Akron Metropolitan Area Transportation Study
Policy Committee
The Venue
10 Tallmadge Circle
Tallmadge, Ohio 44278

Thursday, September 26, 2024
1:30 p.m.

Agenda

1. **Call to Order**
   - A. Determination of a Quorum — Oral
   - B. Audience Participation

2. **Minutes**
   - A. August 8, 2024 Meeting – **Motion Required** — Attachment 2A

3. **Staff Reports**
   - A. Financial Progress Report – **Motion Required** — Attachment 3A
   - B. Technical Progress Report — Oral
   - C. AMATS Federal Funds Report — Attachment 3C

4. **Old Business**
   - A. Final Draft *Congestion Management Process (CMP) Report*. – **Discussion Only** — Attachment 4A
   - B. *Planning Data Forecast*. – **Motion Requested** — Attachment 4B
   - C. *2024 Freight Plan*. – **Motion Requested** — Attachment 4C
   - D. *2024 Transit Plan*. – **Motion Requested** — Attachment 4D

5. **New Business**

6. **Resolutions**
   - A. **Resolution 2024-17** – Approving the FY 2024 Year End Completion Report. – **Motion Required** — Attachment 6A
   - B. **Resolution 2024-18** – Approving Support for ODOT CY 2025 Safety Goals. – **Motion Required** — Attachment 6B
   - C. **Resolution 2024-19** – CMAQ Performance Plan Mid-Period Progress Report. – **Motion Required** — Attachment 6C

7. **Other Business**

8. **Adjournment**

   Next Regular Meeting:
   Thursday, December 12, 2024 - 1:30 PM
   The Venue, 10 Tallmadge Circle
   Tallmadge, Ohio 44278

All mailout material is available on the AMATS Web Site at www.amatsplanning.org

Akron Metropolitan Area Transportation Study
Technical Advisory Committee
The Venue
10 Tallmadge Circle
Tallmadge, Ohio 44278

Thursday, September 19, 2024
1:30 p.m.

Agenda

1. **Call to Order**
   A. Determination of a Quorum — Oral

2. **Minutes**
   A. August 1, 2024 Meeting – **Motion Required** — Attachment 2A

3. **Staff Reports**
   A. Financial Progress Report – **Motion Required** — Attachment 3A
   B. Technical Progress Report — Oral
   C. AMATS Federal Funds Report — Attachment 3C

4. **Old Business**
   A. Final Draft *Congestion Management Process (CMP) Report*. – **Discussion Only** — Attachment 4A

   B. *Planning Data Forecast*. – **Motion Requested** — Attachment 4B

   C. *2024 Freight Plan*. – **Motion Requested** — Attachment 4C

   D. *2024 Transit Plan*. – **Motion Requested** — Attachment 4D

5. **New Business**

6. **Resolutions**
   A. **Resolution 2024-17** – Approving the FY 2024 Year End Completion Report. – **Motion Required** — Attachment 6A

   B. **Resolution 2024-18** – Approving Support for ODOT CY 2025 Safety Goals. – **Motion Required** — Attachment 6B

   C. **Resolution 2024-19** – CMAQ Performance Plan Mid-Period Progress Report. – **Motion Required** — Attachment 6C

7. **Other Business**

8. **Adjournment**
   Next Regular Meeting:
   Thursday, December 5, 2024 - 1:30 PM
   The Venue, 10 Tallmadge Circle
   Tallmadge, Ohio 44278

All mailout material is available on the AMATS Web Site at www.amatsplanning.org.

Akron Metropolitan Area Transportation Study
Citizens Involvement Committee
Virtual Meeting

Thursday, September 19, 2024
6:30 p.m.

Agenda

1. **Welcome**

2. **Introductions**

3. **Items**
   A. Discussion regarding Attachment 4A – Final Draft *Congestion Management Process (CMP) Report*.

   B. Presentation regarding Attachment 4B – *Planning Data Forecast*.

   C. Presentation regarding Attachment 4C – *2024 Freight Plan*.

   D. Presentation regarding Attachment 4D – *2024 Transit Plan*.

4. **Open Discussion**

5. **Adjournment 7:45 P.M.**
   Next Regular Meeting:
   Thursday, December 5, 2024 - 6:30 p.m.

All mailout material is available on the AMATS Web Site at www.amatsplanning.org

Akron Metropolitan Area Transportation Study
Policy Committee
Thursday, August 8, 2024 – 1:30 p.m.

Minutes of Meeting

Recordings of AMATS committee meetings are available in the *Past Meetings* page of the agency web site at **https://www.amatsplanning.org/past-meetings**.

I. Call to Order

A. **Chairman Jenkins** called the meeting to order. The attending members constituted a quorum.

B. **Audience Participation**

None.

II. Minutes – Motion Required

A. **Approval of Minutes**

Members were asked to approve the minutes of the May 16, 2024 meeting.

Motion
Paul Adamson *made a motion to approve the minutes and it was seconded by* ***Bobbie Beshara****. The motion was approved by a voice vote.*

III. Staff Reports

A. **Financial Progress Report**

Curtis Baker presented Attachment 3A.

Motion
Bob Finney *made a motion to approve the Financial Progress Report and it was seconded by* ***Jim McCleary****. The motion was approved by a voice vote.*

B. **Technical Progress Report**

Matt Stewart announced that the new AMATS *Bike Map* is available. Maps are available for distribution by the committee members upon request.

The 2024 AMATS Annual Meeting is scheduled for Oct. 11. Registration will begin in September.

Mr. Stewart said that Heather Davis Reidl would make a presentation regarding the new AMATS web site following the Policy Committee meeting.

Applications to the Ohio Department of Transportation (ODOT) Safety Program are due to the department by Aug. 31.

AMATS has been preparing input documents necessary for the update of the regional transportation plan, *Transportation Outlook 2050*. **Mr. Stewart** noted that several of the documents will be discussed during the meeting.

C. AMATS Federal Funds Report

Amy Prater presented Attachment 3C.

Ms. Prater presented tables concerning STBG, CRP, CMAQ, and TASA Funding Program and Balances dated July 23, 2024.

IV. Old Business

None.

V. New Business

A. *Highway Preservation Needs Report.*

Mr. Stewart and **Ms. Prater** presented Attachment 5A.

Motion
Paul Adamson *made a motion to accept the Highway Preservation Needs Report and it was seconded by* ***Sabrina Christian-Bennett****. The motion was approved.*

B. Draft *Congestion Management Process (CMP) Strategies*.

Mr. Baker presented Attachment 5B.

C. Draft *Planning Data Forecast.*

Mr. Baker presented Attachment 5C.

D. Draft *2024 Freight Plan*.

Jeff Gardner presented Attachment 5D.

E. Draft *2024 Transit Plan*.

Matt Mullen presented Attachment 5E.

VI. Resolutions

A. Resolution 2024-15 – Approving Amendment #8 to the FY 2024-2027 Transportation Improvement Program to revise funding for two projects, add one project and delete one project phase.

Ms. Prater presented Attachment 6A.

Motion
Bobbie Beshara *made a motion to approve Resolution 2024-15 and it was seconded by* ***Joe Paradise****. The motion was approved.*

B. Resolution 2024-16R – To Add Capital Funds for METRO RTA (FY 2024-2027 TIP Amendment #9).

Mr. Gardner presented Attachment 6B.

Motion
Sabrina Christian-Bennett *made a motion to approve Resolution 2024-16R and it was seconded by* ***Claudia Amrhein****. The motion was approved.*

VII. Other Business

A. Mr. Baker said that Ms. Reidl will make a presentation immediately following the TAC meeting regarding the new agency web site and its features.

VIII. Adjournment

A. ***Motion***
Dawn Distler *made a motion to adjourn the meeting and it was seconded by* ***Jim Bowling****. The motion was approved.*

The next regularly scheduled Policy Committee meeting is scheduled for **1:30 p.m**. on **Thursday, September 26**, **2024**.

AMATS POLICY COMMITTEE
2024 ATTENDANCE

M Denotes Member Present **A Denotes Alternate Present**	**Jan 25**	**Mar 28**	**May 16**	**Aug 8**	**Sept 26**	**Dec 12**
AKRON – Mayor Shammas Malik (DiFiore) (Vollman)	A	A		A		
AURORA - Mayor Ann Womer Benjamin (Stark) (Januska)						
BARBERTON - Mayor William B. Judge (Teodecki) (Wearstler)	M	M		M		
BOSTON HEIGHTS – Mayor Ron Antal (Maccarone)						
CLINTON - Mayor William C. McDaniel						
CUYAHOGA FALLS - Mayor Don Walters (Zumbo)	A		A	M		
DOYLESTOWN - Mayor Terry Lindeman						
FAIRLAWN - Mayor Russell Sharnsky (Staten) (Visca)		A	A	A		
GARRETTSVILLE - Mayor Rick Patrick (Klamer)						
GREEN - Mayor Rocco Yeargin (Wax Carr)	M					
HIRAM - Mayor Ann Haynam (McGee)						
HUDSON – Thomas Sheridan (Comeriato)	M	M	M			
KENT – City Mgr. David Ruller (Baker) (Bowling)	A		A	A		
LAKEMORE – Mayor Richard Cole (Fast)	A					
MACEDONIA - Mayor Nick Molnar (Gigliotti) (Sheehy)						
MANTUA - Mayor Tammy Meyer (Klemm)						
METRO – Dawn Distler (Leppo)	M	A		M		
MOGADORE - Mayor Michael Rick						
MUNROE FALLS - Mayor Allen Mavrides (Bowery)	M					
NEW FRANKLIN - Mayor Paul Adamson (Ganoe) (Kepler)	M	M	M	M		
NORTHFIELD – Mayor Jenn Domzalski (Hipps)						
NORTON – Administrative Officer Dennis Loughry (Binsley)	A					
ODOT – Gery Noirot (Phillis) (Root)	M		A			
PARTA – Claudia Amrhein (Baba) (Forbes) (Proseus) (Schrader)	M	A	M	M		
PENINSULA - Mayor Daniel R. Schneider, Jr.						
PORTAGE COUNTY COMM. - Anthony J. Badalamenti (Mann)						
PORTAGE COUNTY COMM. – Mike Tinlin (Long)						
PORTAGE COUNTY COMM. - Sabrina Christian-Bennett (Hlad)		A		M		
PORTAGE COUNTY ENGINEER – Larry Jenkins (Steigerwald)	M	M	M	M		
RAVENNA - Mayor Frank Seman (Finney) (DiSalvo)	A	A	A	A		
REMINDERVILLE - Mayor Sam Alonso (Krock)						
RICHFIELD - Mayor Michael Wheeler (Frantz) (Waldemarson)	A		A			
RITTMAN – City Mgr. Bobbie Beshara (Robertson) (Neumeyer)		M	M	M		
SILVER LAKE – Mayor Therese Dunphy (Housley)						
STOW - Mayor John Pribonic (McCleary) (Jones)	A	A	A	A		
STREETSBORO - Mayor Glenn M. Broska (Cieszkowski) (Czekaj)	A	A	A	A		
SUGAR BUSH KNOLLS - Mayor Jeffrey A. Coffee						
SUMMIT COUNTY ENGINEER-Al Brubaker (Fulton) (Hauber) (Paradise)	A	A	A	A		
SUMMIT COUNTY EXECUTIVE - Ilene Shapiro (Tubbs)						
SUMMIT COUNTY COMM. & ECON. DEV. – Diane Miller-Dawson	M			M		
SUMMIT COUNTY COMM. & ECON. DEV. – David Lukas						
TALLMADGE - Mayor Carol Siciliano-Kilway (Kidder)	M	M	M	A		
TWINSBURG - Mayor Sam Scaffide (Mohr)	A	A	A	A		
WAYNE COUNTY COMM. BOARD - Dominic Oliverio (Broome)						
WAYNE COUNTY ENGINEER – Scott A. Miller (Jones)						
WINDHAM – Mayor Lawrence Cunningham, Jr.						

AMATS POLICY COMMITTEE
2024 ATTENDANCE

OBSERVERS AND STAFF MEMBERS PRESENT

NAME	REPRESENTING
Mr. Curtis Baker	AMATS
Mr. Seth Bush	AMATS
Mr. Jeff Gardner	AMATS
Mr. Matt Mullen	AMATS
Ms. Amy Prater	AMATS
Mr. Kerry Prater	AMATS
Ms. Heather Davis Reidl	AMATS
Mr. Matt Stewart	AMATS
Mr. Rick Bohan	Signal Akron
Ms. Christine Jonke	Akron
Mr. Nate Leppo	METRO RTA
Mr. Joe Paradise	Summit County Engineer's office
Mr. Ken Sympson	CTL Engineering

Akron Metropolitan Area Transportation Study
Technical Advisory Committee
Thursday, August 1, 2024 – 1:30 p.m.

Minutes of Meeting

Recordings of AMATS committee meetings are available in the *Past Meetings* page of the agency web site at **https://www.amatsplanning.org/past-meetings**.

I. Call to Order

A. **Chairman Finney** called the meeting to order. The attending members constituted a quorum.

II. Minutes – Motion Required

A. Approval of Minutes

Members were asked to approve the minutes of the May 9, 2024 meeting.

Motion
Jim Bowling *made a motion to approve the minutes and it was seconded by* ***Brad Kosco***. *The motion was approved by a voice vote.*

III. Staff Reports

A. Financial Progress Report

Curtis Baker presented Attachment 3A.

Motion
Tony Demasi *made a motion to approve the Financial Progress Report and it was seconded by* ***Jim Bowling***. *The motion was approved by a voice vote.*

B. Technical Progress Report

Matt Stewart said that AMATS has been preparing input documents necessary for the update of the regional transportation plan, *Transportation Outlook 2050*. **Mr. Stewart** noted that several of the documents will be discussed during the meeting.

The new AMATS *Bike Map* is available. Maps are available for distribution by the committee members upon request.

The 2024 AMATS Annual Meeting is scheduled for Oct. 11. Registration will begin in September.

Mr. Stewart said that Heather Davis Reidl would make a presentation regarding the new AMATS web site following the TAC meeting.

C. AMATS Federal Funds Report

Amy Prater presented Attachment 3C.

Ms. Prater presented tables concerning STBG, CRP, CMAQ, and TASA Funding Program and Balances dated July 23, 2024.

IV. Old Business

None.

V. New Business

A. *Highway Preservation Needs Report.*

Mr. Stewart and **Ms. Prater** presented Attachment 5A.

Joe Hadley asked whether AMATS considers other sources of funding such as the Ohio Public Works Commission (OPWC) and other projects with committed funding during the development of the draft needs report. **Mr. Stewart** explained that the draft report doesn't consider funding, but rather the estimated cost of anticipated needs. **Mr. Stewart** said that the process to develop the Draft *Transportation Outlook 2050* is when AMATS will match estimated needs with anticipated funding.

Motion
Jim Bowling *made a motion to accept the Highway Preservation Needs Report and it was seconded by* ***Mike Collins****. The motion was approved.*

B. Draft *Congestion Management Process (CMP) Strategies*.

Mr. Baker presented Attachment 5B.

Tony Demasi requested that the Staff and committee members consider various factors that may impact the corridors presented in the Draft *Strategy Recommendations* table of Attachment 5B.

Jim Bowling noted that the members should consider how the proposed strategies may affect the update of the AMATS *Funding Policy Guidelines* next year.

Chairman Finney asked how the *Traffic Signal Inventory* being compiled by GPD relates to *Transportation Outlook 2050*. **Mr. Baker** explained that the agency must consider data regarding traffic thresholds resulting from recent traffic signalization and roundabout projects before new project recommendations may be issued in the next regional transportation plan.

C. Draft *Planning Data Forecast.*

Mr. Baker presented Attachment 5C.

Mr. Hadley noted that the Northeast Ohio Four County Regional Planning and Development Organization (NEFCO) and AMATS have discussed county projections with the Ohio Department of Development (ODOD) for years. **Mr. Baker** indicated that the agency was surprised by how low the ODOD population projections were for the AMATS area. **Messrs. Baker** and **Hadley** discussed the forecast totals and their tabulation.

D. Draft *2024 Freight Plan*.

Jeff Gardner presented Attachment 5D.

Mr. Hadley asked, with regards to safety concerns addressed in the draft plan, if there were any lessons learned from the East Palestine rail disaster that could be or should be incorporated into the plan. **Mr. Gardner** said that there were some general recommendations and discussion regarding technological improvements. **Mr. Gardner** said that the main safety consideration addressed in the Draft *Freight Plan* is grade separation safety. **Mr. Gardner** noted that Table 2-1 – High Volume At-Grade Rail Crossings presents high scoring crossings in the region.

E. Draft *2024 Transit Plan*.

Matt Mullen presented Attachment 5E.

VI. Resolutions

A. Resolution 2024-15 – Approving Amendment #8 to the FY 2024-2027 Transportation Improvement Program to revise funding for two projects, add one project and delete one project phase.

Ms. Prater presented Attachment 6A.

Motion
Nate Leppo *made a motion to approve Resolution 2024-15 and it was seconded by* ***Mike Collins****. The motion was approved.*

B. Resolution 2024-16R – To Add Capital Funds for METRO RTA (FY 2024-2027 TIP Amendment #9).

Mr. Gardner presented Attachment 6B.

Motion
Nate Leppo *made a motion to approve Resolution 2024-16R and it was seconded by* ***Mike Collins****. The motion was approved.*

VII. Other Business

A. **Mr. Baker** said that Ms. Reidl will make a presentation immediately following the TAC meeting regarding the new agency web site and its features.

B. **Mr. Baker** polled the committee as to whether the members preferred complete copies of final meeting materials being available at meetings or cover memorandums with limited copies of lengthy items as was done during today's meeting. The members discussed options regarding the printing of meeting materials. **Mr. Baker** said that future meeting agendas for AMATS may include notices that meeting items are available for downloading online with limited copies available at meetings.

VIII. Adjournment

The next regularly scheduled TAC meeting will be at **1:30 p.m**. on **Thursday, September 19, 2024**.

There being no other business, the meeting was adjourned.

AMATS TECHNICAL ADVISORY COMMITTEE
2024 ATTENDANCE

M Denotes Member Present **A Denotes Alternate Present**	**Jan 18**	**Mar 21**	**May 9**	**Aug 1**	**Sept 19**	**Dec 5**
AKRON ENGINEERING BUREAU- Christine Jonke (Solomon)	A	A				
AKRON PLANNING DEPT. – Helen Tomic (Garritano)	A		A			
AKRON TRAFFIC ENGINEERING - Michael Lupica (Meyer)	M		M			
AURORA - Harry Stark (Cooper)	A					
BARBERTON – Mike Teodecki (Shreve)	M		M	M		
BARBERTON – Pete Wearstler		M				
CUYAHOGA FALLS – Rob Kurtz (Paul)	A		A	M		
CUYAHOGA FALLS - Tony V. Demasi (Kaser)	M			M		
DOYLESTOWN - Eng. Assoc. - Ronny Portz						
FAIRLAWN – Geary Visca (Staten)	A		A			
GREEN - Wayne Wiethe (Haring)	M	M				
GREEN - Paul Pickett (Ciocca)	M					
HUDSON – Nick Sugar (Hannan)	M	M	M	M		
HUDSON – Brad Kosco (Rapp)	M			M		
KENT - Jim Bowling	M	M	M	M		
KENT - Jon Giaquinto (Baker)						
LAKEMORE – Mayor Richard Cole, Jr. (Fast)	A		A			
MACEDONIA - Joseph Gigliotti (Sheehy)			M			
METRO – Nathan Leppo	A		M	M		
MOGADORE – Vacant						
MUNROE FALLS – Vacant						
NEFCO – Joseph Hadley, Jr. (Lautzenheiser)	M	A	M	M		
NEW FRANKLIN – Bryan Kepler (Ganoe)	M	M	A	A		
NORTHFIELD – Daniel J. Collins						
NORTON – Brian Binsley (Hess)	M	M	M	M		
ODOT – Chad Root (Bruner) (Phillis)	A	A	M	A		
PARTA – Claudia Amrhein (Baba) (Forbes) (Proseus) (Schrader)	A	A	A	A		
PORTAGE COUNTY ENGINEER – Mike Collins (Vermes)	M	M	M	M		
PORTAGE CO. REG. PLANNING COMM. – Gail Gifford (Peetz)	M		M			
PORTAGE COUNTY SMALL VILLAGES – Tom Hardesty						
PORTAGE COUNTY TOWNSHIP ASSOC – Jeff Derthick (Kovacich)		M	A	M		
RAVENNA - Robert Finney (DiSalvo)	M	M				
RICHFIELD – Scott Waldemarson (Frantz) (Neumeyer)	M		M			
RITTMAN – Bobbie Beshara (Neumeyer) (Robertson)	M	M				
SILVER LAKE – John Tutak						
STOW – Jim McCleary (Simpkins)	M			M		
STOW – Mike Jones (Cowan)	M		M			
STREETSBORO – John H. Cieszkowski, Jr. (Broska) (Czekaj)	M	M	M	A		
SUMMIT CO. COMM. & ECON. DEV. – Diane Miller-Dawson (Tubbs)		M		M		
SUMMIT COUNTY ENGINEER - Alan Brubaker (Fulton) (Hauber) (Paradise)	A	A	A	A		
SUMMIT COUNTY SMALL VILLAGES – Brian Gorog	M					
SUMMIT COUNTY TOWNSHIP ASSOC. - Richard Reville (Funk)			A			
TALLMADGE - Andrea Kidder (Rorar)	M	M				
TWINSBURG - Amy Mohr (Jeffers)	M	M		M		
WAYNE COUNTY ENGINEER – Scott A. Miller (Jones)						
WINDHAM – Deborah Blewitt (Brown)						

AMATS TECHNICAL ADVISORY COMMITTEE
2024 ATTENDANCE

M Denotes Member Present A Denotes Alternate Present	Jan 18	Mar 21	May 9	Aug 1	Sept 19	Dec 5
NON-VOTING MEMBERS						
AKRON CANTON AIRPORT - Renato Camacho						
AKRON REG. AIR QUALITY MGT. DIST. – Sam Rubens (Brown) (Vadas)						
AMATS - Curtis Baker	M	M	M	M		
CUYAHOGA VALLEY NATIONAL PARK – Vacant						
ENVIRONMENTAL COMMUNITY REP. - Kurt Princic						
GREATER AKRON CHAMBER - Gregg Cramer (Carpenter)						
GREATER AKRON CHAMBER – Dennis West						
OHIO TURNPIKE COMMISSION – Anthony Yacobucci						
PORTAGE COUNTY PORT AUTHORITY – Vacant						
PORTAGE PARK DISTRICT - Christine Craycroft						
PRIVATE TRANSPORTATION PROVIDER (CYC) - Mark Posten (Stolfo)	M					
RAILROAD INDUSTRY REP. - William A. Callison (Davis)						
SUMMIT METRO PARKS – Mark Szeremet (King) (Saunier)	M	M		M		
TRUCKING INDUSTRY – Vacant						

OBSERVERS AND STAFF MEMBERS PRESENT

NAME	REPRESENTING
Mr. Rick Bohan	Signal Akron
Mr. Jerry Jones	Anser Advisory
Mr. George Maki	E.L. Robinson Engineering
Mr. Mark Posten	CYC
Mr. Dave Pulay	EDG
Ms. Cynthia Peck	American Structures, Inc.
Ms. Amy Proseus	PARTA
Mr. Steve Rebillot	CTL Engineering
Mr. Kevin Westbrooks	GPD Group

STAFF MEMBERS PRESENT

Mr. Seth Bush	AMATS
Ms. Heather Davis Reidl	AMATS
Mr. Jeff Gardner	AMATS
Mr. Matt Mullen	AMATS
Ms. Amy Prater	AMATS
Mr. Kerry Prater	AMATS
Mr. Matt Stewart	AMATS

Akron Metropolitan Area Transportation Study
Citizens Involvement Committee
Thursday, August 1, 2024 – 6:30 p.m.

Meeting Summary

Attendees:

Rick Bohan
Ron Brubaker
Austen Rau
Bill Sepe

Staff:

Seth Bush, Geographic Information Systems (GIS) Coordinator
Heather Davis Reidl, Mobility Planner
Jeff Gardner, Transportation Planner
Matt Mullen, Transportation Planner
Matt Stewart, Planning Administrator

I. Welcome

Matt Stewart welcomed the AMATS Citizens Involvement Committee (CIC) meeting attendees.

II. Discussion Items

A. **Mr. Stewart** presented Attachment 5A – *Highway Preservation Needs Report*.

Ron Brubaker asked whether the needs and preservation costs presented were per year or in total. **Mr. Stewart** explained that the anticipated levels of funding were in total for the span of the upcoming *Transportation Outlook 2050*.

Rick Bohan questioned the accuracy of estimated preservation needs and costs. **Mr. Stewart** said that the data is based on costs projected by the Ohio Department of Transportation (ODOT) and have been verified by AMATS and the department. **Mr. Stewart** noted that materials, labor and related costs have increased significantly in recent years.

Austen Rau noted that the percentages of pavement rated Poor or Very Poor/Fail roadway quality were low. **Mr. Rau** asked if the low totals were due to those sections warranting the most attention from project sponsors. **Mr. Stewart** explained that there are percentage fluctuations across the roadway quality categories and that a better measure regarding the quality of Greater Akron area roadways is the table depicting the average condition of pavement quality across the region. The attendees discussed the totals and percentages and how they are tabulated.

B. **Seth Bush** presented Attachment 5B – Draft *Congestion Management Process (CMP)*.

C. **Mr. Stewart** presented Attachment 5C – Draft *Planning Data Forecast*.

Mr. Bohan expressed concern about the declining statewide population data, migration totals, and demographic scenarios prepared by the Ohio Department of Development (ODOD) that are presented in the Draft *Planning Data Forecast*. **Mr. Bohan** and **Mr. Stewart** discussed the ODOD projections.

D. **Jeff Gardner** presented Attachment 5D – Draft *2024 Freight Plan*.

Mr. Rau noted that the Draft *2024 Freight Plan* contained a section regarding the Akron Secondary, Freedom Secondary, and Sandyville rail lines owned by METRO RTA of Summit County. **Mr. Rau** asked if AMATS knew of any changes regarding the status of the lines and the discussions between METRO RTA and the Federal Transit Administration (FTA). **Mr. Stewart** said that there are no reported developments regarding the METRO RTA and FTA discussions. **Mr. Gardner** noted that the draft freight plan was based on the most recent information available regarding the status of the rail lines.

E. **Matt Mullen** presented Attachment 5E – Draft *2024 Transit Plan*.

Mr. Bohan asked if the plan was developed with input from METRO RTA. **Mr. Mullen** said yes and summarized the involvement of METRO RTA in developing the draft transit plan.

F. **Mr. Mullen** presented the Fiscal Year 2025 Public Transit Program of Projects.

G. **Mr. Brubaker** asked if AMATS was aware of various proposals for the area's abandoned rail lines and multipurpose trails.

The attendees discussed proposals from advocates pertaining to the Cleveland-Columbus-Cincinnati-Dayton ("3C+D") corridor, including the possible addition of Akron to the corridor, and various issues related to the Greater Akron area's Veterans Trail.

III. Adjournment

There being no other business, the meeting was adjourned.

The next meeting of the CIC is scheduled for **6:30 p.m.** on **Thursday, September 19, 2024**.

FINANCIAL PROGRESS REPORT
AKRON METROPOLITAN AREA TRANSPORTATION STUDY
July 31, 2024

	Description	Annual Budget	Year-to-Date Expenses	% Budget Expended	July Expenses
I.	**Short Range Planning**	**$479,500**	**$53,427**	**11%**	**$53,427**
	FY2024 Carryover	159,500	53,427		53,427
	FY2025	320,000	0		0
II.	**Transportation Improvement Program**	**$321,500**	**$6,065**	**2%**	**$6,065**
	FY2024 Carryover	71,500	6,065		6,065
	FY2025	250,000	0		0
III.	**Continuing Planning & Data Collection Transportation System Update**	**$414,500**	**$44,998**	**11%**	**$44,998**
	FY2024 Carryover	114,500	44,998		44,998
	FY2025	300,000	0		0
IV.	**Long Range Plan Activity**	**$602,500**	**$22,063**	**4%**	**$22,063**
	FY2024 Carryover	152,500	22,063		22,063
	FY2025	450,000	0		0
V.	**Service**	**$746,000**	**$29,306**	**4%**	**$29,306**
	FY2024 Carryover	296,000	29,306		29,306
	FY2025	450,000	0		0
VI.	**OhioRideshare and AQ Advocacy**	**$180,000**	**$0**	**0%**	**$0**
	FY2025 OhioRideshare	80,000	0		0
	FY205 Air Quality	100,000	0		0
VII.	**Local**	**$25,000**	**$0**	**0%**	**$0**
	AMATS local Costs	25,000	0		0
VIII.	**AMATS Transportation Quarterly**	**$103,029**	**$6,401**	**6%**	**$6,401**
	FY2024 Carryover	47,000	6,401		6,401
	FY2025	56,029	0		0
IX.	**GRAND TOTAL AMATS BUDGET**	**$2,872,029**	**$162,260**	**6%**	**$162,260**

Attachment 3C

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee**
Technical Advisory Committee
Citizens Involvement Committee

FROM: **AMATS Staff**

RE: **AMATS Federal Funds Report**

DATE: **September 26, 2024**

The first quarter of FY 2025 will end at the end of September and no projects have sold. As stated before, only Air Quality and Rideshare of the CMAQ funds have encumbered. A few right-of-way phases in STBG and two construction phases in TASA should encumber soon.

AMATS will probably be looking for loans for STBG, CMAQ, and TASA projects later this fiscal year as the current FY 2024 carryover will not cover all FY 2025 projects. Approximately $3.84 million of Carbon Reduction Program (CRP) funding from FY 2024 will be carried forward and will more than cover the negative balance currently shown in FY 2025. CRP funds are not capped for carryover like other funds.

AMATS TRANSPORTATION IMPROVEMENT PROGRAM

STBG Funding Program and Balances

September 10, 2024

ODOT PID	STBG PROJECT NAME	SPONSOR	PHASE	FY 2025	Quarter	FY 2026	Quarter	FY 2027	FY 2028	FY 2029	FY 2030	Orig. Amt
	Sold											
	Pending											
113161	Highland & Valley View Improvements	Macedonia	R(C)	$64,000	1							$64,000
116917	Arlington Rd Widening	Green	R(C)	$674,602	1							$674,602
116742	Wyoga Lake Rd	Cuyahoga Falls	R(C)	$200,000	1							$200,000
113175	Ravenna Rd Part 2 Resurfacing	Summit Co	C	$600,000	1							$600,000
112716	N Main St Complete Streets	Akron	(R)C	$6,000,000	3							$6,000,000
102745	Darrow Rd Reconstruction	Stow	(R)C	$4,660,000	3							$4,660,000
113161	Highland & Valley View Improvements	Macedonia	(R)C	$238,051	3							$238,051
116929	SR 91/Terex Rd Turn lane Improvements	Hudson	C			$400,142	1					$400,142
116742	Wyoga Lake Rd	Cuyahoga Falls	(R)C			$5,900,000	3					$5,900,000
105213	SR 14/SR 43 Intersection Reconstruction	Streetsboro	C			$1,089,752	3					$1,089,752
116917	Arlington Rd Widening	Green	(R)C			$1,699,040	4					$1,699,040
116741	Hudson Dr Resurfacing	Cuyahoga Falls	C					$700,000				$700,000
116925	E Barlow Rd Resurfacing	Hudson	C					$439,744				$439,744
116703	Valley View Rd Resurfacing	Summit Co	C					$787,500				$787,500
116740	Bailey Rd Resurfacing	Cuyahoga Falls	C					$700,000				$700,000
117138	Cleveland Massillon Rd PH 3 Resurfacing	New Franklin	C					$700,000				$700,000
116620	Greenwich Rd Resurfacing	Norton	C					$787,500				$787,500
116855	Doylestown Rd/Portage St Resurfacing	Wayne Co	C					$508,829				$508,829
116557	S Main St Resurfacing	Summit Co	C					$787,500				$787,500
116505	Glenwood Dr Resurfacing	Twinsburg	C					$787,500				$787,500
116623	Graham Rd Resurfacing	Stow	C					$787,500				$787,500
116939	Cleveland/Diagonal/Ravenna Resurfacing	Portage Co	C					$935,966				$935,966
116556	Albrecht Ave Resurfacing	Mogadore/Summit Co	C					$787,500				$787,500
115359	Old Forge Rd Resurfacing	Portage Co	C					$628,362				$628,362
118500	SR 59 Alternative Transportation	Kent	C					3,212,000				3,212,000
121863	State Rd Widening	Cuy Falls	R(C)					69,520				69,520
121863	State Rd Widening	Cuy Falls	(R)C						6,030,480			6,030,480
121584	Munroe Falls Ave Resurfacing	Cuyahoga Falls	C						$855,000			$855,000
121203	S/N Main St Resurfacing	Rittman	C						$1,053,856			$1,053,856
121591	Eastern Rd & Portage St Resurfacing	Norton	C						$791,264			$791,264
121594	Tuscawaras Ave & Lake Ave Resurfacing	Barberton	C						$900,000			$900,000
121687	Eastwood Ave Resurfacing	Tallmadge	C						$582,120			$582,120
121572	Graybill Rd Resurfacing	Green	C						$774,000			$774,000
121688	Munroe Rd Resurfacing	Tallmadge	C						$889,850			$889,850
112889	Brecksville Rd Resurfacing	Richfield	C							$900,000		$900,000
121639	Fishcreek Rd Ph 1 Resurfacing	Stow	C							$900,000		$900,000
121204	CR 70 (Doylestown Rd) Resurfacing	Wayne Co	C							$900,000		$900,000
121118	Liberty Rd (south) Resurfacing	Twinsburg/Summit Co	C							$787,500		$787,500
121813	Chamberlain Rd & Mennonite Rd Resurfacing	Portage County	C							$900,000		$900,000
121824	S Main St Resurfacing	Akron	C							$800,000		$800,000
121745	White Pond Dr Resurfacing	Akron	C							$400,000		$400,000
121117	Liberty Rd (north) Resurfacing	Reminderville/Summit Co/Twinsburg	C							$615,600		$615,600
121069	Mogadore Rd Resurfacing	Mogadore	C							$632,727		$632,727
121904	South Turkeyfoot Rd Resurfacing	New Franklin	C							$633,391		$633,391
121290	Krumroy Rd Part 1 Resurfacing	Summit Co	C							$720,000		$720,000
121291	Krumroy Rd Part 2 Resurfacing	Summit Co	C							$720,000		$720,000
121292	Krumroy Rd Part 3 Resurfacing	Summit Co	C							$855,000		$855,000
121715	S Main St Reconstruction	Summit Co	R(C)							$200,000		$200,000
121715	S Main St Reconstruction	Summit Co	(R)C								$5,700,000	$5,700,000

		2025	2026	2027	2028	2029	2030
P = Engineering	Annual STBG Expenditures	$12,496,681	$9,088,934	$12,619,421	$11,876,570	$9,964,218	$5,700,000
R = Right-of-Way	Annual STBG Allocations	$9,924,266	$11,416,572	$11,416,572	$11,416,572	$11,416,572	$11,416,572
C = Construction	Balance	-$2,572,415	$2,327,638	-$1,202,849	-$459,998	$1,452,354	$5,716,572

AMATS TRANSPORTATION IMPROVEMENT PROGRAM

CRP Funding Program and Balances

September 10, 2024

ODOT PID	CRP PROJECT NAME	SPONSOR	PHASE	FY 2025	Quarter	FY 2026	Quarter	FY 2027	FY 2028	FY 2029	FY 2030	Orig. Amt
	Sold											
	Pending											
112026	SR 59-2.14 (E Main St)	Kent	C	$3,600,000	4							$3,600,000
116917	Arlington Rd Corridor Improvements	Green	C			$2,000,000	4					$2,000,000
121287	Killian Rd/Pickle Rd Roundabout	Summit Co	R(C)					$240,000				$240,000
121376	North Mantua St Improvements	Kent	C					$2,000,000				$2,000,000
121287	Killian Rd/Pickle Rd Roundabout	Summit Co	(R)C						$1,750,000			$1,750,000
121598	Wooster Rd/Hopocan Ave Roundabout	Barberton	R(C)						$274,400			$274,400
121598	Wooster Rd/Hopocan Ave Roundabout	Barberton	(R)C							$1,713,452		$1,713,452

		2025	2026	2027	2028	2029	2030
P = Engineering	Annual CRP Expenditures	$3,600,000	$2,000,000	$2,240,000	$2,024,400	$1,713,452	$0
R = Right-of-Way	Annual CRP Allocations	$1,111,737	$1,224,465	$1,224,465	$1,224,465	$1,224,465	$1,224,465
C = Construction	Balance	-$2,488,263	-$775,535	-$1,015,535	-$799,935	-$488,987	$1,224,465

AMATS TRANSPORTATION IMPROVEMENT PROGRAM

CMAQ Funding Program and Balances

September 10, 2024

ODOT PID	CMAQ PROJECT NAME	SPONSOR	PHASE	FY 2025	Quarter	FY 2026	Quarter	FY 2027	FY 2028	FY 2029	FY 2030	Orig. Amt
	Sold											
118654	**Air Quality Advocacy Program**	**AMATS**		**$100,000**	**1**							$100,000
118657	**Rideshare Program**	**AMATS**		**$80,000**	**1**							$80,000
	Pending											
116917	Arlington Rd Roundabouts	Green	R(C)	$762,124	1							$762,124
113165	Ravenna & Shephard Improvements	Twinsburg	(R)C	$1,252,292	2							$1,252,292
112716	N Main St Complete Streets	Akron	C	$900,000	3							$900,000
116990	Kent Rd Signal Improvements	Stow	C	$1,520,145	3							$1,520,145
102745	Darrow Rd Signal Improvements	Stow	C	$1,197,690	3							$1,197,690
113161	Highland & Valley View Improvements	Macedonia	(R)C	$1,703,131	3							$1,703,131
112026	SR 59-2.14 (E Main St)	Kent	C	$5,301,065	4							$5,301,065
118655	Air Quality Advocacy Program	AMATS				$100,000	1					$100,000
118658	Rideshare Program	AMATS				$80,000	1					$80,000
117253	METRO 2 electric buses	METRO	C			$1,454,750						$1,464,750
116416	PARTA 3 clean diesel buses	PARTA	C			$1,600,000						$1,600,000
105213	SR 303/SR 14/Ranch Improvements	Streetsboro	C			$459,517	3					$459,517
116917	Arlington Rd Roundabouts	Green	(R)C			$3,305,666	4					$3,305,666
118656	Air Quality Advocacy Program	AMATS						$100,000				$100,000
118659	Rideshare Program	AMATS						$80,000				$80,000
121457	Graham Rd Signal Improvement	Stow	C					$2,860,000				$2,860,000
121067	Highland Rd Improvements	Macedonia	R(C)					$213,600				$213,600
112869	East Ave Ph 1	Tallamdge	C						$8,509,995			$8,509,995
121067	Highland Rd Improvements	Macedonia	(R)C						$2,006,400			$2,006,400
120949	SR 532 & Albrecht Ave Signal	Mogadore	(R)C						$260,890			$260,890

		2025	2026	2027	2028	2029	2030
P = Engineering	Annual CMAQ Expenditures	$12,910,716	$6,999,933	$3,253,600	$10,777,285	$0	$0
R = Right-of-Way	Annual CMAQ Allocations	$6,191,288	$6,335,950	$6,335,950	$6,335,950	$6,335,950	$6,335,950
C = Construction	Balance	-$6,719,428	-$663,983	$3,082,350	-$4,441,335	$6,335,950	$6,335,950

AMATS TRANSPORTATION IMPROVEMENT PROGRAM

TASA Funding Program and Balances

September 10, 2024

ODOT PID	TASA PROJECT NAME	SPONSOR	PHASE	FY 2025	Quarter	FY 2026	Quarter	FY 2027	FY 2028	FY 2029	FY 2030	Orig. Amt
	Sold											
	Pending											
112788	Cleveland Massillon Rd sidewalk	Summit Co	(P)(R)C	$375,732	1							$375,732
105556	The Portage Trail - Ravenna Rd Bridge	Portage Co	(P)C	$313,600	1							$313,600
107930	Freedom Trail Phase 4	MetroParks	C	$700,000	2							$700,000
116464	Rubber City Heritage Trail PH 2	Akron	C	$700,000	3							$700,000
102745	Darrow Rd Sidewalks	Stow	(R)C	$617,818	3							$644,000
112026	E Main St (SR 59) Improvements	Kent	C	$700,000	4							$700,000
121755	Stow/Summit St Pedestrian Improvements	Portage Co	P	$200,000								$200,000
116841	Heartland Trail, Phase 4A	Wayne Co	(P)C			$590,584	1					$590,583
113016	Stow Silver Lake Cuyahoga Falls Bike Connector	Stow	C					$700,000				$700,000
116868	Veteran's Trail Rails to Trails	Hudson	C					$700,000				$700,000
116457	Springside Dr Sidewalks	Summit Co	(P)C					$600,000				$600,000
121747	Rubber City Heritage Trail Ph 3	Akron	P(R)(C)					$133,600				$133,600
121754	Headwaters Trail Phase IX	Portage Parks	C						$1,000,000			$1,000,000
121747	Rubber City Heritage Trail Ph 3	Akron	(P)R(C)						$45,200			$45,200
121747	Rubber City Heritage Trail Ph 3	Akron	(P)(R)C							$921,200		$921,200

		2025	2026	2027	2028	2029	2030
P = Engineering	Annual TASA Expenditures	$3,629,803	$590,584	$2,133,600	$1,045,200	$921,200	$0
R = Right-of-Way	Annual TASA Allocations	$1,116,206	$1,228,521	$1,228,521	$1,228,521	$1,228,521	$1,228,521
C = Construction	Balance	-$2,513,597	$637,937	-$905,079	$183,321	$307,321	$1,228,521

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee**
Technical Advisory Committee
Citizens Involvement Committee

FROM: **AMATS Staff**

RE: **Draft Congestion Management Process Report**

DATE: **July 24, 2024**

AMATS is tasked with ensuring that traffic congestion is identified and addressed appropriately and responsibly. To do this, AMATS develops a Congestion Management Process (CMP) every four years. The purpose of this CMP is to identify where there is congestion within the region, evaluate strategies for managing or mitigating congestion, recommend which strategies can be applied at specific locations, and analyze past projects for congestion impacts.

The CMP is a federally mandated process with specific guidelines that must be followed as part of its development. Each CMP is required to include the following criteria:

1. Methods to monitor and evaluate the performance of the multimodal transportation system
2. Definition of congestion management objectives and performance measures
3. Establishment of a coordinated program for data collection and system performance monitoring
4. Identification and evaluation of anticipated performance and expected benefits of congestion strategies
5. Identification of an implementation schedule, responsibilities and funding sources for each strategy
6. Implementation of process for periodic assessment of the effectiveness of implemented strategies

To monitor the transportation network, AMATS conducts annual scans of the network using cell phone data aggregated by the Streetlight and INRIX platforms. AMATS' latest network scan includes data from 2022. The network scans provide summary data on roadway segment free flow speed, average speed, free flow factor and congestion percentage. If a roadway has a peak period congestion of 35 percent or more, it is considered congested and included in the CMP recommendations.

AMATS has completed an analysis of the region's roadway system and identified congested arterial roadways and freeways. AMATS analysis includes 108 freeway and arterial segments where congestion exceeds the 35 percent threshold.

As part of the CMP process AMATS must also determine congestion mitigation strategies that would be appropriate for the greater Akron area. These strategies were presented to the AMATS committees in August and are categorized in the following five tiers:

- Tier 1: Demand management
- Tier 2: Traffic and roadway operational improvements
- Tier 3: Public Transportation and multi-model improvements
- Tier 4: ITS Strategies
- Tier 5: Capacity expansion

AMATS has developed strategy recommendations—also previously shared with AMATS committees in August—for each congested segment identified in the CMP. Once the CMP is finalized, these draft strategy recommendations have the potential to be included in AMATS long range transportation plan, Transportation Outlook 2050.

The report concludes by assessing previously congested corridors that have been improved through recent projects, many of which have been funded by AMATS. An analysis found that every corridor with a recent project has reduced congestion since 2020, though it is important to note that travel behavior has significantly changed during this time. A brief description of recent projects and their congestion reduction components is provided.

AMATS has made minor changes to both the draft strategies and strategy recommendations based on feedback provided during and after the August committee meetings. AMATS staff request that the committees review the draft CMP and relay any comments, questions, or concerns to Curtis Baker or Matt Stewart by November 15, 2024. AMATS will request final approval for the CMP in December 2024.

AMATS

2024 CONGESTION MANAGEMENT PROCESS

2024 CONGESTION MANAGEMENT PROCESS

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.

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 | INTRODUCTION

Traffic congestion can frustrate drivers, impact local economic activity and create safety issues on the highway system. It can also be very localized or very short in duration. Traffic congestion can occur around schools at the beginning and end of the day. It can occur before and after concerts and sporting events. It can occur during periods of roadway construction. A major challenge of planning for traffic congestion comes with understanding the costs of improvements and both the positive and negative impacts that can follow.

Many traffic congestion improvements can damage the surrounding environment for other transportation users like bicyclists and pedestrians. It can also destabilize the built environment. It can also lead to induced demand, attracting more vehicles to an improved roadway only to see traffic increase and congestion return.
However, not all improvements for traffic congestion are bad. It is imperative when recommending improvements for traffic congestion that local communities consider all transportation users, the land use around the project and the impacts to safety.

As the Metropolitan Planning Organization for the greater Akron, it is the Akron Metropolitan Area Transportation Study's (AMATS) responsibility to ensure that traffic congestion is identified and addressed, appropriately and responsibly. As part of its long-range transportation planning process, AMATS develops a Congestion Management Process (CMP) every four years. The purpose of this process is to identify congestion in the region, evaluate strategies for congested locations, recommend improvements, and analyze past projects for congestion impacts.

The *2024 Congestion Management Process* identifies existing congestion on our region's arterials and freeways. It examines public transit levels of service and freight needs. It also isolates and examines congestion related to traffic incidents. Later sections identify demand and supply-side strategies to manage regional congestion. The final section includes project recommendations to reduce traffic congestion.

2 | CONGESTION MANAGEMENT PROCESS

The Congestion Management Process (CMP) is a federally required effort for metropolitan areas that are designated as Transportation Management Areas (TMAs). A TMA is a Census Bureau designated urban area with more than 200,000 residents. The Federal Highway Administration (FHWA) defines a CMP as: "a systematic and regionally accepted approach for managing congestion that provides accurate, up to date information on transportation system performance and assesses alternative strategies for congestion management that meets state and local needs."

Each CMP is required to include the following criteria per the CFR 450.322(a):

1. Methods to monitor and evaluate the performance of the multimodal transportation system
2. Definition of congestion management objectives and performance measures
3. Establishment of a coordinated program for data collection and system performance monitoring
4. Identification and evaluation of anticipated performance and expected benefits of congestion strategies
5. Identification of an implementation schedule, responsibilities and funding sources for each strategy
6. Implementation of process for periodic assessment of the effectiveness of implemented strategies

The CMP integrates with the entire metropolitan planning process, working to achieve the goals and objectives outlined in the long-range transportation plan and supporting the prioritization and programming of projects for the short and medium-term.

The CMP also supports Transportation Performance Management that is required by MPOs in the Bipartisan Infrastructure Law (BIL) passed in November of 2021. Transportation Performance Management is defined as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. Performance measures related to the CMP include Level of Travel Time Reliability (LOTTR) and Level of Truck Travel Time Reliability (LOTTTR), Peak Hour Excessive Delay (PHED) and Mode Share or Non-Single Occupancy Vehicle (Non-SOV) travel.

2.1 | Methods to Monitor and Evaluate Performance

The roadway network considered for the CMP analysis is made up of 540 miles of roadways in the Akron metropolitan area and is shown on Map 2-1 (page 3). The following roadways are included in the network for the CMP:

- All roadways included on the National Highway System
- All roadways classified as Principal Arterials in the Federal Functional Classification System
- Major intersections that experience high traffic volumes
- All roadways identified as potential congestion problems by the AMATS Policy Committee
- Other roadways to ensure a continuous CMP highway system

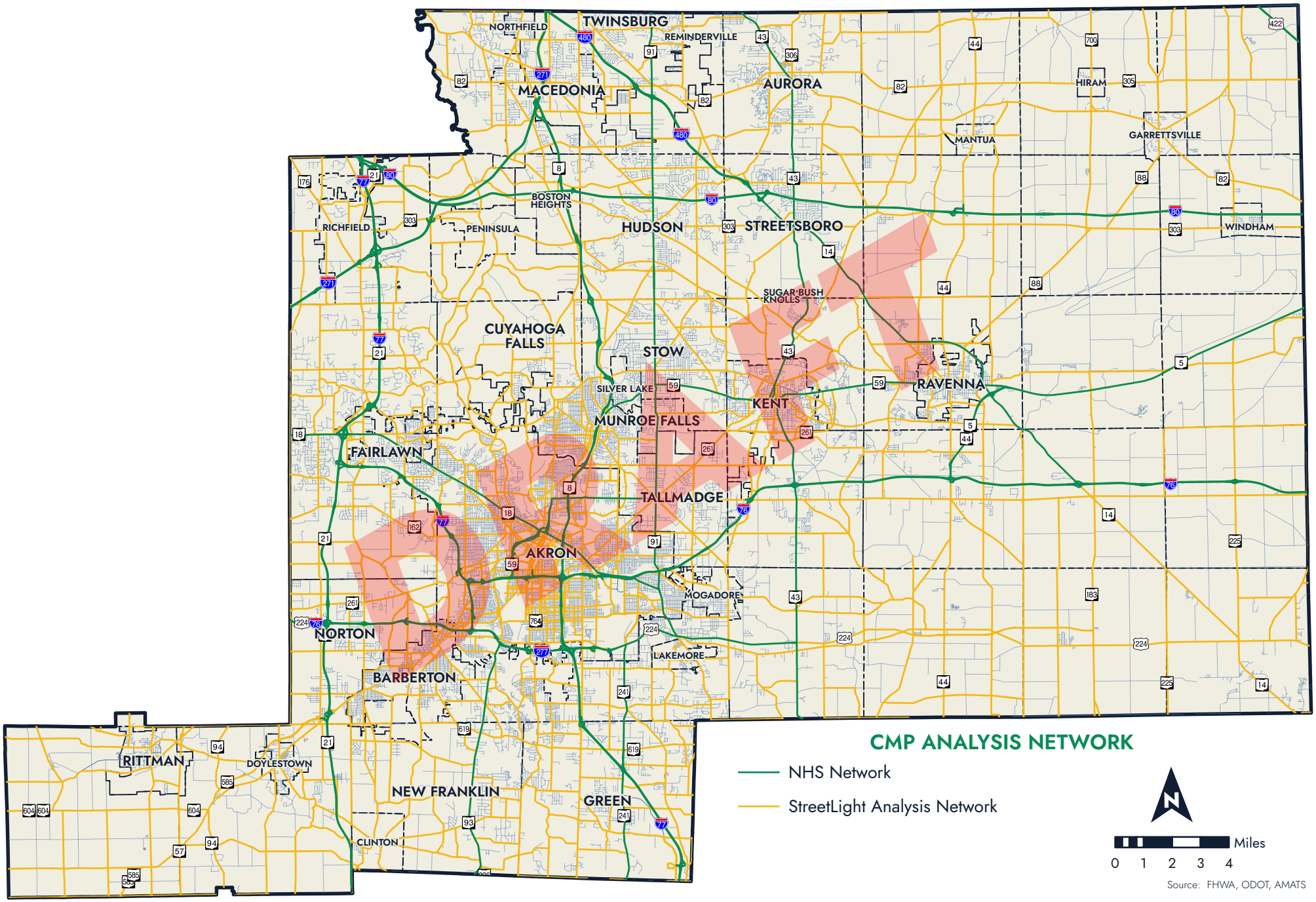
Although the CMP has traditionally focused primarily on the road network, the CMP network should consider the transit, bicycle, and pedestrian networks as well as their interface with the highway network. Doing so can help take advantage of strategies that rely upon the other modes to reduce single occupancy vehicle (SOV) travel. The AMATS area is served by two transit agencies, Portage Area Regional Transit Authority (PARTA) in Portage County and Metro Regional Transit Authority (METRO) in Summit County. The CMP reviews transit area on time data and headways as part of the analysis.

There are many types of data that can be used as part of the CMP process. The following list is not exhaustive but includes several common types of data that are used in the CMP.

2.1.1 | Traffic Volume Counts

It is necessary to collect traffic data to measure the performance of the transportation system. Traffic counts are taken on a regular basis on the roadway network. AMATS and ODOT coordinate traffic data collection efforts to make sure all necessary roadways are included. This data is then used as an input to model traffic congestion on the existing and future roadway network.

Map 2-1 | CMP Roadway Network



Public transit information was received from both public transit agencies (METRO RTA and PARTA) within the AMATS area. The CMP focuses on traffic congestion that is identified both at specific locations and at the system level.

2.1.2 | Electronic Traffic Datasets

Cell phone data collected by phone companies along highway corridors can be used to report travel speeds and origin-destination data. Cellular service providers and joint ventures with other private companies have begun to offer this service to some transportation agencies. This CMP report utilized data provided through INRIX and Streetlight.

2.1.3 | Transit Data

A wide range of transit data is available and gathered from transit agencies, including boarding and alighting statistics, total ridership, on-time performance, and transit vehicle capacity. Public transit information was received from both transit agencies (METRO RTA and PARTA) within the AMATS area.

2.1.4 | Bicycle / Pedestrian Data

Many MPOs collect data on the location and condition of bicycle/pedestrian facilities, such as sidewalks, bicycle lanes, and off-road paths. AMATS collects count information on the use of bicycle and pedestrian facilities, either manually or through the use of camera technology.

2.1.5 | Crash Data

AMATS publishes an annual report detailing traffic crashes in our region; the latest version being published in January 2024. *Traffic Crashes 2020-2022* analyzed traffic crashes for arterials and intersections between 2020 and 2022, utilizing crash records provided by the Ohio Department of Public Safety (ODPS) and the Ohio Department of Transportation (ODOT. This report is useful in determining locations where non-recurring congestion due to incidents is likely to occur .

In 2023, AMATS also produced its first *Safe Streets for All (SS4A) Action Plan*, which focuses more squarely on understanding and recommending strategies to reduce the most serious crashes, those that result in fatalities and serious injuries. Through the *SS4A Action Plan*, AMATS established a high-injury network of locations with the highest numbers of serious crashes. The *Action Plan* also included a detailed safety analysis of the region, recommended policy and process changes, and prioritized several project and strategy recommendations.

2.2 | Regional Objectives and Performance Measures

The objective of the CMP is to identify and minimize congestion and delay on the transportation system while ensuring project recommendations are safe, equitable and cost effective. Congestion management objectives define what the region wants to achieve regarding congestion management and are an essential part of an objectives-driven, performance-based approach to planning operations. Congestion management objectives should serve as one of the primary points of connection between the CMP and the upcoming long range transportation plan, Transportation Outlook 2050, and will serve as a basis for defining the direction of the CMP and performance measures that are used.

The development of congestion management objectives should rely heavily on stakeholder participation and an understanding of the needs and desires of the public related to congestion.

Regional objectives should ideally focus on outcomes – such as hours of delay, system reliability, and access to traveler information. However, they may also be written using output measures – such as incident clearance time or number of traffic signals retimed annually. In all cases, objectives should be stated in a way that meaningful performance measures can be derived from the objectives. An ideal objective should be SMART: Specific, Measurable, Agreed, Realistic, and Time restricted.

AMATS regional objectives were developed with the AMATS Policy and Technical Advisory Committee as well the general public through the AMATS CIC Committee. AMATS also reviewed these performance measures with interested public agencies and stakeholders in the region.

AMATS Regional Objectives Include:

1. To reduce the number of roadway segments identified as having long-term recurring congestion by five percent every four years as measured by percent congested (average speed/free flow speed) with congested roadways identified as being 35 percent congested or greater with a goal of reducing percent congested under 35 percent.
2. To reduce incident related congestion by prioritizing high crash roadways that also have identified congestion for infrastructure improvements with a goal of reducing crashes in those corridors by 2.0 percent per two-year period
3. To provide resources for communities to revise existing signal timings and coordinate with neighboring communities on signal timings with a goal of analyzing one corridor a year
4. To increase on-time performance of Metro RTA and PARTA transit routes with a goal of 80 percent on-time performance
5. To Increase GOhio Commute (Rideshare Program) users by two percent per year

2.3 | Established Program for Monitoring and Evaluation

AMATS collects and analyzes congestion data primarily using electronic traffic data from cell phones . This data is aggregated using the Streetlight and INRIX platforms to provide important traffic data. This data provides AMATS with the following:

- **Free Flow Speed** is equal to the Maximum Average Travel Speed that is observed in any one of the 24 hours of the day, averaged over all the days.
- **Average Travel Speed** for a segment, corridor, or network is the average of all speeds that are observed within the data period.
- The **Free Flow Factor** is calculated as the Average Travel Speed divided by the Free Flow Trip Speed. As the Average Travel Speed increases, Free Flow Factor increases and finally equals one, where Average Travel Trip Speed equals Free Flow Speed.
- **Congestion** is calculated as 1 minus the Free Flow Factor. If the Free Flow Factor is big, the congestion factor (1 - Free Flow Factor) will be small, indicating less congestion. If the Free Flow Factor is low, the congestion factor (1 - Free Flow Factor) will be high, indicating more congestion. There is no congestion when Free Flow Factor equals one.
- **Congested Network** represents all segments that has more than or equal to 25% congestion.

Through this data collection and analysis AMATS can identify and monitor segments with congestion as well as recommend strategies for congestion reduction.

For transit, AMATS reviews METRO RTA and PARTA on-time performance as well as headways. For safety analysis, AMATS analyzes congestion segments with its high crash locations identified in the *AMATS Traffic Crash Report*.

2.4 | Congestion Strategies

The identification and assessment of appropriate congestion mitigation strategies is a key component of the CMP. AMATS now needs to turn the data and analysis into a set of recommended solutions to effectively manage congestion and achieve congestion management objectives.

One size does not fit all, and congestion management strategies need to be designed according to the specific characteristics of the highway and adjacent area. These strategies are categorized into five tiers, ranked generally by efficacy of mitigating congestion:

Tier 1: Demand management
Tier 2: Traffic and roadway operational improvements
Tier 3: Public Transportation and multi-model improvements
Tier 4: ITS Strategies
Tier 5: Capacity expansion

2.4.1 | Congestion Strategy Recommendations

Implementation of CMP strategies occurs on three levels: system or regional, corridor, and project. Regional-level implementation of congestion management strategies occurs through inclusion of strategies in the fiscally constrained *Transportation Outlook 2050* and the *Transportation Improvement Program (TIP)*. At the corridor level, more specific strategies such as bicycle and pedestrian improvements and operational improvements can be assessed in studies and implemented using a variety of funding sources such

as Surface Transportation Block Grant (STBG) program and Congestion Mitigation and Air Quality (CMAQ) program. Scoring systems could treat projects differently based on location or strategy type according to congestion levels, or community goals. For instance, more points might be allotted to projects in very congested locations, or, specifically to certain types of projects in the urban core than to projects in areas where further development is not desired.

2.4.2 | Implementation and Assessment

Evaluation of strategy effectiveness can be seen as either a sequential step within the CMP process or as an on-going process. This is an essential, required element of the CMP that is often overlooked. The primary goal of this action is to ensure that implemented strategies are effective at addressing congestion as intended, and to make changes based on the findings as necessary. Two general approaches are used for this type of analysis:

- System-level performance evaluation - Regional analysis of historical trends to identify improvement or degradation in system performance, in relation to objectives; and
- Strategy effectiveness evaluation - Project-level or program-level analysis of conditions before and after the implementation of a congestion mitigation effort

Findings that show improvement in congested conditions due to specific implemented strategies can be used to encourage further implementation of these strategies, while negative findings may be useful for discouraging similar strategies in similar situations.

3 | DEFINING CONGESTION

One of the critical and complex tasks of the CMP is to define congestion. Studies have shown that congestion is a relative rather than an absolute condition. People "feel" roads are congested at different levels of operations.

Technically, congestion occurs when the number of vehicles on a facility exceeds the maximum number of vehicles that a roadway or intersection can accommodate at that point in time, whether because of the physical limitations of the facility or because an event (such as rain) has temporarily hindered vehicular movement.

Traffic congestion is characterized by slower speeds, longer trip times, vehicular queueing, travel time uncertainty, and increased traffic collisions.

3.1 | Components of Congestion

While it is difficult to use a single value to describe all individuals' concerns about congestion, there are four components that interact in a congested roadway or system. These components vary among and within urban areas – smaller urban areas, for example, typically have shorter durations of congestion than larger areas.

- **Duration** – this is how much time congestion affects the travel system.
- **Extent** – this is an estimate of the number of people or vehicles affected by congestion, and by the geographic distribution of congestion.
- **Intensity** – this is the severity of the congestion that affects travel. It is typically used to differentiate between levels of congestion on transportation systems and to define the total amount of congestion.
- **Reliability** – this is the variation in the other three elements. Reliability is a measure of the extent to which the traveler's experience matches their expectation. The variable is the impact of non-recurrent congestion on the transportation system.

3.2 | Recurring and Non-Recurring Congestion

Research into travelers' views of congestion has shown that predictable travel times are a primary concern. Having reliable travel time is a crucial factor affecting traveler behaviors, including choices of route, departure time, and mode. One commonly accepted definition of travel time reliability, given by the Federal Highway Administration, states that "Drivers are used to congestion and they expect and plan for some delay, but most travelers are less tolerant of unexpected delays. Travel time reliability measures the extent of this unexpected delay." Travelers and firms may account for the variability in their trips and transport of goods by building in time buffers as insurance against late arrival. This implies that the consequences of late arrivals are costly. Congestion is broadly categorized as either recurring (predictable) or non-recurring (unpredictable) congestion. Congestion, both recurring and nonrecurring, varies significantly depending on the season, day of the week, and even time of day. Furthermore, both recurring and nonrecurring congestion may occur at the same time, exacerbating any event.

Recurring congestion is congestion that occurs repeatedly at predictable times and locations, e.g. at bottlenecks or on corridors with poorly coordinated traffic signals, usually during the peak hour periods. Simply put, recurring congestion occurs because travel demand exceeds system capacity. There are many strategies available to mitigate this type of congestion through demand management, operational improvements, and multimodal strategies. Integration of land-use and transportation decisions enables agencies to coordinate efforts to address this demand side of congestion. Elimination of all recurring congestion may not be either feasible (due to physical and financial constraints) or desirable (in terms of the implications to community of unfettered vehicular travel). Recurring congestion is generally considered the least frustrating because its effects are known and can be planned for.

In contrast, non-recurring congestion incidents can occur at any time, including during non-peak travel times, and are often associated with traffic crashes, weather events, special events, work zones, and emergencies. This is the congestion that most often frustrates people. It is especially bad when a non-recurring incident magnifies the magnitude and extent of congestion during "normal" recurring congestion. Nonrecurring congestion is difficult to address without proper prior planning. The sources of non-recurring congestion are broad:

- Roadway debris
- Roadway construction and maintenance work zones
- Inclement weather

- Disabled vehicles
- Law enforcement activities
- Traffic crashes
- Special events

3.2.1 | Congestion Caused by Trucks

Trucks are often slower to get moving; therefore, they can add to the length of congestion time. Once slowed down a truck will take longer to get started than a passenger car. Roadways with high volumes of truck traffic might be more congested than those that are almost exclusively passenger cars. It is very important to recognize corridors with high percentages of trucks when analyzing congestion. Truck freight movement is very important to keep the economy thriving.

3.2.2 | Congestion Caused by Railroad Grade Crossings

An at-grade crossing is where a railway and roadway intersect. The AMATS area has a number of at-grade crossings with significant train and vehicle volumes. This source of congestion is often overlooked when addressing congestion. When a passing train delays traffic on a busy roadway it creates a large platoon of vehicles that cause problems throughout the roadway network. Ideally, highway-rail grade crossings would be separated if feasible.

4 | METHODOLOGY AND ANALYSIS

4.1 | Roadway Methodology and Analysis

AMATS obtains traffic data through the collection of cell phone and other GPS device location data. Traffic data collected in this manner is done over a period of months or years and is more representative than data collected over one or two days. Once collected this data is aggregated and analyzed to provide transportation analysis.

AMATS uses two providers for data collection and analysis of roadway congestion. The Ohio Department of Transportation (ODOT) contracts with both INRIX and Streetlight and shares access to this data with Ohio's MPOs, like AMATS. Streetlight data is used to evaluate the major arterial and lower federal functionally classified roads. INRIX data is used to analyze the freeway system. INRIX data is not available on roadways outside of the National Highway System (NHS), however Streetlight data is available for the entirety of AMATS system. Both INRIX and Streetlight have full year data for 2022. Therefore, AMATS CMP analysis year is 2022.

The congestion analyses focused on three time periods:

- Morning from 6:00 AM to 10:00 AM
- Mid-day from 10:00 AM to 4:00 PM
- Evening from 4:00 PM to 8:00 PM

The daily AM peak and the PM peak were derived from the morning and evening time periods. Some areas that have a high concentration of restaurants and retail businesses may also have a mid-day peak and these were also considered. Only weekdays were used since this is when most recurring congestion occurs. The roadway network considered for the CMP analysis is made up of 1200 miles of Federal Functional Classified (FFC) roadways in the greater Akron area.

The following roadways were included in the network for the CMP analysis:

- All roadways included on the National Highway System
- All roadways classified as Principal Arterials in the Federal Functional Classification System
- Major intersections that experience high traffic volumes
- All roadways identified as potential congestion problems by the AMATS Policy Committee
- Other roadways to ensure a continuous CMP highway system

To determine congestion, AMATS used the formula of 1 minus average speed/free flow speed. The free flow and average speed data were compiled in 1-hour periods and averaged over the entire year of 2022. If an event such as an accident or construction activity slowed traffic just temporarily the other days would average out that event. If the segment congestion was equal or greater than 25 percent, it was considered congested and included with appropriate strategies in the recommendation section of the CMP.

Based on the methodology described above, AMATS completed a roadway analysis. A comprehensive listing of all freeway segments, arterial segments, and intersections analyzed is listed in Appendix A. All congested roadways are listed in the recommendations chapter sorted from most to least congested. Recommendations for improving these congested segments are in Chapter 8 of this report.

4.2 | Transit Methodology and Analysis

The greater Akron area is served by two transit agencies, METRO RTA in Summit County and PARTA in Portage County. Transit can be a key component to reducing roadway congestion. It can be an effective strategy to reduce travel demand on roadways. Improving transit operations, improving access to transit, and expanding transit service can help reduce the number of vehicles on the road by making transit more attractive and accessible.

While transit congestion (passenger overcrowding) is not a general system-wide issue in the greater Akron area, on time performance and reliability are critical for an effective transit service. Transit on-time performance is affected by congestion on the roadway as well as passenger loading and unloading and payment to fare boxes. Congested transit routes can

lead to poor on time performance and unreliability of the transit network. This is an issue to those who rely on transit, especially vulnerable populations such as individuals and families living in poverty, older adults, and the disabled. When transit is efficient and reliable, it can provide an effective alternative to single occupancy vehicle travel and help reduce traffic congestion. The information gathered below to examine the performance of the transit fixed route system lists 2023 ridership, current levels of headway timing, on-time performance (OTP), number of vehicles on each route during peak service hours and a list of the top ten most used bus stop locations for METRO and PARTA. We have two different groupings of bus stop locations for PARTA as their service greatly differs when Kent State University is in session.

4.2.1 | Transit Route Performance

Table 4-1 | PARTA Route Performance

ROUTE	2023 RIDERSHIP	HEADWAY AM/PM	HEADWAY SATURDAY	OTP AVG.	PEAK VEHICLES
30 - Interurban West	77,195	30 min.	140 min.	82%	2
35 - Interurban East	138,096	30 min.	140 min.	68%	3
40 - Suburban North	23,425	45 min.	70 min.	77%	1
45 - Suburban South	19,260	45 min.	70 min.	86%	1
46 - Downtowner (Thur-Sat)	922	30 min.	30 min.	52%	1
51 - Campus Loop	165,657	14 min.	n/a	48%	2
55 - Allerton	56,245	11 min.	n/a	61%	1
57 - Stadium Loop	33,725	30 min.	30 min.	56%	1
58 - Summit East	288,338	9 min.	n/a	58%	4
59 - Night Shuttle	23,892	30 min.	30 min.	35%	1
70 - Windham / Garrettsville	5,095	105 min.	n/a	77%	1
80 - Raven West / 85 - Raven East	9,613	180 min.	n/a	77%	2
90 Akron Express	14,589	105 min. (average)	n/a	67%	1
100 - Cleveland Express	2,743	2 times per day	n/a	71%	1
Total	**858,795**	**52 min.**	**72 min.**	**65%**	**22**

Table 4-2 | METRO Route Performance

ROUTE	2023 RIDERSHIP	HEADWAY AM/PM	HEADWAY AFTER 7PM	OTP AVG.	PEAK VEHICLES
1 - West Market	530,829	15 min.	30 min.	81%	12
2 - Arlington	538,347	15 min.	30 min.	81%	8
3 - Copley Road / Hawkins	300,580	30 min.	60 min.	79%	9
6 - East Exchange / Canton	205,227	30 min.	60 min.	82%	6
8 - Kenmore / Barberton	250,958	30 min.	60 min.	84%	5
9 - Vernon Odom Blvd	106,106	60 min.	60 min.	82%	3
10 - Howard / Portage	239,221	30 min.	60 min.	82%	5
13 - Grant / Firestone	171,658	15 min.	30 min.	86%	16
15 - Brown / Inman	78,762	30 min.	60 min.	84%	5
16 - Euclid / V. Odom	95,022	15 min.	30 min.	83%	8
19 - Eastland	137,141	30 min.	60 min.	83%	2
20 - Tallmadge / Brimfield	60,807	60 min.	60 min.	82%	1
22 - Howe / Stow-Kent	76,000	60 min.	60 min.	80%	2
23 - Goodyear Heights	60,180	60 min.	60 min.	83%	1
25 - Kelly / Triplett	36,648	60 min.	60 min.	82%	2
26 - W Exchange / Delia	65,444	60 min.	60 min.	86%	3
27 - W Exchange / Merriman	50,238	60 min.	60 min.	82%	2
29 - S Main / Manchester	62,374	60 min.	60 min.	82%	2
31 - C Falls / Macedonia	65,112	60 min.	60 min.	77%	2
32 - Hudson	66,113	60 min.	60 min.	78%	2
40 - Manchester / Thornton	25,469	60 min.	60 min.	91%	1
55 - UAkron	10,471	15 min.	20 min.	69%	3
61 - North Coast Express	22,714	5 Trips	5 Trips	63%	3
Zone Bus	9,261	n/a	n/a	n/a	0
300 - Grocery	2,743	n/a	n/a	n/a	0
Total	**3,266,848**	**42 min.**	**53 min.**	**81%**	**103**

4.2.2 | Bus Stop Usage

Table 4-3 | PARTA's Most Used Bus Stop Locations Spring 2024 *TBD		
BUS STOP #	LOCATION	# ROUTE(S)

Table 4-4 | PARTA's Most Used Bus Stop Locations Summer 2024		
BUS STOP #	LOCATION	# ROUTE(S)
962	KENT Central Gateway	Multiple Routes
954	SR 59 & PMHA West Bound	#35
622	Stow Target	#30
752	Main & Holly Park East Bound	#35, #40
425	Main & Parkway West Bound	#35, #80
478	Ravenna Walmart	#35
190	UH Portage Medical Center	#35, #70, #80, #85
654	SR 59 & PMHA East Bound	#35
519	Summit & Whitehall Terrace West Bound	#57, #58, #59
644	Main & Sycamore West Bound	#35, #80

Table 4-5 | METRO's Most Used Bus Stop Locations Summer 2024		
BUS STOP #	LOCATION & ROUTE #	# OF PASSENGERS
1315	Waterloo Rd @ Giant Eagle - #13 & #15	11,461
186	S. Arlington St & Walmart - #2	10,638
15	S. Main St @ Main Library - #1 & #10	7,449
4002	Southgate Transit Center - #31 & #32	6,688
723	2nd St NW & W. Tuscarawas Ave - #3 & #8	6,442
23	W. Market @ Acme - #1	6,045
417	E. Market & Buchtel - #2	5,792
2689	Rothrock Rd & Montrose - #1	5,277
409	E. Market St @ City Hospital - #2	5,084
119	South Arlington & E. Exchange - #2	4,947

4.3 | Freight Methodology and Analysis

While congestion can be an inconvenience to the motoring public, it can also impact the local, regional and even national economy. 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. Freight congestion can include delays at airports, water ports, rail facilities, and on highways. The CMP focuses on highway-based freight congestion and rail conflicts.

The AMATS Freight Report offers a detailed account of freight planning in the AMATS region. It was completed in September of 2024. The AMATS Freight Plan focuses on freight transportation concerns around regional job hubs. 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:

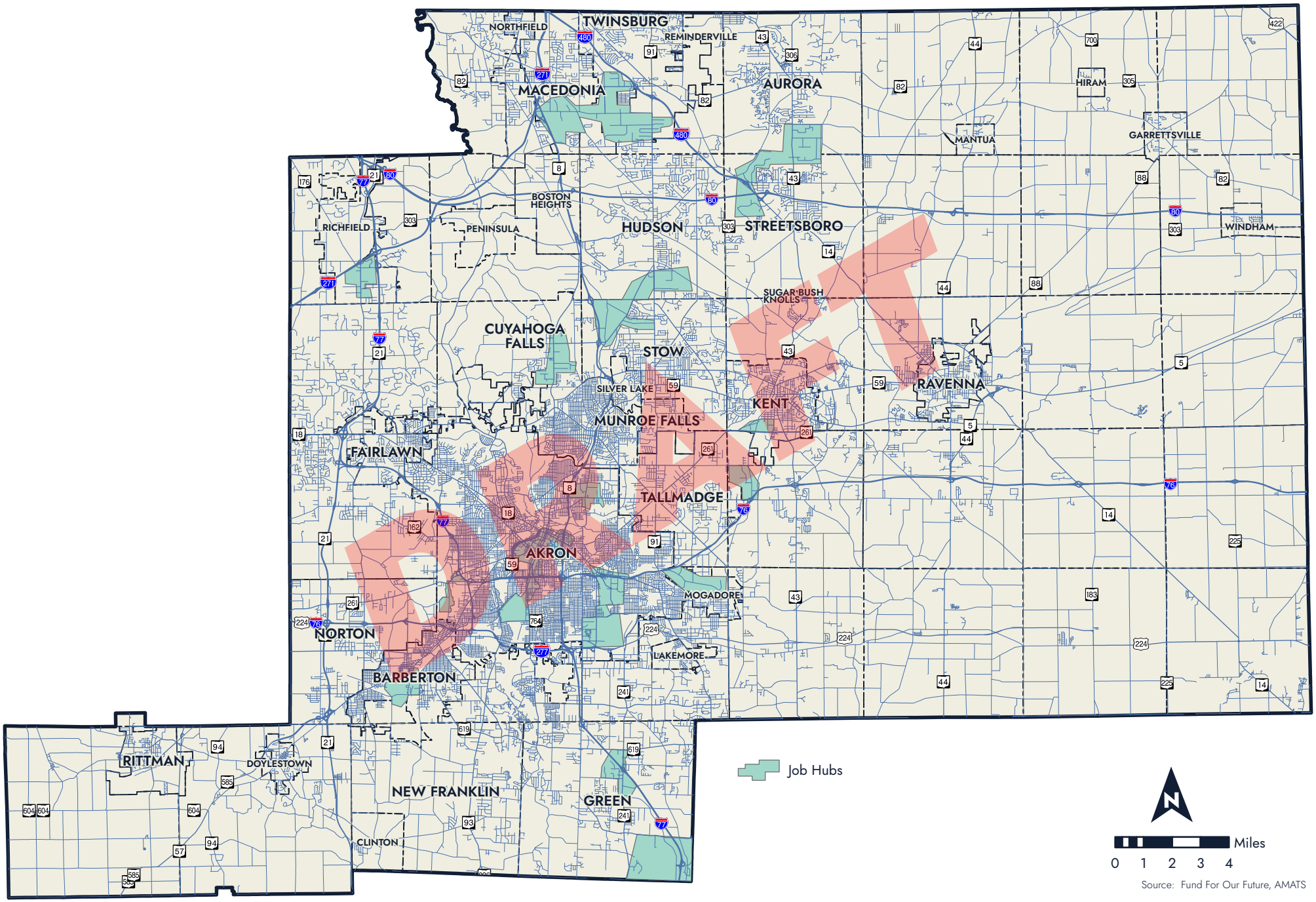
- A high concentration of traded sector jobs
- Multiple traded sector employers
- Alignment with local development patterns
- Alignment with civic priorities and economic development opportunities

The AMATS job hubs are distributed throughout the region and can be viewed on Map 4-1 on page 14

4.3.1 | Trucks

Freight movement, by way of trucks, is heavily concentrated on freeways and major state routes. In its 2024 Freight Plan, AMATS analyzed truck freight as it relates to key job hubs in the greater Akron area. AMATS overlayed the identified congested freeway and arterial segments to identify locations where congestion may have an impact on freight operations. The results are shown in Table 4-6 on page 16 and Map 4-2 on page 15.

