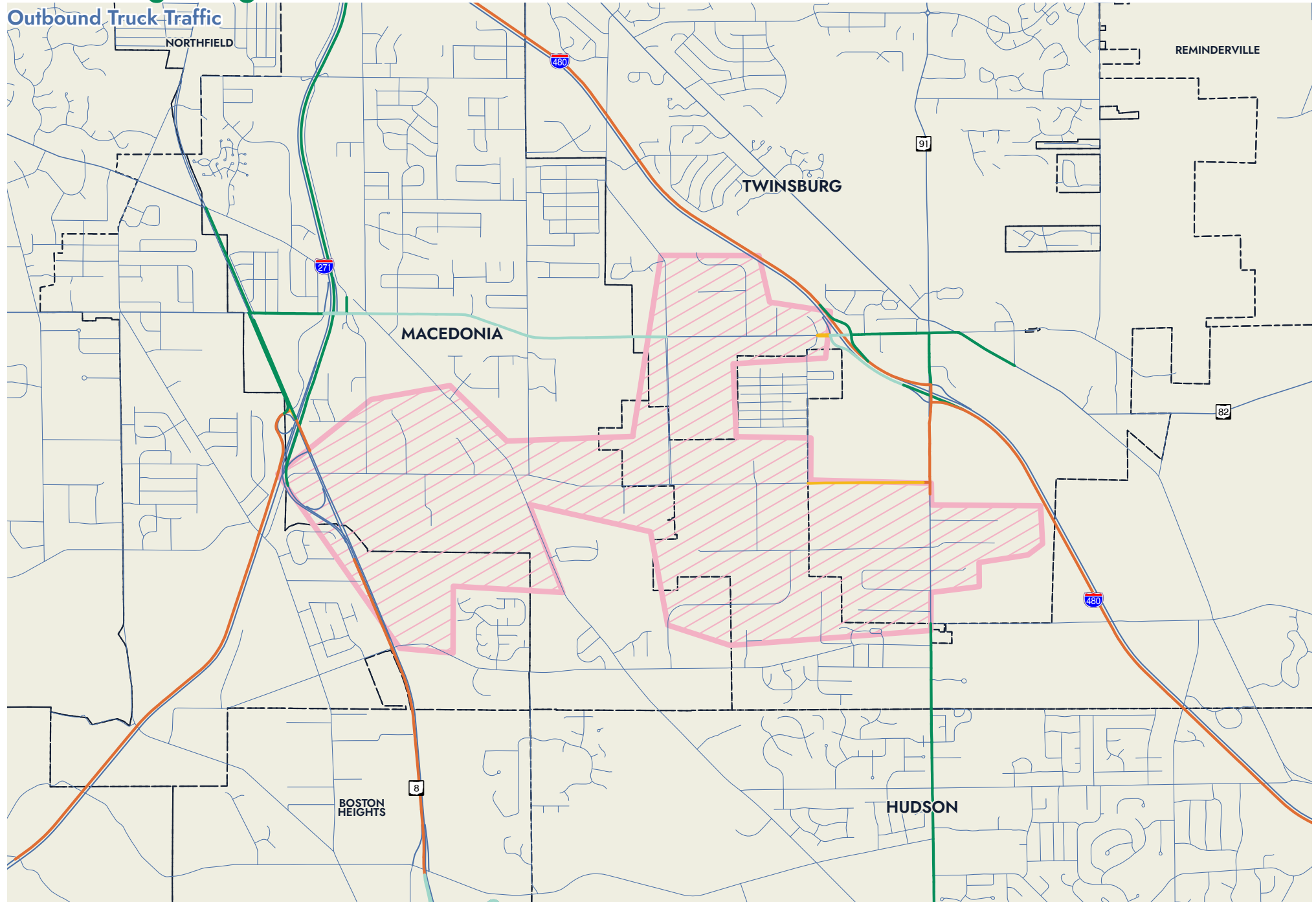
2024 FREIGHT PLAN

54

Freight Profiles

Twinsburg Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Aurora / Streetsboro Freight Corridor

Characteristics:

The Aurora / Streetsboro Job Hub is located on northwestern edge of Portage County and is in close proximity to Cleveland, Akron and Kent. With 7,500 jobs and I-80, SR 43, and I-480 nearby, this job hub is home to jobs in manufacturing, wholesale trade, and professional, scientific, and technical services. Freight traffic experiences congestion on nearby SR 14, and AMATS has identified several high crash locations and intersections along this corridor. Improvements are expected to ease some of the congestion as both Aurora and Streetsboro have recently or are in the process of overhauling their traffic signal systems.

Key Freeway / Highway Access:

I-80
SR 43

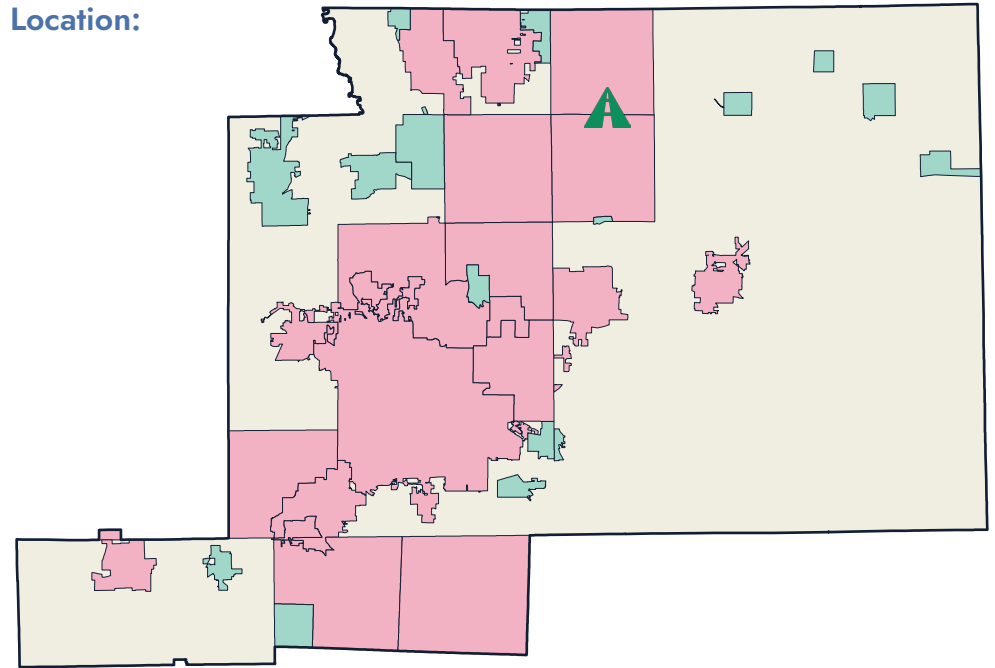
Top 3 Job Types:

1. Manufacturing
2. Wholesale Trade
3. Professional, Scientific, and Technical Services

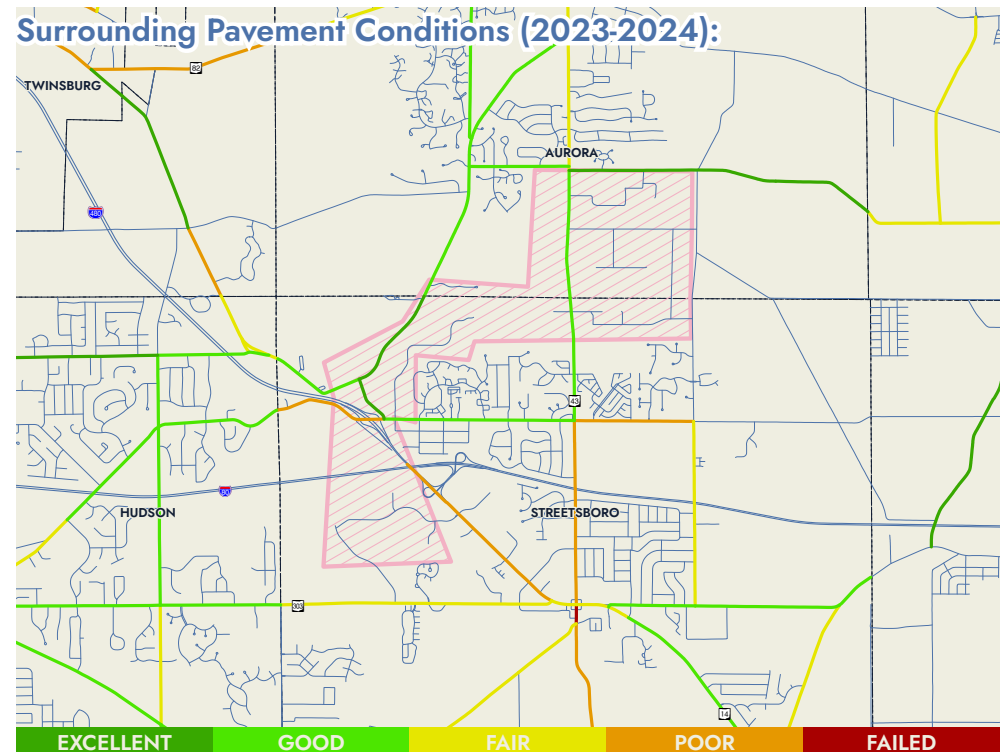
2022 Estimated Jobs:

7,500

Location:



Surrounding Pavement Conditions (2023-2024):



Aurora / Streetsboro Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Streetsboro	6	107	SR 43 from Frost Rd to Streetsboro NCL	1.02	11,140	26	8.497

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Streetsboro	5	202	S Chillicothe Rd (SR 43) and Crane Center Dr / Ethan Dr	Insufficient Data	9

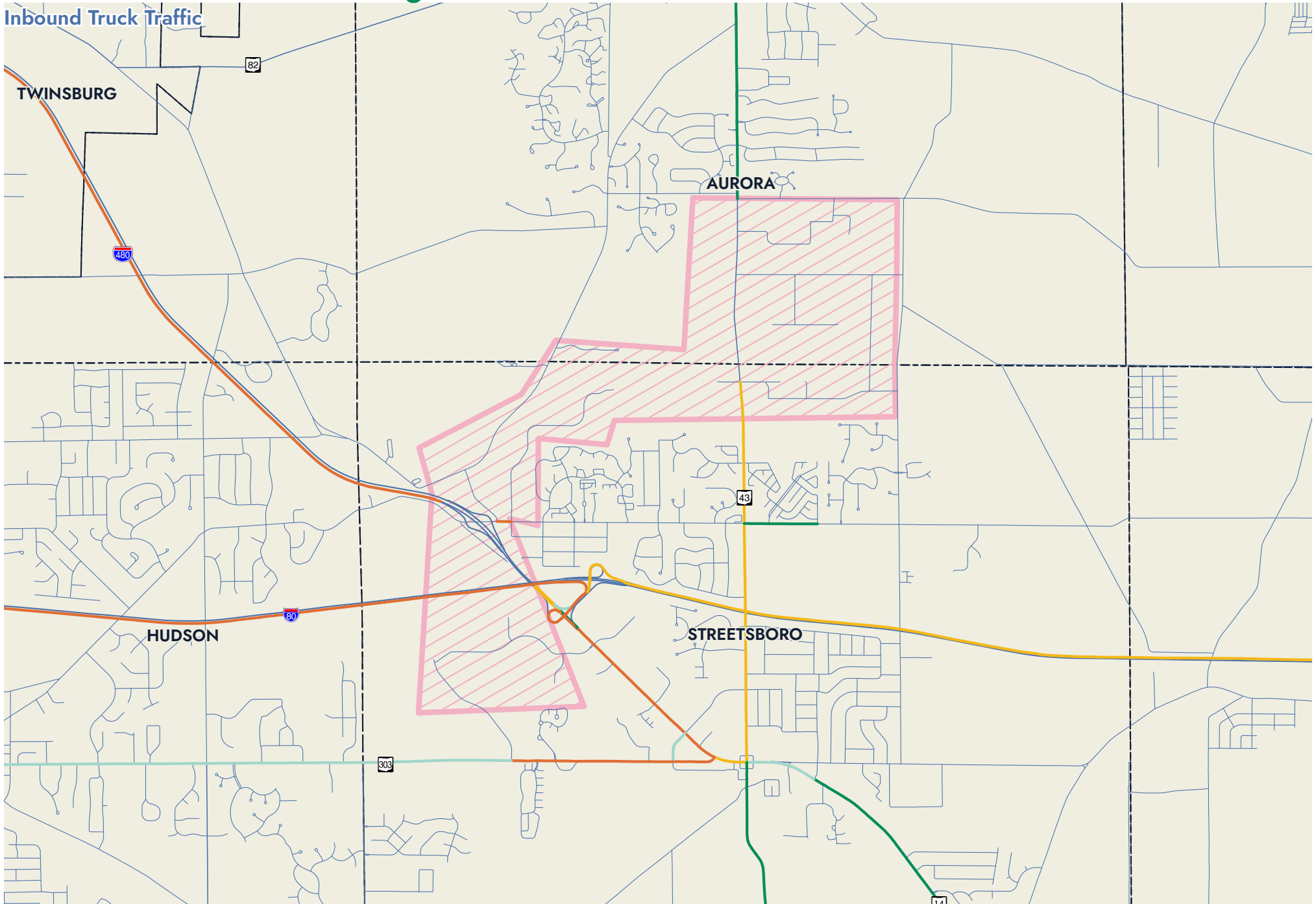
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Streetsboro	SR 43 from Frost Rd to Streetsboro North Corp Limit	1.016	Mid-Day / Peak PM	Arterial	NB / SB	72.87
Aurora	S Chillicothe Rd (SR 43) from E Mennonite Rd to W Mennonite Rd	0.035	Peak PM	Arterial	NB / SB	77.18
Aurora	S Chillicothe Rd (SR 43) from Aurora South Corp Limit to E Mennonite Rd	1.057	Mid-Day	Arterial	NB / SB	84.34

