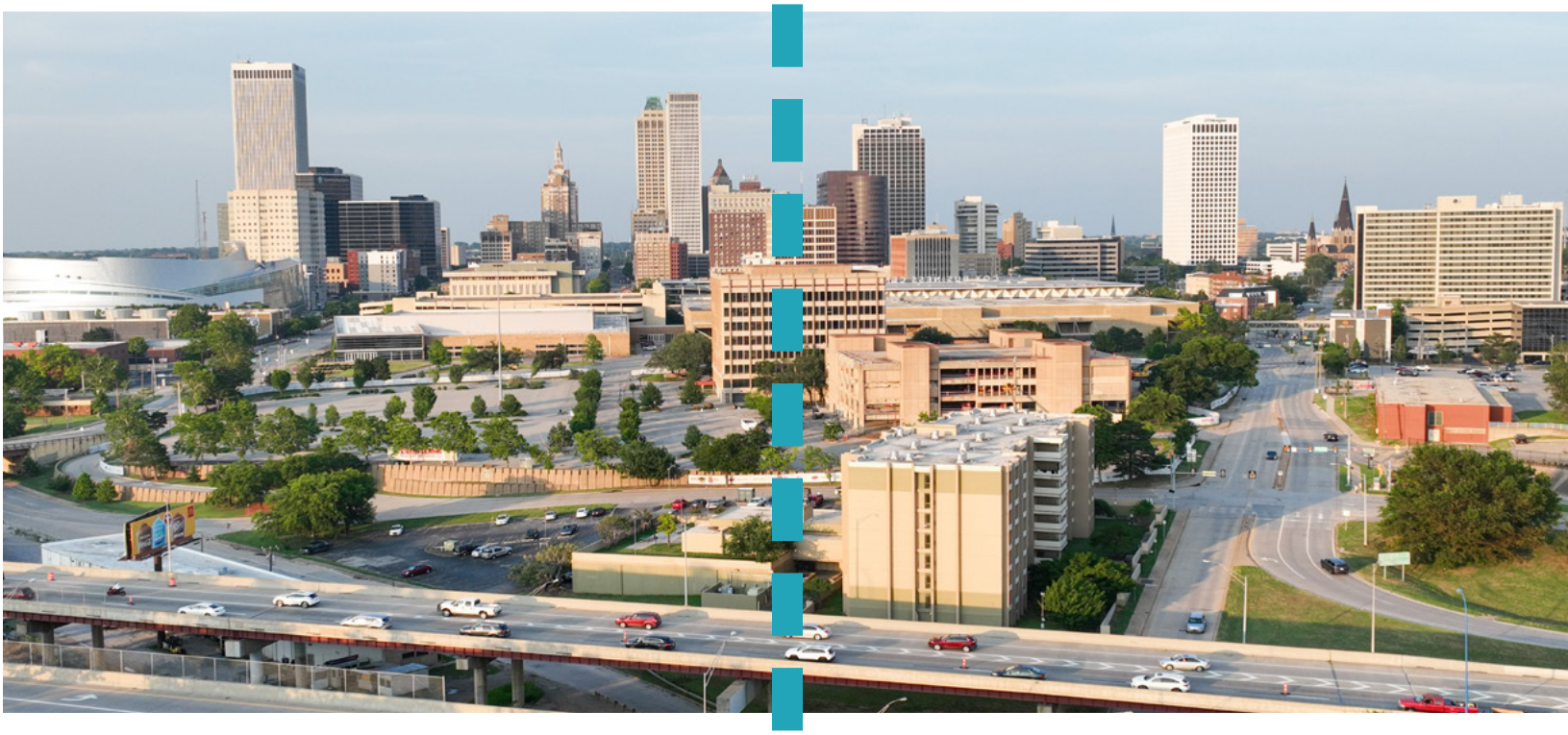


CONGESTION MANAGEMENT PROCESS PLAN

NOVEMBER 2026

FINAL REPORT

INCOG

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ACRONYMS

INCOG	Indian Nations Council of Governments
MPO	Metropolitan Planning Organization
TMA	Transportation Management Area
PBP	Performance Based Planning
V/C	Volume-to-Capacity
TTI	Travel Time Index
ITS	Intelligent Transportation Systems
CMP	Congestion Management Process
TIP	Transportation Improvement Program
MTP	Master Transportation Plan
LOS	Level of Service
SOV	Single Occupancy Vehicles
AADT	Average Anual Daily Traffic
HOV/HOT	High Occupancy Vehicle/Toll
BRT	Bus Rapid Transit
TSMO	Transportation Systems Management & Operations
ODOT	Oklahoma Department of Transportation
OTA	Oklahoma Turnpike Authority
FHWA	Federal Highway Administration
FTA	Federal Transit Administration

ACKNOWLEDGMENTS

The Congestion Management Process Plan was developed through collaboration among INCOG, regional transportation partners, local governments, transit providers, emergency responders, freight stakeholders, tribal partners, and people who travel throughout the Tulsa region.

COMMITTEE TYPES

ADVISORY COMMITTEE - (AC) - **SERVES AS THE GUIDING FORUM FOR THIS CONGESTION MANAGEMENT PROCESS PLAN**

TRANSPORTATION TECHNICAL COMMITTEE - (TTC) - **SERVES IN AN ADVISORY CAPACITY ON ALL TECHNICAL MATTERS**

TRANSPORTATION POLICY COMMITTEE - (TPC) - **SERVES AS THE FORUM FOR POLICY DEVELOPMENT AND ADOPTION**

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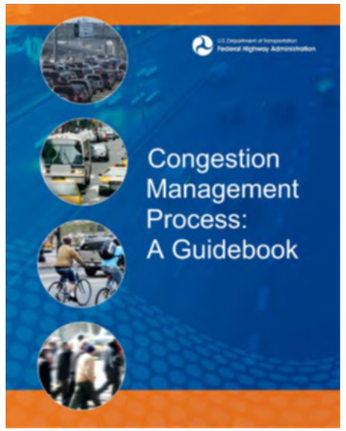
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COMMUNITY MEMBERS

INCOG thanks the residents, workers, students, business owners, and travelers across the Tulsa region who shared their experiences and perspectives throughout the planning process. Feedback recieved through the online map, quick polls, open-ended responses, and subsequent engagement activities helped shape and validate the CMP's findings and recommendations.