Map 4-1 | AMATS Job Hubs



Source: Fund For Our Future, AMATS

Map 4-2 | Congestion in Relation to AMATS Job Hubs

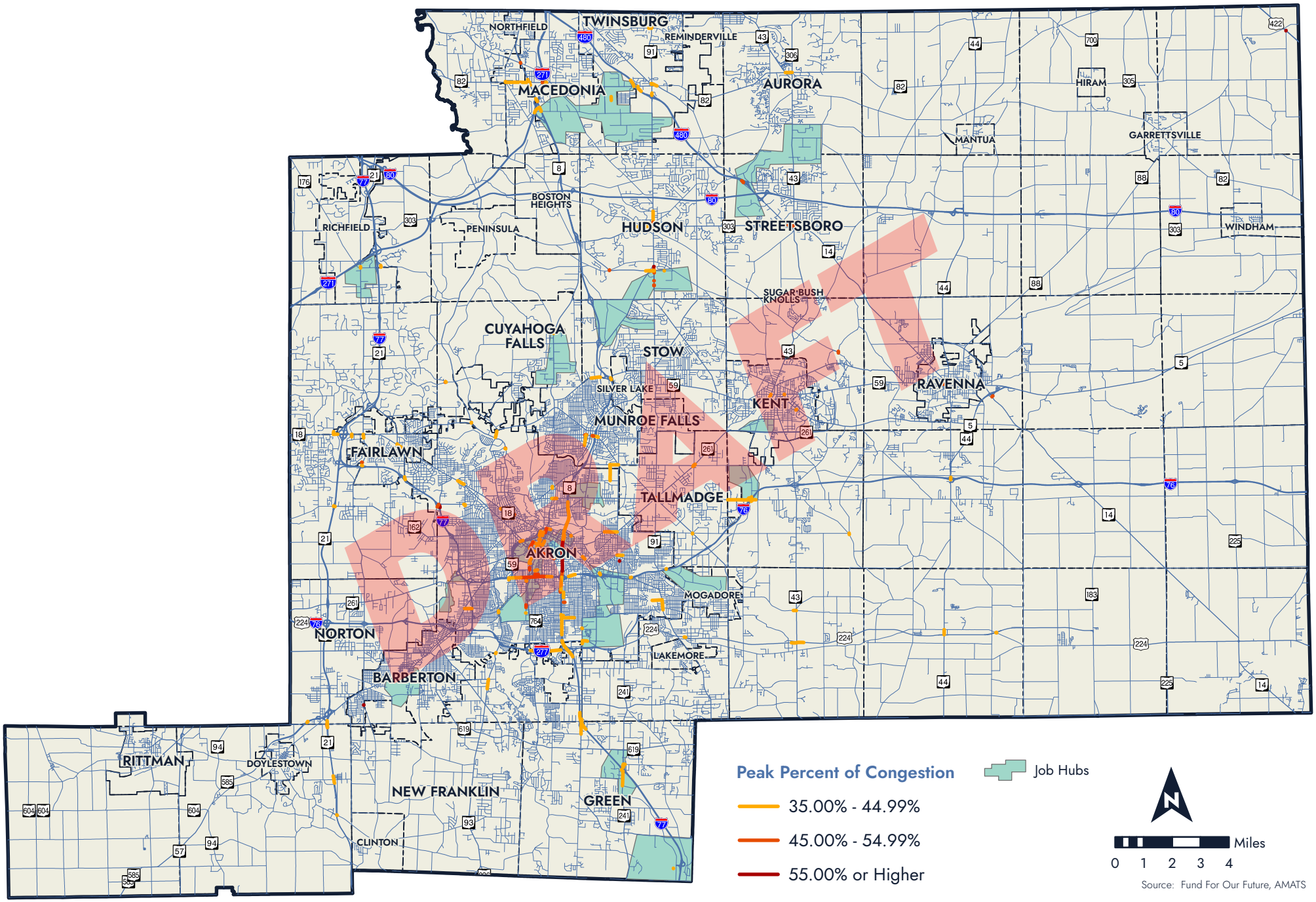


Table 4-6 | Congested Locations Around Job Hubs

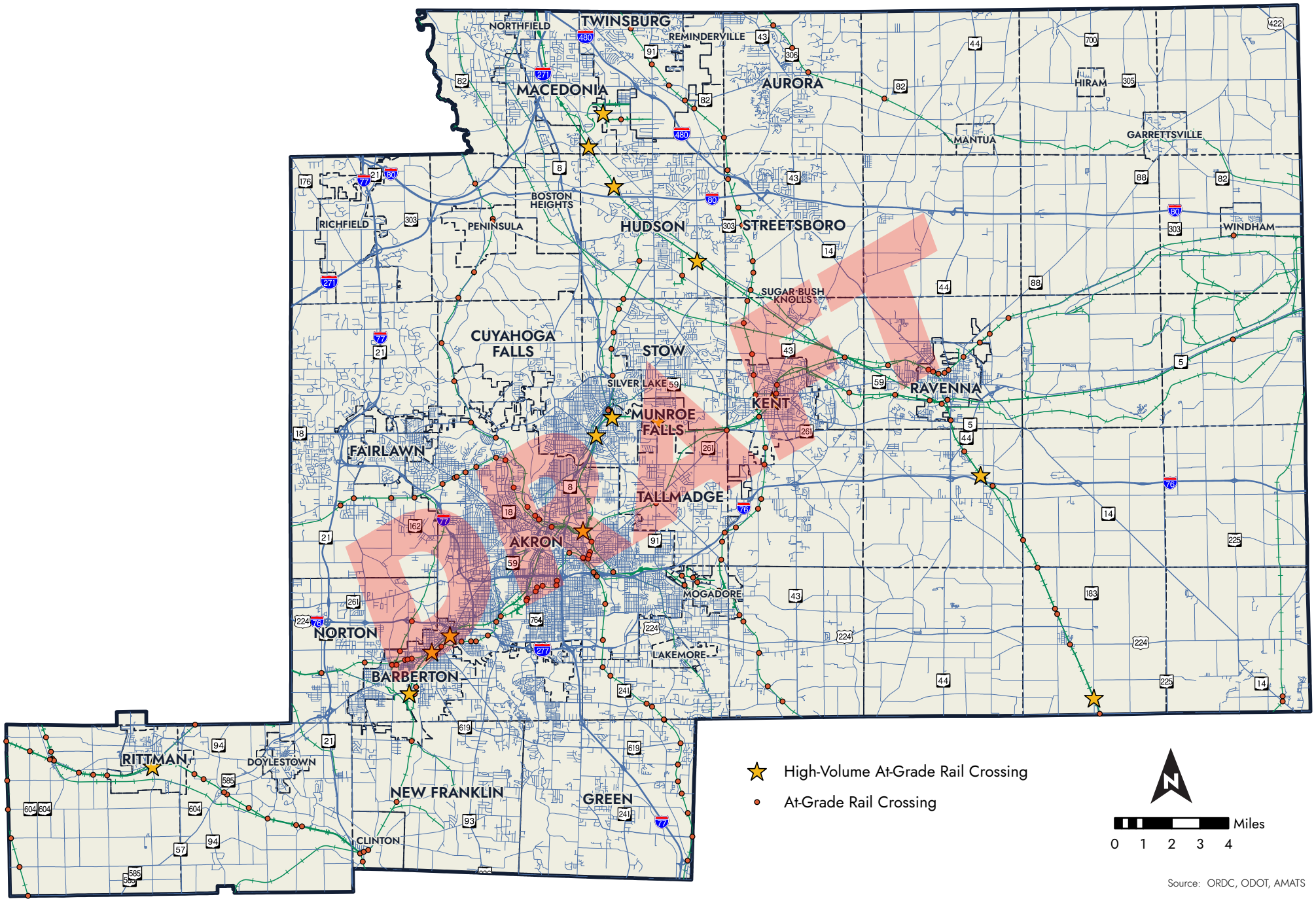
JOB HUB	LOCATION	NAME	MILES	PEAK PERIOD	TYPE	DIRECTION	% FREE FLOW
Downtown Akron	Akron	Arc Dr from Wolf Ledges Pkwy to E Exchange St	0.349	Peak AM / Mid-Day	Arterial	EB	50.18
Downtown Akron	Akron	W Bowery St from W Exchange St to W State St	0.177	Peak AM	Arterial	NB	51.19
Downtown Akron	Akron	S Main St from North of St. Mary's School to W Thornton St	0.079	Mid-Day	Arterial	SB	53.36
Green	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	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	Green	Massillon Rd (SR 241) from Graybill Rd to Boettler Rd	0.248	Mid-Day	Arterial	NB / SB	61.76
East Akron / Airport	Akron	Innovation Way (SR 241) from 3rd Ave to E Market St (SR 18)	0.067	Peak AM	Arterial	NB / SB	62.52
East Akron / Airport	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
East Akron / Airport	Akron	S Arlington St from Arlington Circle to E Waterloo Rd	0.097	Mid-Day / Peak PM	Arterial	NB	64.10
Richfield	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
Hudson / Stow	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

4.3.2 | Rail

There are approximately 393 at-grade crossings in the AMATS area (many are on abandoned or out of service rail lines). High volume crossings are prioritized by scoring the number of trains per day and the average daily traffic volume (ADT). Table 4-7 below lists locations that have scores greater than 100. The number of trains per day varies from year to year depending on the count locations provided by ORDC and PUCO. 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 very costly, and not always feasible due to geographic configuration.

Table 4-7 | High-Volume At-Grade Rail Crossings

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



Source: ORDC, ODOT, AMATS

5 | INCIDENT-RELATED CONGESTION

Incident-related traffic congestion is congestion that occurs due to a non-recurring incident. In most cases, this incident is a traffic crash. While crashes can happen anywhere at any time, some locations are more prone to crashes than others. Locations with both frequent crashes and recurrent congestion will be significantly more congested. Effective transportation planning requires that incident-related congestion be analyzed.

In order to analyze incident-related traffic congestion, traffic crash data must be reviewed. AMATS publishes an annual report detailing traffic crashes in our region; the latest version being published in January 2024. Traffic Crashes 2020-2022 analyzed traffic crashes for arterials and intersections between 2020 and 2022, utilizing crash records provided by the Ohio Department of Public Safety (ODPS) and the Ohio Department of Transportation (ODOT) for the years 2020, 2021 and 2022.

5.1 | Freeways

The analysis of freeway crashes in the AMATS area is done by the central office of the Ohio Department of Transportation (ODOT) in Columbus. ODOT's analysis of freeways is done using their own methodology which is derived from the Highway Safety Manual. The freeway system is divided into *rural* and *urban* and is analyzed by examining segments that are one-tenth of a mile long.

In an effort to make data-driven decisions and determine operationally sensitive corridors throughout the state, ODOT has developed the Traffic Operations Assessment Systems Tool (TOAST). In TOAST routes are segmented into the State Priority System with breaks at the urban area boundaries, interchange center points, and road functional class changes. Multiple data categories make up TOAST. For each category, data ranges were normalized into values of 0-10, then multiplied by a weighting factor. The total score for a route is calculated as a percent based on the score for each category divided by the total possible maximum score. In general, the higher the percent, the better the route is performing; whereas, the lower the percent, the more likely a route is to benefit from improvements. The data categories that make up TOAST are listed below:

- **Travel Time Performance -** Percent of time motorists can travel at or near (90%) of the reference speed (free-flow speed defined by data provider).
- **Bottlenecks -** A potential bottleneck is detected when speeds on a segment drop to 65% of reference speeds and cause at least a two-minute delay.
- **Incident Clearance -** The time from report of an incident until the entire scene is cleared.
- **Secondary Crashes -** Percent of crashes that occurred as a result of a previous incident.
- **Volume Per Lane -** Calculated based on a weighted average for each segment.
- **Fright Corridors -** Weighted average of percent trucks (average daily truck volume ÷ average daily total volume).
- **Safety Performance -** A route's potential for safety improvement by density based on its peer group.

TOAST scores for calculated routes within the AMATS area are shown on Map 5-1 (page 20).

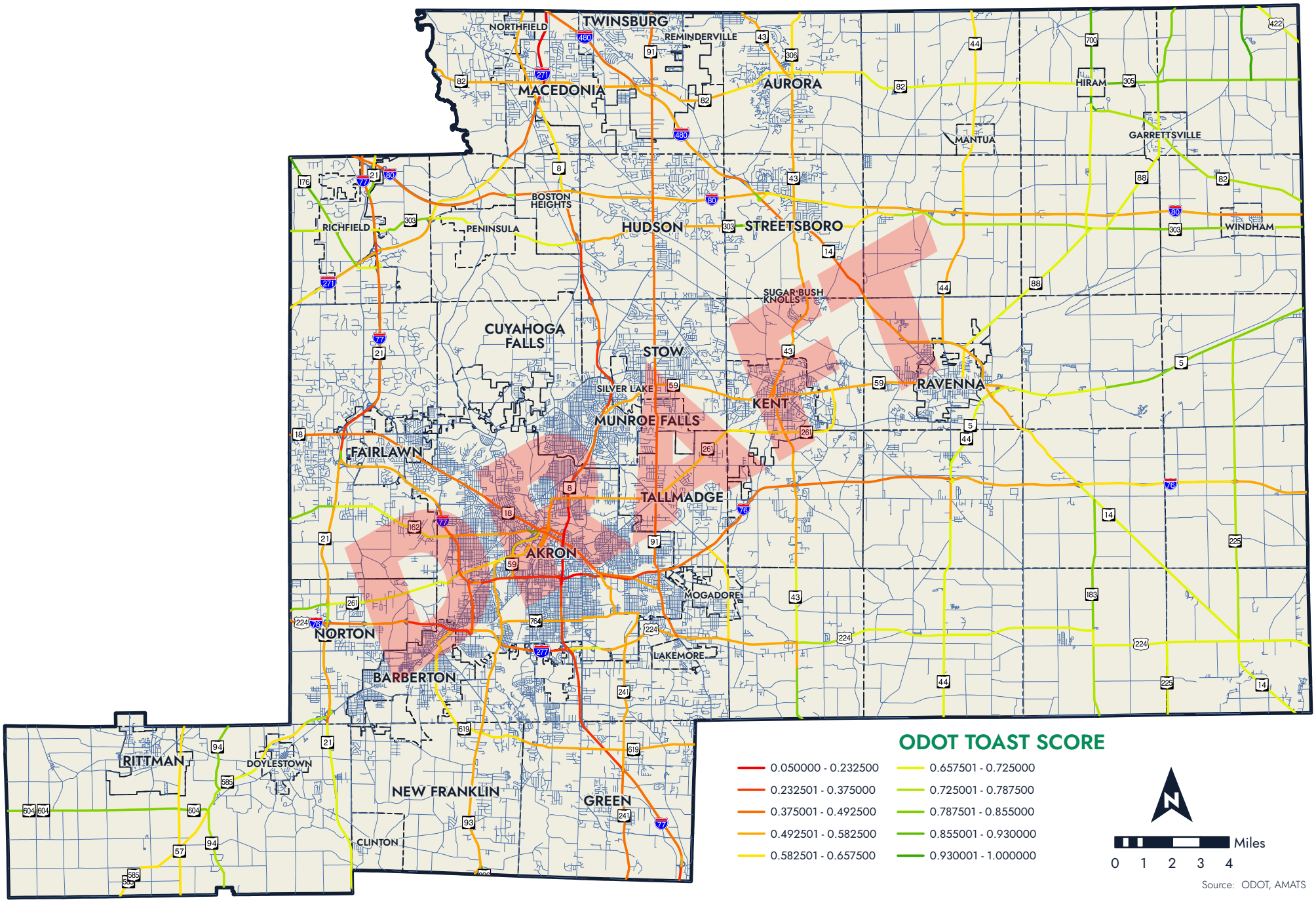
5.2 | Arterials

Areas of incident-related congestion are determined based on a composite score which considers both number of crashes and their severity to determine locations where incident-related congestion is most likely to occur. For a complete description of how the composite score is determined, please review the methodology in the AMATS *Traffic Crashes 2020-2022* report. Table 5-1 (page 22) and Map 5-2 (page 21) display the top 50 arterial locations.

5.3 | Intersections

Similar to arterial segments, areas of incident-related intersection congestion are determined based on composite score. The top 50 high crash intersections are listed on Table 5-2 (page 27), and displayed on Map 5-3 (page 26).

Map 5-1 | ODOT - TOAST



Map 5-2 | Top 50 High Crash Road Sections

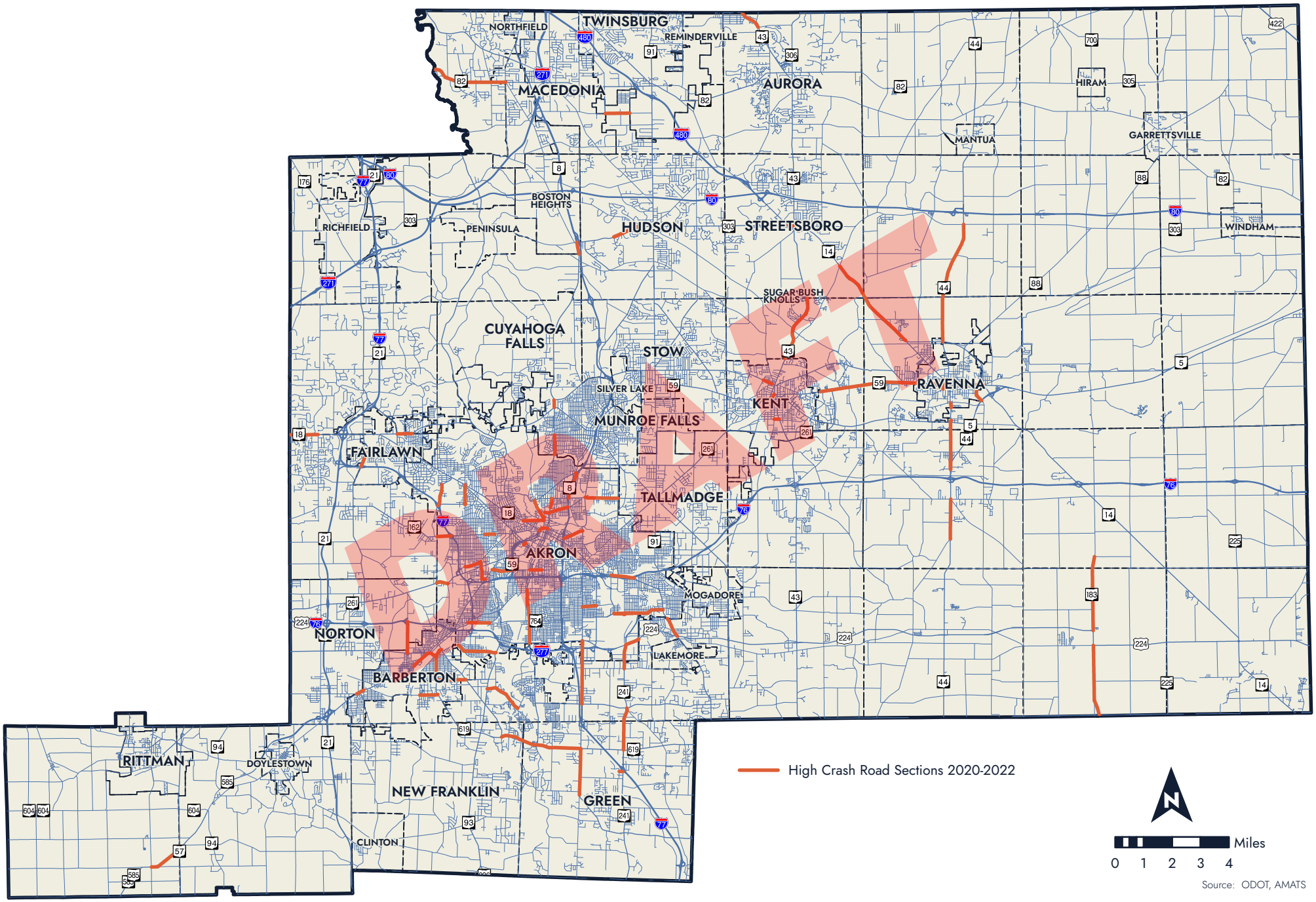


Table 5-1 | Top 50 High Crash Road Sections

Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022

OVERALL RANK	ROADWAY SECTION	LENGTH (MILES)	TOTAL CRASHES	CRASHES PER MILE PER YEAR	CRASHES PER MILE PER YEAR RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
1	SR 59 from Alpha Dr to SR 261	0.41	15	12.20	21	0.600	3	24	0	0	No	Franklin Twp
2	Massillon Rd (SR241) from Krumroy Rd (CR 130) to Oakes Dr / Akron SCL	0.29	11	12.64	20	0.545	12	32	0	0	No	Springfield Twp
3	M.L. King Blvd (SR 59) from W Market St Overpass to N Broadway St	0.18	21	38.89	2	0.429	40	42	0	0	Yes	Akron
4	Copley Rd (SR 162) from Storer Ave to East Ave	0.36	29	26.85	5	0.414	47	52	1	0	Yes	Akron
5	Vernon Odom Blvd (SR 261) from Collier Rd / Akron Corp Line to Romig Rd	0.36	8	7.41	46	0.500	15	61	0	2	No	Akron
6	E Main St (SR 59) from Freedom St (SR 88) to SR 14/SR 44	0.75	44	19.56	8	0.386	59	67	0	0	No	Ravenna / Ravenna Twp
7	Copley Rd (SR 162) from Collier Rd to St Micheals	0.50	9	6.00	59	0.556	9	68	0	0	No	Akron / Copley Twp
8	Norton Ave/Fairview Ave from Wooster Rd N to 5th St NE (SR 619)	0.33	6	6.06	57	0.500	15	72	0	0	No	Barberton
8	E Turkeyfoot Lake Rd (SR 619) from S Main St to Arlington Rd	1.56	37	7.91	42	0.486	30	72	0	0	No	Green
10	State Rd from Cuyahoga Falls Corp Line to Broad Blvd	0.66	37	18.69	9	0.378	64	73	0	0	No	Cuyahoga Falls
11	Wooster Rd W from Johnson Rd to 31st St	0.29	7	8.05	40	0.429	40	80	0	0	No	Norton / Barberton
12	E Glenwood Ave from Howard St to SR 8	0.84	22	8.73	32	0.409	49	81	0	0	No	Akron
13	Massillon Rd/Geo Washington (SR 241) from Oaks Dr/Akron Corp Line to E Waterloo Rd (US 224)	0.55	18	10.91	24	0.389	58	82	0	0	No	Akron
13	Arlington Rd from Greensburg Rd to Turkeyfoot Lake Rd (SR 619)	1.68	35	6.94	48	0.457	34	82	0	0	No	Green
15	SR 43 from Kent North Corp Line to Streetsboro South Corp Line	2.40	61	8.47	38	0.410	48	86	0	0	Yes	Franklin Twp

Table 5-1 | Top 50 High Crash Road Sections

Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022

OVERALL RANK	ROADWAY SECTION	LENGTH (MILES)	TOTAL CRASHES	CRASHES PER MILE PER YEAR	CRASHES PER MILE PER YEAR RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
16	E Thornton St from S Main St to Grant St	0.42	13	10.32	27	0.385	60	87	0	0	No	Akron
16	N Forge St from Fountain St to N Arlington St	0.70	13	6.19	54	0.462	33	87	0	0	No	Akron
18	Diagonal Rd from S Hawkins Ave to Superior Ave	0.59	11	6.21	53	0.455	35	88	0	0	No	Akron
18	Robinson Ave from 5th St (SR 619) to State St	1.05	28	8.89	31	0.393	57	88	0	0	No	Barberton
20	S Cleveland-Massillon Rd from I-77 to Rosemont Blvd/Elgin Dr	0.53	22	13.84	16	0.364	74	90	0	0	No	Copley Twp / Fairlawn
21	E Waterloo Rd (US 224) from Geo Washington Blvd (SR 241) to Akron Corp Line	0.51	16	10.46	26	0.375	65	91	0	0	No	Akron
22	Sandy Knoll Dr from Corporate Woods Pkwy to Massillon Rd (SR 241)	0.13	2	5.13	78	0.500	15	93	0	0	No	Green
22	W Turkeyfoot Lake Rd (SR 619) from Green West Corp Line to S Main St	0.50	13	8.67	33	0.385	60	93	0	1	No	Green
24	N Main St (SR 261) from Olive St (W) to E Tallmadge Ave	0.32	14	14.58	12	0.357	82	94	0	0	No	Akron
25	Snyder Ave from Van Buren Ave to 5th St SE	0.65	9	4.62	86	0.556	9	95	0	0	No	Barberton
25	Wooster Rd N from Hopocan Ave to Norton Ave	0.67	15	7.46	45	0.400	50	95	0	0	No	Barberton
27	New Milford Rd from SR 5/SR 44 to Ravenna South Corp Line	0.41	6	4.88	81	0.500	15	96	0	0	No	Ravenna / Ravenna Twp
28	Akron-Cleveland Rd from Boston Heights SCL to Streetsboro Rd (SR303)	0.40	5	4.17	95	0.600	3	98	1	0	No	Boston Heights
28	SR 59 from Brady Lake Rd (CR 162) to Ravenna West Corp Line	0.45	20	14.81	10	0.350	88	98	0	0	No	Ravenna Twp
30	Triplett Blvd from Hilbish Ave to Canton Rd (SR 91)	0.92	15	5.43	69	0.467	32	101	0	0	No	Akron
31	Canton Rd (SR 91) from Waterloo Rd (US224) to Akron SCL	0.72	22	10.19	28	0.364	74	102	0	2	Yes	Akron / Springfield Twp

Table 5-1 | Top 50 High Crash Road Sections

Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022

OVERALL RANK	ROADWAY SECTION	LENGTH (MILES)	TOTAL CRASHES	CRASHES PER MILE PER YEAR	CRASHES PER MILE PER YEAR RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
31	SR 14 from Diagonal Rd to Streetsboro East Corp Line	1.30	25	6.41	52	0.400	50	102	0	0	Yes	Streetsboro
33	W Turkeyfoot Lake Rd (SR 619) from State St to New Franklin East Corp Line	0.81	15	6.17	55	0.400	50	105	0	0	No	New Franklin
34	Wabash Ave from W Cedar St to W Exchange St	0.09	1	3.70	107	1.000	1	108	0	0	No	Akron
34	Carnegie Ave from Sarlson Ave to Manchester Rd (SR 93)	1.41	18	4.26	93	0.500	15	108	0	0	No	Akron
34	Russell Ave/Superior Ave from East Ave to Diagonal Rd	0.74	19	8.56	36	0.368	72	108	0	0	No	Akron
34	Arlington Rd (CR 15) from Killian Rd (CR135) to Bruce Rd/Akron SCL	1.51	66	14.57	13	0.333	95	108	1	1	Yes	Coventry / Springfield Twp
38	W Thornton St from East Ave to Rhodes Ave	0.70	11	5.24	74	0.455	35	109	0	1	No	Akron
39	Prospect St (CR 74) from SR 5/44 to Hayes Rd (CR 138)	1.70	30	5.88	61	0.400	50	111	0	1	Yes	Rootstown / Ravenna Twp
40	W Main St (SR 59) from Diamond St to Sycamore St	0.37	15	13.51	18	0.333	95	113	0	0	No	Ravenna
41	W Streetsboro St (SR 303) from Nicholson Dr to Boston Mills Rd	0.79	16	6.75	51	0.375	65	116	0	0	No	Hudson
42	W Wilbeth Rd from Kenmore Blvd to Maryland Ave	0.77	11	4.76	82	0.455	35	117	0	0	No	Akron
42	Fairchild Ave from Majors Lane to Hudson Rd	0.33	12	12.12	22	0.333	95	117	0	0	No	Kent
44	Medina Rd (SR 18) from Medina Line Rd (CR 2) to S Hametown Rd (CR253)	1.00	29	9.67	29	0.345	92	121	0	0	No	Copley / Bath Twp
45	SR 44 from Hartville Rd (CR 69) to Tallmadge Rd (CR 18)	1.42	15	3.52	119	0.600	3	122	0	0	No	Rootstown Twp
45	Sycamore St from W Main St (SR 59) to Highland Ave	0.18	2	3.70	107	0.500	15	122	0	0	No	Ravenna
45	Sycamore St from Riddle Ave to W Main St (SR 59)	0.18	2	3.70	107	0.500	15	122	0	0	No	Ravenna

Table 5-1 | Top 50 High Crash Road Sections												
Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022												
OVERALL RANK	ROADWAY SECTION	LENGTH (MILES)	TOTAL CRASHES	CRASHES PER MILE PER YEAR	CRASHES PER MILE PER YEAR RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
45	S Main St from Waterloo Rd to Wilbeth Rd (SR 764)	0.77	20	8.66	34	0.350	88	122	0	0	No	Akron
45	SR 14 from SR 303 (W) to SR 303 (E)	0.33	56	56.57	1	0.321	121	122	0	0	No	Streetsboro
50	Smith Rd from Ghent Rd to Owosso Ave	0.53	11	6.92	49	0.364	74	123	0	0	No	Akron / Bath Twp / Fairlawn

Map 5-3 | Top 50 High Crash Intersections

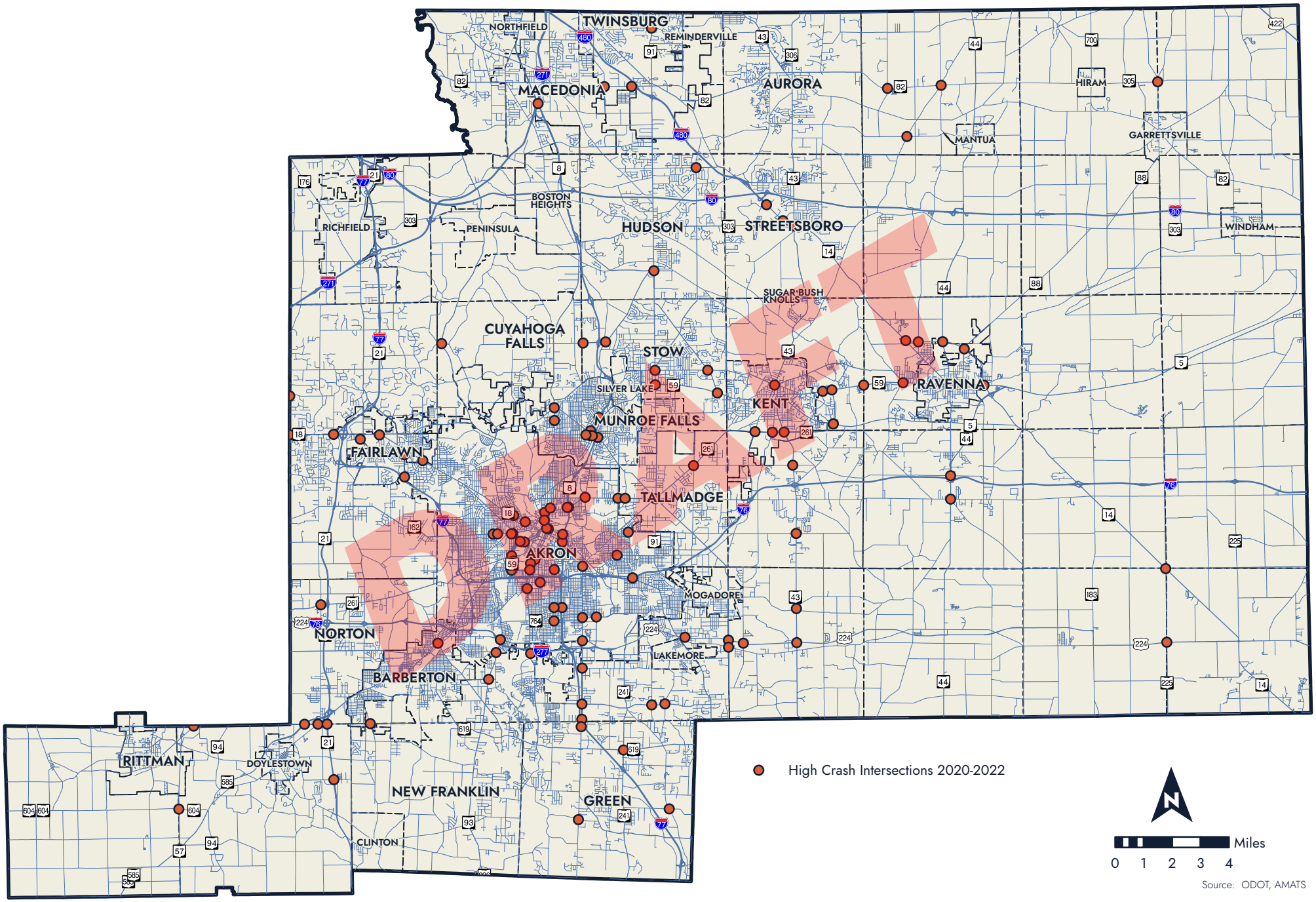


Table 5-2 | Top 50 High Crash Intersections

Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022

OVERALL RANK	STREET AND INTERSECTING STREET	TOTAL CRASHES	TOTAL CRASHES RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
1	SR 14 and SR 44 / N Chestnut St	37	8	0.568	25	33	0	1	Yes	Ravenna Twp / Ravenna
2	Riverview Rd and Ira Rd	20	48	0.650	14	62	1	0	No	Cuyahoga Falls
3	Medina Rd (SR 18) and Medina Line Rd	26	27	0.500	36	63	0	0	Yes	Bath Twp / Copley Twp
3	N Howard St and Glenwood Ave	23	37	0.565	26	63	1	0	Yes	Akron
5	S Broadway St and Rosa Parks Dr	24	35	0.500	36	71	0	0	Yes	Akron
6	S High St and Bartges St	25	32	0.480	48	80	0	0	No	Akron
7	Wadsworth Rd (SR 57) and Easton Rd (SR 604)	15	80	0.800	3	83	0	0	No	Chippewa Twp / Milton Twp
8	SR 261 and Mogadore Rd	20	48	0.500	36	84	0	0	No	Kent
8	Cleveland Massillon Rd and Eastern Rd	20	48	0.500	36	84	0	0	No	Norton / New Franklin
10	US 224 and SR 225	23	37	0.478	49	86	0	0	No	Atwater Twp / Deerfield Twp
11	SR 14 and Alliance Rd	15	80	0.667	7	87	0	0	No	Atwater Twp / Deerfield Twp
11	Bartges St and Dart Ave	15	80	0.667	7	87	0	0	No	Akron
13	SR 59 and SR 261	24	35	0.458	55	90	0	0	No	Franklin Twp
14	S Arlington Rd and Chenoweth Rd / I-77 NB On-ramp	22	39	0.455	56	95	0	0	No	Coventry Twp / Springfield Twp
15	SR 261 and Summit Rd	18	63	0.500	36	99	0	1	No	Franklin Twp
15	SR 21 and Eastern Rd	18	63	0.500	36	99	0	1	Yes	Chippewa Twp / Norton
17	Perkins St (SR 59) and SR 8 SB Ramps / Goodkirk St	37	8	0.405	96	104	0	1	No	Akron
18	Brown St and Archwood Ave	19	57	0.474	50	107	0	0	Yes	Akron
19	S Arlington Rd and I-77 SB Ramps	35	11	0.400	97	108	0	0	No	Green
20	Waterloo Rd and Portage Line Rd	16	73	0.500	36	109	0	0	No	Springfield Twp / Suffield Twp
20	Killian Rd and Pressler Rd	14	94	0.643	15	109	0	0	No	Springfield Twp
22	Medina Line Rd and Granger Rd	15	80	0.533	33	113	0	0	No	Bath Twp

Table 5-2 | Top 50 High Crash Intersections

Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022

OVERALL RANK	STREET AND INTERSECTING STREET	TOTAL CRASHES	TOTAL CRASHES RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
22	Copley Rd (SR 162) and Madison Ave	20	48	0.450	65	113	1	0	No	Akron
22	W Market St (SR 18) and Valley St	15	80	0.533	33	113	2	1	No	Akron
22	Eastern Rd and Rittman Rd	15	80	0.533	33	113	0	0	No	Chippewa Twp
26	SR 44 and Tallmadge Rd	14	94	0.571	23	117	0	0	No	Rootstown Twp
26	SR 57 and SR 585	14	94	0.571	23	117	0	0	Yes	Milton Twp / Chippewa Twp
28	S Main St and Thornton St	39	6	0.385	112	118	0	0	No	Akron
29	SR 82 and Mantua Center Rd	17	68	0.471	51	119	0	0	No	Mantua Twp
30	S Maple St (SR 162) and W Cedar St	27	26	0.407	95	121	0	2	Yes	Akron
31	W Market St (SR 18) and Rhodes Ave	21	43	0.429	81	124	0	2	No	Akron
31	W Market St (SR 18) and Revere Rd	21	43	0.429	81	124	0	0	No	Akron
33	S Arlington Rd and Krumroy Rd / Thierry Ave	13	106	0.615	19	125	0	0	No	Coventry Twp / Springfield Twp
33	Hudson Dr and Steels Corners Rd / Allen Rd	13	106	0.615	19	125	0	0	No	Stow
33	E Aurora Rd (SR 82) and Chamberlin Rd	13	106	0.615	19	125	0	0	No	Twinsburg
36	SR 261 and Franklin Ave / Sunnybrook Rd	12	124	0.750	5	129	0	1	Yes	Kent
36	S Arlington St and S Case Ave / Johnston St	31	18	0.387	111	129	0	1	No	Akron
36	Kent Rd (SR 59) and Fishcreek Rd	18	63	0.444	66	129	0	0	No	Stow
36	West Ave (SR 261) and Thomas Rd	18	63	0.444	66	129	0	1	No	Tallmadge
40	Myersville Rd and Killian Rd	14	94	0.500	36	130	0	0	No	Springfield Twp
41	US 224 and Martin Rd	12	124	0.667	7	131	0	0	No	Suffield Twp
42	Manchester Rd (SR 93) and Carnegie Ave	35	11	0.371	121	132	1	0	No	Akron
43	Rhodes Ave and W Thornton St	13	106	0.538	31	137	0	0	No	Akron
43	US 224 and E Waterloo Rd	13	106	0.538	31	137	0	0	No	Springfield Twp
45	SR 14/44 and N Freedom St (SR 88)	26	27	0.385	112	139	0	0	No	Ravenna
45	SR 5/44 and Lynn Rd	29	21	0.379	118	139	0	0	No	Rootstown Twp
47	SR 59 and Rhodes Rd/Ashton Ln	11	143	0.818	2	145	1	0	No	Franklin Twp

Table 5-2 | Top 50 High Crash Intersections Ranked by Score Based on Number of Crashes and Percent of Fatal and Injury Crashes 2020-2022										
OVERALL RANK	STREET AND INTERSECTING STREET	TOTAL CRASHES	TOTAL CRASHES RANK	FATAL & INJURY PERCENT	FATAL & INJURY RANK	TOTAL RANK SCORE	BIKE RELATED	PED RELATED	SS4A HIN	LOCATION
47	SR 14 and Infirmary Rd	20	48	0.400	97	145	0	0	No	Ravenna Twp
47	US 224 and Portage Line Rd (SR 532)	20	48	0.400	97	145	0	0	No	Springfield Twp / Suffield Twp
50	MLK Jr. Blvd (SR 59) and N High St (SR 261)	39	6	0.359	140	146	0	0	No	Akron

6 | PERFORMANCE MEASURES

Transportation Performance Management is required by MPOs as stated in the past three federal transportation bills. Transportation Performance Management is defined as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. Within Transportation Performance Management, there are performance measures. Performance measures related to the CMP include Level of Travel Time Reliability (LOTTR) and Level of Truck Travel Time Reliability (LOTTTR), Peak Hour Excessive Delay (PHED) and Mode Share or Non-Single Occupancy Vehicle (Non-SOV) travel. Each of these performance measures have their own respective targets.

6.1 | Travel Time Reliability and Freight Movement Performance Measures

Federal rules 23 CFR 490.507 and 23 CFR 490.607 establish National Highway System (NHS) 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 (2024) targets are listed in Table 6-1 to the right.

Table 6-1 | 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 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) assesses the consistency or dependability of travel times from day to day or across different times of the day on the Interstate and Non-Interstate NHS systems. FHWA defines LOTTR as the percent of person-miles on the Interstate and NHS that are reliable. LOTTR is calculated as the ratio of the longer travel times (80th percentile) to a "normal" travel time (50th percentile), using data 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.

Data are collected in 15-minute segments during all time periods between 6 AM and 8 PM. Reliability measures are grouped into three weekday time periods (6-10 AM, 10 AM - 4 PM, 4- 8 PM) and one weekend time period (6 AM – 8 PM). Any roadway segment or corridor that has a reliability index of 1.5 or greater during any time period is considered to be unreliable. For example, a roadway segment with a freeflow speed of 60 mph where the observed average travel speed during one of the time study periods is 40 mph, would have a LOTTR value of 1.5.

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. If the longer truck travel time is greater than or equal to 1.5, the roadway segment or corridor is considered unreliable. Data for TTTR are also collected in 15-minute segments during all time periods throughout the day and are grouped into the same time periods mentioned above.

The variability or change in congestion on a day-to-day basis provides a measure of reliability. Recurring congestion is generally predictable, regularly occurring, and typically caused by excess demand compared to the capacity of the system. Conversely, non-recurring congestion causes unreliable travel times and is caused by transient events such as traffic incidents, weather conditions, work zones, or special events. This form of congestion is often the most frustrating for travelers. National estimates indicate that nearly 50% of all congestion is non-recurring (FHWA, October 2023).

AMATS' actual performance is documented in Table 6-2.

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

Table 6-2 | AMATS Travel Time Reliability

LEVEL OF TRAVEL TIME RELIABILITY								
YEAR	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**AVERAGE**	**TARGET**
Interstate TTR	97.6%	98.6%	98.5%	98.8%	100.0%	100.0%	99.2%	> 85.0%
Non-Interstate NHS TTR	59.9%	89.3%	90.4%	89.3%	97.7%	93.8%	92.1%	> 80.0%
Interstate TTTR Index	1.31	1.27	1.27	1.30	1.13	1.19	1.23	< 1.50

non-interstate system currently meets the target. Overall state of Ohio performance is documented in table 6-3:

Table 6-3 | Ohio Travel Time Reliability

LEVEL OF TRAVEL TIME RELIABILITY								
YEAR	2016	2017	2018	2019	2020	2021	AVERAGE	TARGET
Interstate TTR	90.9%	91.2%	89.3%	89.8%	99.5%	98.4%	93.6%	> 85.0%
Non-Interstate NHS TTR	66.1%	89.9%	90.0%	92.6%	95.7%	95.5%	92.7%	> 80.0%
Interstate TTTR Index	1.40	1.33	1.37	1.36	1.17	1.19	1.28	< 1.50

6.1.1 | Peak Hour Excessive Delay (PHED)

Current AMATS area congestion-related targets (PM3) were approved with Policy Resolution 2022-14 (August 11, 2022). A full discussion of air quality-related performance measures can be found in the AMATS *CMAQ Performance Plan 2022-2026*. The purpose of the AMATS CMAQ Performance Plan was to develop an updated baseline of targets and discuss intended air quality improvement to be made over the next four years. Air quality related targets and progress are monitored on an on-going basis and tracked in relation to CMAQ funded projects. These activities are performed in coordination with AMATS' air quality partners in the area, along with ODOT. With a mid-performance period progress report, due October 1, 2024, four-year targets may be adjusted, and two-year condition/ performance will be reported as baselines.

Traffic congestion will be measured by the annual hours of peak hour excessive delay (PHED) per capita on the National Highway System (NHS). The threshold for excessive delay will be based on the travel time at 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater, and will be measured in 15-minute intervals. Peak travel hours are defined as 6-10 am local time on weekday mornings and 3-7 pm on weekday afternoons, providing flexibility to state DOTs and MPOs. The total excessive delay metric will be weighted by vehicle volumes and occupancy.

AMATS is located in part of the Cleveland urbanized area (UZA). Consequently, ODOT, NOACA and AMATS coordinated the setting of targets for the Cleveland area using past data. The Akron and Cleveland urbanized area performance is documented in the Charts 6-1 and 6-2, respectively.

Chart 6-1 | Akron Urbanized Area:
Annual % Non-Single Occupancy Vehicle Use

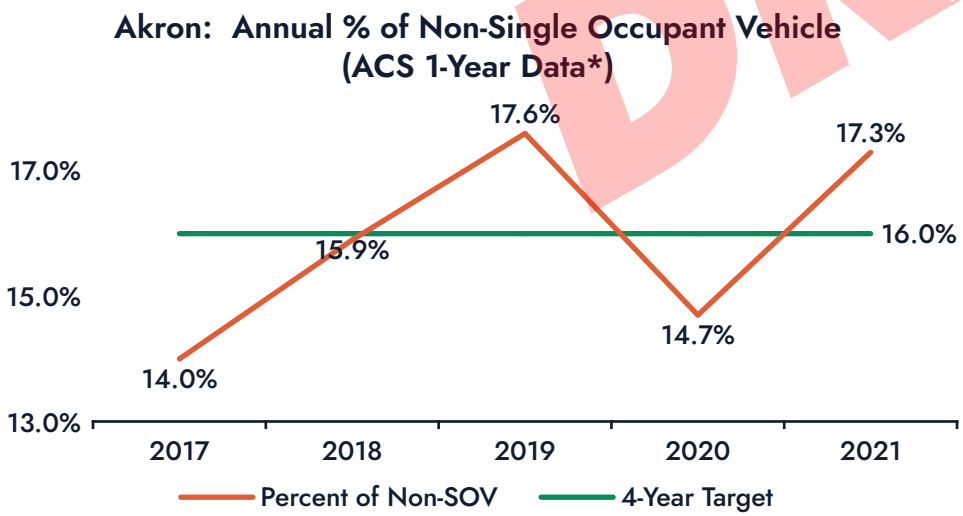
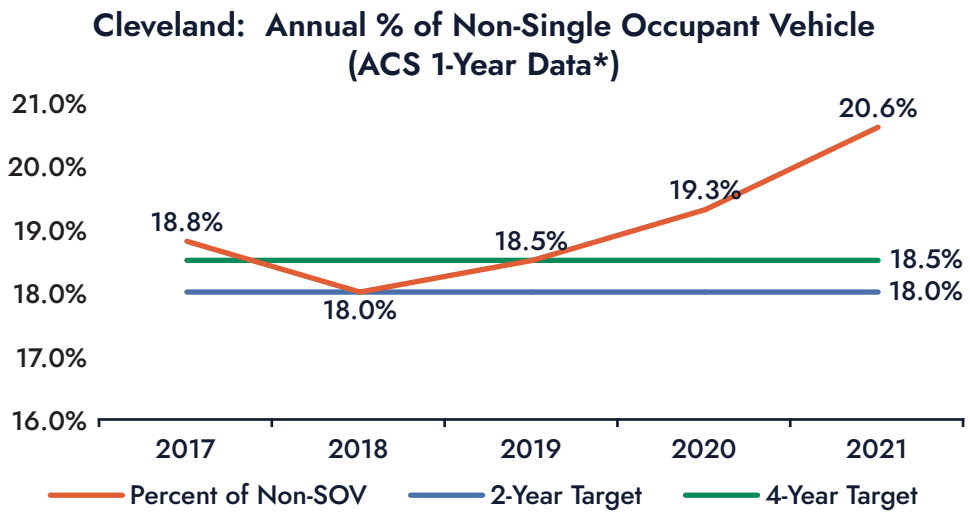


Chart 6-2 | Cleveland Urbanized Area:
Annual % Non-Single Occupancy Vehicle Use



6.1.2 | Mode Share (Non-SOV Travel)

Mode share is a measure of the percentage of each mode on all surface transportation occurring in the urbanized area. Modes of surface transportation include driving alone in a motorized vehicle (Single Occupancy Vehicle), car or van pooling, public transportation, commuter rail, walking, or bicycling as well as travel that is avoided by telecommuting. Non-SOV travel, defined by the FHWA, applies to any travel occurring on modes other than driving alone in a motorized vehicle. An analysis of mode share includes a calculation of the percent of Non-SOV travel within the urbanized area. This metric is derived from the U.S. Census Bureau's American Community Survey (ACS) data. Higher levels of Non-SOV travel can reduce an area's traffic congestion by removing additional vehicles from the roadways. The PHED and Non-SOV measures and targets for the Akron and Cleveland areas are listed in Table 6-4:

Table 6-4 | Peak Hour Excessive Delay and Non-Single Occupancy Vehicle Travel

Approved Targets: PHED and Non-SOV Travel (PM3) Peak Hour Excessive Delay / Non-Single Occupancy Vehicle Travel			
URBANIZED AREA / MPO	**MEASURE**	**2-YEAR TARGET**	**4-YEAR TARGET**
Akron (AMATS)	PHED	N/A	< 5.0
	Non-SOV Travel	> 16.0%	> 16.0%
Cleveland (NOACA)	PHED	N/A	< 8.0
	Non-SOV Travel	> 18.5%	> 19.0%

7 | STRATEGIES AND ASSESSMENTS

In order to reduce congestion, AMATS must develop a set of strategies that consider both the demand and supply of traffic. A strategy or combination of strategies that are appropriate for deficient corridors are selected based on the intensity of congestion and the other analyses completed in the CMP. Effectively managing congestion over time requires a multi-faceted approach. The strategies are categorized by type of congestion mitigation.

The tiers are:

- Tier 1: Demand management
- Tier 2: Traffic and roadway operational improvements
- Tier 3: Public Transportation improvements
- Tier 4: ITS Strategies
- Tier 5: Capacity expansion

7.1 | Tier 1: Demand Management

Demand-side strategies represent a forward-thinking approach to managing traffic congestion. Demand-side strategies include those that focus on reducing vehicles on the roadway either permanently or during the busiest times of the day. City rush-hours are an example of when demand exceeds supply. A highway that easily accommodates traffic throughout most of the day can be congested during morning and afternoon peak hours.

Demand-side management is any strategy that reduces the number of vehicles on the road at one time. Generally, demand-side congestion strategies cost significantly less than supply-side ones do. Below are examples of potential demand management strategies:

- **Telecommuting –** Telecommuting can directly reduce work-related trips during the peak hours of the day when most congestion occurs. Since the Covid-19 pandemic, the Akron region has seen telework become mainstream. This has reduced travel demand on the region's roadways. Another related benefit is an improvement in air quality.
- **Flexible/Alternative Work Hours –** Working outside the typical workweek and workday timeframe. It may not eliminate vehicles on the road but could reduce vehicles on the road during peak hours when congestion is typically worse.
- **Carpooling –** More than one person using a vehicle for a trip with similar origin or destination. Carpooling reduces SOV due to commuters sharing a ride with one or more people for trips. This reduces the number of vehicles on the road. Ohio is served by the GOhio Commute website which is an online portal for finding carpool matches. This software makes it easier to create carpools and vanpools by matching similar trip origins, destinations, and times.
- **Employer Incentive Program –** Incentives may be offered by employers to encourage carpooling or public transportation.
- **Encouraging a Shift to Alternative Modes of Transportation –** Transit, bicycling, walking, or other non-motorized travel can be used as an alternative to general travel and commuting. Bicycle and pedestrian modes may also include e-bikes, scooters, skateboards, mobility-assistance devices, etc. Though buses are vehicles on the road, they retain the capability to significantly reduce the total number of vehicle miles traveled by carrying many trips in one vehicle. Bicycling, walking, and other modes of alternative transportation can also eliminate vehicle miles traveled. However, these modes may not be feasible if trip lengths are too long. Typical trip length for a bicycle commute is up to four miles and up to one mile for a pedestrian.

7.2 | Tier 2: Traffic and Roadway Operational Improvements

Tier 2 strategies play an important role in congestion management. These strategies emphasize getting more out of the existing transportation system. The strategies include but are not limited to the following:

- **Intersection and street improvements by adding and extending exclusive turning lanes –** exclusive and safe space for vehicles waiting to turn left.
- **Access management –** reduces the number of ingress/egress points onto a roadway and more effectively channels traffic and improves safety by reducing conflict points.
- **Variable speed limits –** allows traffic to efficiently utilize capacity at a safe speed.

- **Variable message signs –** enables drivers to take alternative routes to avoid congestion.
- **Exclusive shoulder lanes for buses –** frequent stopping can occur outside of the flow of traffic.
- **Geometric improvements to road and intersections –** improves traffic flow and reduces incident related congestion by correcting geometric deficiencies.
- **Channelization –** facilitates the safe and orderly movement of traffic and defines the paths of traffic by physical separation.
- **Median barriers (moveable) to facilitate more capacity during peak periods –** more lanes for peak demand flow without adding more pavement.
- **Traveler information –** information given to travelers to help reduce uncertainty and stress. It also can help avoid congestion, improve safety and save time.
- **Complete Streets –** Designing streets to enable safe access for users of all ages and abilities, including pedestrians, bicyclists, motorists, and transit riders.
- **Overpasses or underpasses at congested intersections or railroads –** provides uninterrupted traffic flow by removing intersection conflict points.
- **Roundabouts to improve stop-controlled or signalized intersections –** typically reduces vehicle queuing at intersections and improves traffic flow.

7.3 | Tier 3: Public Transportation (Transit) Improvements

The public transportation improvement strategies focus on making public transportation more convenient and accessible in the AMATS region. It is worth mentioning that these strategies may be linked with tier 1 and tier 2 strategies. METRO and PARTA control the transit service strategies within the AMATS region with AMATS offering suggestions. The following strategies are included in this category:

- **Expanding transit services –** adds new vehicles to expand transit services.
- **Optimal control of headways by realigning transit service schedules and stop locations –** provides better accessibility to transit to a greater share of the population.
- **Providing real-time information on transit schedules and arrivals using various ITS strategies –** provides real-time information so potential transit riders can estimate wait time.
- **Universal transit fare cards and incentives –** may be offered to students, employees, or residents to help reduce the cost of transit to the user.
- **Bus Rapid Transit –** high-quality bus-service that utilizes dedicated lanes, busways, traffic signal priority, off-board fare collection and enhanced or elevated stations to make transit more efficient and reliable. These lines work best in dense urban areas.
- **Prioritizing transit vehicles at traffic signals –** gives transit vehicles priority at signals to help them run on schedule.

7.4 | Tier 4: ITS Strategies

These strategies are strongly linked with most of the congestion management strategies. The recommended ITS strategies in the AMATS region are listed below:

- **Traffic Signal Improvements –** Optimizing and coordinating the timing of traffic signals to improve traffic flow through a corridor or specific intersections.
- **Simulation models –** Although AMATS has established travel demand models for predicting and evaluating the traffic in the region, simulation models may be used to analyze and evaluate the impact of operational strategies.
- **Cars Connected to Cars / Cars Connected to Infrastructure –** When one vehicle can communicate to another vehicle nearby—in front, behind, etc. it's the core of autonomous driving technology. Sensors detect what's going on around the vehicle and additional technology can share that data with other vehicles on the road. The vehicle is also able to send and receive information about the infrastructure that can include physical things such as traffic signals and weather alert systems. The vehicle can send that data out while simultaneously the infrastructure can send important data back to it.
- **Real-time traffic feedback –** The real-time traffic data provides information about congestion throughout the region . Many cell phone applications exist to provide real time traffic data and provide routing guidance to avoid areas of congestion.

7.5 | Tier 5: Capacity Expansion

Capacity expansion in the greater Akron area is only considered feasible for the worst congested roadway segments. There is a limited amount of funding available for new road and lane construction. Construction and right-of-way costs for new roads are very expensive. New roads and adding additional through lanes is considered a last resort as system preservation is the main objective in the AMATS region. Financial restrictions, adverse environmental impacts, and project duration also make capacity improvements less attractive and feasible . In addition, traffic counts throughout the region, overall, are trending downward. As the region continues to struggle with maintaining population and the continued

presence of remote work, it is hard to project the level of traffic growth required to construct expansion projects.

Capacity expansion may be necessary on the busiest arterials and freeways as most other roadways are not congested enough to warrant such an improvement. These roadways may benefit from capacity expansion projects as it will improve flow of all vehicles including transit and freight vehicles, not just passenger vehicles. This could reduce emissions and fuel consumption, and increased productivity and economic development. However, typically constructing new lanes is followed with additional demand for the roadway as travel times improve. More vehicles begin to use the roadway which then begins to reduce travel times. This is referred to as induced demand. Adding capacity can also have adverse impacts on safety, alternative transportation modes and livability.

The capacity improvements include the following strategies:

- **Removing bottlenecks by constructing new lanes –** removes or corrects short, isolated, and temporary lane reductions and substandard design elements.
- **Adding travel lanes on major freeways** (including truck climbing lanes on grades)

7.6 | Evaluation of Strategies

Congestion management strategies were evaluated based upon their effectiveness and feasibility. The effectiveness was determined by how well each strategy would reduce congestion in the AMATS area. To make this determination, the strategies were reviewed by examining regional characteristics, previous local success of the strategies and examples from other urban areas. Decisions on the effectiveness of each strategy were made based on the data collected and staff input. Feasibility was rated by the degree to which the strategy could be realistically implemented in the region. Table 8-1 lists the strategies along with their corresponding effectiveness and feasibility.

Table 7-1 | Congestion Management Strategies

TIER	STRATEGY	BENEFITS	EFFECTIVENESS	FEASIBILITY
Tier 1: Demand Management	Telecommuting	Reduces traffic, especially during peak hours	Medium / High	Medium
	Flexible / Alternative Work Hours	Reduces traffic, especially during peak hours	Medium	Low / Medium
	Carpooling	Reduces traffic, especially during peak hours	Medium / High	Medium
	Employer Incentive Program	Reduces traffic, especially during peak hours	Medium / High	Low
	Alternative Modes of Transportation	Reduces traffic	Low / Medium	Low
Tier 2: Operational Improvements	Adding exclusive left turning lanes	Improves traffic flow / safety	Medium	Medium
	Access Management of roadway / driveways	Improves traffic flow / safety	Medium	Medium
	Variable speed limits	Improves traffic capacity / flow	Low / Medium	Low
	Variable message signs	Improves traffic flow and reduces additional congestion	Low / Medium	Medium
	Exclusive shoulder lanes for buses	Improves traffic flow / safety	Medium	Low
	Geometric improvements to road and intersections	Improves traffic flow / safety	Medium / High	High
	Channelization	Improves traffic flow / safety	Low / Medium	Medium
	Median barriers (moveable) to facilitate more capacity during peak period	Improves traffic capacity / flow	Medium / High	Low
	Traveler information	Improves traffic flow / safety	Low / Medium	High
	Complete Streets	Improves capacity for alternative modes of transportation	Low / Medium	Medium
	Overpasses or underpasses at congested intersections or railroads	Improves traffic capacity / flow	High	Low / Medium

Table 7-1 | Congestion Management Strategies				
TIER	**STRATEGY**	**BENEFITS**	**EFFECTIVENESS**	**FEASIBILITY**
Tier 3: Public Transit Improvements	Expanding transit services	Encourages transit use / reduces SOV vehicles.	Medium	Low
	Optimal control of headways by realigning transit service schedules and stop locations	Makes transit easier to use / reduces SOV vehicles.	Medium	Medium
	Providing real-time information on transit schedules and arrivals using various ITS strategies	Makes transit easier to use / reduces SOV vehicles.	Low	Medium
	Universal transit fare cards and incentives	Makes transit easier to use / reduces SOV vehicles.	Low / Medium	High
	Bus Rapid Transit	Makes transit easier to use / reduces SOV vehicles.	High	Medium
	Prioritizing transit vehicles at traffic signals	Makes transit easier to use / reduces SOV vehicles.	Medium	Medium
Tier 4: ITS Strategies	Traffic Signal Improvements	Improves traffic flow / safety	Medium / High	High
	Simulation models	Helps determine and fund projects with the most impact	Medium / High	Medium
	Cars Connected to Cars/Cars Connected to Infrastructure	Improves traffic flow / safety	Medium / High	Low
	Real-time traffic feedback	Improves traffic flow and reduces additional congestion	Medium / High	High
Tier 5: Capacity Expansion	Removing bottlenecks by constructing new lanes	Improves traffic flow / safety	Medium	Low
	Closing gaps in the existing network	Improves traffic flow / safety	Medium	Low
	Add travel lanes on major freeways and streets (including truck climbing lanes on grades)	Improves traffic flow / safety	Medium	Low

8 | RECOMMENDATIONS

Using the 2022 congestion scan of the transportation network, AMATS identified 108 congested freeways and arterial segments. Each segment identified includes its peak congestion percentage, and the peak period of congestion. Appropriate strategies, i.e., tiers listed in Section 7.6, that should be considered for reducing congestion on the segment are listed in the recommendation column. It is noted when a corridor has a project planned or recently completed along with the recommendation to monitor this corridor.

8.1 | Freeways

The region's freeways are in the midst of a major overhaul, especially near Akron's downtown where many of the freeways converge. The Ohio Department of Transportation's Beltway project has included multiple ramp closures and detours over the last two years. The State Route 8 Bridge replacement project over the Cuyahoga Valley just north of Akron's downtown is also currently under construction. These large-scale construction projects that are ongoing make it difficult to recommend improvements for the region's congested segments. This is because projects under construction during the analysis year of 2022 would include detours and closures that impact the surrounding freeway traffic which could skew the analysis or projects that are now under construction include improvements that may alleviate some of the congestion identified in the 2022 scan. These concerns can be applied to every freeway segment AMATS identified in its 2022 scan. The segments were either impacted by current construction or impacted by improvements that will be constructed in the next few years.

Table 8-1 | Freeway Recommendations

	SEGMENT NAME	DESCRIPTION	PEAK % CONG.	PEAK PERIOD	RECOMMENDATION
1	OH-8 (SB)	I-76 (Segment 1)	56.4	PM	Construction (continue to monitor)
2	I-76/I-77 (EB)	Wolf Ledges Pkwy/Exit 22 (Segment 2)	53.2	PM	Construction (continue to monitor)
3	I-76/I-77 (EB)	Wolf Ledges Pkwy/Exit 22 (Segment 1)	52.2	PM	Construction (continue to monitor)
4	OH-8 (SB)	OH-18/East Market Street (Segment 2)	51.4	PM	Construction (continue to monitor)
5	I-76/I-77 (EB)	Grant Street/Exit 22 (Segment 2)	50.8	PM	Construction (continue to monitor)
6	OH-8 (SB)	I-76 (Segment 2)	50.5	PM	Construction (continue to monitor)
7	I-76/I-77 (EB)	Main Street/South Broadway Street/Exit 22 (Segment 1)	50.3	PM	Construction (continue to monitor)
8	OH-8 (SB)	OH-18/East Market Street (Segment 1)	49.3	PM	Construction (continue to monitor)
9	I-76/I-77 (EB)	Grant Street/Exit 22 (Segment 1)	48.6	PM	Construction (continue to monitor)
10	OH-8 (SB)	OH-59/Perkins Street (Segment 2)	43.4	PM	Construction (continue to monitor)
11	I-76/I-77 (EB)	I-77/OH-8/Exit 23	42.1	PM	Construction (continue to monitor)
12	I-76/I-77 (EB)	Main Street/South Broadway Street/Exit 22 (Segment 2)	41.6	PM	Construction (continue to monitor)
13	I-76/I-77 (EB)	Dart Avenue/Exit 21 (Segment 1)	40.5	PM	Construction (continue to monitor)
14	I-77 (SB)	I-76/I-77/Exit 125	40.2	PM	Construction (continue to monitor)
15	I-277 (EB)	I-77/Exit 4	39.8	PM	Construction (continue to monitor)
16	I-76/I-77 (EB)	Dart Avenue/Exit 21 (Segment 2)	39.5	PM	Construction (continue to monitor)
17	I-77 (SB)	OH-764/Wilbeth Road/Exit 123	37.6	PM	Construction (continue to monitor)

Table 8-1 | Freeway Recommendations					
	SEGMENT NAME	DESCRIPTION	PEAK % CONG.	PEAK PERIOD	RECOMMENDATION
18	I-77 (NB)	Arlington Road/Exit 120	37	AM	Construction (continue to monitor)
19	OH-8 (SB)	East Glenwood Avenue (Segment 2)	36.7	PM	Construction (continue to monitor)
20	OH-8 (SB)	OH-59/Perkins Street (Segment 1)	36.2	PM	Construction (continue to monitor)
21	I-77 (SB)	I-277/US-224/Exit 122 (Segment 2)	36	PM	Construction (continue to monitor)
22	I-77 (SB)	Waterloo Road/Exit 123	35.6	PM	Construction (continue to monitor)
23	OH-8 (SB)	East Glenwood Avenue (Segment 1)	35	PM	Construction (continue to monitor)
24	I-77 (SB)	I-277/US-224/Exit 122 (Segment 1)	35	PM	Construction (continue to monitor)

8.2 | Arterials

AMATS congestion analysis identified 84 congested segments on the arterial roadway network. None of the segments identified received a tier 5 recommendation for added capacity as none of the segments had congestion that would be appropriate for major widenings. As the roadway network continues to age, AMATS believes an prudent approach is to focus on travel demand, operational improvements, alternative modes of transportation and intelligent transportation strategies to reduce congestion.

Table 8-2 | Arterial Recommendations					
	SEGMENT NAME	DESCRIPTION	PEAK % CONG.	PEAK PERIOD	RECOMMENDATION
1	West Avenue (SR 261)	Heading into Tallmadge Circle	61.4	PM	2
2	Southwest Avenue	Heading into Tallmadge Circle	60.5	PM	2
3	Southeast Avenue	Heading into Tallmadge Circle	55.4	MD	2
4	Northwest Avenue	Heading into Tallmadge Circle	55.4	MD / PM	2
5	Northeast Avenue (SR 261)	Heading into Tallmadge Circle	53.5	MD / PM	2
6	Darrow Road (SR 91)	SB From Terex Road to Hudson Drive	53.2	AM / MD	Existing Project (116924,116929) - Monitor
7	East Avenue	Heading into Tallmadge Circle	52.2	MD	2
8	SR 8	SB at Valley View Intersection	51.0	AM / MD	2, 4
9	South Avenue (SR 91)	Heading into Tallmadge Circle	50.8	MD / PM	2
10	Broad Boulevard	WB from SR 8 to Front Street	50.3	MD	2, 3, 4
11	Arc Drive	NB at Exchange Street Intersection	49.8	AM / MD	4
12	White Pond Drive	At IR 77 Interchange	49.3	PM	2
13	West Bowery Street	West Exchange Street (SR 261) to West State Street	48.8	PM	3, 4
14	South Main Street	SB North of Thornton Street	46.6	MD	3, 4
15	North Main Street (SR 91)	SR 303 to Aurora Street	46.5	MD / PM	Existing Project (116924) - Monitor

Table 8-2 | Arterial Recommendations

	SEGMENT NAME	DESCRIPTION	PEAK % CONG.	PEAK PERIOD	RECOMMENDATION
16	East Exchange Street	Grant Street to Brown Street	46.3	MD	Existing Project (102701) - Monitor
17	North High Street	East Market Street (SR 18) to Perkins Street (SR 59)	45.9	AM / MD	3, 4
18	Cleveland East Liverpool Road (SR 14)	SR 303 to SR 43	45.2	PM	Existing Project (105213) - Monitor
19	West Main Street (SR 59)	Sycamore Street to Chestnut Street	45.1	MD	4
20	Broad Boulevard	SR 8 to Newberry Street	44.2	PM	3, 4, Rail Conflict
21	West Bowery Street	Quaker Street to Main Street	43.9	MD / PM	Building Construction - Monitor
22	Terex Road	EB start of divided highway to Hudson Drive	43.9	AM / PM	Existing Project (116924,116929) - Monitor
23	US 224	EB start of divided highway to SR 43	43.1	PM	2, 4
24	Howe Avenue	Buchholzer Boulevard to Barney's Busy Corners	43.1	PM	3, 4
25	East Aurora Road	Olde 8 to SR 8	42.9	PM	3, 4
26	Ravenna Road	SR 91 to SR 82	42.7	MD / PM	4
27	SR 5;SR 44	NB at the IR 76 Interchange	42.2	MD / PM	2, 4
28	US 224	WB start of divided highway to SR 43	41.7	PM	2, 4
29	South Broadway Street (SR 261)	University Avenue to Bowery Street	41.6	AM / MD	3, 4
30	Massillon Road (SR 241)	SB from IR 77 to Raber Road	41.6	PM	Existing Project (90415) - Monitor
31	Tallmadge Road	Highway View Drive to Mogadore Road	41.4	MD / PM	Existing Project (112755) - Monitor
32	Broad Boulevard	Between SR 8 Ramps	41.1	PM	3, 4
33	SR 21	NB into Eastern Road	41.1	PM	4
34	Darrow Road (SR 91)	SB into Glenwood Drive Roundabout	41.0	PM	Monitor
35	Massillon Road (SR 241)	Boettler Road to IR 77	40.9	MD / PM	Existing Project (103172) - Monitor
36	Ghent Road	At West Market Street (SR 18)	40.8	PM	4
37	South Arlington Road	Moore Road to IR 77	40.8	PM	3, 4
38	Manchester Road (SR 93)	Portage Lakes Drive to Robinson Avenue	40.6	MD	2, 4
39	West Market Street (SR 18)	Ghent Road to Miller Road	40.4	MD	2, 3, 4
40	Northeast Avenue (SR 261)	NB into East Howe Road Roundabout	40.2	PM	Monitor
41	SR 8	SB IR 271 to Highland Road	40.1	AM	Existing Project (121067) - Monitor
42	SR 8	SB at Macedonia Commons Boulevard	40.1	MD	4
43	SR 8	NB at SR 82	40.0	AM / MD	4

Table 8-2 | Arterial Recommendations

	SEGMENT NAME	DESCRIPTION	PEAK % CONG.	PEAK PERIOD	RECOMMENDATION
44	Darrow Road (SR 91)	NB at Terex Road	39.8	AM / MD	Existing Project (116924,116929) - Monitor
45	South Arlington Road	NB at IR 77 Interchange	39.7	MD / PM	2, 4
46	SR 8	SB at SR 82	39.5	PM	4
47	Eastwood Avenue	Hazel Street to Brittain Road	39.3	PM	2, 4
48	Manchester Road (SR 93)	Towpath Trailhead to Carnegie Avenue	39.2	PM	2, 4
49	West Bowery Street	Cedar Street (SR 261) to Exchange Street (SR 261)	39.0	AM	4
50	Terex Road	Hudson Drive to Darrow Road (SR 91)	38.6	MD / PM	Existing Project (116924,116929) - Monitor
51	West Market Street (SR 18)	North Portage Path to Rhodes Avenue	38.4	PM	3, 4
52	Massillon Road (SR 241)	Graybill Road to Boettler Road	38.2	MD	Existing Project (103172) - Monitor
53	Martin Luther King Boulevard (SR 59)	Broadway Street (SR 261) to Summit Street	38.1	PM	4
54	South Cleveland Massillon Road	Brookwall Drive to SR 18	38.1	MD / PM	Existing Project (103293)
55	Darrow Road (SR 91)	SB Start of Divided Highway to IR 480	38.1	MD	3, 4
56	East Market Street (SR 18)	Arlington Street to Exchange Street	37.8	AM	Existing Project (116462) - Monitor
57	North Main Street	Cuyahoga Falls Avenue to Norman Street	37.7	PM	Existing Project (112716) - Monitor
58	Innovation Way (SR 241)	3rd Street to East Market Street (SR 18)	37.5	AM	4
59	North Portage Path	Merriman Road to Portage Trail	37.5	PM	2, 3, 4
60	US 224	East Waterloo Road to Ewart Road	37.4	MD / PM	2, 4
61	South Hawkins Avenue	NB into Mull Avenue Traffic Circle	37.3	PM	Monitor
62	South Mantua Street (SR 43)	SR 59 to W Main Street	37.3	MD / PM	Monitor
63	South Arlington Road	SB from IR 77 to Chenoweth Road	37.2	PM	2, 3, 4
64	SR 8	NB IR 271 to Macedonia Commons Boulevard	37.1	MD / PM	2, 4
65	Tallmadge Road	Tallmadge Corp Line to Highway View Drive	37.1	MD / PM	2, 4
66	East Tallmadge Avenue (SR 261)	North Main Street (SR 261) to Dayton Street	36.9	PM	Existing Project (88556) - Monitor
67	Canton Road (SR 91)	Triplett Boulevard to Albrecht Avenue	36.9	PM	4
68	East Aurora Road (SR 82)	Macedonia Commons Boulevard to Freeway Drive	36.8	AM	1, 4
69	Northeast Avenue (SR 261)	SB into East Howe Road Roundabout	36.5	PM	Monitor
70	Canton Road (SR 91)	Albrecht Avenue to Wedgewood Drive	36.4	MD / PM	4
71	North Main Street (SR 91)	Aurora Street to Prospect Street	36.4	MD / PM	Existing Project (116924) - Monitor

Table 8-2 | Arterial Recommendations					
	SEGMENT NAME	DESCRIPTION	PEAK % CONG.	PEAK PERIOD	RECOMMENDATION
72	West Garfield Road (SR 82)	Aurora Road (SR 43) to Chillicothe Road (SR 306)	36.3	MD / PM	Existing Project (107761) - Monitor
73	East Waterloo Road	South Arlington Street to end of divided highway	36.3	MD	4
74	SR 44	US 224 to Waterloo Road	36.2	PM	2, 4
75	South Arlington Street	Arlington Circle to Waterloo Road	35.9	MD / PM	4
76	Mull Avenue	EB into Hawkins Ave Traffic Circle	35.8	PM	Monitor
77	Broad Boulevard	EB from Second Street to SR 8 Ramps	35.8	PM	3, 4
78	Medina Road (SR 18)	Crystal Lake Road to IR 77	35.6	PM	1, 3, 4
79	West Market Street (SR 18)	Bryden Drive to Hawkins Avenue	35.5	PM	3, 4
80	Riverview Road	SB into Smith Road Roundabout	35.3	PM	Monitor
81	West Streetsboro Street (SR 303)	Boston Mills Road to North Main Street (SR 91)	35.2	PM	Existing Project (117269) - Monitor
82	SR 8	SB at SR 82 intersection	35.2	AM	1, 3, 4
83	Graham Road	Bailey Road to Hudson Drive	35.1	MD / PM	2, 3, 4
84	Brecksville Road	SB at Broadview Road/SR 176 Intersection	35.0	PM	1, 4

9 | EVALUATING STRATEGY EFFECTIVENESS

Understanding if congestion reduction strategies are effective post implementation can be challenging because projects are often constructed with another goal in mind. An example of this would be a complete street project that had a goal to improve the roadway for bicyclists, pedestrians and transit users. The roadway may be safer, but congestion may not have been alleviated.

It also is difficult to immediately determine strategy effectiveness because of the lag in data availability. Because the use of cellphone data is relatively new, it is difficult to evaluate projects that happened before the data was available. Additionally, because of data lag, AMATS might not have post implementation data for a few years after the project is completed.

These challenges aside, it is important to try to evaluate past projects to identify if certain strategies for congestion reduction work better than others in the greater Akron region.

Table 9-1 | Freeway Strategy Evaluation Table

SEGMENT NAME	DIRECTION	COMMUNITY	PEAK	2019 CONG. %	2022 CONG. %	EFFECTIVENESS	PROJECT
I-271 From SR 82 and I-480	NB	Macedonia	AM	68.0	5.1%	Significant Impact	Project 89548 complete, included adding through lanes

Table 9-2 | Arterial Strategy Evaluation Table

SEGMENT NAME	DIRECTION	COMMUNITY	PEAK	2019 CONG. %	2022 CONG. %	EFFECTIVENESS	PROJECT
Cedar St from Rand St to Dart Ave	EB	Akron	AM	56.5%	16.0%	Significant Impact	Project 88990 completed, included signal interconnect and bike lanes, Monitor
SR 14 from SR 303 W Jct to SR 303 E Jct	EB	Streetsboro	PM	56.0%	30.3%	Significant Impact	Project 99879 completed, included signal interconnect, Monitor
W Exchange St from Dart Ave to Rand St	WB	Akron	AM	46.4%	13.2%	Significant Impact	Project 88990 completed, included signal interconnect and bike lanes, Monitor
SR 14 from I-80 ramps to SR 43	EB	Streetsboro	PM	45.9%	18.0%	Significant Impact	Project 99879 completed, included signal interconnect; Monitor
SR 82 from SR 306 to SR 43	WB	Aurora	AM	45.6%	20.6%	Significant Impact	Project 107761 planned, includes signal interconnect; Monitor
Home Ave from Annapolis Ave to Howe Ave	NB	Akron/ Cuyahoga Falls	MD	42.6%	26.3%	Significant Impact	Project 93819 underway, includes extended turn lanes on Home Ave; Monitor
Ravenna Rd from Chamberlin Rd to Cuyahoga Co Line	NB	Twinsburg	AM	39.4%	22.5%	Significant Impact	Project 113165 planned, includes intersection improvements at Shephard; Monitor
Aurora Hudson Rd from I-480 SB Ramps to Frost Rd	EB	Streetsboro	AM	39.1%	19.5%	Significant Impact	Project 92561 completed, included signal interconnect, turn lanes, bridge widening; Monitor
SR 82 from SR 43 to SR 306	EB	Aurora	AM	38.5%	25.3%	Significant Impact	Project 107761 planned, includes signal interconnect; Monitor
Cleveland Massillon Rd from Bywood Ave to Elgin Dr	SB	Fairlawn	PM	36.8%	12.0%	Significant Impact	Project 103293 underway, includes widen to 5 lanes, roundabout, signal upgrade; Monitor
SR 91 North Ave from Howe Rd to Tallmadge Circle	SB	Tallmadge	PM	36.6%	12.0%	Significant Impact	Project 93444 completed, included reconstruction with turn lanes and sidewalks; Monitor

Table 9-2 | Arterial Strategy Evaluation Table

SEGMENT NAME	DIRECTION	COMMUNITY	PEAK	2019 CONG. %	2022 CONG. %	EFFECTIVENESS	PROJECT
SR 59 under the SR 18 Market St bridge	EB	Akron	AM	36.2%	1.3%	Significant Impact	Project 75436 completed, included SR 59 rerouting and intersection improvements at Howard/Main; Monitor
Cleveland Massillon Rd through Copley Circle	SB	Sum Co - Copley Twp	AM	42.7%	21.1%	Significant Impact	Project 103171 completed, included additional turn lanes; Monitor
SR 91 Canton Rd through the US 224 Intersection	NB	Sum Co - Springfield Twp	PM	38.7%	5.8%	Significant Impact	Project 89113 underway, includes concrete median and turn lanes; Monitor
Cleveland Massillon Rd through Copley Circle	NB	Sum Co - Copley Twp	AM	38.7%	16.8%	Significant Impact	Project 103171 completed, included additional turn lanes; Monitor
US 224 through the SR 91 intersection	EB	Sum Co - Springfield Twp	PM	38.4%	12.8%	Significant Impact	Project 89113 underway, includes concrete median and turn lanes; Monitor
SR 91 Canton Rd through the US 224 intersection	SB	Sum Co - Springfield Twp	PM	37.7%	17.3%	Significant Impact	Project 89113 underway, includes concrete median and turn lanes; Monitor
Cleveland Massillon Rd bet the Ridgewood Roads	NB	Fairlawn / Copley Twp	PM	36.6%	17.1%	Significant Impact	Project 108131 completed, included add turn lanes; Monitor
Waterloo Rd through the Arlington St intersection	EB	Akron	PM	36.0%	10.9%	Significant Impact	Project 96359 completed, included intersection improvements; Monitor
Cleveland Massillon Rd through Ghent Rd intersection	NB	Sum Co - Bath Twp	AM	35.9%	31.1%	Minor Impact	Project to realign intersection and add new right turn lane underway; Monitor

9.1 | Methodology

To evaluate past projects, AMATS ran corridor analyses on all 2019 congested locations that were identified as having projects either just completed or under construction in the *2020 Congestion Management Process*. AMATS used the most recent available full year data for project evaluations (2022) that were used for the CMP analysis. The corridor analyses AMATS ran provide the data necessary to calculate the congestion percentage in 2022 for each corridor. The congestion percentage from 2022 was then compared to the 2019 congestion percentage. If projects reduced congestion by more than 10 percent, it was considered a significant impact. If it was less than 10 percent but greater than zero it was considered a minor impact, and if it was a high level of congestion it was considered to have no impact.

9.2 | Project Evaluation

Overall AMATS saw a reduction in all past projects that were evaluated. While encouraging, it is also true that the latest full year data was collected toward the tail end of the COVID-19 Pandemic in 2022. The greater Akron area has seen a significant reduction in traffic throughout the area compared to pre-pandemic levels. While the projects evaluated as part of the CMP have improved corridor congestion, it is also safe to assume traffic volumes were lower in 2022 than they were in 2019.

Despite the pandemic's role in changing travel behavior, it is still important to highlight some of the projects that reduced congestion:

9.2.1 | Signal Projects

Several projects involving signal interconnect improvements were constructed prior to 2022, all of which yielded among the highest reductions in congestion for recent AMATS projects. The projects covered two corridors in Akron, two corridors in Aurora, and three corridors in Streetsboro. Averaged, they reduced congestion percentages by 26.4 points.

Signal interconnect projects are a relatively low-cost way to, in many cases, significantly improve traffic flow through a corridor. AMATS is completing its first-ever traffic signal inventory project. This project will help AMATS and its member communities better-understand the needs at the approximately 1,000 signalized intersections throughout the area. More importantly, it will help to prioritize which intersections may benefit most from signal upgrades.

9.2.2 | Roundabout and Lane Addition Project

The City of Fairlawn constructed a project along Cleveland-Massillon Road that included several improvements aimed at reducing congestion and improving safety. The roadway was widened to five lanes (from two-to-three lanes), a signal was improved, and a new roundabout was constructed. Although some of these improvements were beyond the congested segment's limits, this segment experienced a 24.8 point reduction in its congestion percentage.

Roundabouts have been widely demonstrated to improve traffic flow for most intersections because they typically reduce and can, in many cases, essentially eliminate the queueing of traffic approaching intersections. AMATS and ODOT have several funding sources that can fund roundabout projects (these are discussed in greater detail in Chapter 4 of AMATS' *Areawide Roundabout Study*).

While adding additional driving lanes can often reduce congestion, larger roads encourage more travel, and more traffic at higher speeds can increase safety concerns for vehicles and make travel difficult for non-motorized transportation. Such Tier 5 Congestion Management Strategies, as described previously, should be considered with significant caution.

9.2.3 | Access Management Project

Springfield Township improved the Canton Road corridor to provide improved access management by constructing median barriers, adding turn lanes, and implementing legal U-turns to reduce conflict points and improve the overall flow of traffic. Between 2019 and 2022, nearly all northbound congestion was eliminated, this direction of the corridor going from 38.7% to 5.8% congestion, a 32.9 point reduction. The southbound direction saw a 20.4 point decrease in congestion, and the eastbound leg of intersecting SR 224—which also saw similar improvements to access management—decreased by 25.6 points.

Access management projects provide significant benefits to congestion and safety. While these projects often involve significant coordination with property owners and have the potential to create controversy during the planning stages of project development, AMATS strongly encourages projects that help manage and channel access. Many of AMATS' past reports, including most of its past *Connecting Communities* planning studies, recommend access management directly or indirectly.

While all projects were shown to reduce congestion, some were less successful at reducing congestion. The only listed project with a minor impact to congestion was Bath Township's Cleveland Massillon Road and Ghent Road project. This project added a turn lane and re-configured turning movements at the intersection. While congestion was slightly reduced, the project goals also included improving safety.

The COVID-19 pandemic certainly played a role in the data analyzed for the project evaluations, it is still positive that post project these previously congested corridors all saw decreases in congestion.

The analysis supports that improvements like roundabouts, limited access and signal interconnects can help reduce congestion.

10 | CONCLUSION

As the Metropolitan Planning Organization for the greater Akron, it is the Akron Metropolitan Area Transportation Study's (AMATS) responsibility to ensure that traffic congestion is identified and addressed, appropriately and responsibly. Through the CMP analysis, it is clear that the greater Akron region's congestion is localized and many identified congested corridors are currently being addressed.

With the limited resources available to the region, it is critical that communities consider congestion improvements that can provide maximum benefit for the lowest cost, while balancing the safety of all users.

A | APPENDIX

Table A-1 below shows all arterial and collector roadway corridors within the AMATS planning area with between 25% and 34.99% congestion. While these roadways did not meet congestion thresholds of 35%, they still displayed some level of minor congestion. Over 2,700 corridors were analyzed in total, including those below 25% congestion. Any corridor congestion values not on this list, i.e. below 25%, are available upon request.