Aurora / Streetsboro Freight Corridor

Inbound Truck Traffic

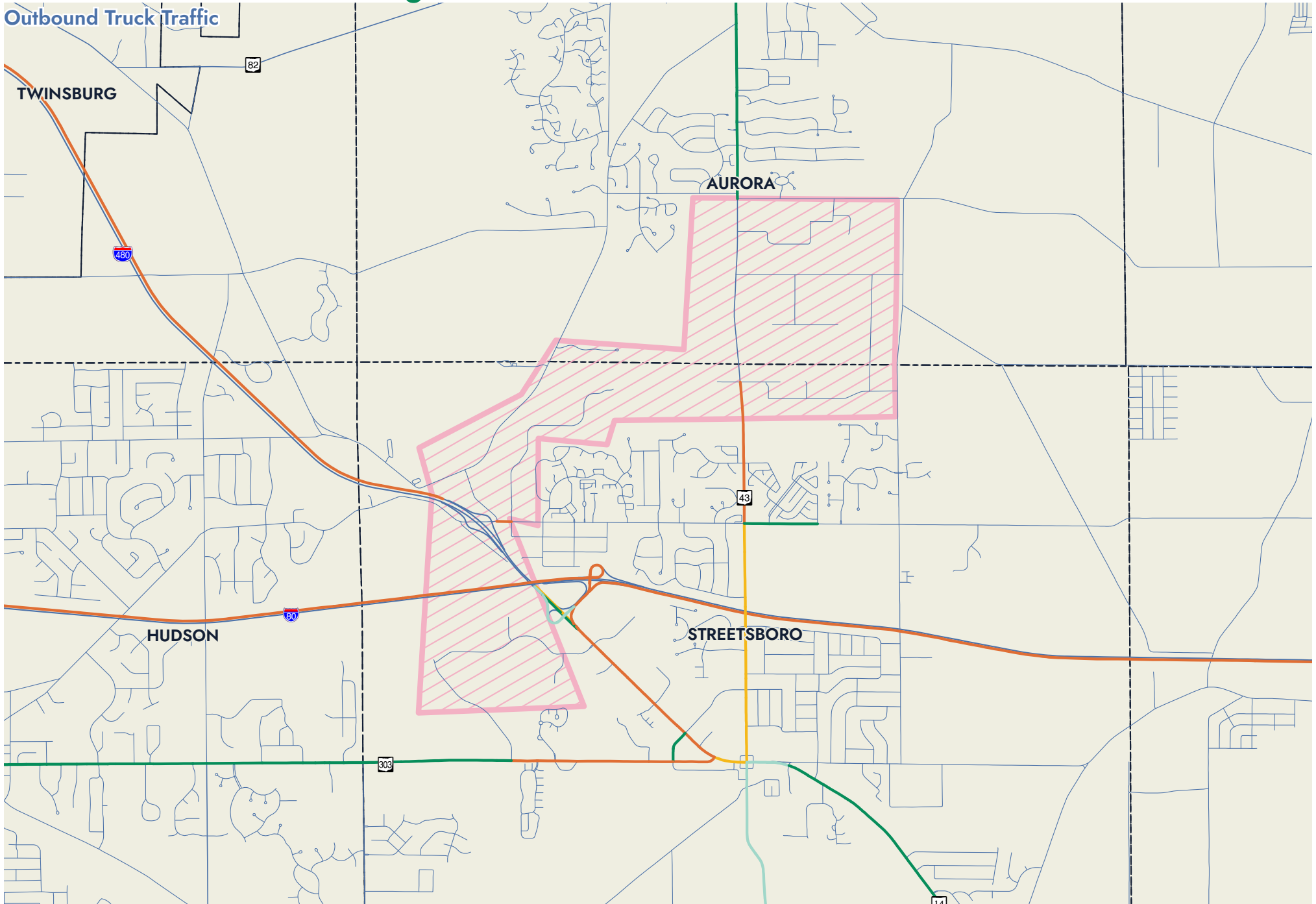


Percentage of Inbound Truck Trips:



Aurora / Streetsboro Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Richfield Freight Corridor

Characteristics:

With 3,500 jobs in finance and insurance, wholesale trade, and transportation warehousing, the Richfield Job Hub is an important regional job hub. This job hub sits in northwestern Summit County, a short drive to either Cleveland or Akron. The Crossroads Development District, a new development off of Wheatley Road, promises potential new businesses easy access to I-271 and I-77. In addition to recent improvements along Wheatley Road, the corridor boasts attractive amenities for employers. Congestion in the area is typically on nearby I-77 or on Brecksville Road.

Key Freeway / Highway Access:

I-77
I-271

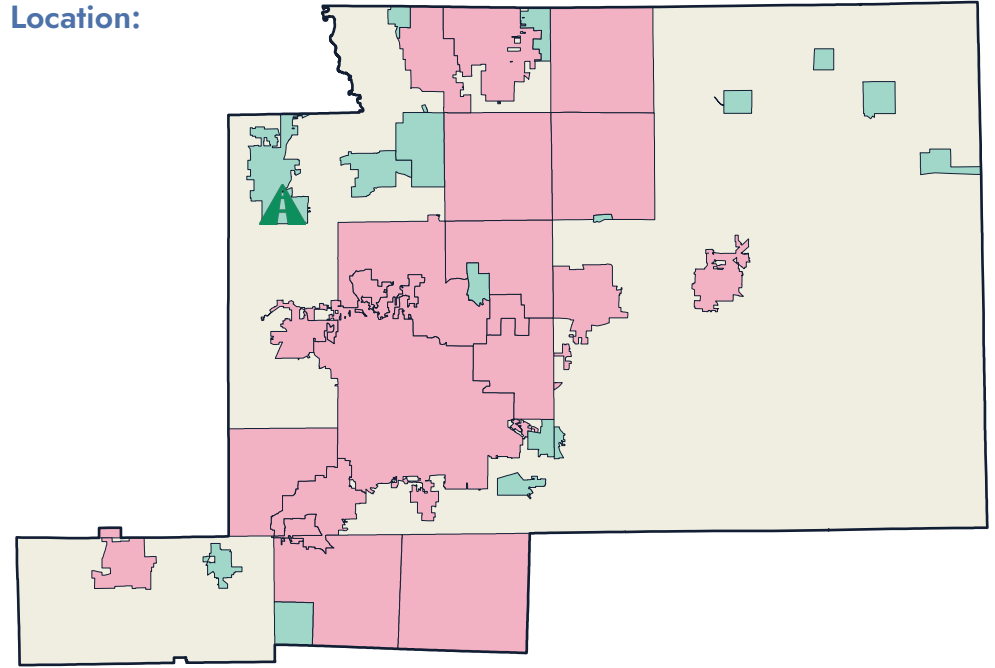
Top 3 Job Types:

1. Finance and Insurance
2. Transportation and Warehousing
3. Wholesale Trade

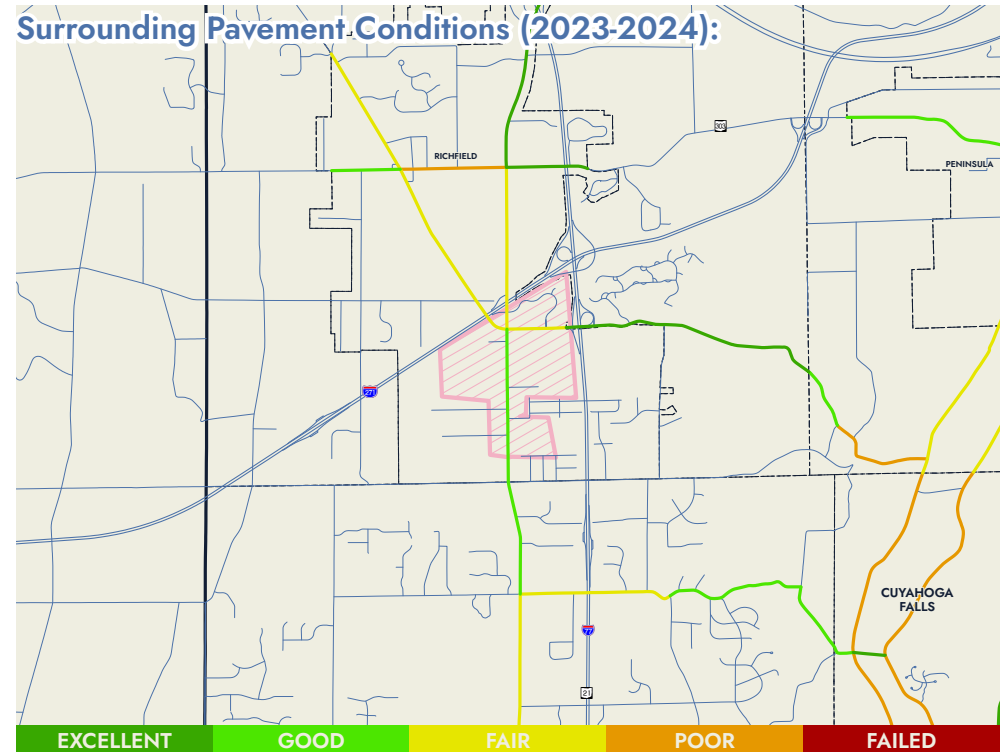
2022 Estimated Jobs:

3,500

Location:



Surrounding Pavement Conditions (2023-2024):



Richfield Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
No Nearby Segments in the 2020-2022 Traffic Crashes Report							

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the 2020-2022 Traffic Crashes Report					

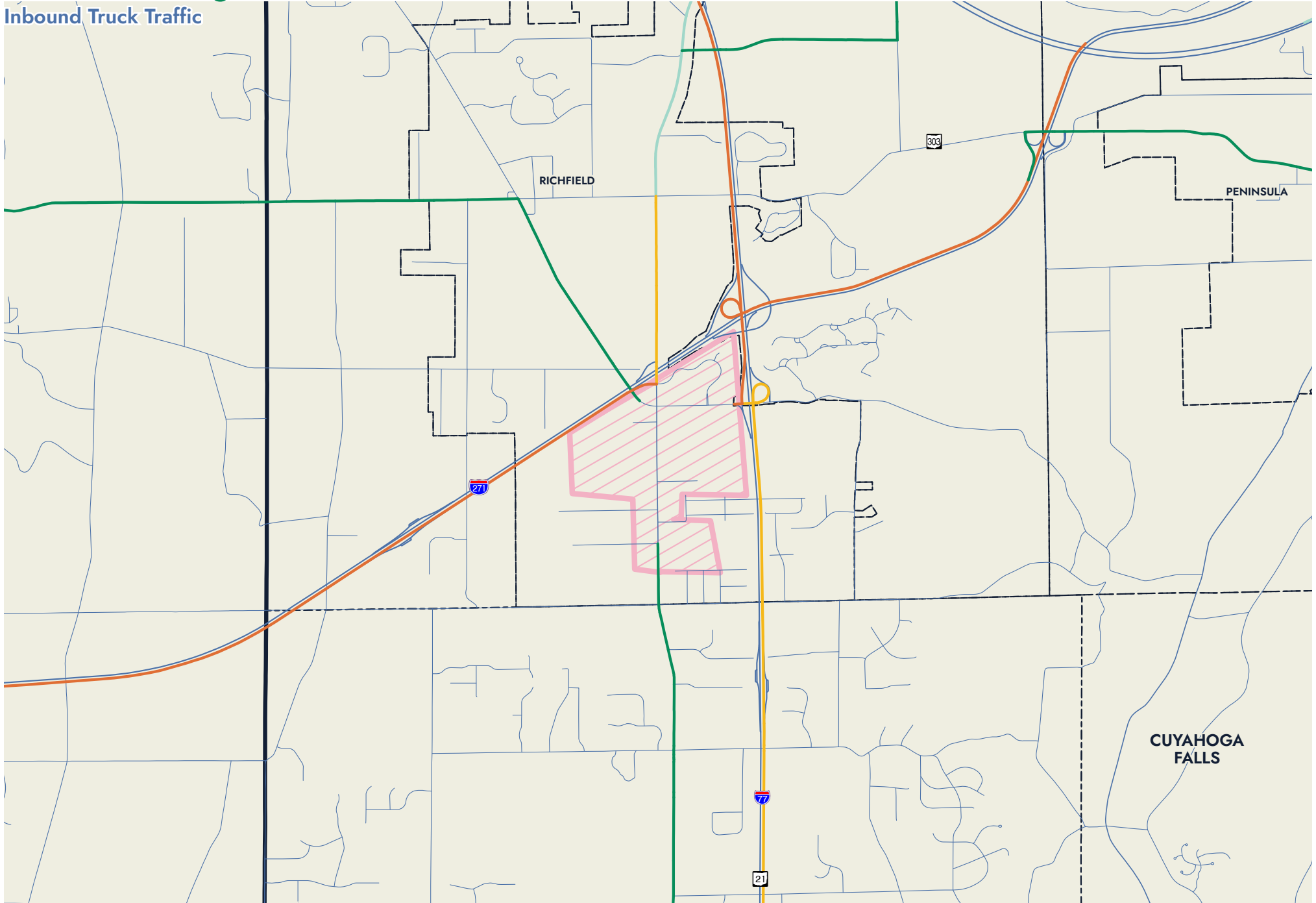
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Richfield	Brecksville Rd from Broadview Rd / Wheatley Rd (SR 176) to 0.047 Miles North of SR 176	0.047	Peak PM	Arterial	NB / SB	64.99
Richfield	Brecksville Rd from 0.033 Miles South of SR 176 to Broadview Rd / Wheatley Rd (SR 176)	0.033	Peak PM	Arterial	NB / SB	73.26
Richfield	Brecksville Rd from 0.047 Miles North of SR 176 to I-271 NB Off-Ramp / Kinross Lakes Pkwy	0.095	Peak AM / Peak PM	Arterial	NB / SB	79.68