FEDERAL POLICY FOUNDATION

The Congestion Management System (CMS) was established by ISTEA in 1991 to help MPOs and state DOTs monitor system performance and identify strategies to improve mobility and reduce congestion.



In 2005, SAFETEA-LU renamed the CMS as the Congestion Management Process (CMP), reinforcing its role as an ongoing part of regional transportation planning. MAP-21 later strengthened the performance-based approach and required TMAs with populations of 200,000 or more, including the Tulsa region, to maintain a CMP.

As the MPO for the Tulsa region, INCOG is responsible for developing and maintaining the CMP, coordinating with regional partners, monitoring system performance, and using CMP findings to inform transportation priorities, the MTP, and TIP.

Under 23 CFR Part 450, the CMP must support safe and effective multimodal system management, emphasizing demand reduction, system management, and operational improvements before added roadway capacity. It must also include defined objectives, performance measures, and ongoing monitoring of recurring and non-recurring congestion.

The CMP must:

- Analyze congestion problems
- Identify and assess appropriate mitigation strategies
- Evaluate the effectiveness of implemented actions over time

These elements support a performance-based framework linking system conditions to strategy selection and investment decisions.

Federal regulations require CMP findings to inform the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP). In applicable **non-attainment** or maintenance areas, projects that significantly increase Single Occupant Vehicle (SOV) capacity must be addressed through the CMP, including consideration of travel demand management, operational strategies, and complementary measures where capacity expansion is warranted.