Table A-1 | StreetLight Congestion Analysis (25%-34.99% Congestion)

SEGMENT ID	SEGMENT NAME	FFC	LENGTH (MILES)	PEAK % CONGESTION	PEAK % FREE FLOW	DAY PART
1216344452	Howe Avenue / 19851300	4	0.028	34.97	65.03	Mid-Day / Peak PM
1220152326	Haymaker Parkway / 1382189	3	0.284	34.93	65.07	Peak PM
1216606612	Stow Road / 20819349	4	0.101	34.86	65.14	Peak PM
1221125862	Bailey Road / 13685005	5	0.079	34.78	65.22	Mid-Day / Peak PM
1216333049	State Road / 13569309	4	0.182	34.71	65.29	Peak PM
1216437802	South Water Street / 1380955	5	0.178	34.68	65.32	Peak PM
1220109801	West Market Street / 245288	3	0.756	34.62	65.38	Mid-Day
1216437298	East Main Street / 868560	3	0.086	34.46	65.54	Mid-Day / Peak PM
1220165526	Rock Spring Road / 22488760	5	0.125	34.45	65.55	Peak PM
1220464106	South Arlington Road / 18415115	4	0.070	34.33	65.67	Mid-Day / Peak PM
1216333084	Portage Trail / 17891867	3	0.149	34.17	65.83	Mid-Day
1216343666	North Main Street / 242931	5	0.150	34.09	65.91	Peak AM / Mid-Day
1216486544	SR 261 / 1380959	3	0.416	34.08	65.92	Peak PM
1216370285	East State Street / 22513765	5	0.070	34.01	65.99	Mid-Day / Peak PM
1216437243	North Freedom Street / 16612277	4	0.177	34.00	66.00	Mid-Day / Peak PM
1220919764	Copley Road / 893618	4	0.419	33.98	66.02	Peak PM
1216470633	Cleveland East Liverpool Road / 245866	3	1.944	33.96	66.04	Mid-Day
1220860734	Copley Road / 14988073	4	0.093	33.91	66.09	Mid-Day / Peak PM
1220152328	East Summit Street / 255026	4	0.356	33.78	66.22	Mid-Day / Peak PM
1216632475	East Howe Road / 14522140	4	0.060	33.77	66.23	Peak PM
1216333031	4th Street / 13933480	5	0.157	33.76	66.24	Peak AM / Peak PM
1221125721	Graham Road / 893789	4	0.149	33.75	66.25	Peak PM
1220078975	Medina Road / 18723947	3	0.019	33.72	66.28	Mid-Day / Peak PM
1216206845	East Wilbeth Road / 22766422	4	0.022	33.59	66.41	Mid-Day / Peak PM
1216363201	Rand Avenue / 21828804	5	0.186	33.55	66.45	Mid-Day / Peak PM
1216344491	East Tallmadge Avenue / 1381929	3	0.047	33.51	66.49	Peak AM / Mid-Day / Peak PM
1220860474	Copley Circle / 20906394	4	0.024	33.46	66.54	Peak AM / Mid-Day / Peak PM
1220977220	Steese Road / 20777167	5	0.024	33.45	66.55	Peak PM
1221078325	South Seiberling Street / 20488781	5	0.015	33.33	66.67	Peak AM / Mid-Day / Peak PM
1221143837	Darrow Road / 15817523	3	0.048	33.29	66.71	Peak PM
1216206199	South Main Street / 15745948	3	0.123	33.27	66.73	Mid-Day / Peak PM
1216333044	Broad Boulevard / 14259457	4	0.148	33.27	66.73	Mid-Day
1221122560	Terex Road / 19888548	4	0.140	33.26	66.74	Peak PM
1220977214	East Streetsboro Road / 21434447	5	0.079	33.25	66.75	Peak PM
1220490767	Great Lakes Boulevard / 14274707	3	0.124	33.24	66.76	Peak PM
1216223801	South Main Street / 22111628	3	0.225	33.18	66.82	Mid-Day
1220019949	Medina Road / 245539	3	0.398	33.12	66.88	Mid-Day
1216363357	Howe Avenue / 243252	4	0.121	33.05	66.95	Peak PM
1216608211	SR 303 / 19065624	4	0.270	33.03	66.97	Mid-Day / Peak PM
1220466224	Darrow Road / 14330101	3	0.043	33.01	66.99	Peak PM
1219638320	East Hines Hill Road / 18453500	5	0.060	32.96	67.04	Mid-Day / Peak PM
1216370129	South High Street / 893649	3	0.104	32.92	67.08	Mid-Day
1221431881	Cleveland East Liverpool Road / 20935347	3	0.184	32.89	67.11	Peak AM
1219866479	Southeast Avenue / 13750879	4	0.031	32.75	67.25	Mid-Day / Peak PM
1220014480	Merriman Road / 239669	3	0.515	32.75	67.25	Peak PM
1216437293	North Chestnut Street / 21366971	4	0.177	32.65	67.35	Mid-Day
1216216866	Copley Road / 18341518	4	0.150	32.60	67.40	Peak PM

Table A-1 | StreetLight Congestion Analysis (25%-34.99% Congestion)

SEGMENT ID	SEGMENT NAME	FFC	LENGTH (MILES)	PEAK % CONGESTION	PEAK % FREE FLOW	DAY PART
1220091024	Medina Road / 13878073	3	0.538	32.57	67.43	Peak PM
1216206057	South Main Street / 247144	4	0.165	32.55	67.45	Peak AM
1221090792	East Waterloo Road / 20490359	3	0.050	32.46	67.54	Peak PM
1220076440	Ghent Road / 17028524	4	0.246	32.44	67.56	Peak PM
1216486431	North Water Street / 242934	4	0.282	32.37	67.63	Peak PM
1216358772	East Highland Road / 21120141	5	0.086	32.25	67.75	Peak PM
1219638313	East Highland Road / 22314644	5	0.298	32.24	67.76	Peak PM
1216216197	Merriman Road / 21164636	4	0.088	32.23	67.77	Peak AM
1216217182	East Steels Corners Road / 255160	4	0.162	32.20	67.80	Peak PM
1221122360	Darrow Road / 15192754	3	0.059	32.18	67.82	Mid-Day / Peak PM
1220076333	West Market Street / 245538	3	0.524	32.18	67.82	Mid-Day
1216370327	University Avenue / 24135298	5	0.071	32.18	67.82	Mid-Day / Peak PM
1216356237	Mull Avenue / 22430122	5	0.029	32.14	67.86	Peak PM
1219667265	West Aurora Road / 19744193	4	0.514	32.13	67.87	Mid-Day
1221139819	Fishcreek Road / 16542696	4	0.256	32.12	67.88	Peak PM
1221134565	North Munroe Road / 15369121	5	0.031	32.07	67.93	Peak PM
1221134711	Darrow Road / 1380523	3	0.472	31.96	68.04	Mid-Day
1220921087	Norton Avenue / 21187972	4	0.145	31.95	68.05	Peak AM / Mid-Day
1216208147	Copley Road / 868303	4	1.411	31.83	68.17	Peak PM
1216342939	East Market Street / 22833116	3	0.065	31.69	68.31	Mid-Day
1221390095	SR 44 / 1382278	4	0.439	31.53	68.47	Mid-Day
1216369743	State Road / 243753	4	0.274	31.51	68.49	Mid-Day / Peak PM
1221146612	Seasons Road / 17956119	4	0.073	31.48	68.52	Peak PM
1216333093	Broad Boulevard / 16810916	4	0.040	31.47	68.53	Mid-Day
1220978376	East Market Street / 902663	3	0.112	31.46	68.54	Peak PM
1216468240	SR 59 / 17145176	3	0.024	31.40	68.60	Peak AM
1221431636	East Main Street / 20664517	4	0.030	31.40	68.60	Peak PM
1216216868	West Exchange Street / 251905	4	0.028	31.38	68.62	Mid-Day
1221091062	East Turkeyfoot Lake Road / 15874016	4	0.020	31.30	68.70	Peak PM
1216437416	SR 5 - SR 44 / 911345	3	0.220	31.29	68.71	Peak AM / Mid-Day / Peak PM
1216470418	Cleveland East Liverpool Road / 1381930	3	0.938	31.29	68.71	Mid-Day / Peak PM
1216342989	Martin Luther King Boulevard / 18073501	3	0.065	31.26	68.74	Peak PM
1221143923	Liberty Road / 24241919	5	0.026	31.25	68.75	Peak PM
1221090121	Tallmadge Road / 911341	4	0.956	31.21	68.79	Peak PM
1216486567	SR 261 / 247607	3	0.420	31.20	68.80	Mid-Day / Peak PM
1216356538	East Tallmadge Avenue / 16938879	4	0.223	31.15	68.85	Peak PM
1220846873	Graham Road / 23899981	4	0.135	31.14	68.86	Mid-Day
1219976889	East Cuyahoga Falls Avenue / 14559015	4	0.329	31.10	68.90	Peak PM
1220860871	Mull Avenue / 16752920	4	0.082	31.00	69.00	Peak AM
1216342836	East Market Street / 249757	3	0.066	30.98	69.02	Mid-Day
1216333069	Broad Boulevard / 15647877	4	0.074	30.97	69.03	Peak PM
1216344276	East Cuyahoga Falls Avenue / 16591404	4	0.021	30.96	69.04	Peak AM
1216205461	South Main Street / 17388452	4	0.409	30.94	69.06	Peak PM
1220860521	2nd Street Northwest / 866771	5	0.390	30.94	69.06	Peak AM / Mid-Day / Peak PM
1216629111	East Summit Street / 247478	4	0.257	30.93	69.07	Mid-Day
1216332384	Hudson Drive / 15953731	4	0.081	30.89	69.11	Mid-Day / Peak PM
1216628860	East Main Street / 242943	3	0.087	30.87	69.13	Mid-Day / Peak PM

Table A-1 | StreetLight Congestion Analysis (25%-34.99% Congestion)

SEGMENT ID	SEGMENT NAME	FFC	LENGTH (MILES)	PEAK % CONGESTION	PEAK % FREE FLOW	DAY PART
1220078928	Medina Road / 910665	3	0.054	30.78	69.22	Mid-Day / Peak PM
1216206354	East Exchange Street / 246122	4	0.169	30.76	69.24	Mid-Day
1221136095	Tallmadge Road / 19212263	4	0.144	30.74	69.26	Peak PM
1220844944	Massillon Road / 905490	3	0.075	30.71	69.29	Peak PM
1216370231	South Maple Street / 23038790	4	0.105	30.71	69.29	Peak AM
1216370238	East Bowery Street / 23650571	4	0.069	30.66	69.34	Mid-Day / Peak PM
1220846925	Graham Road / 15925039	4	0.188	30.66	69.34	Peak PM
1216338808	East Aurora Road / 18976147	4	0.145	30.58	69.42	Mid-Day
1221142860	East Steels Corners Road / 868794	4	0.769	30.52	69.48	Mid-Day / Peak PM
1216216900	West Exchange Street / 21293590	4	0.093	30.49	69.51	Peak PM
1216211334	East Exchange Street / 902712	4	0.102	30.49	69.51	Mid-Day
1216632183	Tallmadge Road / 22687765	4	0.144	30.44	69.56	Mid-Day / Peak PM
1216211313	Arc Drive / 15218652	4	0.027	30.43	69.57	Peak AM
1219978259	Bauer Boulevard / 13480186	5	0.147	30.42	69.58	Peak PM
1216363114	Manchester Road / 14714726	3	0.015	30.40	69.60	Mid-Day / Peak PM
1219866587	Southeast Avenue / 14233540	4	0.053	30.36	69.64	Peak PM
1221390555	State Route 14 / 1380394	4	0.176	30.30	69.70	Peak AM / Mid-Day
1220919728	Vernon Odom Boulevard / 15357103	4	0.055	30.20	69.80	Mid-Day / Peak PM
1216345511	Old South Main Street / 22526313	5	0.019	30.16	69.84	Mid-Day / Peak PM
1216370093	South Main Street / 17313815	5	0.068	30.03	69.97	Mid-Day / Peak PM
1216629223	South Lincoln Street / 249895	5	0.260	30.00	70.00	Mid-Day / Peak PM
1216378619	West Bartges Street / 867282	5	0.556	30.00	70.00	Peak PM
1221390077	SR 5;SR 44 / 23159562	3	0.047	29.97	70.03	Mid-Day / Peak PM
1216211419	South Main Street / 251912	5	0.083	29.94	70.06	Peak PM
1216678709	Stow Road / 15031653	4	0.225	29.94	70.06	Peak PM
1221122815	East Wilbeth Road / 867523	4	0.052	29.93	70.07	Mid-Day
1216357141	South Arlington Road / 14019587	4	0.007	29.88	70.12	Mid-Day / Peak PM
1216208031	Diagonal Road / 1369942	5	0.021	29.87	70.13	Peak PM
1220856512	Manchester Road / 17877065	3	0.242	29.87	70.13	Peak PM
1220013280	West Market Street / 21349979	3	0.581	29.73	70.27	Peak AM / Mid-Day
1216370141	tertiary / 22520325	5	0.021	29.73	70.27	Mid-Day / Peak PM
1220078932	Medina Road / 18723948	3	0.027	29.70	70.30	Mid-Day / Peak PM
1221123630	Darrow Road / 23823050	3	0.087	29.70	70.30	Peak PM
1221143670	Glenwood Drive / 15147811	5	0.038	29.69	70.31	Peak PM
1220467521	West Avenue / 893061	3	0.961	29.59	70.41	Mid-Day / Peak PM
1216370042	Dart Avenue / 14869111	5	0.180	29.56	70.44	Peak AM
1216332131	Ghent Road / 249369	4	0.077	29.49	70.51	Peak PM
1221391464	Ranfield Road / 15578178	5	0.050	29.35	70.65	Peak PM
1220977391	East Waterloo Road / 16696399	3	0.231	29.32	70.68	Peak PM
1216370927	East Market Street / 1380963	3	0.099	29.27	70.73	Mid-Day / Peak PM
1220019812	North Cleveland Massillon Road / 239771	4	0.431	29.26	70.74	Mid-Day / Peak PM
1220859247	West State Street / 16245960	5	0.123	29.23	70.77	Peak PM
1220978276	Mogadore Road / 14312938	5	0.029	29.22	70.78	Peak AM
1216363074	Manchester Road / 16070682	3	0.542	29.20	70.80	Mid-Day / Peak PM
1216342892	East Buchtel Avenue / 849915	4	0.176	29.19	70.81	Mid-Day
1216468328	Cleveland East Liverpool Road / 249906	3	0.310	29.13	70.87	Peak AM
1220860563	West Hopocan Avenue / 17130335	5	0.103	29.10	70.90	Mid-Day
1219668577	New Milford Road / 18126625	5	0.033	29.03	70.97	Mid-Day / Peak PM
1216361826	South Main Street / 22111643	3	0.297	29.01	70.99	Mid-Day
1221125627	Darrow Road / 14233444	3	0.505	29.01	70.99	Peak PM
1216222400	Chestnut Boulevard / 22001153	5	0.074	28.99	71.01	Peak PM
1220978145	North Main Street / 243258	3	0.396	28.97	71.03	Peak PM
1216380325	East Waterloo Road / 20748985	4	0.242	28.97	71.03	Peak PM
1221089883	Bailey Road / 240560	4	0.931	28.95	71.05	Mid-Day / Peak PM
1220882028	Akron Road / 13760229	3	0.223	28.95	71.05	Peak PM
1216360020	Martin Luther King Boulevard / 1381931	3	0.118	28.94	71.06	Peak AM / Peak PM
1221090079	Portage Trail / 21506525	3	0.103	28.93	71.07	Peak PM

Table A-1 | StreetLight Congestion Analysis (25%-34.99% Congestion)

SEGMENT ID	SEGMENT NAME	FFC	LENGTH (MILES)	PEAK % CONGESTION	PEAK % FREE FLOW	DAY PART
1216357653	South Arlington Road / 1382527	4	0.449	28.88	71.12	Mid-Day / Peak PM
1221090182	Howe Avenue / 250235	4	0.684	28.85	71.15	Peak PM
1216206761	South Main Street / 23071384	3	0.212	28.83	71.17	Peak PM
1221129814	Middleton Road Extended / 17295456	5	0.118	28.81	71.19	Peak AM
1216544489	State Route 43 / 892662	3	0.159	28.81	71.19	Peak AM
1220844265	Northwest Avenue / 21565901	4	0.317	28.78	71.22	Peak AM
1216211333	South High Street / 902710	3	0.083	28.77	71.23	Peak AM
1219668804	East Summit Street / 857052	4	0.144	28.76	71.24	Mid-Day
1216629232	South Water Street / 868552	3	0.476	28.73	71.27	Peak PM
1220156799	SR 44 / 16065721	4	0.159	28.71	71.29	Peak PM
1221132084	East Aurora Road / 855681	4	0.179	28.68	71.32	Peak PM
1216342948	North Union Street / 20043514	4	0.191	28.67	71.33	Mid-Day / Peak PM
1216333192	Portage Trail / 15167063	3	0.127	28.61	71.39	Mid-Day / Peak PM
1220860508	Wooster Road North / 893404	3	0.384	28.55	71.45	Mid-Day / Peak PM
1221090978	East Waterloo Road / 16166521	3	0.211	28.53	71.47	Mid-Day / Peak PM
1216356535	East Cuyahoga Falls Avenue / 16270007	4	0.272	28.48	71.52	Mid-Day / Peak PM
1219669061	Summit Road / 867516	4	0.077	28.47	71.53	Peak PM
1220046634	Ghent Road / 17028523	4	0.110	28.42	71.58	Mid-Day / Peak PM
1216211440	West Cedar Street / 16049586	4	0.105	28.41	71.59	Peak PM
1216223810	West Thornton Street / 22412601	5	0.077	28.40	71.60	Mid-Day
1216363170	Portage Lakes Drive / 15767303	5	0.307	28.39	71.61	Mid-Day
1216356989	South Arlington Road / 14019586	4	0.019	28.34	71.66	Mid-Day / Peak PM
1219950710	West High Street / 21512366	6	0.544	28.34	71.66	Mid-Day / Peak PM
1216606553	Barlow Road / 20122119	5	0.053	28.31	71.69	Peak PM
1216223769	South Main Street / 18875436	3	0.225	28.28	71.72	Mid-Day
1216342860	East Market Street / 1369908	3	0.281	28.24	71.76	Mid-Day
1220108993	Smith Road / 239765	3	0.953	28.23	71.77	Mid-Day / Peak PM
1216450369	Aurora Hudson Road / 250600	5	0.164	28.22	71.78	Peak PM
1220120314	Copley Circle / 20129419	4	0.013	28.21	71.79	Peak AM / Mid-Day
1221074609	5th Avenue / 23779055	5	0.262	28.18	71.82	Peak AM
1221078437	East Market Street / 13341598	3	0.204	28.17	71.83	Peak AM / Mid-Day
1216207725	East Buchtel Avenue / 242948	4	0.056	28.17	71.83	Peak AM
1221122674	Myersville Road / 23478844	5	0.030	28.14	71.86	Mid-Day / Peak PM
1221091067	East Turkeyfoot Lake Road / 257663	3	0.110	28.14	71.86	Mid-Day / Peak PM
1220152332	West Summit Street / 868548	5	0.104	28.09	71.91	Peak AM / Mid-Day / Peak PM
1220468468	4th Street Southwest / 1382250	4	0.174	28.08	71.92	Peak PM
1220469782	Wooster Road North / 23947992	3	0.029	28.04	71.96	Mid-Day / Peak PM
1216342947	South Broadway Street / 19678427	3	0.179	27.97	72.03	Peak AM / Peak PM
1220521358	Fulton Road / 23840961	6	0.038	27.95	72.05	AM Peak
1216437343	East Main Street / 867522	3	0.416	27.92	72.08	Mid-Day / Peak PM
1221122637	South Arlington Street / 1381924	4	0.111	27.91	72.09	Peak PM
1216207898	Perkins Street / 20182233	3	0.023	27.90	72.10	Peak AM
1220919772	Copley Road / 857003	4	0.121	27.90	72.10	Mid-Day / Peak PM
1219867884	East Waterloo Road / 14753374	5	0.055	27.88	72.12	Peak AM
1220012057	West Market Street / 245781	3	0.227	27.87	72.13	Peak PM
1216356829	West Market Street / 24189958	3	0.672	27.86	72.14	Peak PM
1216437824	North Water Street / 21865895	4	0.041	27.84	72.16	Peak AM / Mid-Day / Peak PM
1219978727	East Tallmadge Avenue / 23813537	3	0.055	27.81	72.19	Mid-Day
1221143663	East Waterloo Road / 15633148	3	0.245	27.79	72.21	Mid-Day / Peak PM
1221150230	Ravenna Road / 23149491	4	0.019	27.77	72.23	Peak AM / Mid-Day / Peak PM
1221132204	Darrow Road / 23203054	3	0.056	27.77	72.23	Mid-Day
1216206311	East Exchange Street / 15743248	4	0.098	27.76	72.24	Peak PM
1220859251	West State Street / 1369868	5	0.059	27.73	72.27	Peak AM / Peak PM
1220457857	Darrow Road / 13239358	3	0.378	27.72	72.28	Peak PM
1219977061	East Cuyahoga Falls Avenue / 855960	4	0.535	27.68	72.32	Peak PM
1216541755	Fishcreek Road / 857379	4	0.852	27.65	72.35	Peak PM
1220977324	Massillon Road / 867065	3	0.628	27.64	72.36	Peak PM

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SEGMENT ID	SEGMENT NAME	FFC	LENGTH (MILES)	PEAK % CONGESTION	PEAK % FREE FLOW	DAY PART
1220978356	East Market Street / 15850408	3	0.126	27.63	72.37	Peak PM
1220152255	South Water Street / 1369943	3	0.077	27.62	72.38	Mid-Day / Peak PM
1216357072	West Tallmadge Avenue / 21460462	4	0.194	27.60	72.40	Peak AM
1221073478	Goodkirk Street / 17537652	5	0.192	27.55	72.45	Mid-Day / Peak PM
1216342984	South High Street / 19232398	3	0.191	27.53	72.47	Mid-Day / Peak PM
1220091026	Medina Road / 21692772	3	0.139	27.50	72.50	Peak PM
1216208122	Superior Avenue / 21543107	5	0.172	27.45	72.55	Mid-Day
1221091494	Massillon Road / 24286810	3	0.046	27.45	72.55	Mid-Day / Peak PM
1221376126	SR 8 / 23762183	4	0.190	27.45	72.55	Mid-Day / Peak PM
1221117180	Triplett Boulevard / 13818634	3	0.143	27.44	72.56	Peak PM
1219977573	Stow Road / 17551035	5	0.031	27.42	72.58	Peak AM / Mid-Day / Peak PM
1216211471	East Exchange Street / 22104887	4	0.071	27.39	72.61	Peak PM
1220900777	5th Street Southeast / 18707819	4	0.520	27.38	72.62	Mid-Day
1221396567	State Route 43 / 16525337	3	0.273	27.34	72.66	Peak AM
1216207826	North Forge Street / 23761467	5	0.111	27.33	72.67	Mid-Day
1219867780	Canton Road / 19637550	3	0.058	27.32	72.68	Mid-Day / Peak PM
1216362396	Manchester Road / 23471506	4	0.602	27.29	72.71	Mid-Day
1216206765	East Wilbeth Road / 13970438	4	0.184	27.29	72.71	Peak PM
1216370315	South Main Street / 13687723	5	0.097	27.27	72.73	Mid-Day / Peak PM
1216437704	East Main Street / 892865	4	0.238	27.27	72.73	Peak PM
1216350144	East Market Street / 14973371	3	0.060	27.20	72.80	Mid-Day
1221089999	Broad Boulevard / 24370521	4	0.012	27.20	72.80	Peak PM
1216216002	South Maple Street / 21360152	4	0.085	27.19	72.81	Mid-Day / Peak PM
1216516412	State Route 43 / 1381469	3	1.016	27.13	72.87	Mid-Day / Peak PM
1216345395	West State Street / 856997	5	0.113	27.09	72.91	Mid-Day
1216362185	East Wilbeth Road / 15328095	4	0.382	27.00	73.00	Peak PM
1221146445	East Hines Hill Road / 18453499	5	0.102	26.96	73.04	Peak PM
1221132226	Darrow Road / 893815	3	0.251	26.95	73.05	Mid-Day / Peak PM
1216467703	Cleveland Road / 17195922	4	0.023	26.93	73.07	Peak AM
1221074630	South Arlington Street / 17272119	4	0.211	26.92	73.08	Peak PM
1220045284	North Cleveland Massillon Road / 19868068	4	0.212	26.92	73.08	Peak PM
1221431853	State Route 43 / 247434	3	0.463	26.91	73.09	Peak PM
1216362383	North Portage Path / 902777	4	0.231	26.86	73.14	Peak PM
1216356214	South Hawkins Avenue / 245783	4	0.030	26.83	73.17	Mid-Day / Peak PM
1216368081	Olde Eight Road / 19894714	5	0.029	26.81	73.19	Peak AM / Mid-Day
1219866658	Eastwood Avenue / 23944135	5	0.033	26.81	73.19	Peak PM
1219659630	SR 8 / 14329164	4	0.023	26.81	73.19	Peak AM
1219977025	East Tallmadge Avenue / 246130	3	0.121	26.80	73.20	Mid-Day / Peak PM
1216358353	SR 8 / 16500997	4	0.024	26.77	73.23	Peak PM
1219597287	Brecksville Road / 16393137	4	0.033	26.74	73.26	Peak PM
1221136988	East Aurora Road / 911126	4	0.488	26.73	73.27	Mid-Day / Peak PM
1219640257	Wheatley Road / 14661840	5	0.051	26.65	73.35	Peak PM
1216211496	East Exchange Street / 857053	4	0.126	26.63	73.37	Mid-Day
1216370899	South Arlington Street / 902660	4	0.091	26.61	73.39	Peak AM / Mid-Day / Peak PM
1220469787	2nd Street Northwest / 19445273	5	0.096	26.61	73.39	Mid-Day / Peak PM
1216362041	East Archwood Avenue / 22604736	5	0.124	26.60	73.40	Peak AM
1216603366	State Route 43 / 892670	3	0.440	26.59	73.41	Mid-Day / Peak PM
1216211447	West Cedar Street / 15314637	4	0.016	26.58	73.42	Mid-Day / Peak PM
1221136967	Darrow Road / 23203053	3	0.024	26.51	73.49	Mid-Day / Peak PM
1216629016	Fairchild Avenue / 254764	4	0.077	26.51	73.49	Mid-Day / Peak PM
1216211367	East Exchange Street / 13526896	4	0.071	26.51	73.49	Peak AM / Mid-Day / Peak PM
1216363157	Monroe Street / 23247243	5	0.042	26.50	73.50	Mid-Day / Peak PM
1216370116	West Market Street / 22985224	3	0.411	26.48	73.52	Mid-Day
1216222644	East Streetsboro Road / 24182093	4	0.053	26.48	73.52	Peak PM
1221132037	Darrow Road / 254406	3	0.132	26.47	73.53	Peak PM
1219978293	Brittain Road / 24290504	4	0.821	26.40	73.60	Mid-Day / Peak PM
1216208223	South Hawkins Avenue / 17821855	4	0.215	26.37	73.63	Peak PM

Table A-1 | StreetLight Congestion Analysis (25%-34.99% Congestion)

SEGMENT ID	SEGMENT NAME	FFC	LENGTH (MILES)	PEAK % CONGESTION	PEAK % FREE FLOW	DAY PART
1219940701	North Aurora Road / 242557	3	0.277	26.35	73.65	Mid-Day / Peak PM
1216356557	North Main Street / 247116	4	0.065	26.34	73.66	Peak AM
1216207868	Perkins Street / 856498	3	0.066	26.34	73.66	Peak AM / Mid-Day / Peak PM
1216374613	South Arlington Road / 859697	4	0.594	26.33	73.67	Peak PM
1221122563	Darrow Road / 13688555	3	0.010	26.33	73.67	Peak AM / Mid-Day
1221136514	Triplett Boulevard / 13700357	4	0.261	26.33	73.67	Mid-Day / Peak PM
1220463026	State Road / 13569308	4	0.328	26.32	73.68	Peak PM
1216207763	Fountain Street / 22213173	5	0.166	26.31	73.69	Peak PM
1219866659	Southeast Avenue / 14785182	4	0.148	26.29	73.71	Peak PM
1221126154	East Aurora Road / 16818666	4	0.130	26.25	73.75	Mid-Day
1220472880	Mount Pleasant Street Northwest / 859377	5	0.268	26.22	73.78	Peak PM
1216369791	State Road / 893193	4	0.465	26.21	73.79	Mid-Day
1221088439	Kent Road / 893073	3	2.190	26.15	73.85	Mid-Day / Peak PM
1221012227	South Main Street / 247860	3	0.053	26.04	73.96	Peak PM
1221089990	East Portage Trail / 20510811	3	0.069	26.02	73.98	Peak PM
1221142498	Eastwood Avenue / 17964878	5	0.265	25.99	74.01	Peak AM
1221133656	Darrow Road / 23504723	3	0.143	25.93	74.07	Mid-Day
1221134683	Darrow Road / 250427	3	0.148	25.90	74.10	Peak AM / Mid-Day / Peak PM
1221143752	Liberty Road / 16101989	5	0.019	25.85	74.15	Peak PM
1216362033	South Main Street / 20178616	3	0.072	25.82	74.18	Peak PM
1220021903	South Hawkins Avenue / 20652294	4	0.454	25.81	74.19	Mid-Day
1220490760	Great Lakes Boulevard / 22208101	3	0.133	25.74	74.26	Peak PM
1216526983	West Main Street / 19561709	3	0.177	25.74	74.26	Mid-Day
1221088591	North Arlington Street / 17851713	4	0.296	25.74	74.26	Mid-Day / Peak PM
1220857400	Greenwich Road / 1369870	4	0.526	25.72	74.28	Peak AM
1220464087	South Arlington Road / 248964	4	0.511	25.70	74.30	Mid-Day / Peak PM
1220856659	Manchester Road / 15662822	3	0.094	25.69	74.31	Peak AM / Mid-Day / Peak PM
1220468529	Kenmore Boulevard / 911340	4	0.080	25.68	74.32	Peak PM
1216358151	Olde Eight Road / 251124	5	0.138	25.66	74.34	Peak PM
1220856538	Manchester Road / 1369876	3	0.580	25.62	74.38	Mid-Day
1216346338	West Exchange Street / 17880769	4	0.080	25.52	74.48	Peak AM
1220977208	East Streetsboro Road / 21434458	5	0.021	25.46	74.54	Peak PM
1221073521	East Exchange Street / 17319634	4	0.076	25.31	74.69	Peak AM / Mid-Day / Peak PM
1216370261	South Main Street / 13547802	5	0.034	25.31	74.69	Mid-Day
1216218005	Broadway Avenue / 14785412	4	0.024	25.29	74.71	PM Peak
1219803903	South Aurora Road / 901627	3	0.359	25.29	74.71	Mid-Day / Peak PM
1221431791	East Main Street / 251907	3	0.073	25.28	74.72	Mid-Day / Peak PM
1221090040	Broad Boulevard / 1370221	4	0.015	25.27	74.73	Peak PM
1216361299	South Arlington Street / 17272120	4	0.168	25.22	74.78	Mid-Day / Peak PM
1220120440	South Cleveland Massillon Road / 24244024	4	0.022	25.21	74.79	Peak PM
1216191728	State Road / 20540054	4	0.326	25.17	74.83	Mid-Day / Peak PM
1220467455	Brittain Road / 13222411	4	0.744	25.13	74.87	Peak PM
1216206631	Old South Main Street / 14324007	5	0.015	25.12	74.88	Mid-Day
1216370874	East Exchange Street / 14188692	4	0.674	25.04	74.96	Mid-Day / Peak PM
1216350290	North Broadway Street / 21945366	3	0.167	25.01	74.99	Peak PM

2024 CONGESTION MANAGEMENT PROCESS

The *2024 Congestion Management Process* is published by:
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Editorial Comments are welcome.

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AMATS

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 governemtns of Portage and Summit Counties and a portion of Wayne County.

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee**
Technical Advisory Committee
Citizens Involvement Committee

FROM: **AMATS Staff**

RE: **2050 Planning Data Forecast**

DATE: **September 11, 2024**

As an input to the Long-Range Transportation Plan, Transportation Outlook 2050, AMATS has developed the 2050 Planning Data Forecast. The purpose of the forecast is to project socio economic data from a base year of 2020 to 2050. The data forecasted in the report will be used to update Transportation Outlook 2050 and to update AMATS' transportation model.

The AMATS Planning Data Forecast is the formal report in which forecasted variables and underlying methodologies are presented. In 2023, AMATS hired Burgess & Niple (B&N), Inc to complete its 2050 Planning Data Forecast. B&N were tasked with updating AMATS existing variables to 2020 with the latest U.S. Census figures, distributing all new data to AMATS traffic analysis zones (TAZ) and the forecasting these data to 2050.

The AMATS 2050 Planning Data Forecast projects a number of variables, each of which has a direct impact on local traffic and is therefore required for input into the regional travel demand model. These variables include:

Population	Household	Employment	Stand-alone
Total Population	Total HH	Total Employment	Hotel Rooms
Age Under 18	Median HH Income	Employment by Sector	Parking Cost
Age 18-21	Vehicles		K-12 Enrollment
Group Quarters			University Enrollment
Workers			

The AMATS region is divided into 837 traffic analysis zones (traffic zones or TAZ). These traffic zones are used by the regional travel demand model to generate traffic volumes and to determine where trips begin and end. The model requires that each of the variables be provided for each traffic zone – for the base year 2020 and plan year 2050.

The 2050 Planning Data Forecast is the first AMATS forecast to include two scenarios. One scenario uses county control totals provided by the Ohio Department of Development (ODOD). AMATS must develop model variables based on the population control totals by county to ensure that its model is coordinated with the Ohio Department of Transportation's model. The ODOD uses a methodology that considers births, deaths, in-migration and out-migration. ODOD projects that Ohio is expected to lose 5.7 percent of its population by 2050 blaming primarily falling fertility rates and higher than usual mortality rates.

This statewide projected loss of population has a stark impact on the population control totals of the counties in the AMATS region and the AMATS Planning Data Forecast reflects that. While the ODOD populations are outside AMATS control, staff felt it necessary to develop a second population scenario that would focus on past population trends of the region. This forecast is more in keeping with AMATS past forecasts and provides another planning tool for the region.

See the forecast summary tables below:

ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	720,087	612,750	-14.9%
Households	304,094	274,482	-9.7%
Population Under 18	146,339	124,664	-14.8%
Vehicles	538,456	486,949	-9.6%
Workers	356,805	303,822	-14.8%

Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	720,087	722,064	0.3%
Households	304,094	322,855	6.2%
Population Under 18	146,339	146,584	0.2%
Vehicles	538,456	571,355	6.1%
Workers	356,805	357,941	0.3%

While AMATS must use the ODOD forecast for its traffic model, it is not required to be used in the region's planning efforts, where multiple forecast scenarios are encouraged.

The attached 2050 Planning Data Forecast document includes methodologies for forecasting using both scenarios. The document also breaks down the forecast by county and planning areas. The staff is recommending approval for the 2050 Planning Data Forecast.

AMATS 2050 Planning Data Forecast

September 2024

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

Executive Summary

The Akron Metropolitan Area Transportation Study (AMATS) Planning Data Forecast is a useful tool to understand what the greater Akron area could possibly look like in 2050. While it is truly impossible to accurately predict the future, current trends can give us some expectation of what the future holds. The forecasting of planning variables provides insight to what needs our transportation system may require and it is a critical part of the long-range planning process.

Predicting the exact changes in the population of the Akron, Ohio metropolitan area from now until 2050 involves considering various factors and scenarios. Currently, Akron and its surrounding areas have experienced periods of stable population growth, but also faced challenges such as overall population stagnation seen across Ohio. Looking forward, several trends may influence population dynamics:

1. **Economic Factors**: Akron's economy, historically rooted in manufacturing (especially rubber and polymers), has diversified into healthcare, education, and technology sectors. Economic growth and job opportunities could attract new residents and stabilize population trends.
2. **Cost of Living**: Ohio, including Akron, is known for its relatively low cost of living compared to coastal cities. This affordability can attract individuals and families seeking more affordable housing options and a lower cost of living, potentially boosting population growth.
3. **Quality of Life**: The region's proximity to natural resources like abundant freshwater and its inland location, which offers some protection from coastal weather events, may become increasingly attractive as climate change impacts intensify elsewhere.
4. **Migration Patterns**: Migration trends, both domestic and international, will play a significant role. Factors such as employment opportunities, quality of life, and educational institutions can influence whether people choose to move to or from the Akron area.
5. **Policy and Planning**: Long-term planning initiatives, including transportation infrastructure development, urban revitalization projects, and environmental policies, can shape the attractiveness and livability of the Akron area, influencing population trends.

While these factors suggest potential for growth, uncertainties remain. Demographic shifts, economic conditions, and unforeseen events like pandemics or economic recessions could also impact population trends. Therefore, projecting the precise population changes in the Akron metropolitan area by 2050 involves considering a range of scenarios and adapting planning strategies accordingly. This report presents the results of two different population forecast scenarios:

- The **ODOD Scenario** is based on aligning the 2050 population totals with the Ohio Department of Development's county-level population forecasts for Ohio.
- The **Current Trends Scenario** is based on analyzing population trends over the last 20 years to extrapolate future population and employment projections.

Introduction

One of the most fundamental steps in the regional transportation planning process is the collection, organization and analysis of existing planning-related data. Using this data, AMATS can determine where we have been (from a social-economic standpoint), the region's current conditions, and perhaps most critical to any planning effort, in what direction we are heading.

Although the most commonly used data items (ex. population or employment data) are gathered and analyzed on an ongoing basis, a greatly expanded effort is undertaken in preparation for each upcoming long-range regional transportation plan. For this reason, the AMATS 2050 Planning Data Forecast has been completed as a necessary precursor to the upcoming long-range plan update.

AMATS analyzes the base year of 2020 and the planning period year of 2050. The 2020 data generally comes from either the most recent U.S. census or from American Community Survey (ACS). Using forecasting methodology, this 2020 data is projected out to the plan year of 2050. Projection methodologies vary depending on the nature of each variable and are described below.

The AMATS 2050 Planning Data Forecast projects a number of variables, each of which has a direct impact on local traffic and is therefore required for input into the regional travel demand model. These variables include:

Population	Household	Employment	Stand-alone
Total Population	Total HH	Total Employment	Hotel Rooms
Age Under 18	Median HH Income	Employment by Sector	Parking Cost
Age 18-21	Vehicles		K-12 Enrollment
Group Quarters			University Enrollment
Workers			

The AMATS region is divided into 837 traffic analysis zones (traffic zones or TAZ). These traffic zones are used by the regional travel demand model to generate traffic volumes and to determine where trips begin and end. The model requires that each of the variables be provided for each traffic zone – for the base year 2020 and plan year 2050.

The AMATS 2050 Planning Data Forecast places the planning variables into three categories: population-based, employment-based and stand-alone variables. For each variable, this report will explain the sources of the underlying data and the methodology used to generate 2050 forecasts. In Part V of this report, the data representing each of the planning variables will be presented by subarea.

Future Projections

AMATS actively forecasts future data by analyzing historical trends, though predicting future growth with absolute precision is challenging. Minor fluctuations over the 30-year horizon can significantly impact anticipated outcomes for individual communities. Major shifts can drastically change projected totals.

To smooth out these data fluctuations, as well as to resolve problems of redundancy (i.e. where census tracts or TAZs include portions of more than one municipality), AMATS has aggregated TAZ-level data - for every variable - into eight different subareas. These subareas reflect the shared growth characteristics of the political units within the same geographic area. In addition, data has been presented at the regional and county levels, as well as for three specific larger cities: Akron, Barberton and Cuyahoga Falls. The data from these three communities is not included in the subarea data. The following is a breakdown of the levels in which data has been presented for this analysis:

Forecasting Levels Breakdown	
Regional	
AMATS Region	
COUNTY	
Summit County, Portage County	
SELECT CITIES	
Akron, Barberton, Cuyahoga Falls	
SUBAREAS	
Northern Summit	Boston Heights, Boston Township, Hudson, Macedonia, Northfield Village, Northfield Center Township, Sagamore Hills, Twinsburg, Twinsburg Township
Central Summit	Bath Township, Copley Township, Fairlawn, Munroe Falls, Silver Lake, Stow, Tallmadge
Southern Summit	Clinton, Coventry Township, Green, Lakemore, Mogadore, New Franklin, Norton, Springfield Township
Northwest Portage	Aurora, Mantua Village, Mantua Township, Shalersville Township, Streetsboro, Sugar Bush Knolls
Northeast Portage	Freedom Township, Garrettsville, Hiram Village, Hiram Township, Nelson Township, Windham Village, Windahm Township
Southwest Portage	Brimfield Township, Franklin Township, Kent, Mogadore (Portage), Randolph Township, Ravenna, Ravenna Township, Rootstown Township, Suffield Township, Tallmadge (Portage)
Southeast Portage	Atwater Township, Charlestown Township, Deerfield Township, Edinburg Township, Palmyra Township, Paris Township
Northeast Wayne	Chippewa Township, Doylestown, Milton Township, Norton (Wayne), Rittman

While performing the various data analyses required for the Planning Data Forecast, AMATS generally allows historic data points to paint the picture of what may be expected in 2050. AMATS solely uses these projections for planning purposes and in no way does it impact current project selection or funding.

ODOD Scenario Forecasting Methodology

Part I: Population-Based Variables

Population

Data Sources

AMATS relied on the following data sources to distribution changes in population between the base year (2020) and planning horizon (2050) among the region's TAZs:

- Historic data from the 2010 and 2020 U.S. Census, collected at the block level
- ACS 2015 5-Year, collected at the census tract level and down sampled to the block level

Methodology

The approach for forecasting population integrates local population dynamics with broader regional trends. This process is described below.

1. The project team calculated the rate of population between 2015 and 2020 for each county and TAZ.
2. We applied the Interquartile Range (IQR) method to identify and exclude outliers in TAZ-level population change rates to prevent them from distorting the forecast. Specifically:
    i. We projected the 2025 population for TAZs *without* outlier change rates using their specific 2015 – 2020 change rate, capturing the localized trend.
    ii. For TAZs *with* outlier change rates, we forecasted the 2025 population using the overall county rate of change according to the Ohio Department of Development (ODOD) 2025 forecast for county population.
    iii. For counties fully contained within the AMATS region (Summit and Portage), we used the complete ODOD forecast numbers. For counties only partially within the AMATS region (Wayne and Medina), we kept the population proportion within the AMATS region constant through the forecast horizon.
3. We employed the 2025 forecast approach to project the 2030 population, this time using the 2020 - 2025 population data and 2030 ODOD county rate of change numbers for outliers.
4. For long-term forecasts (2035, 2040, 2045, 2050), we adapted our methodology to address the increasing uncertainty of predicting long-term population trends at the TAZ level. We relied exclusively on ODOD county control totals for these forecasts.
5. If the 2050 forecast showed discrepancies with the ODOD county control totals, we proportionally adjusted each TAZ's forecast. This adjustment was based on the error percentage between the aggregate county-level 2050 forecast and the ODOD 2050 county control totals. This step ensured our forecast was consistent with regional expectations while preserving local trends, adding an additional layer of validation.

Summary

Our methodology merges localized changes at the TAZ level with broader regional trends at the county level to enhance the accuracy and realism of our forecasts. Shifting our approach for long-term forecasts, we actively consider the growing uncertainty in extended range predictions. Our final error

adjustment mechanism aligns our forecasts with regional expectations. However, we must acknowledge that this methodology assumes the continuity of trends and relationships, relying on the continuation of the observed and forecasted trend of population decline across the forecast horizon.

Population Under 18

Data Sources

To forecast the population under the age of 18 for 2050 in the AMATS region, the team used two primary data sources:

- 2020 U.S. Census
- Previously calculated 2050 population by TAZ figures

Methodology

We calculated the percentage of the under-18 population for each TAZ, using the total 2020 population. Assuming the under-18 population percentage would remain constant through 2050, we multiplied the 2020 rate by the previously forecasted 2050 total population for each TAZ to determine the 2050 under-18 population.

Population 18 - 21

Data Sources

To forecast the population between the ages of 18 and 21 for 2050 in the AMATS region, the team used two primary data sources:

- 2020 5-year ACS
- Previously calculated 2050 population by TAZ figures

Methodology

The 2020 U.S. Census did not specifically provide numbers for the population aged between 18 and 21. However, we found age cohorts for the total population of 21 and over in the 2020 5-year American Community Survey (ACS) data. We subtracted the previously calculated 2020 populations under 18 and 21 and over from the total population to calculate the 2020 population between the ages of 18 and 21. For each TAZ, we calculated the percentage of the 18 to 21 population using the total 2020 population. Assuming the 18 to 21 population percentage would remain constant through 2050, we multiplied the 2020 rate by the previously forecasted 2050 total population for each TAZ to determine the 2050 population of those aged 18 to 21.

Group Quarters

Data Sources

To project the number of residents living in group quarters by 2050, AMATS used the following data sources:

- 2020 U.S. Census
- Various institutional websites and reports for resident count and verification purposes

Methodology

Group quarters include college dormitories, jails and similar detention centers, and nursing homes. The 2020 U.S. Census provided data for group quarters down to the block level. We apportioned the total number of group quarter residents to the traffic zones within each block.

Since group quarters populations are not related to the surrounding local community (i.e., university students, inmates and nursing home residents may come from anywhere), AMATS assumed that group quarters populations would remain the same for existing facilities. Given the decline in population it was assumed that new group quarter population centers would not be constructed.

Workers

Data Sources

To project the number of workers expected by 2050, AMATS used the following data sources:

- 2020 5-year ACS
- Previously calculated 2050 population by TAZ figures

Methodology

The Census Bureau defines workers as people who reside within a community, are 16 years or older and who did any work for pay. Workers may be employed in a community other than the one in which they live. In this case, a worker specifically refers to someone who lives within a given TAZ. The 2020 5-year ACS data contains the number of workers within a community at the tract level. Tract level data was down sampled to the block level and apportioned to the TAZs.

For each TAZ, the 2020 number of workers was divided by the 2020 total population of the TAZ to determine the percentage of the population within that TAZ that could be classified as workers. Assuming this rate would remain constant through 2050, this 2020 rate of workers per TAZ was multiplied by the previously calculated 2050 population by TAZ to determine the number of workers in each TAZ in 2050.

Part II: Household-Based Variables

Households

Data Sources

To project the number of households anticipated by 2050, AMATS used the following data sources:

- Historic data from the 2010 and 2020 U.S. Census, collected at the block level
- ACS 2011 – 2019, 2021, and 2022 5-Year data, collected at the census tract level and down sampled to the block level
- AMATS Population Projections

Methodology

The approach for forecasting households emphasizes statistical rigor and validation to address the challenges of long-term forecasting.

1. Our project team forecasted household numbers (HH) for TAZs up to 2050 using time series analysis. This task required a more robust analysis and validation, as ODOD did not provide HH control numbers, unlike the population forecast.

2. To ensure the effectiveness of our time series analysis, we tested each TAZ's household formation rate (HH divided by Population) for stationarity.
    i. We applied differencing transformations to TAZs showing non-stationarity and reassessed their stationarity status.
    ii. We then identified the best fitting ARIMA models for each TAZ using the Autoregressive Integrated Moving Average (ARIMA) function, carefully selecting appropriate lag orders and differencing levels.
3. We validated our models' reliability through time series cross-validation, using an expanding window approach and evaluated model performance by calculating the Root Mean Square Error (RMSE). This step confirmed our models' accuracy and helped us understand our forecasts' uncertainty.
4. We then applied these RMSE values to the most recent household data, creating upper and lower bounds for our forecasts and providing a range of plausible outcomes.

Summary

Our methodology is underpinned by a balance between statistical rigor and practical adaptation to the data's challenges. While acknowledging the limitations of ARIMA models and the inherent assumptions in long-term forecasting, our approach is characterized by its thoroughness in testing, validation, and careful application of error estimates. Across the AMATS region we calculated an uncertainty of less than 2% for our forecast.

Median Household Income

Data Sources

To project the median household income for 2050, AMATS used the following data source:

- 2020 5-year ACS

Methodology

We determined the 2020 median household income for every census tract within the AMATS region using data from the 2020 5-year ACS, assuming it remained consistent across every TAZ within that census tract. For TAZs spanning multiple census tracts, we calculated the median. Given the region's declining population, we assumed that median household income would not increase, thus keeping it constant through 2050. We also did not apply any inflation factor to the 2050 median household income numbers.

Vehicles

Data Sources

To forecast the number of HH (i.e., non-commercial) vehicles for 2050, AMATS used the following data sources:

- 2020 5-year ACS
- Previously calculated 2050 number of households by TAZ figures

Methodology

We used 2020 5-year ACS data to apportion the total number of vehicles to TAZs within each tract. The project team divided the number of vehicles by the 2020 the number of 2020 households to determine

the number of vehicles per household for each TAZ. We assumed that the number of vehicles per household rate would remain constant through 2050.

Part III: Employment-Based Variables

Employment

Data Sources

To forecast change in employment in the AMATS region for 2050, we used the following data sources:

- 2020 Quarterly Census of Employment and Wages (QCEW)
- Ohio Department of Jobs and Family Services Industry Employment Projection Report 2020-2030

Methodology

Total employment differs from total number of workers as defined by the U.S. Census. While workers are defined by the area in which they live, employment is defined by the area in which they work. The QCEW 2020 data was used to establish total employment within the AMATS region. This dataset contains employment centers as points which were overlayed with the AMATS TAZs in GIS to allocate Employment by TAZ. Employment industry data is differentiated by its North American Industry Classification System (NAICS) code, as identified in the following table:

NAICS Industry Code

Code #	Industry Description
NAICS 11	Agriculture, Forestry and Hunting
NAICS 21	Mining
NAICS 22	Utilities
NAICS 23	Construction
NAICS 31-33	Manufacturing – Aggregated
NAICS 42	Wholesale Trade
NAICS 44-45	Retail Trade – Aggregated
NAICS 48-49	Transportation and Warehousing – Aggregated
NAICS 51	Information
NAICS 52	Finance and Insurance
NAICS 53	Real Estate and Rental and Leasing
NAICS 54	Professional Scientific and Technical Services
NAICS 55	Management of Companies and Enterprises
NAICS 56	Administrative Support, Waste Management and Remediation Services
NAICS 61	Education Services
NAICS 62	Health Care and Social Assistance
NAICS 71	Arts, Entertainment and Recreation
NAICS 72	Accommodation and Food Services
NAICS 81	Other Services (except Public Administration)
NAICS 91	Public Administration
NAICS 99	Other

Ohio Department of Jobs and Family Services employment projections from 2020 to 2030 were used to develop growth rates for NAICS job codes out to 2050. It was assumed that most employment centers would remain employment centers between 2020 and 2050. The employment growth assumed in the AMATS region was distributed to TAZs where NAICS employment was already located.

It is important to note that these employment numbers may show substantial impact from the COVID-19 pandemic. For example, the Arts, Entertainment and Recreation industry – heavily impacted by the COVID-19 pandemic – is showing over 75% growth for the 2050 forecast. The analysis team believes that the resulting job losses and economic rebound could be inflating the rate employment growth in the region.

Part IV: Stand Alone-Based Variables

Hotel Rooms

Data Sources

To forecast the number of hotel rooms available in 2050, AMATS used the following data sources:

- Various hotel and travel industry websites to identify hotels and their room inventories
- Press releases regarding planned and/ or pending hotel construction

Methodology

AMATS identified every hotel, as well as the total number of rooms at each hotel, in the region. Once hotels and their addresses were identified, they were overlayed in GIS to determine which TAZ housed each hotel. All hotels and room inventories existing as of 2020 were assumed to exist unchanged through 2050.

Parking

Data Sources

To forecast the cost of parking in 2050, AMATS used the following data sources:

- Various parking availability websites to identify parking lot locations and cost
- Press releases in frequently visited areas regarding the planned construction of additional parking lots

Methodology

AMATS located all paid parking lots and garages, and research was conducted to identify the average cost per hour (in cents) for parking at these facilities. Once parking facilities and their addresses were identified, they were overlayed in GIS to determine which TAZ housed each parking facility. All parking facilities existing as of 2020 were assumed to exist unchanged through 2050.

School Enrollment

Data Sources

To forecast the number of students enrolled in K-12 in 2050, AMATS used the following data sources:

- Public and Private school Homeland Infrastructure Foundation-Level Data (HIFLD)
- Research on various school closures
- Previously forecasted 2050 population under 18

Methodology

We categorized school enrollment data into two groups: students in grades K-8 and students in grades 9-12. The HIFLD dataset, which includes both public and private school enrollment numbers, allowed us to overlay these numbers with the AMATS TAZs in GIS, allocating enrolled students by TAZ.

Currently, many school districts in the region are closing and/or consolidating school facilities. We conducted research to identify schools affected by these changes to exclude them from the 2050 forecast. We assumed that each school facility draws students from beyond its TAZ, leading us to consolidate the total student population by school district. We then calculated the percentage of the total student body for each school within a district. Assuming the total number of students in a school district would change in proportion to the under-18 population of the TAZs within the district, we calculated the 2050 total number of students for each school district. Assuming the percentage of students in each school district remains constant—excluding schools slated for closure—we multiplied this rate by the 2050 total student number previously calculated for each school district.

University Enrollment

Data Sources

To forecast the number of students enrolled in universities in 2050, AMATS used the following data sources:

- Public and Private school Homeland Infrastructure Foundation-Level Data (HIFLD)

Methodology

The HIFLD dataset identifies university enrollment numbers as points which we overlayed with the AMATS TAZs in GIS to allocate enrolled students by TAZ. University enrollment numbers were assumed to stay constant for the 2050 forecast. University enrollment tends to stay constant, and no plans were found for building new universities or closing current universities within our forecast time horizon.

Current Trends Scenario Forecasting Methodology

The ODOD Scenario for predicting the 2050 population relied on state-provided county control totals, using these figures as the foundational basis for all other variable calculations. The Current Trends scenario instead leverages historic trends and a logarithmic regression model to forecast the 2050 population. While this approach changes the calculation for population figures, it is important to note that all other variables continue to be derived from this revised population estimate. As a result, the overall methodology remains consistent, with the primary adjustment being the source and method of determining the population projections.

Population

Data Sources

AMATS relied on the following data sources to distribution changes in population between the base year (2020) and planning horizon (2050) among the region's TAZs:

- Historic data from the 2000, 2010, and 2020 U.S. Census, collected at the block level
- ACS 2015 5-Year, collected at the census tract level and down sampled to the block level

Methodology

The approach for forecasting population integrates local population dynamics with broader regional trends. This process is described below.

1. The project team calculated the rate of population change from 2000 to 2020 for each county and TAZ.
2. We applied the Interquartile Range (IQR) method to identify and exclude outliers in TAZ-level population change rates to prevent them from distorting the forecast. Specifically:
    a. We projected the 2030 population for TAZs *without* outlier change rates using their specific 2000 – 2020 change rate, capturing the localized trend.
    b. For TAZs *with* outlier change rates, we forecasted the 2030 population using the overall county rate of change. We calculated the county rate of change with a logarithmic regression model.
3. For long-term forecasts (2040, and 2050), we adapted our methodology to address the increasing uncertainty of predicting long-term population trends at the TAZ level. We relied exclusively on our county-level logarithmic model for these forecasts.
4. If the 2050 forecast showed discrepancies with the model totals, we proportionally adjusted each TAZ's forecast. This adjustment was based on the error percentage between the aggregate county-level 2050 forecast and the logarithmic regression model 2050 county control totals. This step ensured our forecast was consistent with regional expectations while preserving local trends, adding an additional layer of validation.

Summary

Our methodology merges localized changes at the TAZ level with broader regional trends at the county level to enhance the accuracy and realism of our forecasts. Shifting our approach for long-term forecasts, we actively consider the growing uncertainty in extended range predictions. Our final error adjustment mechanism aligns our forecasts with regional expectations. However, we must acknowledge that this methodology assumes the continuity of trends and relationships, relying on the continuation of the observed and forecasted trend across the forecast horizon.

Forecast Results

The following tables present the results of the various analyses conducted for both scenarios as part of the Planning Data Forecast process. All variables have been forecasted for the AMATS region, at the county level, for three significant cities and eight subareas. Employment data has been summarized by NAICS code.

Each table includes 2020 base year data, as well as the data forecasted through the plan year of 2050. Although data has been cross-checked for as much consistency as possible, certain situations prevent the perfect reconciliation of totals between different variables and/or subareas. Some of these situations include, but are not limited to:

- Rounding error
- Overlap between geographical boundaries (municipal/TAZ/census tract/etc.)
- The necessity of using different data sources within the same analysis due to data gaps or unavailability
- Internal efforts to smooth untenable forecasted totals

The following pages include a map illustrating the political units, subareas and traffic analysis zones that were considered as part of this analysis, as well as a presentation of the variables for each of these geographic areas.

AMATS 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	720,087	612,750	-14.9%
Households	304,094	274,482	-9.7%
Population Under 18	146,339	124,664	-14.8%
Vehicles	538,456	486,949	-9.6%
Workers	356,805	303,822	-14.8%

Employment				
NAICS 11	440	495	12.5%	Agriculture, Forestry and Hunting
NAICS 21	373	487	30.6%	Mining
NAICS 22	1,582	1,241	-21.6%	Utilities
NAICS 23	13,191	14,885	12.8%	Construction
NAICS 31-33	39,470	39,103	-0.9%	Manufacturing - Aggregated
NAICS 42	15,468	15,792	2.1%	Wholesale Trade
NAICS 44-45	34,812	31,342	-10.0%	Retail Trade - Aggregated
NAICS 48-49	14,370	19,364	34.8%	Transportation and Warehousing - Aggregated
NAICS 51	5,221	5,260	0.7%	Information
NAICS 52	10,448	10,695	2.4%	Finance and Insurance
NAICS 53	3,327	3,505	5.4%	Real Estate and Rental and Leasing
NAICS 54	15,107	18,123	20.0%	Professional Scientific and Technical Services
NAICS 55	14,242	16,618	16.7%	Management of Companies and Enterprises
NAICS 56	15,966	18,287	14.5%	Administrative Support, Waste Management and Remediation
NAICS 61	27,086	31,911	17.8%	Education Services
NAICS 62	53,036	69,812	31.6%	Health Care and Social Assistance
NAICS 71	5,459	9,722	78.1%	Arts, Entertainment and Recreation
NAICS 72	28,620	42,056	46.9%	Accommodation and Food Services
NAICS 81	9,592	11,050	15.2%	Other Services (except Public Administration)
NAICS 92	9,245	9,170	-0.8%	Public Administration
NAICS 99	12	12	0.0%	Other
Total Employment	317,067	368,930	16.4%	

K-12 School Enrollment	97,980	81,005	-17.3%

Summit County 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	540,094	452,427	-16.2%
Households	230,380	203,087	-11.8%
Population Under 18	112,408	94,314	-16.1%
Vehicles	400,141	353,159	-11.7%
Workers	265,592	222,750	-16.1%

Employment				
NAICS 11	111	123	10.8%	Agriculture, Forestry and Hunting
NAICS 21	106	135	27.4%	Mining
NAICS 22	1,476	1,159	-21.5%	Utilities
NAICS 23	11,030	12,467	13.0%	Construction
NAICS 31-33	28,303	28,046	-0.9%	Manufacturing - Aggregated
NAICS 42	12,426	12,681	2.1%	Wholesale Trade
NAICS 44-45	28,213	25,389	-10.2%	Retail Trade - Aggregated
NAICS 48-49	12,334	16,639	34.9%	Transportation and Warehousing - Aggregated
NAICS 51	4,697	4,733	0.8%	Information
NAICS 52	9,773	10,011	2.4%	Finance and Insurance
NAICS 53	2,831	2,991	5.7%	Real Estate and Rental and Leasing
NAICS 54	13,260	15,926	20.1%	Professional Scientific and Technical Services
NAICS 55	13,488	15,739	16.7%	Management of Companies and Enterprises
NAICS 56	14,801	16,974	14.7%	Administrative Support, Waste Management and Remediation
NAICS 61	18,142	21,368	17.8%	Education Services
NAICS 62	46,682	61,456	31.6%	Health Care and Social Assistance
NAICS 71	5,057	9,012	78.2%	Arts, Entertainment and Recreation
NAICS 72	22,337	32,824	46.9%	Accommodation and Food Services
NAICS 81	7,969	9,190	15.3%	Other Services (except Public Administration)
NAICS 92	7,335	7,266	-0.9%	Public Administration
NAICS 99	7	7	0.0%	Other
Total Employment	260,378	304,136	16.8%	

K-12 School Enrollment	75,624	61,769	-18.3%

Portage County 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	161,184	143,049	-11.3%
Households	66,010	63,535	-3.7%
Population Under 18	29,903	26,654	-10.9%
Vehicles	122,108	117,175	-4.0%
Workers	82,205	72,773	-11.5%

Employment				
NAICS 11	151	167	10.6%	Agriculture, Forestry and Hunting
NAICS 21	209	275	31.6%	Mining
NAICS 22	92	71	-22.8%	Utilities
NAICS 23	1,890	2,116	12.0%	Construction
NAICS 31-33	10,558	10,451	-1.0%	Manufacturing - Aggregated
NAICS 42	2,937	3,003	2.2%	Wholesale Trade
NAICS 44-45	6,237	5,629	-9.7%	Retail Trade - Aggregated
NAICS 48-49	1,988	2,663	34.0%	Transportation and Warehousing - Aggregated
NAICS 51	506	509	5.9%	Information
NAICS 52	625	634	1.4%	Finance and Insurance
NAICS 53	482	500	3.7%	Real Estate and Rental and Leasing
NAICS 54	1,786	2,127	19.1%	Professional Scientific and Technical Services
NAICS 55	754	879	16.6%	Management of Companies and Enterprises
NAICS 56	1,104	1,243	12.6%	Administrative Support, Waste Management and Remediation
NAICS 61	8,567	10,098	17.9%	Education Services
NAICS 62	5,857	7,703	31.5%	Health Care and Social Assistance
NAICS 71	369	652	76.7%	Arts, Entertainment and Recreation
NAICS 72	6,111	8,979	46.9%	Accommodation and Food Services
NAICS 81	1,491	1,709	14.6%	Other Services (except Public Administration)
NAICS 92	1,799	1,793	-0.3%	Public Administration
NAICS 99	5	5	0.0%	Other
Total Employment	53,518	61,206	14.4%	

K-12 School Enrollment	20,612	18276	-11.3%

Akron 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	192,551	157,019	-18.5%
Households	84,194	72,495	-13.9%
Population Under 18	41,275	33,659	-18.5%
Vehicles	123,706	106,495	-14.0%
Workers	88,925	72,737	-18.2%

Employment				
NAICS 11	56	62	10.7%	Agriculture, Forestry and Hunting
NAICS 21	21	27	28.6%	Mining
NAICS 22	797	623	-21.8%	Utilities
NAICS 23	2904	3,277	12.8%	Construction
NAICS 31-33	8,148	8,082	-0.8%	Manufacturing - Aggregated
NAICS 42	2,715	2,766	1.9%	Wholesale Trade
NAICS 44-45	6,573	5,943	-9.6%	Retail Trade - Aggregated
NAICS 48-49	3,598	4,850	34.8%	Transportation and Warehousing - Aggregated
NAICS 51	1,721	1,733	0.7%	Information
NAICS 52	1,659	1,692	2.0%	Finance and Insurance
NAICS 53	1,043	1,103	5.8%	Real Estate and Rental and Leasing
NAICS 54	4,637	5,562	19.9%	Professional Scientific and Technical Services
NAICS 55	7,122	8,313	16.7%	Management of Companies and Enterprises
NAICS 56	4,629	5,313	14.8%	Administrative Support, Waste Management and Remediation
NAICS 61	8,721	10,274	17.8%	Education Services
NAICS 62	26,008	34,240	31.7%	Health Care and Social Assistance
NAICS 71	1,343	2,395	78.3%	Arts, Entertainment and Recreation
NAICS 72	5,794	8,515	47.0%	Accommodation and Food Services
NAICS 81	2,633	3,027	15.0%	Other Services (except Public Administration)
NAICS 92	4,125	4,074	-1.2%	Public Administration
NAICS 99	1	1	0.0%	Other
Total Employment	94,248	111,872	18.7%	

K-12 School Enrollment	24,474	20,090	-17.9%

Barberton 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	26,128	20,623	-21.1%
Households	11,319	9,848	-13.0%
Population Under 18	5,448	4,299	-21.1%
Vehicles	17,751	15,426	-13.1%
Workers	11,202	8,844	-21.0%

Employment				
NAICS 11	0	0	0.0%	Agriculture, Forestry and Hunting
NAICS 21	0	0	0.0%	Mining
NAICS 22	0	0	0.0%	Utilities
NAICS 23	421	472	12.1%	Construction
NAICS 31-33	2,145	2,124	-1.0%	Manufacturing - Aggregated
NAICS 42	318	324	1.9%	Wholesale Trade
NAICS 44-45	564	515	-8.7%	Retail Trade - Aggregated
NAICS 48-49	143	194	35.7%	Transportation and Warehousing - Aggregated
NAICS 51	83	83	0.0%	Information
NAICS 52	108	108	0.0%	Finance and Insurance
NAICS 53	16	16	0.0%	Real Estate and Rental and Leasing
NAICS 54	146	177	21.2%	Professional Scientific and Technical Services
NAICS 55	105	123	17.1%	Management of Companies and Enterprises
NAICS 56	264	303	14.8%	Administrative Support, Waste Management and Remediation
NAICS 61	568	670	18.0%	Education Services
NAICS 62	1,887	2,485	31.7%	Health Care and Social Assistance
NAICS 71	11	18	63.6%	Arts, Entertainment and Recreation
NAICS 72	772	1,135	47.0%	Accommodation and Food Services
NAICS 81	458	528	15.3%	Other Services (except Public Administration)
NAICS 92	154	154	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	8,163	9,429	15.5%	

K-12 School Enrollment	3,737	2,952	-21.0%

Cuyahoga Falls 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	49,908	42,038	-15.8%
Households	23,413	20,224	-13.6%
Population Under 18	9,275	7,746	-16.5%
Vehicles	39,116	33,400	-14.6%
Workers	27,623	23,196	-16.0%

Employment				
NAICS 11	1	1	0.0%	Agriculture, Forestry and Hunting
NAICS 21	0	0	0.0%	Mining
NAICS 22	68	53	-22.1%	Utilities
NAICS 23	380	428	12.6%	Construction
NAICS 31-33	3,495	3,459	-1.0%	Manufacturing - Aggregated
NAICS 42	598	610	2.0%	Wholesale Trade
NAICS 44-45	2,561	2,303	-10.1%	Retail Trade - Aggregated
NAICS 48-49	155	209	34.8%	Transportation and Warehousing - Aggregated
NAICS 51	185	185	0.0%	Information
NAICS 52	290	290	0.0%	Finance and Insurance
NAICS 53	202	211	4.5%	Real Estate and Rental and Leasing
NAICS 54	648	777	19.9%	Professional Scientific and Technical Services
NAICS 55	683	797	16.7%	Management of Companies and Enterprises
NAICS 56	1,273	1,459	14.6%	Administrative Support, Waste Management and Remediation
NAICS 61	1,677	1,975	17.8%	Education Services
NAICS 62	3,328	4,384	31.7%	Health Care and Social Assistance
NAICS 71	373	667	78.8%	Arts, Entertainment and Recreation
NAICS 72	2,293	3,367	46.8%	Accommodation and Food Services
NAICS 81	699	811	16.0%	Other Services (except Public Administration)
NAICS 92	532	526	-1.1%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	19,441	22,512	15.8%	

K-12 School Enrollment	6,394	4,787	-25.1%

Northern Summit 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	93,396	80,569	-13.7%
Households	36,746	32,634	-11.2%
Population Under 18	20,239	17,484	-13.6%
Vehicles	73,420	65,229	-11.2%
Workers	47,477	40,880	-13.9%

Employment				
NAICS 11	23	26	13.0%	Agriculture, Forestry and Hunting
NAICS 21	30	40	33.3%	Mining
NAICS 22	89	71	-20.2%	Utilities
NAICS 23	2,899	3,284	13.3%	Construction
NAICS 31-33	7,531	7,451	-1.1%	Manufacturing - Aggregated
NAICS 42	5,742	5,871	2.2%	Wholesale Trade
NAICS 44-45	5,332	4,794	-10.1%	Retail Trade - Aggregated
NAICS 48-49	4,908	6,629	35.1%	Transportation and Warehousing - Aggregated
NAICS 51	2,046	2,067	1.0%	Information
NAICS 52	4,570	4,700	2.8%	Finance and Insurance
NAICS 53	688	737	7.1%	Real Estate and Rental and Leasing
NAICS 54	2,239	2,684	19.9%	Professional Scientific and Technical Services
NAICS 55	2,056	2,397	16.6%	Management of Companies and Enterprises
NAICS 56	2,225	2,549	14.6%	Administrative Support, Waste Management and Remediation
NAICS 61	2,751	3,241	17.8%	Education Services
NAICS 62	4,157	5,473	31.7%	Health Care and Social Assistance
NAICS 71	2,555	4,559	78.4%	Arts, Entertainment and Recreation
NAICS 72	3,939	5,789	47.0%	Accommodation and Food Services
NAICS 81	1,771	2,047	15.6%	Other Services (except Public Administration)
NAICS 92	948	945	0.0%	Public Administration
NAICS 99	1	1	0.0%	Other
Total Employment	56,500	65,355	15.7%	

K-12 School Enrollment	15,998	13,405	-16.2%

Central Summit 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	96,755	83,484	-13.7%
Households	40,266	37,193	-7.6%
Population Under 18	19,848	17,213	-13.3%
Vehicles	77,114	71,006	-7.9%
Workers	48,973	42,146	-13.9%

Employment				
NAICS 11	17	17	0.0%	Agriculture, Forestry and Hunting
NAICS 21	7	7	0.0%	Mining
NAICS 22	432	341	-21.1%	Utilities
NAICS 23	1,655	1,867	12.8%	Construction
NAICS 31-33	2,939	2,918	-0.7%	Manufacturing - Aggregated
NAICS 42	1,714	1,747	1.9%	Wholesale Trade
NAICS 44-45	8,696	7,804	-10.3%	Retail Trade - Aggregated
NAICS 48-49	1,106	1,485	34.3%	Transportation and Warehousing - Aggregated
NAICS 51	519	522	5.8%	Information
NAICS 52	2,339	2,401	2.7%	Finance and Insurance
NAICS 53	507	528	4.1%	Real Estate and Rental and Leasing
NAICS 54	3,926	4,733	20.6%	Professional Scientific and Technical Services
NAICS 55	2,310	2,694	16.6%	Management of Companies and Enterprises
NAICS 56	2,448	2,806	14.6%	Administrative Support, Waste Management and Remediation
NAICS 61	2,389	2,813	17.7%	Education Services
NAICS 62	7,829	10,301	31.6%	Health Care and Social Assistance
NAICS 71	610	1,083	77.5%	Arts, Entertainment and Recreation
NAICS 72	6,013	8,841	47.0%	Accommodation and Food Services
NAICS 81	1,423	1,635	14.9%	Other Services (except Public Administration)
NAICS 92	717	714	-0.4%	Public Administration
NAICS 99	5	5	0.0%	Other
Total Employment	47,601	55,262	16.1%	

K-12 School Enrollment	12,781	11,005	-13.9%

Southern Summit 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	81,356	68,694	-15.6%
Households	34,442	30,693	-10.9%
Population Under 18	16,323	13,913	-14.8%
Vehicles	69,034	61,603	-10.8%
Workers	41,392	34,947	-15.6%

Employment				
NAICS 11	14	17	21.4%	Agriculture, Forestry and Hunting
NAICS 21	48	61	27.1%	Mining
NAICS 22	90	71	-21.1%	Utilities
NAICS 23	2,771	3,139	13.3%	Construction
NAICS 31-33	4,045	4,012	-0.8%	Manufacturing - Aggregated
NAICS 42	1,339	1,363	1.8%	Wholesale Trade
NAICS 44-45	4,487	4,030	-10.2%	Retail Trade - Aggregated
NAICS 48-49	2,424	3,272	35%	Transportation and Warehousing - Aggregated
NAICS 51	143	143	0.0%	Information
NAICS 52	807	820	1.6%	Finance and Insurance
NAICS 53	375	396	40.6%	Real Estate and Rental and Leasing
NAICS 54	1,664	1,993	19.8%	Professional Scientific and Technical Services
NAICS 55	1,212	1,415	16.7%	Management of Companies and Enterprises
NAICS 56	3,962	4,544	14.7%	Administrative Support, Waste Management and Remediation
NAICS 61	2,036	2,395	17.6%	Education Services
NAICS 62	3,473	4,573	31.7%	Health Care and Social Assistance
NAICS 71	165	290	75.8%	Arts, Entertainment and Recreation
NAICS 72	3,526	5,177	46.8%	Accommodation and Food Services
NAICS 81	985	1,142	15.9%	Other Services (except Public Administration)
NAICS 92	859	853	0.7%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	34,425	39,706	15.3%	

K-12 School Enrollment	12,240	9,530	-22.1%

Northwest Portage 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	45,289	41,331	-8.7%
Households	18,542	18,086	-2.5%
Population Under 18	9,183	8,358	-9.0%
Vehicles	36,102	35,015	-3.0%
Workers	23,618	21,567	-8.7%

Employment				
NAICS 11	55	61	10.9%	Agriculture, Forestry and Hunting
NAICS 21	86	115	33.7%	Mining
NAICS 22	20	16	-20.0%	Utilities
NAICS 23	438	486	11.0%	Construction
NAICS 31-33	5,076	5,016	-1.2%	Manufacturing - Aggregated
NAICS 42	2,046	2,097	2.5%	Wholesale Trade
NAICS 44-45	2,618	2,357	-10.0%	Retail Trade - Aggregated
NAICS 48-49	1,002	1,341	33.8%	Transportation and Warehousing - Aggregated
NAICS 51	230	233	1.3%	Information
NAICS 52	180	180	0.0%	Finance and Insurance
NAICS 53	159	162	1.9%	Real Estate and Rental and Leasing
NAICS 54	791	945	19.5%	Professional Scientific and Technical Services
NAICS 55	31	34	9.7%	Management of Companies and Enterprises
NAICS 56	477	536	12.4%	Administrative Support, Waste Management and Remediation
NAICS 61	1,152	1,353	17.4%	Education Services
NAICS 62	1,785	2,347	31.5%	Health Care and Social Assistance
NAICS 71	146	261	78.8%	Arts, Entertainment and Recreation
NAICS 72	1,573	2,310	46.9%	Accommodation and Food Services
NAICS 81	477	544	14.0%	Other Services (except Public Administration)
NAICS 92	373	373	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	18,715	20,767	11.0%	

K-12 School Enrollment	7,064	6,398	-9.4%

Northeast Portage 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	15,039	13,143	-12.6%
Households	5,837	5,561	-4.7%
Population Under 18	3,059	2,687	-12.2%
Vehicles	10,949	10,446	-4.6%
Workers	7,144	6,243	-12.6%

Employment				
NAICS 11	37	41	10.8%	Agriculture, Forestry and Hunting
NAICS 21	3	3	0.0%	Mining
NAICS 22	0	0	0.0%	Utilities
NAICS 23	151	166	9.9%	Construction
NAICS 31-33	420	420	0.0%	Manufacturing - Aggregated
NAICS 42	8	8	0.0%	Wholesale Trade
NAICS 44-45	303	279	-7.9%	Retail Trade - Aggregated
NAICS 48-49	92	123	33.7%	Transportation and Warehousing - Aggregated
NAICS 51	54	54	0.0%	Information
NAICS 52	29	29	0.0%	Finance and Insurance
NAICS 53	8	8	0.0%	Real Estate and Rental and Leasing
NAICS 54	24	27	12.5%	Professional Scientific and Technical Services
NAICS 55	0	0	0.0%	Management of Companies and Enterprises
NAICS 56	77	86	11.7%	Administrative Support, Waste Management and Remediation
NAICS 61	539	636	18.0%	Education Services
NAICS 62	126	164	30.2%	Health Care and Social Assistance
NAICS 71	24	42	18.0%	Arts, Entertainment and Recreation
NAICS 72	361	532	47.7%	Accommodation and Food Services
NAICS 81	71	77	8.5%	Other Services (except Public Administration)
NAICS 92	158	158	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	2,485	2,853	14.8%	

K-12 School Enrollment	1,702	1,503	-11.7

Southwest Portage 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	86,950	76,605	-11.9%
Households	36,061	34,517	-4.3%
Population Under 18	14,787	13,135	-11.2%
Vehicles	62,672	59,716	-4.7%
Workers	44,155	38,685	-12.6%

Employment				
NAICS 11	49	55	12.2%	Agriculture, Forestry and Hunting
NAICS 21	95	123	29.5%	Mining
NAICS 22	72	55	-23.6%	Utilities
NAICS 23	1,093	1,232	12.7%	Construction
NAICS 31-33	4,973	4,926	-0.9%	Manufacturing - Aggregated
NAICS 42	796	811	1.9%	Wholesale Trade
NAICS 44-45	3,159	2,851	-9.7%	Retail Trade - Aggregated
NAICS 48-49	787	1,059	34.6%	Transportation and Warehousing - Aggregated
NAICS 51	222	222	0.0%	Information
NAICS 52	414	423	2.2%	Finance and Insurance
NAICS 53	302	317	5.0%	Real Estate and Rental and Leasing
NAICS 54	930	1,108	19.1%	Professional Scientific and Technical Services
NAICS 55	721	843	16.9%	Management of Companies and Enterprises
NAICS 56	527	598	13.5%	Administrative Support, Waste Management and Remediation
NAICS 61	6,522	7,693	18.0%	Education Services
NAICS 62	3,914	5,154	31.7%	Health Care and Social Assistance
NAICS 71	190	333	75.3%	Arts, Entertainment and Recreation
NAICS 72	4,061	5,966	46.9%	Accommodation and Food Services
NAICS 81	923	1,068	15.7%	Other Services (except Public Administration)
NAICS 92	1,195	1,189	-0.5%	Public Administration
NAICS 99	5	5	0.0%	Other
Total Employment	30,950	36,031	16.4%	

K-12 School Enrollment	9,609	8,427	-12.3%

Southeast Portage 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	13,906	11,970	-13.9%
Households	5,570	5,371	-3.6%
Population Under 18	2,874	2,474	-13.9%
Vehicles	12,385	11,998	-3.1%
Workers	7,288	6,278	-13.9%

Employment				
NAICS 11	10	10	0.0%	Agriculture, Forestry and Hunting
NAICS 21	25	34	36.0%	Mining
NAICS 22	0	0	0.0%	Utilities
NAICS 23	208	232	11.5%	Construction
NAICS 31-33	89	89	0.0%	Manufacturing - Aggregated
NAICS 42	87	87	0.0%	Wholesale Trade
NAICS 44-45	157	142	-9.6%	Retail Trade - Aggregated
NAICS 48-49	107	140	30.8%	Transportation and Warehousing - Aggregated
NAICS 51	0	0	0.0%	Information
NAICS 52	2	2	0.0%	Finance and Insurance
NAICS 53	13	13	0.0%	Real Estate and Rental and Leasing
NAICS 54	41	47	14.6%	Professional Scientific and Technical Services
NAICS 55	2	2	0.0%	Management of Companies and Enterprises
NAICS 56	23	23	0.0%	Administrative Support, Waste Management and Remediation
NAICS 61	354	416	17.5%	Education Services
NAICS 62	32	38	18.8%	Health Care and Social Assistance
NAICS 71	9	16	77.8%	Arts, Entertainment and Recreation
NAICS 72	116	171	47.4%	Accommodation and Food Services
NAICS 81	20	20	0.0%	Other Services (except Public Administration)
NAICS 92	73	73	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	1,368	1,555	13.7%	