Richfield Freight Corridor

Inbound Truck Traffic

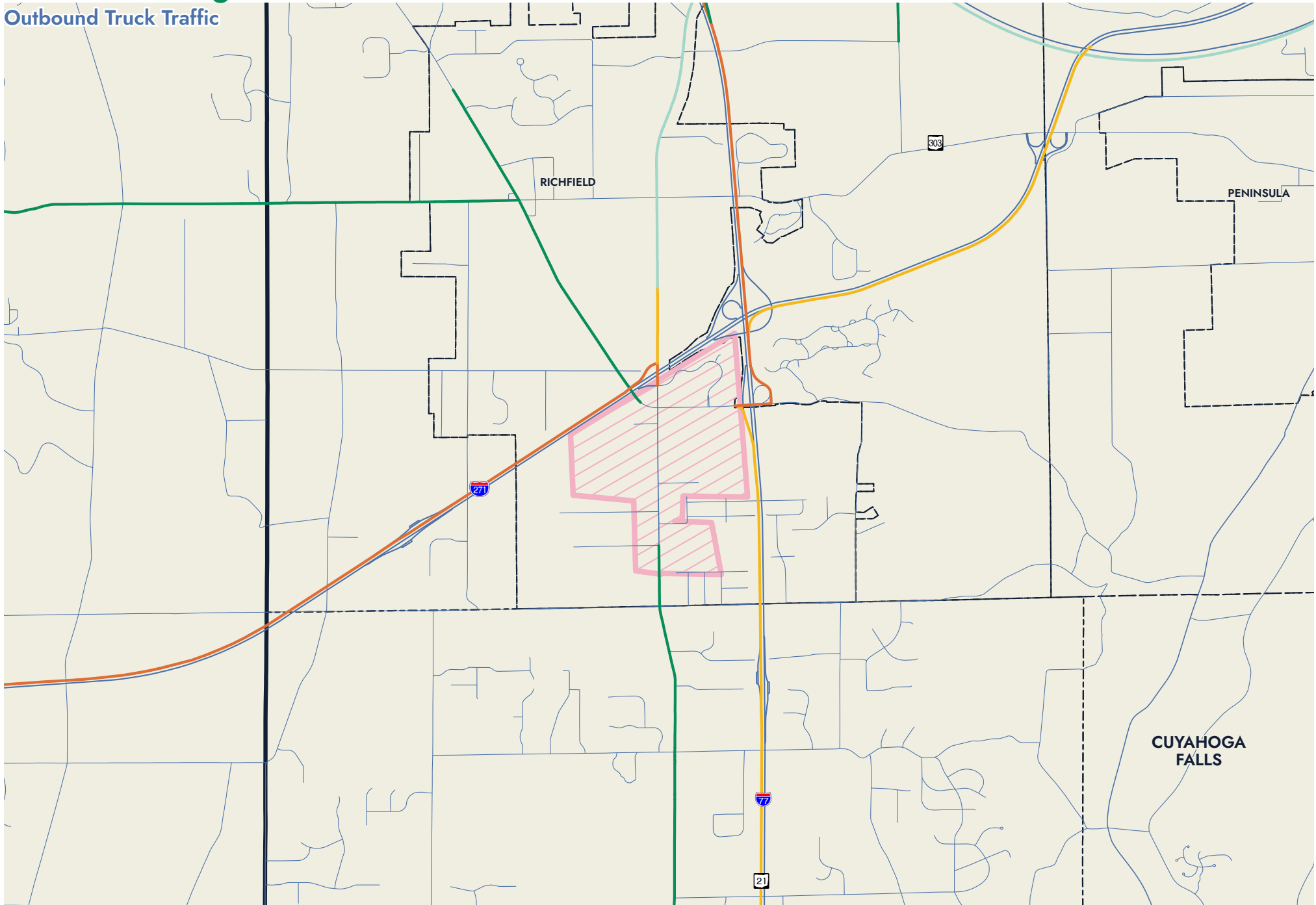


Percentage of Inbound Truck Trips:



Richfield Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Hudson / Stow Freight Corridor

Characteristics:

The Hudson / Stow Job Hub is located north of Akron in Summit County. With 7,500 jobs in manufacturing, wholesale trade, and management of companies and enterprises this job hub is one of the larger hubs in the region. The corridor is near I-80 and is easily accessed by SR 8. The area boasts attractive amenities with vibrant residential communities. Anchored by JOANN Fabrics, this job hub includes several industrial parks with room for growth. Several high crash locations and intersections have been identified near the job hub, and congestion along SR 91 has the potential to impact freight traffic.

Key Freeway / Highway Access:

I-80
SR 8

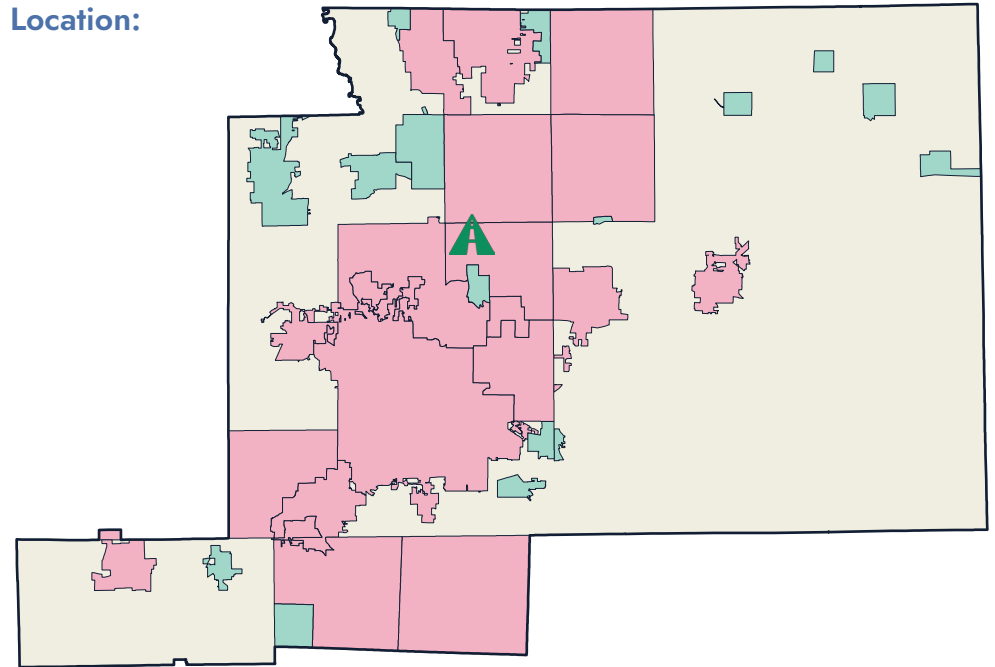
Top 3 Job Types:

1. Manufacturing
2. Wholesale Trade
3. Construction

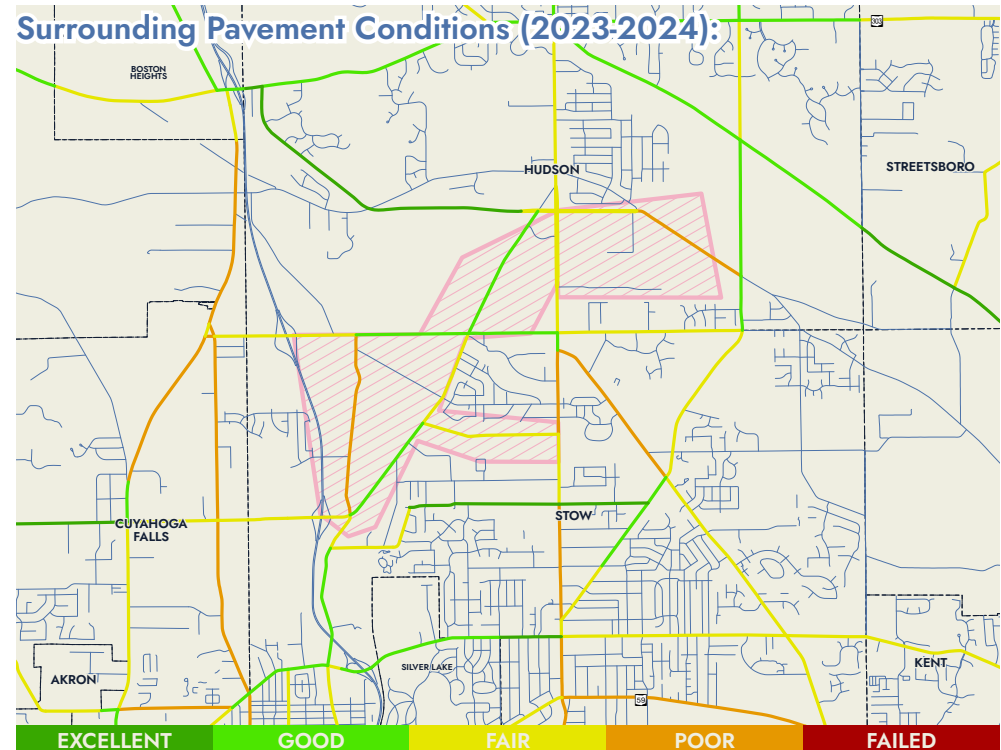
2022 Estimated Jobs:

7,500

Location:



Surrounding Pavement Conditions (2023-2024):



Hudson / Stow Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Stow	2	122	Darrow Rd (SR 91) from Stow Rd to Fishcreek Rd	2.22	12,358	40	6.006

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Stow	1	33	Hudson Dr and Steels Corners Rd / Allen Rd	Insufficient Data	13
Hudson	1	59	Darrow Rd (SR 91) and Terex Rd	25,550	21
Stow	7	202	Steels Corners Rd and SR 8 SB Ramps	Insufficient Data	9

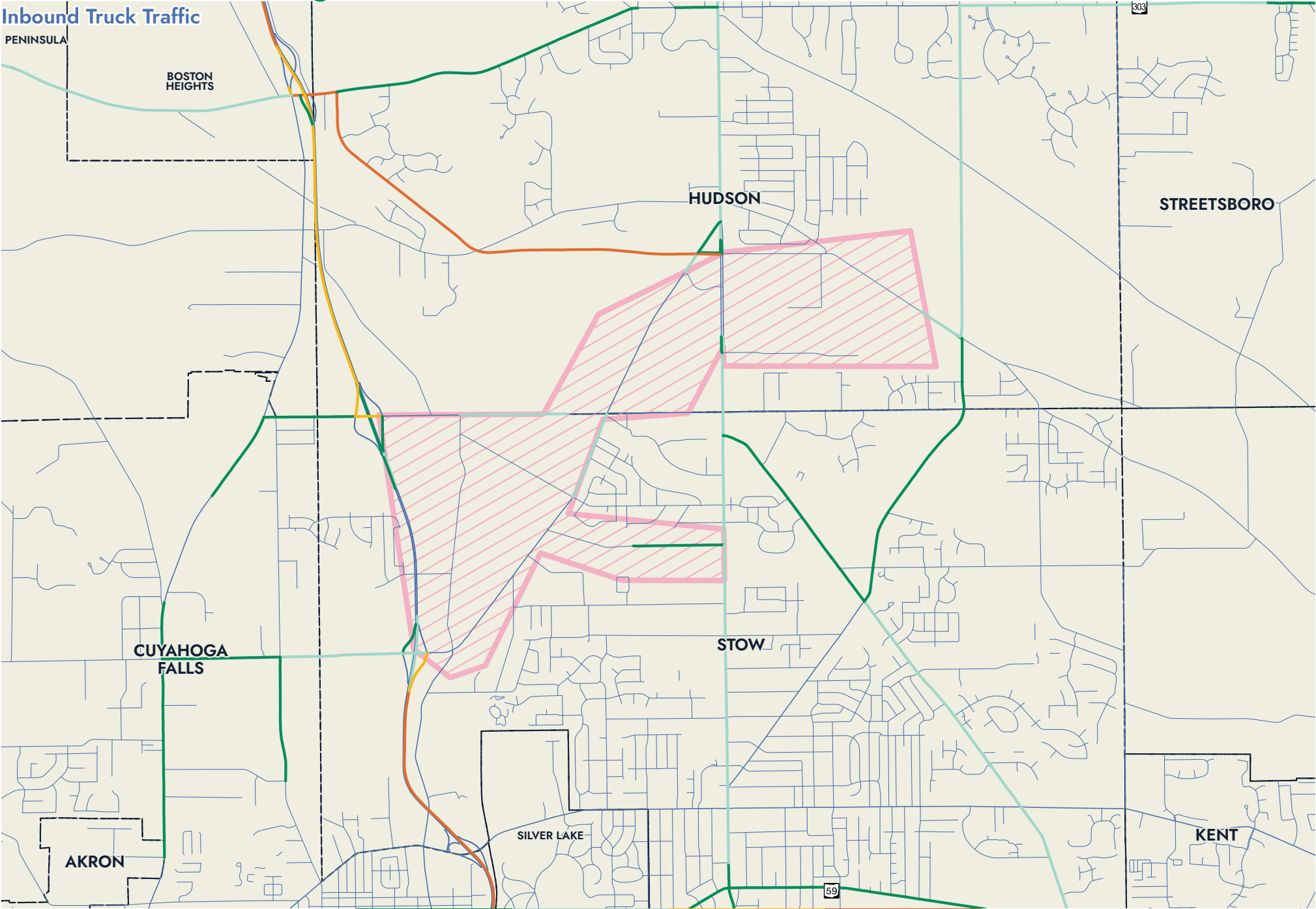
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Hudson	Darrow Rd (SR 91) from 0.064 Miles South of Terex Rd to Terex Rd	0.064	Peak AM / Mid-Day	Arterial	NB	60.22
Stow	E Steels Corners Rd from SR 8 NB Ramps to Hudson Dr / Allen Rd	0.162	Peak PM	Arterial	EB / WB	67.80
Stow	Hudson Dr from Graham Rd to E Steels Corners Rd	1.324	Mid-Day / Peak PM	Arterial	NB / SB	78.36