INCOG is currently in attainment with federal air quality standards. If the region enters non-attainment, the CMP would play a greater role in reducing congestion and emissions through system efficiency and travel demand strategies before adding roadway capacity.

INCOG uses the term Congestion Management Process Plan (CMPP) for the Tulsa region. The CMPP title distiguishes this document from the ongoing Congestion Management Process; CMP is used when referencing federal regulations.

TECHNICAL FOUNDATION

Technical Memoranda 1 through 4 contain the detailed data, methods, maps, performance framework, strategy toolbox, and corridor profiles supporting this report.

TECHNICAL MEMORANDUM 1

Purpose: Establish the federal and regional framework for the CMP, define the CMP Network, review existing plans and data sources, and assess baseline transportation system performance across the Tulsa region.

Key Takeaways:

- Defined the CMP Network and performance-based planning framework.
- Identified 7AM and 5PM as regional peak periods.
- Established baseline congestion, reliability, safety, and multimodal conditions.

TECHNICAL MEMORANDUM 2

Purpose: Identify priority congestion corridors and evaluate transit, freight, bicycle, pedestrian, and land use influences.

Key Takeaways:

- Defined the CMP Focus Network.
- Identified key congestion corridors and growth areas.
- Evaluated multimodal network gaps and opportunities to improve mobility.

TECHNICAL MEMORANDUM 3

Purpose: Establish congestion management objectives, performance measures, and identify the causes of congestion.

Key Takeaways:

- Established CMP goals and performance measures.
- Identified baseline system performance metrics.
- Identified common causes of congestion.
- Developed the foundation for strategy evaluation.

TECHNICAL MEMORANDUM 4

Purpose: Develop systemwide and corridor-specific congestion mitigation strategies.

Key Takeaways:

- Developed a regional congestion mitigation toolbox.
- Linked congestion causes to mitigation strategies.
- Established an implementation and evaluation framework.
- Developed specialized profiles for each of the 25 focus segments.

CHAPTER 1

Why Congestion Matters

Congestion affects more than travel time. It shapes whether people arrive when expected, whether goods move efficiently, whether transit stays on schedule, and whether emergency responders can rely on the transportation network. The INCOG transportation management area (TMA) is growing and changing. Population and employment growth, new development and redevelopment, school activity, and freight movement are reshaping travel demand across the region. These changes underscore the need for a proactive, data-driven approach to managing congestion and maintaining reliable mobility.

WHY

RELIABILITY

Unexpected delay forces travelers and businesses to build extra time into every trip.

SAFETY

Crashes create sudden congestion, and stop-and-go conditions can introduce additional conflicts.

FREIGHT

Unreliable delivery times affect ports, manufacturers, distribution centers, and local businesses.

TRANSIT

Buses operating in mixed traffic can experience the same delays as other vehicles.

HOUSEHOLDS

Longer and less predictable trips consume time and transportation resources.

STATE & LOCAL GOVERNMENT

Congestion can affect emergency response, street operations, maintenance, and investment decisions.