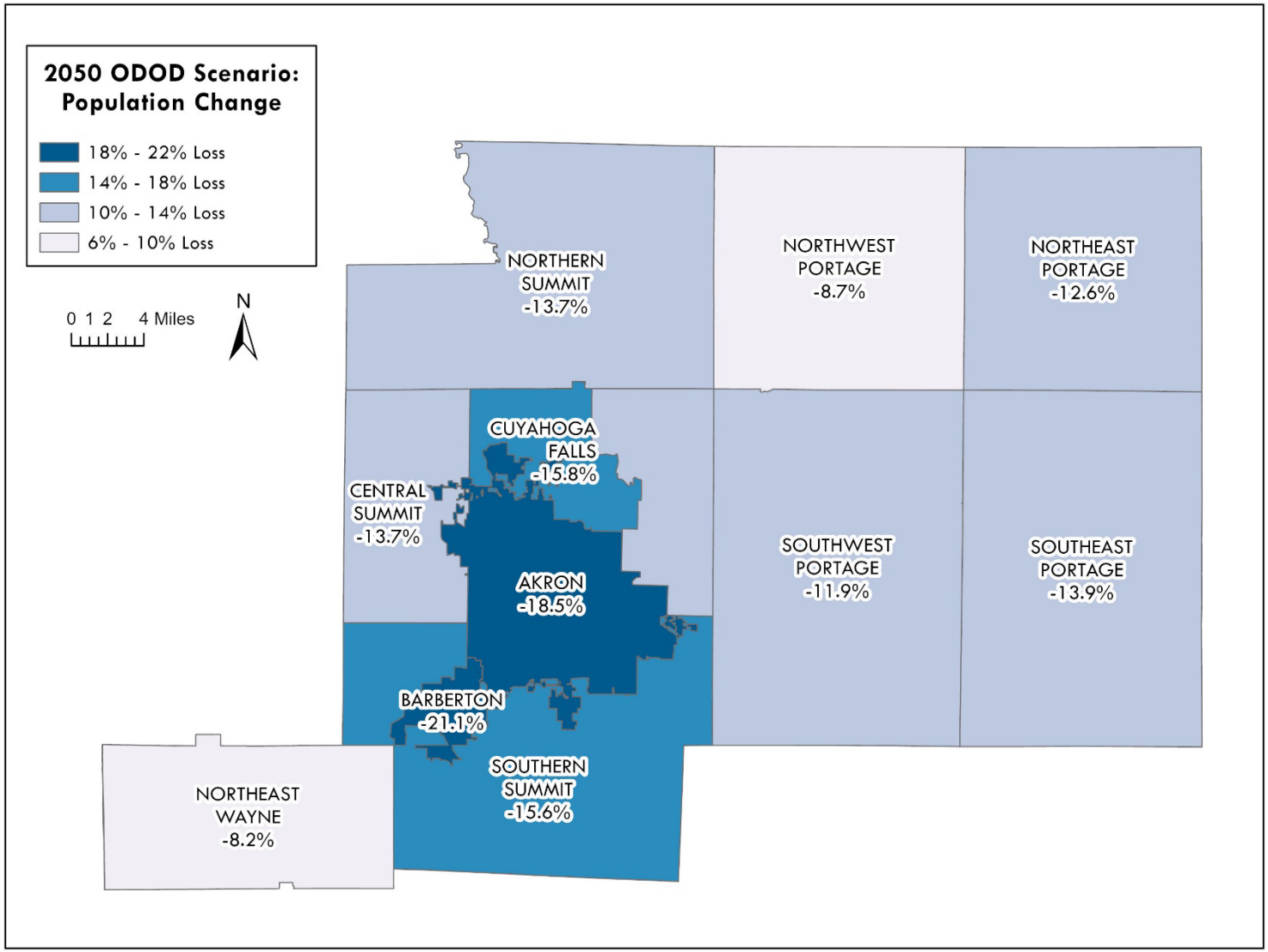
K-12 School Enrollment	2,237	1,948	-12.9%

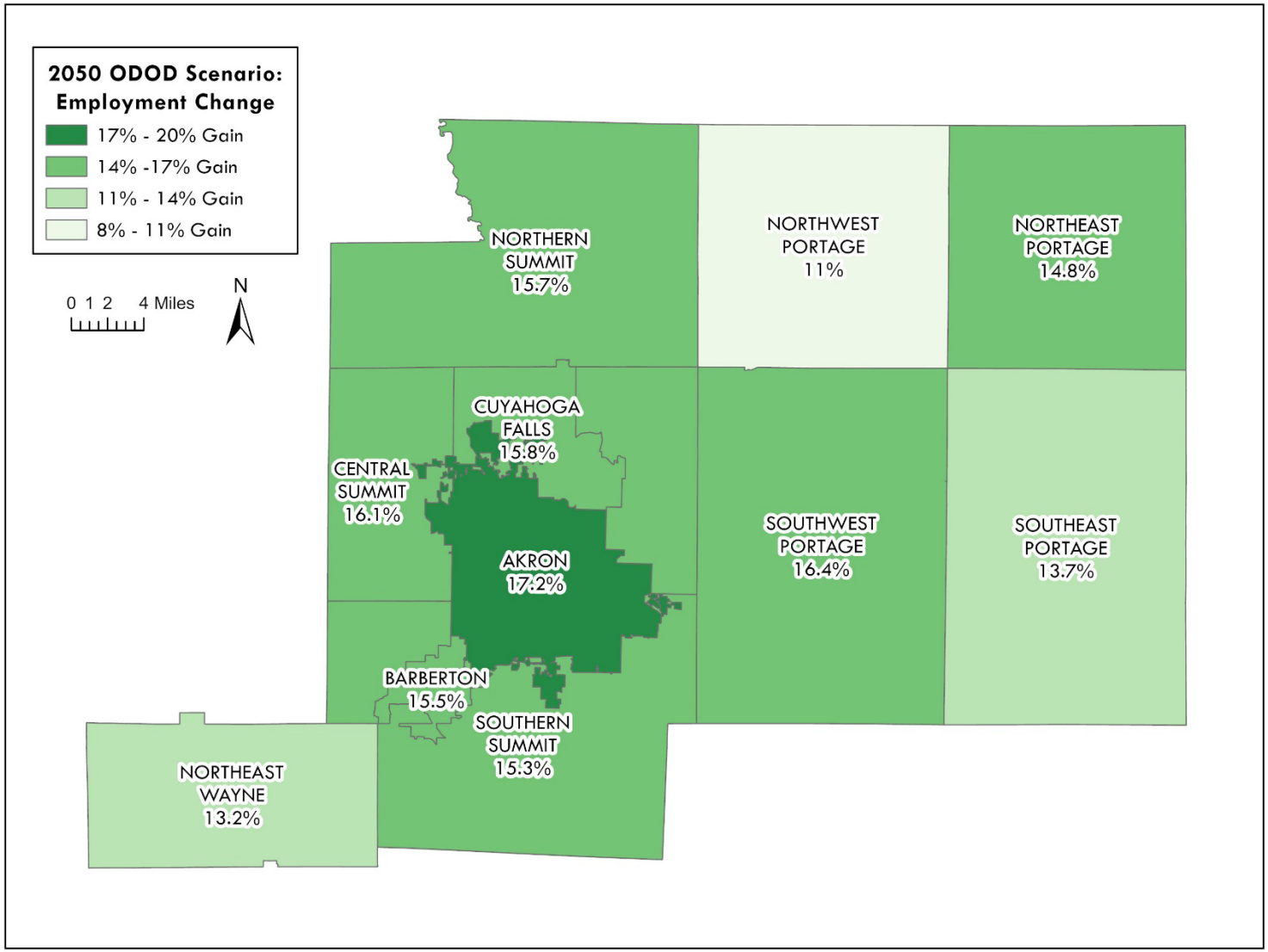
Northeast Wayne 2050 Forecast Characteristics – ODOD Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	18,809	17,274	-8.2%
Households	7,704	7,860	2.0%
Population Under 18	4,028	3,696	-8.3%
Vehicles	16,207	16,615	2.5%
Workers	9,008	8,299	-7.9%

Employment				
NAICS 11	178	205	15.2%	Agriculture, Forestry and Hunting
NAICS 21	58	77	32.8%	Mining
NAICS 22	14	11	-21.4%	Utilities
NAICS 23	271	302	11.4%	Construction
NAICS 31-33	609	606	-0.5%	Manufacturing - Aggregated
NAICS 42	105	108	2.9%	Wholesale Trade
NAICS 44-45	362	324	-10.5%	Retail Trade - Aggregated
NAICS 48-49	48	62	29.2%	Transportation and Warehousing - Aggregated
NAICS 51	18	18	0.0%	Information
NAICS 52	50	50	0.0%	Finance and Insurance
NAICS 53	14	14	0.0%	Real Estate and Rental and Leasing
NAICS 54	61	70	14.8%	Professional Scientific and Technical Services
NAICS 55	0	0	0.0%	Management of Companies and Enterprises
NAICS 56	61	70	14.8%	Administrative Support, Waste Management and Remediation
NAICS 61	377	445	18.0%	Education Services
NAICS 62	497	653	31.4%	Health Care and Social Assistance
NAICS 71	33	58	75.8%	Arts, Entertainment and Recreation
NAICS 72	172	253	47.1%	Accommodation and Food Services
NAICS 81	132	151	14.4%	Other Services (except Public Administration)
NAICS 92	111	111	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	3,171	3,588	13.2%	

K-12 School Enrollment	1,744	960	-45.0%


2050 ODOD Scenario:
Population Change
18% - 22% Loss
14% - 18% Loss
10% - 14% Loss
6% - 10% Loss
0 1 2 4 Miles
N
NORTHERN SUMMIT -13.7%
NORTHWEST PORTAGE -8.7%
NORTHEAST PORTAGE -12.6%
CUYAHOGA FALLS -15.8%
CENTRAL SUMMIT -13.7%
AKRON -18.5%
SOUTHWEST PORTAGE -11.9%
SOUTHEAST PORTAGE -13.9%
BARBERTON -21.1%
SOUTHERN SUMMIT -15.6%
NORTHEAST WAYNE -8.2%


2050 ODOD Scenario:
Employment Change
17% - 20% Gain
14% -17% Gain
11% - 14% Gain
8% - 11% Gain
0 1 2 4 Miles
N
NORTHERN SUMMIT 15.7%
NORTHWEST PORTAGE 11%
NORTHEAST PORTAGE 14.8%
CUYAHOGA FALLS 15.8%
CENTRAL SUMMIT 16.1%
AKRON 17.2%
SOUTHWEST PORTAGE 16.4%
SOUTHEAST PORTAGE 13.7%
BARBERTON 15.5%
SOUTHERN SUMMIT 15.3%
NORTHEAST WAYNE 13.2%

AMATS 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	720,087	722,064	0.3%
Households	304,094	322,855	6.2%
Population Under 18	146,339	146,584	0.2%
Vehicles	538,456	571,355	6.1%
Workers	356,805	357,941	0.3%

Employment				
NAICS 11	440	495	12.5%	Agriculture, Forestry and Hunting
NAICS 21	373	487	30.6%	Mining
NAICS 22	1,582	1,241	-21.6%	Utilities
NAICS 23	13,191	14,885	12.8%	Construction
NAICS 31-33	39,470	39,103	-0.9%	Manufacturing - Aggregated
NAICS 42	15,468	15,792	2.1%	Wholesale Trade
NAICS 44-45	34,812	31,342	-10.0%	Retail Trade - Aggregated
NAICS 48-49	14,370	19,364	34.8%	Transportation and Warehousing - Aggregated
NAICS 51	5,221	5,260	0.7%	Information
NAICS 52	10,448	10,695	2.4%	Finance and Insurance
NAICS 53	3,327	3,505	5.4%	Real Estate and Rental and Leasing
NAICS 54	15,107	18,123	20.0%	Professional Scientific and Technical Services
NAICS 55	14,242	16,618	16.7%	Management of Companies and Enterprises
NAICS 56	15,966	18,287	14.5%	Administrative Support, Waste Management and Remediation
NAICS 61	27,086	31,911	17.8%	Education Services
NAICS 62	53,036	69,812	31.6%	Health Care and Social Assistance
NAICS 71	5,459	9,722	78.1%	Arts, Entertainment and Recreation
NAICS 72	28,620	42,056	46.9%	Accommodation and Food Services
NAICS 81	9,592	11,050	15.2%	Other Services (except Public Administration)
NAICS 92	9,245	9,170	-0.8%	Public Administration
NAICS 99	12	12	0.0%	Other
Total Employment	317,067	368,930	16.4%	

K-12 School Enrollment	97,980	97,753	-0.2%

Summit County 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	540,094	537,173	-0.5%
Households	230,380	240,988	4.6%
Population Under 18	112,408	111,804	-0.5%
Vehicles	400,141	418,561	4.6%
Workers	265,592	264,490	-0.4%

Employment				
NAICS 11	111	123	10.8%	Agriculture, Forestry and Hunting
NAICS 21	106	135	27.4%	Mining
NAICS 22	1,476	1,159	-21.5%	Utilities
NAICS 23	11,030	12,467	13.0%	Construction
NAICS 31-33	28,303	28,046	-0.9%	Manufacturing - Aggregated
NAICS 42	12,426	12,681	2.1%	Wholesale Trade
NAICS 44-45	28,213	25,389	-10.0%	Retail Trade - Aggregated
NAICS 48-49	12,334	16,639	34.9%	Transportation and Warehousing - Aggregated
NAICS 51	4,697	4,733	0.8%	Information
NAICS 52	9,773	10,011	2.4%	Finance and Insurance
NAICS 53	2,831	2,991	5.7%	Real Estate and Rental and Leasing
NAICS 54	13,260	15,926	20.1%	Professional Scientific and Technical Services
NAICS 55	13,488	15,739	16.7%	Management of Companies and Enterprises
NAICS 56	14,801	16,974	14.7%	Administrative Support, Waste Management and Remediation
NAICS 61	18,142	21,368	17.8%	Education Services
NAICS 62	46,682	61,456	31.6%	Health Care and Social Assistance
NAICS 71	5,057	9,012	78.2%	Arts, Entertainment and Recreation
NAICS 72	22,337	32,824	46.9%	Accommodation and Food Services
NAICS 81	7,969	9,190	15.3%	Other Services (except Public Administration)
NAICS 92	7,335	7,266	-0.9%	Public Administration
NAICS 99	7	7	0.0%	Other
Total Employment	260,378	304,136	16.8%	

K-12 School Enrollment	75,624	74,907	-0.9%

Portage County 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	161,184	165,567	2.7%
Households	66,010	73,078	10.7%
Population Under 18	29,903	30,647	2.5%
Vehicles	122,108	134,205	9.9%
Workers	82,205	84,173	2.4%

Employment				
NAICS 11	151	167	10.6%	Agriculture, Forestry and Hunting
NAICS 21	209	275	31.6%	Mining
NAICS 22	92	71	-22.8%	Utilities
NAICS 23	1,890	2,116	12.0%	Construction
NAICS 31-33	10,558	10,451	-1.0%	Manufacturing - Aggregated
NAICS 42	2,937	3,003	2.2%	Wholesale Trade
NAICS 44-45	6,237	5,629	-9.7%	Retail Trade - Aggregated
NAICS 48-49	1,988	2,663	34.0%	Transportation and Warehousing - Aggregated
NAICS 51	506	509	0.6%	Information
NAICS 52	625	634	1.4%	Finance and Insurance
NAICS 53	482	500	3.7%	Real Estate and Rental and Leasing
NAICS 54	1,786	2,127	19.1%	Professional Scientific and Technical Services
NAICS 55	754	879	16.6%	Management of Companies and Enterprises
NAICS 56	1,104	1,243	12.6%	Administrative Support, Waste Management and Remediation
NAICS 61	8,567	10,098	17.9%	Education Services
NAICS 62	5,857	7,703	31.5%	Health Care and Social Assistance
NAICS 71	369	652	76.7%	Arts, Entertainment and Recreation
NAICS 72	6,111	8,979	46.9%	Accommodation and Food Services
NAICS 81	1,491	1,709	14.6%	Other Services (except Public Administration)
NAICS 92	1,799	1,793	-0.3%	Public Administration
NAICS 99	5	5	0.0%	Other
Total Employment	53,518	61,206	14.4%	

K-12 School Enrollment	20,612	21110	2.4%

Akron 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	192,551	186,866	-3.0%
Households	84,194	86,194	2.4%
Population Under 18	41,275	40,006	-3.1%
Vehicles	123,706	126,425	2.2%
Workers	88,925	86,541	-2.7%

Employment				
NAICS 11	56	62	10.7%	Agriculture, Forestry and Hunting
NAICS 21	21	27	28.6%	Mining
NAICS 22	797	623	-21.8%	Utilities
NAICS 23	2904	3,277	12.8%	Construction
NAICS 31-33	8,148	8,082	-0.8%	Manufacturing - Aggregated
NAICS 42	2,715	2,766	1.9%	Wholesale Trade
NAICS 44-45	6,573	5,943	-9.6%	Retail Trade - Aggregated
NAICS 48-49	3,598	4,850	34.8%	Transportation and Warehousing - Aggregated
NAICS 51	1,721	1,733	0.7%	Information
NAICS 52	1,659	1,692	2.0%	Finance and Insurance
NAICS 53	1,043	1,103	5.8%	Real Estate and Rental and Leasing
NAICS 54	4,637	5,562	19.9%	Professional Scientific and Technical Services
NAICS 55	7,122	8,313	16.7%	Management of Companies and Enterprises
NAICS 56	4,629	5,313	14.8%	Administrative Support, Waste Management and Remediation
NAICS 61	8,721	10,274	17.8%	Education Services
NAICS 62	26,008	34,240	31.7%	Health Care and Social Assistance
NAICS 71	1,343	2,395	78.3%	Arts, Entertainment and Recreation
NAICS 72	5,794	8,515	47.0%	Accommodation and Food Services
NAICS 81	2,633	3,027	15.0%	Other Services (except Public Administration)
NAICS 92	4,125	4,074	-1.2%	Public Administration
NAICS 99	1	1	0.0%	Other
Total Employment	94,248	111,872	18.7%	

K-12 School Enrollment	24,474	23,337	-4.6%

Barberton 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	26,128	24,511	-6.2%
Households	11,319	11,732	3.6%
Population Under 18	5,448	5,112	-6.2%
Vehicles	17,751	18,330	3.3%
Workers	11,202	10,507	-6.2%

Employment				
NAICS 11	0	0	0.0%	Agriculture, Forestry and Hunting
NAICS 21	0	0	0.0%	Mining
NAICS 22	0	0	0.0%	Utilities
NAICS 23	421	472	12.1%	Construction
NAICS 31-33	2,145	2,124	-1.0%	Manufacturing - Aggregated
NAICS 42	318	324	1.9%	Wholesale Trade
NAICS 44-45	564	515	-8.7%	Retail Trade - Aggregated
NAICS 48-49	143	194	35.7%	Transportation and Warehousing - Aggregated
NAICS 51	83	83	0.0%	Information
NAICS 52	108	108	0.0%	Finance and Insurance
NAICS 53	16	16	0.0%	Real Estate and Rental and Leasing
NAICS 54	146	177	21.2%	Professional Scientific and Technical Services
NAICS 55	105	123	17.1%	Management of Companies and Enterprises
NAICS 56	264	303	14.8%	Administrative Support, Waste Management and Remediation
NAICS 61	568	670	18.0%	Education Services
NAICS 62	1,887	2,485	31.7%	Health Care and Social Assistance
NAICS 71	11	18	63.6%	Arts, Entertainment and Recreation
NAICS 72	772	1,135	47.0%	Accommodation and Food Services
NAICS 81	458	528	15.3%	Other Services (except Public Administration)
NAICS 92	154	154	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	8,163	9,429	15.5%	

K-12 School Enrollment	3,737	3,737	-6.8%

Cuyahoga Falls 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	49,908	50,408	1.0%
Households	23,413	24,275	3.7%
Population Under 18	9,275	9,271	0.0%
Vehicles	39,116	40,044	2.4%
Workers	27,623	27,834	0.8%

Employment				
NAICS 11	1	1	0.0%	Agriculture, Forestry and Hunting
NAICS 21	0	0	0.0%	Mining
NAICS 22	68	53	-22.1%	Utilities
NAICS 23	380	428	12.6%	Construction
NAICS 31-33	3,495	3,459	-1.0%	Manufacturing - Aggregated
NAICS 42	598	610	2.0%	Wholesale Trade
NAICS 44-45	2,561	2,303	-10.1%	Retail Trade - Aggregated
NAICS 48-49	155	209	34.8%	Transportation and Warehousing - Aggregated
NAICS 51	185	185	0.0%	Information
NAICS 52	290	290	0.0%	Finance and Insurance
NAICS 53	202	211	4.5%	Real Estate and Rental and Leasing
NAICS 54	648	777	19.9%	Professional Scientific and Technical Services
NAICS 55	683	797	16.7%	Management of Companies and Enterprises
NAICS 56	1,273	1,459	14.6%	Administrative Support, Waste Management and Remediation
NAICS 61	1,677	1,975	17.8%	Education Services
NAICS 62	3,328	4,384	31.7%	Health Care and Social Assistance
NAICS 71	373	667	78.8%	Arts, Entertainment and Recreation
NAICS 72	2,293	3,367	46.8%	Accommodation and Food Services
NAICS 81	699	811	16.0%	Other Services (except Public Administration)
NAICS 92	532	526	-1.1%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	19,441	22,512	15.8%	

K-12 School Enrollment	6,394	6,303	-1.4%

Northern Summit 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	93,396	94,528	1.2%
Households	36,746	38,342	4.3%
Population Under 18	20,239	20,476	1.2%
Vehicles	73,420	76,517	4.2%
Workers	47,477	47,941	1.0%

Employment				
NAICS 11	23	26	13.0%	Agriculture, Forestry and Hunting
NAICS 21	30	40	33.3%	Mining
NAICS 22	89	71	-20.2%	Utilities
NAICS 23	2,899	3,284	13.3%	Construction
NAICS 31-33	7,531	7,451	-1.1%	Manufacturing - Aggregated
NAICS 42	5,742	5,871	2.2%	Wholesale Trade
NAICS 44-45	5,332	4,794	-10.1%	Retail Trade - Aggregated
NAICS 48-49	4,908	6,629	35.1%	Transportation and Warehousing - Aggregated
NAICS 51	2,046	2,067	1.0%	Information
NAICS 52	4,570	4,700	2.8%	Finance and Insurance
NAICS 53	688	737	7.1%	Real Estate and Rental and Leasing
NAICS 54	2,239	2,684	19.9%	Professional Scientific and Technical Services
NAICS 55	2,056	2,397	16.6%	Management of Companies and Enterprises
NAICS 56	2,225	2,549	14.6%	Administrative Support, Waste Management and Remediation
NAICS 61	2,751	3,241	17.8%	Education Services
NAICS 62	4,157	5,473	31.7%	Health Care and Social Assistance
NAICS 71	2,555	4,559	78.4%	Arts, Entertainment and Recreation
NAICS 72	3,939	5,789	47.0%	Accommodation and Food Services
NAICS 81	1,771	2,047	15.6%	Other Services (except Public Administration)
NAICS 92	948	945	-0.3%	Public Administration
NAICS 99	1	1	0.0%	Other
Total Employment	56,500	65,355	15.7%	

K-12 School Enrollment	15,998	16,305	1.9%

Central Summit 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	96,755	99,342	2.7%
Households	40,266	44,011	9.3%
Population Under 18	19,848	20,446	3.0%
Vehicles	77,114	84,086	9.0%
Workers	48,973	50,204	2.5%

Employment				
NAICS 11	17	17	0.0%	Agriculture, Forestry and Hunting
NAICS 21	7	7	0.0%	Mining
NAICS 22	432	341	-21.0%	Utilities
NAICS 23	1,655	1,867	12.8%	Construction
NAICS 31-33	2,939	2,918	-0.7%	Manufacturing - Aggregated
NAICS 42	1,714	1,747	1.9%	Wholesale Trade
NAICS 44-45	8,696	7,804	-10.3%	Retail Trade - Aggregated
NAICS 48-49	1,106	1,485	34.3%	Transportation and Warehousing - Aggregated
NAICS 51	519	522	0.6%	Information
NAICS 52	2,339	2,401	2.7%	Finance and Insurance
NAICS 53	507	528	4.1%	Real Estate and Rental and Leasing
NAICS 54	3,926	4,733	20.6%	Professional Scientific and Technical Services
NAICS 55	2,310	2,694	16.6%	Management of Companies and Enterprises
NAICS 56	2,448	2,806	14.6%	Administrative Support, Waste Management and Remediation
NAICS 61	2,389	2,813	17.7%	Education Services
NAICS 62	7,829	10,301	31.6%	Health Care and Social Assistance
NAICS 71	610	1,083	77.5%	Arts, Entertainment and Recreation
NAICS 72	6,013	8,841	47.0%	Accommodation and Food Services
NAICS 81	1,423	1,635	14.9%	Other Services (except Public Administration)
NAICS 92	717	714	-0.4%	Public Administration
NAICS 99	5	5	0.0%	Other
Total Employment	47,601	55,262	16.1%	

K-12 School Enrollment	12,781	13,116	2.6%

Southern Summit 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	81,356	81,518	0.2%
Households	34,442	36,434	5.8%
Population Under 18	16,323	16,493	1.0%
Vehicles	69,034	73,159	6.0%
Workers	41,392	41,463	0.2%

Employment				
NAICS 11	14	17	21.4%	Agriculture, Forestry and Hunting
NAICS 21	48	61	27.1%	Mining
NAICS 22	90	71	-21.1%	Utilities
NAICS 23	2,771	3,139	13.3%	Construction
NAICS 31-33	4,045	4,012	-0.8%	Manufacturing - Aggregated
NAICS 42	1,339	1,363	1.8%	Wholesale Trade
NAICS 44-45	4,487	4,030	-10.2%	Retail Trade - Aggregated
NAICS 48-49	2,424	3,272	35.0%	Transportation and Warehousing - Aggregated
NAICS 51	143	143	0.0%	Information
NAICS 52	807	820	1.6%	Finance and Insurance
NAICS 53	375	396	5.6%	Real Estate and Rental and Leasing
NAICS 54	1,664	1,993	19.8%	Professional Scientific and Technical Services
NAICS 55	1,212	1,415	16.7%	Management of Companies and Enterprises
NAICS 56	3,962	4,544	14.7%	Administrative Support, Waste Management and Remediation
NAICS 61	2,036	2,395	17.6%	Education Services
NAICS 62	3,473	4,573	31.7%	Health Care and Social Assistance
NAICS 71	165	290	75.8%	Arts, Entertainment and Recreation
NAICS 72	3,526	5,177	46.8%	Accommodation and Food Services
NAICS 81	985	1,142	15.9%	Other Services (except Public Administration)
NAICS 92	859	853	-0.7%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	34,425	39,706	15.3%	

K-12 School Enrollment	12,240	12,362	1.0%

Northwest Portage 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	45,289	48,078	6.2%
Households	18,542	20,947	13.0%
Population Under 18	9,183	9,776	6.5%
Vehicles	36,102	40,661	12.6%
Workers	23,618	25,036	6.0%

Employment				
NAICS 11	55	61	10.9%	Agriculture, Forestry and Hunting
NAICS 21	86	115	33.7%	Mining
NAICS 22	20	16	-20.0%	Utilities
NAICS 23	438	486	11.0%	Construction
NAICS 31-33	5,076	5,016	-1.2%	Manufacturing - Aggregated
NAICS 42	2,046	2,097	2.5%	Wholesale Trade
NAICS 44-45	2,618	2,357	-10.0%	Retail Trade - Aggregated
NAICS 48-49	1,002	1,341	33.8%	Transportation and Warehousing - Aggregated
NAICS 51	230	233	1.3%	Information
NAICS 52	180	180	0.0%	Finance and Insurance
NAICS 53	159	162	1.9%	Real Estate and Rental and Leasing
NAICS 54	791	945	19.5%	Professional Scientific and Technical Services
NAICS 55	31	34	9.7%	Management of Companies and Enterprises
NAICS 56	477	536	12.4%	Administrative Support, Waste Management and Remediation
NAICS 61	1,152	1,353	17.4%	Education Services
NAICS 62	1,785	2,347	31.5%	Health Care and Social Assistance
NAICS 71	146	261	78.8%	Arts, Entertainment and Recreation
NAICS 72	1,573	2,310	46.9%	Accommodation and Food Services
NAICS 81	477	544	14.0%	Other Services (except Public Administration)
NAICS 92	373	373	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	18,715	20,767	11.0%	

K-12 School Enrollment	7,064	7,473	5.8%

Northeast Portage 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	15,039	14,897	-0.9%
Households	5,837	6,319	8.3%
Population Under 18	3,059	3,058	0.0%
Vehicles	10,949	11,843	8.2%
Workers	7,144	7,064	-1.1%

Employment				
NAICS 11	37	41	10.8%	Agriculture, Forestry and Hunting
NAICS 21	3	3	0.0%	Mining
NAICS 22	0	0	0.0%	Utilities
NAICS 23	151	166	9.9%	Construction
NAICS 31-33	420	420	0.0%	Manufacturing - Aggregated
NAICS 42	8	8	0.0%	Wholesale Trade
NAICS 44-45	303	279	-7.9%	Retail Trade - Aggregated
NAICS 48-49	92	123	33.7%	Transportation and Warehousing - Aggregated
NAICS 51	54	54	0.0%	Information
NAICS 52	29	29	0.0%	Finance and Insurance
NAICS 53	8	8	0.0%	Real Estate and Rental and Leasing
NAICS 54	24	27	12.5%	Professional Scientific and Technical Services
NAICS 55	0	0	0.0%	Management of Companies and Enterprises
NAICS 56	77	86	11.7%	Administrative Support, Waste Management and Remediation
NAICS 61	539	636	18.0%	Education Services
NAICS 62	126	164	30.2%	Health Care and Social Assistance
NAICS 71	24	42	75.0%	Arts, Entertainment and Recreation
NAICS 72	361	532	47.4%	Accommodation and Food Services
NAICS 81	71	77	8.5%	Other Services (except Public Administration)
NAICS 92	158	158	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	2,485	2,853	14.8%	

K-12 School Enrollment	1,702	1,728	1.5%

Southwest Portage 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	86,950	88,950	2.3%
Households	36,061	39,699	10.1%
Population Under 18	14,787	14,991	1.4%
Vehicles	62,672	68,045	8.6%
Workers	44,155	44,921	1.7%

Employment				
NAICS 11	49	55	12.2%	Agriculture, Forestry and Hunting
NAICS 21	95	123	29.5%	Mining
NAICS 22	72	55	-23.6%	Utilities
NAICS 23	1,093	1,232	12.7%	Construction
NAICS 31-33	4,973	4,926	-0.9%	Manufacturing - Aggregated
NAICS 42	796	811	1.9%	Wholesale Trade
NAICS 44-45	3,159	2,851	-9.7%	Retail Trade - Aggregated
NAICS 48-49	787	1,059	34.6%	Transportation and Warehousing - Aggregated
NAICS 51	222	222	0.0%	Information
NAICS 52	414	423	2.2%	Finance and Insurance
NAICS 53	302	317	5.0%	Real Estate and Rental and Leasing
NAICS 54	930	1,108	19.1%	Professional Scientific and Technical Services
NAICS 55	721	843	16.9%	Management of Companies and Enterprises
NAICS 56	527	598	13.5%	Administrative Support, Waste Management and Remediation
NAICS 61	6,522	7,693	18.0%	Education Services
NAICS 62	3,914	5,154	31.7%	Health Care and Social Assistance
NAICS 71	190	333	77.5%	Arts, Entertainment and Recreation
NAICS 72	4,061	5,966	46.9%	Accommodation and Food Services
NAICS 81	923	1,068	15.7%	Other Services (except Public Administration)
NAICS 92	1,195	1,189	-0.5%	Public Administration
NAICS 99	5	5	0.0%	Other
Total Employment	30,950	36,031	16.4%	

K-12 School Enrollment	9,609	9,687	0.8%

Southeast Portage 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	13,906	13,642	-1.9%
Households	5,570	6,113	9.7%
Population Under 18	2,874	2,822	-1.8%
Vehicles	12,385	13,656	10.3%
Workers	7,288	7,152	-1.9%

Employment				
NAICS 11	10	10	0.0%	Agriculture, Forestry and Hunting
NAICS 21	25	34	36.0%	Mining
NAICS 22	0	0	0.0%	Utilities
NAICS 23	208	232	11.5%	Construction
NAICS 31-33	89	89	0.0%	Manufacturing - Aggregated
NAICS 42	87	87	0.0%	Wholesale Trade
NAICS 44-45	157	142	-9.6%	Retail Trade - Aggregated
NAICS 48-49	107	140	30.8%	Transportation and Warehousing - Aggregated
NAICS 51	0	0	0.0%	Information
NAICS 52	2	2	0.0%	Finance and Insurance
NAICS 53	13	13	0.0%	Real Estate and Rental and Leasing
NAICS 54	41	47	14.6%	Professional Scientific and Technical Services
NAICS 55	2	2	0.0%	Management of Companies and Enterprises
NAICS 56	23	23	0.0%	Administrative Support, Waste Management and Remediation
NAICS 61	354	416	17.5%	Education Services
NAICS 62	32	38	18.8%	Health Care and Social Assistance
NAICS 71	9	16	77.8%	Arts, Entertainment and Recreation
NAICS 72	116	171	47.4%	Accommodation and Food Services
NAICS 81	20	20	0.0%	Other Services (except Public Administration)
NAICS 92	73	73	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	1,368	1,555	13.7%	

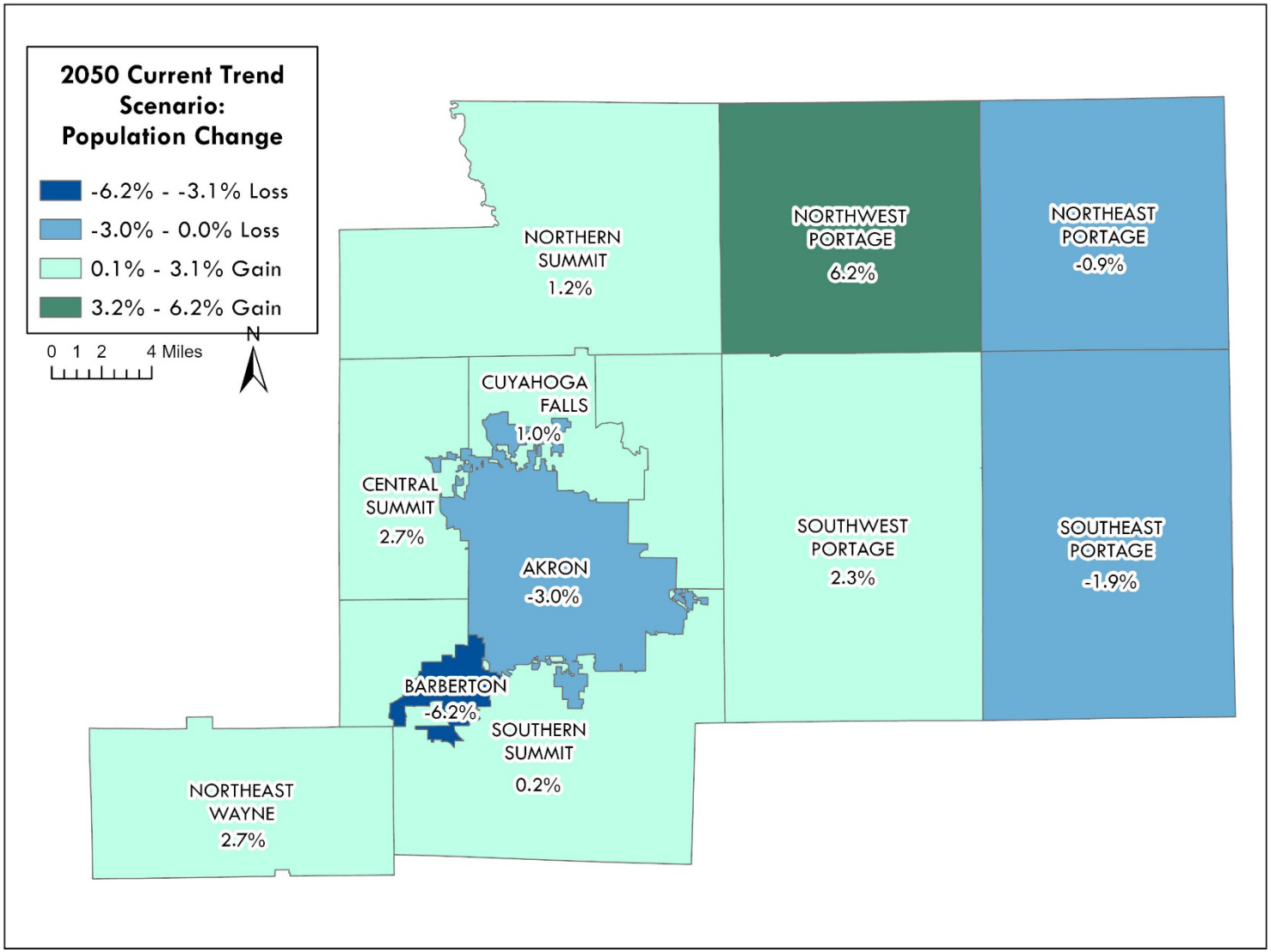
K-12 School Enrollment	2,237	2,222	-0.7%

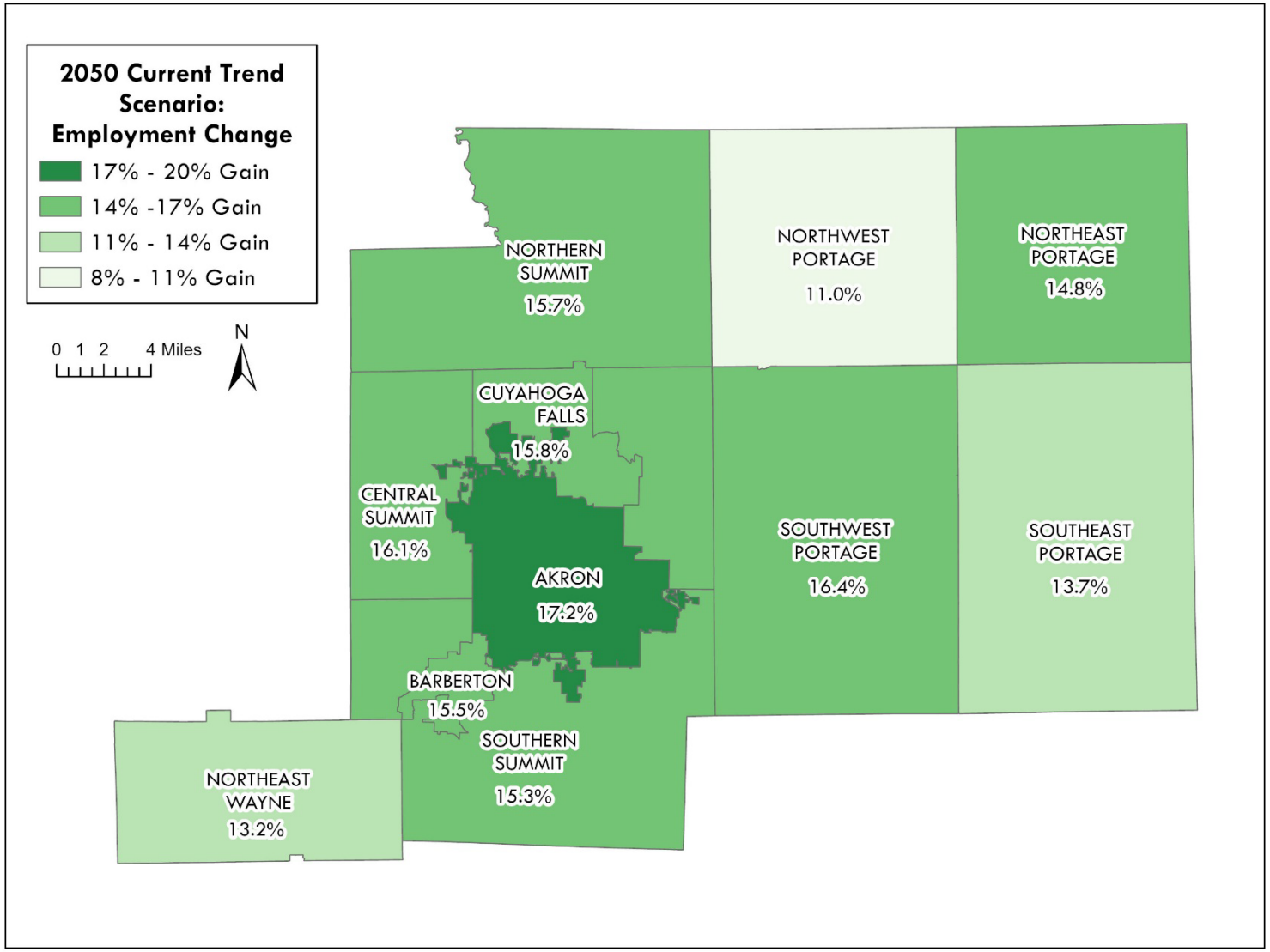
Northeast Wayne 2050 Forecast Characteristics – Current Trends Scenario

	BASE YEAR 2020	BASE YEAR 2050	% Change
Population	18,809	19,324	2.7%
Households	7,704	8,789	14.1%
Population Under 18	4,028	4,133	2.6%
Vehicles	16,207	18,589	14.7%
Workers	9,008	9,278	3.0%

Employment				
NAICS 11	178	205	15.2%	Agriculture, Forestry and Hunting
NAICS 21	58	77	32.8%	Mining
NAICS 22	14	11	-21.4%	Utilities
NAICS 23	271	3,021	11.4%	Construction
NAICS 31-33	609	606	-0.5%	Manufacturing - Aggregated
NAICS 42	105	108	2.9%	Wholesale Trade
NAICS 44-45	362	324	-10.5%	Retail Trade - Aggregated
NAICS 48-49	48	62	29.2%	Transportation and Warehousing - Aggregated
NAICS 51	18	18	0.0%	Information
NAICS 52	50	50	0.0%	Finance and Insurance
NAICS 53	14	14	0.0%	Real Estate and Rental and Leasing
NAICS 54	61	70	14.8%	Professional Scientific and Technical Services
NAICS 55	0	0	0.0%	Management of Companies and Enterprises
NAICS 56	61	70	14.8%	Administrative Support, Waste Management and Remediation
NAICS 61	377	445	18.0%	Education Services
NAICS 62	497	653	31.4%	Health Care and Social Assistance
NAICS 71	33	58	75.8%	Arts, Entertainment and Recreation
NAICS 72	172	253	47.1%	Accommodation and Food Services
NAICS 81	132	151	14.4%	Other Services (except Public Administration)
NAICS 92	111	111	0.0%	Public Administration
NAICS 99	0	0	0.0%	Other
Total Employment	3,171	3,588	13.2%	

K-12 School Enrollment	1,744	1,736	-0.5%


2050 Current Trend Scenario: Population Change
-6.2% - -3.1% Loss
-3.0% - 0.0% Loss
0.1% - 3.1% Gain
3.2% - 6.2% Gain
0 1 2 4 Miles
N
NORTHERN SUMMIT 1.2%
NORTHWEST PORTAGE 6.2%
NORTHEAST PORTAGE -0.9%
CUYAHOGA FALLS 1.0%
CENTRAL SUMMIT 2.7%
AKRON -3.0%
SOUTHWEST PORTAGE 2.3%
SOUTHEAST PORTAGE -1.9%
BARBERTON -6.2%
SOUTHERN SUMMIT 0.2%
NORTHEAST WAYNE 2.7%


2050 Current Trend Scenario: Employment Change
17% - 20% Gain
14% -17% Gain
11% - 14% Gain
8% - 11% Gain
0 1 2 4 Miles
N
NORTHERN SUMMIT 15.7%
NORTHWEST PORTAGE 11.0%
NORTHEAST PORTAGE 14.8%
CUYAHOGA FALLS 15.8%
CENTRAL SUMMIT 16.1%
AKRON 17.2%
SOUTHWEST PORTAGE 16.4%
SOUTHEAST PORTAGE 13.7%
BARBERTON 15.5%
SOUTHERN SUMMIT 15.3%
NORTHEAST WAYNE 13.2%

Conclusion

Shifts in population and employment can influence regional travel patterns in many ways. This includes the overall number of trips, time and duration of travel, origins and destinations, the travel mode selected, and many other factors. This is why understanding where current trends could be taking the AMATS region in the long-term future is an important part of the greater transportation planning process. Our analysis reveals a nuanced future for the region, characterized by contrasting trends in population and employment. Depending on the scenario, overall population in the region is projected to either decline or remain relatively flat. Under both scenarios, the region exhibits robust employment growth, projected to increase by 16.4%. This mixed landscape of demographic and economic change presents unique challenges and opportunities for regional planning. A potential decrease in population and households signals a need for strategic adjustments in infrastructure and service provision, while employment growth suggests economic resilience and the potential for revitalization. In addition to providing important planning insight, the massive amount of TAZ-level data generated during the Planning Data Forecast process will be input directly into the regional traffic demand model. Using this data, the model will be able to generate future traffic volumes, congestion and air quality data with the greatest possible accuracy.

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee**
Technical Advisory Committee
Citizens Involvement Committee

FROM: **AMATS Staff**

RE: **2024 Freight Plan**

DATE: **September 12, 2024**

The AMATS Freight Plan contains an analysis of the region's existing freight system and makes recommendations that are eligible for inclusion in the upcoming Draft 2050 Regional Transportation Plan. The draft Freight Plan was presented to TAC and Policy in August.

The AMATS Freight Plan identifies the elements of the transportation system in the AMATS area that are critical for movement of bulk goods into, out of, and within the region. The report also addresses the factors and trends that affect both railway and roadway freight, and examines highway-rail grade crossings and freight corridors in the area.

This report:

- Analyzes the highway and freight network,
- Identifies regional job hubs that generate freight activity,
- Evaluates the freight network's efficiency in these job hubs, and
- Recommends strategies to improve the freight network in the AMATS region.

Examples of transportation projects that are freight-related or critical to goods movement include bridge replacements, roadway improvements, rail-access improvements and grade separations for highway and rail crossings.

The Freight Plan was presented at the August 2024, TAC and Policy Committee meetings. No comments were received that resulted in changes to the original draft plan.

The complete Freight Plan is available on the AMATS website, www.amatsplanning.org.

The staff recommends approval of this document.

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

AMATS

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.

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

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 *(Except Aircraft Cargo Handling Supervisors)*	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.

Table 1-1: Mileages by Roadway Classification

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

Table 1-2: Number and Deck Area of Bridges

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.

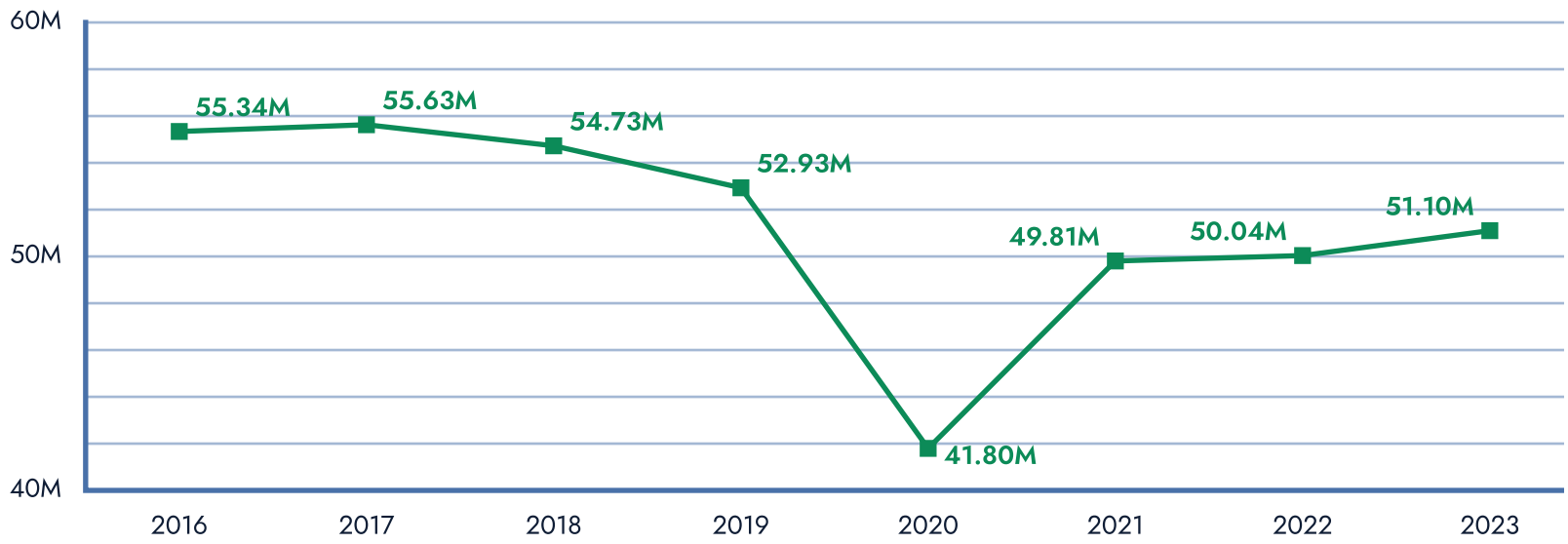
ODOT's statewide freight plan, Transport Ohio, identifies the need for adequate truck parking. The Akron area was identified as a cluster of significant truck parking, with the needs discussed above.

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).

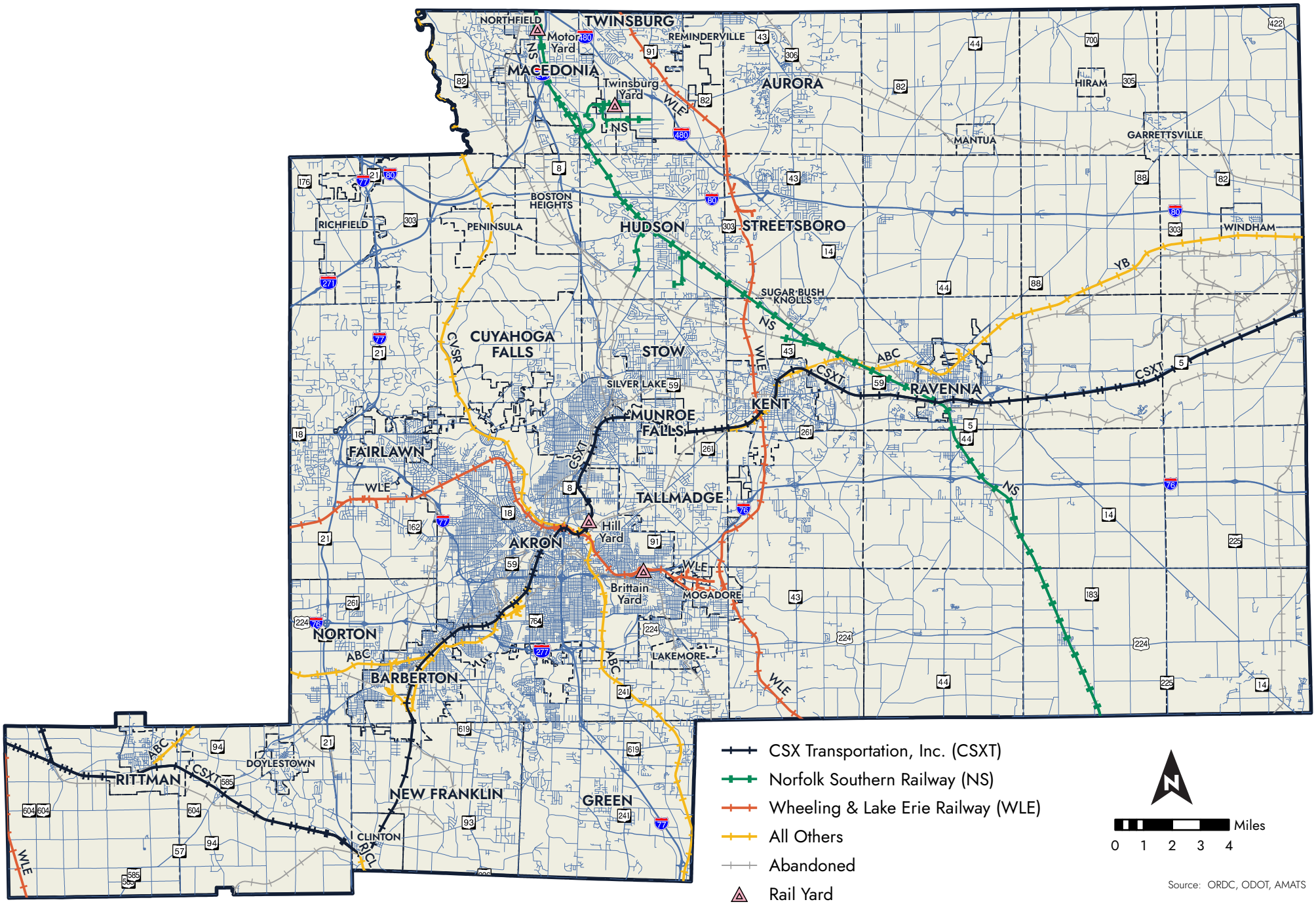
The Akron Barberton Cluster Railway (ABC) is a Class III railroad that operates on 73 miles of track in and around the AMATS area. It serves as a switching service for important industries in the area. Its parent company is the Wheeling & Lake Erie Railway.

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



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.

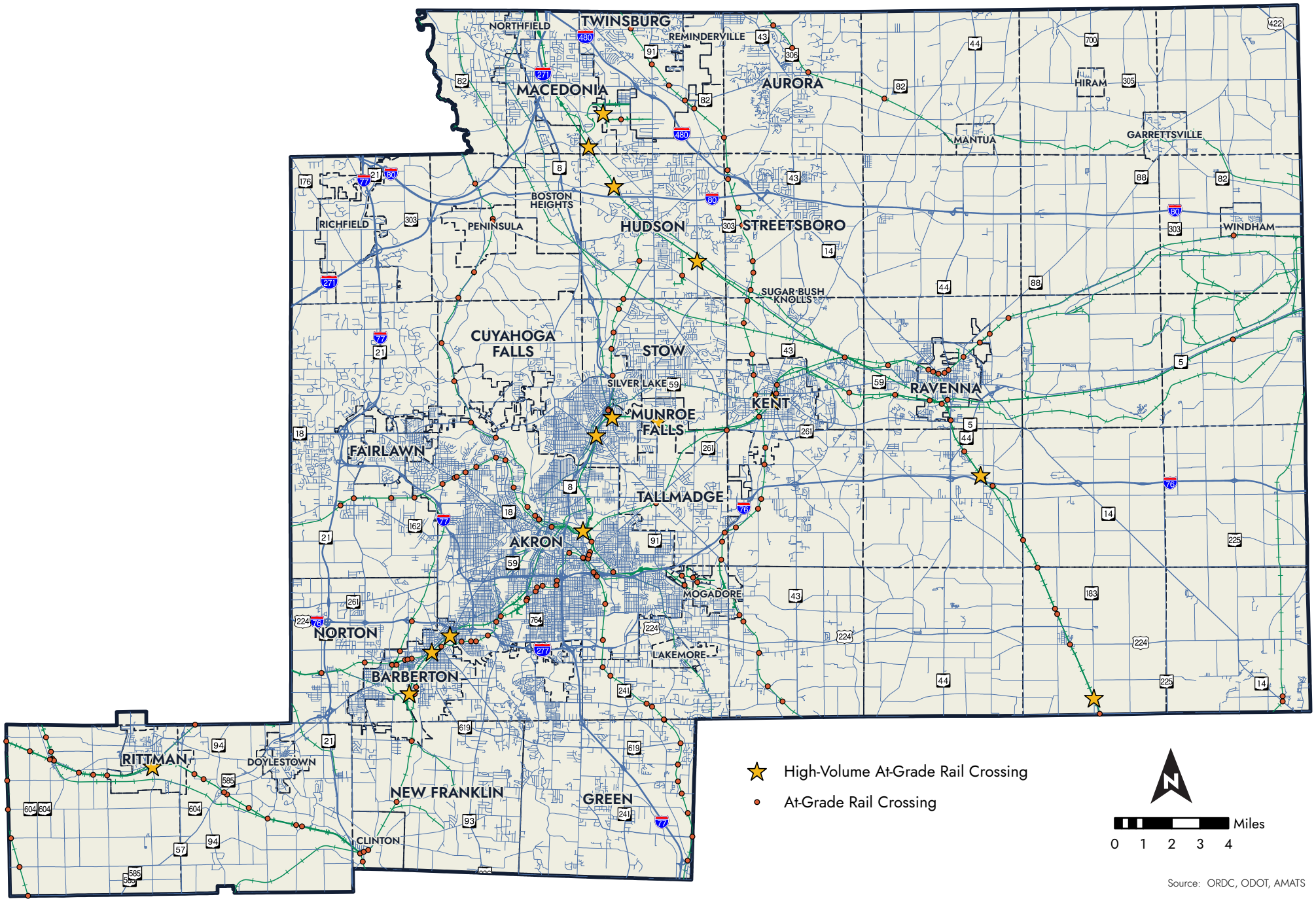
Map 2-2 on page 16 shows all at-grade crossings in the AMATS area with high volume crossings highlighted. At-grade crossings are prioritized by scoring the number of trains per day and the daily traffic volume (ADT). Scores greater than 100 are shown in Table 2-1. A description of the top-ranking at-grade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

Table 2-1 | High-Volume At-Grade Rail Crossings

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

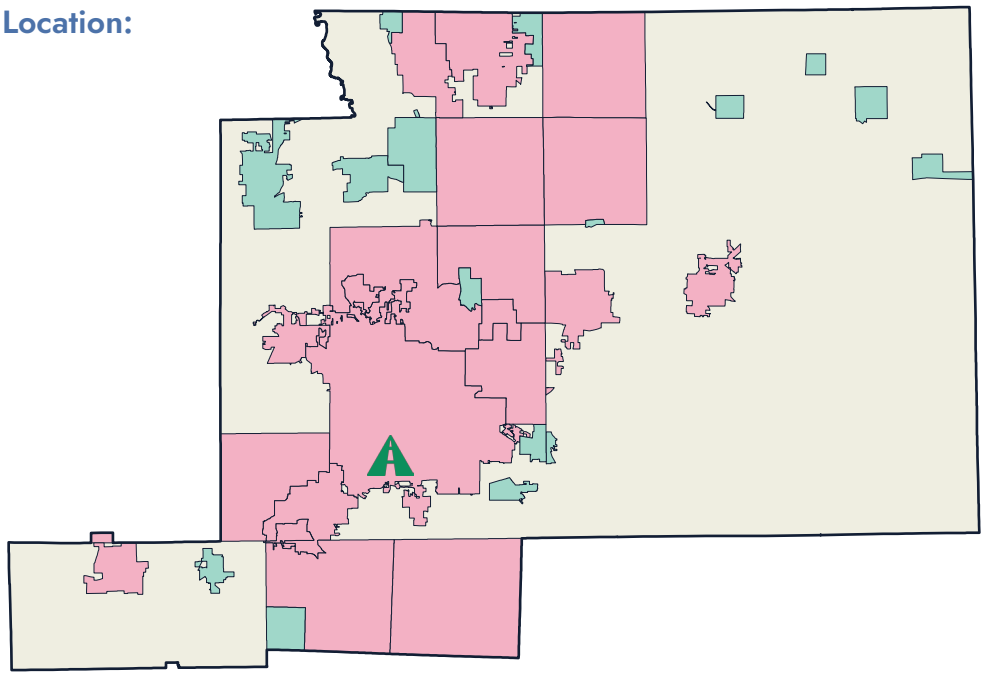
Top 3 Job Types:

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

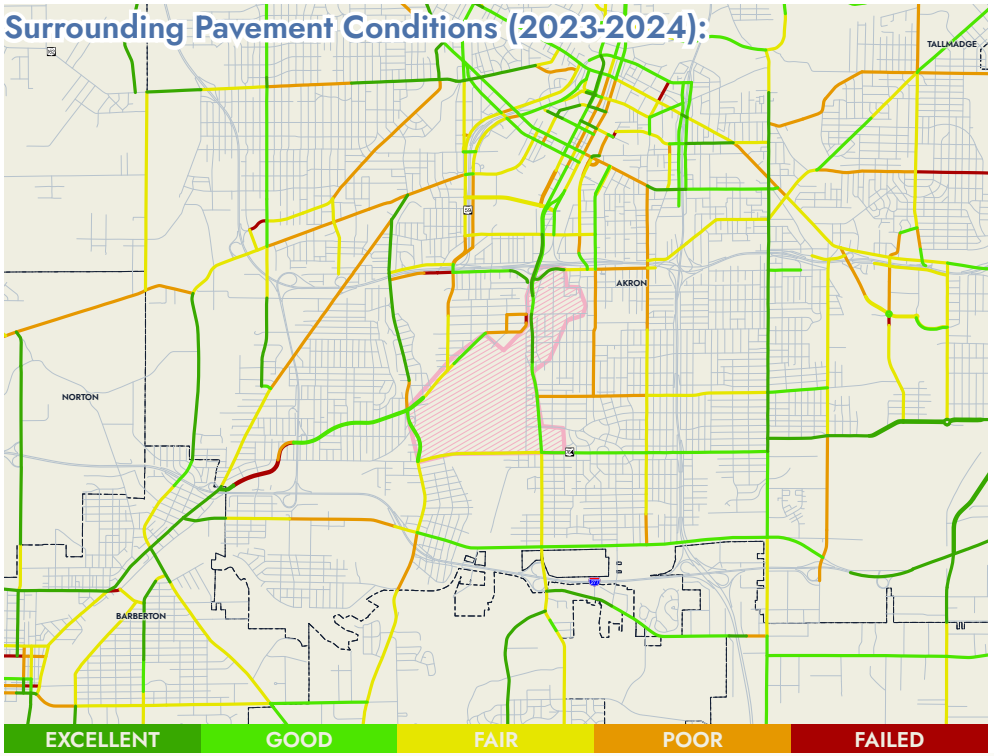
2022 Estimated Jobs:

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

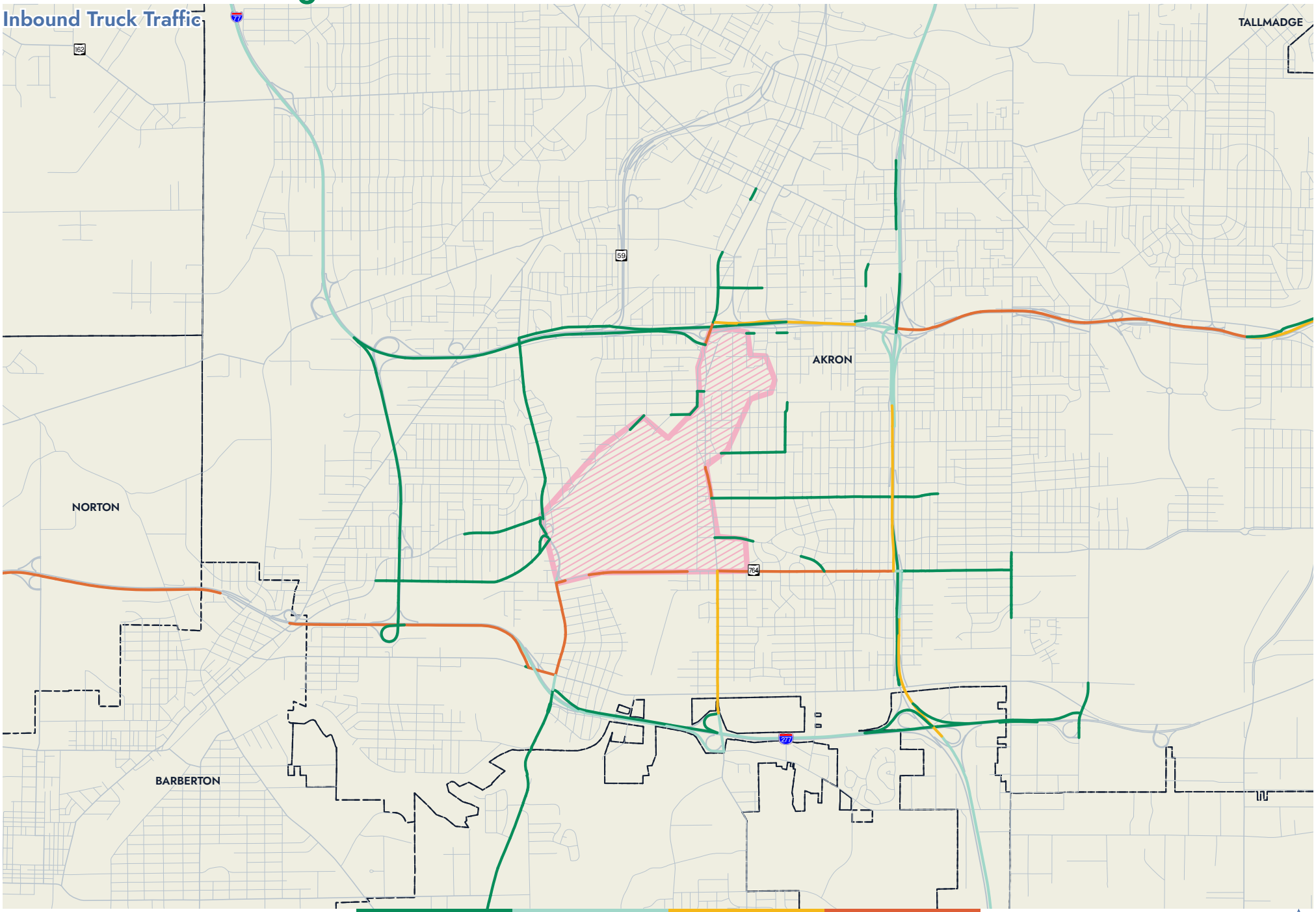
Top Congested Segments

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

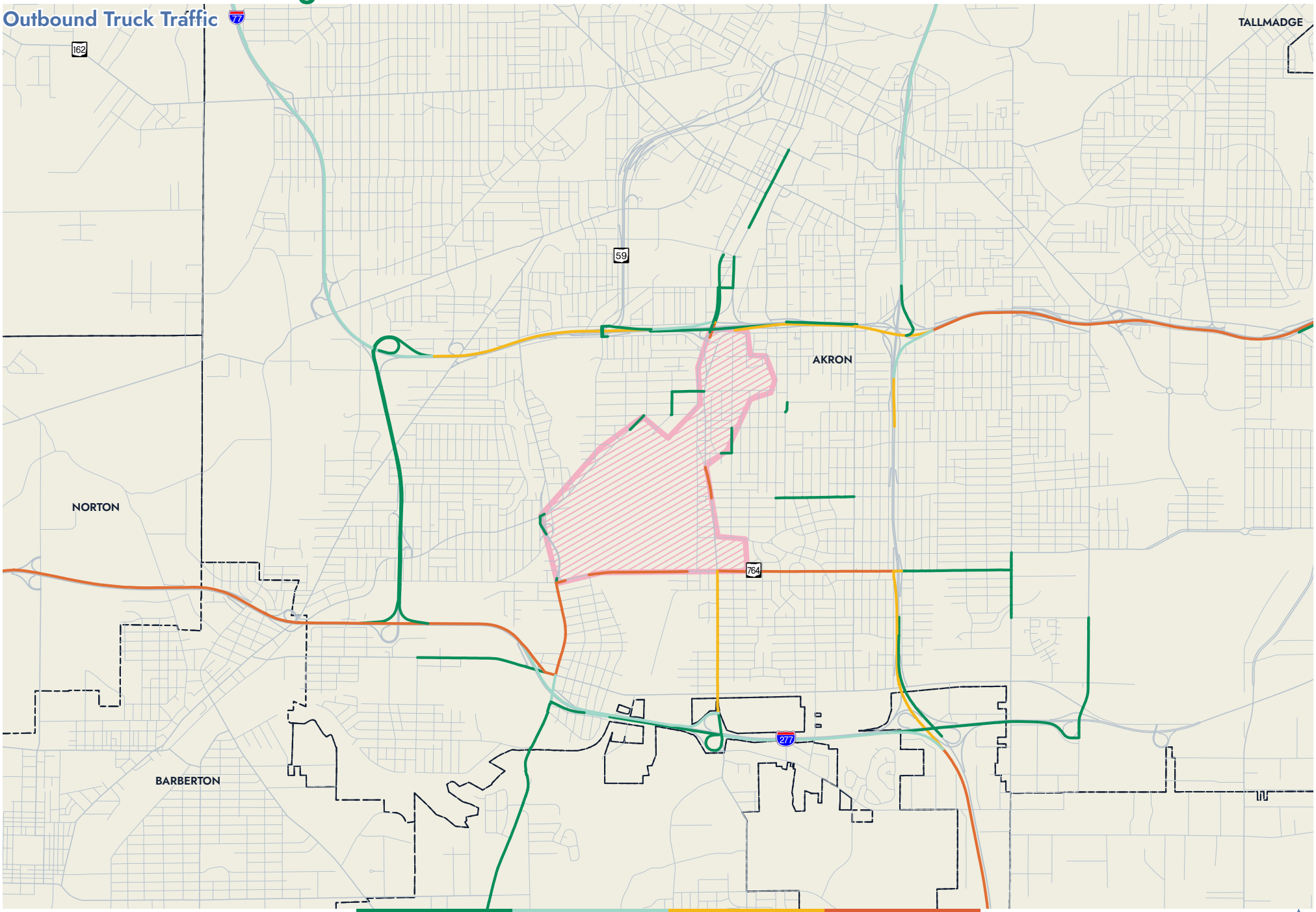


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Firestone Park Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

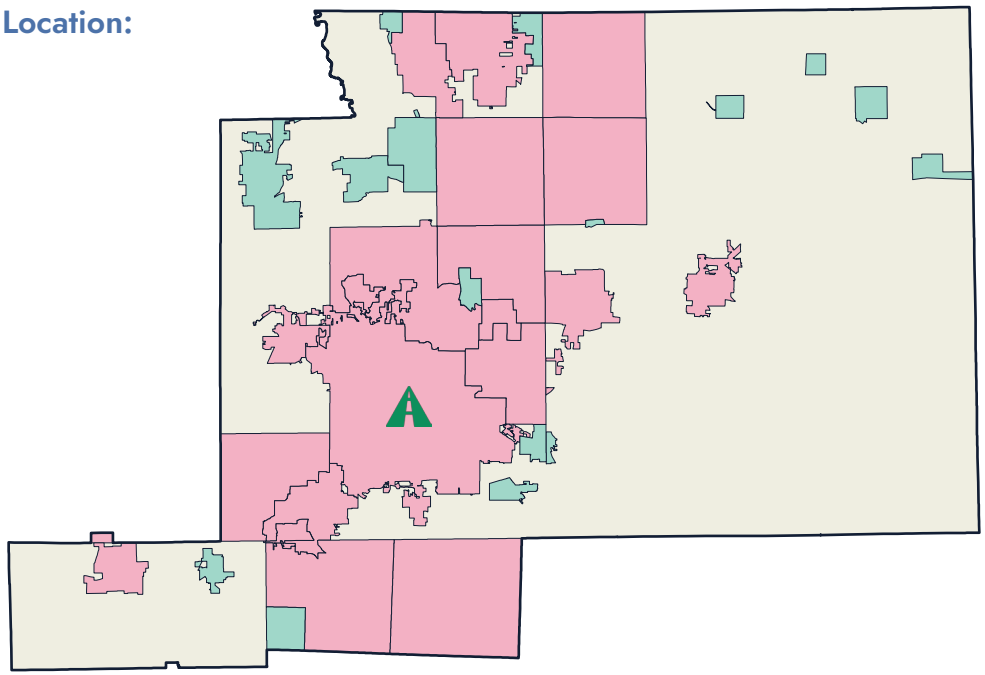
Top 3 Job Types:

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

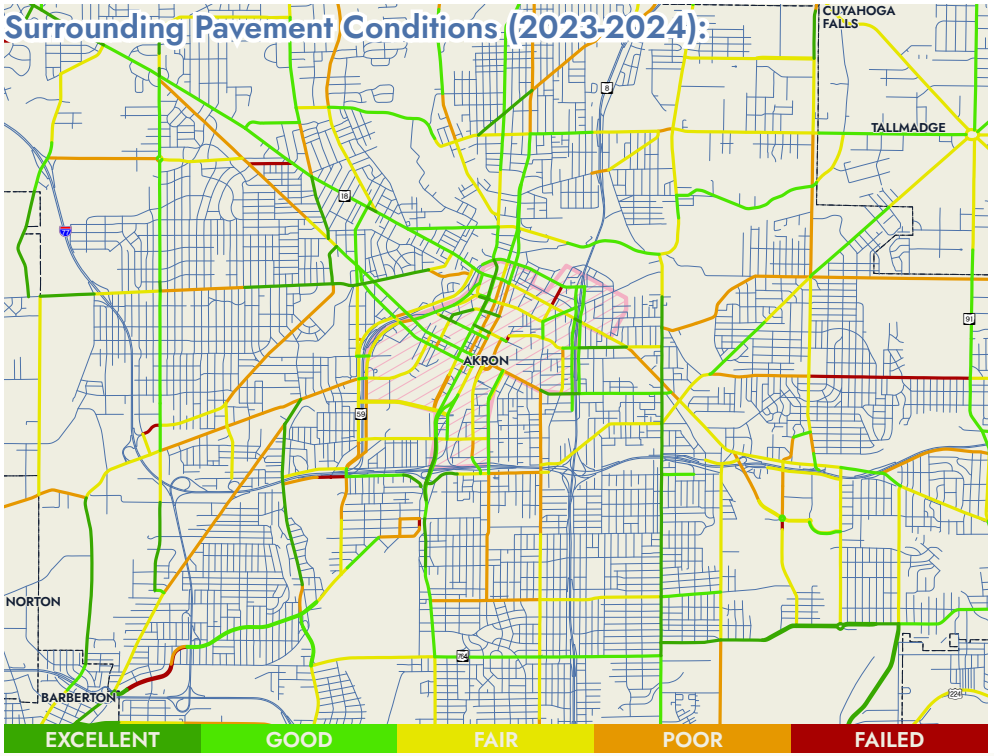
2022 Estimated Jobs:

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

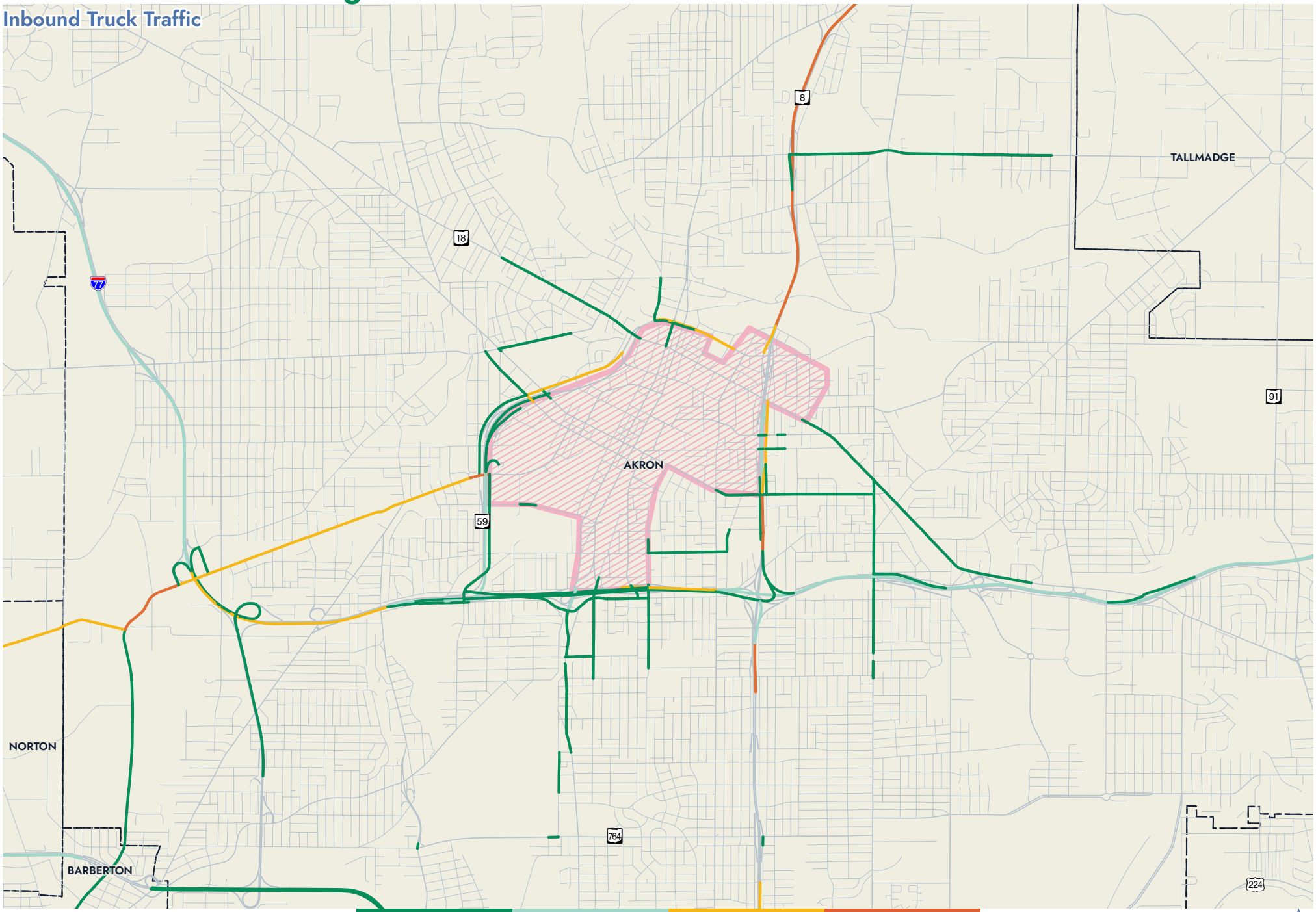
Top Congested Segments

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

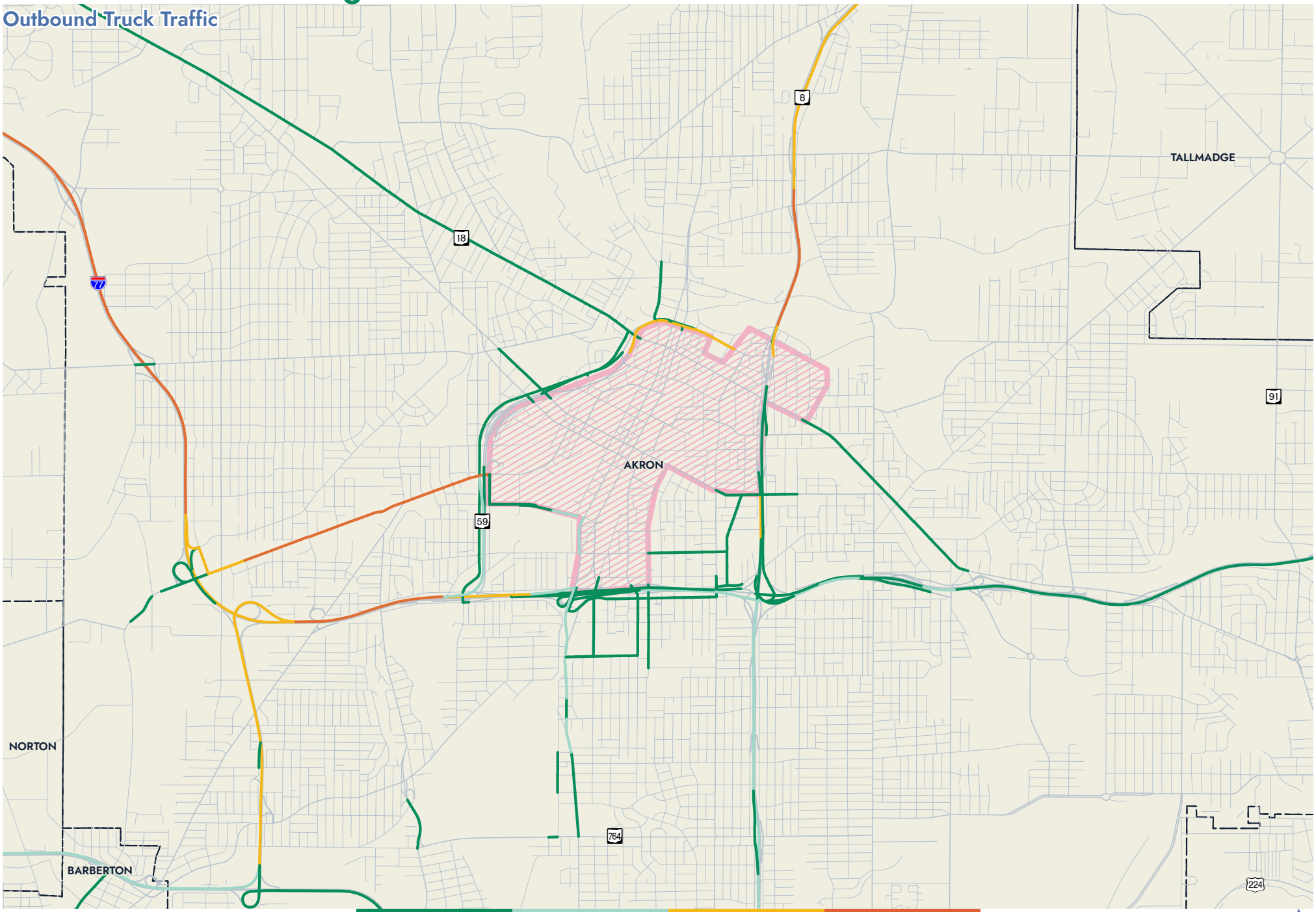


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Downtown Akron Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