Hudson / Stow Freight Corridor

Inbound Truck Traffic

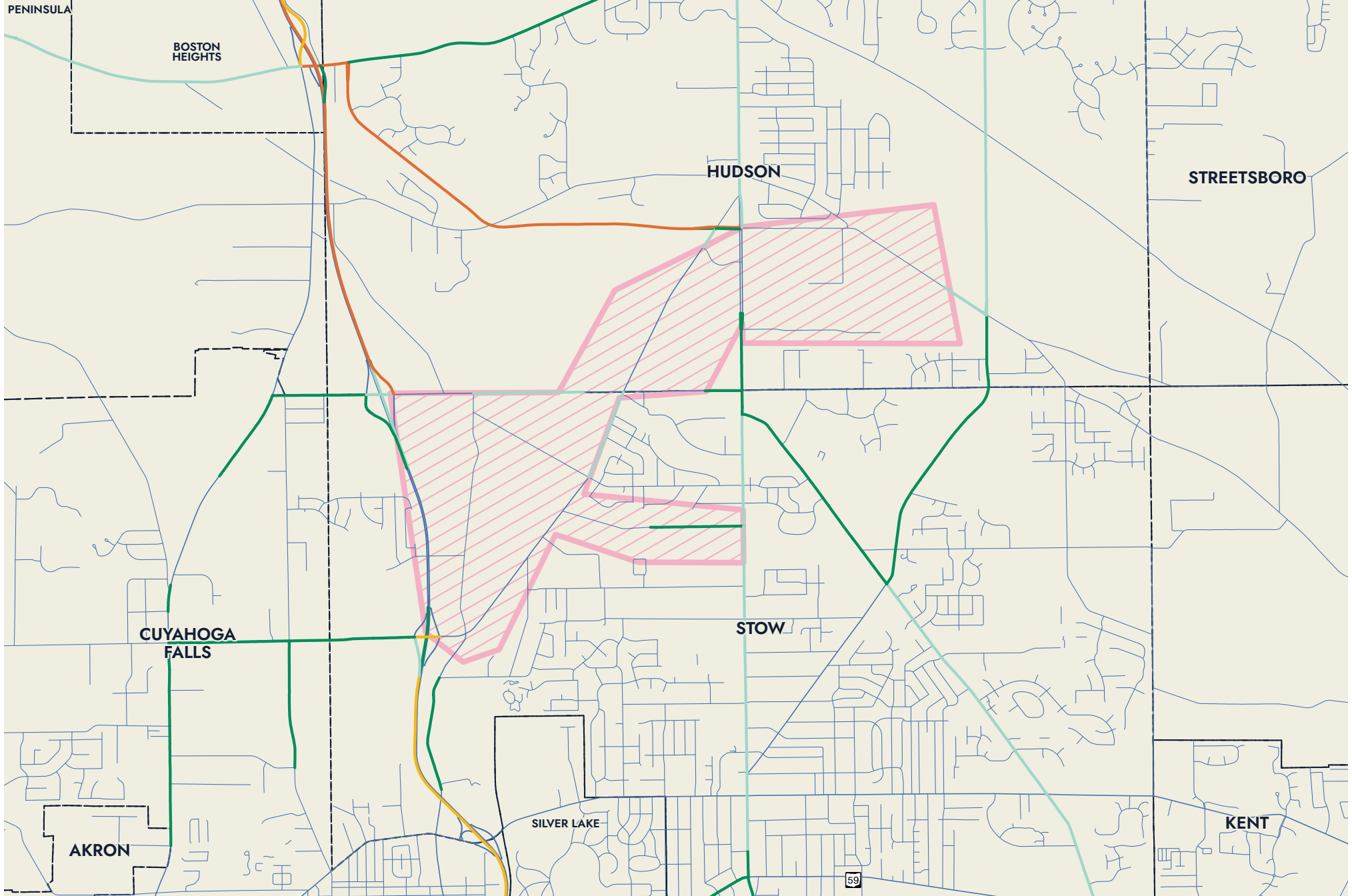


Percentage of Inbound Truck Trips:

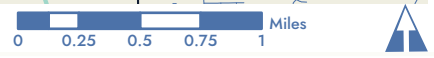


Hudson / Stow Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips: .1% - 5% 5.1% - 10% 10.1% - 15% 15.1% - 82.6%



Brimfield Freight Corridor

Characteristics:

The Brimfield Job Hub is located in western Portage County and is easily accessed by I-76 and SR 43. Brimfield benefits from its proximity to Akron, Canton and Kent. Brimfield Township has a growing population, but it also strives to maintain its rural identity. There are an estimated 1,000 jobs in manufacturing, transportation and warehousing, and wholesale trade in this job hub. In 2022, a project to improve the intersection of Tallmadge Road, Mogadore Road and the I-76 off-ramp was completed. This was previously a trouble spot for congestion and crashes. Some congestion exists along Tallmadge Road and Mogadore Road has a moderate level of crashes, both of which can affect freight movement.

Key Freeway / Highway Access:

- I-76
- SR 43

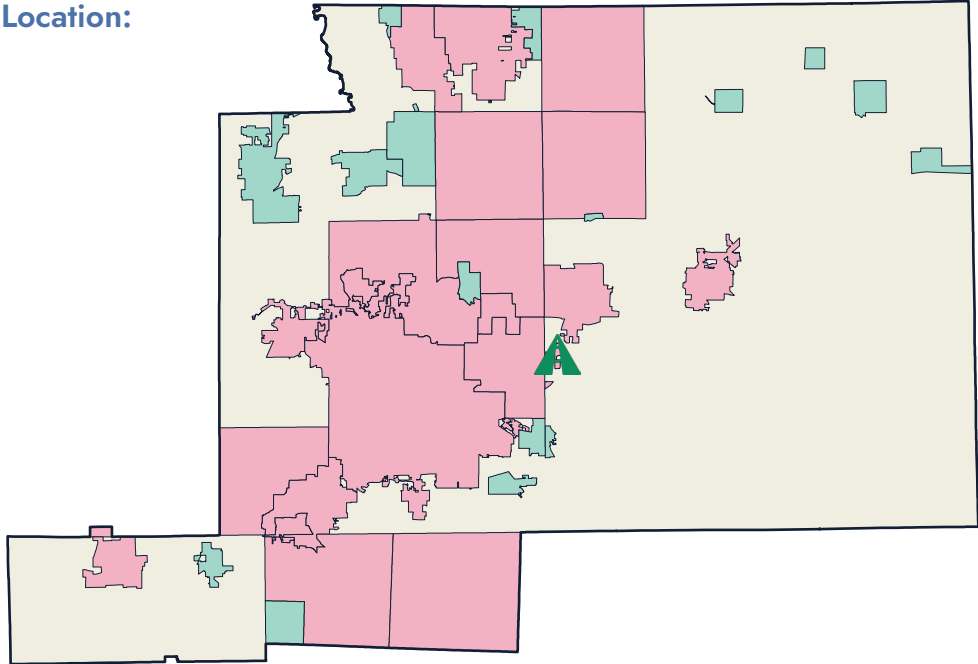
Top 3 Job Types:

1. Manufacturing
2. Transportation and Warehousing
3. Wholesale Trade

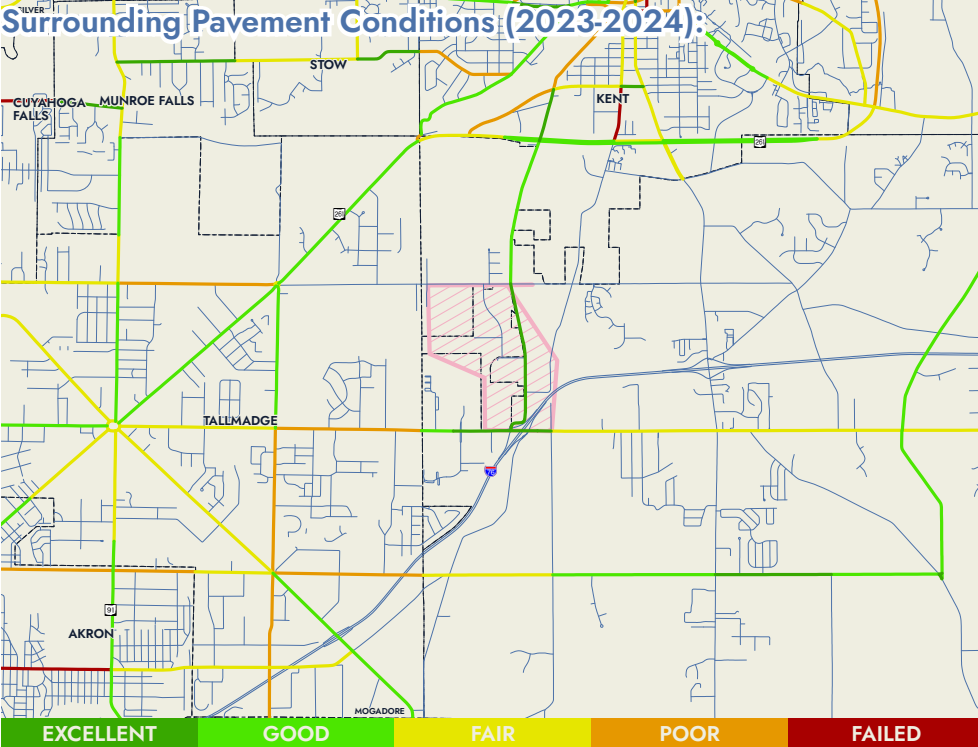
2022 Estimated Jobs:

1,000

Location:



Surrounding Pavement Conditions (2023-2024):



Brimfield Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Tallmadge	7	144	Mogadore Rd (CR 81) from Tallmadge Rd (CR 18) to SR 261	2.52	7,470	23	3.042
Brimfield Twp	23	144	Mogadore Rd (CR 81) from Tallmadge Rd (CR 18) to SR 261	2.52	7,470	23	3.042

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the 2020-2022 Traffic Crashes Report					

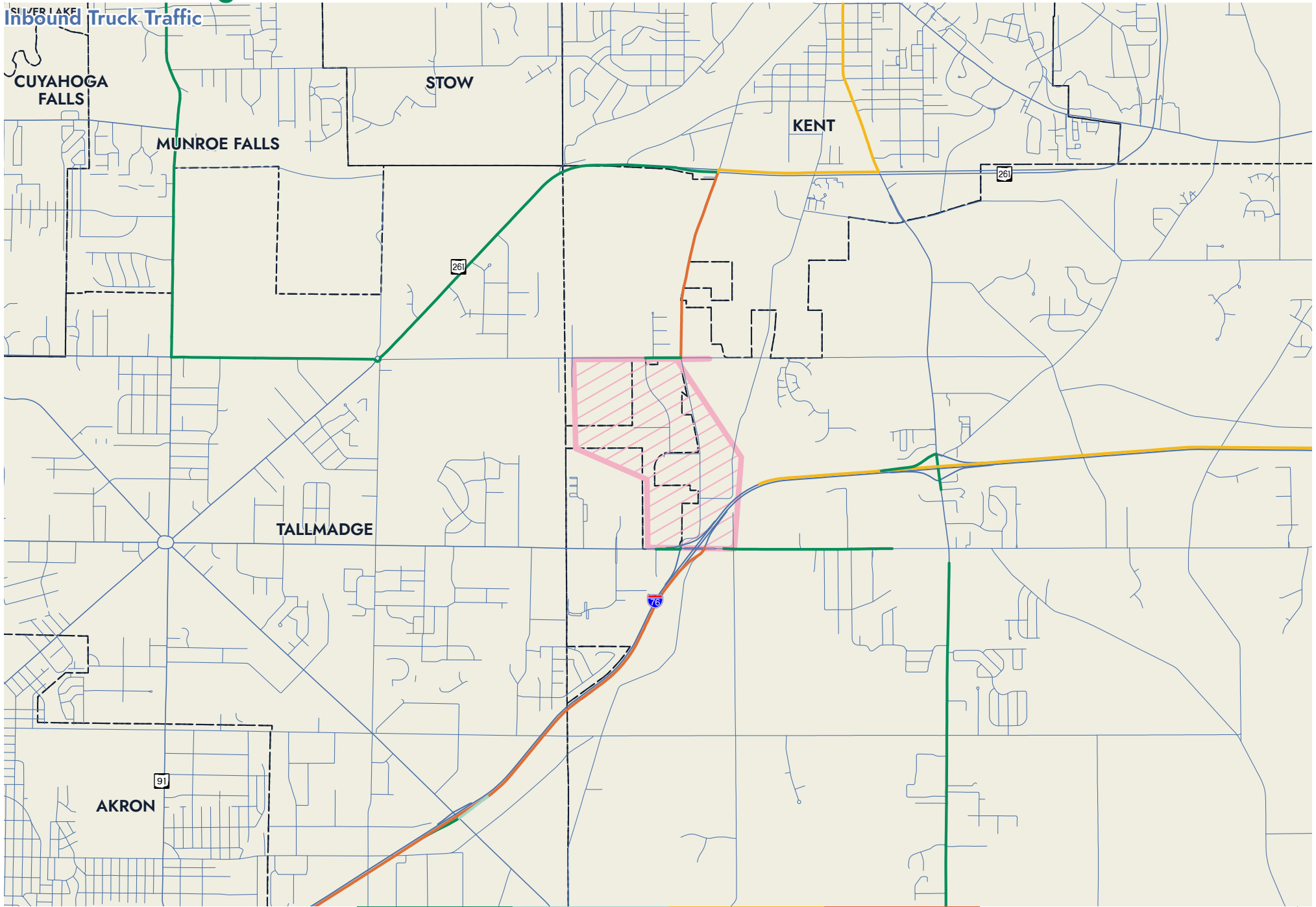
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Brimfield Twp	Tallmadge Rd from Mogadore Rd / I-76 EB Ramps to Mogadore Rd / I-76 WB On-Ramp	0.144	Peak AM / Mid-Day	Arterial	WB	69.56
Brimfield Twp	Tallmadge Rd from Mogadore Rd / I-76 WB On-Ramp to 0.05 Miles West of Highway View Dr	0.206	Mid-Day	Arterial	WB	84.69
Brimfield Twp	Mogadore Rd / I-76 EB Off-Ramp from I-76 EB Off-Ramp Merge to Tallmadge Rd	0.009	Peak AM	Arterial	NB	92.55