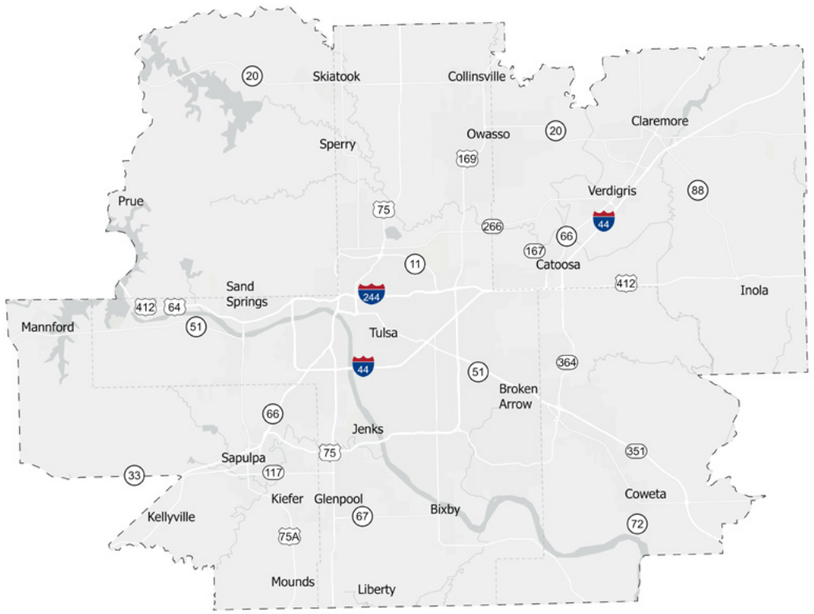


FIGURE 1.1 - INCOG TRANSPORTATION MANAGEMENT AREA

GOALS FOR CONGESTION MANAGEMENT LOCALLY AND NATIONWIDE

NATIONAL GOALS:
Provide a framework for all MPOs like INCOG.

REGIONAL GOALS:
The CMPP connects congestion management to the broader transportation goals established in Connected 2050 the MTP for the Tulsa Region. This was adopted in Deceber of 2022 and is being updated at the time of this report. The new MTP will be called Moving Forward 2050.

SHARED GOALS

SAFETY IMPROVEMENTS

Improve Safety for All Transportation Users

INFRASTRUCTURE CONDITION

Preserve and Modernize Transportation Infrastructure

CONGESTION REDUCTION

SYSTEM RELIABILITY

Reduce Congestion and Improve System Reliability

FREIGHT MOVEMENT AND ECONOMIC VITALITY

Strengthen Regional Freight and Economic Competitiveness

ENVIRONMENTAL SUSTAINABILITY

Promote Environmental Stewardship and Resilience

REDUCED PROJECT DELIVERY DELAYS

Promote Collaboration and Effective Implementation

ADDITIONAL REGIONAL GOALS

Advance Technology, Innovation, and System Operations

Expand Transportation Choice and Regional Mobility

CHAPTER 2

Understanding Congestion in the Tulsa Region

CMPP NETWORK

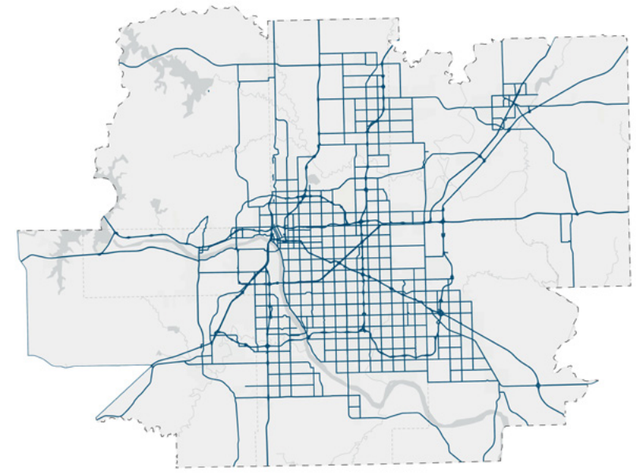


FIGURE 2.1 - CMPP NETWORK

The CMPP Network includes freeways, expressways, principal and minor arterials, and a few major collectors with known regional significance. These roads carry a large share of regional travel, connect communities and activity centers, and provide a consistent basis for monitoring congestion across the TMA. This CMPP Network was then used to develop the Focus Network which is more clearly defined in **Chapter 5**.

The CMP uses several measures because congestion is not one single condition. Some roads are slow every weekday. Others work acceptably most days but become unpredictable when demand spikes, a crash occurs, or weather and construction disrupt normal operations. The causes of congestion are further explored in **Chapter 3**.