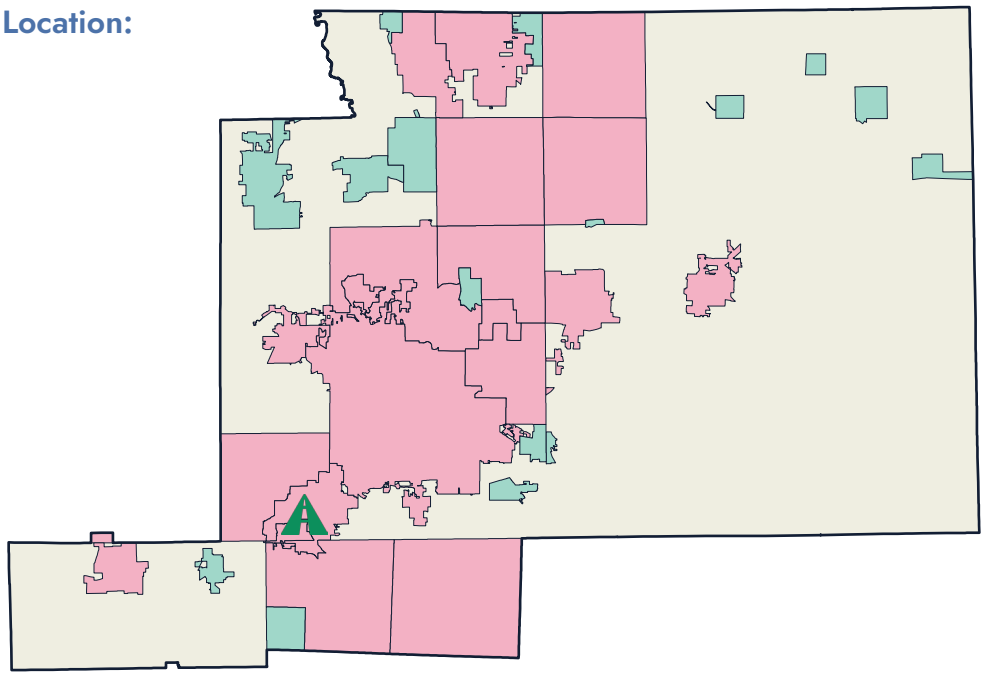
Top 3 Job Types:

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

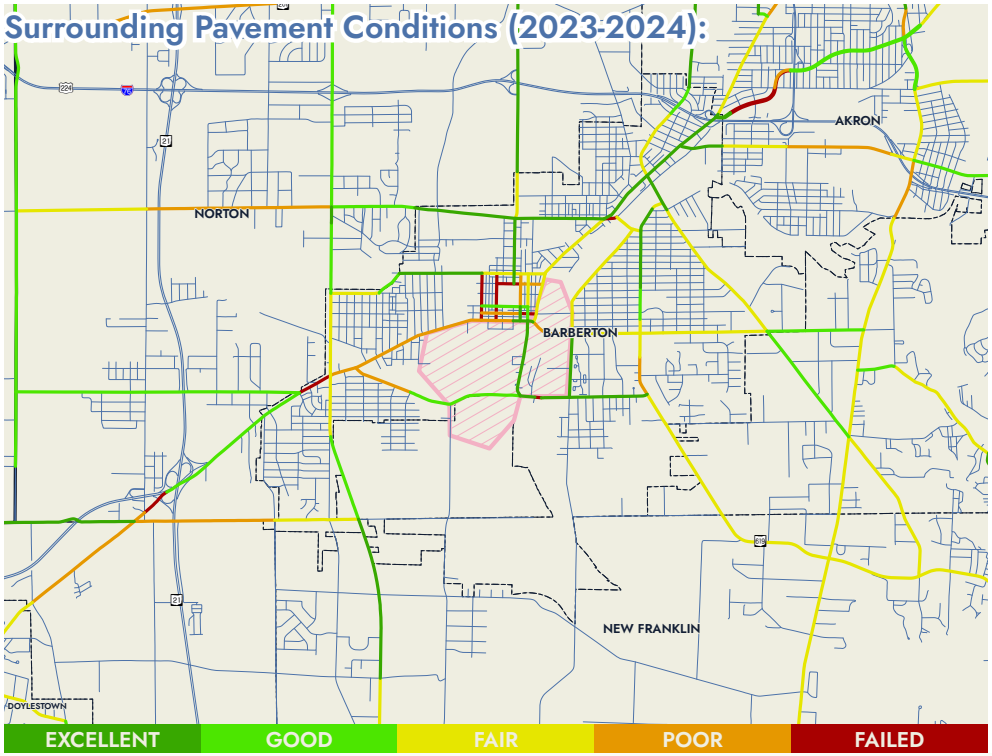
2022 Estimated Jobs:

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*					

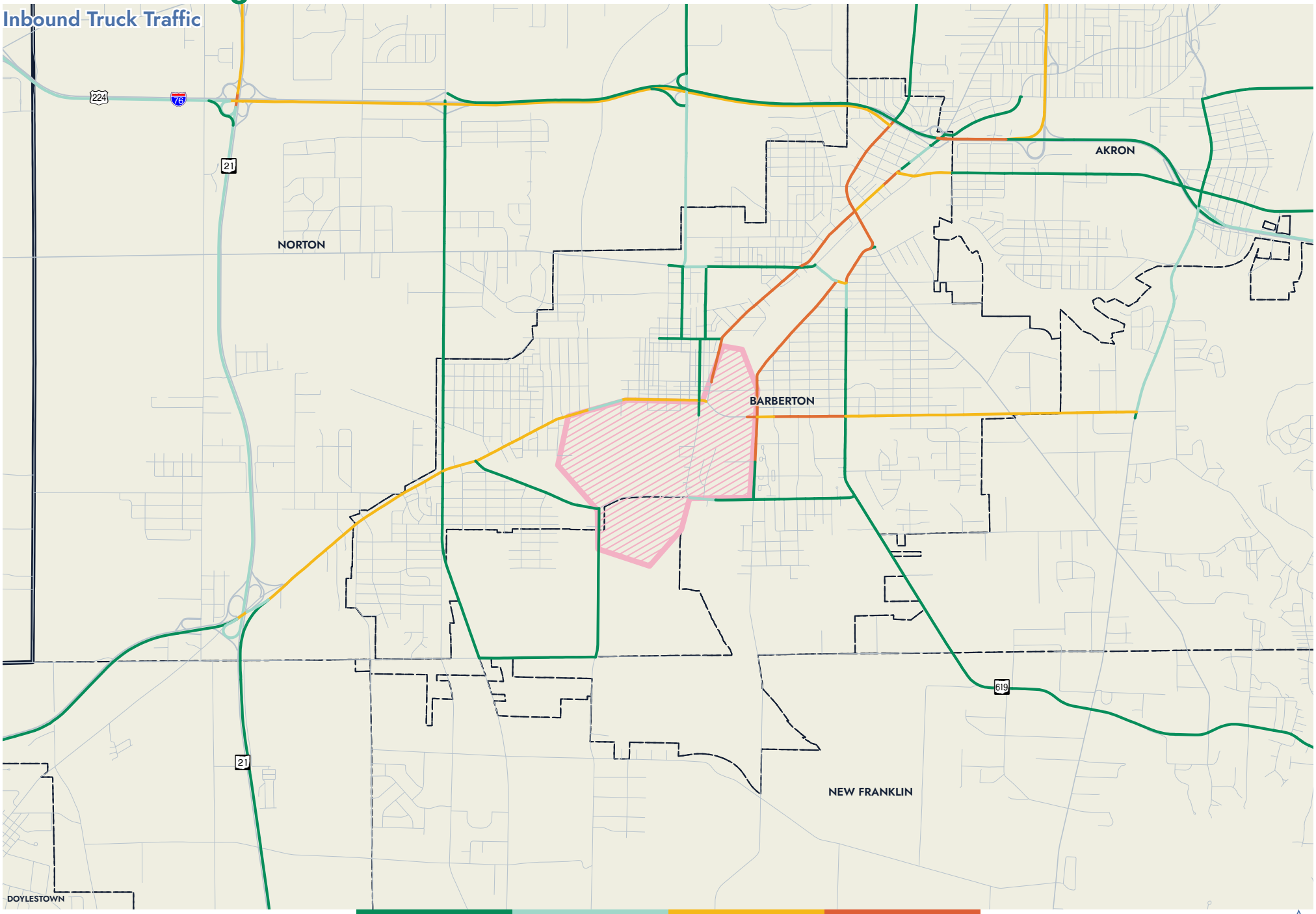
Top Congested Segments

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

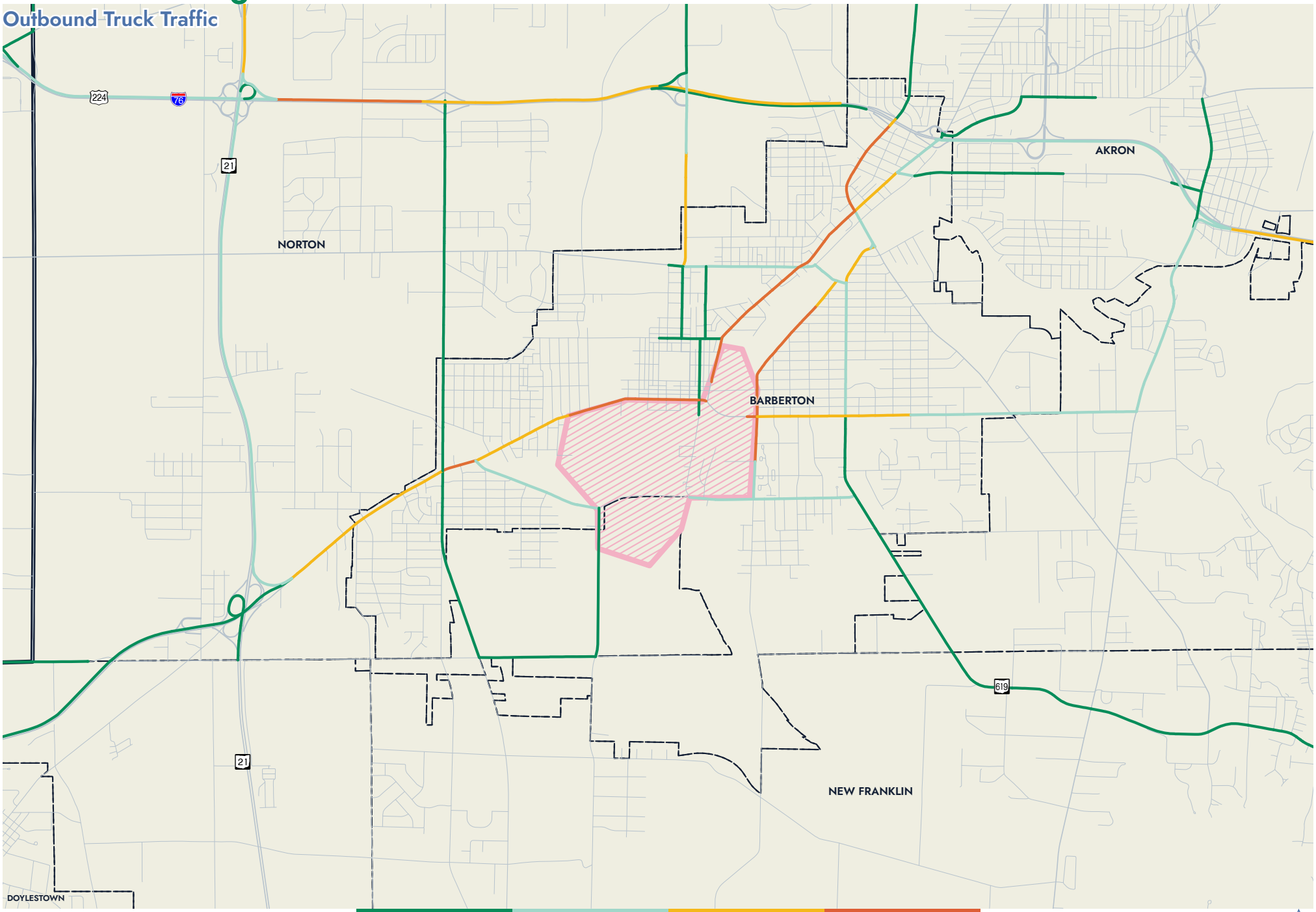


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Barberton Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

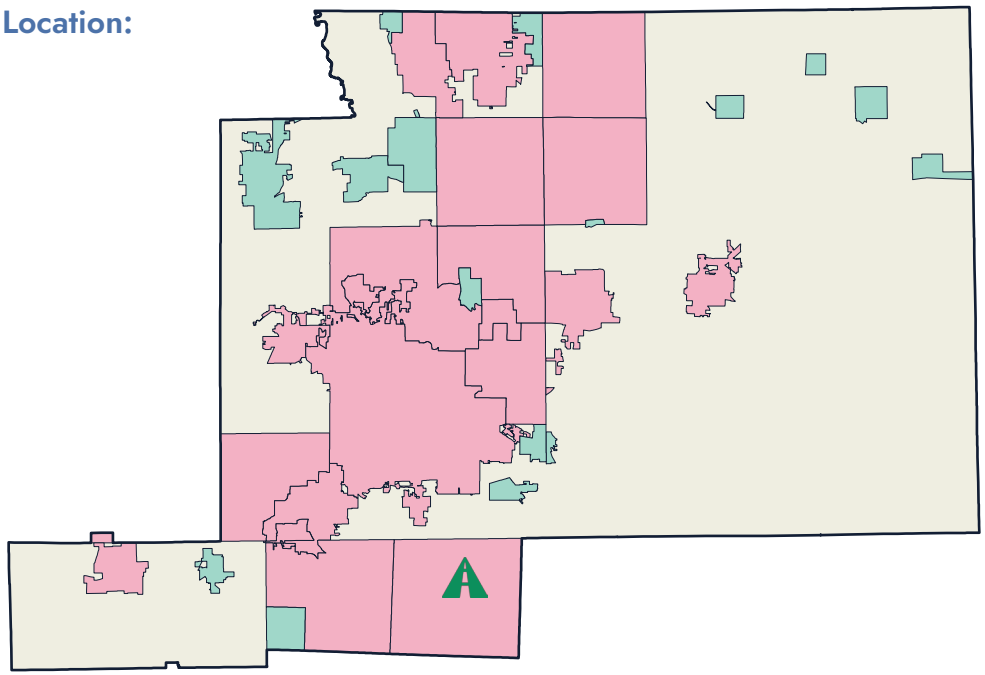
Top 3 Job Types:

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

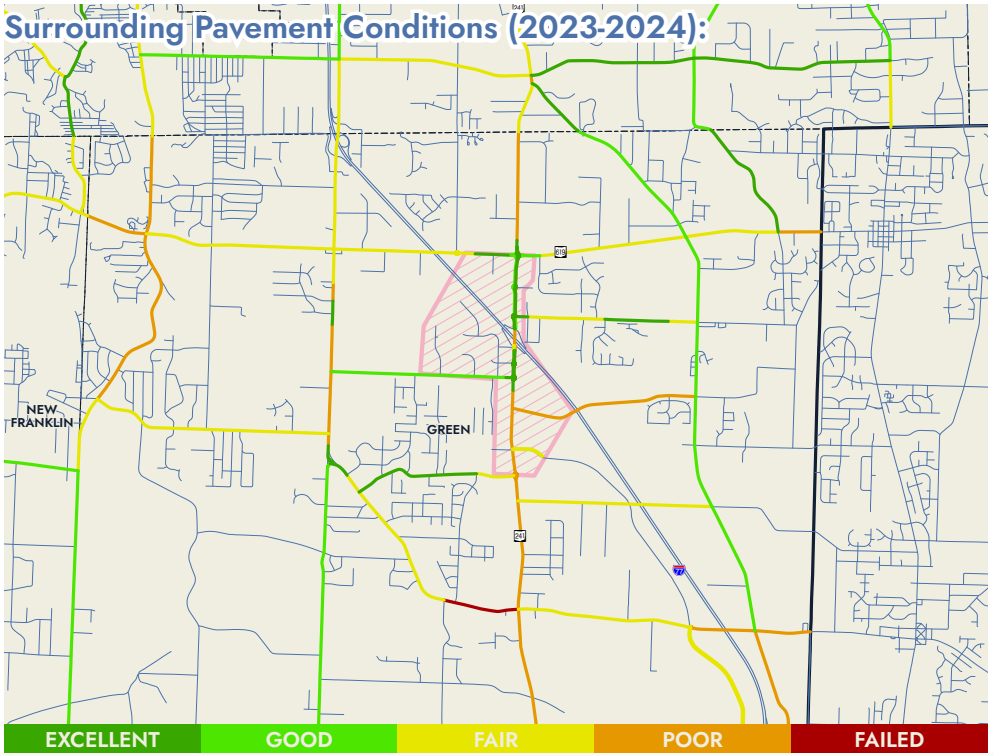
2022 Estimated Jobs:

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

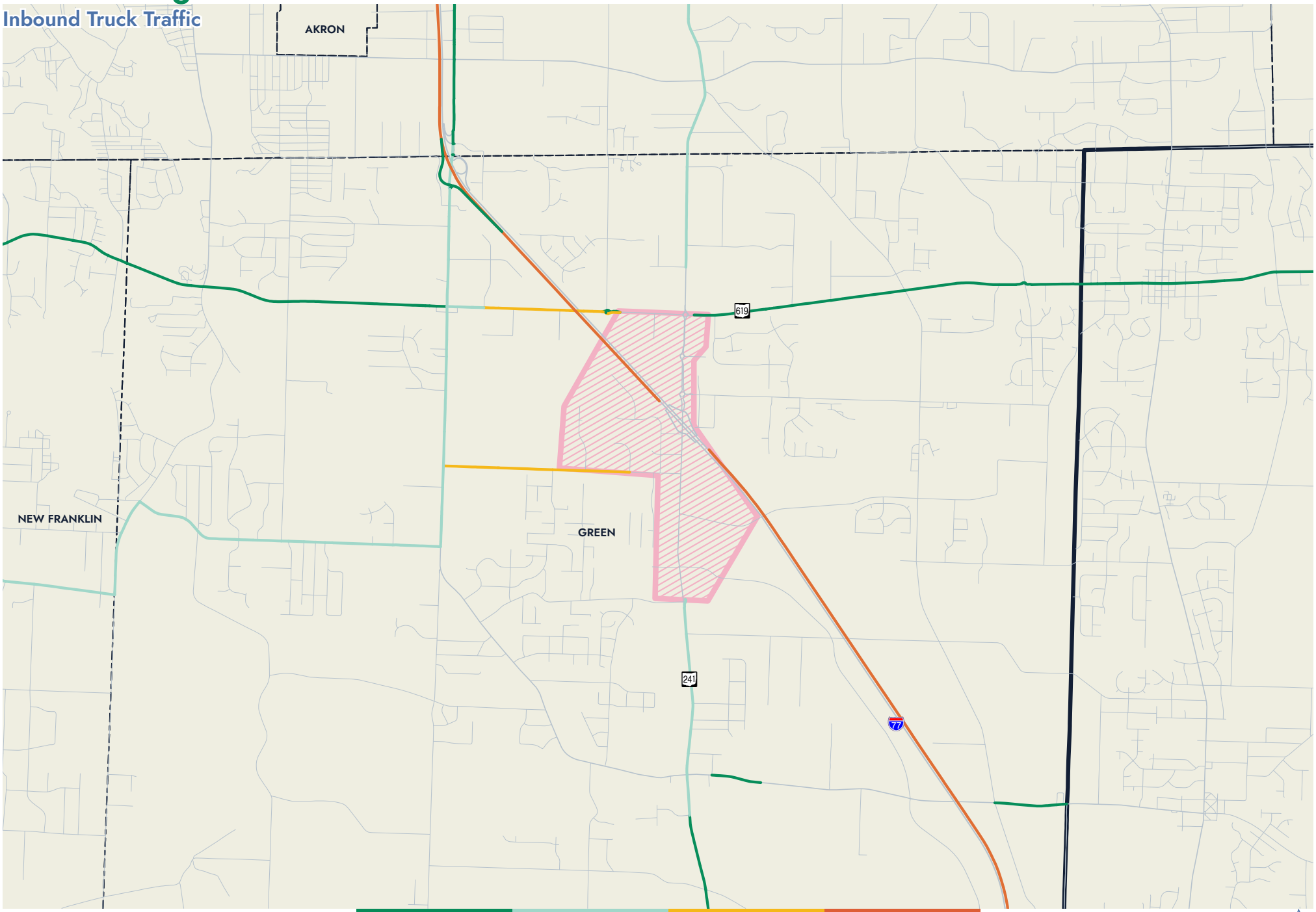
Top Congested Segments

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

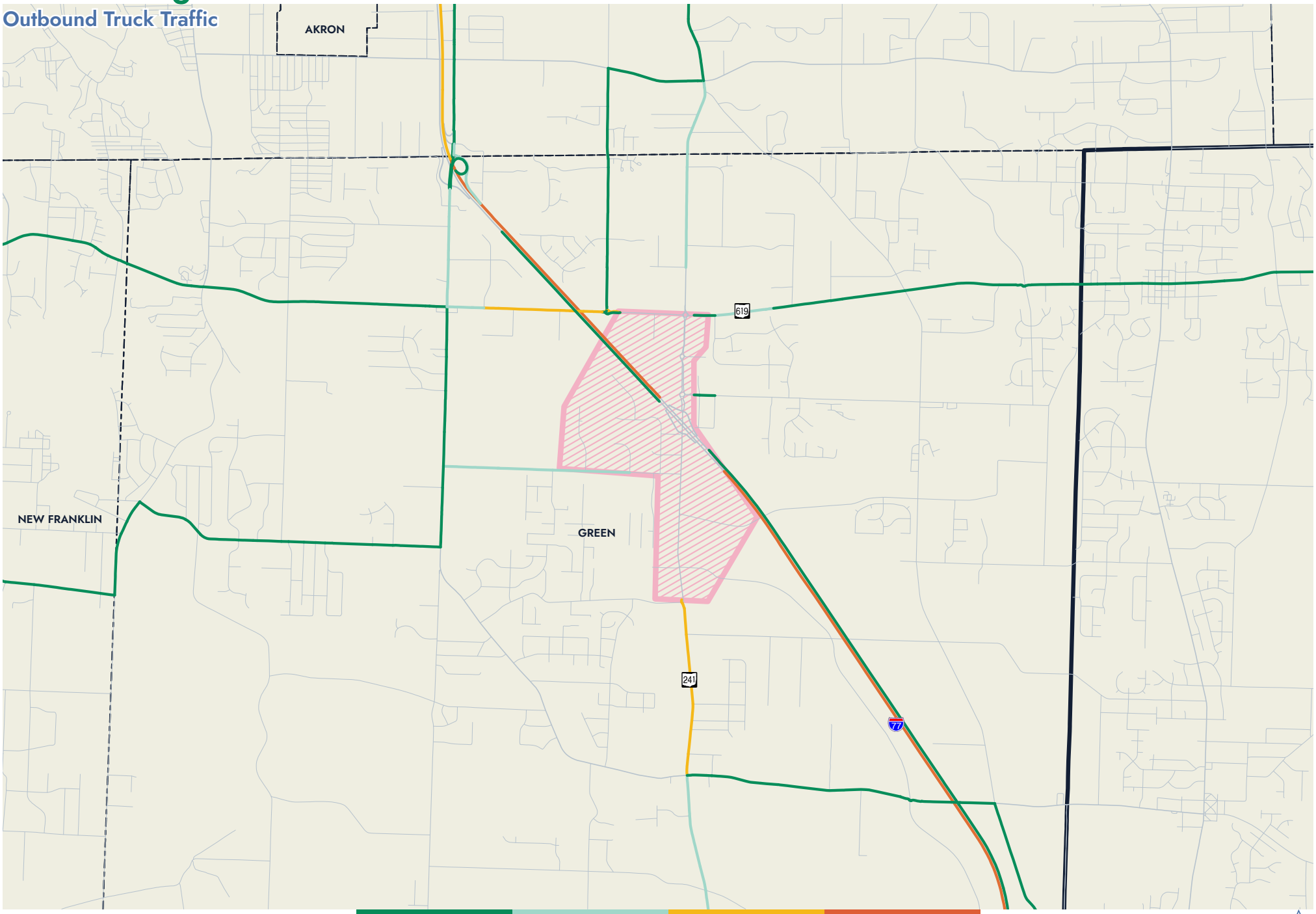


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Green Freight Corridor

Outbound Truck Traffic



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

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

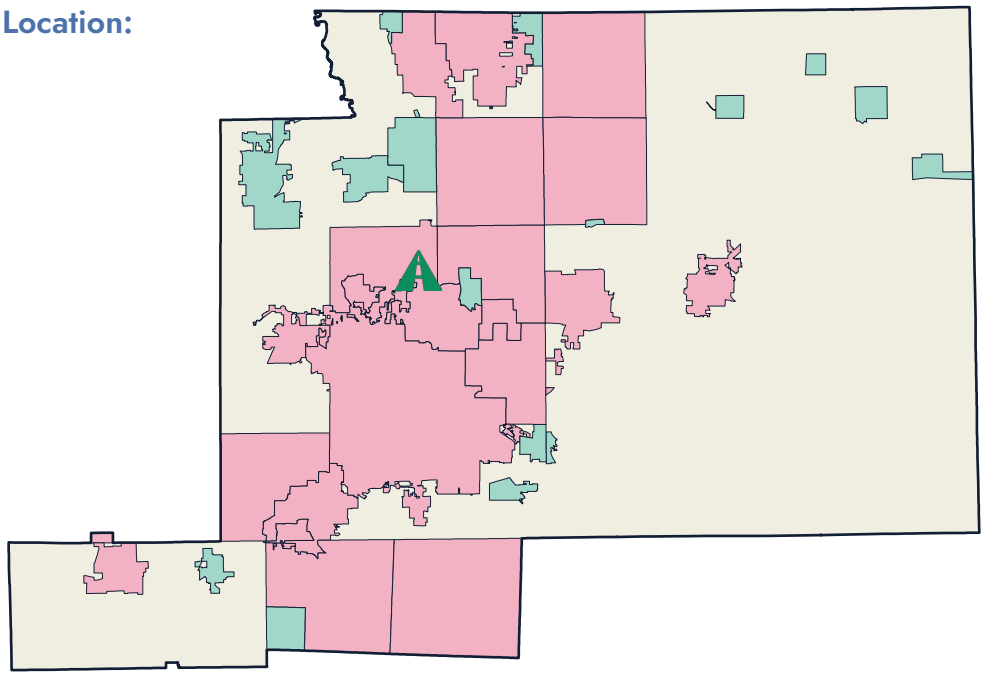
Top 3 Job Types:

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

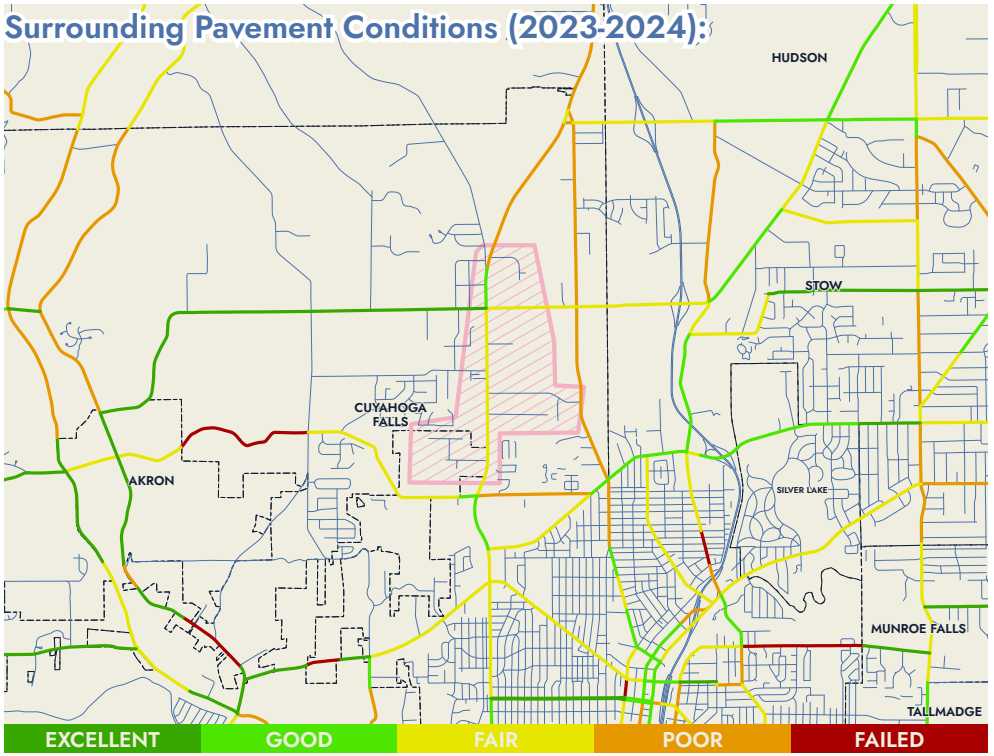
2022 Estimated Jobs:

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*					

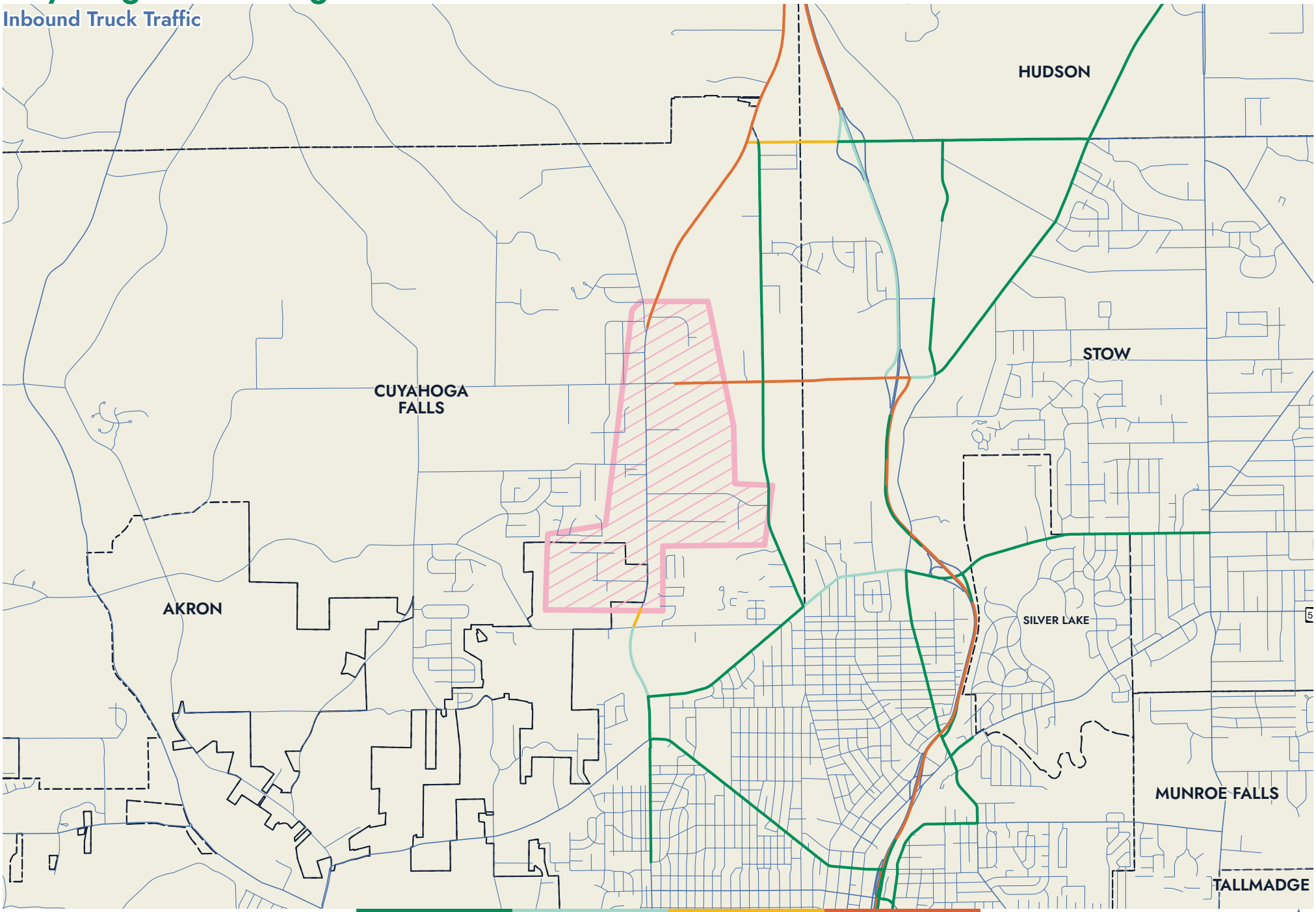
Top Congested Segments

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

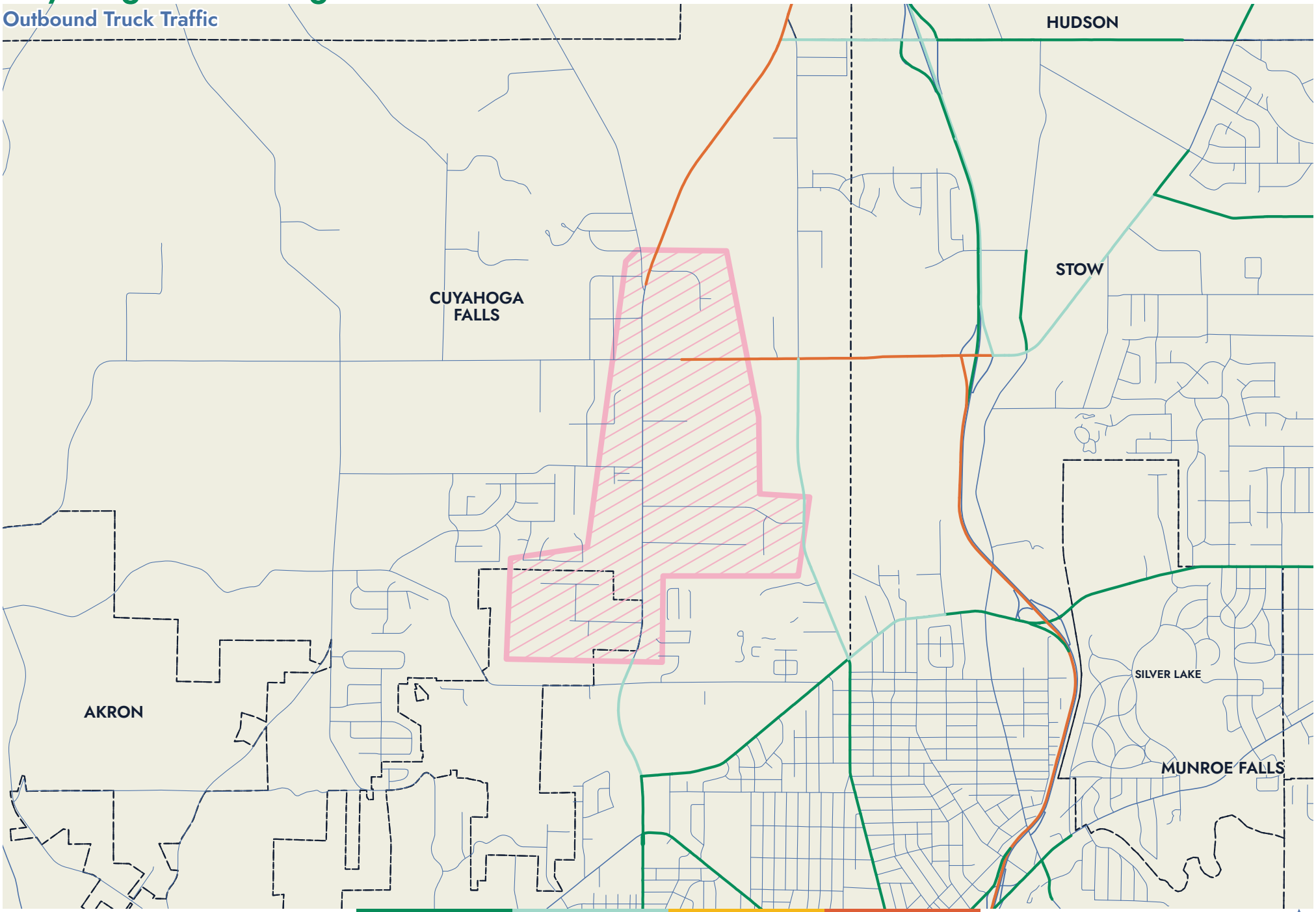
Cuyahoga Falls Freight Corridor

Inbound Truck Traffic



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

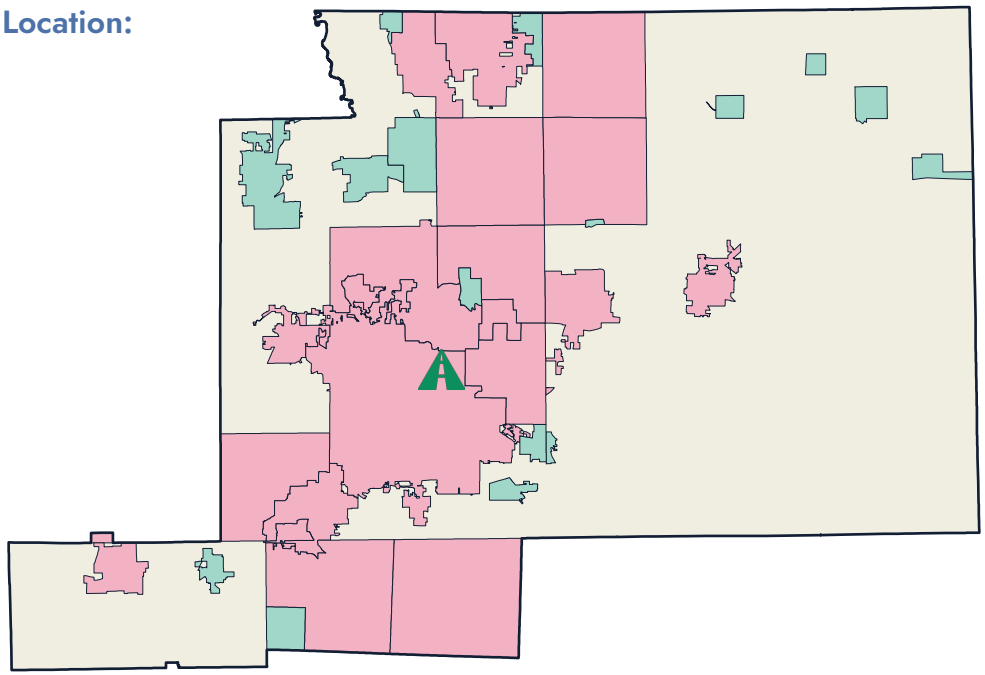
Top 3 Job Types:

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

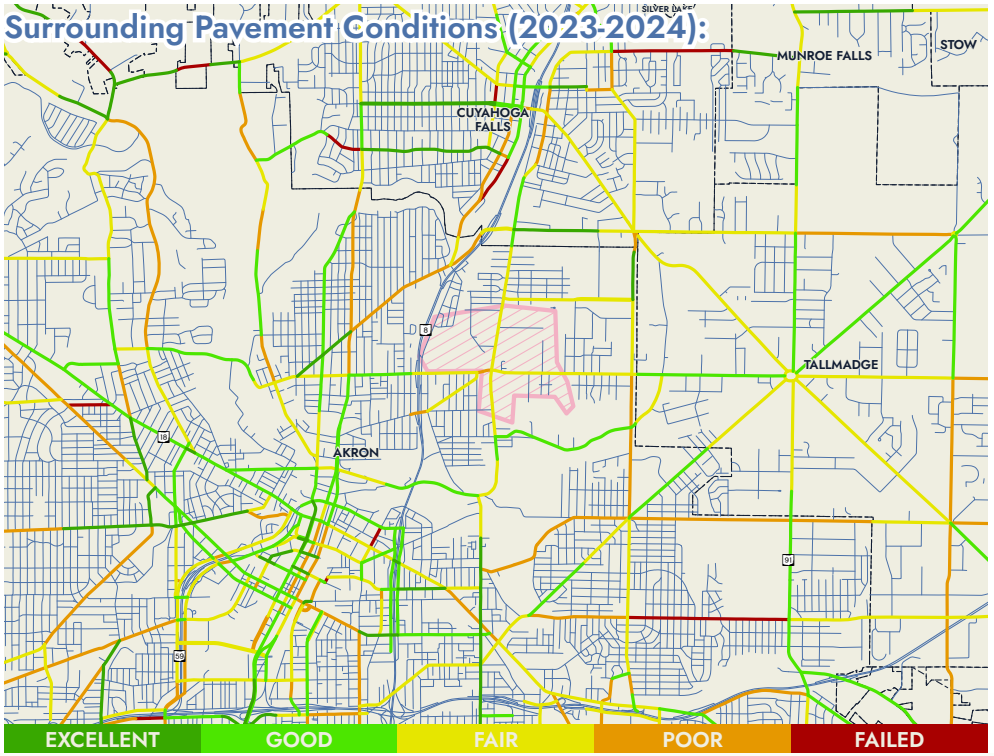
2022 Estimated Jobs:

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

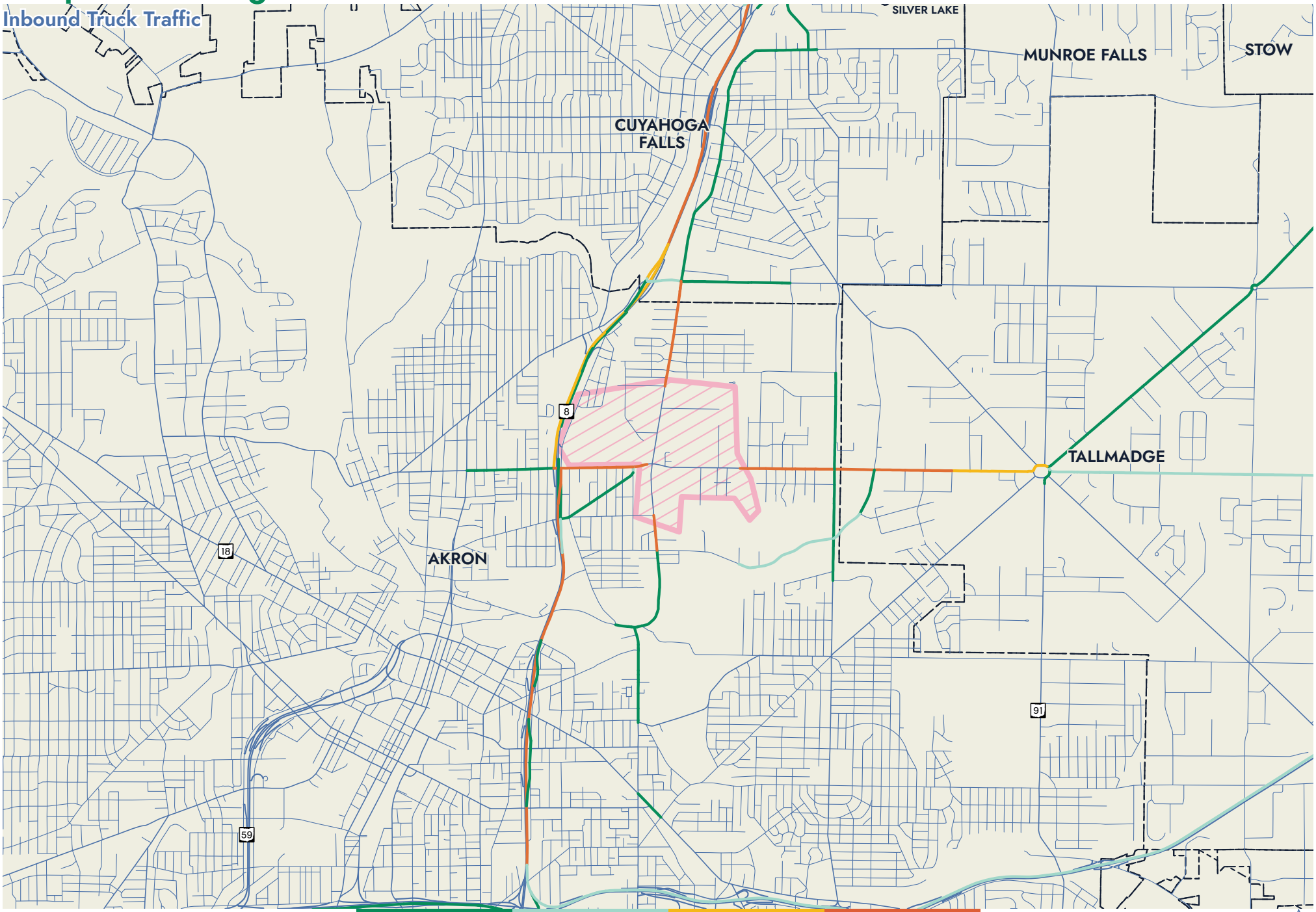
Top Congested Segments

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

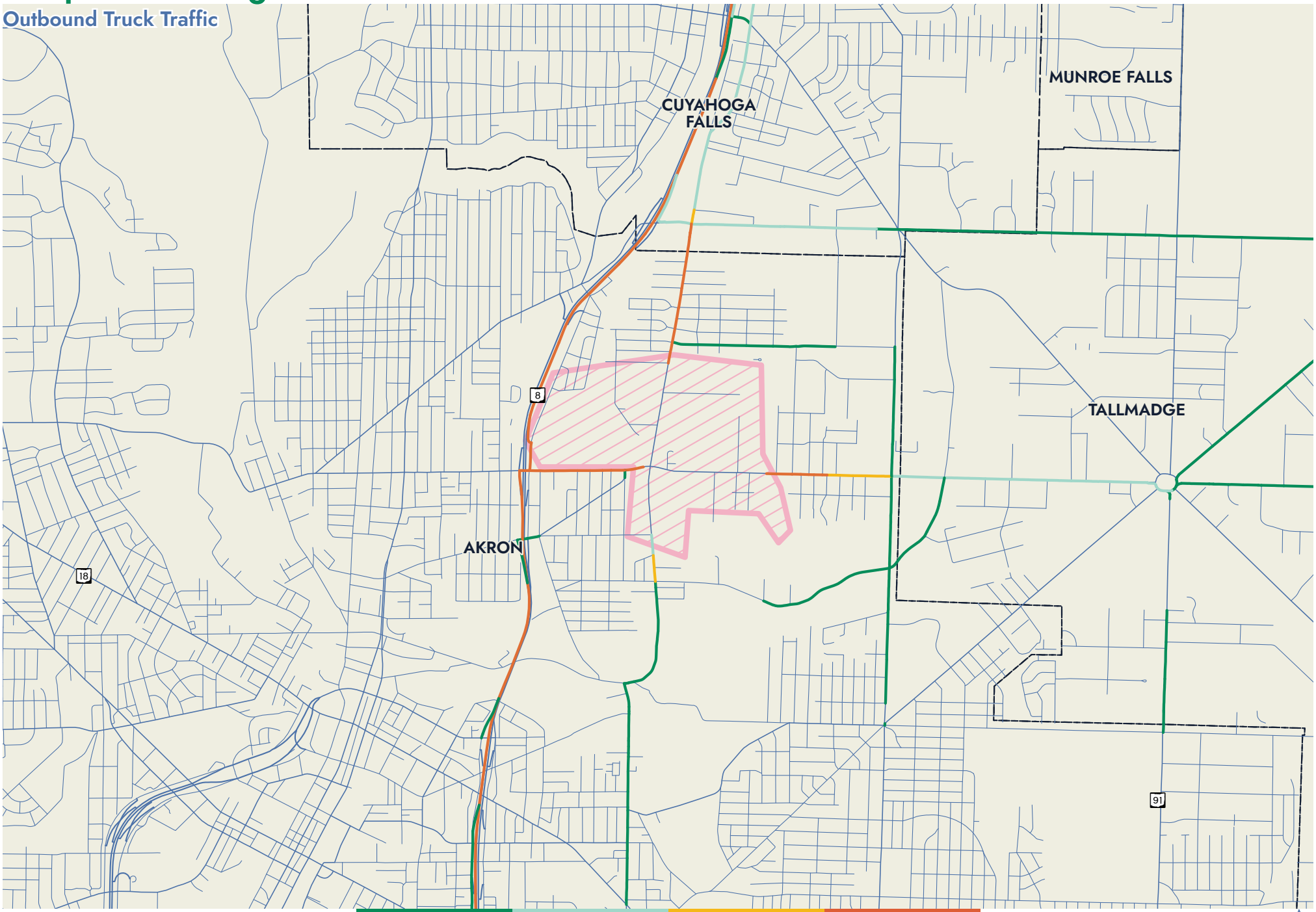


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Chapel Hill Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

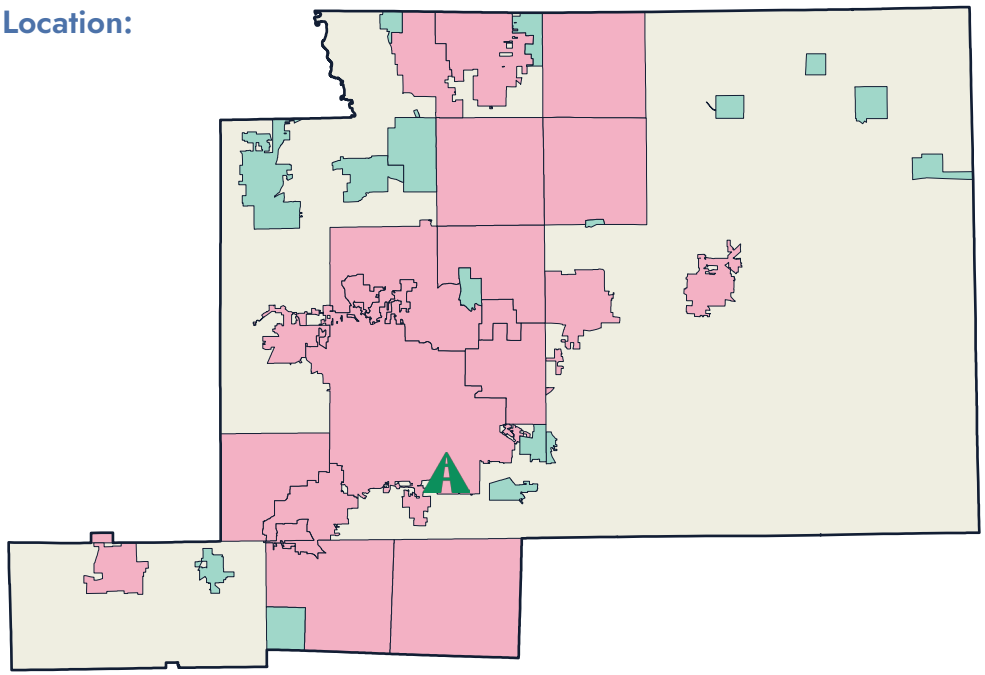
Top 3 Job Types:

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

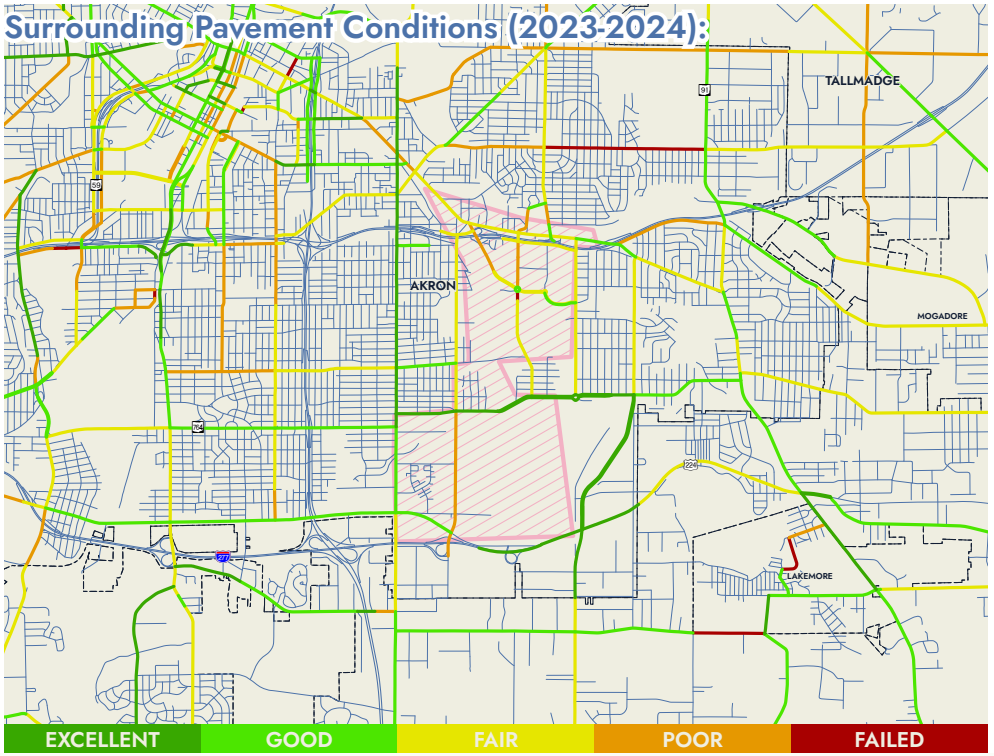
2022 Estimated Jobs:

8,000

Location:



Surrounding Pavement Conditions (2023-2024):



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

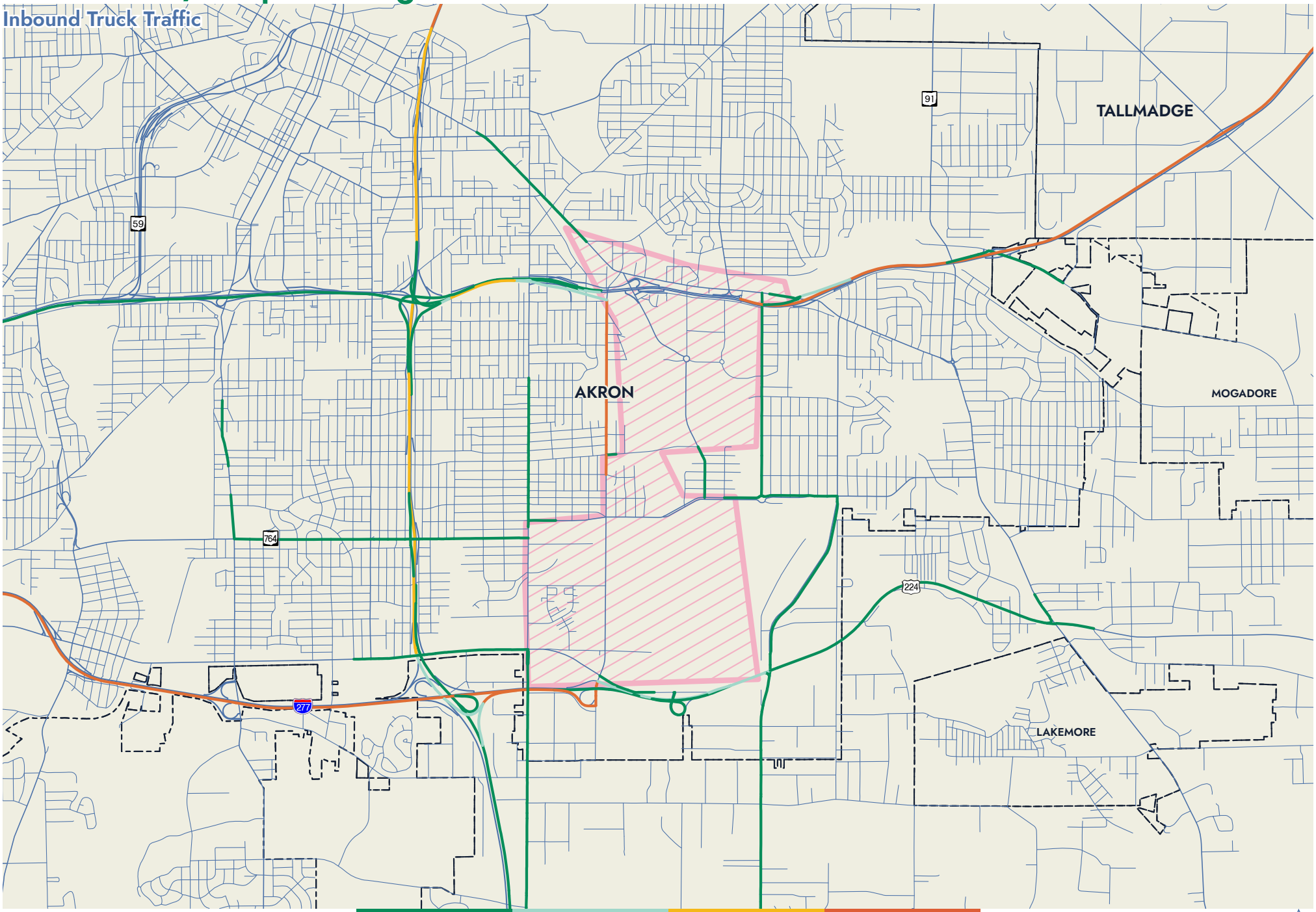
Top Congested Segments

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

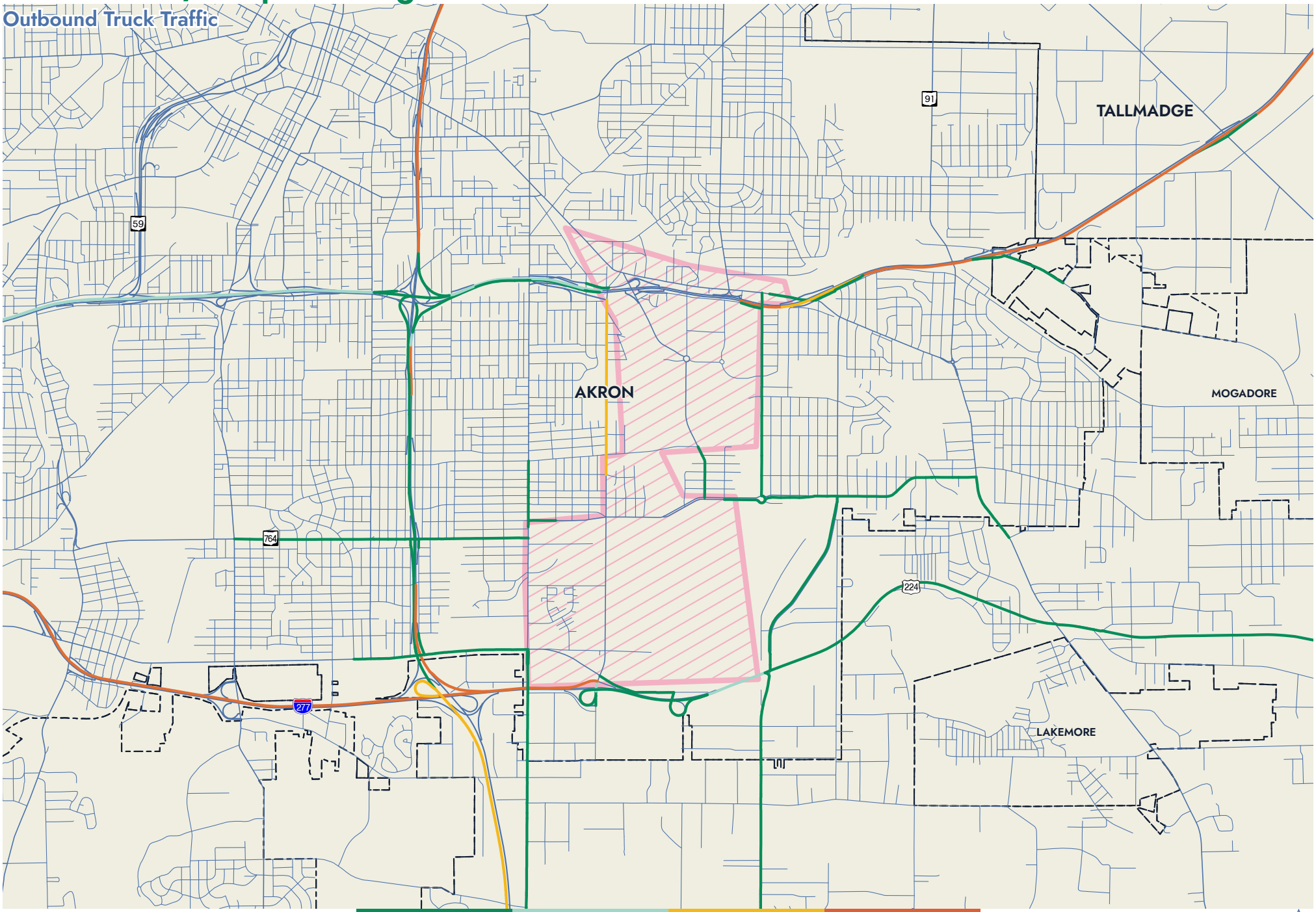


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

East Akron / Airport Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

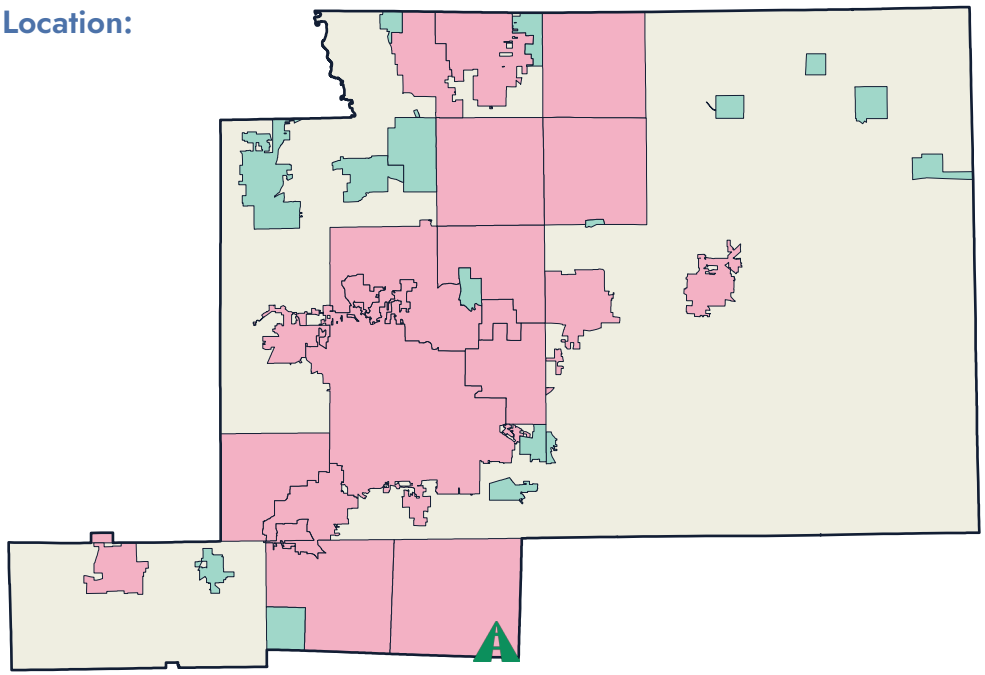
Top 3 Job Types:

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

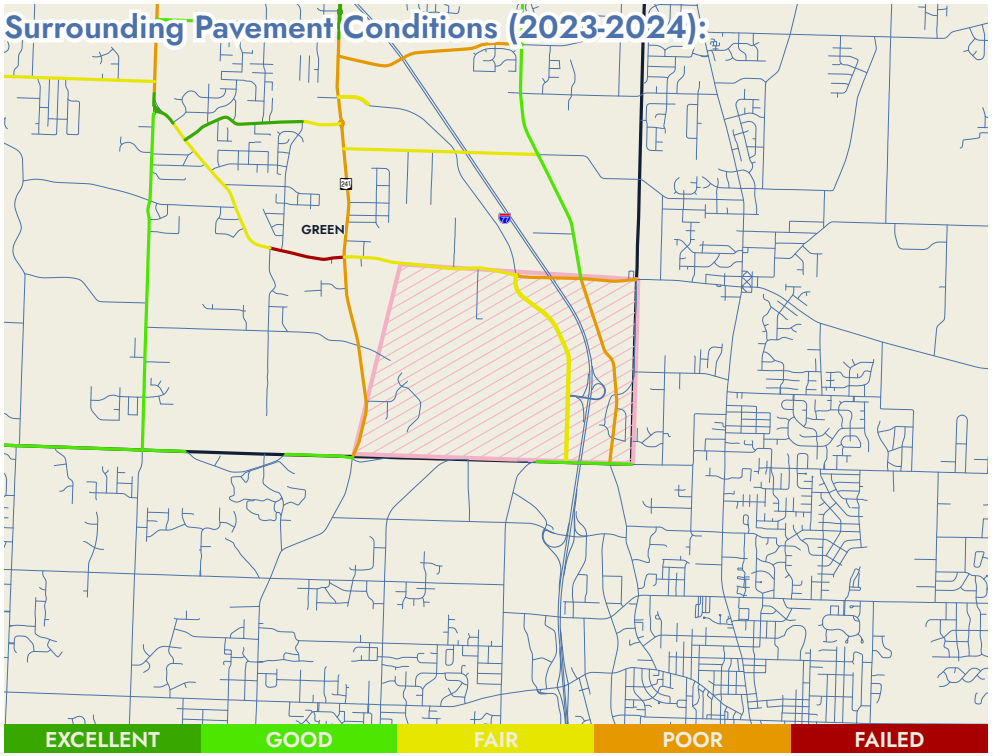
2022 Estimated Jobs:

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

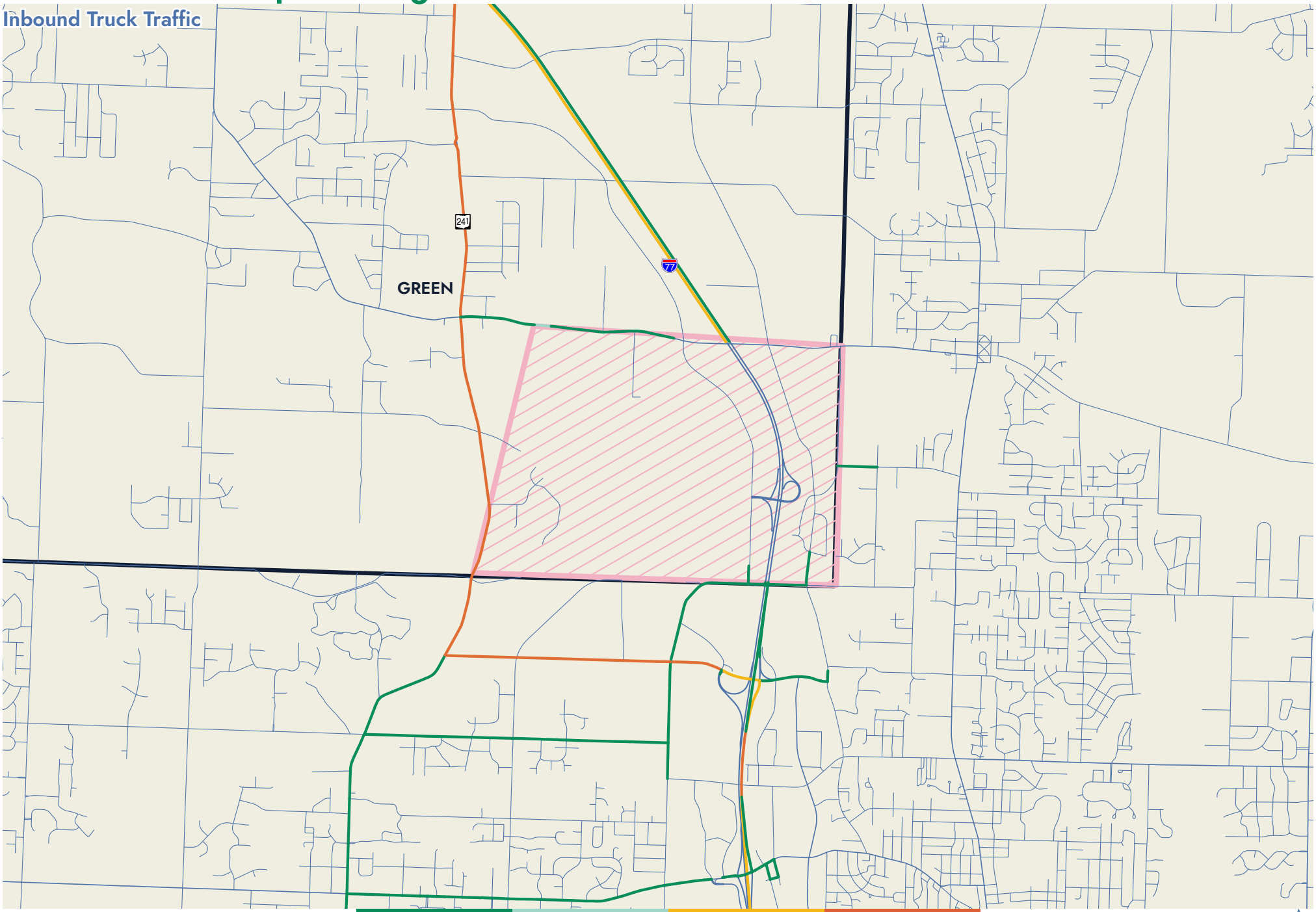
Top Congested Segments

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

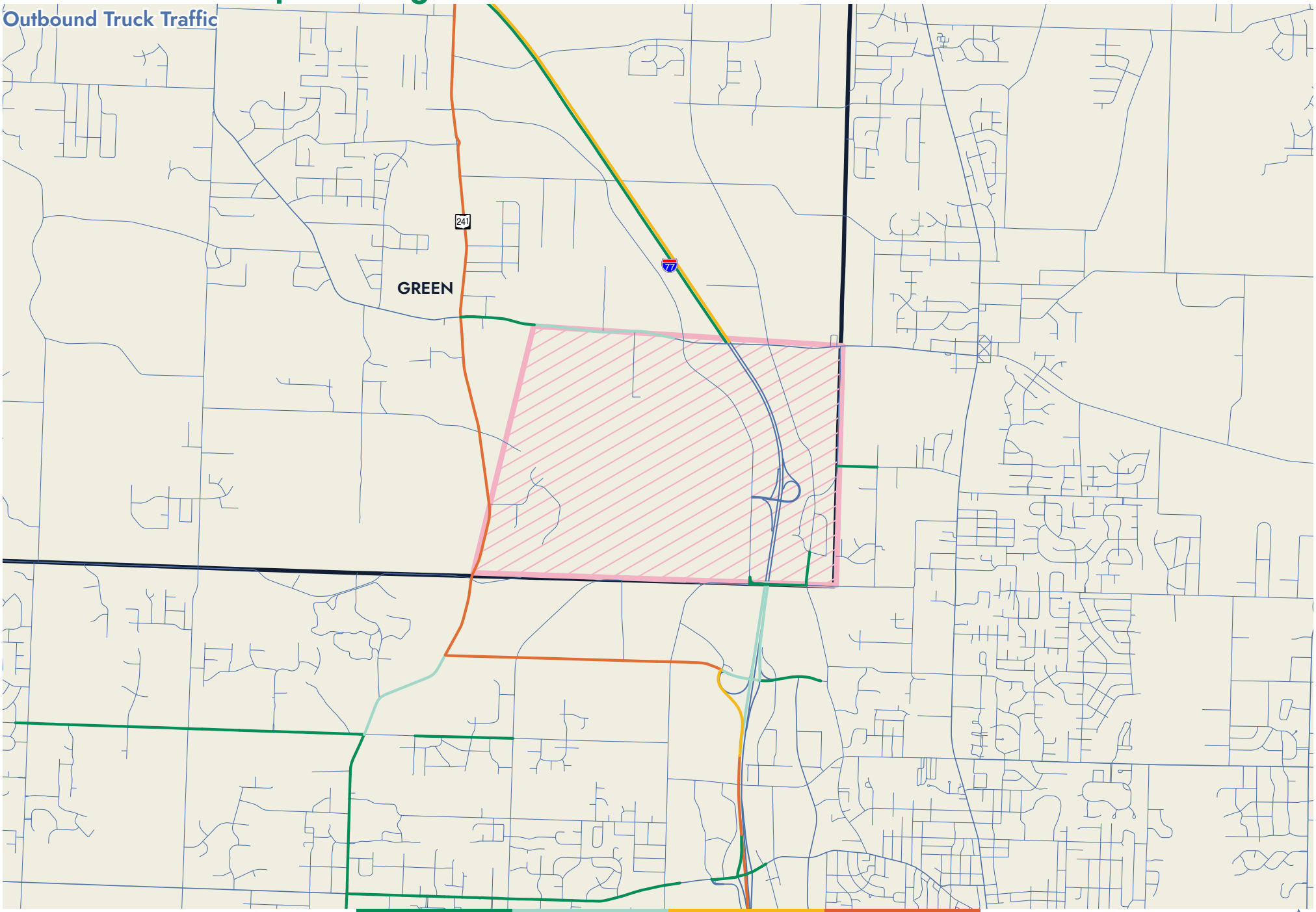


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Akron-Canton Airport Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

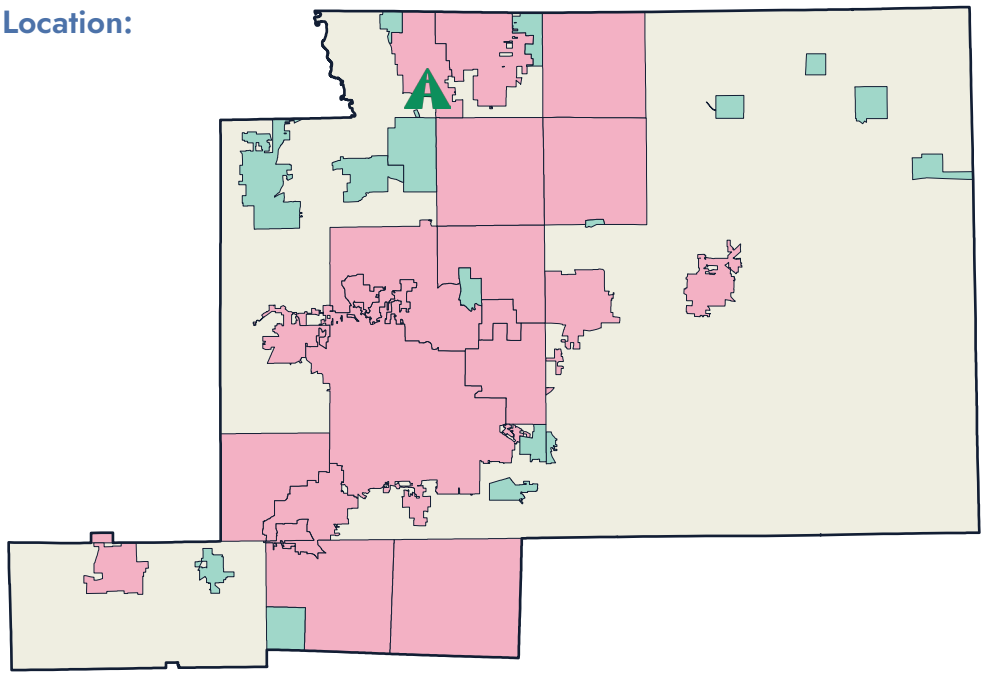
Top 3 Job Types:

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

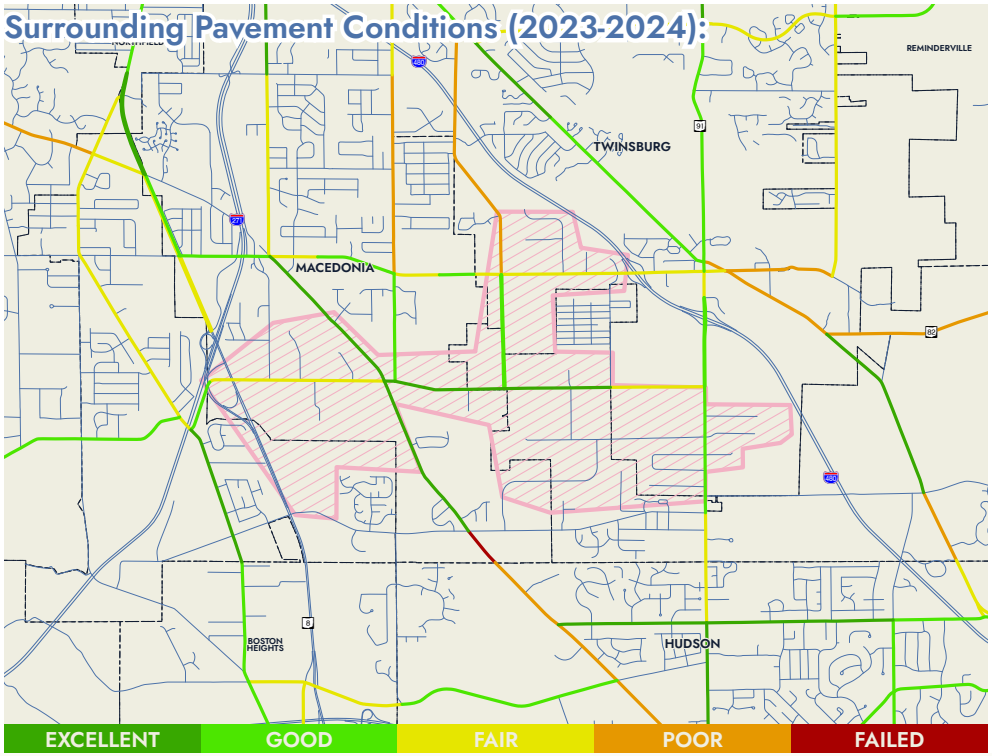
2022 Estimated Jobs:

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

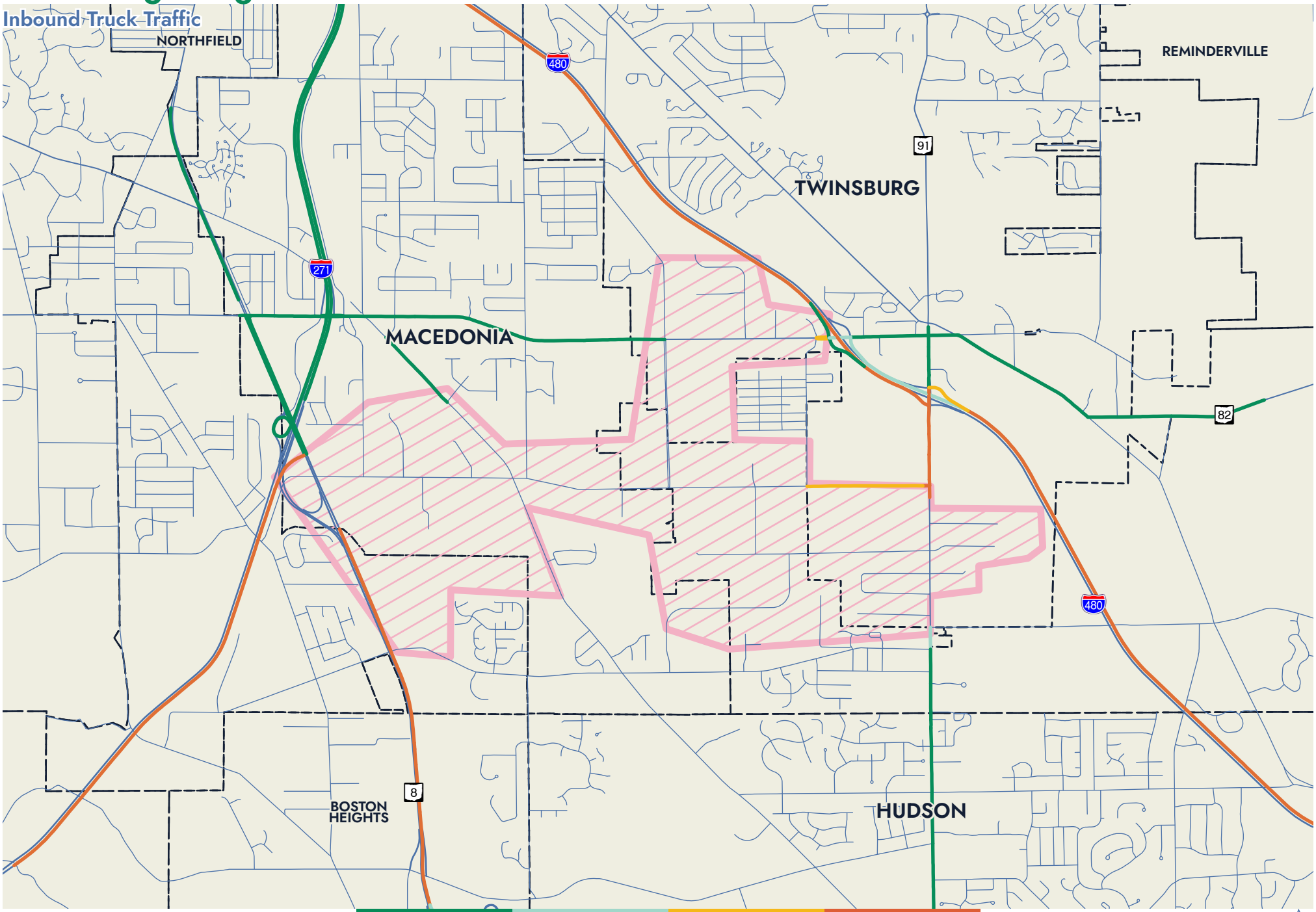
Top Congested Segments

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

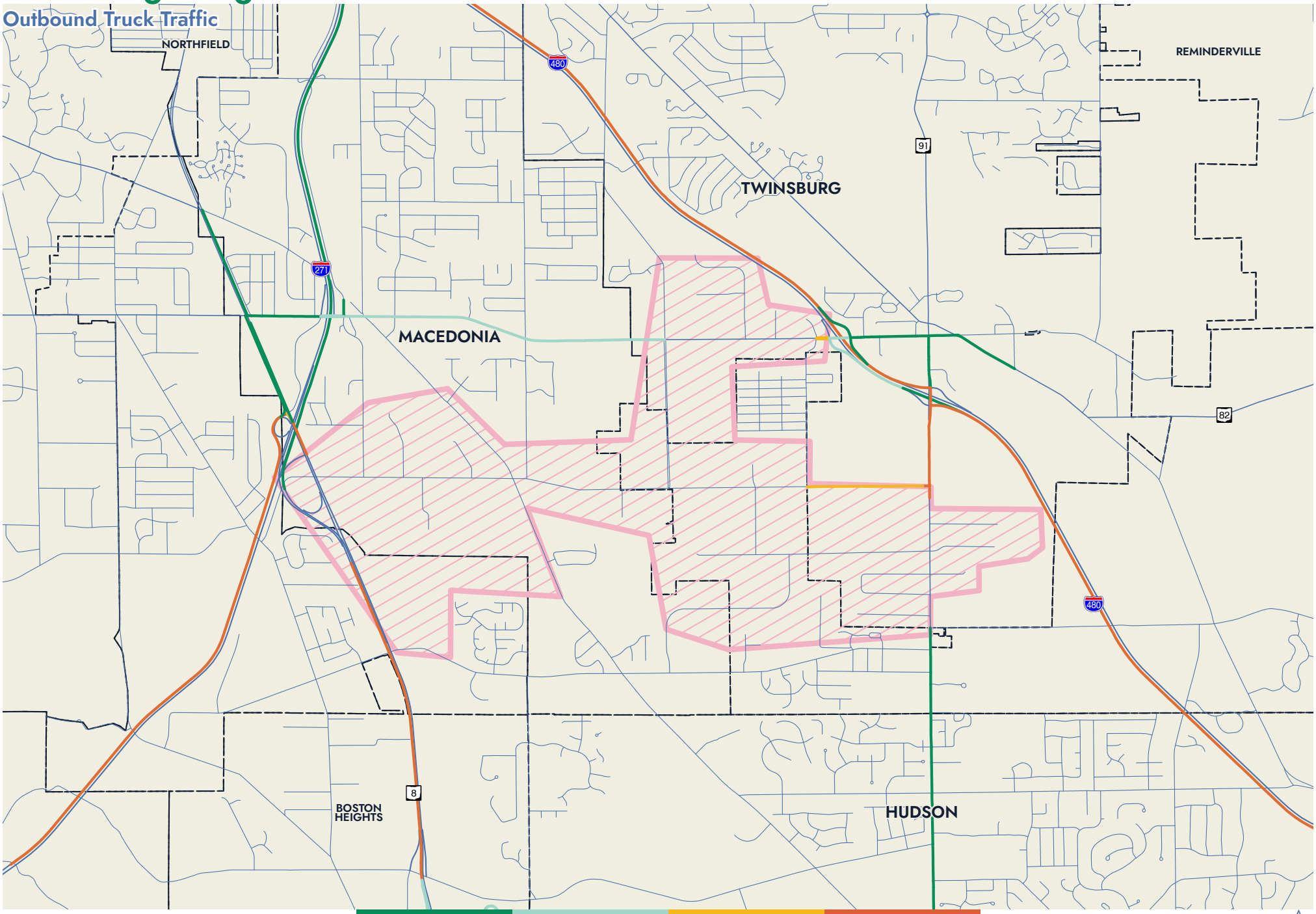


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Twinsburg Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

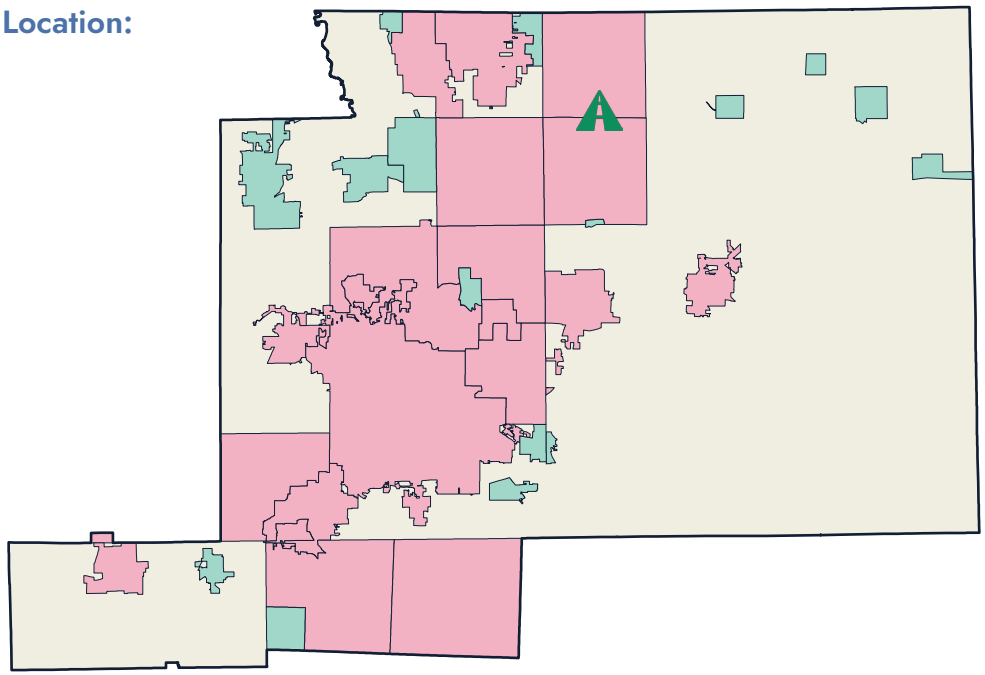
Top 3 Job Types:

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

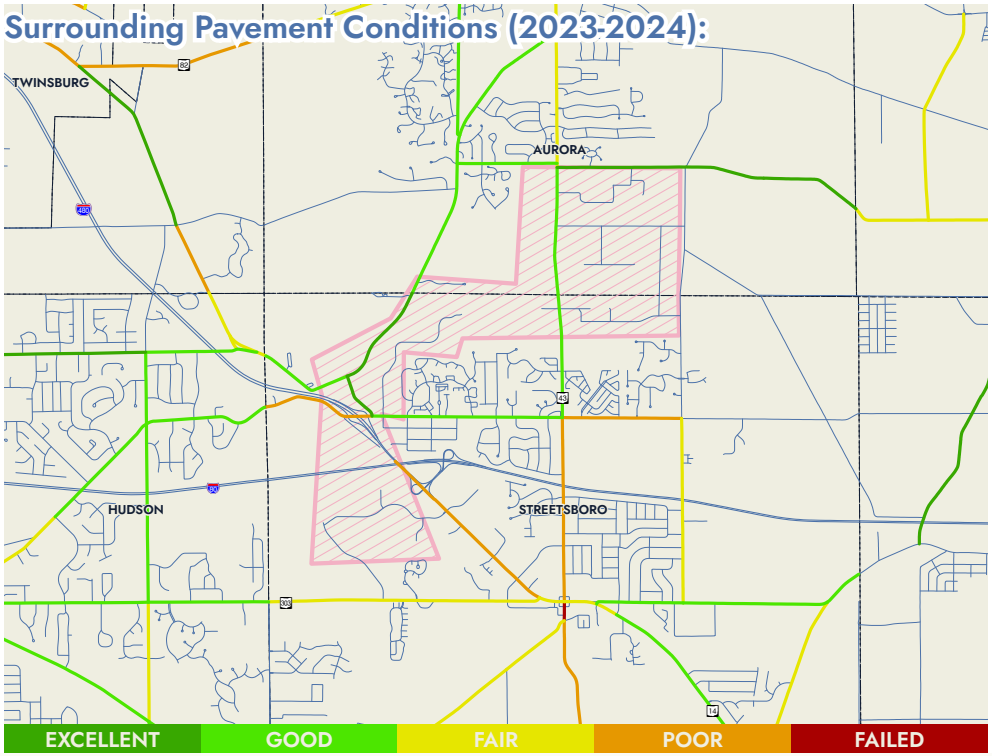
2022 Estimated Jobs:

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

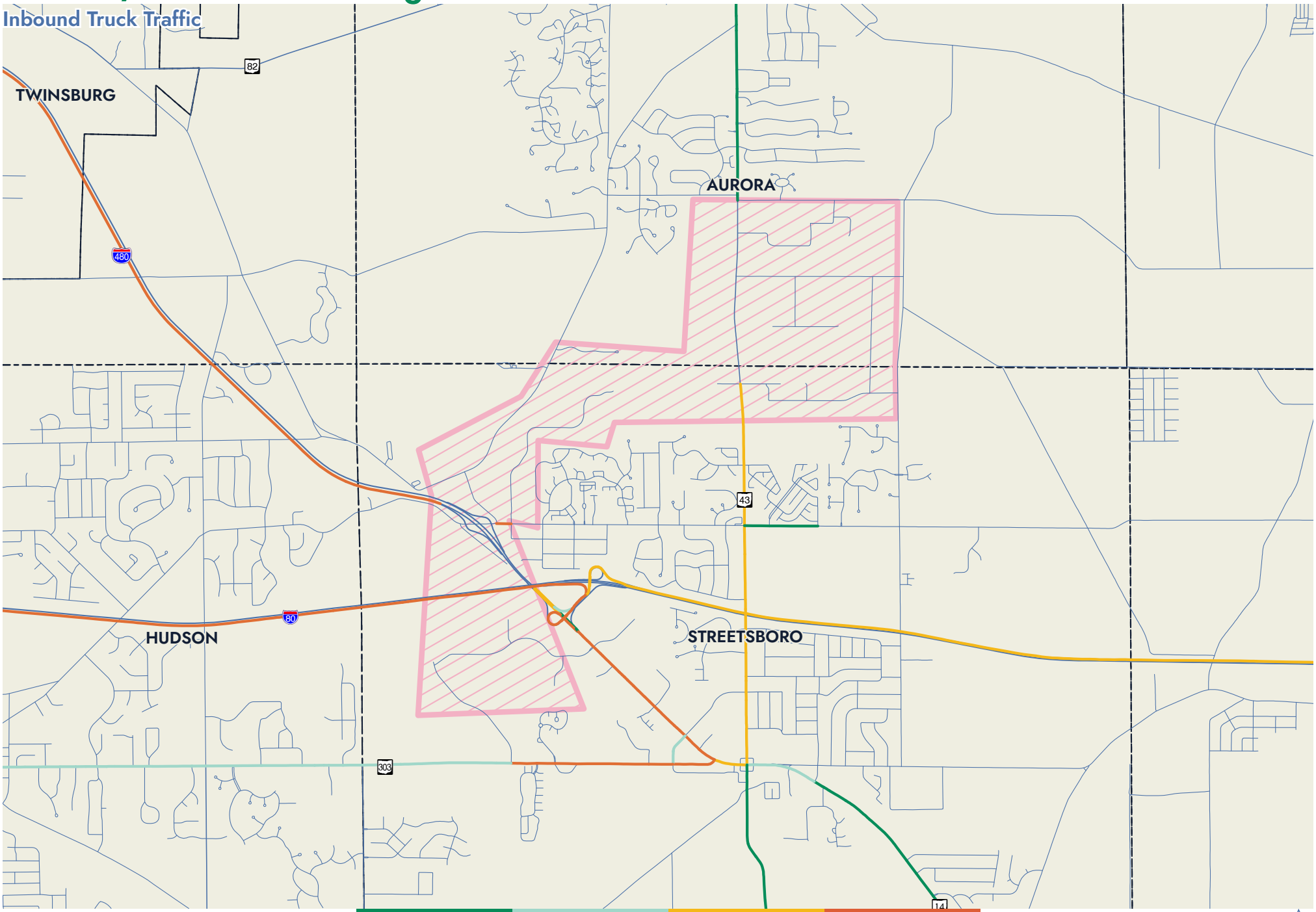
Top Congested Segments

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

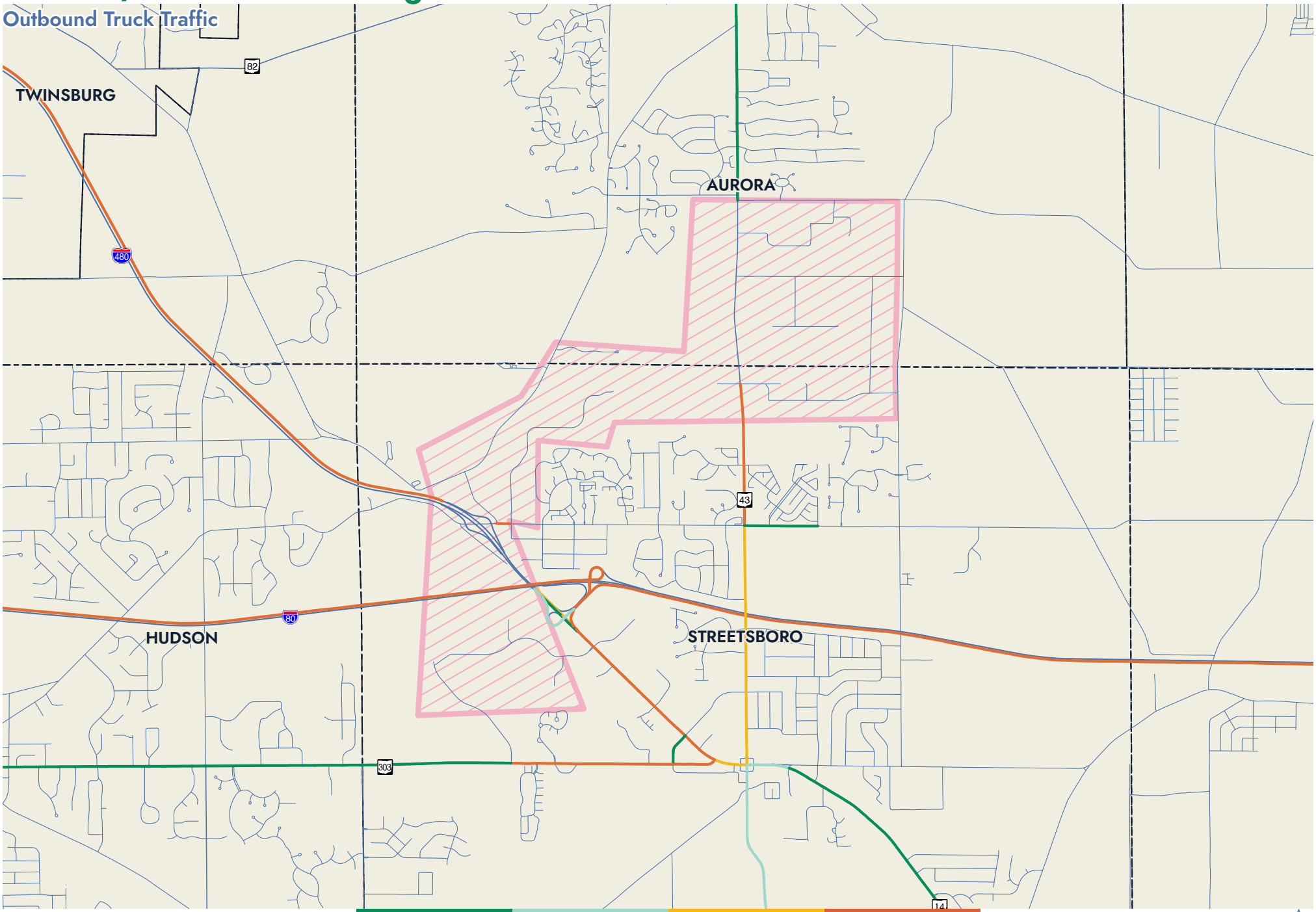


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Aurora / Streetsboro Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

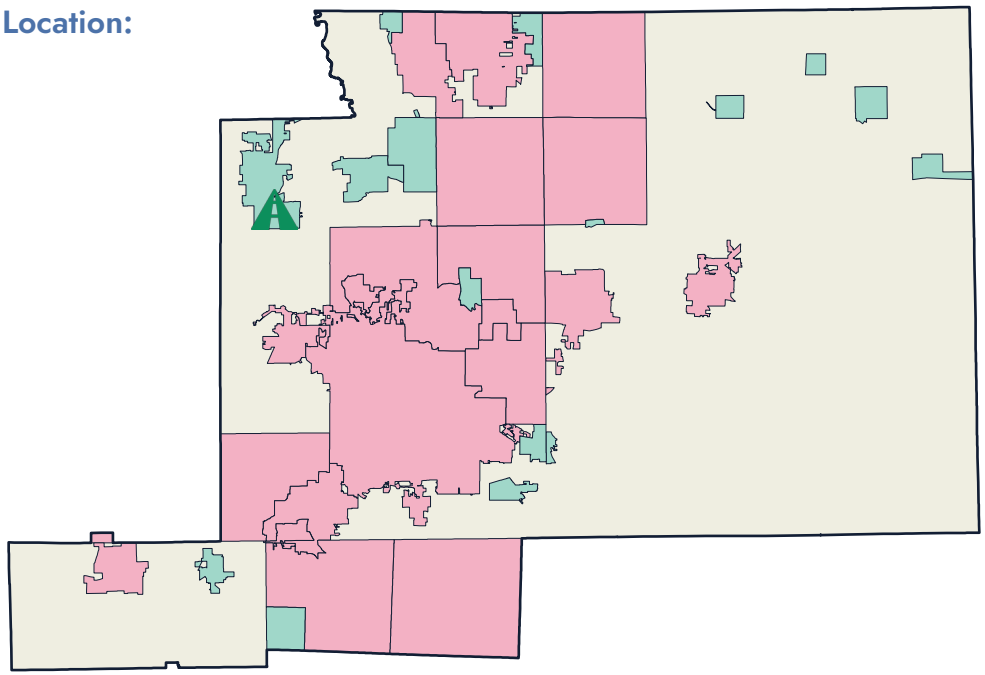
Top 3 Job Types:

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

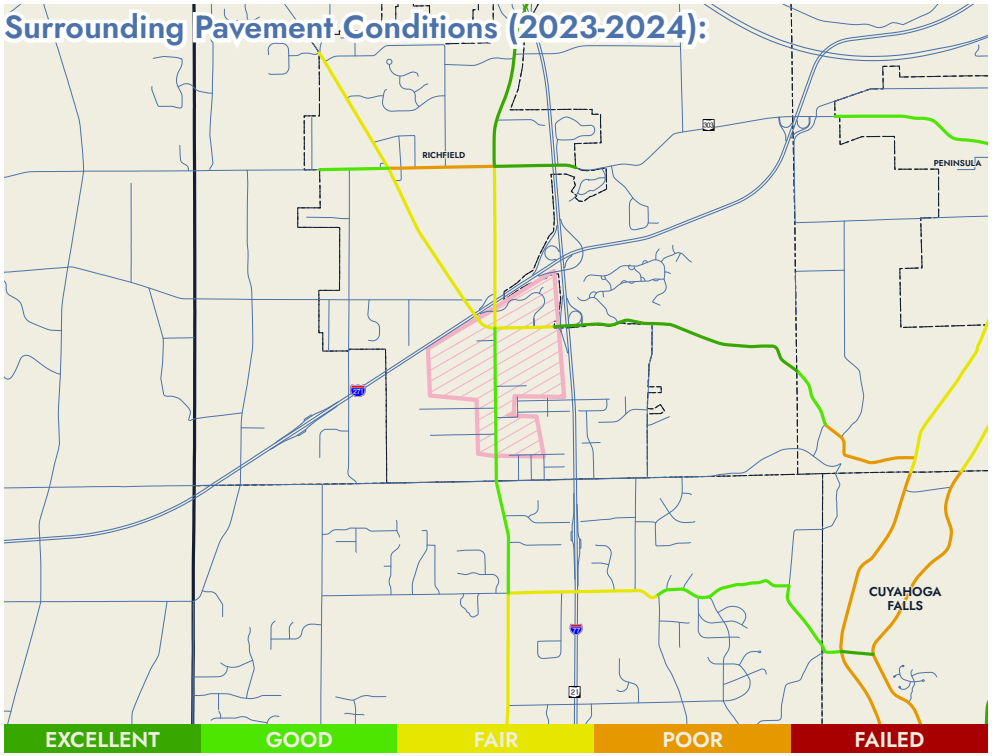
2022 Estimated Jobs:

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*					

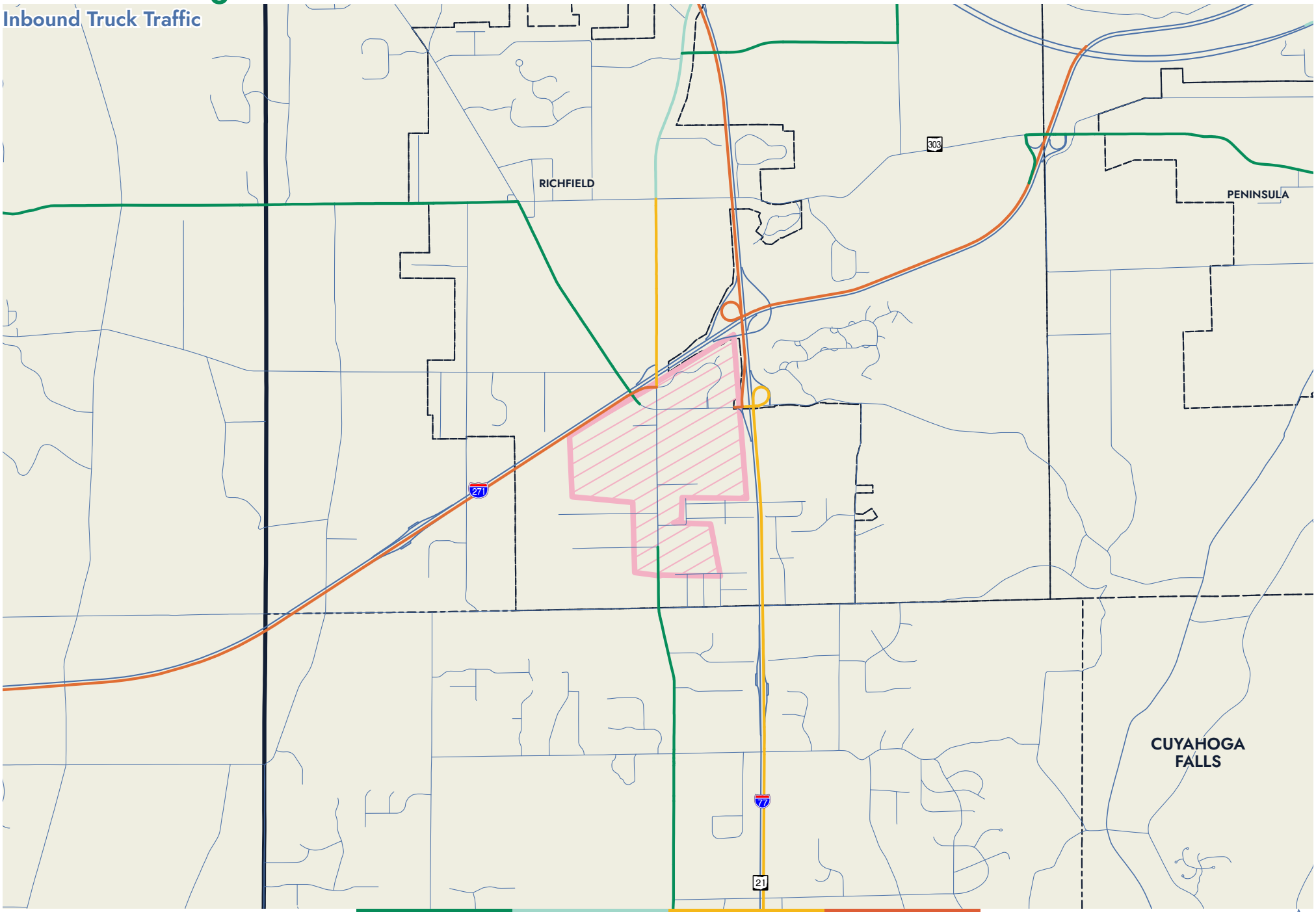
Top Congested Segments

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

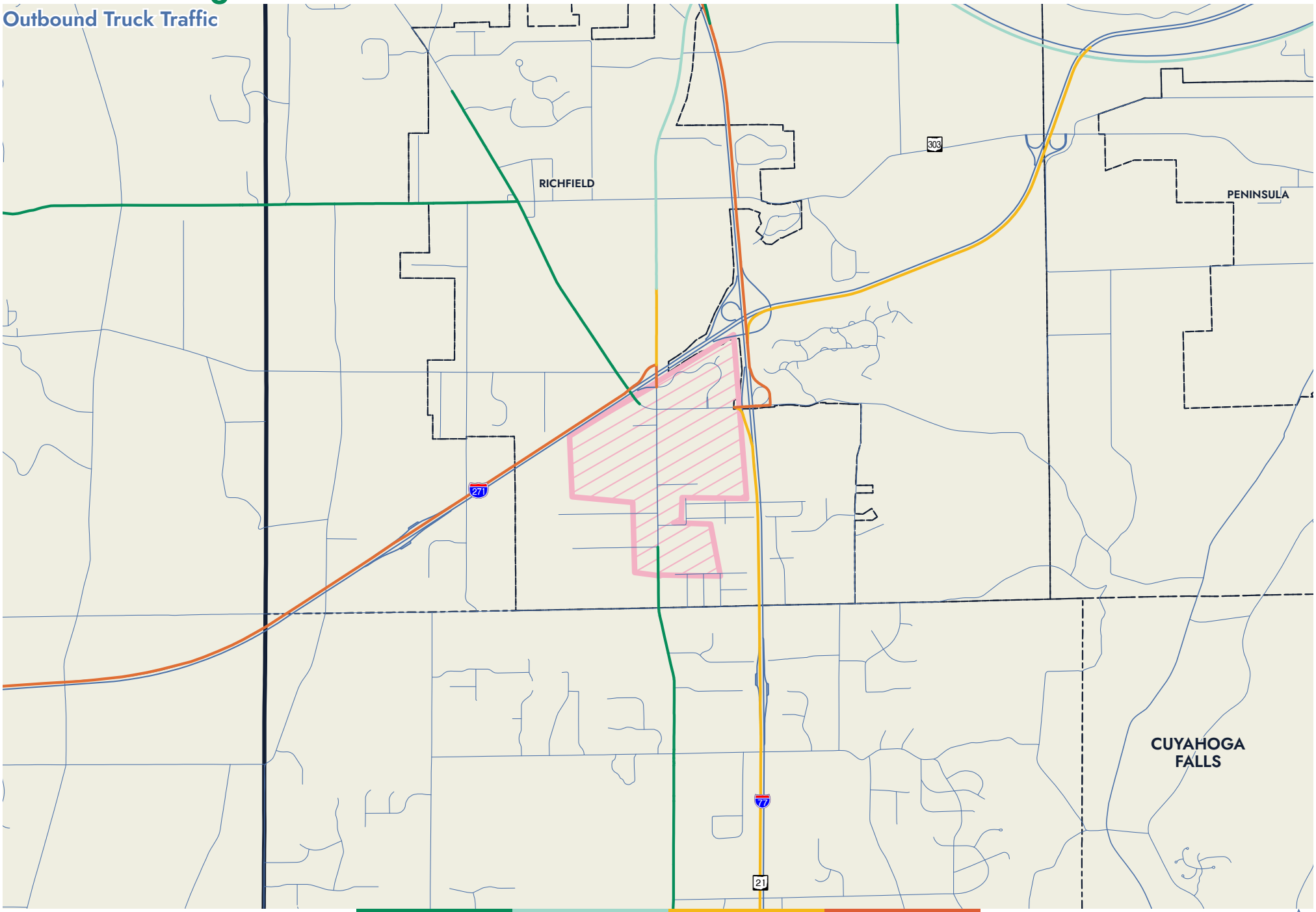
Richfield Freight Corridor

Inbound Truck Traffic



Richfield Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

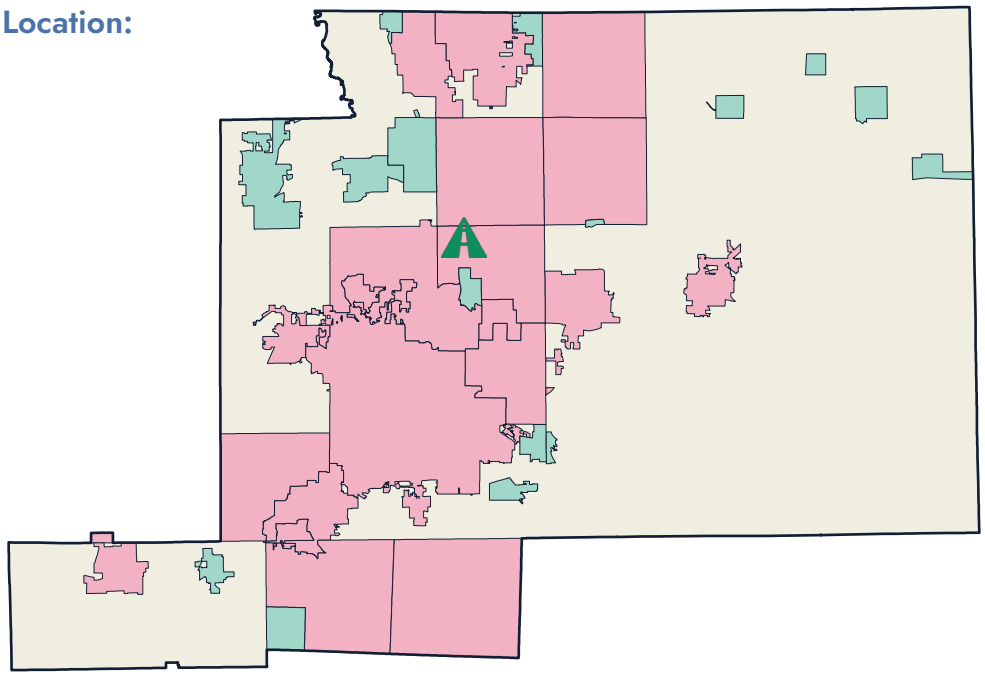
Top 3 Job Types:

1. Manufacturing
2. Wholesale Trade
3. Construction

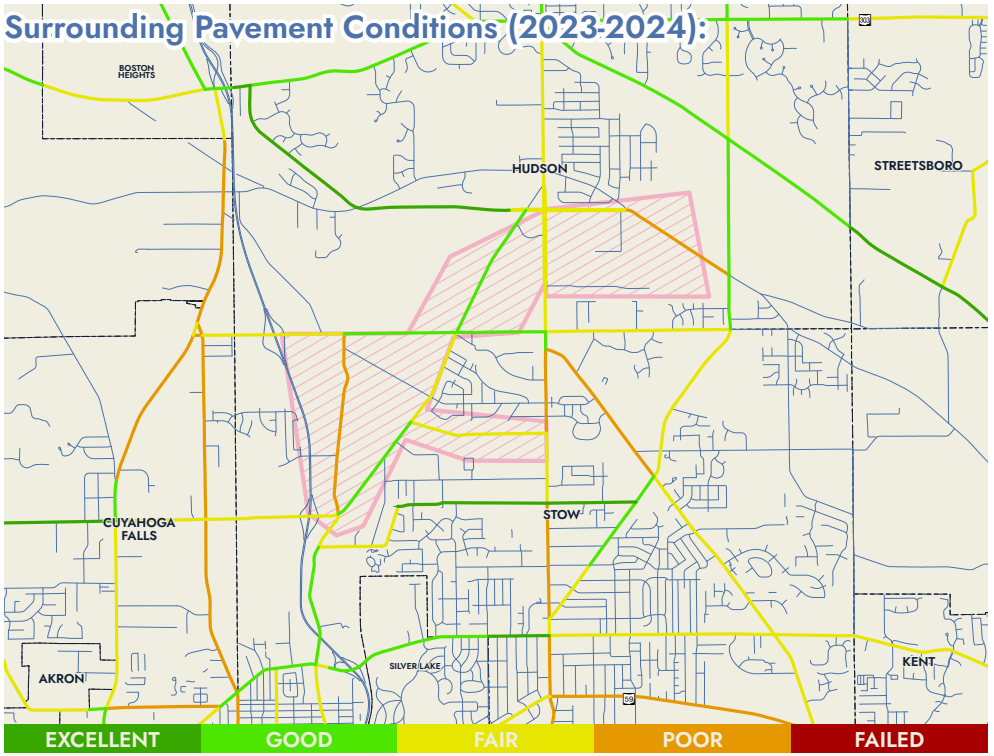
2022 Estimated Jobs:

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

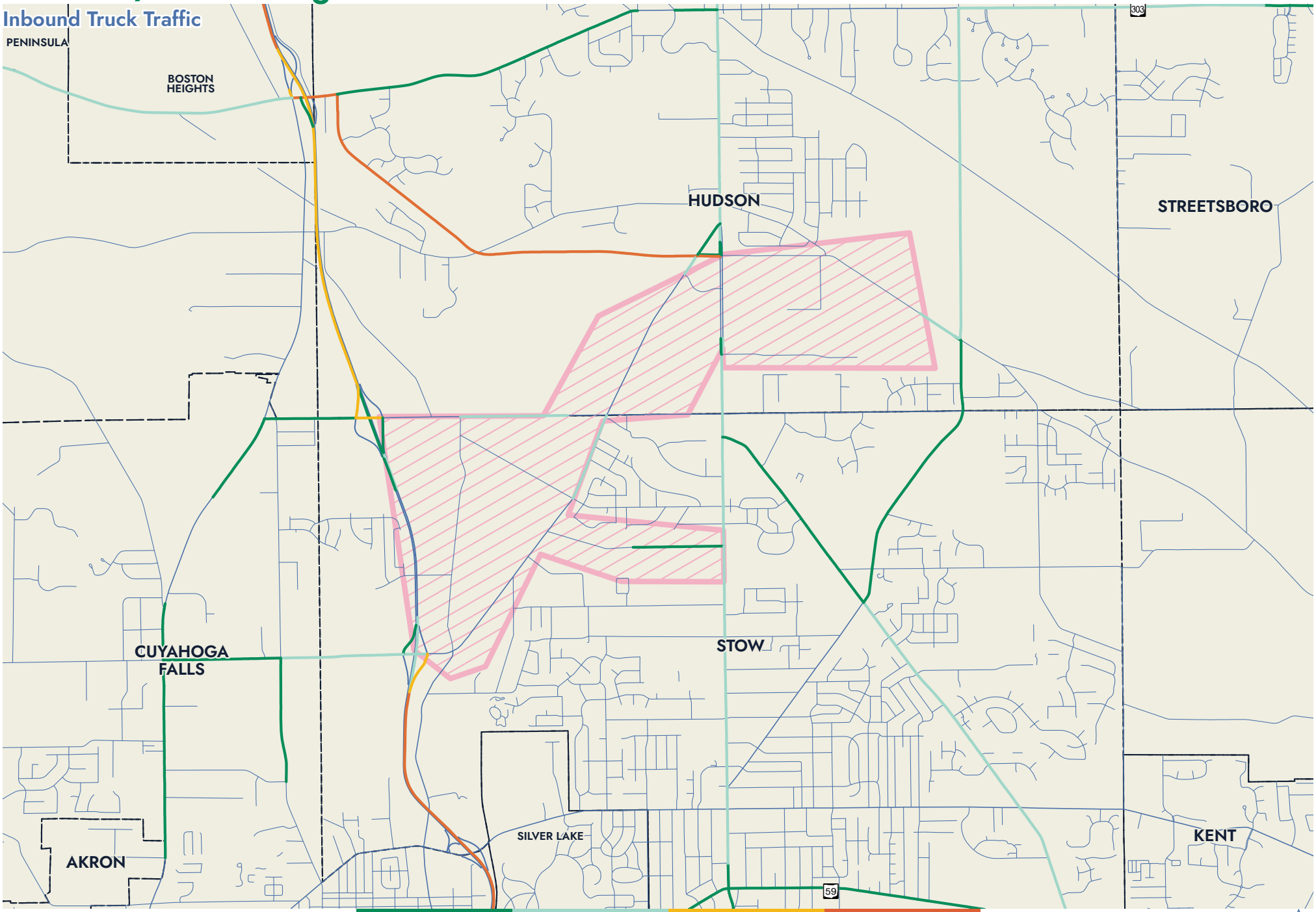
Top Congested Segments

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

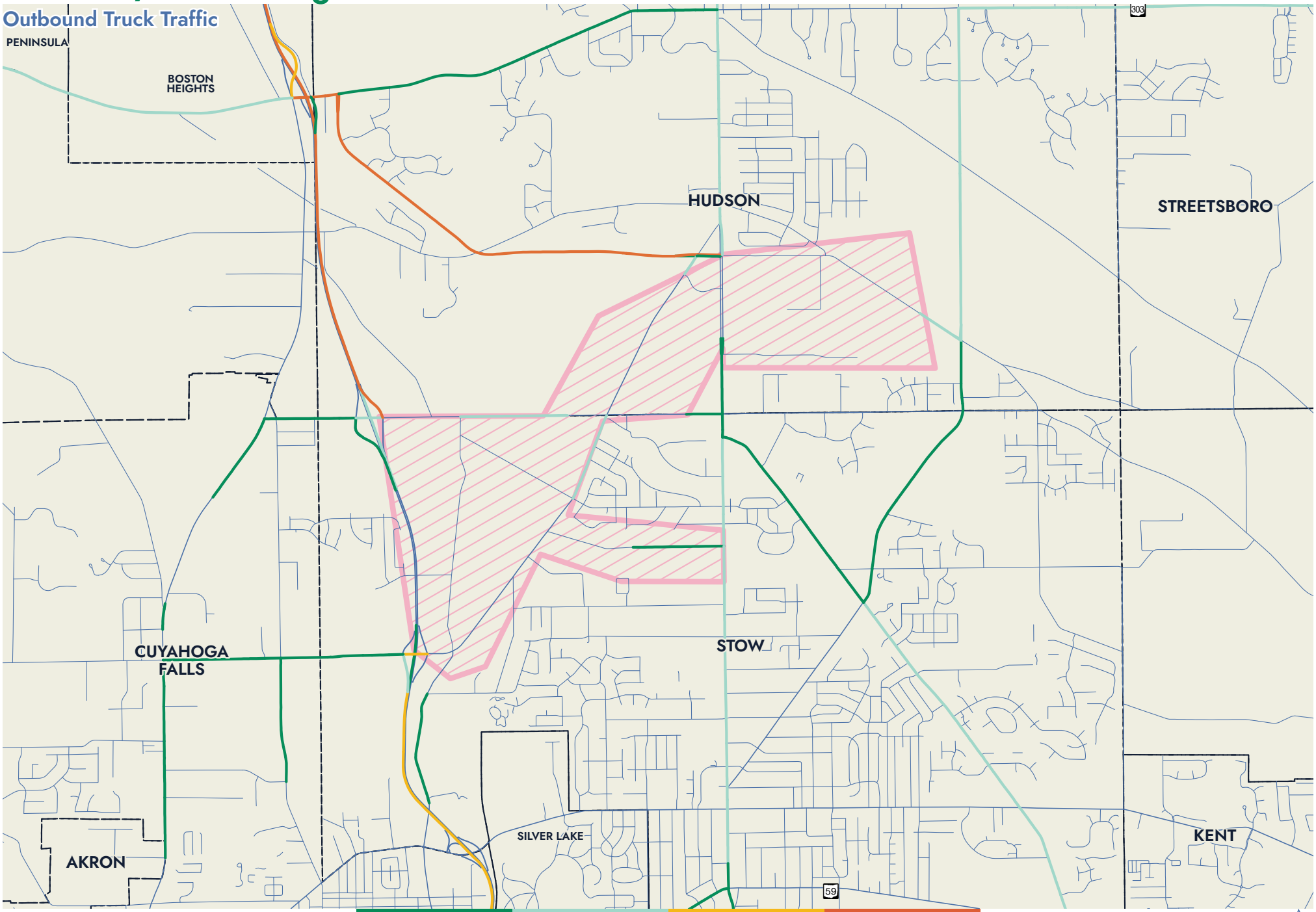


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Hudson / Stow Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

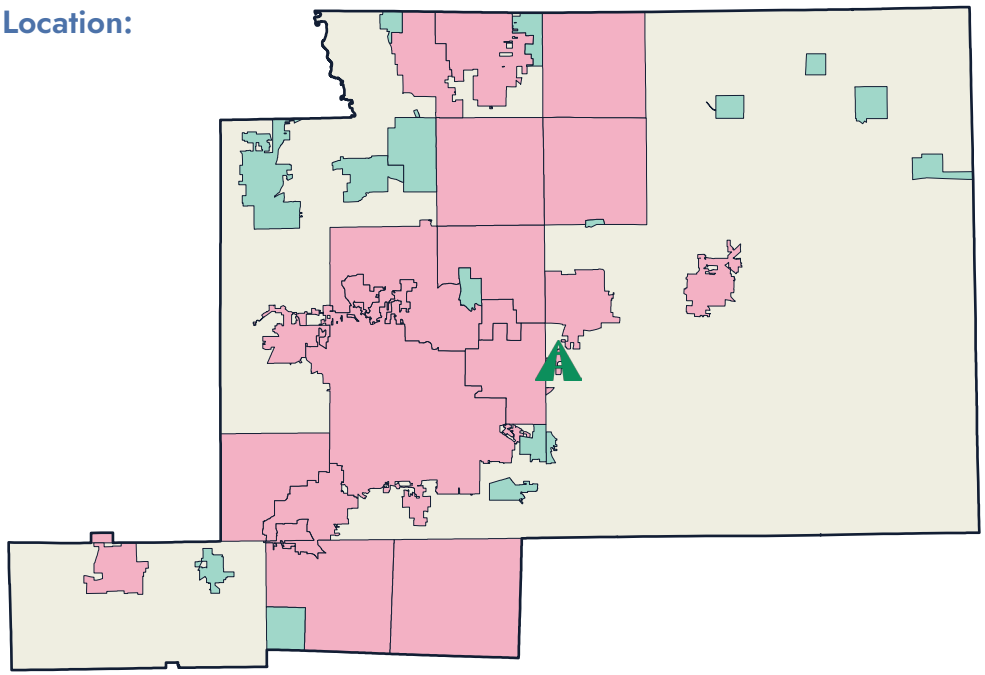
Top 3 Job Types:

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

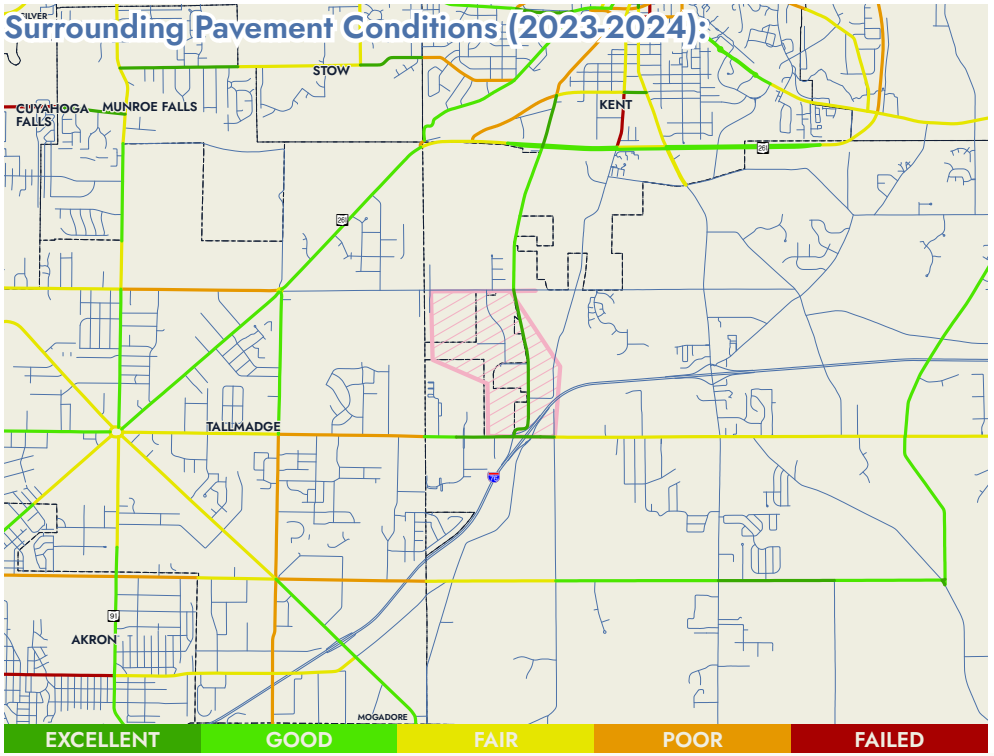
2022 Estimated Jobs:

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).

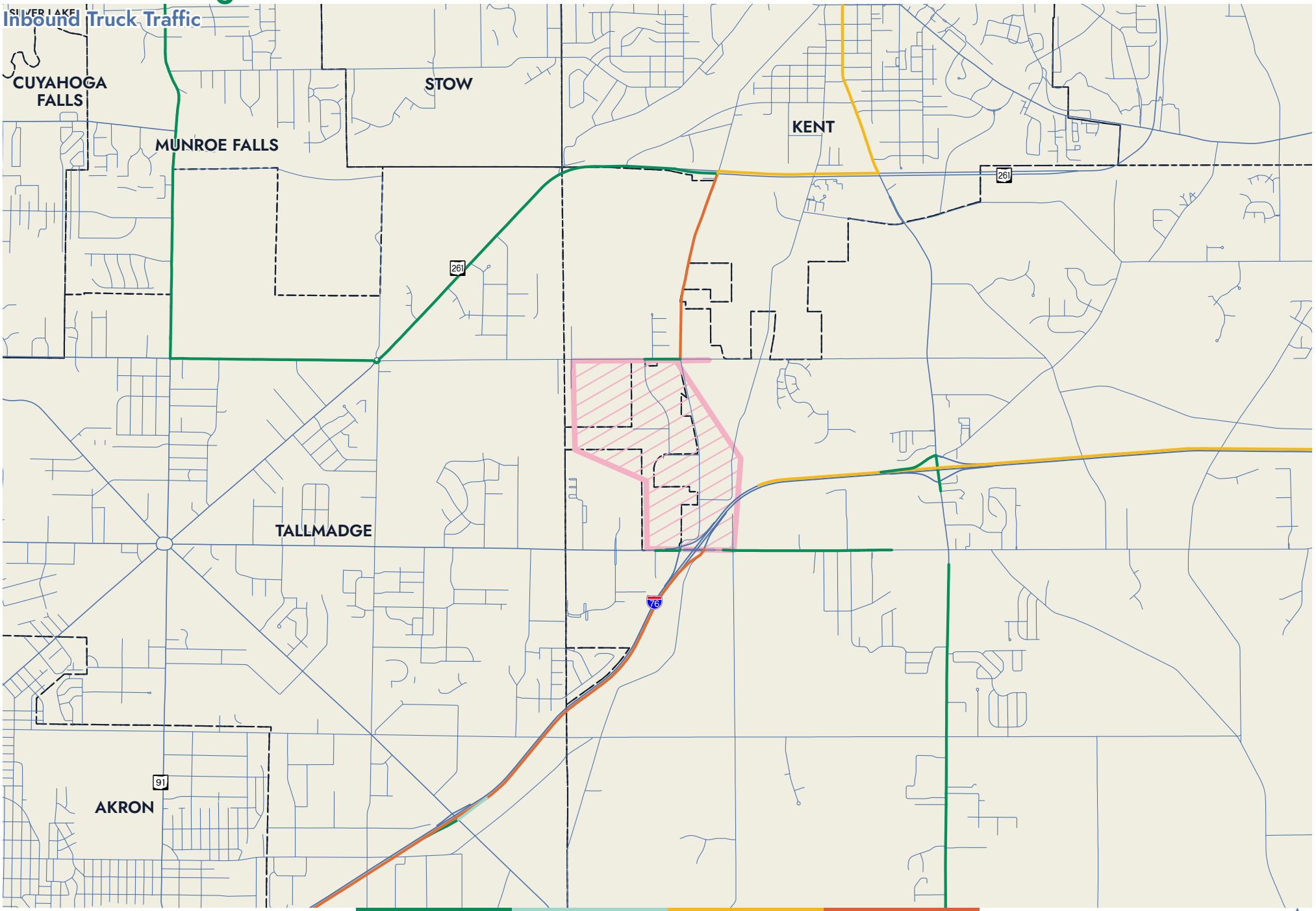
LOCATION	LOCAL RANK	OVERALL RANK	INTERSECTION	APPROACH AVERAGE DAILY TRAFFIC	TOTAL CRASHES
No Nearby Intersections in the *2020-2022 Traffic Crashes Report*					

Top Congested Segments

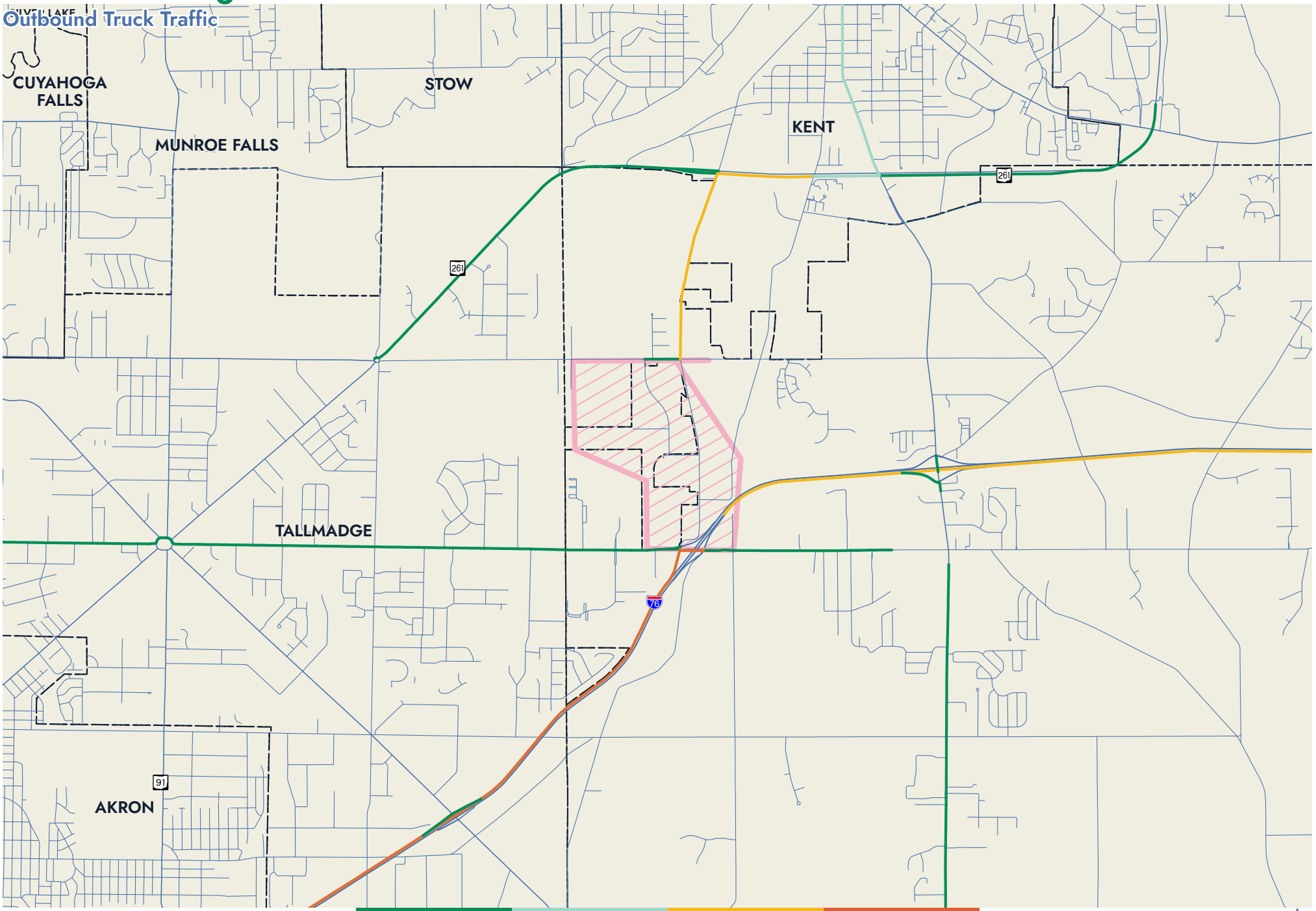
The following table identifies the top segments in or near the job hub that have been identified in AMATS' 2022 Congestion Management Process report. The fields contained within the table are: Location, Name, Miles, Peak Period (part of the day in which peak occurs), Type (description of section), Direction (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



Brimfield Freight Corridor



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

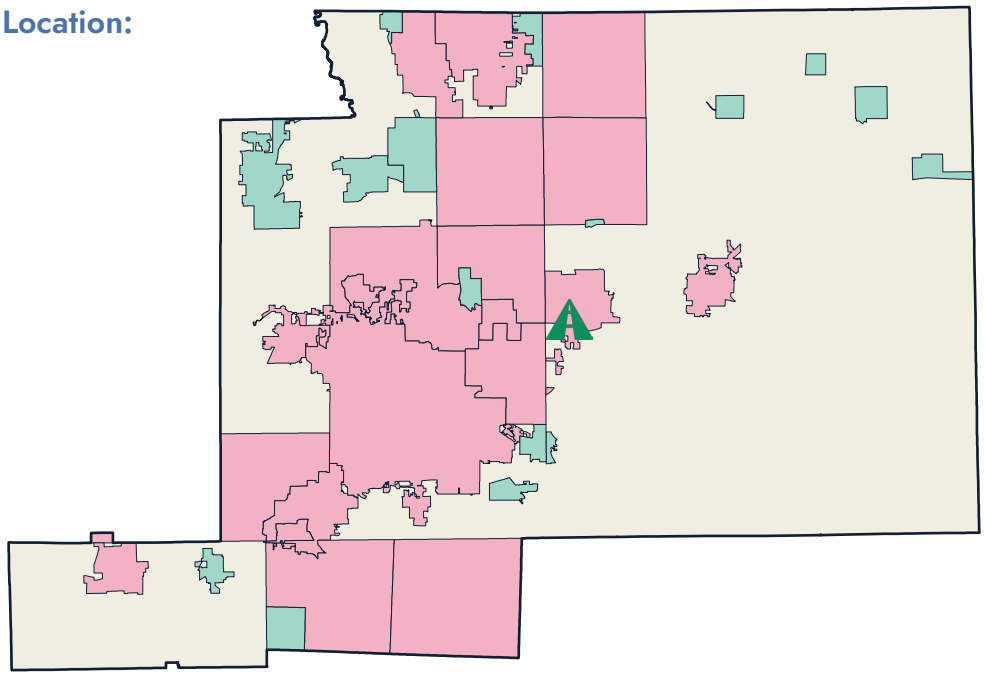
Top 3 Job Types:

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

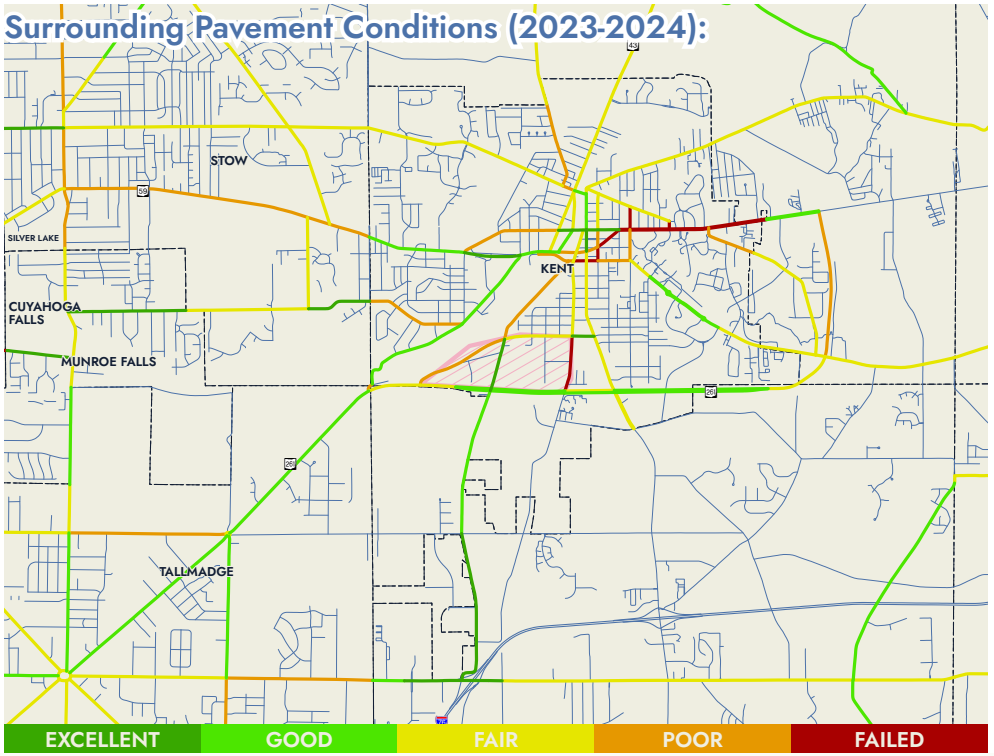
2022 Estimated Jobs:

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

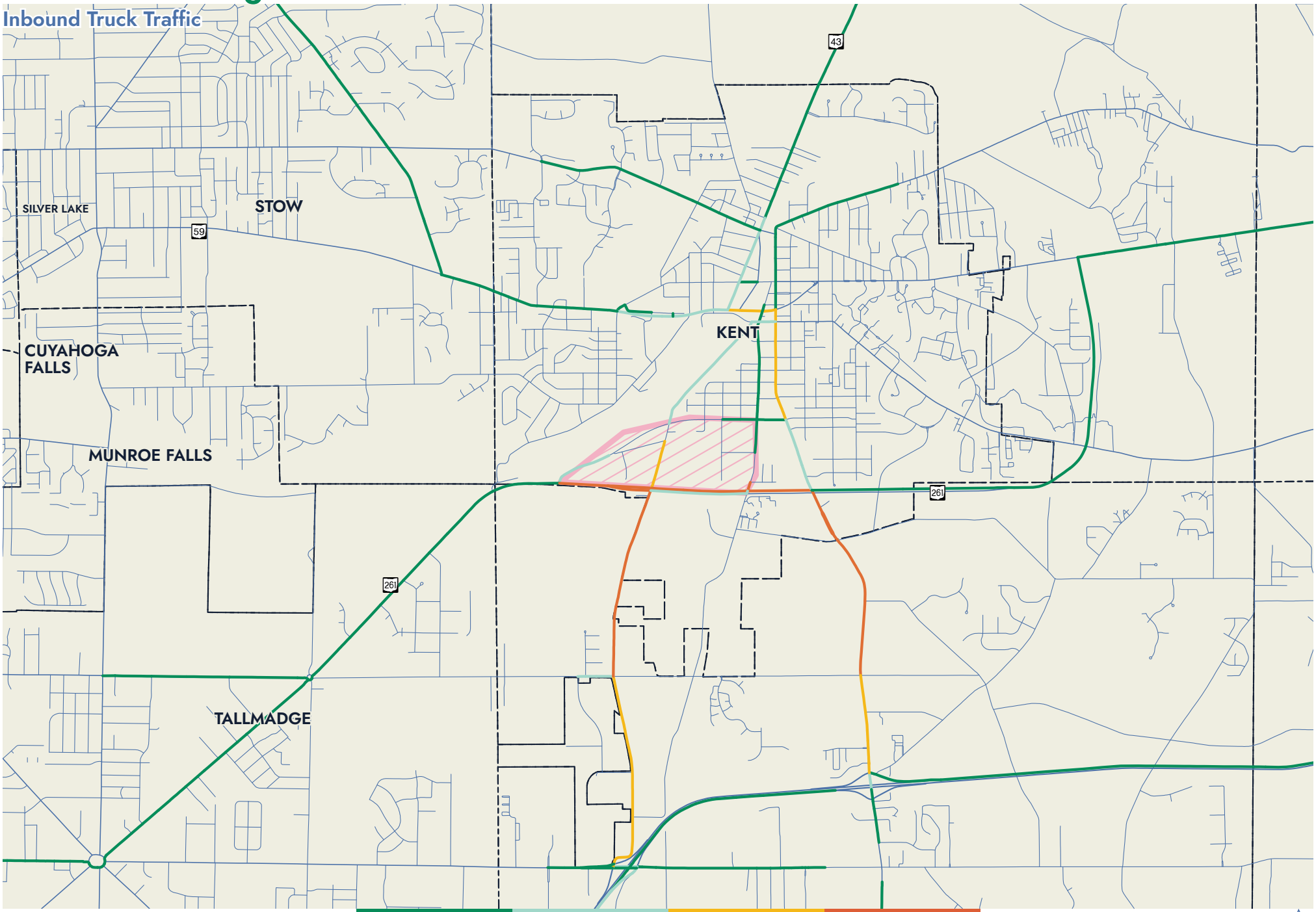
Top Congested Segments

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

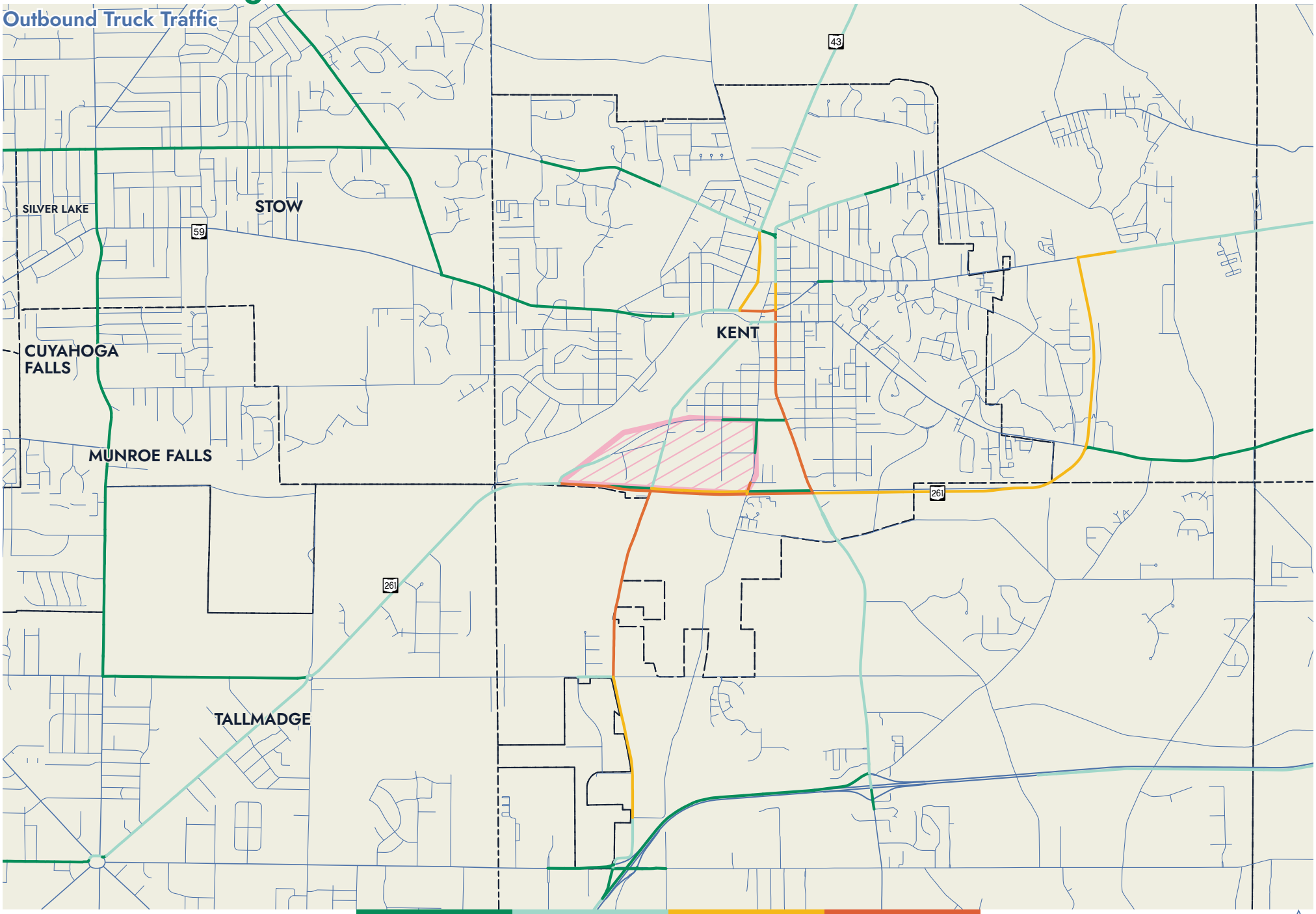


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

South Kent Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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

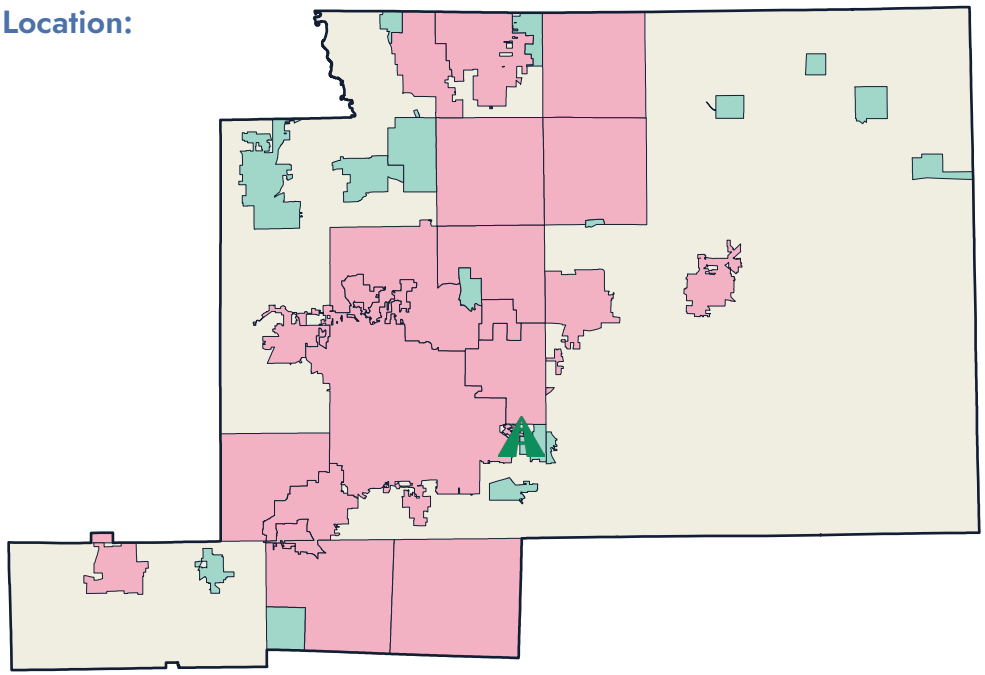
Top 3 Job Types:

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

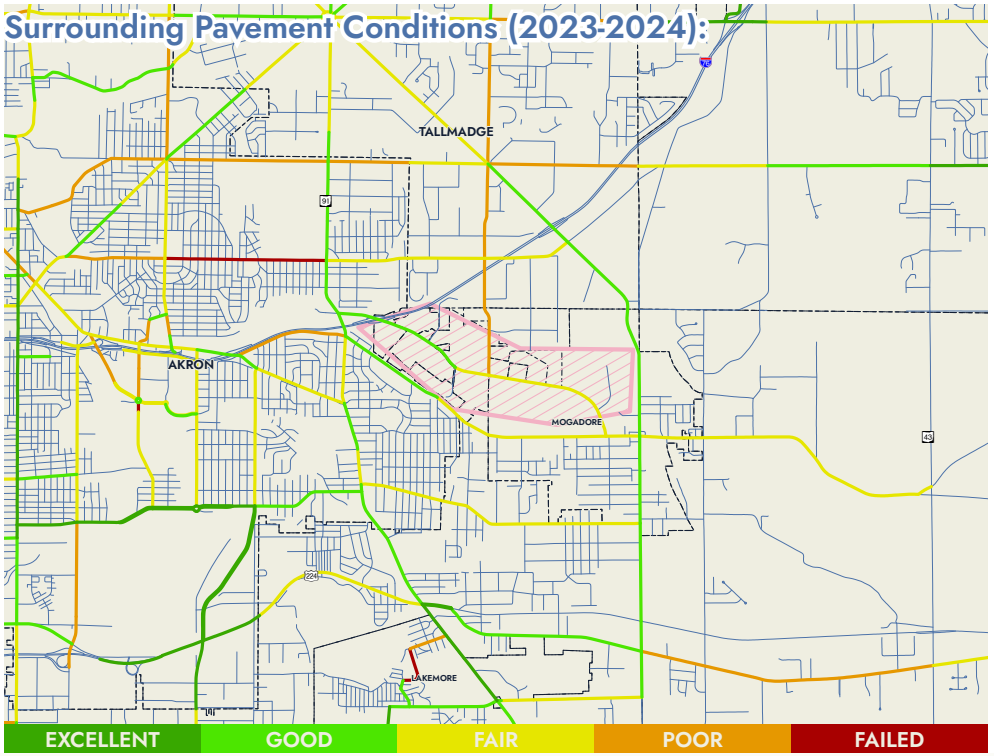
2022 Estimated Jobs:

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*					

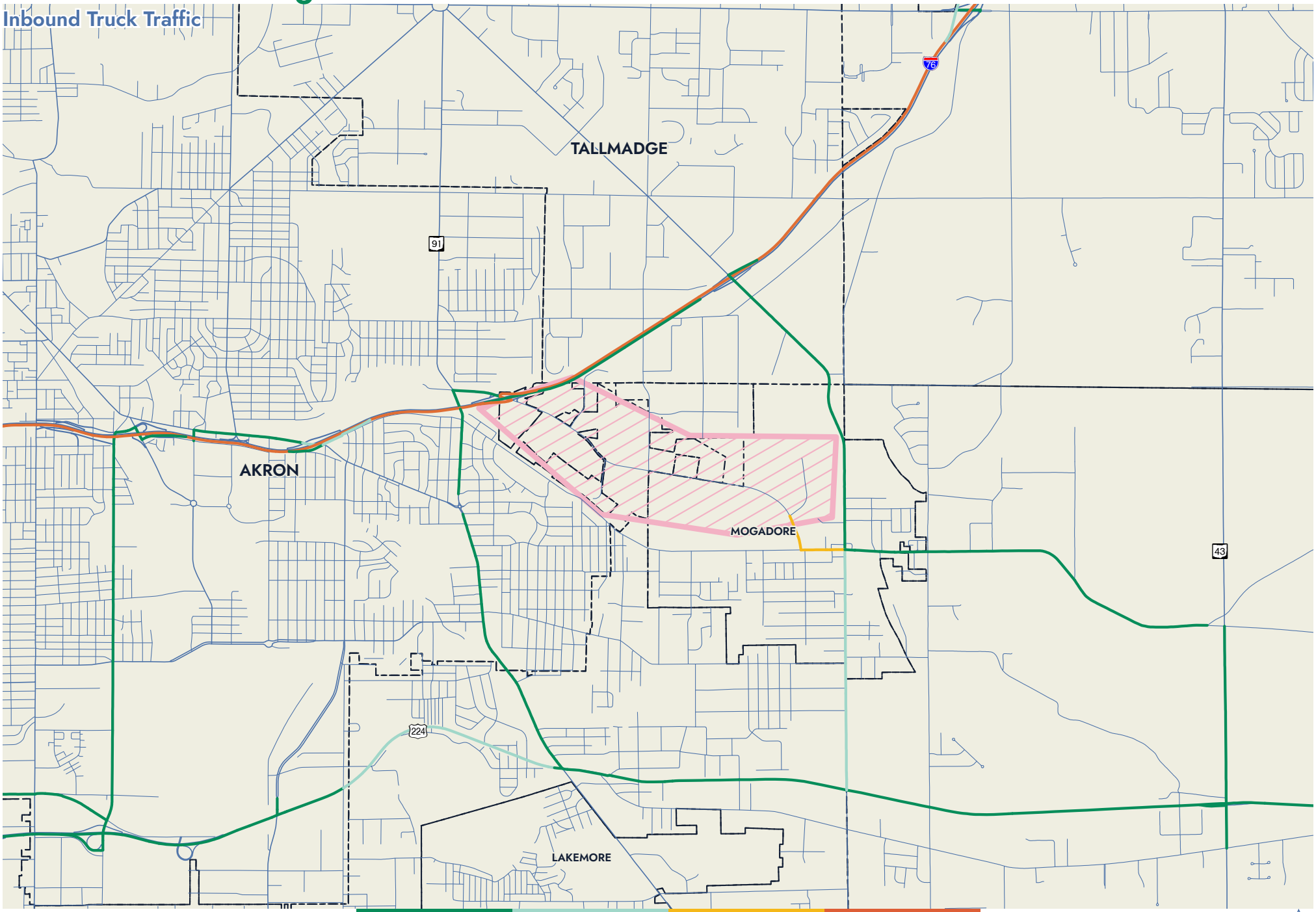
Top Congested Segments

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

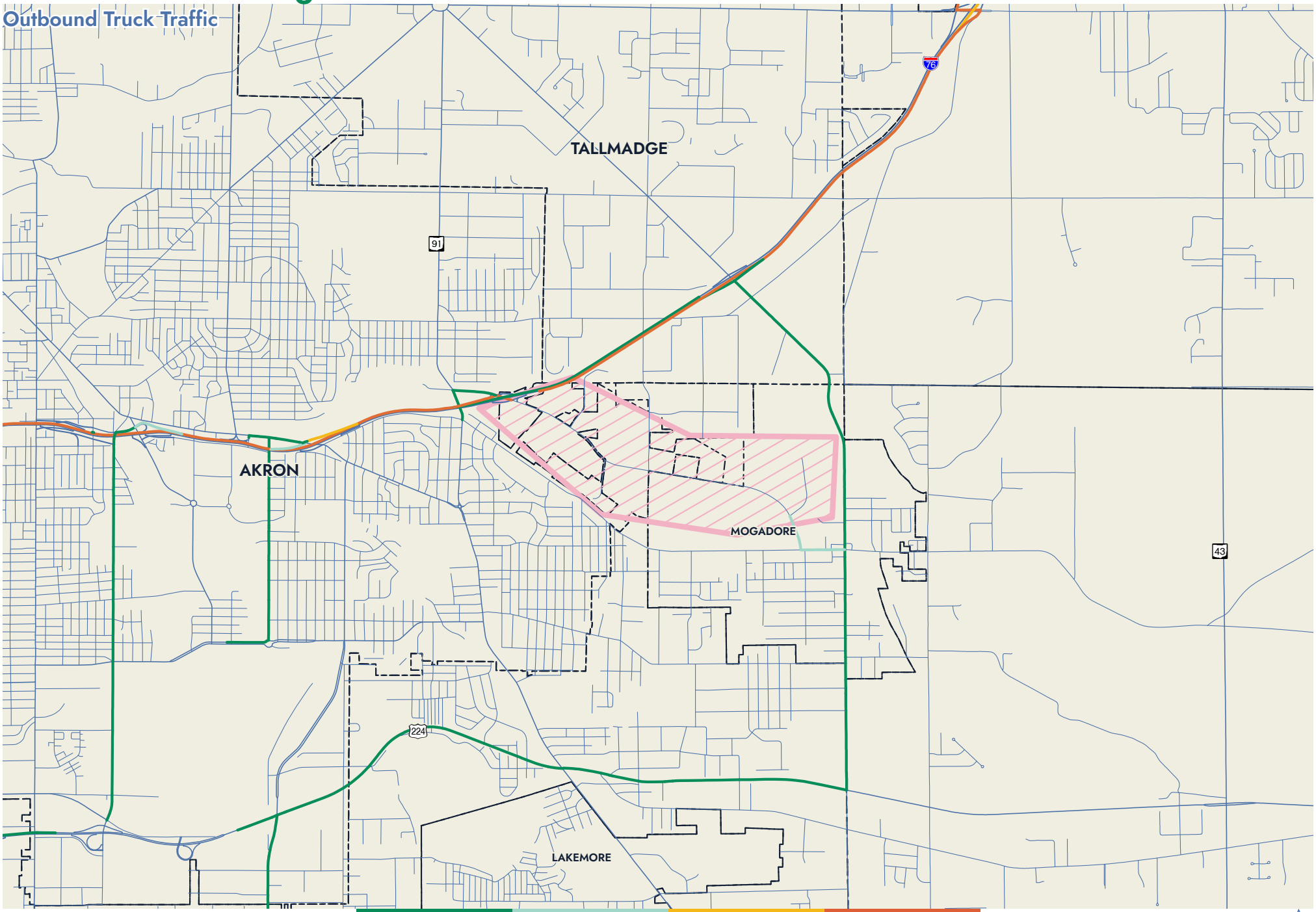


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Gilchrist Road Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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 transporation 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

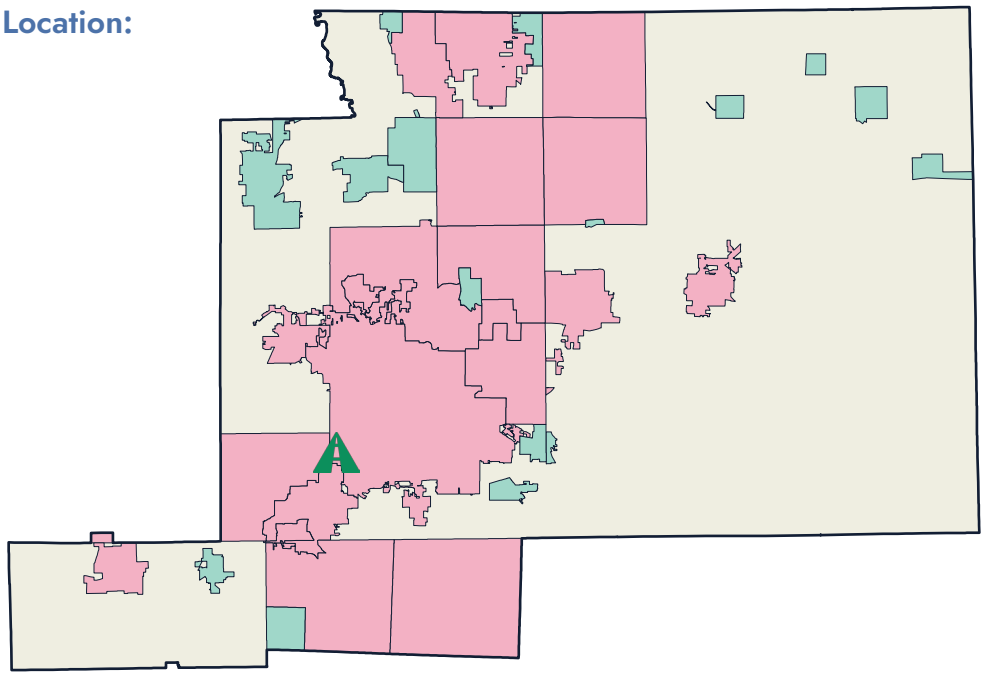
Top 3 Job Types:

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

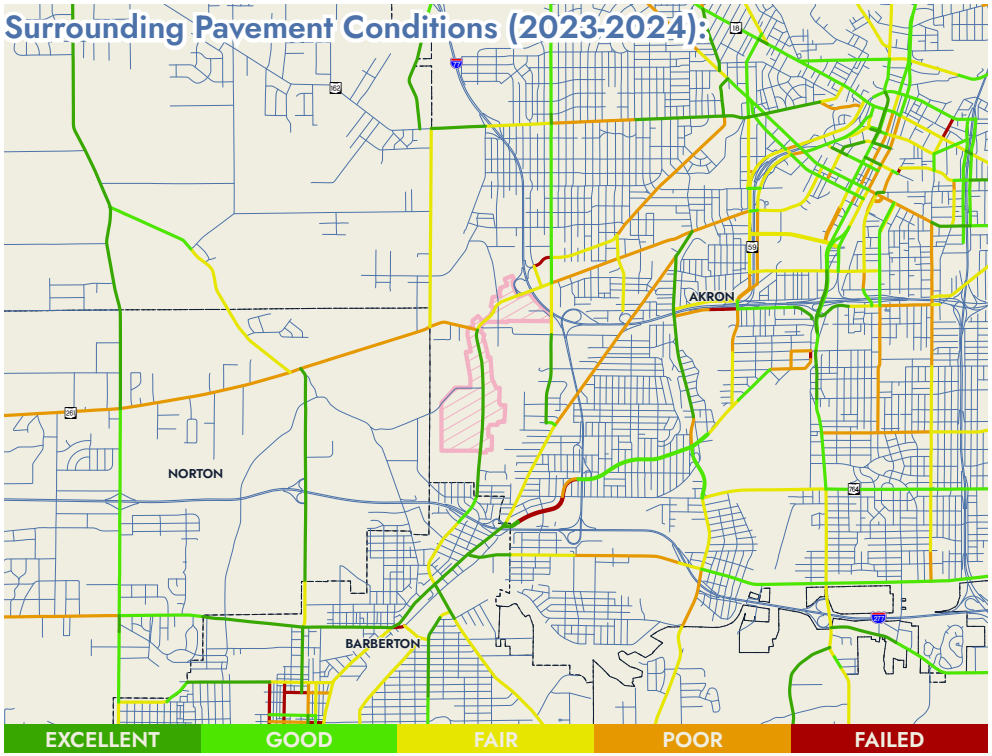
2022 Estimated Jobs:

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*					

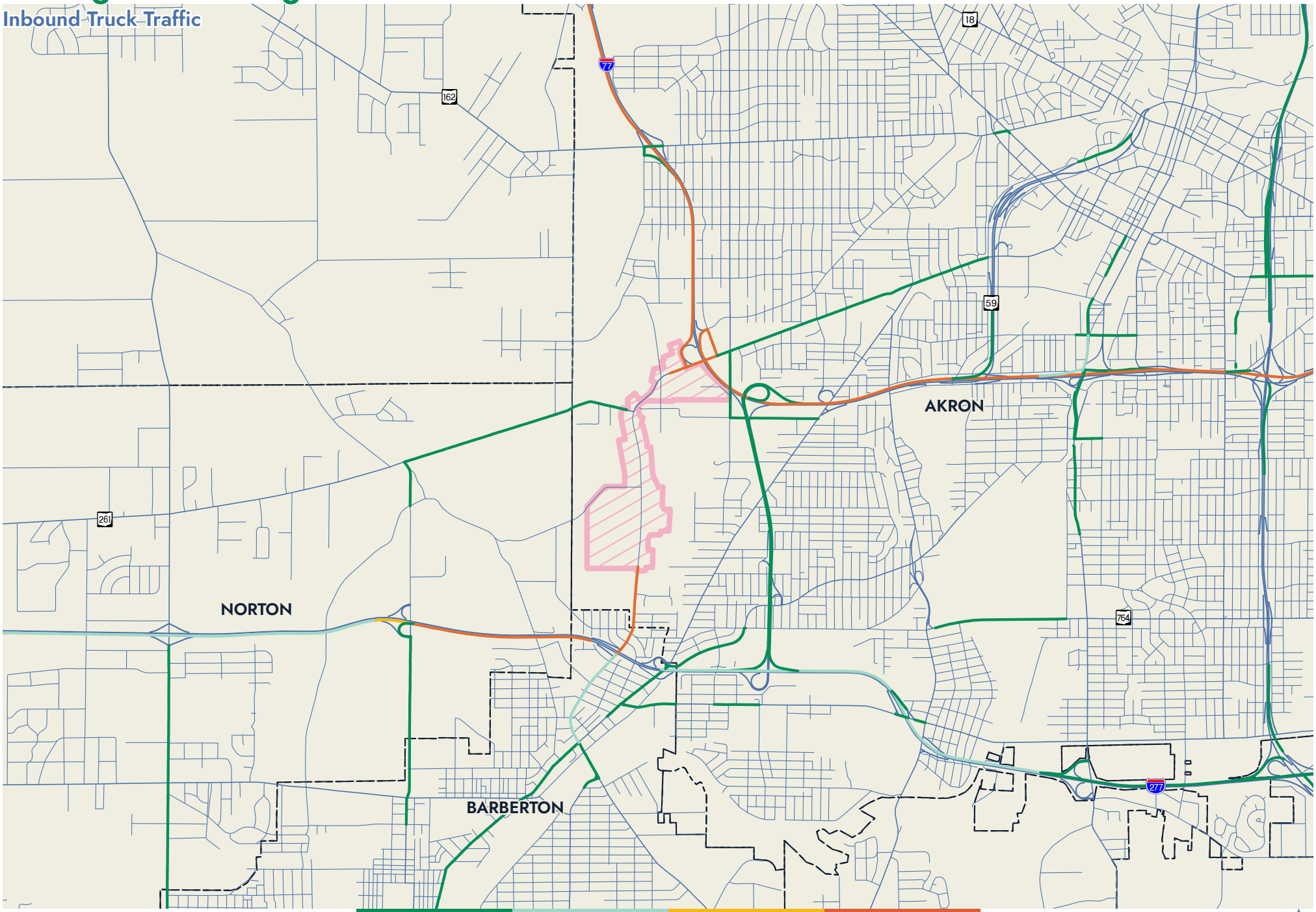
Top Congested Segments

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

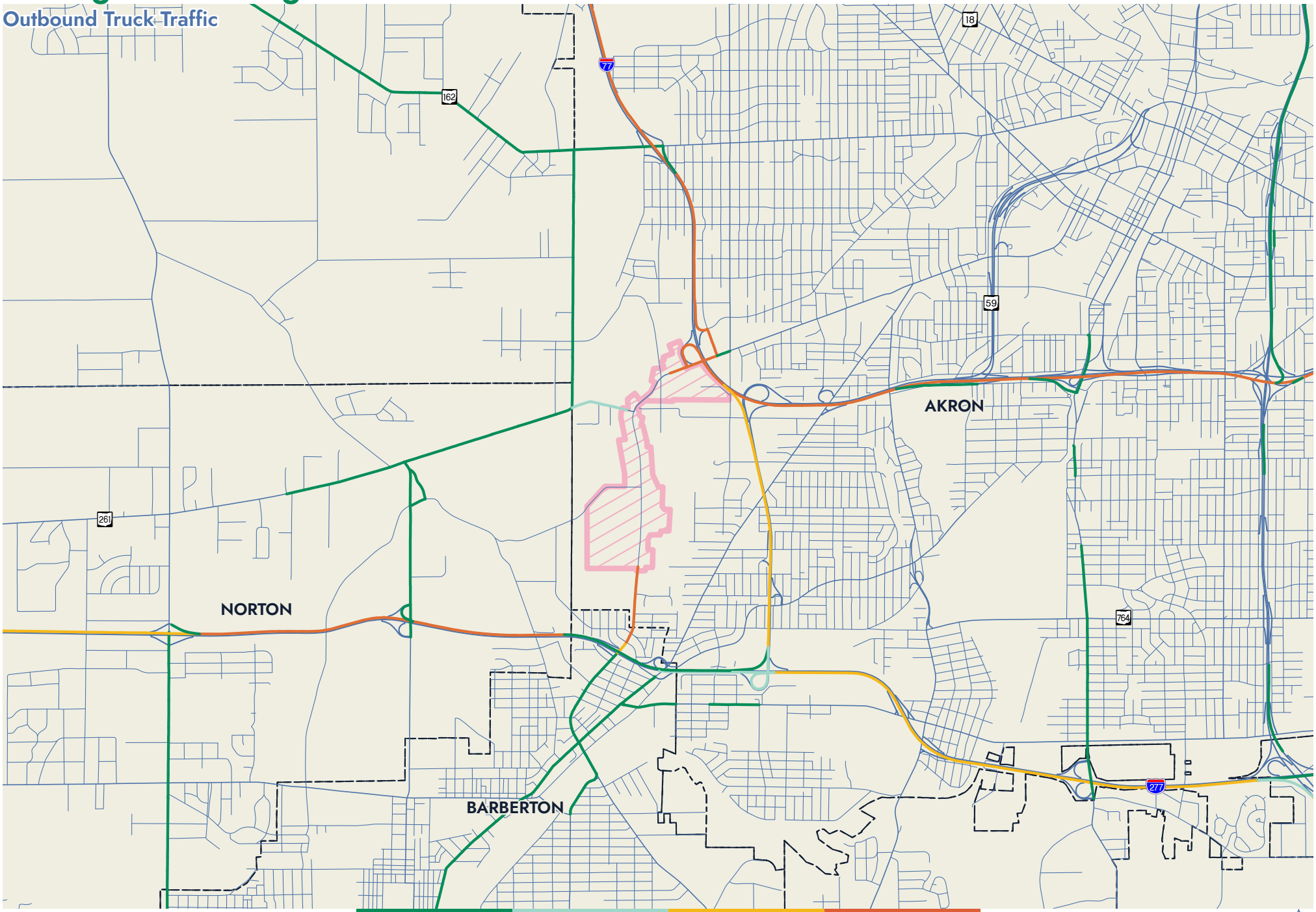


Percentage of Inbound Truck Trips: .1% - 5% | 5.1% - 10% | 10.1% - 15% | 15.1% - 82.6%

0 0.25 0.5 0.75 1 Miles

Rolling Acres Freight Corridor

Outbound Truck Traffic



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

0 0.25 0.5 0.75 1 Miles

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 Reliabilty	> 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 Reliabilty	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 Reliabilty	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

AMATS

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

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee**
Technical Advisory Committee
Citizens Involvement Committee

FROM: **AMATS Staff**

RE: **2024 Transit Plan**

DATE: **September 12, 2024**

AMATS, in conjunction with its two local transit agencies METRO RTA and PARTA, is responsible for the periodic development of a regional public transit plan. The draft plan was shared with and presented to AMATS committees in August. Since that time, AMATS staff has coordinated with the two transit agencies to finalize this plan. Minor changes were made to the plan such as changing verbiage on the goals and strategies matrix and updating data. Internal editing and the report's design were also finalized.