Brimfield Freight Corridor

Inbound Truck Traffic

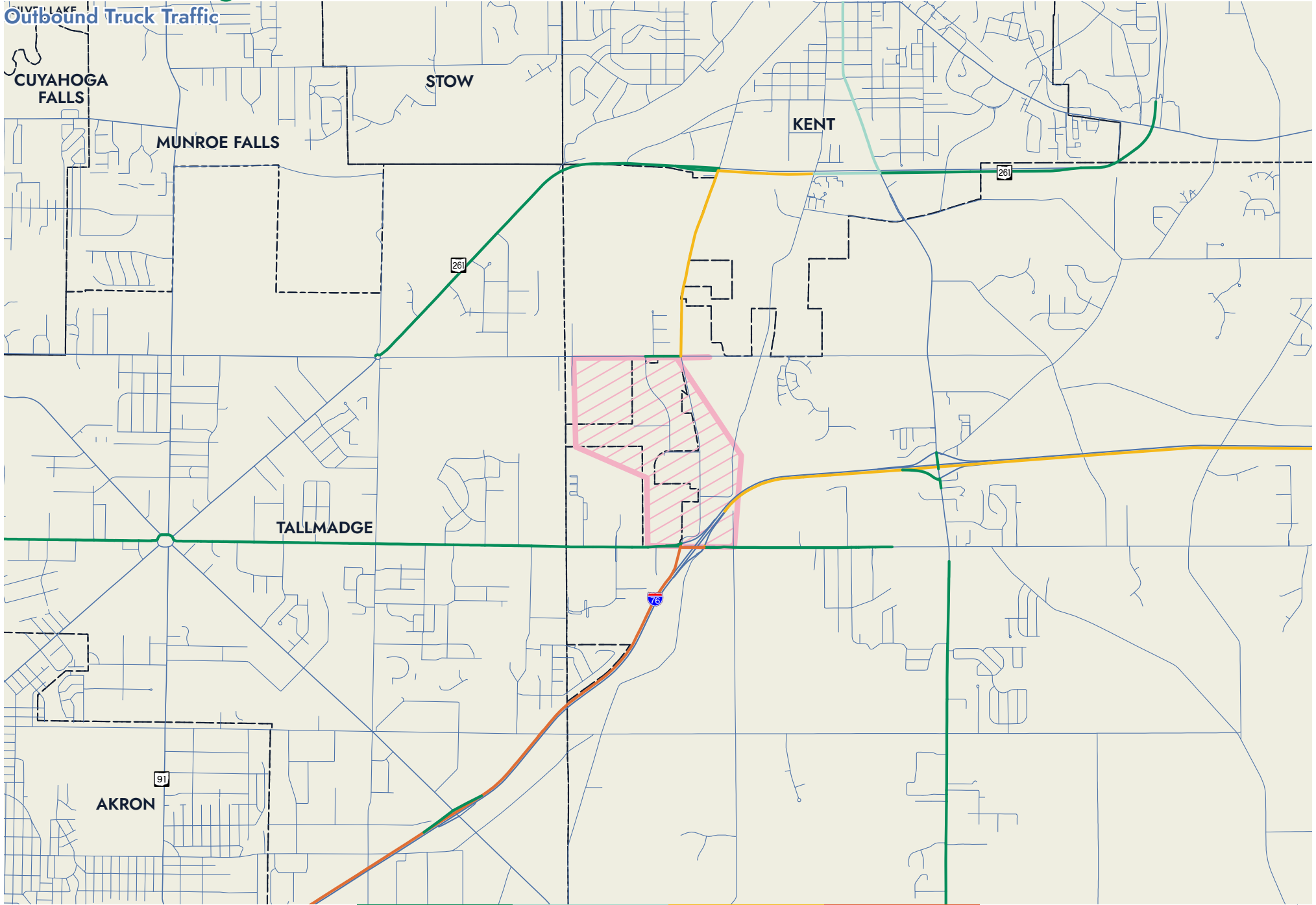


Percentage of Inbound Truck Trips:



Brimfield Freight Corridor

OUTLET LAKE
Outbound Truck Traffic



Percentage of Outbound Truck Trips: 0.1% - 5% 5.1% - 10% 10.1% - 15% 15.1% - 82.6%



South Kent Freight Corridor

Characteristics:

The city of Kent is Portage County's most populous community and a regional center of economic activity. Kent's early industrial prosperity was related to canal access, followed later by railroads. In the early 20th century Kent also became a center of higher-education; Kent State University is currently the State of Ohio's third-largest university. Kent is located on the western edge of Portage County, and the South Kent Freight corridor is located on the southwestern quadrant of the city, bordering Brimfield Township. This job hub has an estimated 800 jobs primarily in manufacturing, health care, and construction industries. This area is well-served by State Route 261, which acts as a bypass, and is close to State Routes 43 and 59. I-76 is located two miles to the south, and two interchanges serve this area. Although there are no capacity or congestion issues in or near the freight corridor, several intersections and segments are areas of high crashes. CSX and W&LE rail lines pass through the area, with limited service to one sand and gravel operation.

Key Freeway / Highway Access:

- SR 43
- SR 59
- SR 261

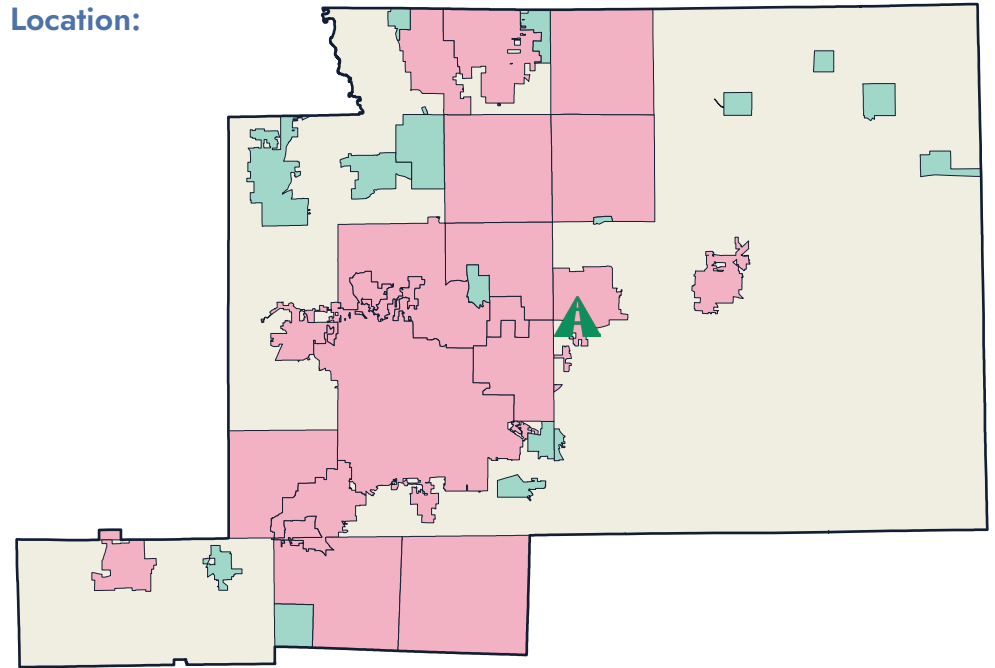
Top 3 Job Types:

1. Manufacturing
2. Health Care and Social Assistance
3. Construction

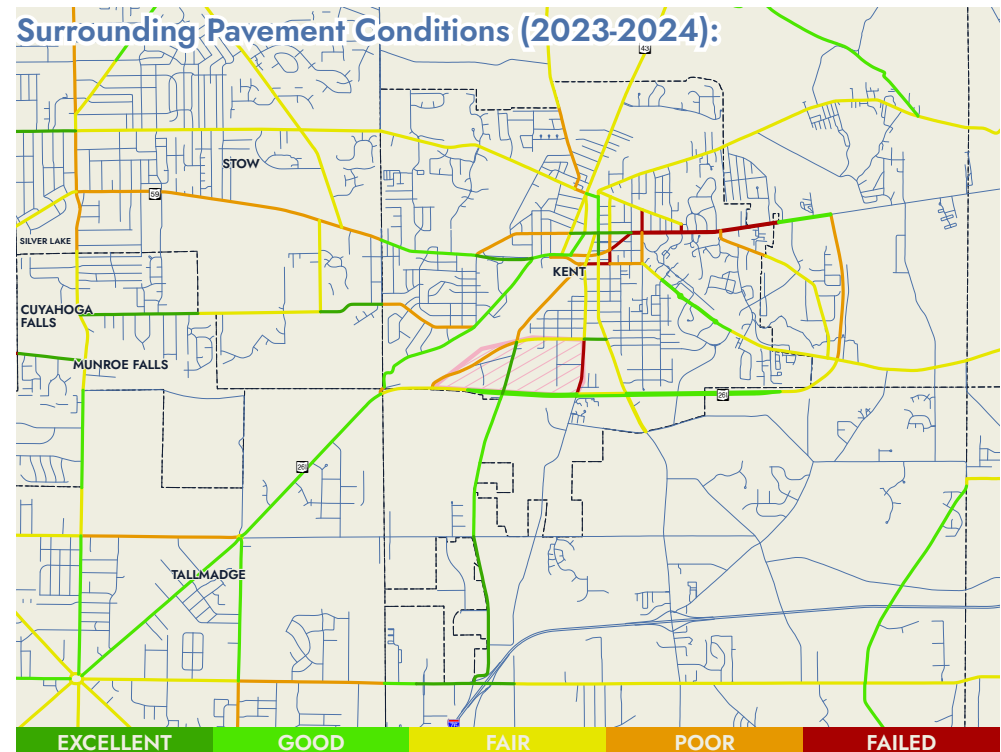
2022 Estimated Jobs:

800

Location:



Surrounding Pavement Conditions (2023-2024):



South Kent Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Kent	4	144	Mogadore Rd (CR 81) from Tallmadge Rd (CR 18) to SR 261	2.52	7,740	23	3.042

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
Kent	1	8	SR 261 and Mogadore Rd	12,785	20
Kent	2	36	SR 261 and Franklin Ave / Sunnybrook Rd	10,525	12

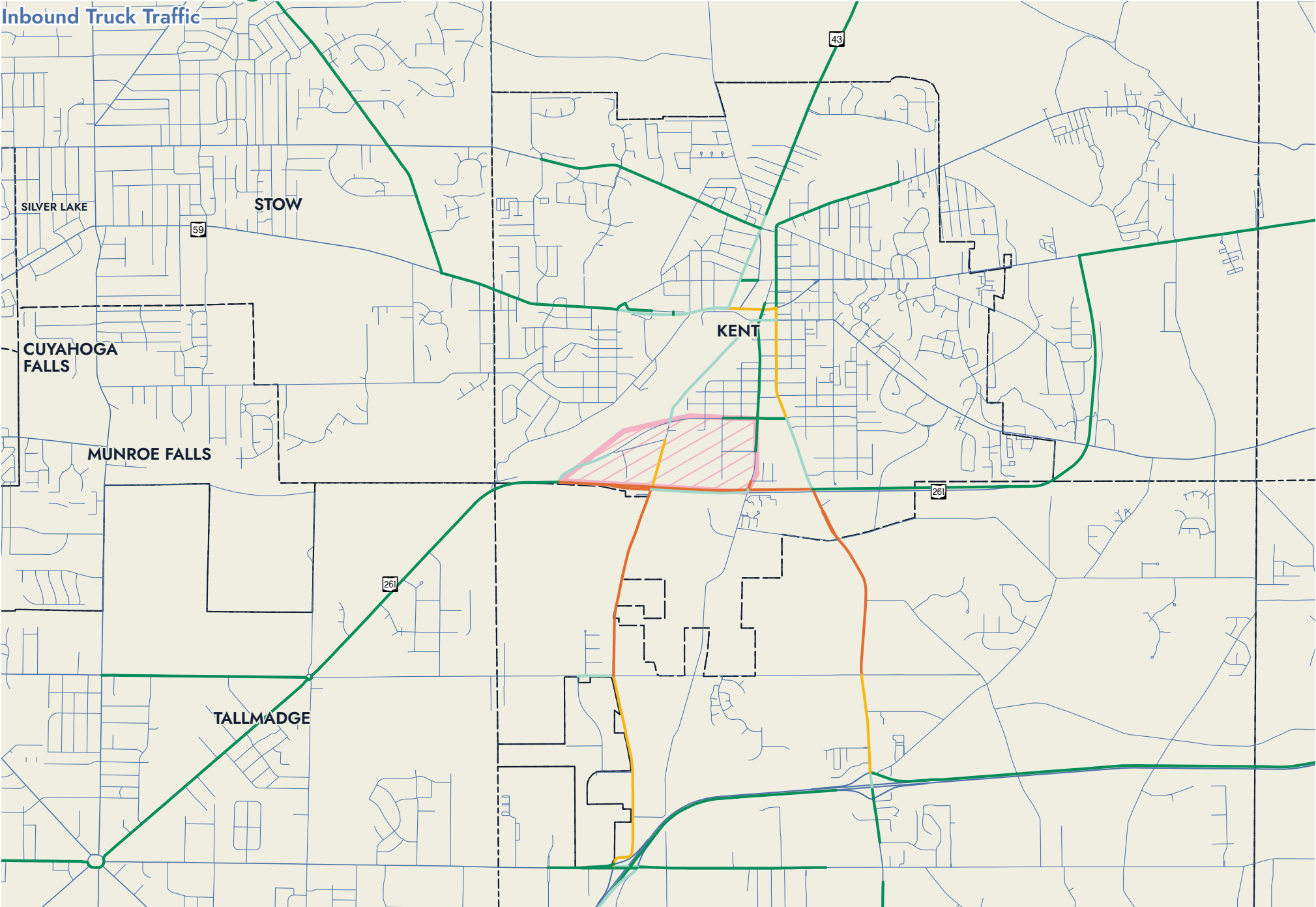
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Kent	SR 261 from Begin Divide to Mogadore Rd	0.271	Mid-Day / Peak PM	Arterial	EB	84.07
Kent	SR 261 from Franklin Ave to Mogadore Rd	0.602	Mid-Day / Peak PM	Arterial	WB	84.85
Kent	SR 261 from Mogadore Rd to Franklin Ave	0.602	Mid-Day / Peak PM	Arterial	EB	92.83