VOLUME-TO-CAPACITY RATIO

1. Whether modeled daily traffic demand approaches or exceeds the estimated daily capacity of a roadway.

TRAVEL TIME INDEX

2. How much longer a trip takes during a peak period than under free-flow conditions.

UNRELIABLE SEGMENTS

3. Where travel times vary greatly from one day to another during the morning or afternoon peak periods?

KEY OBSERVATIONS

1. The 5 PM hour is generally more congested and less reliable than morning travel, reflecting overlapping commute, shopping, service, and cross-town trips.
2. Major destinations, freeway connections, arterial grids, and activity centers create overlapping travel demand.
3. Ramps, merging, weaving, and downstream intersections can affect both freeway and local-street travel.
4. Growth corridors and regional connections require coordination beyond a single city.
5. Many observed problems are operational rather than a simple shortage of lanes.

UNRELIABLE SEGMENTS

The map below combines morning and afternoon unreliable segments into one regional picture. These segments became the consistent screening basis for identifying corridors where delays are both meaningful and unpredictable.

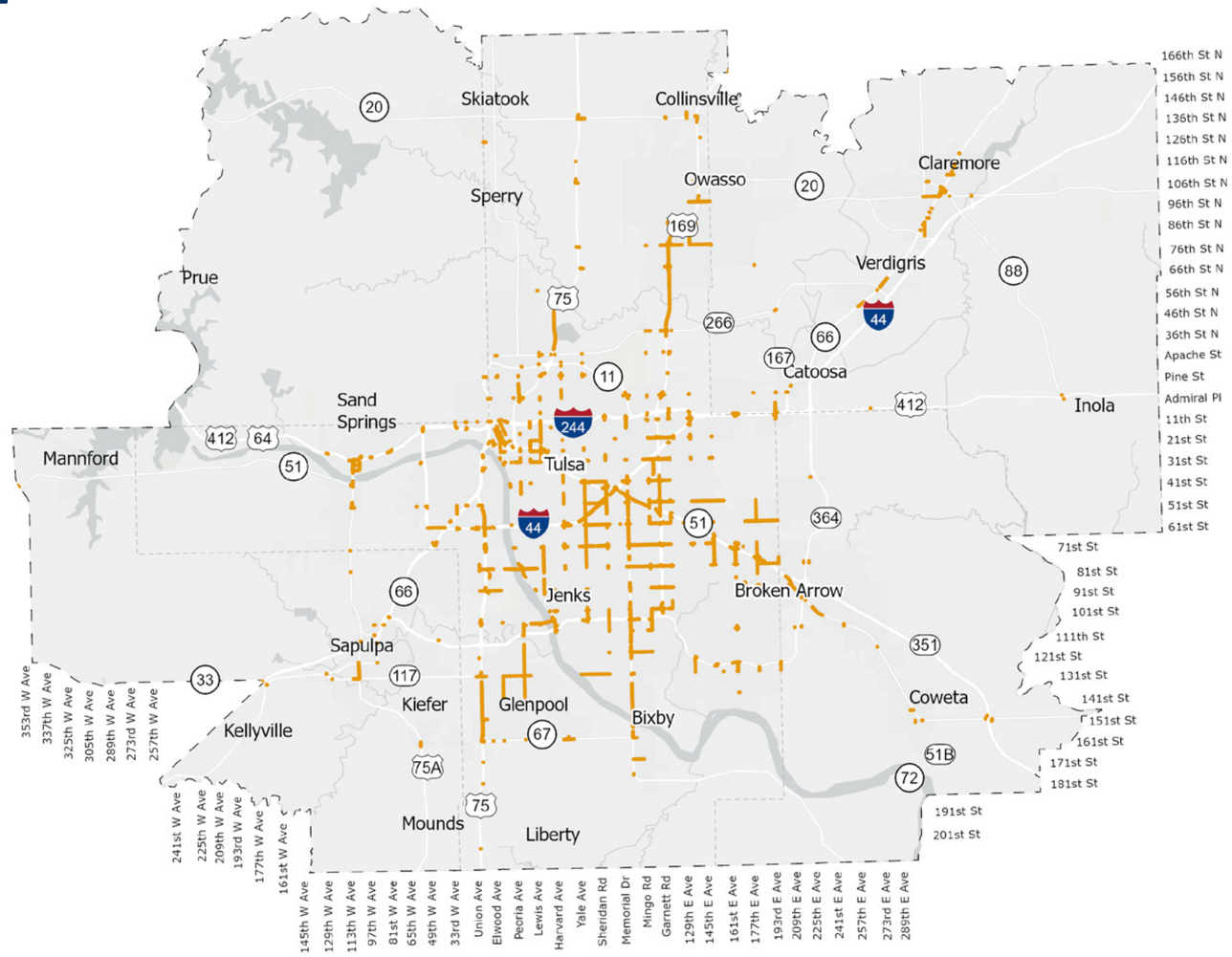


FIGURE 2.2 - UNRELIABLE SEGMENTS

***RELIABILITY MATTERS** | A trip that takes 25 minutes every day is easier to plan than a trip that takes 20 minutes one day and 40 minutes the next.*

CHAPTER 3

What Causes Congestion?

Understanding where congestion occurs is only part of the story. Equally important is understanding why it occurs. Two corridors may experience similar delays but for very different reasons. One may be affected by rapid growth and heavy traffic volumes, while another may struggle with closely spaced traffic signals, recurring crashes, school traffic, or limited transportation options. Identifying the underlying causes of congestion helps ensure the right solutions are matched to the right locations, rather than applying the same approach everywhere.