The AMATS 2024 Transit Plan summarizes existing services performance measures, current challenges while recommending general goals and strategies. The goals achieve a balance between strengthening the existing system to provide better service to current transit riders and expanding services to satisfy new needs. This plan contains an analysis of the region's existing transit system and sets recommendations that are eligible for inclusion in the upcoming 2050 Regional Transportation Plan.

As part of the public transit plan development process, AMATS collects and analyzes a wide variety of data, including several analyses of the existing transit system and demographics likely to use transit. These analyses help guide the recommendations for improving existing service for those who already use public transit, as well as attracting new passengers.

The AMATS 2024 Transit Plan encourages investing in sustainable vehicle fleets and improvements to increase access to transit. Additionally, the AMATS 2024 Transit Plan recommends transit agencies and communities work together to find the best solutions that meet the needs of their riders.

The complete Transit Plan is available on the AMATS website, www.amatsplanning.org.

The staff recommends approval of this document.

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

AMATS

2024 TRANSIT PLAN

2024 TRANSIT 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.

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 | INTRODUCTION

The Akron Metropolitan Area Transportation Study (AMATS) is the metropolitan planning organization responsible for ensuring comprehensive transportation planning for Summit and Portage counties and parts of Wayne County. This responsibility includes coordination with various agencies in Northeast Ohio, including two transit providers, METRO RTA in Summit County and the Portage Area Regional Transportation Authority (PARTA) in Portage County. The portions of Wayne County in the AMATS region are currently served by a private transportation provider in partnership with Stark Area Regional Transit Authority which operates demand response service to portions of Wayne County. This plan examines the current transit coverage of the AMATS region through a brief overview of the demographics of the region and an examination of the service that the two major transit authorities provide. The plan also provides a brief goals and strategy matrix, which highlights methods that can help sustain and grow the impact of transit.

In planning for all 723,549 potential users in the AMATS region, transit provides a necessary tool to ensure mobility access for disabled, elderly, and low-income residents. Providing a strong and efficient transit system is essential for a dynamic region preparing for the future. METRO RTA and PARTA both provide traditional fixed-route service, operating a combined 39 routes throughout Summit and Portage counties and express routes to Cleveland.

Both transit agencies also provide demand response services to seniors, individuals with disabilities and workforce trips with smaller buses and vans that operate as complementary service to fixed-route service.

At a minimum, transit provides basic mobility to those without access to vehicles. Transit riders use services to get to work, to get to a doctor, to run errands, to visit family and friends, etc. Some transit users may even choose to ride a bus instead of taking a car, saving wear and tear on their vehicle and avoiding parking fees. Additionally, transit reduces emissions and congestion in metropolitan areas, which is a benefit for all users of the roadways. Both transit authorities deploy Compressed Natural Gas (CNG) buses on their fixed routes, with PARTA recently acquiring Renewable Natural Gas (RNG). RNG reduces lifecycle carbon emissions for transportation fleets by up to 300%, making it the only fuel capable of achieving negative carbon-intensity and in the case of METRO RTA, electric powered buses, which have much cleaner emissions for the environment than diesel or gasoline powered vehicles.

Lastly, transit can provide a basis for development, spurring economic development along a bus route by potentially improving access to adding jobs to an area. In some cases, transit-oriented development (T.O.D) can be implemented, which is defined as a type of urban development that is designed and constructed with transit access in mind. It usually includes mixed-use development and easy access to transit in a defined area. One of the goals of the area transit plan is for municipalities and transit authorities to work together to develop these areas of mixed use which could include T.O.D. projects. These projects help community revitalization efforts by creating opportunities for people to access transit, employment, social services, housing and grocery options within a centralized area or along a transit route. This type of development takes a community effort and needs full support from municipalities and transit providers, to have a positive impact on the well-being of the public and the local economy.

2.1 | Demographics of the AMATS Area

The data described below is analyzed at a Block Group (BG) level of geography. The analysis includes the population characteristics described in the table below. This data is conducted using 2020 Census information and 2022 5-year American Community Survey (ACS) data for the region.

Table 2-1 | Demographic Topic Descriptions

Total Population	Current population and future population projections
Age	Number and percentage of elderly (65+) population
Race	Number and percentage of racial minority groups
Disability	Number and percentage of people with disabilities
Income	Number and percentage of both individuals and households with incomes below the federal poverty level
Limited-English Proficiency	Number and percentage of population that speaks English "less than very well"
Carless Households	Number and percentage of households that do not own a vehicle

2.1.1 | General Population Trends

The AMATS region includes all of Summit and Portage counties and a northeastern portion of Wayne County. The region, like any other metropolitan area, encompasses a diverse array of communities with varying density, land uses, and numerous other physical and human geographical traits. A crucial component of this plan is to examine these demographic characteristics to understand the population's needs and identify any transportation gaps.

The region's population trend mirrors that of current Midwestern "rust belt" cities with an industrial history, showing a declining population in a large centralized downtown city. Surrounding cities either shrink or remain stable and most growth occurs within the suburban areas further from the city center.

As of 2020, the City of Akron is Ohio's fifth largest city, containing a population of 190,469. The city's population peaked in 1960 at 290,351, subsequently declining in population as deindustrialization and suburbanization negatively affected most midwestern population centers. Although Akron has lost about one-third of its population since its peak, surrounding Summit County has grown modestly during this same period: 513,569 to 540,428 (1960 to 2020). However, Summit County is modestly down from its peak population (1970) of 553,371.

Table 2-2 | AMATS Total Population

	TOTAL POPULATION
Summit	540,428
Portage	161,791
Wayne / Medina (AMATS Portion)	19,734
Total Region	***723,549***

2022 ACS 5-Year Community Survey Data

Portage County grew much more rapidly during the last half of the twentieth century and, in fact, may have hit its population peak in 2020. For comparison, Portage County had a population of 91,798 in 1960 compared to a 2020 population of 161,791. Although still growing, the 2020 Census indicates that this growth appears to have leveled-off; the county only grew 0.2% between 2010 and 2020.

The accompanying maps following pages illustrate how the present-day regional population based on demographic information gathered through 2022 ACS Census data is distributed throughout the entire AMATS planning area.

2.1.2 | Age

Elderly populations are defined as being aged 65 and older. Within the AMATS planning area, many of the areas of high elderly populations are outside of the high-density urban core—cities like Akron, Barberton, Cuyahoga Falls, and Kent—though higher elderly populations can be found throughout the region, even within portions of those cities. Some of the larger percentages of elderly populations are in large suburban condominium or senior-specific apartment developments. This population is expected to increase in the following years as the Baby Boomer generation reaches retirement age, many of which will need some sort of transportation assistance as driving personal vehicles becomes more difficult or impossible for many. Below is a chart that depicts the number of individuals who are 65 and older and the percentage of the senior population within each county of the AMATS region.

Map 2-1 | AMATS Elderly Population

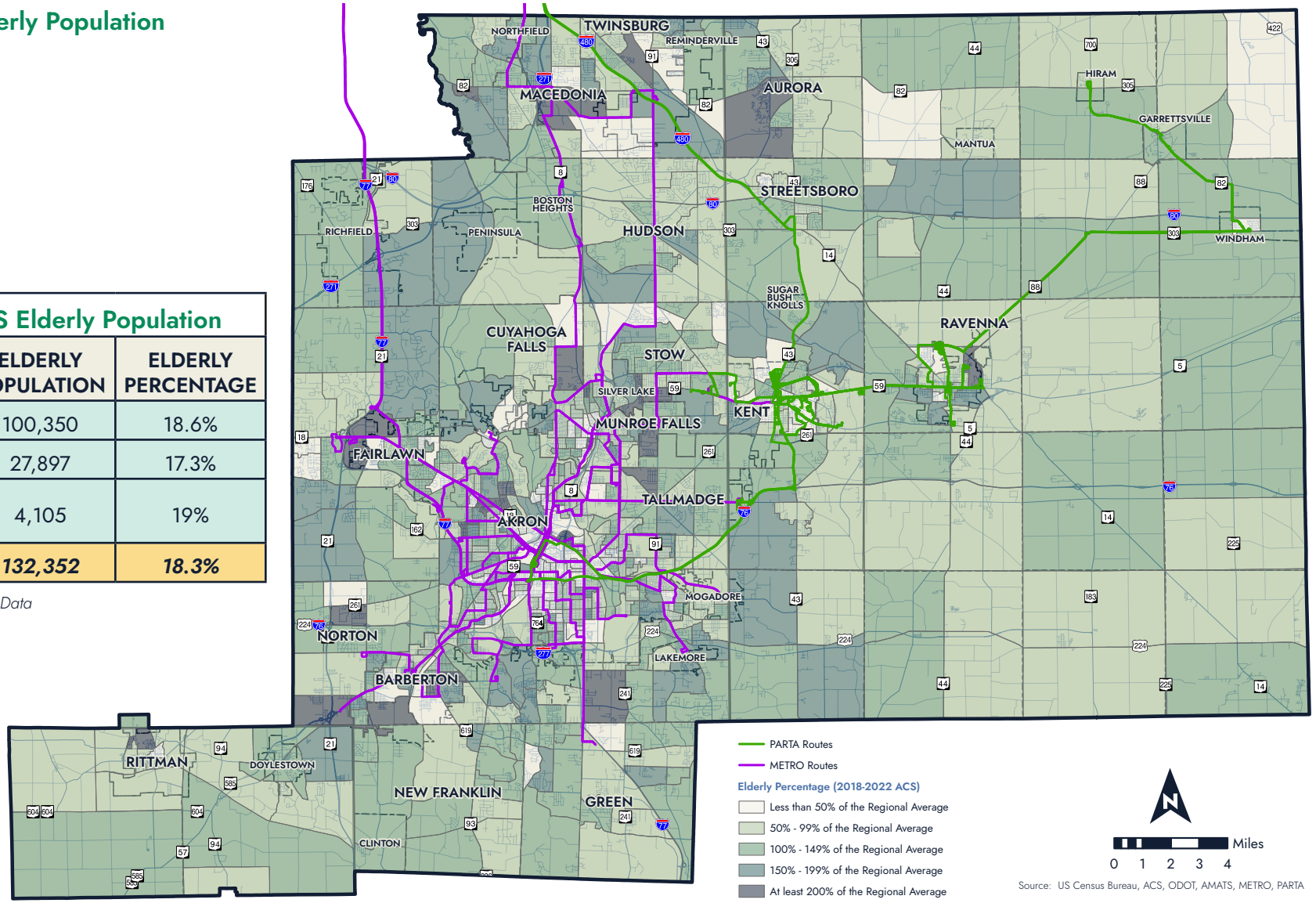


Table 2-3 | AMATS Elderly Population

	ELDERLY POPULATION	ELDERLY PERCENTAGE
Summit	100,350	18.6%
Portage	27,897	17.3%
Wayne / Medina (AMATS Portion)	4,105	19%
Total Region	***132,352***	***18.3%***

2022 ACS 5-Year Community Survey Data

2.1.3 | Disability

Disabled populations are adults—over the age of 17—who have hearing, vision, cognitive, ambulatory, self-care, or independent living difficulties. The disabled population is more geographically scattered than the other groups analyzed. Some of the areas with the highest percentage of disabled population are within the cities of Akron and Barberton, although both have many areas of below-average disabled populations, often in adjoining BGs. Other areas of above-average disabled populations can be found throughout all portions of the planning area.

Map 2-2 | AMATS Disability Population

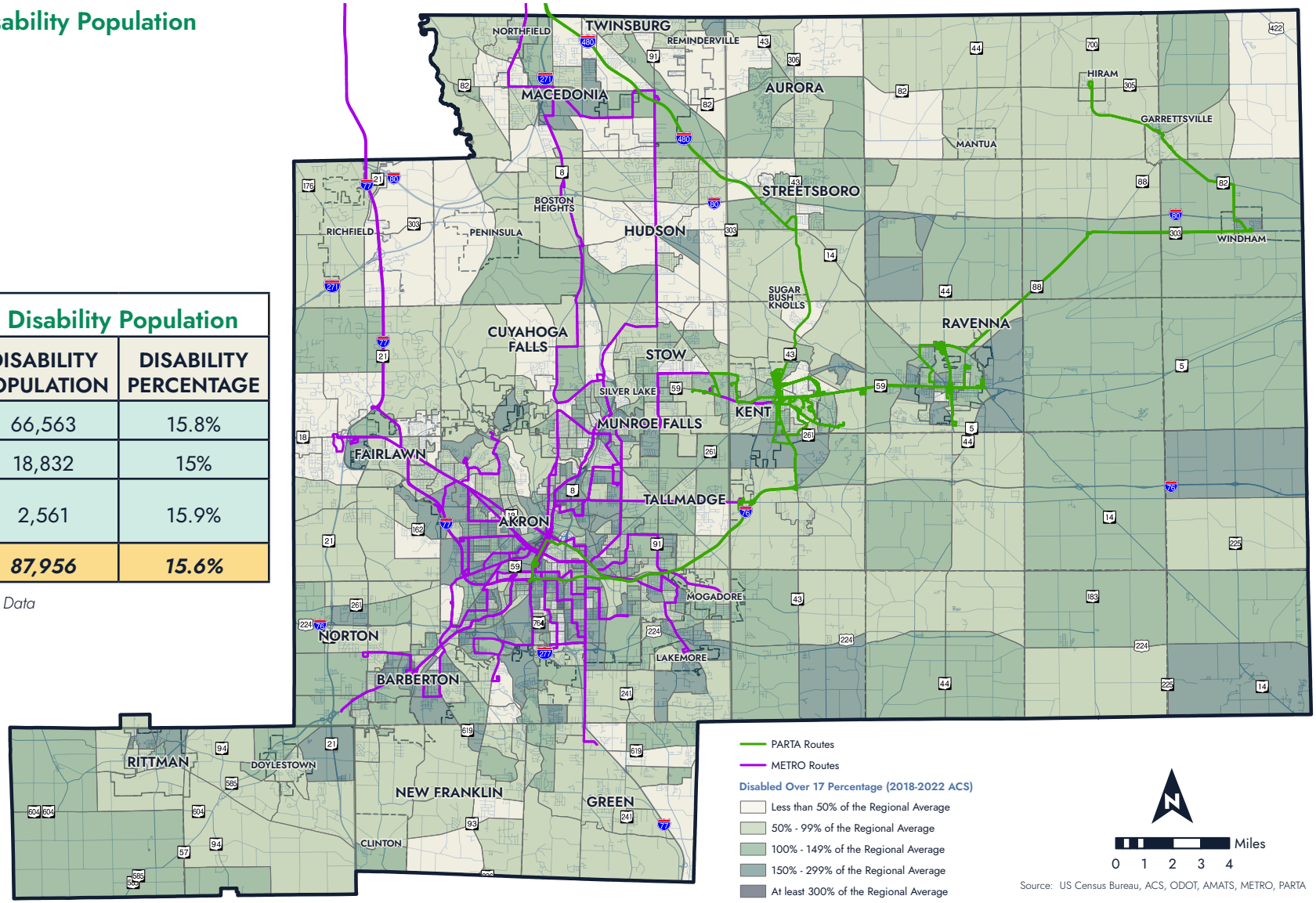


Table 2-4 | AMATS Disability Population

	DISABILITY POPULATION	DISABILITY PERCENTAGE
Summit	66,563	15.8%
Portage	18,832	15%
Wayne / Medina (AMATS Portion)	2,561	15.9%
Total Region	***87,956***	***15.6%***

2022 ACS 5-Year Community Survey Data

2.1.4 | Race

Minorities are defined as non-white populations. Within the Greater Akron area, black populations are by far the most common minority group, though several other minority populations exist throughout the area. The highest concentrations of minority populations are in the Akron, particularly in West Akron and, to a slightly lesser extent, in the Middlebury, East Akron, and North Hill sections of the city. There is also a high minority population in the Twinsburg Heights section of Twinsburg Township. Other notable concentrations of minority populations can be found in portions of the cities of Barberton, Kent, Ravenna, Streetsboro and Twinsburg, and Copley and Twinsburg townships. Summit County has far more racial diversity than the balance of the planning region. Below is a chart that depicts the number of minority individuals and a percentage of the minority population within each county of the AMATS region.

Map 2-3 | AMATS Minority Population

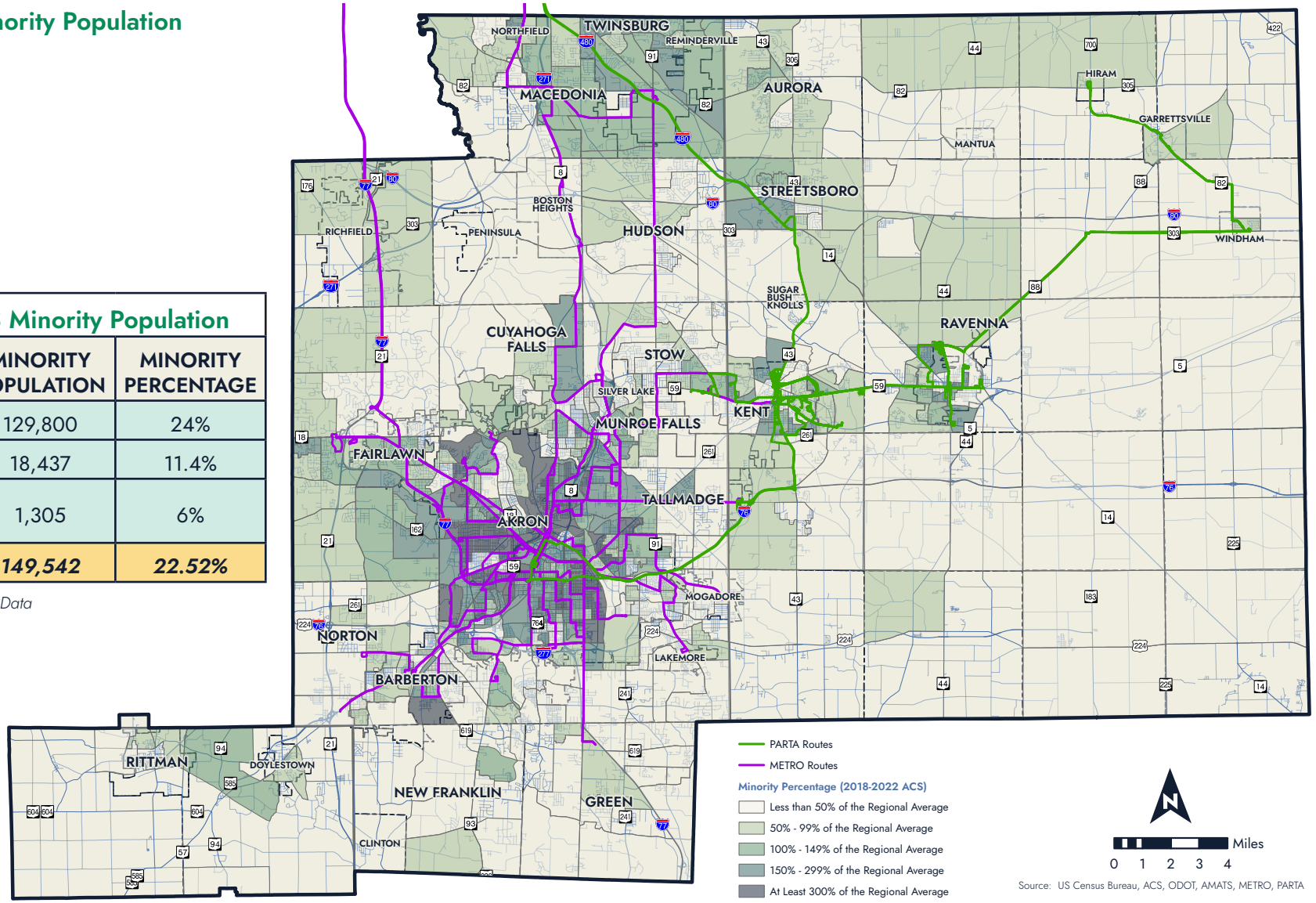


Table 2-5 | AMATS Minority Population

	MINORITY POPULATION	MINORITY PERCENTAGE
Summit	129,800	24%
Portage	18,437	11.4%
Wayne / Medina (AMATS Portion)	1,305	6%
Total Region	***149,542***	***22.52%***

2022 ACS 5-Year Community Survey Data

2.1.5 | Income

Low-Income is defined as the population receiving less annual income than the regional average. For this Plan, individual income averages are presented below in the table and map. In the AMATS region, many of the lowest-income areas are within the City of Akron. Significant low-income populations are spread throughout the city, generally closer its center. Additionally, some sections of the cities of Kent, Ravenna, Barberton, Green, and Cuyahoga Falls, and the Village of Windham, have significant low-income populations. There are also block groups throughout the region with above-average low-income populations, particularly in rural areas. Below is a chart that depicts the low-income totals below 150% of poverty for individuals and a percentage of the low-income population within each county of the AMATS region.

Map 2-4 | AMATS Low Income Population

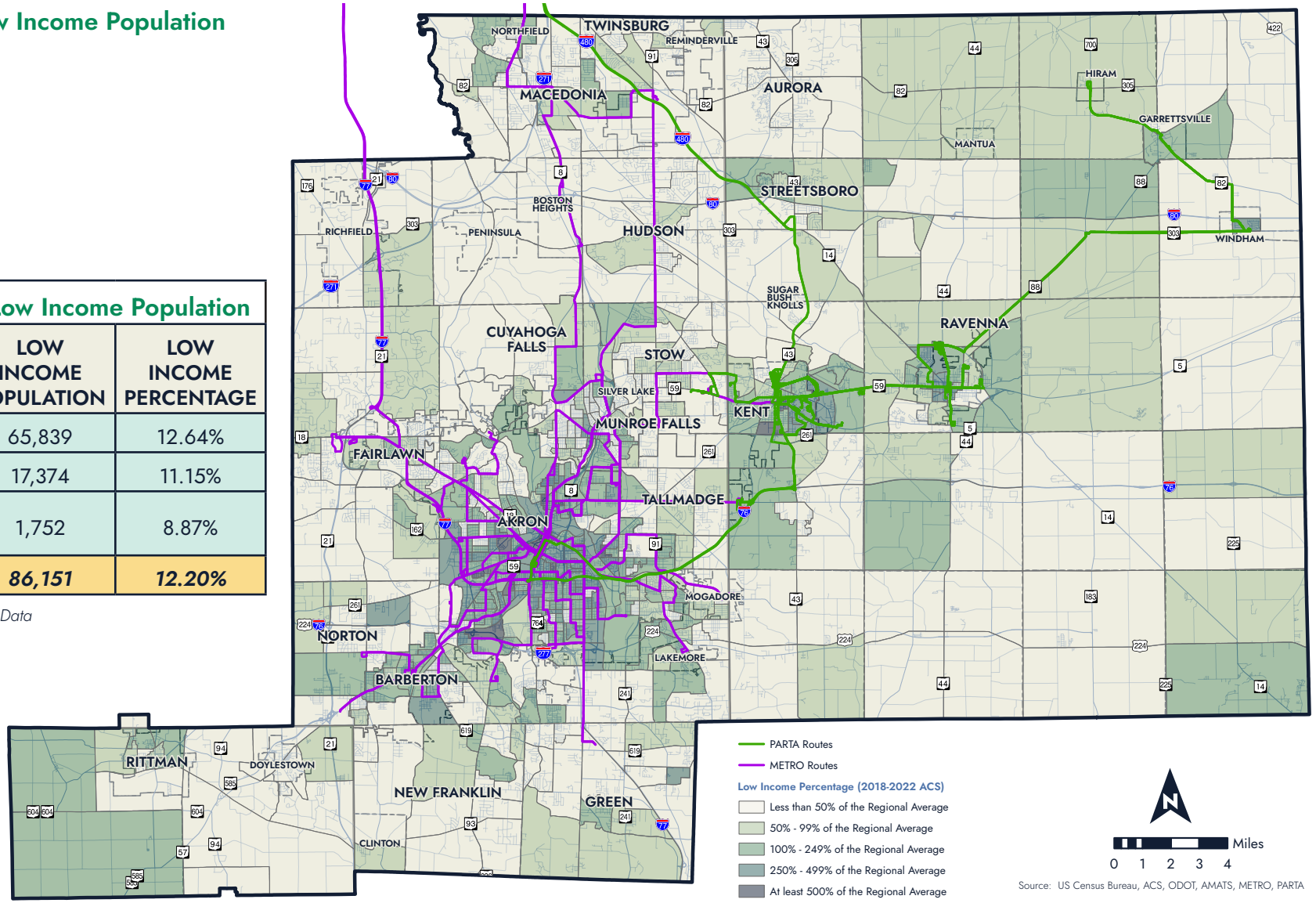


Table 2-6 | AMATS Low Income Population

	LOW INCOME POPULATION	LOW INCOME PERCENTAGE
Summit	65,839	12.64%
Portage	17,374	11.15%
Wayne / Medina (AMATS Portion)	1,752	8.87%
Total Region	***86,151***	***12.20%***

2022 ACS 5-Year Community Survey Data

2.1.6 | Carless Households

This data is collected at the household level rather than the individual level and represents the percentage of households within each block group without a car. It's important to note that the reasons for this vary, including age, disabilities, lack of affordability, and personal choice. Some individuals may choose alternative transportation options, but still have access to a personal vehicle, while for many others, they're an essential part of life. The number of households without access to a personal vehicle can be used as a tool for predicting the number of people that rely on transit or other modes of transportation, other than a personal vehicle. A strong concentration of the region's carless households can be found within the city of Akron. There is a correlation with many of the lower income block groups within the city and carless households. Other areas of carless households can be found within the AMATS planning region. Most of these tend to be in more walkable communities, block groups where large senior housing facilities exist, or, as in Northeastern Portage County, where Amish populations exist. Below is a chart that depicts the number of carless households and the percentage of the carless household population within each county of the AMATS region.

Map 2-5 | AMATS Low Carless Households

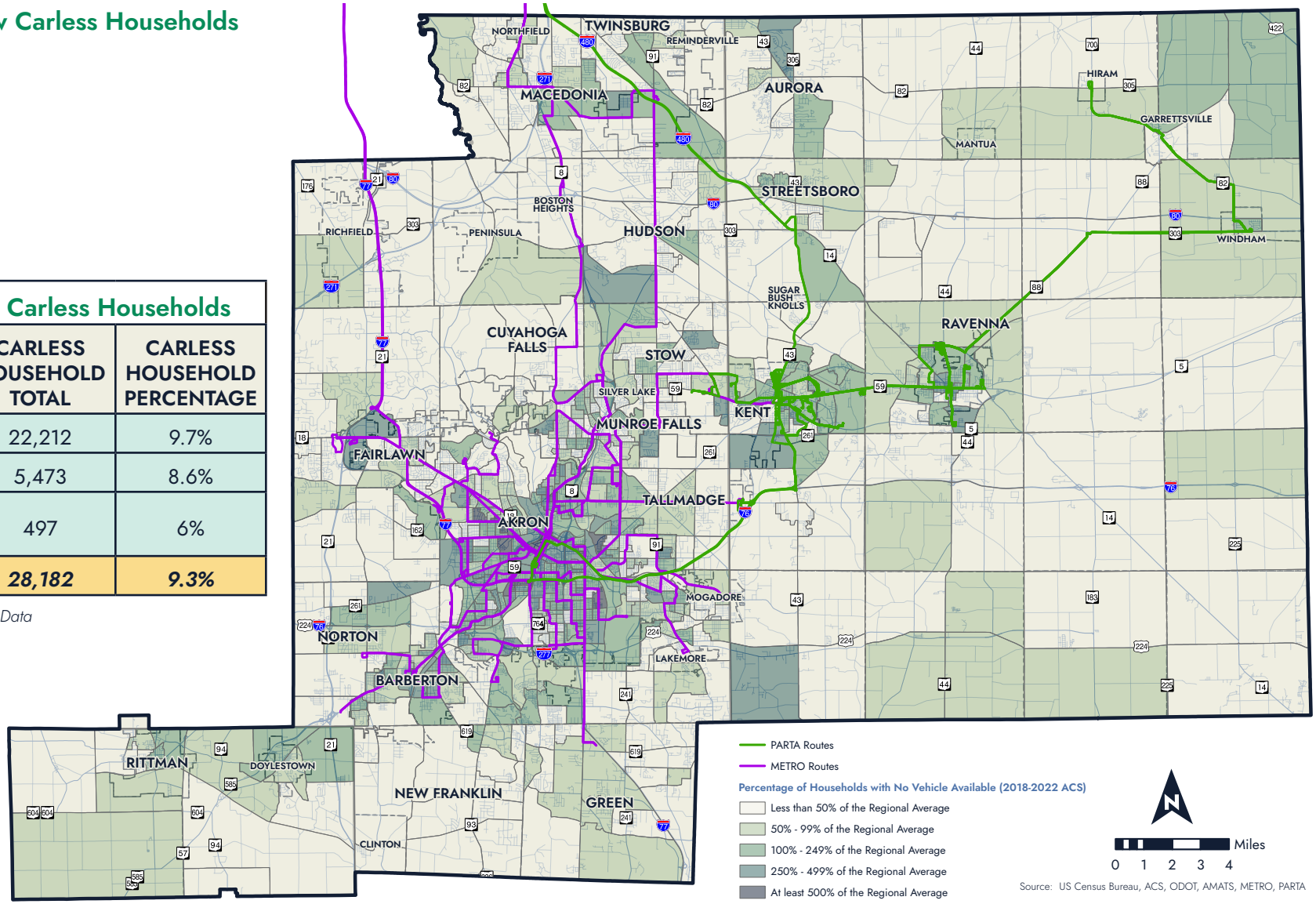


Table 2-7 | AMATS Carless Households

	CARLESS HOUSEHOLD TOTAL	CARLESS HOUSEHOLD PERCENTAGE
Summit	22,212	9.7%
Portage	5,473	8.6%
Wayne / Medina (AMATS Portion)	497	6%
Total Region	***28,182***	***9.3%***

2022 ACS 5-Year Community Survey Data

Prior to 2020, the number of households without access to a vehicle slightly resembled the amount of average weekday transit ridership of 22,603 (Avg. of 2018 and 2019). However, the number of households without access to vehicles did not see the decrease that transit ridership faced starting in April 2020, of which ridership has still not recovered to pre-pandemic levels.

2.2 | Current Transit System Overview

This section will offer an overview of the transit coverage throughout the region and then present the status of both public transit agencies separately, in terms of ridership, assets and major facilities.

The AMATS area consists of Summit and Portage Counties and a portion of Wayne County. The two major transit systems within the region are: METRO Regional Transit Authority (METRO), which operates primarily in Summit County with regional connections to Brimfield located in Portage County and an express route into downtown Cleveland, and Portage Area Regional Transit Authority (PARTA), which operates primarily in Portage County, with an express route that serves downtown Akron and Cleveland. Both transit agencies offer fixed route and demand response services.

For the AMATS-coverage portions of Wayne County, Stark Area Regional Transit Authority (SARTA) operates WCT (Wayne County Transit) in partnership with Community Action Wayne/Medina. WCT provides countywide service Monday through Saturday from 6am to midnight and is a reservation-based service. No fixed route is offered.

Ridership / Travel Patterns: "Frequency VS. Coverage"

When transit systems' operators and planners are thinking about route planning because it is not feasible to be in every place running on 10-minute schedules, the balance between frequency and coverage is an overall underlying consideration in route planning. A frequent ridership model emphasizes service along densely populated routes, linking individuals to major employment hubs and operating extended hours. While effective in serving specific routes, ridership models typically prioritize maximizing trip volume while minimizing operational costs per passenger.

A coverage model measures the proximity of residents to transit lines within a certain radius, irrespective of service frequency or hours of operation. Successful coverage models ensure widespread accessibility to transit but may incur higher operating expenses per passenger trip. Success metrics for coverage models focus on geographic reach rather than trip volume.

No transit system exclusively adheres to either ridership or coverage principles. Transit providers aim to incorporate both values, offering a high number of trips while still catering to less densely populated areas. Special efforts are directed towards reaching communities with higher concentrations of vulnerable populations and desired destinations.

Transit Coverage:

One factor to examine when evaluating the success of a system, is overall transit coverage served by fixed route services. The following table was produced using data from the American Community Survey 2022 5-year estimates.

Out of the entire AMATS region's population that have access to transit within their community, 222,647 people (35% of the population) have access to fixed-route transit within a quarter mile. It should be mentioned that the quarter mile standard is only part of the picture. A comprehensive multi-modal network includes bus shelters, park and ride lots, bike paths and sidewalks. This integrated approach makes access to transit stops seamless and traveling longer distances to stops more feasible.

The previous table shows all the communities with access to fixed-route transit within the AMATS region. Older, established cities with a higher density of development have better transit coverage. Cities such as Akron, Kent, Ravenna, Barberton, and Cuyahoga Falls offer some of the highest levels of transit access in the area. Some smaller suburban communities (Such as Windham, Tallmadge and Mogadore), also offer excellent coverage. As expected, there are low levels of transit access in rural communities.

2.2.3 | National Ridership Trends:

Figure 1 depicts monthly ridership trends for the US Public Transit revenue miles, which is a measure of ridership activity, and offers a comparison to the ridership experienced locally.
NTD National Trends and Summaries 2021

Table 2-8 | Total Population Transit Coverage by Community

(Includes Only Communities with Access to Fixed-Route Transit Service

COMMUNITY NAME	TOTAL POPULATION	POPULATION W/IN 1/4 MILE OF TRANSIT**	% TRANSIT COVERAGE*
Akron	190,273	115,664	60.8%
Barberton	25,167	11,603	46.1%
Bath Twp	9,982	1,226	12.3%
Boston Heights	1,242	335	27.0%
Boston Twp	1,449	53	3.7%
Brimfield Twp	11,302	1,412	12.5%
Charlestown Twp	1,871	5	0.3%
Copley Twp	18,310	943	5.1%
Coventry Twp	10,270	1,807	17.6%
Cuyahoga Falls	50,916	15,622	30.7%
Fairlawn	7,697	2,698	35.1%
Franklin Twp	6,280	1,297	20.7%
Freedom Twp	2,657	326	12.3%
Garrettsville	2,591	1,060	40.9%
Green	27,333	543	2.0%
Hiram	1,264	678	53.6%
Hiram Twp	2,091	102	4.9%
Hudson	23,005	3,157	13.7%
Kent	27,336	17,852	65.3%
Lakemore	2,935	514	17.5%
Macedonia	12,126	3,609	29.8%
Mogadore (Portage Co.)	1,048	478	45.6%
Mogadore (Summit Co.)	2,790	1,044	37.4%
Munroe Falls	5,034	1,270	25.2%
Nelson Twp	3,113	2	0.1%
Northfield	3,546	1,875	52.9%
Northfield Center Twp	5,599	1,351	24.1%
Norton	11,643	715	6.1%
Ravenna	11,323	7,519	66.4%
Ravenna Twp	9,012	1,568	17.4%
Richfield	3,719	714	19.2%
Richfield Twp	2,696	160	5.9%
Rootstown Twp	8,587	0	0.0%
Sagamore Hills Twp	10,842	328	3.0%
Shalersville Twp	5,269	12	0.2%
Silver Lake	2,621	8	0.3%
Springfield Twp	14,181	1,227	8.7%
Stow	34,459	9,949	28.9%
Streetsboro	17,378	2,176	12.5%
Suffield Twp	6,003	6	0.1%
Sugar Bush Knolls	348	92	26.4%
Tallmadge (Portage)	349	129	36.9%
Tallmadge (Summit)	18,062	4,666	25.8%
Twinsburg	19,291	4,756	24.7%
Twinsburg Twp	3,823	1,027	26.9%
Windham	1,777	857	48.2%
Windham Twp	1,797	209	11.7%
Total	**640,407**	**222,647**	**34.8%**

Source: American Community Survey - 2022 5-Year Estimates

** % Transit Coverage = Political Unit Area w/in 1/4-Mile of Fixed-Route Transit in SqMi / Political Unit Area in SqMi*

*** Estimated Total Population w/in 1/4-Mile of Fixed-Route Transit in SqMi = Estimated Total Population * % Transit Coverage*

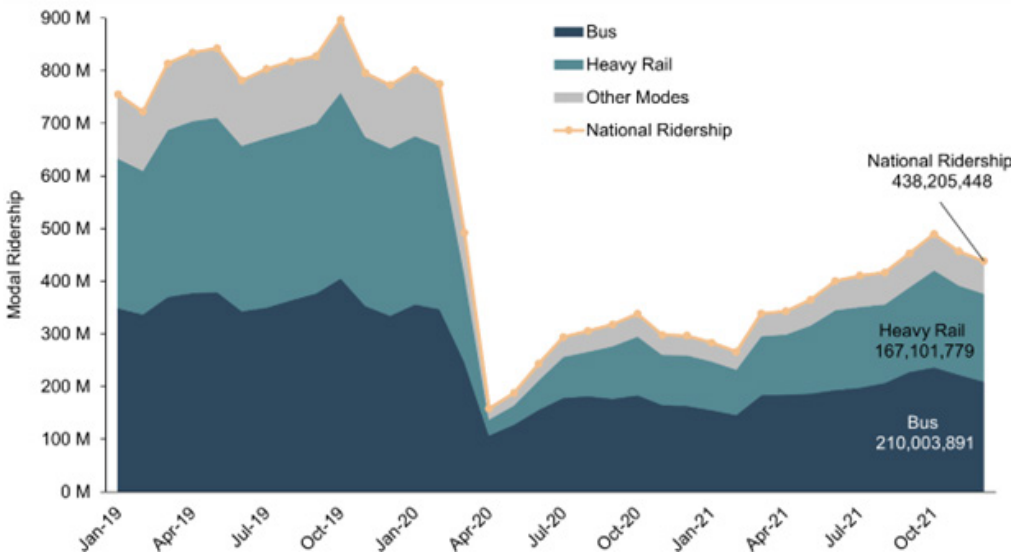


Figure 1. National Monthly Ridership for Heavy Rail vs. Bus (2020–2021)

National ridership experienced a massive decrease in ridership across all modes starting in March 2020, which mirrors the experience of local agencies. Larger transit systems have reached or exceeded pre-COVID levels, but some larger, mid-size and smaller urban transit agencies have yet to fully recover ridership levels compared to pre-COVID levels.

2.2.1 | METRO RTA

METRO RTA operates fixed route service from the Robert K. Pfaff Transit Center located just south of downtown Akron, which consists of 24 fixed routes with the following key features: 1) five high-frequency 15 minute corridors and eight 30 minute routes, 2) streamlined service with increased route directness and more consistent weekend service, and 3) additional regional connections to Brimfield and Cuyahoga County and an express route to downtown Cleveland. METRO RTA System Map (page 10)

METRO RTA's demand response services operate multiple programs including METRO ADA and Select.

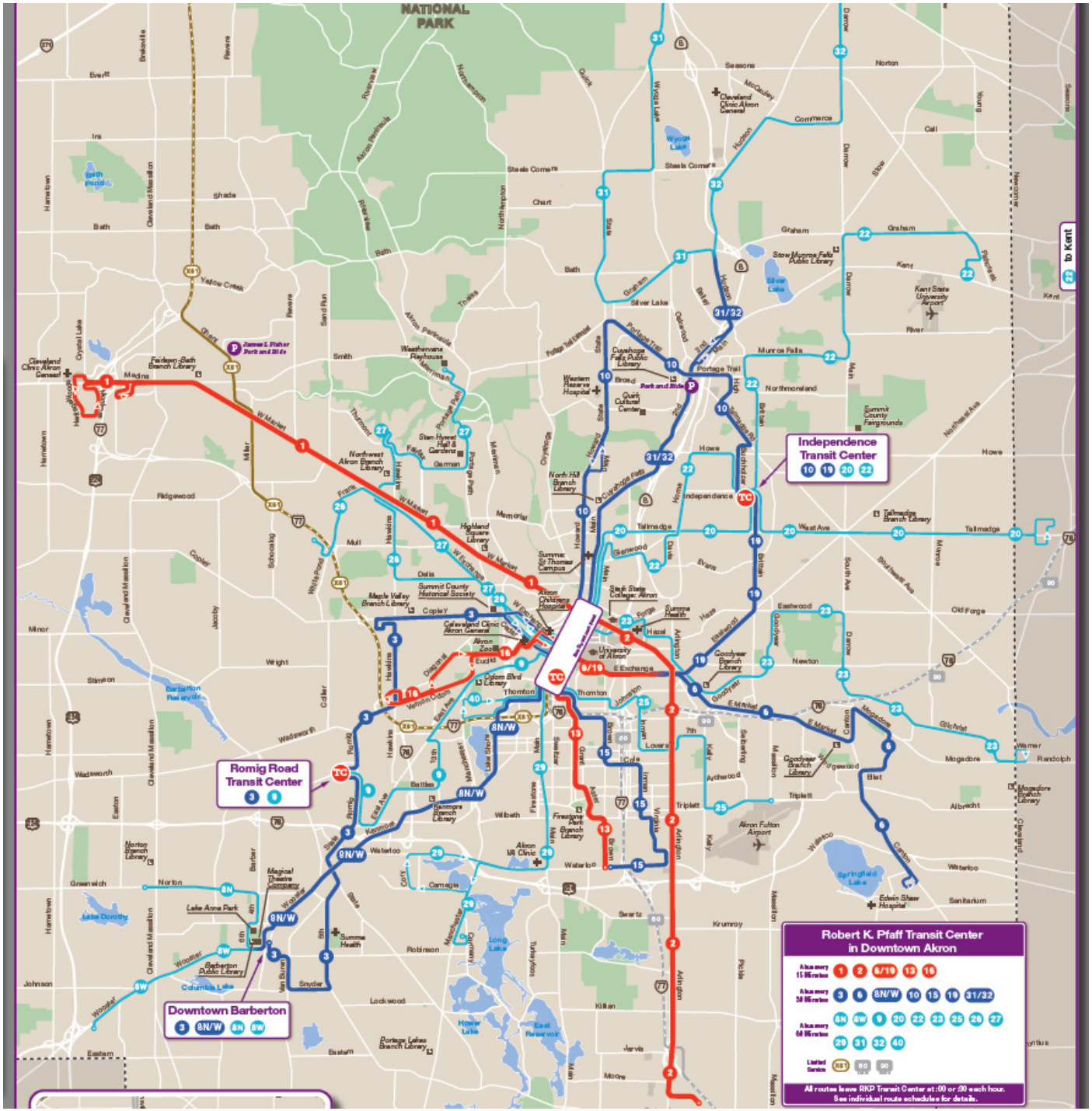
METRO ADA:

Complementary Americans with Disabilities Act (ADA) service for eligible persons with disabilities. Service is available at the same times as METRO fixed-route service, with the pick-up location and destination no further than 3/4 of a mile from a fixed route. METRO ADA Services

METRO Select:

METRO Select involves a variety of services based on qualifying factors. These services are METRO SCAT and METRO Call-A-Bus. METRO SCAT Service for seniors and persons with disabilities who live outside the ADA zone and qualify for service. Trips also include coordination and provision of transportation services for Medicaid eligible residents Non-Emergency Transportation (NET) trips to Medicaid eligible medical facilities, as

Map 2-6 | METRO RTA System Map



well as Title III trips for eligible Direction Home (Akron-Canton Area Agency on Aging & Disabilities) participants. METRO Call-A-Bus is a zone-based workforce development program for making suburban connections that are difficult for fixed route to serve adequately. Areas include Green, Macedonia, Twinsburg, the townships of Sagamore Hills, the villages of Northfield and Northfield Center, Reminderville. The following is a link for more information METRO Select Services.

METRO RTA Capital Assets:

METRO RTA has an active fleet of 222 vehicles comprised of 131 Large Fixed Route CNG and Electric buses and 91 demand response CNG/electric/gas/diesel fuel vehicles. METRO RTA's fleet is varied and includes 60-foot articulated, 40-foot CNG, electric, and 40-foot hybrid buses. Smaller vehicles including less than 30-foot gasoline and electric buses and transit vans for demand response services. All METRO RTA's fixed route buses are equipped with bike racks and all revenue vehicles are handicap accessible.

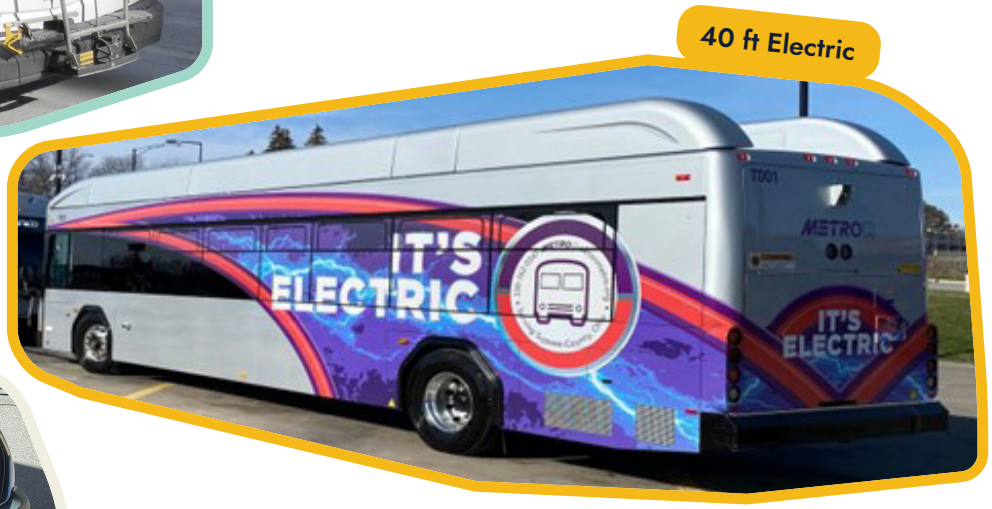
Gallery of METRO RTA Fleet

40 ft CNG

Transit Van

60 ft Articulator

40 ft Electric



<30 ft Light Transit Vehicle

Gallery of METRO RTA Facilities

Robert K. Pfaff Transit Center:
631 South Broadway, Akron. Main Transit Center for all METRO fixed Route buses and connections with PARTA, SARTA and Greyhound services.

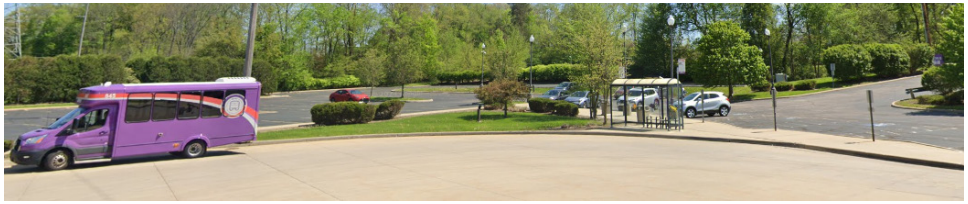
METRO RTA Maintenance and Operations Building:
416 Kenmore Boulevard, Akron. New facility being constructed on current site of administration and maintenance facility.

METRO RTA-Trillium Public CNG Station:
Kenmore Blvd, Akron: Next door to Operations and Maintenance Facility.

Romig Road Transit Center:
Located in Amazon Fulfilment Center: 2450 Romig Rd. Akron,. Currently serves Routes # 3 and #9.

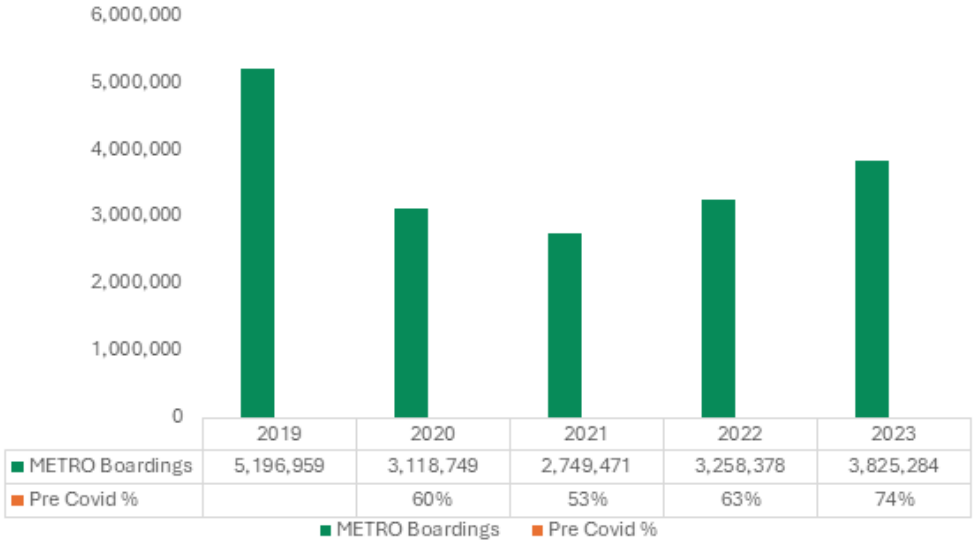
Independence Transit Center:
Located on Independence Ave. Across from the old Chapel Hill Mall. Serves Routes #10, #19, #20 and #22.

James L. Fisher Park and Ride @ Ghent Rd:
499 Ghent Road, Akron, 44333. Serves the #X61 Express to Cleveland Route.



METRO RTA & ODOT Park and Ride Lot:
State Rt. 303 and Chittenden Road. Serves the #31 and a place for car-pool Rt. 8 travel.

Chart 2-1 | METRO Boardings



METRO Fixed-Route Ridership Performance:

METRO RTA updated their fixed-route system in 2023 and reduced the number of fixed routes from 33 to 24, mainly to account for new travel patterns and to increase efficiency. The chart above shows overall yearly boardings reported by METRO RTA and depicts ridership exhibiting a significant decrease beginning in 2020 and reaching its lowest point in 2021 at 53% of pre-COVID ridership performance. Overall ridership is still showing a steady recovery and as of 2023 overall ridership was at 74% of pre-covid boardings, which mirrors similar trends of mid-size transit agencies nation-wide.

METRO RTA's top six highest ridership routes are: #1 West Market, #2 Arlington, #3 Copley Road/Hawkins, #8 Kenmore/Barberton, #10 Howard and Portage and # 6 East Market. These routes in 2019 accounted for 41% of the overall ridership totals and now, as of 2023, make up 54% of the overall ridership for METRO RTA's fixed-route system. These six routes all experienced the same reduction in performance in 2020 and dropped to their lowest point in 2021 at 66% of pre COVID level ridership. However, as of 2023 these 6 routes combined, have recovered to 97% of pre-COVID ridership levels, with the #1, #2 and #3 all out preforming 2019 levels of ridership as shown on the following pages.

Table 9-2 | METRO Ridership by Route

ROUTE	2019 RIDERSHIP	2020 RIDERSHIP	2021 RIDERSHIP	2022 RIDERSHIP	2023 RIDERSHIP	
					JAN 1 - JUN 3	JUN 4 - DEC 31
1 - West Market	516,884	363,961	377,744	415,112	530,829	
2 - Arlington	525,027	377,472	343,498	389,253	538,347	
3 - Copley Road / Hawkins	292,850	198,923	172,821	214,692	300,580	
4 - Delia / North Hawkins*	128,506	65,075	58,278	73,948	31,384	-
5 - Joy Park / Gilchrist*	102,219	61,588	56,086	66,615	30,693	-
6 - East Market / Lakemore	275,289	179,177	173,554	221,562	205,227	
7 - Cuyahoga Falls Ave*	168,104	100,320	92,393	112,930	49,939	-
8 - Kenmore / Barberton	270,102	181,463	162,753	194,173	250,958	
9 - Vernon Odom Blvd / East Ave	182,652	101,741	94,640	103,123	106,106	
10 - Howard / Portage Trail	247,043	167,066	170,863	212,415	239,221	
11 - South Akron*	34,692	20,690	17,401	20,106	11,492	-
12 - Tallmadge Hill*	188,999	97,979	73,138	89,433	37,986	-
13 - Grant / Firestone Park	197,913	117,798	104,425	135,439	171,658	
14 - Euclid / Barberton Express*	311,338	210,735	200,370	241,394	108,830	-
15 - Brown / Inman**	-	-	-	-	-	78,762
16 - Euclid / V. Odom**	-	-	-	-	-	95,022
17 - Brown / Inman*	214,962	108,255	81,304	102,422	49,714	-

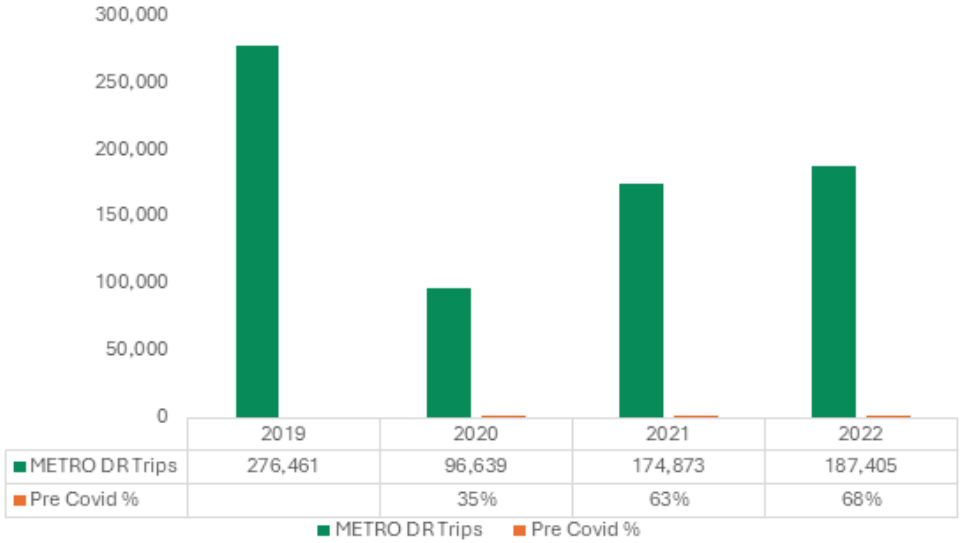
** Old Route that was eliminated during ReImagineMETRO* *** New Route that was created during ReImagineMETRO*

Table 9-2 | METRO Ridership by Route

ROUTE	2019 RIDERSHIP	2020 RIDERSHIP	2021 RIDERSHIP	2022 RIDERSHIP	2023 RIDERSHIP	
					JAN 1 - JUN 3	JUN 4 - DEC 31
18 - Thornton / Manchester*	190,800	107,915	93,069	114,435	51,825	-
19 - Eastland	188,109	112,336	99,312	110,977	137,141	
20 - Tallmadge / Brimfield	-	-	-	-	-	60,807
21 - South Main*	32,727	21,832	19,526	20,961	11,548	-
22 - Howe / Stow-Kent	-	-	-	-	-	76,000
23 - Goodyear Heights	-	-	-	-	-	60,180
24 - Lakeshore*	63,298	33,397	28,001	31,459	15,152	-
25 - Kelly / Triplett	-	-	-	-	-	36,648
26 - W Exchange / Delia	75,494	40,949	35,044	45,037	65,444	
27 - W Exchange / Merriman	-	-	-	-	-	50,238
28 - Merriman Valley*	53,653	27,952	29,869	42,189	19,465	-
29 - S Main / Manchester	-	-	-	-	-	62,374
30 - Goodyear / Darrow*	133,776	73,244	58,808	69,633	30,365	-
31 - Cuyahoga Falls / Macedonia	-	-	-	-	-	65,112
32 - Hudson / Twinsburg	-	-	-	-	-	66,113
33 - State / Wyoga Lake*	65,447	44,689	30,549	35,105	15,720	-
34 - Cascade Village / Uhler*	171,084	92,597	75,349	85,937	38,212	-
40 - Manchester / Thornton	-	-	-	-	-	25,479
50 - Montrose Circulator*	25,966	9,891	-	-	-	-
51 - Stow Circulator*	23,836	8,774	-	-	-	-
53 - Portage / Graham*	30,464	8,414	-	-	-	-
54 - Dash*	193,404	44,693	-	-	21,497	-
55 - UAkron**	-	-	-	-	-	10,471
59 - Chapel Hill Circulator*	20,613	5,657	-	-	-	-
60 - North Coast Express: Cuyahoga Falls / Twinsburg	10,859	2,298	-	-	-	-
61 - North Coast Express	62,376	23,437	15,662	19,856	22,714	
101 - Richfield / Bath*	16,067	9,925	7,559	6,654	2,840	-
102 - Northfield*	48,043	24,947	19,471	21,861	8,541	-
103 - Stow / Hudson*	45,444	25,279	20,074	19,169	6,931	-
104 - Twinsburg / Creekside*	37,907	23,754	15,133	15,815	6,805	-
105 - Green / Springfield*	31,896	17,816	17,293	21,085	9,497	-
Zone Bus	19,116	6,710	5,484	5,588	9,261	
300 - Grocery**	-	-	-	-	-	2,166
Total	**5,196,959**	**3,118,749**	**2,749,471**	**3,258,378**	**3,825,284**	

** Old Route that was eliminated during RelmagineMETRO* *** New Route that was created during RelmagineMETRO*

Chart 2-2 | METRO Demand Response Trips



METRO Demand Response:

METRO RTA's demand response program consists of 91 small Light Transit Vehicles or Transit Vans that transport people throughout Summit County seven days a week. Below is a table that depicts demand response ridership based on National Transit Database reported unlinked passenger trips by year. METRO RTA's demand response program number of trips vastly decreased in 2020 and accounted for 35% of pre COVID levels. The next two years 2021 and 2022 saw trips increase to 63% and 68% of pre COVID levels.

2.2.2 | PARTA

PARTA provides fixed routes and demand response services within Portage County. PARTA operates a fleet of 62 revenue vehicles, all of which are accessible for individuals with disabilities. PARTA administrative offices and maintenance garage are located at 2000 Summit Road in Kent, Ohio. PARTA's fixed route service operates two divisions—county and Kent State University campus routes. County service offers 10 fixed routes with the highest frequency route operating every 30 minutes. County routes operate Monday through Saturday with express service to Akron and Cleveland operating Monday through Friday. PARTA also has a contract with Kent State University to operate campus service. Campus service consists of five fixed routes with frequencies ranging between 9 and 15 minutes, Monday through Friday, and reduced service on Saturday and Sunday. PARTA offers complementary ADA paratransit service for individuals with disabilities whose pick-up location and destinations are no more than ¾ of a mile from a fixed route.

PARTA's ADA demand-response service is available at the same times as PARTA's fixed route service, with the pick-up location and destination no further than 3/4 of a mile from a fixed route. PARTA's door-to door, dial-a-ride service (DART) operates Monday through Friday, 5 a.m. – 11 p.m. and Saturday, 8 a.m. – 7 p.m. Demand response service covers all of Portage County; however, some townships are limited to certain days of the week. For those who qualify, PARTA provides Title III trips for Direction Home (Area Agency on Aging and Disabilities) participants; and free transportation to medical appointments is available through the NET program. PARTA's ADA fare is $2, reduced fare for the elderly and disabled is $3, and the public fare is $6 per one-way trip. More information and eligibility requirements can be found on PARTA's website.

PARTA Capital Assets:

PARTA's fixed-route buses comprised of 32 large buses and three small buses/light transit vehicles (LTVs). Additionally, PARTA has 23 Light Transit Vehicles (LTVs) and five vans/small transit vehicles (STVs) that provide demand response service. All PARTA large, fixed-route buses are equipped with bike racks and all revenue vehicles are handicap accessible.

PARTA deploys an overall active revenue fleet of 62 vehicles. Of the total fleet, 31 large-40 foot buses (16 CNG and 15 Diesel and three small buses/-LTVs are used for PARTA's fixed route service. Additionally, PARTA has 23 (LTVs) and 5 vans (STVs) that provide demand response service all of which are gasoline-fueled vehicles. All of PARTA's large, fixed route buses are equipped with bike racks and all revenue vehicles are handicap accessible.

40 ft Large Fixed-Route Bus

<30 ft Light Transit Vehicle

Transit Van

40 ft Trolley Bus

Gallery of PARTA's Facilities

Kent Central Gateway:
Located at the corner of E. Erie and DePeyster Streets (201 E. Erie Street), Kent.

PARTA's Kent Central Gateway, a multi-modal transportation facility in the heart of downtown Kent, offers a central point of operations for transportation in Portage County, in addition to a secondary hub at University Hospitals in Ravenna.

CNG Fueling Station:
2000 Summit Road, Kent.

Administration and Maintenance Building, Storage Facility and Wash Bay:
2000 Summit Road, Kent.

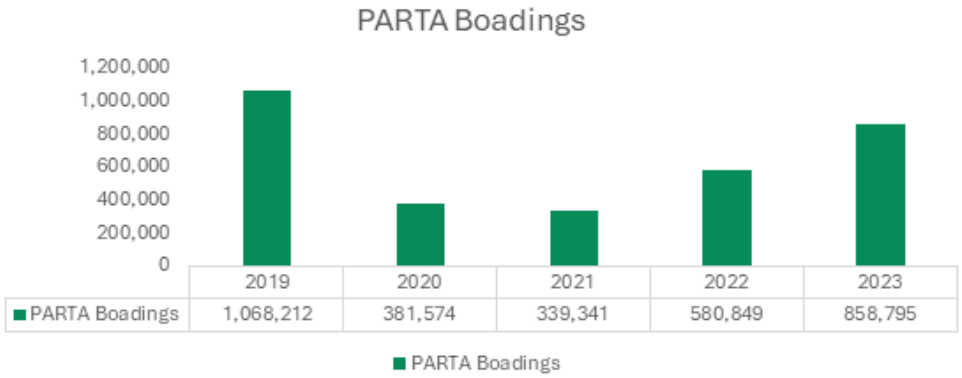
PARTA Ridership Performance:

PARTA's routes run on coordinated timing for easier transfers and reduced wait times. PARTA consistently monitors routes to identify gaps in services and make changes as necessary. In addition, PARTA offers a "Dial-A-Ride" demand-response county-wide bus service to everyone, regardless of qualification.

PARTA currently offers 15 fixed routes, consisting of eight county routes, two express routes to Akron and Cleveland and five campus routes that service Kent State University. When looking at the performance of PARTA's fixed routes one metric is to examine boardings by route. "Boardings" are the number of times a passenger boards a bus. A passenger making a round-trip would count as two boardings.

PARTA's number of boardings reached a total of 1,068,212 in 2019 with their campus routes-#58 Summit East (373,546) and #51 Campus Loop (139,641) experienced the highest number of boardings and #35 Interurban East (158,885) and #30 Interurban West (69,824) was the highest number of boardings for county fixed routes.

Chart 2-3 | PARTA Boardings



PARTA's ridership dipped to their lowest point in 2021 with 339,341 boardings, which accounted for 32% of 2019 pre-COVID ridership. Ridership showed an increase to 54% in 2022 and reached 80% of pre-COVID levels by 2023. This loss and recovery of ridership mirrored the same trend of other local agencies and national trends.

PARTA's highest four performing routes in terms of ridership (boardings) as of 2023 are routes; #58 Summit East (288,338), #51 Campus Loop (165,657), #35 Interurban East (138,096) and #30 Interurban West (68,328). These four routes make up 77% of total ridership (boardings) for PARTA. Summit East and Interurban East have recovered to 77% and 87% of pre-COVID levels. Interurban West is at 98% and Campus Loop is performing at 119% of pre-COVID levels. If these ridership numbers continue at this pace, PARTA's ridership is predicted to meet or exceed pre-COVID levels within the next year.

PARTA Demand Response:

PARTA's demand response program consists of 23 small LTV's or Transit Vans that transport people throughout Portage County six days a week. Chart 2-4 on page 19 depicts demand response ridership based on the FTA's National Transit Database reported unlinked passenger trips by year.

PARTA's number of trips decreased by 46% from 2019 to 2020 as the pandemic affected transit operations and services of the entire region and the entire country. PARTA has yet to recover demand response trip numbers to pre-pandemic levels.

Table 9-3 | PARTA Ridership by Route

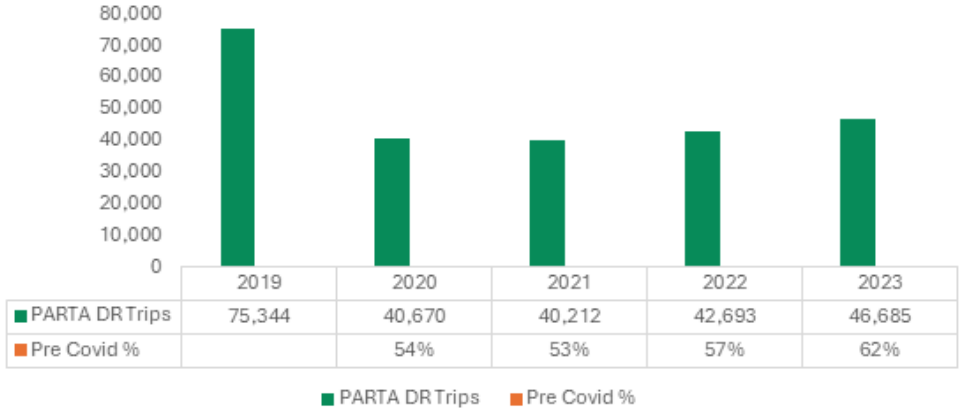
WEEKDAY ROUTE	2019 RIDERSHIP	2023 RIDERSHIP
30 - Interurban West	69,824	68,328
35 - Interurban East	158,885	138,096
40 - Suburban North	32,842	20,338
45 - Suburban South	39,639	19,260
46 - Downtowner	N/A	637
60 - Black Squirrel	12,760	N/A
70 - Windham / Garrettsville	10,255	5,095
80 - Raven West	4,273	9,613
85 - Raven East	11,577	Combined w/ 80

WEEKEND ROUTE	2019 RIDERSHIP	2023 RIDERSHIP
30 - Interurban, Sat	14,424	8,867
35 - Interurban East, Sat	Combined w/ 30	Combined w/ 30
40 - Suburban, Sat	4,687	3,087
45 - Suburban South, Sat	Combined w/ 40	Combined w/ 40
46 - Downtowner, Sat	N/A	285

EXPRESS ROUTE	2019 RIDERSHIP	2023 RIDERSHIP
90 - Akron Express	18,880	14,589
100 - Cleveland Express	5,381	2,743

KENT STATE UNIVERSITY	2019 RIDERSHIP	2023 RIDERSHIP
51 - Campus Loop	139,641	165,657
53 - Reverse Loop	62,608	Suspended
55 - Allerton	71,566	56,245
57 - Stadium Loop	11,381	33,725
58 - Summit East	373,546	288,338
59 - Night Shuttle	26,043	23,892

Chart 2-4 | PARTA Demand Response Trips



2.3 | Challenges

2.3.1 | Aging of America

The Summit County Area on Aging statistics show that the senior population will reach a peak between 2025 and 2030 perhaps going beyond that. That means more individuals will be looking for affordable demand response public transportation service to help age in place and promote more active lifestyles for the aging demographic. The recent Summit County Area on Aging 2022 Adult Needs Assessment identifies a growing need for more robust medical transportation services. The assessment states that a third of residents do not have access to affordable, reliable and consistent public transportation. Increased collaboration between the medical community and the public and private transportation providers of the region is needed to improve service for an aging population.

2.3.2 | Increased Cost of Transit Service

For all transit authorities costs of goods and services are on the rise and the need to maintain a state of good repair has become more difficult. The Federal Transit Authority (FTA) has defined and helps assist transit agencies maintain bus and rail systems in a State of Good Repair (SGR) and is one of FTA's highest priorities. The FTA recommends Transit Asset Management (TAM) practices to preserve and expand transit investments. Having well maintained, reliable transit infrastructure will help ensure safe, dependable and accessible services.

2.3.3 | Understanding and Adjusting to the Workforce Needs of the Area

Transit Authorities need to understand the recent local workforce trends in the area in order to best maximize service. However, this is not a transit-only concern. Local regional economic development strategies need to consider existing transit service when attracting new employers, especially employers with a higher transit-dependent workforce. Companies are looking to relocate to areas with cheaper rent and cost of living for their employees and another cost savings benefit is being located on an existing transit line providing employees the choice or ability to use public transit service. These decisions and conversations about land use are complex and certain opportunities may not exist for some businesses to locate along a transit line however, communication between these two interests need to align in order for overall cohesive land use planning that benefits all transportation users.

2.3.4 | Specific Investment in TOD/BRT and Need for Increased Local Funding for Operational Funding to Support These Programs

Transit-Oriented Development (TOD) refers to the planning and development of transit-oriented communities that integrate housing, businesses, and amenities around transit stations, promoting walkability and ensuring easy access to transit stations on foot through well-designed pedestrian pathways. Bus Rapid Transit (BRT) is an advanced, high-quality

transit system that delivers safe, fast, and comfortable service. Improvements typically found within BRT routes include fewer stops, traffic signal priority, off-board fare collection, and elevated platforms which create a better trip experience compared to typical bus service.

PARTA and Kent have partnered on TOD projects in the past with the Kent Central Gateway project being located downtown Kent in an area of growing mixed-use development. Also, the Reimagining the Gateway, E. Main Street project is a Kent, Kent State University, ODOT, AMATS, and PARTA collaboration to make the most heavily used PARTA transit corridor safer, walkable and more accessible for all users.

METRO RTA is exploring TOD and BRT projects for the near future METRO RTA BRT Information Page and has recently conducted a BRT feasibility study that will hope to narrow down one or multiple corridors that could support a BRT project along one of their existing fixed-routes.

TOD and BRT involves not only large amounts of federal and state grant funding but a considerable amount of local funding investment by transit authorities and local municipalities. Transit systems may be hesitant to increase their share of local sales tax which accounts for much of their local operating budgets, so collaboration and investment between local communities is essential for these large types of investments. The areas of specific investment need to be considered a joint effort between communities and the local transit authority. As local budgets become tighter, and as inflation and costs rise, investments for these types of large-scale projects can be difficult for communities and transit agencies to justify.

2.3.5 | METRO RTA/PARTA Specific Areas That Are Currently Not Served by Transit

In general, it is difficult for mid-size transit systems to be everywhere for everyone. Therefore, it becomes inevitable that some suburban and rural areas may not be served by fixed-route service. Public transportation, by nature, is designed to provide the widest, most efficient service to as many riders as possible. While METRO RTA and PARTA strive for continuous improvement in meeting the needs of all riders, it is not currently economically or logistically feasible to offer fixed-route line service throughout all neighborhoods within each of their counties.

The existing, built environment also impacts where fixed route transit service can operate. In general, areas that are pedestrian friendly tend to be more transit friendly. Transportation infrastructure built primarily for vehicle travel may lack pedestrian amenities and present barriers to individuals getting to a bus stop and safely waiting for, boarding, and alighting a transit bus. A lack of curb cuts, lighting, sidewalks, crosswalks, shared-use paths, and adequate space for buses to stop and maneuver are a few of the challenges to offering fixed route service in some areas of Portage County and in communities across the country. Areas that are not pedestrian friendly with inaccessible infrastructure present a particular difficulty and safety concern for individuals with disabilities.