South Kent Freight Corridor

Inbound Truck Traffic

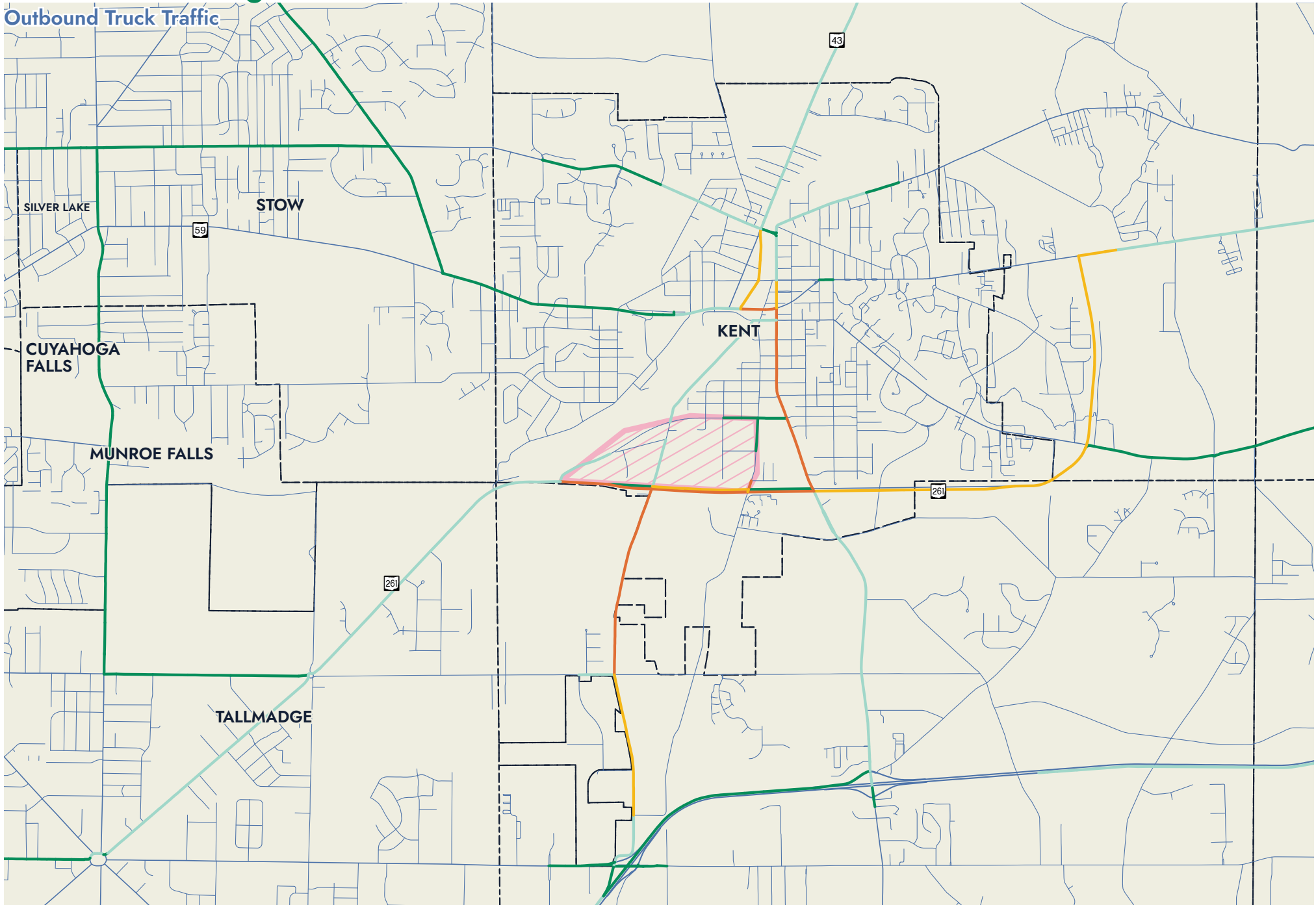


Percentage of Inbound Truck Trips:



South Kent Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Gilchrist Road Freight Corridor

Characteristics:

The Gilchrist Road Job Hub is an industrial road located in eastern Summit County, in the city of Akron. This job hub is easily accessible from I-76 and SR 91. There are 2,800 jobs in manufacturing, transportation and warehousing, and wholesale trade. The job hub is small in geography but is very dense with employers. With a 54 acre undeveloped industrial park located within the job hub it has potential room to expand. Freight traffic can experience congestion along the nearby I-76 corridor, but there are no other reported congestion issues and only one crash cluster within the job hub.

Key Freeway / Highway Access:

I-76
SR 91

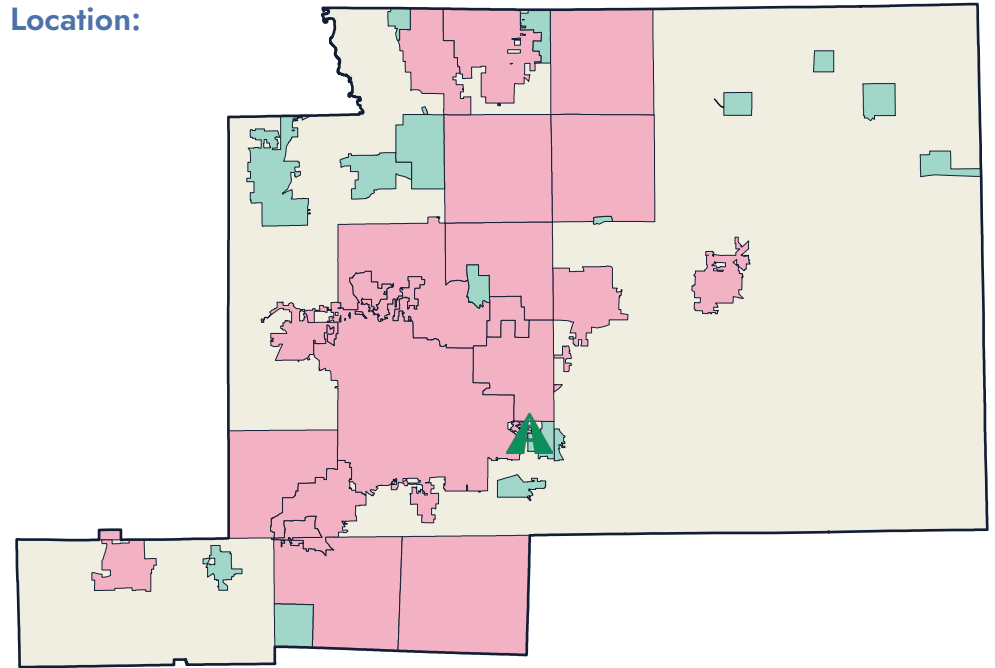
Top 3 Job Types:

1. Manufacturing
2. Transportation and Warehousing
3. Wholesale Trade

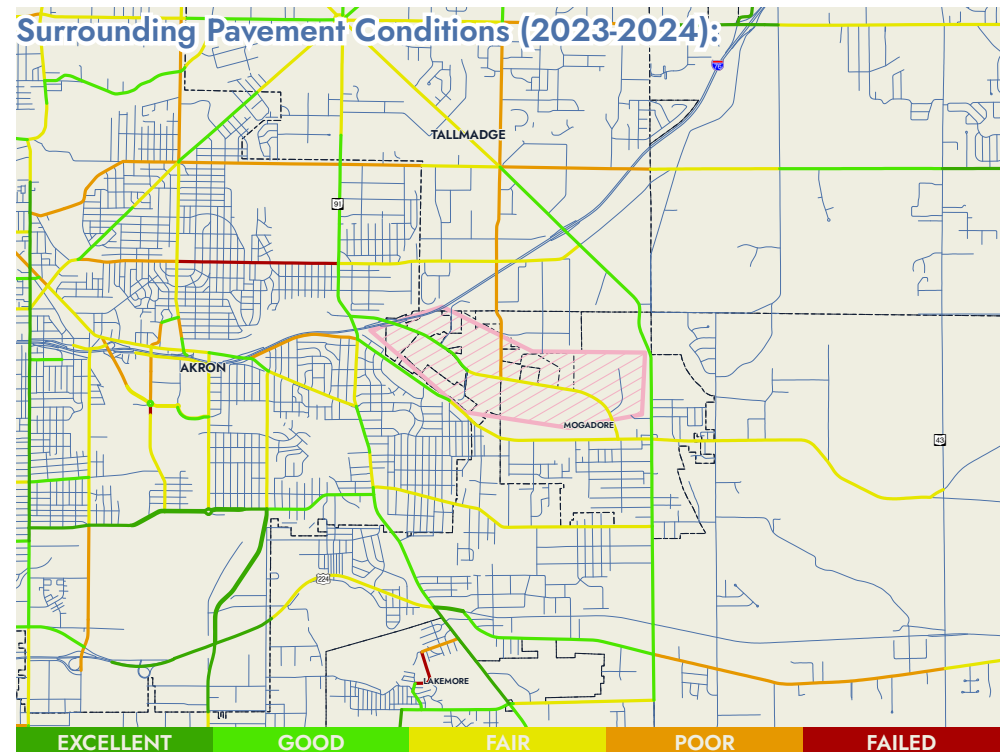
2022 Estimated Jobs:

2,800

Location:



Surrounding Pavement Conditions (2023-2024):



Gilchrist Road Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Mogadore	1	67	N Cleveland Ave (SR 532) from Mogadore Rd to Mogadore NCL	1.08	8,543	15	4.630

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the 2020-2022 Traffic Crashes Report					

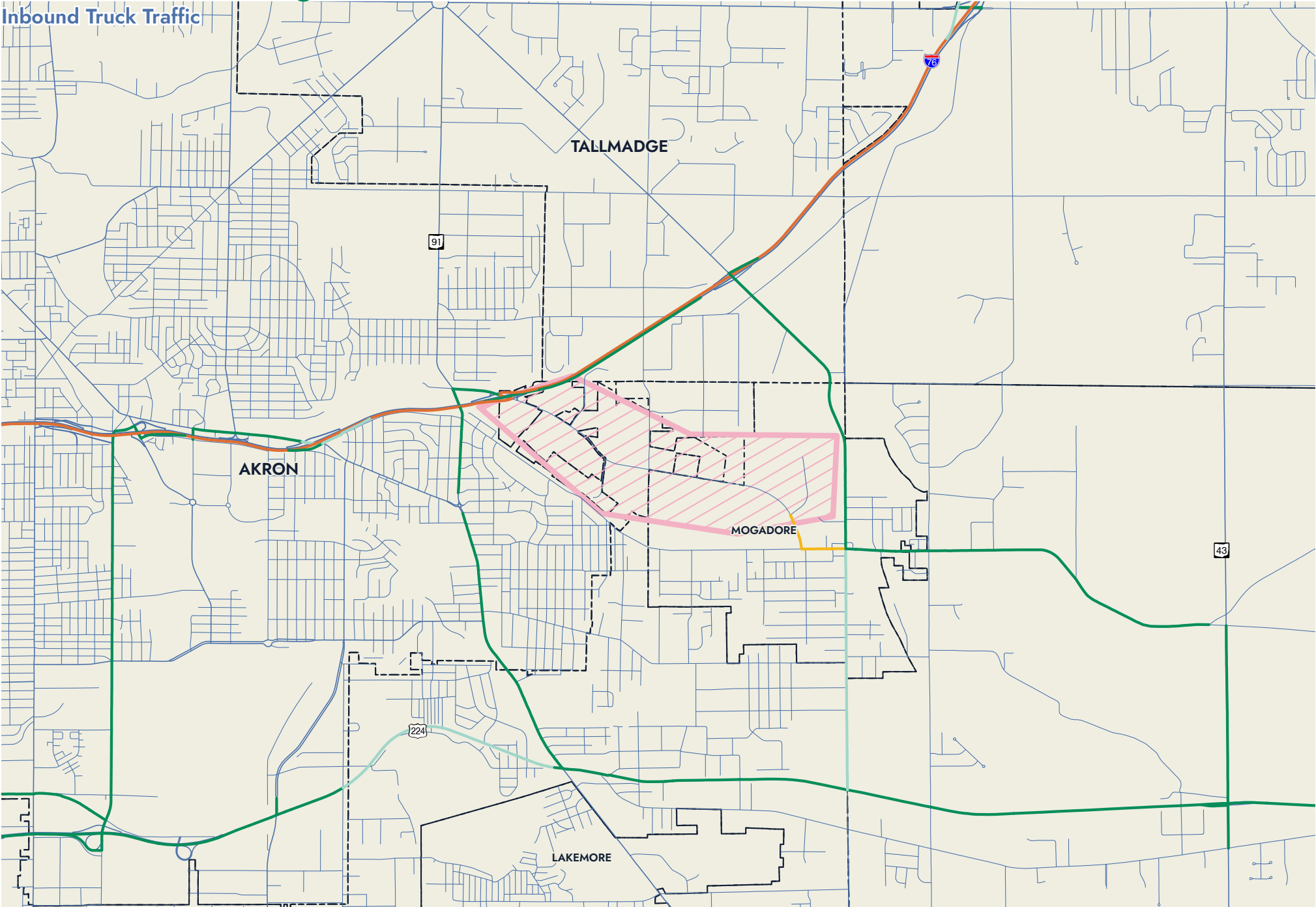
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
No Nearby Intersections in the 2022 Congestion Management Process						