Local municipalities who are currently underserved or not served need to voice their concerns to their respective transit authority about potential transit coverage. Transit authorities have the challenge of examining the cost and effectiveness of serving a particular area and must create a cost benefit analysis for each community or be willing to discuss feasibility of what that service might look like. This is the challenge that all transit authorities face as current demand for transit does not yet support that level of investment for a 24/7 expansion of service. Finally, even in areas where fixed route coverage exists, there are additional gaps created when the sidewalk infrastructure does not fully and safely connect destinations and bus stops.

2.4 | Public Outreach and Stakeholders

This plan involved discussions with the two major local transit authority METRO RTA and PARTA on the different issues facing transit as well as some of their future goals and strategies. AMATS provided its member organizations and the public with a comment period for the month of August beginning with the AMATS Technical Advisory Committee (TAC) and Citizens Involvement Committee (CIC) meetings on August 1, 2024. After the final comments were received, AMATS staff integrated any changes brought on by specific relevant comments into the plan and to asked for approval of the full final transit plan during the September TAC and Policy meetings.

METRO RTA and PARTA work with a number of local public and private organizations in order to provide the current levels of service that both respective agencies provide. Last year, AMATS along with METRO RTA and PARTA, developed a Coordinated Public Transit-Human Services Transportation Plan. METRO RTA and PARTA assisted in gathering a list of stakeholders that either work with or provide transportation for older adults, individuals with disabilities, and/or people with low incomes. A full list of participants can be found in appendix A of the Coordinated Plan. Various agencies were identified, including agencies representing:

a. Public transit
b. Senior center or other organization serving older adults

c. Local County and/or city government
d. Department of Developmental Disabilities (local/regional) office and programs
e. Department of Health and Human Services office (local/regional)
f. Department of Job and Family Services office
g. Private transportation providers

Stakeholders were invited to participate in the Planning Committee. METRO RTA and PARTA also invited some of their loyal transit riders to ensure that citizen concerns and ideas were represented within the group for the coordinated plan that was published in 2023.

3 | PERFORMANCE MEASURES

Performance and asset measures are widely used in the transit industry today, with most transit agencies reporting basic information about their service to the FTA's National Transit Database (NTD). After data reporting was required by Congress in 1974, the FTA's National Transit Database (NTD) was set up to be the repository of data about the financial, operating and asset conditions of American transit systems. The NTD records the financial, operating, and asset condition of transit systems helping to keep track of the industry and provide public information and statistics. The NTD is designed to support local, state and regional planning efforts and help governments and other decision-makers make multi-year comparisons and perform trend analyses. It contains a wealth of information such as agency funding sources, inventories of vehicles and maintenance facilities, safety event reports, measures of transit service provided and consumed, and data on transit employees.

FTA uses NTD data to apportion funding to urbanized and rural areas in the United States. Transit agencies report data on a few key metrics including Vehicle Revenue Miles (VRM), Vehicle Revenue Hours (VRH), Passenger Miles Traveled (PMT), Unlinked Passenger Trips (UPT), and Operating Expenses (OE). The NTD has an agency profile page NTD Agency Profile Page where the public can view NTD yearly reports of transit authorities to learn more about their production. Operating Expenses per vehicle per revenue mile is an example of some of the information when viewing these agency profiles.

3.1 | Transit Asset Management

Transit Asset Management (TAM) is the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles to provide safe, cost effective, and reliable public transportation. TAM uses transit asset condition to guide how to manage capital assets and prioritize funding to improve or maintain a state of good repair. Federal regulations require the Federal Transit Administration (FTA) to develop a rule to establish a strategic and systematic process of operating, maintaining and improving public transportation capital assets effectively through their entire life cycle.

FTA's national Transit Asset Management system rule defines the term "state of good repair," and requires grantees to develop a TAM plan, which establishes performance measures, annual reporting requirement. In July 2016, FTA published a final rule for TAM. The rule requires FTA grantees to develop asset management plans for their public transportation assets, including vehicles, facilities, equipment, and other infrastructure.

A state of good repair (SGR) is a threshold that identifies the desired performance condition of a capital asset, such as a bus, transfer facility, or office building. An asset is in a state of good repair when it is able to operate at a full level of performance. This means:

- The asset is able to perform its designed function.
- Does not pose a known or unacceptable safety risk (condition); and
- Its life cycle investments have been met or recovered (Useful Benchmark- ULB)

SGR performance targets are based on realistic expectations derived from the most recent available data (condition and ULB), FTA performance measure criteria, and the financial resources from all sources that the area reasonably expects to be available during the TAM plan horizon period for capital planning purposes. Each agency works with the Federal Transit Administration to set individual targets for their respective systems.

3.1.1 | Local TAM Targets

PARTA TAM Goals and Targets
In 2022 PARTA updated its Transit Asset Management (TAM) Plan and updated the Useful Life vehicle and facility assets. PARTA's goal is that all assets are in a state of good repair and all vehicles are within their useful lives. To accomplish this goal, PARTA aims to maintain their fleet with 100 percent of their vehicles in at least fair or good condition.

Current PARTA TAM Targets for Vehicles
As of 2023, 100 percent of the 27 gasoline fueled small LTV cutaway and 100 percent of the 5-van fleet met or exceeded the projected TAM targets. None of these revenue vehicles have met or exceeded the ULB.

PARTA's large bus fleet consists of 17 diesel, 10 CNG and 6 CNG fueled trolley buses. The projected target for PARTA's large bus fleet is also 100% within their ULB. However, the actual number of buses past their useful life in 2023 was 16.67%. The COVID-19 pandemic caused supply chain delays and bus manufacturing delays that resulted in a slow-down in vehicle replacements. As a result, both receiving new vehicles and disposing of old vehicles have been slower than expected. This resulted in not meeting the performance target for FY2023.

PARTA maintains the goal of 0% of its revenue vehicles past their useful life or ULB benchmark. PARTA is continuously procuring vehicles to replace buses that have reached their ULB targets and to meet the goals of PARTA's TAM plan and replacement schedule. The maintenance department follows a rigorous and complete maintenance program for all assets.

Current PARTA TAM Targets for Facilities

PARTA currently has 5 facilities including an administration building, maintenance building, wash bay facility, CNG fueling station and bus storage facility which are all located at 2000 Summit Rd. Kent, Ohio. PARTA's 6th facility, The Kent Central Gateway, which is a multimodal transfer center with parking is located at 201 E. Erie St. Kent, Ohio. All facilities are in new or good condition based on a recent facility condition assessment.

Table 3-1 | METRO SOGR Policy Targets

FTA CATEGORY	SUB-GROUP	LIMIT	MEASUREMENT
Revenue Fleet (ULB)	Overall Revenue Vehicles	< 15% over ULB	varies 4-15 years
	Bus 60'	< 10% over ULB	< 12 Years
	Bus 40'	< 15% over ULB	< 12 Years
	Bus 45' Commuter	< 5% over ULB	< 15 Years
	Bus 35'	< 15% over ULB	< 12 Years
	Paratransit	< 15% over ULB	< 5 Years
Facilities (SOGR)	Facility	< 10% under 3.0 SOGR	SOGR
	Facility Assets	< 10% under 3.0 SOGR	SOGR
Infrastructure	Track, Signals	< 10% under 1.0 SOGR	SOGR
Equipment	Heavy Equipment	< 25% over ULB	SOGR
	Non-Revenue Vehicles	< 25% over ULB	< 8 Years

METRO RTA TAM Targets

METRO RTA has set targets for SGR and determined that their overall revenue vehicles should be less than 15% over their Useful Life Benchmark (ULB), on average. METRO RTA also reviews its Bus Improvement Plan (BIP) annually to ensure the buses are within the ULB of 12 years. This helps to keep their fleet reliable and reduce maintenance costs.

Current METRO RTA TAM Targets for Vehicles

METRO currently as of 2023 is meeting all vehicle goals. Only showing 6% of their 131 large bus fleet bus fleet has met or exceed their ULB. METRO's large bus fleet consist of 127 CNG buses and four electric buses. Of the smaller LTV cutaway and vans, METRO as of 2023 has zero vehicles that are beyond their useful life benchmark.

All of METRO RTA's parking facilities meet condition rating goals. However, 16% of their administrative and maintenance facilities are rated below 3 on the condition scale, see Table 3-2.

METRO RTA's administration, maintenance, storage facilities, wash bay and CNG station are located at the Kenmore location. Only the maintenance and administration building at this location are in need of upgrades. The RKP Transit Center located in downtown Akron and the Independence and Romig Road Transit centers are in new or good condition. METRO is already in the process of improving their overall facility conditions rating by constructing a new maintenance facility at the 416 Kenmore Blvd location. More information on the project can be found on their website.

Table 3-2 | Facility Ratings Chart

RATING	OPEN DEFECTS		OVERDUE PMs	NOTES FROM DATA MIGRATION SPREADSHEETS
	FROM	TO		
5	0	10	0	5 = No unfunded or deferred maintenance activities.
4	10	20	1	4 = Some temporary deferment of PM and CM; no activity skipped completely.
3	20	30	2	3 = More frequent deferment and extended of PM and CM; some activity skipped altogehter.
2	30	50	3	2 = PM and CM activity frequenly delayed or skipped until major problems surface.
1	50		4	1 = Significant backlog of PM and CM work due to history of deferred and skiped activities.

3.2 | Transit Safety

The **Public Transportation Agency Safety Plans** (PTASP) regulation (49 CFR Part 673) requires operators of public transportation systems that receive federal funds under the FTA Urbanized Area Formula Grants (Section 5307), and rail transit agencies subject to the FTA State Safety Oversight (SSO) program, to develop an Agency Safety Plan (ASP) that includes the processes and procedures to implement a Safety Management System (SMS). SMS is a comprehensive, collaborative, and systematic approach to managing safety.

The PTASP requirement is in part to ensure that all agencies are examining and defining their safety roles, responsibilities and protocols on a more regular basis. It also requires agencies to examine new potential threats to their system and develop and adapt to industry best practices methods for safety and dangerous situations. The plan highlights different risk mitigation, safety assurance and provides an overall comprehensive Safety Management systems (SMS) framework to guide agencies approach to safety.

Some key performance indicators (KPIs) that are examined through the PTASP may not all have specific data that can be measured such as how secure a certain facility is, but a full safety risk assessment can be conducted by:

- Collecting Information;
- Assessing Severity;
- Assessing Likelihood;
- Determining the Safety Risk Index; and
- Documenting Results.

However, some KPI's yield specific data that can be analyzed and compared such as safety performance targets (SPT's) and they are examined by each transit agency and reported to the NTD on a yearly basis:

- Fatalities: Total number of fatalities reported to NTD and rate per total vehicle revenue miles (VRM)
- Injuries: Total number of injuries reported to NTD and rate per total VRM by mode.
- Safety Events: Total number of safety events reported to NTD and r ate per total VRM by mode.
- System Reliability: Mean distance between major mechanical failures by mode.

METRO RTA for example, utilizes KPIs and Safety Performance Targets (SPTs) within the organization to 1) monitor company health, 2) measure progress, 3) analyze patterns over time, 4) solve problems or tackle opportunities and 5) make adjustments to stay on track. This information is intended to answer two primary questions that aid METRO RTA in the assessment of its performance and help determine where or if changes in policy or procedure is required: Why did performance change? What actions are being taken to improve performance?

PARTA utilizes KPIs to make informed decisions and instill positive change. Safety is a core business value; employees are trained in safety principles and open communication of safety issues is promoted. Performance is tracked and results are measured for improvement.

Both METRO RTA and PARTA are dedicated to safety and continuous improvement. Each agency uses KPIs to mitigate risks and develop physical, administrative, and behavioral defense strategies.

4 | VISION, GOALS, AND STRATEGIES

4.1 | Vision

The area's two regional public transit providers—METRO and PARTA —each have visions that guide their mission and operations. While each agency's overall vision might be different because of size/scale of the agency, the populations they serve, and geography, there is significant common ground between what each agency wants to accomplish.

Taking into account these differences and similarities, the AMATS *2024 Transit Plan*'s general, overarching vision for the region is as follows:

- Provide safe and equitable transit service for the region. Improve the accessibility of life-sustaining trips with access to employment, food and medical facilities.
- Healthy smart collaboration with community partners to provide innovative service approaches to the needs of the area.
- Continue to remain financially stable and to pursue all relevant State and Federal funding opportunities.

4.2 | Goals and Strategies

The matrix on the following pages provides numerous strategies that support the AMATS 2024 Transit Plan's vision.

Goals are listed and defined in the pink-shaded sections of the matrix. Each goal falls into one or more categories:

- Collaboration Goals
- Funding Goals
- Service Goals

Strategies corresponding to each goal are listed below each goal. Strategies are what can be done to accomplish each of the broader goals. Each goal has between one and four strategies listed.

Implementation lists the agencies responsible for putting the strategies into action. Lead agencies would be those primarily responsible for the effort, while supporting agencies include those who would likely participate in the effort.

Additional Notes is a catch-all, general summary category that might describe how and why a strategy gets implemented, why it is important, and other general nuance about past work or specific areas of focus.

Transit Plan Goals and Strategies

= Collaboration Goal = Funding Goal = Service Goal

Strategy	Implementation		Additional Notes
	Lead	Support	
Goal # 1: Invest in programs supporting transit goals *Transit agencies provide a level of service that supports the needs of the area and to invest in opportunities that promote a safe, sustainable and equitable transit system.*			
Pursue available Local, State and Federal funding programs that support transit operations, projects, and streategic planning initiatives.	METRO, PARTA	AMATS	More information on specific programs can be found in the *Implementation* section of this chapter.
Goal # 2: Invest in sustainable fleet, facilities, and operations *Transit agencies make sound decisions and create a visible opportunity to lead by example.*			
Pursue and ensure a sustainable fleet and maintain a state of good repair of transit assets, preserve the investment in transit and maintain sustainability of thier service.	METRO, PARTA		Invest in updating fleet and meeting FTA Transit Asset Management Targets as well as investing in preventative maintenance practices ("fix it first" philosophy) to maintain a state of good repair for all vehicles, facilities, and equipment.
Goal # 3: Integrate transit into regional transportation projects *Creating a robust public transportation network becomes a primary consideration of many roadway improvement projects.*			
Work with local communities to discuss integration in roadway projects with a transit add on component like a bus shelter or enhanced waiting environments.	METRO, PARTA, AMATS	Community Officials, AMATS	Transit authorities and local officials can have a shared understanding of projects before plans are made, allowing them to maximize potential for transit improvements when necessary.
Goal # 4: Ensure that transit is an intergral component of land use planning efforts *Sound land-use decisions and future development can impove the public transportation network, and quality transit services can allow development to occur more responsibly.*			
Partner with economic development agencies and local officials when conversations about business attrraction and expansion occur.	Community Officials, Econ. Dev. Agencies, METRO, PARTA		It is important to locate jobs–especially when employees us transit–in areas where service exists or can be provided. Having transit agencies involved in regional employment conversations helps inform the planning process.
Communicate the benefits of increasing the transit footprint and the positive effect this can have on the region and quality of life for transit users.	METRO, PARTA	Community Officials, AMATS	Building partneships between transit agencies and community officials will help to build trust and a stronger public transit network.
Continue to explore the feasibility of and pursue Bus Rapid Transit (BRT) in the City of Akron and surrounding municipalities.	METRO	Akron , C. Falls, Barberton, Fair-lawn, Green, Springfield, AMATS	Once METRO and its partners decide on final alternatives (several potential routes have been studied in-depth), partners can negotiate how local shares of BRT development will be paid. Partners can then pursue FTA's Small Starts funding.
Explore opportunities for Transit-Oriented Development (TOD)	METRO, possibly PARTA	Private developers, Community officials, CDCs/NDCs	METRO is exploring TOD near the RKP Transit Center and possibly Akron's Middlebury Neighborhood and the Arlington Rd. corridor. Downtown Kent has seen significant TOD over the past 15 years; PARTA is evaluating possibility of new transit hubs.
Goal # 5: Optimize transit service *Transit agencies adapt to the inevitable and continuous changes occuring in communities.*			
Study current service and conduct service optimization every 5-10 years to adjust to new travel patterns. Look to optimize tranist service to improve ease of public mobilty.	METRO, PARTA	AMATS	METRO recently completed (2023) the Reimagine METRO redesign; PARTA intends to take a comprehensive look at route optimization in 2025. AMATS can assist as needed by analyzing demographic and employment data.
Examine potential coverage to peripheral locations.	METRO, PARTA		Demand for expansion into exurban communities exists, but can be difficult to justify because of total ridership and mileage.
Continue to invest in new technologies that improve the ridership expereince and efficiency of operations.	METRO, PARTA		Various technologies, such as scheduling software for service or personell, can assist transit agencies by making operations more efficient. PARTA recently invested in ITS improvements.
Goal # 6: Increase sidewalk access to bus stops and shelters *The transportation system safely accomodates all people, regardless of their mode of transport.*			
Apply for funding opportunities to create or improve infrastructure for pedestrians and bicyclists, ensuring safe access to and from transit stops.	Local Communities	AMATS, METRO, PARTA	Quality pedestrian access between home, work, medical facilities, and stores allows transit to become a viable and safe mode of transportation for more people. Projects such as Kent's SR 59 and Akron's N. Main St. help emphasize multi-use accessibility.

4.3 | Implementation

Each of this plan's goals and many of the strategies require funding to implement. Transit agencies have access to myriad federal, state, and local funding sources.

4.3.1 | Federal Grant Programs

Federal funding programs are generally used for capital expenses. Transit agencies can often utilize multiple federal funding sources for one project, administered at the state level by the Ohio Department of Transportation.

The primary source of federal funding for capital and maintenance projects is the Federal Transit Authority's (FTA) **Section 5307 Program**. These funds are typically used to purchase new buses, equipment, and for preventative maintenance and planning.

To better serve elderly persons and persons with disabilities, the transit agencies are also eligible for FTA's Section **5310 Enhanced Mobility for the Elderly and Disabled Program** funds. Also known as the Specialized Transportation Program, these funds may be used for capital or operating expenses.

FTA's **Section 5339 Bus and Bus Facilities Program** can also fund capital projects. These funds are also used for new buses or for capital facilities.

Within the Section 5339 Funding Program is a discretionary source dedicated to funding zero and low-emission buses in order to reduce air pollution. This is known as the **Low or No Emissions Grant Program**.

Funding for implementing or expanding Bus Rapid Transit (BRT) is available through FTA's **Small Starts Program**.

Federal Highway Administration (FHWA) **Surface Transportation Block Grant Program (STBG)** is the most versatile funding option that can be used for a variety of projects including highways, transit and bicycle and pedestrian facilities.

Congestion Mitigation Air Quality Program (CMAQ) can be used for projects that improve air quality, such as CNG buses, traffic signal improvements, and park and ride lots.

Carbon Reduction Program (CRP) can be used for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. Projects eligible for CRP funds include roundabouts, operational projects that improve traffic flow, clean fuel bus purchases, and bicycle and pedestrian projects.

4.3.2 | State Grant Programs

The **Ohio Transit Partnership Program (OTP2)** is a competitive grant program that was established to provide additional capital funding to Ohio's public transit operators for projects emphasizing system preservation. METRO RTA and PARTA have each received OTP2 funds almost every year since 2012. The OTP2 funds have come from ODOT-attributable federal funds (CMAQ or STBG), and now come from state general revenue funds (GRF). Although the OTP2 program now uses state general revenue funds (instead of CMAQ or STBG as it did in the past), the amount of funding is insufficient for the needs of the transit agencies. According to the Ohio Statewide Transit Needs Study from 2015, "The use of GRF (general revenue funds) in Ohio to fund public transit has been in steady decline" since 2000.

The **Diesel Emissions Reduction Grant (DERG)** Program is offered by ODOT annually in coordination with the Ohio Environmental Protection Agency (OEPA) to public and private sector diesel fleets (motor vehicle, marine, locomotive, and highway construction equipment). METRO and PARTA have each been awarded DERG funds regularly on an annual basis for a number of years.

The **Urban Transit Program (UTP)** is a statewide source of funding catered to transit service in Ohio's urbanized areas with populations of 50,000 or greater (therefore both METRO and PARTA receive funding). UTP is a flexible funding source available for a wide variety of activities that support the provision of public transportation.

4.3.3 | General Revenue Ohio State Funding

Until recently, besides the small amount of OTP2, and urban and rural funding programs the State of Ohio had no stable or dedicated funding for transit service. The overall transit agencies rely on federal funds for their capital, maintenance, and planning expenses, but these aren't always sufficient. The small amount of local funding transit agencies receive from sales tax may not cover their operations. Additionally, smaller transit agencies may not be able to use federal funds because they are unable to come up with the required local match. As the state of Ohio demonstrated in 2019 with the gas tax increase, there is a need for increased and dedicated funding at the state level. State general revenue funds for transit have been declining since their peak in 2000 and dwindled down to $6.5 million in in State Fiscal year 2018-2019 for urban and rural transit agencies.

AMATS Policy Committee discussed the state funding to support transit in 2019 and approved a motion for the AMATS staff to provide a letter of support that requested that the governor support a $70 million investment beginning with the 2020-21 budget. This amount was substantially smaller than the recommendation that came out of the Ohio Statewide Transit Needs Study in 2015. That study, produced by ODOT, recommended the state invest $120 million a year in transit, rising to $185 million in 2025, in order to cover 10% of the costs to preserve Ohio's transit system and provide the stable and reliable funding source that is so greatly needed.

The past two budget cycles (FY2022-FY2023 and FY2024-2025) show a substantially larger investment of $74,029,272 ($37,014,636 per year) for Ohio transit systems than in previous cycles. This increased investment allows transit agencies the flexibility to use state General Revenue funding as local match to federal funding. The 2023 Ohio Legislative Service Commission Report details on page 3 provide the breakdown for public transit funding.

4.3.4 | Local Funding

Local sources of funding are essential to providing the daily operations transit riders depend upon. The transit agencies' operating expenses are primarily funded through two local sources.

Dedicated sales tax revenue is by far the largest source of local revenue. For METRO RTA, this amounts to a .50% sales tax while PARTA benefits from a .25% sales tax. These sales tax funds can be used for operations as well as a match for federal funds.

Another local source of funding is the **fare box revenue**, which are the funds received from riders. This revenue makes up a small part of the operating budget, and can vary by month and by route, making it difficult to plan ahead using this source. The transit agency's operating expenses are funded mainly through these two local sources.

2024 TRANSIT PLAN

AMATS

The *2024 Transit Plan* is published by:
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AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee Members**
Technical Advisory Committee Members
Citizens Involvement Committee Members

FROM: **AMATS Staff**

RE: **Resolution 2024-17 – Approving the FY 2024 Year End Completion Report**

DATE: **September 11, 2024**

This memorandum discusses the status of activities and expenditures for transportation planning in the Akron Metropolitan Area for the state fiscal year ending June 30, 2024. The purpose of this resolution is to approve the Fiscal Year 2024 Year End Completion Report for transmittal to ODOT.

Each year AMATS prepares a Transportation Planning Work Program that is the basis for federal financial assistance for planning. ODOT requires AMATS, following the close of each fiscal year (June 30), to review the previous year's Work Program and compare the scope of work that was originally proposed to that which was completed. Completion of the Work Program is a prerequisite for certification of the planning process, and this memorandum summarizes the Fiscal Year 2024 Year End Completion Report. The planning work necessary for FY 2024 was completed, and the expenditures were within the budgeted amounts. All items were completed by the end of the fiscal year on June 30.

Upon approval, this report will be submitted to the Ohio Department of Transportation (ODOT).

Attached is a financial summary of the Fiscal Year 2024 Year End Completion Report for all work elements scheduled during FY 2024. Several significant products and activities were completed during FY 2024, including:

1. Maintained the new FY 2024-2027 Transportation Improvement Program as amended
2. Maintained the Congestion Management Process
3. Participated in the Statewide CMAQ Discretionary Funds Program
4. Monitored projects that use federal funds sub-allocated to AMATS
5. Maintained the current Regional Transportation Plan: *Transportation Outlook 2045* in accordance with the goals established in *AccessOhio 2045*, Ohio's New Statewide Transportation Plan
6. The Traffic Crashes and Safety Performance Measures (2020-2022) Technical Memorandum
7. 2023 AMATS Annual Report

8. Promoted commuter alternatives through bicycle and pedestrian advocacy in line with *Walk.Bike.Ohio*, Ohio's first statewide bicycle and pedestrian plan
9. Management of the Gohio Commute Program
10. Continued the Pavement Condition Data Collection and Analysis Program
11. Continued implementation of performance measures as part of the Plan and TIP processes consistent with the FAST Act and the BIL
12. Finished a round of Connecting Communities Planning Grants and awarded a new round of funding to the cities of New Franklin and Akron
13. Safe Streets and Roads For All (SS4A) assistance
14. Completed the Active Transportation Plan
15. Completed the Areawide Roundabout Study

Because AMATS is well within budget, funds were able to be carried over from FY 2024. These funds total approximately $841,000 (see the attached summary table) and must be expended by December 31, 2024.

Attached is Resolution Number 2024-17 approving the FY 2024 Year End Completion Report and authorizing its submission to ODOT and USDOT as evidence of completing the FY 2024 Transportation Planning Work Program and Budget. All work elements remain within budget. The Staff recommends approval.

RESOLUTION NUMBER 2024-17

OF THE METROPOLITAN TRANSPORTATION POLICY COMMITTEE OF THE AKRON METROPOLITAN AREA TRANSPORTATION STUDY

APPROVING THE FISCAL YEAR 2024 YEAR END COMPLETION REPORT

WHEREAS, the Akron Metropolitan Area Transportation Study (AMATS) is designated as the Metropolitan Planning Organization (MPO) by the Governor, acting through the Ohio Department of Transportation (ODOT) and in cooperation with locally elected officials in Summit and Portage counties and the Chippewa and Milton Township areas of Wayne County; and

WHEREAS, this Committee is responsible for directing, coordinating and administering the Transportation Planning Work Program and Budget for the AMATS area; and

WHEREAS, an AMATS Year End Completion Report that compares the scope of work proposed in the Transportation Planning Work Program and Budget to the work that was completed, must be prepared annually; and

WHEREAS, this Committee has reviewed and found acceptable the Fiscal Year 2024 Year End Completion Report containing the work scheduled in the FY 2024 Transportation Planning Work Program and Budget and a comparison with progress made on those products.

NOW THEREFORE BE IT RESOLVED:

1. That this Committee approves the FY 2024 Year End Completion Report.

2. That this Committee directs the AMATS Staff to transmit a copy of this resolution to the United States Department of Transportation and the Ohio Department of Transportation as evidence of completing the FY 2024 Transportation Planning Work Program and Budget.

_____

Larry Jenkins, P.E., P.S., 2024 Chairman
Metropolitan Transportation Policy Committee

_____

Date

YEAR END FINANCIAL PROGRESS REPORT
AKRON METROPOLITAN AREA TRANSPORTATION STUDY
July 1, 2023 - June 30, 2024

	Description	Annual Budget	Year-to-Date Expenses	% Budget Expended	Carryover to FY2025
I.	**Short Range Planning**	**$685,000**	**$525,344**	**77%**	**$159,500**
	FY2023 Carryover	185,000	184,961		0
	FY2024	500,000	340,384		159,500
II.	**Transportation Improvement Program**	**$250,000**	**$178,274**	**71%**	**$71,500**
	FY2024	250,000	178,274		71,500
III.	**Continuing Planning & Data Collection Transportation System Update**	**$432,000**	**$416,277**	**96%**	**$14,500**
	FY2023 Carryover	132,000	130,903		0
	FY2024	300,000	285,374		14,500
IV.	**Long Range Plan Activity**	**$560,000**	**$301,695**	**54%**	**$252,500**
	FY2023 Carryover	110,000	104,293		0
	FY2024	450,000	197,402		252,500
V.	**Service**	**$665,000**	**$350,924**	**53%**	**$296,000**
	FY2023 Carryover	165,000	147,150		0
	FY2024	500,000	203,775		296,000
VI.	**OhioRideshare and AQ Advocacy**	**$180,000**	**$63,201**	**35%**	**$0**
	FY2024 OhioRideshare	80,000	25,764		0
	FY2024 Air Quality	100,000	37,437		0
VII.	**Local**	**$25,000**	**$22,747**	**91%**	**$0**
	AMATS local Costs	25,000	22,747		0
VIII.	**AMATS Transportation Quarterly**	**$80,466**	**$33,248**	**41%**	**$47,000**
	FY2023 Carryover	4,000	3,972		0
	FY2024	76,466	29,276		47,000
IX.	**GRAND TOTAL AMATS BUDGET**	**$2,877,466**	**$1,891,711**	**66%**	**$841,000**

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee Members**
Technical Advisory Committee Members
Citizens Involvement Committee Members

FROM: **AMATS Staff**

RE: **Resolution 2024-18 – Approving Support for ODOT CY 2025 Safety Goals**

DATE: **September 12, 2024**

Executive Summary

The purpose of this resolution is to give support for ODOT safety performance targets for calendar year (CY) 2025.

Background on Performance Measures

Current federal legislation and guidance features an emphasis on performance measurement. This focus is consistent with AMATS goals and objectives, which promote the transparency of public data and decision-making and seeks to improve the accountability of public spending by better linking investments to outcomes.

Performance measures are central to implementing a Performance Based Planning Process (PBPP) that guides decision making. How performance is defined and measured can significantly affect the types of projects and strategies that are advanced by decision makers. Moreover, performance results inform agencies whether the types of projects and strategies they are implementing are in fact helping them achieve their goals. Performance measures aim to answer questions about whether the performance of the transportation system is getting better or worse over time. Performance measures also aim to demonstrate whether transportation investments are correlated or linked to stated goals and whether they produce desired outcomes.

Introducing a performance management approach to planning is intended to improve project and program delivery, inform investment decision making, focus staff efforts on priorities, and provide greater transparency and accountability to the public. Current federal guidelines apply performance measurement at the programmatic, rather than project level and link performance measures and targets to funding decisions by way of performance-based funding. The purpose of this approach is to move towards performance-based decision-making for project selection in the future.

The US DOT and ODOT continue to develop performance targets in consultation with MPOs like AMATS, and others. State investments must make progress toward these performance targets, and MPOs must incorporate these performance measures and targets into their Transportation

Improvement Programs (TIPs) and long-range Regional Transportation Plans. Federal guidance imposes financial penalties on states that fail to make progress toward these performance goals.

There are seven areas for which the US DOT has established national performance goals. These areas are:

- Safety
- Infrastructure Condition
- Congestion Reduction
- System Reliability
- Freight Movement and Economic Vitality
- Environmental Sustainability
- Reduced Project Delivery Delays

To implement performance measure goals, US DOT has developed measures and minimum standards for states to follow. In the transportation planning process, the public and other stakeholders articulate a strategic direction that is based on a shared vision for the future.

- **Goals and Objectives** stem from the area's vision and goals, and they address key desired outcomes. Agencies like AMATS create objectives—which are specific, measurable statements—that shape planning priorities.
- **Performance Measures** support objectives and are the basis for comparing alternative improvement strategies, investment and policy strategies, and tracking results.

Driven by data on performance, along with public involvement and policy considerations, AMATS conducts analyses that inform investment and policy priorities.

- **Identify Trends and Targets** – Trends and targets let agencies compare alternative strategies. This step relies on baseline data from past trends, tools to forecast future performance, and information on possible strategies, available funding, and other constraints.
- **Identify Strategies and Analyze Alternatives** –Scenario analysis may also be used to compare alternative strategies and funding levels, or to explore funding levels required to achieve certain performance goals.
- **Develop Investment Priorities** – To reach investment targets, AMATS will create a TIP and a Regional Transportation Plan that consider priorities and tradeoffs.

Programming involves selecting specific projects to include in the TIP. In a performance-based planning approach, agencies make programming decisions based on whether those decisions support performance targets or contribute to desired trends.

Performance based planning is founded on evidence that the process leads agencies to their goals. The following evaluation activities happen throughout implementation and when needed throughout performance-based planning.

- **Monitoring** – Gathering information on actual conditions.

- **Evaluation** – Conducting analysis to understand whether implemented strategies have been effective.
- **Reporting** – Communicating information about system performance and whether policymakers, stakeholders, and the public think plans and programs are effective.

In a performance-based planning approach, each step in the process is clearly connected to the next so that goals translate into specific measures. Those measures then become the basis for selecting and analyzing strategies for the long-range plan. Ultimately, project selection decisions are influenced by expected performance returns. Keeping the next step in the process in mind is critical to each step along the way.

Safety Target Setting and Coordination

Federal legislation requires MPOs like AMATS to establish performance targets and set targets that demonstrate fatal and serious injury reductions on all public roads. The required performance measures for safety are:

- Number of fatalities
- Fatality rate
- Number of serious injuries
- Serious injury rate
- Number of non-motorized fatalities and serious injuries

In accordance with federal legislation, ODOT used a five-year average to calculate baseline safety statistics. These baseline figures are the benchmarks to which all future calculations will be compared. All future values will also be calculated using five years of data. This five-year rolling average is used to smooth out short-term year-to-year fluctuations. A full discussion of safety planning and the identification of safety needs for the AMATS area can be found in the current traffic crash technical memorandum. This memorandum also includes analyses of bicycle and pedestrian safety data. The memorandum is updated annually.

After reviewing historical crash trends, external factors and through consultation with the state's MPOs, ODOT established a 2 percent annual reduction target across all five safety categories statewide. ODOT developed a baseline using calendar year (CY) 2019-2023 for setting the CY 2025 safety targets. The FHWA will determine whether a state DOT has met or made significant progress toward meeting its CY 2024 targets in December 2025. A state is considered to have met or made significant progress if at least four of the five targets are better than the baseline performance.

The Federal Highway Administration's latest assessment of the state's safety performance is shown below in Table 1. Although the state made progress in the area of serious injuries, fatalities have increased, as well as non-motorized fatalities and serious injuries. There is no penalty for not reaching the performance target.

Table 1

Ohio 2022 Safety Performance Target Assessment

Performance Measure	2018-2022 Target	2018-2022 Actual	2016-2020 Baseline	Met Target?	Better Than Baseline?	Met or Made Significant Progress?
Number of Fatalities	1,106.0	1,216.0	1,152.4	No	No	No
Rate of Fatalities	0.970	1.096	1.014	No	No	
Number of Serious Injuries	7,744.0	7,566.6	8,063.4	Yes	No	
Rate of Serious Injuries	6.780	6.814	7.060	No	Yes	
Number of Non-Motorized Fatalities and Serious Injuries	808.0	832.6	839.2	No	Yes	

The CY 2024 highway safety targets for Ohio were:

- 1,172 fatalities
- 7,270 serious injuries
- 1.05 fatality rate
- 6.51 serious injury rate
- 835 non-motorized fatalities and non-motorized serious injuries

Baselines used to set the CY 2024 targets were (the average of CY 2018-2022):

- 1,220.0 fatalities
- 7,529.4 serious injuries
- 1.09 fatality rate
- 6.78 serious injury rate
- 869.19 non-motorized fatalities and non-motorized serious injuries

Agencies such as AMATS are also required to establish safety performance targets. There are two options available for satisfying this requirement: commit to a quantifiable target for each measure within the metropolitan area, or approve of ODOT's statewide targets and agree to plan and program projects so that they contribute toward the accomplishment of these targets. For CY 2024 AMATS decided to support the goals set forth by ODOT for the entire state, rather than develop separate targets for our area (See AMATS Policy Resolution 2023-10, approved in September 2023).

ODOT's Calculated Targets for Calendar Year (CY) 2025

After reviewing historical crash trends, external factors, and through consultation with ODOT's partners, the Strategic Highway Safety Plan Steering Committee recommends that Ohio set a 2 percent annual reduction target across all five categories.

Although the 2% annual target will be difficult to achieve across all five categories, the Safety Steering Committee concluded that an aggressive but achievable target is better than adopting targets that accept the status quo.

ODOT has adopted the 2% annual reduction target based on the state's commitment to safety. This commitment includes the following new initiatives:

- ODOT is initiating a Safe System approach, a commitment to zero traffic deaths that addresses all aspects of safety through five elements: safe road users, safe vehicles, safe speeds, safe roads, and post-crash care.
- ODOT is investing $183 million annually through its Highway Safety Improvement Program (HSIP).
- ODOT is making major changes to the HSIP to focus limited funding on fatal and serious injury crashes and creating a new program to encourage systemic or proactive safety investments to prevent specific high-severity crash types.

Below are Ohio's CY 2025 targets. The baseline years for setting CY 2025 targets are data from CYs 2019-2023. The Federal Highway Administration will determine whether a state DOT has met or made significant progress toward meeting its CY 2025 targets in December 2026. States will be notified in March 2027.

A state is considered to have met or made significant progress towards meeting its safety performance targets when at least four of the five safety performance targets established have been met or the actual outcome is better than the baseline performance. The baseline performance is the 5-year average ending with the year prior to the establishment of the target.

CY 2025 Targets for Ohio are:

- 1,180 fatalities
- 7,482 serious injuries
- 1.08 fatality rate
- 6.51 serious injury rate
- 809 non-motorized fatalities and non-motorized serious injuries

The baselines used to set targets are (CY 2019-2023):

- 1,228.2 fatalities
- 7,790.5 serious injuries
- 1.12 fatality rate
- 6.77 serious injury rate
- 842.4 non-motorized fatalities and non-motorized serious injuries

Safety data for CY 2024 will be available in the spring (April 2025).

The staff is recommending that the Policy Committee support ODOT's statewide 2 percent annual reduction target for all five safety performance measures in CY 2025. Crash data specific to the AMATS area can be found in the *Traffic Crashes and Safety Performance Measures (2020-2022) Report,* approved in January 2024.

Staff Recommendation

Attached is Resolution 2024-18 for your review and consideration. This resolution approves support for ODOT's safety performance targets. The staff recommends approval of this resolution.

RESOLUTION NUMBER 2024-18

OF THE METROPOLITAN TRANSPORTATION POLICY COMMITTEE OF THE AKRON METROPOLITAN AREA TRANSPORTATION STUDY

APPROVING SUPPORT FOR ODOT CY 2025 SAFETY GOALS

WHEREAS, the Akron Metropolitan Area Transportation Study (AMATS) is designated as the Metropolitan Planning Organization (MPO) by the Governor, acting through the Ohio Department of Transportation (ODOT) and in cooperation with locally elected officials in Summit and Portage Counties and the Chippewa Township and Milton Township areas of Wayne County; and

WHEREAS, the current federal authorization legislation, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), directs state DOTs and MPOs to collectively use performance based transportation planning processes; and

WHEREAS, AMATS is required to establish and set targets for five safety performance measures (per Title 23 CFR part 490), those measures applicable to all public roads: as the number of fatalities, number of serious injuries, fatality rate, serious injury rate, and number of non-motorized fatalities and serious injuries; and

WHEREAS, the development of performance measures is required in order to foster transparency and accountability, and help track safety progress at regional, state, and national levels; and

WHEREAS, the Ohio Department of Transportation (ODOT) has established a statewide 2% annual reduction target across all five safety performance measures; and

WHEREAS, AMATS must establish its own performance targets for the area or support the targets set by ODOT within 180 days of ODOT's establishment of targets; and

WHEREAS, the AMATS Policy Committee has determined that it will support the established Ohio Department of Transportation's statewide performance targets; and

WHEREAS, it is the responsibility of the AMATS Policy Committee to develop and maintain the Transportation Improvement Program (TIP) in accordance with current state and federal guidelines; and

WHEREAS, it is the responsibility of the AMATS Policy Committee to develop and maintain the area's Regional Transportation Plan, *Transportation Outlook,* in accordance with current state and federal guidelines; and

WHEREAS, the AMATS Policy Committee agrees to plan and program projects so that they contribute toward the achievement of ODOT's targets for safety performance as described in the attached memorandum.

RESOLUTION NUMBER 2024-18 (Continued)

NOW THEREFORE BE IT RESOLVED:

1. That this Committee approves supporting the Ohio Department of Transportation's statewide safety efforts as discussed in the attached memorandum.

2. That this Committee approves supporting the Ohio Department of Transportation's statewide 2% annual reduction target for all five safety performance measures in CY 2025.

3. That this Committee agrees to plan and program projects so that they contribute toward the accomplishment of the Ohio Department of Transportation's targets for safety performance as discussed in the attached memorandum.

4. That this Committee agrees to include performance-based decision-making as part of the project selection and funding process in order to contribute towards the accomplishment of those ODOT performance goals and targets.

5. That this Committee authorizes the Staff to provide copies of this Resolution to the appropriate agencies as evidence of action by the Metropolitan Planning Organization.

_____

Larry Jenkins, P.E., P.S., 2024 Chairman
Metropolitan Transportation Policy Committee

_____

Date

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

M E M O R A N D U M

TO: **Policy Committee Members**
Technical Advisory Committee Members
Citizens Involvement Committee Members

FROM: **AMATS Staff**

RE: **Resolution 2024-19 – CMAQ Performance Plan Mid-Period Progress Report**

DATE: **September 12, 2024**

Executive Summary

The purpose of this resolution is to approve the area's CMAQ performance plan mid-period progress report.

Background

Federal legislation features an emphasis on performance measurement. This focus is consistent with AMATS' goals and objectives, which promote the transparency of public data and decision-making and seeks to improve the accountability of public spending by better linking investments to outcomes.

Performance measures are central to implementing a Performance-Based Planning Process (PBPP) that guides decision making. How performance is defined and measured can significantly affect the types of projects and strategies that are advanced by decision makers. Moreover, performance results inform agencies whether the types of projects and strategies they are implementing are in fact helping them achieve their goals. Performance measures aim to answer questions about whether the performance of the transportation system is getting better or worse over time. Performance measures also aim to demonstrate whether transportation investments are correlated or linked to stated goals and whether they produce desired outcomes.

Introducing a performance management approach to planning is intended to improve project and program delivery, inform investment decision making, focus staff efforts on priorities, and provide greater transparency and accountability to the public. Recent federal legislation applies performance measurement at the programmatic, rather than project level and links performance measures and targets to funding decisions by way of performance-based funding. The purpose of this approach is to move towards performance-based decision-making for project selection in the future.

With federal guidance, ODOT is continuing to implement performance planning in coordination with MPOs like AMATS, and other partners. State investments must make progress toward

these performance targets, and MPOs must incorporate these performance measures and targets into their Transportation Improvement Programs (TIPs) and long range Regional Transportation Plans. Federal guidance imposes financial penalties on states that fail to make progress toward these performance goals.

Like much planning, the performance-based planning process is cyclical. As planning cycles evolve, goals and objectives may be adjusted and performance measures and targets may be refined. Making adjustments ensures that agencies focus on the most important priorities and that those priorities remain achievable.

The AMATS CMAQ Performance Plan was initially prepared two years ago as an element of the Ohio Department of Transportation (ODOT) statewide CMAQ performance report by the AMATS staff in collaboration with ODOT, Federal Highway Administration (FHWA), and other stakeholders. Specifically, the report addresses performance measures promulgated through the PM3 regulations. PM3 is the third category of performance management, addressing system performance and reliability, using a broad range of measures that help agencies to examine the overall dependability of the transportation system, urban area congestion and contributions toward air quality improvement.

The purpose of the accompanying report (CMAQ Mid Performance Period Progress Report) is to show the progress that was made over the last two years since the adoption of the area's CMAQ Plan in 2022. In 2026, a full period progress report will be produced, along with a new baseline report. Air quality related targets and progress are monitored on an on-going basis and tracked in relation to CMAQ funded projects. A full discussion of all performance measures, including air quality related performance measures, can be found in Appendix H of the AMATS Transportation Improvement Program (TIP) FY 2024-2027.

CMAQ Traffic Congestion Performance Measures

Federal rule 23 CFR 490.707 establishes Congestion Mitigation and Air Quality (CMAQ) Traffic Congestion performance measures for large urbanized areas in Ohio. One measure focuses on monitoring the Peak Hour Excessive Delay (PHED), which is the effort to monitor the time people spend in traffic delays. Another measure focuses on decreasing single occupant vehicle trips (Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel). See the accompanying AMATS CMAQ Performance Plan Mid Period Progress Report for further discussion.

Peak Hour Excessive Delay (PHED)

In 2022, ODOT and the Ohio MPOs collectively established a single target for each applicable urbanized area for the first performance period. With the first mid-performance period progress report, due October 1, 2024, AMATS is required to assess the two-year condition/performance compared to the target/goal.

Traffic congestion is measured by the annual hours of peak hour excessive delay (PHED) per capita on the National Highway System (NHS). The threshold for excessive delay will be based

on the travel time at 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater, and will be measured in 15-minute intervals. Peak travel hours are defined as 6-10 am local time on weekday mornings; the weekday afternoon period is 3-7 pm, providing flexibility to state DOTs and MPOs. The total excessive delay metric will be weighted by vehicle volumes and occupancy. The four-year target for PHED is five hours per person annually. Subsequently, the PHED target was achieved for the two-year performance period (see Table 1 below).

Table 1
Traffic Congestion Measures: Peak Hour Excessive Delay (PHED) and Non-SOV Travel
Major Urbanized Areas
Progress

Congestion Reduction Measures and Targets					
Performance Measure	**2-Year Performance**	**2-Year Target**	**4-Year Target**	**Target Met?**	**Trend**
Annual Peak Hours of Excessive Delay (PHED) per Capita (hours)					
Akron Region	3.4	< 5.0 Hours	< 5.0 Hours	Yes	
Cincinnati Region	5.4	< 9.0 Hours	< 9.0 Hours	Yes	
Cleveland Region	4.8	< 21.0 Hours	< 21.0 Hours	Yes	
Columbus Region	4.5	< 10.0 Hours	< 10.0 Hours	Yes	
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel					
Akron Region	21.5%	> 16.0%	> 16.0%	Yes	
Cincinnati Region	24.3%	> 18.5%	> 18.5%	Yes	
Cleveland Region	24.9%	> 18.5%	> 19.0%	Yes	
Columbus Region	27.2%	> 18.5%	> 19.0%	Yes	

Mode Share (Non-SOV Travel)

In 2022, ODOT and the Ohio MPOs collectively established a single, unified two-year and four-year target for each applicable urbanized area for the first performance period. The baseline report for the first performance period was October 1, 2022 and included two and four-year targets and a description of the data collection method used. The two-year Mid Period Progress Report is due October 1, 2024.

Mode Share is a calculation of the percent of Non-SOV travel within the urbanized area. Non-SOV travel, defined by the FHWA, applies to travel occurring on modes other than driving alone in a motorized vehicle (Single Occupancy Vehicle) and includes travel that is avoided by telecommuting. It is a measure of the percentage of all surface transportation occurring in the urbanized area.

For the establishment of the percent of Non-SOV Travel Measure, ODOT and its partner agencies used the American Community Survey data's estimates of the percentage of people that travel to work by means other than driving alone (i.e. carpooling, telework, biking, walking, or taking the bus). ODOT was able to review five years of data, noting stable travel patterns for this measure. Upon analysis, ODOT and its partner agencies adopted targets based on recent travel trends and future expected performance.

AMATS is located in part of the Cleveland urbanized area (UZA). Consequently, ODOT, NOACA and AMATS coordinated the setting of targets for the Cleveland area.

Progress toward the non-SOV travel target is shown above in Table 1. For the period 2022-2023, non-SOV travel is successfully above the two-year target of 16.0 percent for the Akron area. In addition, the Cleveland urbanized area is currently meeting the PHED target and the 2 year non-SOV target. The Cleveland urbanized area is also meeting the 4 year non-SOV target of 19.0%.

Total CMAQ Emission Reduction Performance Measures

Federal rule 23 CFR 490.807 establishes Total CMAQ Emission Reduction performance measures for Ohio's US EPA designated air quality nonattainment and maintenance areas. There are three mobile source pollutants Ohio is required to set performance targets for: Volatile Organic Compounds (VOCs), Nitrous Oxide (NO_x), and Particulate Matter at 2.5 micrometers in diameter ($PM_{2.5}$). For all three measures, ODOT is required to set both two-year and four-year targets within a four-year performance period.

Emissions Reduction

ODOT, in coordination with the Ohio MPOs, established statewide two and four-year targets for total emissions reduction of on-road mobile source emissions for each performance period for all non-attainment and maintenance areas within the state boundary, for each applicable criteria pollutants and precursors. ODOT set targets prior to the deadline of May 20, 2022 and targets were reported to FHWA by October 1, 2022. MPOs, in coordination with State DOTs, must establish two and four-year targets for all nonattainment and maintenance areas within the metropolitan planning area. Targets are to be set within 180 days after state DOTs have set their targets. In both cases, the targets shall reflect the anticipated cumulative emissions reductions to be reported in the CMAQ Public Access System.

Emissions reduction is defined as the total on-road mobile source total emission reductions for each applicable criteria pollutant and precursor for a nonattainment area. For nonattainment and maintenance areas, the applicable criteria pollutants are Volatile Organic Compounds (VOCs), Nitrogen Oxides (NO_x) and Particulate Matter having a diameter of less than 2.5 micrometers ($PM_{2.5}$). This performance measure applies to projects that receive or are programmed for CMAQ funding. Data was collected from the CMAQ Public Access System, as specified in the federal rulemaking.

Table 3 below summarizes the emissions benefits of the CMAQ projects programmed in the AMATS area for FYs 2022-2025. AMATS continues to support the statewide emissions targets that were set in coordination with ODOT and the other Metropolitan Planning Organizations (MPOs). To that end, AMATS will also continue to assess its own contributions to these statewide targets. At the bottom of Table 3 is a benchmark used to evaluate the AMATS contribution to statewide emissions reduction. The CMAQ projects currently programmed in the TIP meet the benchmark for emissions reduction and contribute successfully to the statewide targets for mobile source emissions.

Table 3
AMATS Area FY 2022 - 2025 CMAQ Projects Summary Emissions Benefits

Fiscal Years	NOx Benefit (kg/day)	VOC Benefit (kg/day)	PM2.5 Benefit (kg/day)
2022-2023	11.9777	8.5831	0.9695
2024-2025	14.1348	8.4597	1.1183
Total	**26.1125**	**17.0428**	**2.0878**
AMATS Benchmark Contribution	25.00	15.00	2.00

Staff Recommendation

Attached is Resolution 2024-19 for your review and consideration. This resolution approves the AMATS area's CMAQ performance plan mid period progress report. The staff recommends approval of this resolution.

RESOLUTION NUMBER 2024-19

OF THE METROPOLITAN TRANSPORTATION POLICY COMMITTEE OF THE AKRON METROPOLITAN AREA TRANSPORTATION STUDY

CMAQ PERFORMANCE PLAN MID PERIOD PROGRESS REPORT

WHEREAS, the Akron Metropolitan Area Transportation Study (AMATS) is designated as the Metropolitan Planning Organization (MPO) by the Governor, acting through the Ohio Department of Transportation (ODOT) and in cooperation with locally elected officials in Summit and Portage Counties and the Chippewa Township and Milton Township areas of Wayne County; and

WHEREAS, the current federal authorization legislation, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), directs state DOTs and MPOs to collectively use performance based transportation planning processes; and

WHEREAS, AMATS is required to establish and set targets for five safety performance measures (per Title 23 CFR part 490), those measures applicable to all public roads: as the number of fatalities, number of serious injuries, fatality rate, serious injury rate, and number of non-motorized fatalities and serious injuries; and

WHEREAS, the development of performance measures is being required in order to foster transparency and accountability, and help track safety progress at regional, state, and national levels; and

WHEREAS, the Ohio Department of Transportation (ODOT) has established performance targets for congestion and emissions reduction according to federal guidance and timetables; and

WHEREAS, AMATS must establish its own performance targets for the area or support the targets set by ODOT within 180 days of ODOT's establishment of targets; and

WHEREAS, the AMATS Policy Committee has determined that it will support the established Ohio Department of Transportation's statewide performance targets; and

WHEREAS, AMATS has assessed its own contributions to these statewide targets; and

WHEREAS, Summit County and Portage County are part of the U.S. Census-designated eight-county Cleveland-Akron-Lorain Combined Statistical Area (CSA), and this area includes: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit counties; based on air quality readings, the United States Environmental Protection Agency (USEPA) designated this area as marginal non-attainment for the 2015 8-hour ozone standard and as a maintenance area for the 2008 8-hour ozone standard; and

WHEREAS, USEPA has designated seven of the counties in this area (including Summit and Portage) as maintenance areas for $PM_{2.5}$ (particulate matter) under the 2006 standard; and

RESOLUTION NUMBER 2024-19 (continued)

WHEREAS, the necessary coordination between the Cleveland-Akron-Lorain air quality area partners (Erie Regional Planning Commission for the Lorain County portion of the City of Vermilion; AMATS for Portage and Summit Counties; NOACA for Cuyahoga, Geauga, Lake, Lorain, and Medina Counties; and ODOT for Ashtabula County) has occurred in order to develop CMAQ program performance targets; and

WHEREAS, AMATS, NOACA and Erie County manage the transportation planning process in this non-attainment or maintenance area, and coordinate on air quality issues. Consequently, AMATS has coordinated with ODOT, NOACA and ERPC in developing the Cleveland urbanized area traffic congestion (PHED and Non-SOV) targets as described in the above memorandum; and

WHEREAS, AMATS has developed performance targets for the Congestion Mitigation and Air Quality Improvement (CMAQ) Program in coordination with ODOT and NOACA; and

WHEREAS, it is the responsibility of the AMATS Policy Committee to develop and maintain the Transportation Improvement Program (TIP) in accordance with current state and federal guidelines; and

WHEREAS, it is the responsibility of the AMATS Policy Committee to develop and maintain the area's Regional Transportation Plan, *Transportation Outlook,* in accordance with current state and federal guidelines; and

WHEREAS, the AMATS Policy Committee agrees to plan and program projects so that they contribute toward the achievement of ODOT's targets for the performance measures described in the attached memorandum.

NOW THEREFORE BE IT RESOLVED:

1. That this Committee approves the AMATS Area CMAQ Performance Plan Mid Period Progress Report described in the above memorandum.

2. That this Committee reaffirms Cleveland urbanized area 2-year and 4-year targets of less than 21.0 hours annual of peak hour excessive delay (PHED) per person.

3. That this Committee reaffirms a Cleveland urbanized area non-single occupancy vehicle (Non-SOV) travel 2-year target of greater than 18.5 percent and 4-year target of greater than 19.0 percent.

4. That this Committee supports the emissions reductions targets as part of the Cleveland-Akron-Lorain non-attainment area as described in the attached memorandum.

5. That this Committee agrees to plan and program projects so that they contribute toward the accomplishment of the Ohio Department of Transportation's targets for each performance measure as discussed in the attached memorandum.

6. That this Committee agrees to modify or amend the Transportation Improvement Program and Regional Transportation Plan, *Transportation Outlook*, to include further discussion of performance measures, including support for ODOT's performance goals and targets, as well as include performance-based decision-making as part of the project selection and funding process in order to contribute towards the accomplishment of those ODOT performance goals and targets.

7. That this Committee approves that AMATS, as part of the Cleveland-Akron-Lorain marginal non-attainment area, supports the intent of ODOT's statewide targets for air quality improvements.

8. That this Committee recognizes the mobile source emissions benchmarks used to evaluate the AMATS contribution to statewide emissions reduction.

9. That this Committee allows the AMATS staff to address any ODOT or USDOT comments following submittal and review.

10. That this Committee authorizes the Staff to provide copies of this Resolution to the appropriate agencies as evidence of action by the Metropolitan Planning Organization.

_____

Larry Jenkins, P.E., P.S., 2024 Chairman
Metropolitan Transportation Policy Committee

_____

Date

CMAQ Performance Plan

Mid Performance Period Progress Report

AMATS

September 12, 2024

Akron Metropolitan Area Transportation Study

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AMATS CMAQ Performance Plan
Mid Performance Period Progress Report

MPO Name: Akron Metropolitan Area Transportation Study

TMA and State(s): Akron, Ohio

The AMATS CMAQ Performance Plan was initially prepared two years ago as an element of the Ohio Department of Transportation (ODOT) statewide CMAQ performance report for the baseline period in accordance with the requirements of 23 CFR 490.107(c) and 23 USC 149(I) by AMATS staff in collaboration with ODOT, Federal Highway Administration (FHWA), and other stakeholders. Specifically, the report addresses performance measures promulgated through the PM3 regulation Subpart G (Measures to Assess the CMAQ Program – Traffic Congestion) and Subpart H (Measures to Assess the CMAQ Program – On-Road Mobile Source Emissions). PM3 is the third category of performance management, addressing system performance and reliability, using a broad range of measures that help agencies to examine the overall dependability of the transportation system, urban area congestion and contributions toward air quality improvement.

US DOT requires agencies to adopt travel time reliability measures to better manage and operate their transportation system. Traffic professionals have come to recognize the importance of travel time reliability because it better quantifies the benefits of traffic management and operation activities than simple averages over a twenty-four hour period.

Federal rule 23 CFR 490.707 establishes Congestion Mitigation and Air Quality (CMAQ) Traffic Congestion performance measures for large urbanized areas in Ohio. One measure focuses on monitoring the Peak Hour Excessive Delay (PHED), which is the effort to monitor the time people spend in traffic delays. Another measure focuses on decreasing single occupant vehicle trips by analyzing the Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel.

The purpose of this report (CMAQ Mid Performance Period Progress Report) is to show the progress that was made over the last two years since the adoption of the area's CMAQ Plan in 2022. In 2026, a full period progress report will be produced, along with a new baseline report. Air quality related targets and progress are monitored on an on-going basis and tracked in relation to CMAQ funded projects. These activities are performed in coordination with AMATS' air quality partners in the area, along with ODOT. A full discussion of performance measures, including air quality related performance measures, can be found in Appendix H of the AMATS Transportation Improvement Program (TIP) FY 2024-2027. Current AMATS area congestion-related targets (PM3) were approved with Policy Resolution 2022-14 (August 11, 2022).

Table 1a shows the baseline and four-year target for peak hours of excessive delay (PHED) per person, per year for the Ohio urbanized areas required to plan for air quality mobile source emissions. The data for this metric was derived from FHWA vehicle occupancy factors, HPMS traffic count data, and the RITIS Analytics Tool, which draws data from the NPMRDS. Federal rules require that urbanized areas in non-attainment or maintenance of air quality standards must set air quality related performance targets. The northern portions of the AMATS area are located in the Cleveland urbanized area. Consequently, AMATS must coordinate with the Northeast Ohio

Areawide Coordinating Agency (NOACA) to set targets for the Cleveland urbanized area. Northern portions of the AMATS area are in the Cleveland urbanized area.

Peak Hour Excessive Delay (PHED) is based on the calculation of all segments of the National Highway System. PHED is defined as the extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For this measure, the speed threshold is 20 mph or 60% of the posted speed limit, or whichever is greater. The FHWA requires that the data collected must occur during weekdays (Monday through Friday), with a required morning peak timeframe of 6:00am-10:00am, and a variable evening peak timeframe. This metric measures the number of hours of excessive traffic delay (per capita) each year.

The PHED measure formerly only applied to metropolitan areas with one million or more in population. However, as of 2022, urbanized areas of 200,000 or greater are now subject to the PHED measure. For this metric, excess delay is defined as travel time at 20 mph or 60% of the posted speed limit, whichever is greater, measured in 15-minute intervals during key travel windows.

Table 1a
Traffic Congestion Measures: Target for Peak Hour Excessive Delay (PHED)
Annual Hours per Person
Urbanized Areas / Metropolitan Planning Organizations (MPOs)

Past PHED Data by MPO Used to Develop Target Annual Peak Hour Exessive Delay (PHED)						
Urbanized Area	2018 Target	2017	2018	2019	2020	5-Year Avg
Akron (AMATS)	N/A	5.0	5.0	5.0	5.0	5.0
Canton (SCATS)	N/A	3.1	3.1	3.1	3.1	3.1
Cincinnati (OKI)	12.0 (4 yr)	10.9	11.5	8.7	5.1	9.1
Cleveland (NOACA)	10.0 (4 yr)	7.7	8.1	6.2	3.5	6.4
Columbus (MORPC)	12.0 (4 yr)	10.9	13	7.3	3.1	8.6
Dayton (MVRPC)	N/A	4.5	4.5	4.5	4.5	4.5
Toledo (TMACOG)	N/A	6.9	6.9	6.9	6.9	6.9

Mode share is a measure of the percentage by mode of all surface transportation occurring in the urbanized area. Modes of surface transportation include driving alone in a motorized vehicle (Single Occupancy Vehicle), car or van pooling, public transportation, commuter rail, walking, or bicycling, as well as travel that is avoided by telecommuting. Non-SOV travel, defined by the FHWA, applies to any travel occurring on modes other than driving alone in a motorized

vehicle. An analysis of mode share includes a calculation of the percent of Non-SOV travel within the urbanized area. This metric, which is derived from the U.S. Census Bureau's American Community Survey (ACS) data, illustrates the percentage of an urbanized area's traffic in which multiple people are in a vehicle. Higher levels of Non-SOV travel can reduce an area's traffic congestion by removing additional vehicles from the roadways, and also lowering the amount of mobile emissions.

Table 1b shows the two-year, and four-year targets for peak hours of excessive delay (PHED) and non-single occupancy vehicle travel (Non-SOV) in the Ohio air quality urbanized areas. The data for this metric was derived from the American Community Survey Economic Characteristics table. Table 1b shows the progress made toward achieving the PHED and Non-SOV targets. Note that the targets are being met over the last two years.

Table 1b
Traffic Congestion Measures: PHED and Non-Single Occupancy Vehicle (Non-SOV) Travel
Approved Targets

Congestion Reduction Measures and Targets					
Performance Measure	**2-Year Performance**	**2-Year Target**	**4-Year Target**	**Target Met?**	**Trend**
Annual Peak Hours of Excessive Delay (PHED) per Capita (hours)					
Akron Region	3.4	< 5.0 Hours	< 5.0 Hours	Yes	
Cincinnati Region	5.4	< 9.0 Hours	< 9.0 Hours	Yes	
Cleveland Region	4.8	< 21.0 Hours	< 21.0 Hours	Yes	
Columbus Region	4.5	< 10.0 Hours	< 10.0 Hours	Yes	
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel					
Akron Region	21.5%	> 16.0%	> 16.0%	Yes	
Cincinnati Region	24.3%	> 18.5%	> 18.5%	Yes	
Cleveland Region	24.9%	> 18.5%	> 19.0%	Yes	
Columbus Region	27.2%	> 18.5%	> 19.0%	Yes	

Air quality emissions reduction analyses calculate the total reduction in three mobile source (i.e. vehicle-based) pollutants: Volatile Organic Compounds (VOC), Oxides of Nitrogen (NOx), and Particulate Matter having a diameter of less than 2.5 micrometers ($PM_{2.5}$).

Table 2a shows the on-road baseline, two-year, and four-year quantitative emissions targets for Volatile Organic Compounds (VOC), Oxides of Nitrogen (NOx), and Particulate Matter having a diameter of less than 2.5 micrometers (PM2.5). The baseline data was derived from the CMAQ Public Access System and aggregated, by state and pollutant type for the years 2018-2022. The 2018-2022 baseline data listed below is for the AMATS area. The data for the two and four-year targets was estimated from CMAQ projects in the TIP for the years 2022-2026; however, AMATS

chose to support the two-year and four-year statewide targets which have been set by ODOT. Data is expressed in kilograms of pollutant per day.

Table 2a – On-Road Mobile Source Emissions (kg/day)
Environmental Sustainability Adjusted Targets

Total CMAQ Emission Reduction					
Total CMAQ Emission Reduction	**Prior 2-Year Performance (2022 - 2023)**	**Estimated Future 2-Year Performance (2024 - 2025)**	**Estimated 4-Year Performance (2022 - 2025)**	**Revised 4-Year Target (2022 - 2025)**	**Target Change**
Total Emissions Reduction - VOC (kg/day)	110.492	60.0	170.5	**> 60.0 kg/day**	0
Total Emissions Reduction - NOx (kg/day)	167.087	84.0	251.1	**> 250.0 kg/day**	0
Total Emissions Reduction - PM 2.5 (kg/day)	11.947	6.3	18.2	**> 18.2 kg/day**	↓ **11.8**

Note - VOC: Volatile Organic Compounds | NOx: Nitrogen Oxides | PM 2.5: Particulate Matter, < 2.5 micrometers

In July ODOT proposed a change to one of the Environmental Sustainability targets in Table 2a, above. The measure for assessing performance toward this goal is total emissions reduction, which is the 2-year and 4-year cumulative reported emission reductions, for all projects funded by CMAQ funds, for each criteria pollutant and applicable precursors (PM 2.5, VOC, and NOx). Projects are funded under the CMAQ program in areas designated by USEPA as nonattainment or maintenance of air quality standards.

Although the state targets for this performance period, set in 2022, were conservative when compared to the baseline of previous years' data, the state was short of its 2-year targets for reductions in NOx and PM 2.5. Although the long-term trend is declining, the annual reported emission reductions have had a high degree of variability in recent years. This variability could partly explain why the 2-year targets were not met.

Observing that past performance has been a poor indicator for estimating future emissions reduction, ODOT analyzed CMAQ funding commitments programmed for the next two years to better estimate the 4-year performance. The review found 55 applicable CMAQ projects, and 76 percent of those projects have emissions reduction estimates available. The table above, Table 2a, summarizes the results of ODOT's review.

ODOT expects that the established 4-year targets for VOC and NOx will be achieved, but the estimated 4-year performance for PM 2.5 emissions reduction, 18.2 kg/day, is well below the

established 4-year target of 30 kg/day. Because the estimates of future performance exclude almost one-quarter of the applicable CMAQ projects, ODOT believes these are prudent estimates of future emissions reduction. Therefore, ODOT proposes that the 4-year target for PM 2.5 emissions reductions for Ohio be adjusted to 18.2 kg/day.

It is important that ODOT and its MPO partners, such as AMATS, move forward in a coordinated effort on target adjustments. ODOT is asking MPOs to review the information in this letter and attachment, consider the proposed adjustment above and whether any other target adjustments are needed. The staff concurs with ODOT's proposal to adjust the PM 2.5 emissions reduction target.

Table 3a shows the original (before the adjusted PM2.5 target discussed above) on-road baseline, two-year, and four-year quantitative emissions targets for Volatile Organic Compounds (VOC), Oxides of Nitrogen (NOx), and Particulate Matter having a diameter of less than 2.5 micrometers (PM2.5). The baseline data was derived from the CMAQ Public Access System and aggregated, by state and pollutant type for the years 2018-2022. The 2018-2022 baseline data listed below is for the AMATS area. The data for the two and four-year targets was estimated from CMAQ projects in the TIP for the years 2022-2026; however, AMATS chose to support the two-year and four-year statewide targets which have been set by ODOT (AMATS Resolution 2022-14). Data is expressed in kilograms of pollutant per day.

Table 3a – On-Road Mobile Source Emissions (kg/day)

Total CMAQ Emission Reduction				
Total CMAQ Emission Reduction	**2018 Target 2-Year**	**2018 Target 4-Year**	**5-Year Avg**	**Target (2022 - 2026)**
Volatile Organic Compounds (VOC) Total Emission Reduction	69 kg/day	69 kg/day	70.823	**> 60 kg/day**
Nitrous Oxide (NOx) Total Emission Reduction	537 kg/day	537 kg/day	271.955	**> 250 kg/day**
Particulate Matter (PM 2.5) Total Emission Reduction	36 kg/day	36 kg/day	34.507	**> 30 kg/day**

To determine the progress being made toward the established targets, the reduction attributed to every CMAQ-funded transportation project in a non-attainment or maintenance area is calculated for each applicable pollutant. The total statewide reduction for each pollutant is then summed up and compared to its respective target.

Table 3b aggregates the emission reduction benefits for the CMAQ funded projects for the AMATS area for the period 2022-2023. These figures were provided by ODOT Central Office and were derived from the FHWA CMAQ Public Access System.

Table 3b
Statewide – CMAQ Funded Projects – Emissions Reduction Benefit
2022-2023

2-year Cumulative CMAQ Project Totals

	Sum of VOC (kg/day)	Sum of NOx (kg/day)	Sum of PM2.5 (kg/day)
Akron Metropolitan Area Transportation Study (AMATS)	7.727	21.398	6.150
Brooke-Hancock-Jefferson Metropolitan Planning Commission	0.000	0.000	0.128
Licking County Area Transportation Study	0.069	0.578	0.000
Mid-Ohio Regional Planning Commission	43.638	59.087	0.000
Northeast Ohio Areawide Coordinating Agency (NOACA)	45.511	68.656	3.525
Ohio-Kentucky-Indiana Regional Council of Governments (OKI)	13.547	17.368	0.000
Stark County Area Transportation Study	0.000	0.000	0.002
Totals	**110.492**	**167.087**	**9.805**

Table 3c shows the evaluation of on-road baseline, two-year, and four-year quantitative emissions estimates for Volatile Organic Compounds (VOC), Oxides of Nitrogen (NOx), and Particulate Matter having a diameter of less than 2.5 micrometers (PM2.5) for the state of Ohio cumulative CMAQ funding areas. While the state meets the target for reducing VOC during the 2022-2023 period, the state does not meet the target for reducing NOx and PM2.5. There is no penalty for not meeting the target. But the state and MPOs should make an effort to program effective CMAQ projects that work towards meeting reasonable air quality goals.

Table 3c
Statewide – CMAQ Funded Projects – Emissions Reduction Benefit
2022-2023 Evaluation

Environmental Sustainability Measures and Targets - Statewide Progress						
Performance Measure	**Baseline (2018 - 2021)**	**2-Year Performance (2022 - 2023)**	**2-Year Target (2022 - 2023)**	**4-Year Target (2022 - 2025)**	**Target Met?**	**Trend**
Total Emissions Reduction - VOC (kg/day)	620.195	110.492	> 60.0	> 60.0	Yes	↓
Total Emissions Reduction - NOx (kg/day)	1,018.13	167.087	> 250.0	> 250.0	No	↓
Total Emissions Reduction - PM 2.5 (kg/day)	246.405	11.947	> 30.0	> 30.0	No	↓

Table 4 lists all of the CMAQ projects in the TIP with quantitative emissions benefits for the years 2022-2025. Additionally, each project includes a description on how AMATS anticipates these projects will contribute to the achievement of the PHED and Non-SOV statewide targets.

Table 4 – AMATS Area FY 2022 - 2025 CMAQ Projects and Estimated Emissions Benefits

Project	Project Description	Year of Anticipated CMAQ Obligation	NOx Benefit (kg/ day	VOC Benefit (kg/ day)	$PM_{2.5}$ Benefit (kg/ day)	PHED Benefit	Non-SOV Benefit
AMATS FY 2022 Rideshare PID: 111431	Carpooling and Vanpooling, Marketing	2022	5.2669	2.8033	0.4380	Removes Multiple Vehicles from the Network	Reduces SOV Travel
AMATS FY 2022 Air Quality Advocacy PID: 111426	Demand Management Project – Public Education	2022	0.0809	0.0431	0.0067	Removes Multiple Vehicles from the Network	Encourages Alternate Modes
Massillon Rd/Corporate Woods/Boettler Rd PID: 103172	Roundabout	2022	0.2710	0.2300	0.0080	Reduces Congestion and Delay	N/A
PARTA CNG Bus Replacement PID: 111777	Replace older diesel buses with 2 CNG buses	2022	0.1740	2.1644	0.0483	Removes Multiple Vehicles from the Network	Encourages Transit Ridership
SR 91 - 13.53 Hudson PID: 106445	Turn Lane	2023	0.1301	0.1107	0.0036	Reduces Congestion and Delay	N/A
METRO RTA CNG Bus Purchase PID: 112270	Replace older diesel buses with 3 CNG buses	2023	0.3056	0.0315	0.0007	Removes Multiple Vehicles from the Network	Encourages Transit Ridership
SR 43 - Streetsboro PID: 106416	Turn Lane, TWLTL	2023	0.2373	0.2336	0.0075	Reduces Congestion and Delay	N/A
AMATS FY 2023 Rideshare PID: 111432	Carpooling/Vanpooling, Marketing, Outreach	2023	5.3931	2.8767	0.4485	Removes Multiple Vehicles from the Network	Reduces SOV Travel
AMATS FY 2023 Air Quality Advocacy PID: 111428	Public Education, Outreach	2023	0.0809	0.0431	0.0067	Removes Multiple Vehicles from the Network	Encourages Alternate Modes

Portage Trail Ext – Cuyahoga Falls PID: 108084	Turn Lane, TWLTL	2023	0.0379	0.0467	0.0015	Reduces Congestion and Delay	N/A
AMATS FY 2024 Rideshare PID: 111433	Carpooling/Vanpooling, Marketing, Outreach	2024	5.3931	2.8767	0.4485	Removes Multiple Vehicles from the Network	Reduces SOV Travel
AMATS FY 2024 Air Quality Advocacy PID: 111429	Public Education, Outreach	2024	0.0809	0.0431	0.0067	Removes Multiple Vehicles from the Network	Encourages Alternate Modes
METRO RTA CNG Bus Replacement PID: 112245	Replace older diesel with 3 CNG buses	2024	0.0502	0.0198	0.0004	Removes Multiple Vehicles from the Network	Encourages Transit Ridership
PARTA Clean Diesel Bus Replacements PID: 112244	Replace 2 older diesel with clean diesel buses	2024	1.3831	0.1406	0.0484	Removes Multiple Vehicles from the Network	Encourages Transit Ridership
Downtown Hudson Signal Improvements PID: 116924	Intelligent Transportation Systems, Signalization Upgrades	2024	0.7399	1.0140	0.0348	Reduces Congestion and Delay	N/A
Valley View Rd / Olde Eight Rd PID: 108141	Intersection Improvements – Signal Upgrade	2024	0.0063	0.0071	0.0002	Reduces Congestion and Delay	N/A
AMATS FY 2025 Rideshare PID: 118657	Carpooling/Vanpooling, Marketing, Outreach	2025	5.3931	2.8767	0.4485	Removes Multiple Vehicles from the Network	Reduces SOV Travel
AMATS FY 2025 Air Quality Advocacy PID: 118654	Public Education, Outreach	2025	0.0809	0.0431	0.0067	Removes Multiple Vehicles from the Network	Encourages Alternate Modes
N Main St Complete Streets – Akron PID: 112716	Multimodal, Integrated Development	2025	0.0016	0.0020	0.0001	Removes Multiple Vehicles from the Network	Reduces SOV Travel
SR 59 - 2.14 (E Main St) - Kent PID: 112026	Turn Lanes and Signal Coordination, Complete Streets, Roundabouts	2025	0.6562	1.0109	0.1098	Reduces Congestion and Delay	Reduces SOV Travel
Highland Rd / Valley View Rd PID: 113161	Intersection Improvements – Turn Lanes	2025	0.2334	0.2875	0.0093	Reduces Congestion and Delay	N/A

Ravenna Rd / Shepard Rd – Twinsburg PID: 113165	Intersection Improvements - Turn Lanes, Signals	2025	0.0649	0.0799	0.0030	Reduces Congestion and Delay	N/A
Darrow Rd (SR 91) Signal Improv. – Stow PID: 102745	Intelligent Transportation Systems, Signalization Upgrades	2025	0.0195	0.0222	0.0007	Reduces Congestion and Delay	N/A
Kent Rd Signal Improvements – Stow PID: 116990	Intelligent Transportation Systems, Signalization Upgrades	2025	0.0317	0.0361	0.0012	Reduces Congestion and Delay	N/A

Table 5 below summarizes the emissions benefits of the CMAQ project list shown above. AMATS continues to support the statewide emissions targets that were set in coordination with ODOT and the other Metropolitan Planning Organizations (MPOs). To that end, AMATS will continue to assess its own contributions to these statewide targets. At the bottom of Table 5 is a benchmark used to evaluate the AMATS contribution to emissions reduction. The CMAQ projects currently programmed in the TIP meet the benchmark for emissions reduction and contribute successfully to the statewide targets for mobile source emissions.

Table 5 – AMATS Area FY 2022 - 2025 CMAQ Projects Summary Emissions Benefits

Fiscal Years	NOx Benefit (kg/day)	VOC Benefit (kg/day)	PM2.5 Benefit (kg/day)
2022-2023	11.9777	8.5831	0.9695
2024-2025	14.1348	8.4597	1.1183
Total	**26.1125**	**17.0428**	**2.0878**
AMATS Benchmark Contribution	25.00	15.00	2.00

Cleveland-Akron-Lorain Air Quality Non-Attainment Area

Summit County and Portage County are part of the U.S. Census-designated eight-county Cleveland-Akron-Lorain Combined Statistical Area (CSA). This area includes: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit counties. Based on air quality readings, the United States Environmental Protection Agency (USEPA) designated this area as marginal non-attainment for the 2015 8-hour ozone standard, excluding Ashtabula County which is a maintenance area. The US EPA designated the entire eight-county area as a maintenance area for the 2008 8-hour ozone standard.

USEPA also designated seven counties and a township in this area (including Summit and Portage)

as maintenance for PM2.5 (particulate matter) under the 2006 standard. These areas include Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit Counties, and Ashtabula Township in Ashtabula County.

Three Metropolitan Planning Organizations (MPOs) serve seven of these counties. The Northeast Ohio Areawide Coordinating Agency (NOACA) serves Cuyahoga, Geauga, Lake, Lorain, and Medina counties. AMATS serves Summit and Portage counties. The Erie Regional Planning Commission (ERPC) serves the City of Vermilion in Lorain County. Ashtabula County is not part of a Metropolitan Planning Organization.

The USDOT requires air quality conformity determinations every time a new TIP or Regional Transportation Plan is completed. This conformity analysis reflects the aggregate regional mobile emissions generated by vehicles using the transportation system recommended in the TIP and Regional Transportation Plan. Conformity is demonstrated when the forecasted regional emissions are below the applicable State Implementation Plan (SIP) budgets that have been established by Ohio EPA.

AMATS, NOACA and ERPC manage the transportation planning process in this non-attainment area, and coordinate on air quality issues. Consequently, AMATS has coordinated with ODOT, NOACA and ERPC in developing the Cleveland urbanized area traffic congestion (PHED and Non-SOV) targets shown above.

FEDERAL REQUIREMENTS FOR CMAQ PROJECT FUNDING

The Congestion Mitigation and Air Quality (CMAQ) program supports two important goals of the U.S. Department of Transportation: improving air quality and relieving congestion. Reducing congestion is a key objective of federal surface transportation policy. The costs of congestion can be an obstacle to economic activity. In addition, congestion can hamper quality of life through diminished air quality, lost personal time, and other negative factors. Accordingly, the CMAQ Program includes federal funds programmatically allocated to each state for funding applicable projects.

A CMAQ project must meet three basic criteria: it must be a transportation project, it must generate an emissions reduction, and it must be in or benefit a nonattainment or maintenance area. Additionally, as with all federal-aid projects, CMAQ projects must be included in the MPO's current transportation plan and Transportation Improvement Program (TIP), or the current Statewide Transportation Improvement Program (STIP) in areas without an MPO. In nonattainment and maintenance areas, the project also must meet the conformity provisions contained in section 176(c) of the Clean Air Act (CAA) and the transportation conformity regulations. Lastly, all CMAQ-funded projects need to complete National Environmental Policy Act (42 U.S.C. 4321 et seq.) (NEPA) requirements and satisfy the basic eligibility requirements under titles 23 and 49 of the United States Code.

AMATS and ODOT each receive CMAQ funding and allocate it annually to fund applicable projects. In 2012, ODOT created of the Ohio Statewide Urban Congestion Mitigation and Air Quality CMAQ Program (OSUCC). The intent of the program is to more quickly advance eligible projects that improve air quality, reduce congestion, and eliminate delay/improve safety, in addition to utilizing statewide CMAQ funding in the year funds are allocated. OSUCC is administered as a subcommittee of the Ohio Association of Regional Councils (OARC) Executive Directors. OSUCC is charged with developing protocols for managing the program, along with project selection. The

CMAQ Program provides approximately $60 plus million annually, to Ohio's eight largest Metropolitan Planning Organizations (MPOs) with populations larger than 200,000.

OSUCC/AMATS opens the program for applications once every two years. The next project solicitation will most likely occur in spring of 2025. Projects are selected on various criteria, only one of which is estimated emissions reduction benefits. Projects are not required to have quantifiable emissions reduction benefits; a criteria-based assessment is sufficient. All projects awarded annually must be entered into the FHWA's CMAQ Public Access System (PAS). Data for the CMAQ Emissions Reduction performance measure for the region is taken from the quantified benefits included in the projects listed in the PAS that have been funded in the region. Table 4 above lists the quantified benefits included in the PAS for the AMATS area for recent years (2022 to 2025). Further information on the joint MPO/ODOT CMAQ project process can be found in the AMATS Funding Policy Guidelines.