Gilchrist Road Freight Corridor

Inbound Truck Traffic

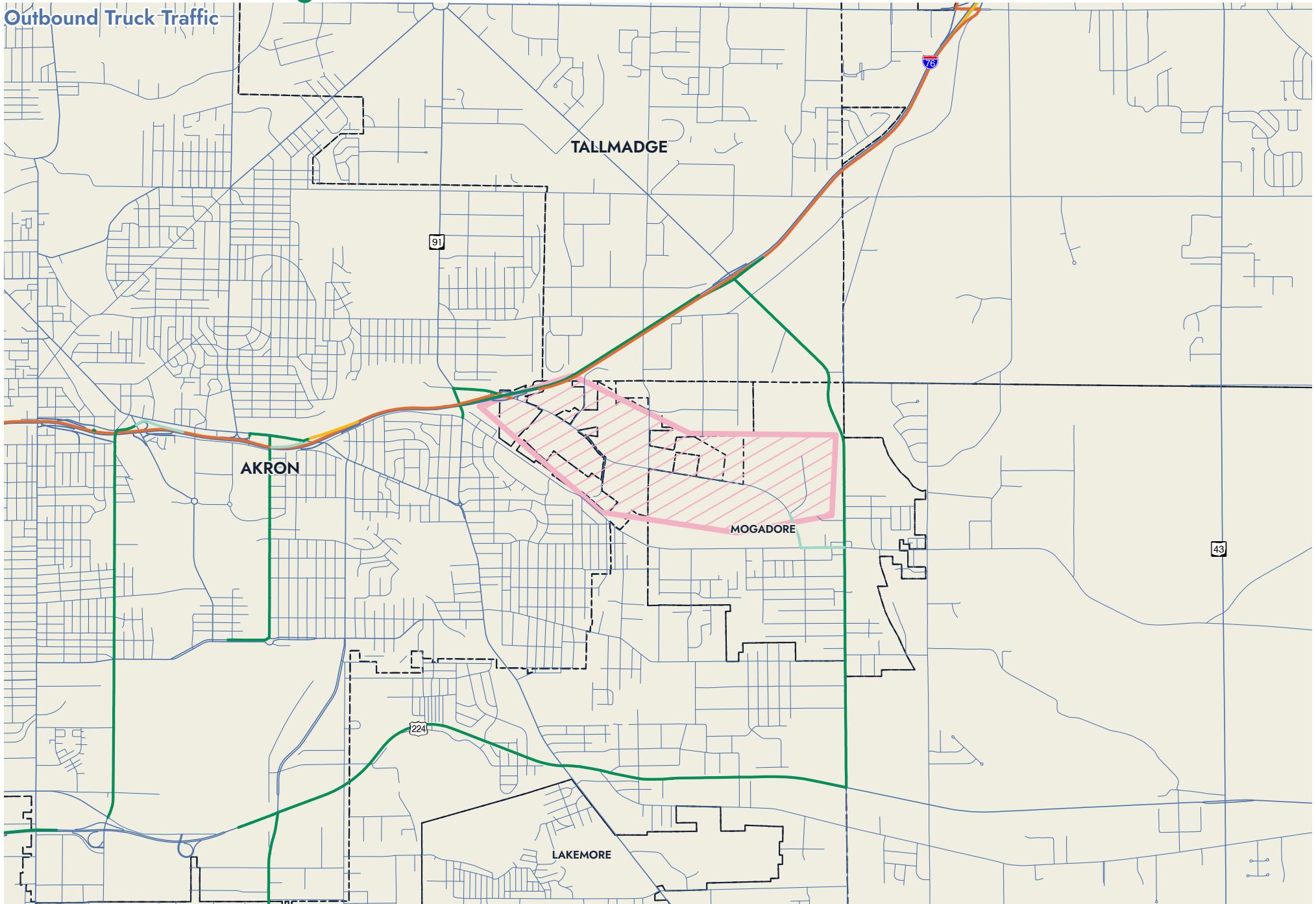


Percentage of Inbound Truck Trips:



Gilchrist Road Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



Rolling Acres Freight Corridor

Characteristics:

The Rolling Acres area of Akron was largely developed following the former Rolling Acres Mall's opening in the mid-1970s. This led to significant commercial development along Romig Road and toward the I-77/V. Odom Blvd interchange. The mall began declining significantly in the 1990s and largely closed in 2008. The mall was demolished beginning in 2017 and an Amazon distribution facility was soon thereafter built upon this site. About 3,200 jobs centered primarily on transportation and warehousing, but also on retail trade and real estate are within this job hub, all serving southwest Akron, Barberton, and surrounding communities. This job hub is well-served by both I-76 and I-77, and roads within the job hub more than adequately serve freight traffic. Romig Road is on the AMATS High Injury Network, so safety can be a concern.

Key Freeway / Highway Access:

- I-76
- I-77

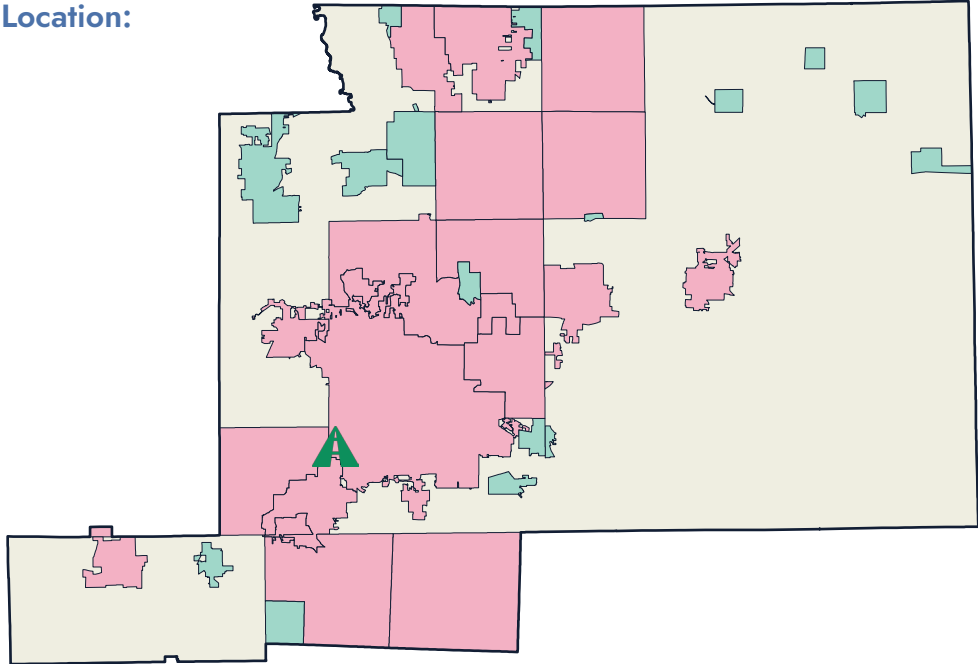
Top 3 Job Types:

1. Transportation and Warehousing
2. Retail Trade
3. Real Estate and Rental and Leasing

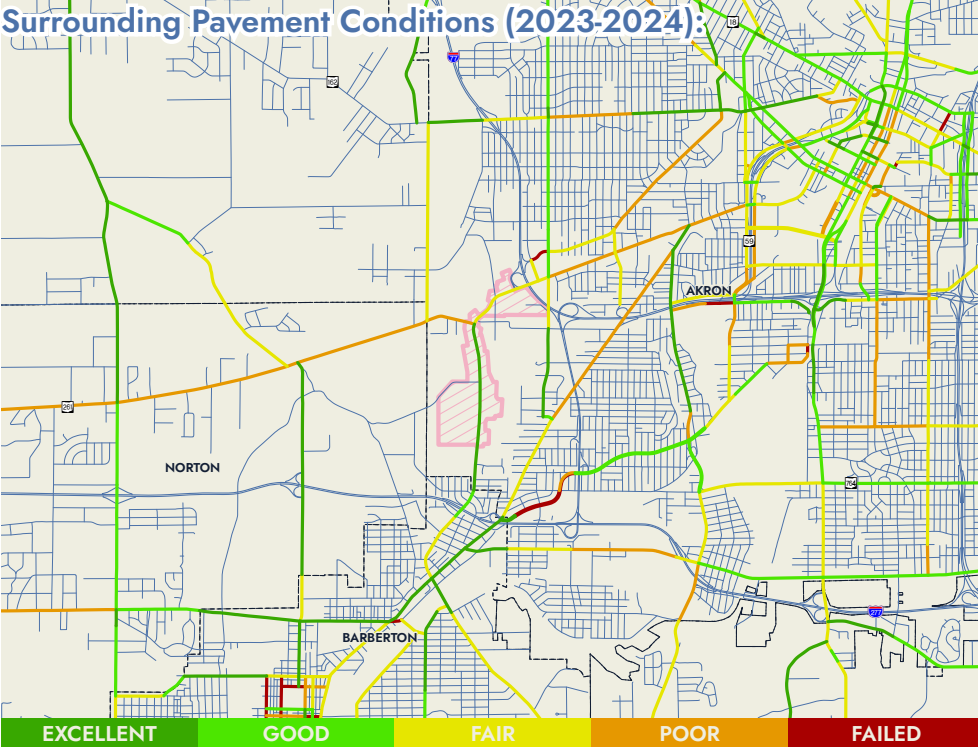
2022 Estimated Jobs:

3,200

Location:



Surrounding Pavement Conditions (2023-2024):



Rolling Acres Freight Corridor

Top High Crash Segments

The following table identifies the segments in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Roadway Section, From (segment beginning location), To (segment ending location), Length (MI), Average Daily Traffic, Total Crashes (2020-2022), and Crashes per MI per YR.

LOCATION	LOCAL RANK	OVERALL RANK	ROADWAY SECTION	LENGTH (MI)	AVERAGE DAILY TRAFFIC	TOTAL CRASHES	CRASHES PER MILE PER YEAR
Akron	3	5	Vernon Odom Blvd (SR 261) from Collier Rd / Akron CL to Romig Rd	0.36	5,620	8	7.407

Top High Crash Intersections

The following table identifies the intersections in or near the job hub with the highest number of crashes based on recent crash history. The fields contained within the table are: Location, Local Rank (rank within community), Overall Rank (rank within AMATS), Intersection, Approach Average Daily Traffic (Average Daily Traffic entering Intersection), and Total Crashes (2020-2022).

LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the 2020-2022 Traffic Crashes Report					

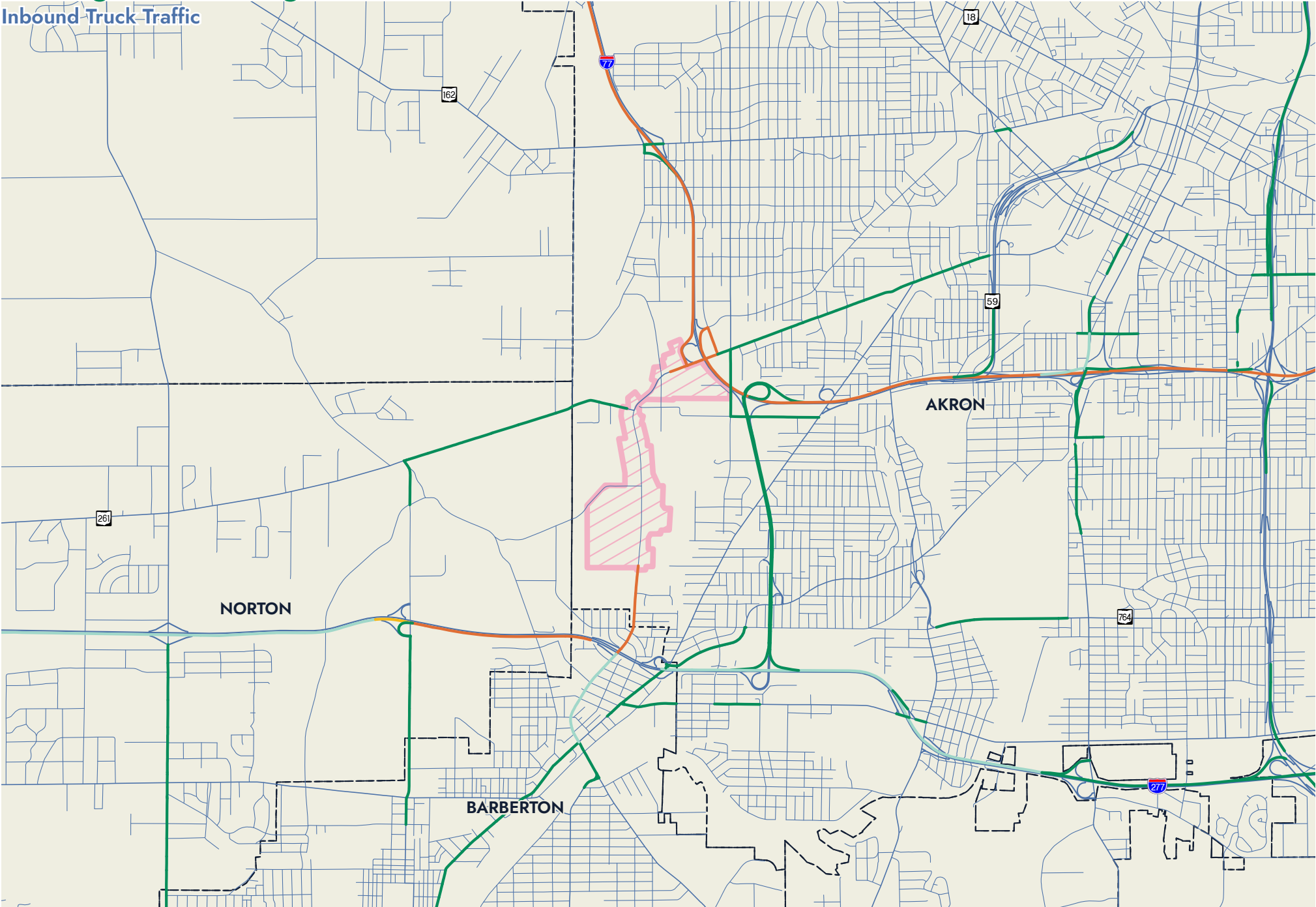
Top Congested Segments

The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (direction of traffic flow), and % Free Flow (ratio of the speed traffic is traveling in relation to the free flow speed, or the speed at which unimpeded traffic can travel).

LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Akron	Vernon Odom Blvd (SR 261) from 0.046 Miles West of Romig Rd to Romig Rd	0.046	Peak AM	Arterial	EB / WB	76.47
Akron	Vernon Odom Blvd (SR 261) from Romig Rd to 0.063 Miles North of Romig Rd	0.063	Peak AM / Mid-Day / Peak PM	Arterial	NB / SB	79.84
Akron	Vernon Odom Blvd (SR 261) from 0.03 Miles West of McTaggart Dr to I-77 SB Ramps	0.208	Mid-Day	Arterial	EB / WB	89.58

Rolling Acres Freight Corridor

Inbound Truck Traffic

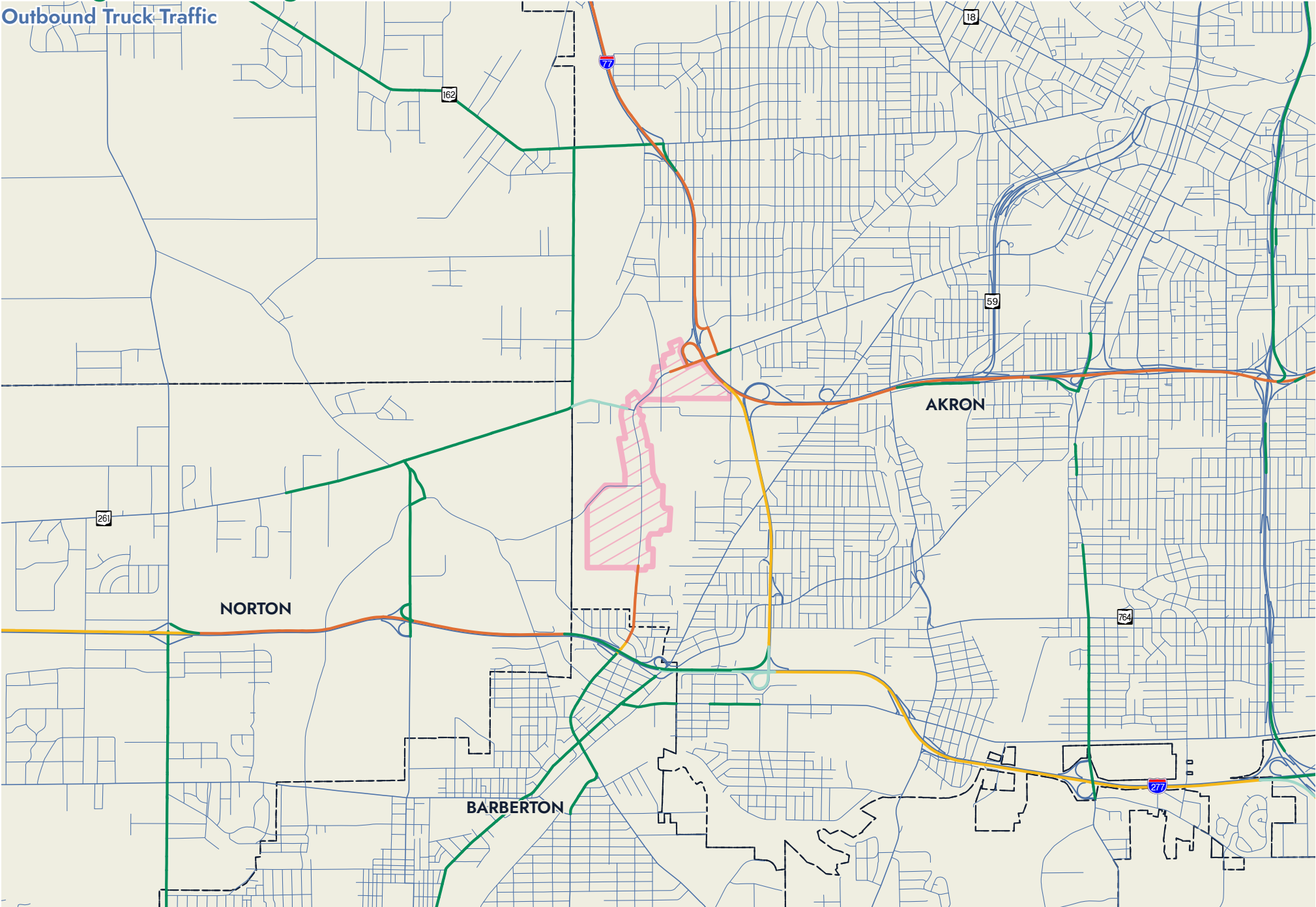


Percentage of Inbound Truck Trips: .1% - 5% 5.1% - 10% 10.1% - 15% 15.1% - 82.6%



Rolling Acres Freight Corridor

Outbound Truck Traffic



Percentage of Outbound Truck Trips:



PERFORMANCE MEASURES

Current federal regulations require performance management to ensure that state DOTs and MPOs such as AMATS choose the most efficient investments for federal transportation funds.

Performance management focuses attention on national transportation goals, increases the accountability of federal fund programming, and improves project decision-making through performance-based planning. State DOTs and MPOs have established performance goals and will assess this performance over time. The USDOT requires that states and MPOs develop and assess performance measures for areas such as safety, infrastructure condition, traffic congestion, system reliability, vehicle emissions and freight movement.

Specifically, the USDOT will be assessing performance and pavement conditions on the National Highway System (NHS); bridge conditions on the NHS; fatalities and serious injuries (both the number and the rate per vehicle mile traveled) on all public roads; traffic congestion; mobile source emissions; and freight movement on the interstate system.

AMATS will continue to coordinate with ODOT to assess and review factors that influence the level of performance of various transportation modes, and periodically refine the performance targets that will be necessary to maintain or improve operational efficiency.

The assessment of freight performance is measured in terms of mobility and efficiency (travel time, delay and safety) and accessibility and connectivity. Bottlenecks and roadways (or corridors) with particularly high levels of freight movement are singled out for more detailed analysis in terms of the adopted performance measures and goals. Consequently, stakeholders can use performance measures to develop policy objectives that are part of the Regional Transportation Plan. Projects that are essential to the movement of goods are then programmed into the TIP as a part of an integral process. See the AMATS Funding Policy Guidelines for a full discussion of the area's project selection process and criteria.

Travel Time Reliability and Freight Movement Performance Measures

Federal rules 23 CFR 490.507 and 23 CFR 490.607 establish National Highway System travel time reliability and Interstate System freight reliability measures. For both personal travel time reliability and freight travel time reliability measures, ODOT is required to establish 2-year and 4-year targets within a four-year performance period. The two current (2022-2024) targets are listed in Table 4-1 below:

Table 4-1 ODOT Travel Time Reliability Targets		
Level of Travel Time Reliability		
TRAVEL TIME RELIABILITY	2-YEAR TARGET	4-YEAR TARGET
Interstate Travel Time Reliability	> 85%	> 85%
Non-Interstate NHS Travel Time Reliability	> 80%	> 80%
Level of Truck Travel Time Reliability		
TRUCK TRAVEL TIME RELIABILITY	2-YEAR TARGET	4-YEAR TARGET
Interstate Truck Travel Time Reliability	< 1.50	< 1.50

Level of Travel Time Reliability (LOTTR) is defined as the ratio of the longer travel times (80th percentile) to a "normal" travel time (50th percentile). The measures are the percentage of person-miles traveled on the relevant portion of the NHS that are reliable.

Truck Travel Time Reliability (TTTR) is the ratio generated by dividing the 95th percentile travel time by the normal time (50th percentile) for each Interstate segment. The TTTR Index

is established by multiplying each segment's largest ratio of five reporting periods by its length then dividing the sum of all length-weighted segments by the total length of interstate.

The data to assess travel time reliability and establish targets is sourced from FHWA's National Performance Management Research Data Set (NPMRDS). ODOT is participating in FHWA's Performance Management Analytical Tool pooled fund where a contractor assists states in calculating NPMRDS travel time reliability metrics.

AMATS current performance is documented in the following Table 4-2:

Table 4-2 AMATS Travel Time Reliability								
Level of Travel Time Reliability - AMATS								
TRAVEL TIME RELIABILITY	2016	2017	2018	2019	2020	2021	AVERAGE	TARGET
Interstate Travel Time Reliability	97.6%	98.6%	98.5%	98.8%	100.0%	100.0%	99.2%	> 85%
Non-Interstate NHS Travel Time Reliability	59.9%	89.3%	90.4%	89.3%	97.7%	93.8%	92.1%	> 80%
Interstate Truck Travel Time Reliability Index	1.31	1.27	1.27	1.30	1.13	1.19	1.23	< 1.50

AMATS meets the performance targets for travel time reliability on the interstate system and on truck travel time. The AMATS non-interstate system also meets the target.

Overall state of Ohio performance is documented in table 4-3 below:

Table 4-3 Ohio Travel Time Reliability								
Level of Travel Time Reliability - AMATS								
TRAVEL TIME RELIABILITY	2016	2017	2018	2019	2020	2021	AVERAGE	TARGET
Interstate Travel Time Reliability	90.9%	91.2%	89.3%	89.8%	99.5%	98.4%	93.6%	> 85%
Non-Interstate NHS Travel Time Reliability	66.1%	89.9%	90.0%	92.6%	95.7%	95.5%	92.7%	> 80%
Interstate Truck Travel Time Reliability Index	1.40	1.33	1.37	1.36	1.17	1.19	1.28	< 1.50

AMATS identifies 4 projects that will improve travel time reliability in the greater Akron area. The projects total \$160.4 million. These projects are also anticipated to benefit truck travel time reliability as well.

Table 4-4 TIP Projects (FY 2024-2027)		
Improving Travel Time Reliability - AMATS TIP Projects		
ROAD TYPE	NUMBER OF PROJECTS	CONSTRUCTION \$ (MILLIONS)
Interstate	4	\$160.4
Non-Interstate NHS	0	\$0

Consequently, the assessment of freight performance is measured in terms of mobility and efficiency (travel time, delay and safety) and accessibility and connectivity. Bottlenecks and roadways (or corridors) with particularly high levels of freight movement are singled out for more detailed analysis using these performance measures and goals. The result is to

use performance measures to achieve policy objectives that are part of the Regional Transportation Plan. Projects that are essential to the movement of goods are then programmed into the TIP as part of an integral process.

AMATS is committed to enhancing the performance of the transportation system while also protecting and enhancing the natural environment. Both the AMATS Transportation Improvement Program (TIP) and Regional Transportation Plan meet US DOT requirements for air quality conformity. In the future, AMATS will continue the process of improving air quality by developing a transportation system that meets the intent of federal requirements.

It is also a priority of AMATS to ensure that projects are completed on schedule. AMATS continues to dedicate efforts to reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The project scoring and evaluation criteria in the AMATS Funding Policy Guidelines are intended to effectively allocate the region's resources. In addition, AMATS coordinates its efforts with other MPOs, along with ODOT, to ensure that projects are fully funded and completed on time.

A full discussion of the AMATS area's performance measures and targets can be found in Appendix H: Performance Measures of the *Transportation Improvement Program FY 2024-2027* (adopted May 18, 2023).

RECOMMENDATIONS

The highest priority needs in the AMATS area regarding freight movement involve improvements to the highway and rail systems. The AMATS *Highway Preservation Needs Report* and the *Congestion Management Process Report (CMP)* address the needs of the AMATS area in terms of highway improvements that streamline the flow of freight in the region. After studying existing and future levels of congestion, the CMP makes recommendations which are then considered for inclusion in the financially constrained *Transportation Outlook 2050*.

Freight movement, by way of trucks, is heavily concentrated on freeways and major state routes. The number of trucks on these roads ranges from 50 to 20,705 trucks per day, with I-271 in Macedonia being the busiest freeway for trucks. Highway improvements such as the Central Interchange project will help improve the efficiency of freight movement on the area's roadways. Recommended grade separations will reduce delays and eliminate conflicts between trains and automobiles.

Since the approval of the current *2020 Freight Plan* in September 2020, ODOT has completed improvements to the South Main/Broadway interchange with I-76/77 just south of downtown Akron. This \$113 million project included removing interchanges at Wolf Ledges Parkway and Grant Street, and reconstructing access points and re-aligning Main Street and Broadway.

In addition, there are several upcoming projects that will aid in the improvement of the overall freight network. These projects include:

- » The SR-8 Bridge Replacement (SR-8 High Level Bridge over the Little Cuyahoga River Valley in Akron), a \$193.3 million project expected to begin construction in late 2023, finishing in 2028 (PID 91710).
- » The widening of I-77 in Northern Summit County from SR 21 north to the Cuyahoga County line, including the replacement of several bridges, a \$132.2 million project currently under construction, expected to be completed in mid-2026 (PIDs 111404 and 111405).
- » The I-76/77/SR 8 Akron Beltway Improvements in the City of Akron, beginning in 2021. This \$160 million project includes pavement replacement, additional lanes, and the realignment of several ramps (PID 102329). Estimated completion is expected in mid-2025.
- » The I-76 Kenmore Leg Major Rehabilitation is a \$143.9 million project expected to begin construction in spring 2026, finishing in 2029 (PID 100713). This project includes full depth road base replacement, widening, bridge replacements and noise walls.

CONCLUSION

The efficient movement of goods is of great importance to a region's economy. The consideration of freight is critical to the transportation planning process to ensure the transportation network promotes multimodal freight movement. The AMATS Freight Report's recommended strategies to improve the freight network in the AMATS region will strengthen the freight network and improve its safety and efficiency. Recommendations made in the *2024 Freight Report* will be considered for inclusion in *Transportation Outlook 2050*.

2024 FREIGHT PLAN



The *2024 Freight Plan* is published by:
Akron Metropolitan Area Transportation Study
1 Cascade Plaza, Suite 1300
Akron, Ohio 44308-1423
Editorial Comments are welcome.

Director: Curtis Baker

E-Mail: amats@akronohio.gov

Please visit our website at: www.amatsplanning.org

Phone: 330-375-2436

This report was prepared by the Akron Metropolitan Area Transportation Study (AMATS) in cooperation with the U.S. Department of Transportation, the Ohio Department of Transportation, and the Village, City and County governments of Portage and Summit Counties and a portion of Wayne County.

The contents of this report reflect the views of AMATS, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view and policies of the Ohio and/or U.S. Department of Transportation. This report does not constitute a standard, specification or regulation.