Throughout the CMP process, congestion was evaluated alongside roadway operations, safety conditions, freight activity, land use patterns, multimodal transportation networks, future growth projections, and public feedback. This analysis found that **congestion is rarely caused by a single issue.** Instead, multiple factors often work together to create delay and unreliable travel conditions.

CATEGORIES OF CONGESTION

Not all congestion is the same. Some traffic delays occur predictably every day, while others are caused by unexpected events. Understanding the difference helps identify the most effective solutions.

CAUSES OF CONGESTION

The seven causes identified on the next page provide a framework for understanding the primary drivers of congestion across the Focus Network and serve as a bridge to the toolbox of potential solutions presented in Chapter 6.

Diagnose First

A congested roadway does not automatically need more lanes. The most effective response begins by identifying the cause, considering several strategy categories, and testing how the options work together.



RECURRING CONGESTION

Regularly, predictably throughout the day, related to volume/capacity/signals/access/demand



HWY 412 NEAR VERDIGRIS RIVER - ROGERS COUNTY, OK

NON-RECURRING CONGESTION

Unexpected disruptions, any time, related to crashes/incidents/weather/work zones/special events



Ramp Backups

Queues extend beyond the available ramp space and affect the freeway or nearby streets.

WESTERN LEG OF THE IDL, DOWNTOWN TULSA - TULSA, OK



Volume Exceeds Capacity

The number of vehicles approaches or exceeds what the roadway can accommodate.

OLYMPIA AVENUE - TULSA, OK



Intersection / Signal Density

Frequent intersections, irregular-spaced intersections, private driveways, stops, and turning movements interrupt traffic flow.

MEMORIAL DRIVE SOUTH - BIXBY, OK



Traffic Incidents / Crashes

Unexpected events reduce capacity and make travel times less predictable.



Signal Timing / Coordination

Signals do not provide efficient progression, causing repeated stops and unnecessary delay.

HWY 169 NEAR MINGO MARKETPLACE - TULSA, OK



Interchange Spacing

Drivers merge, exit, and weave across lanes within a short distance.

EAST SIDE OF DOWNTOWN TULSA- TULSA, OK



Limited Multimodal Options

Travelers have few practical alternatives to driving for some trips.

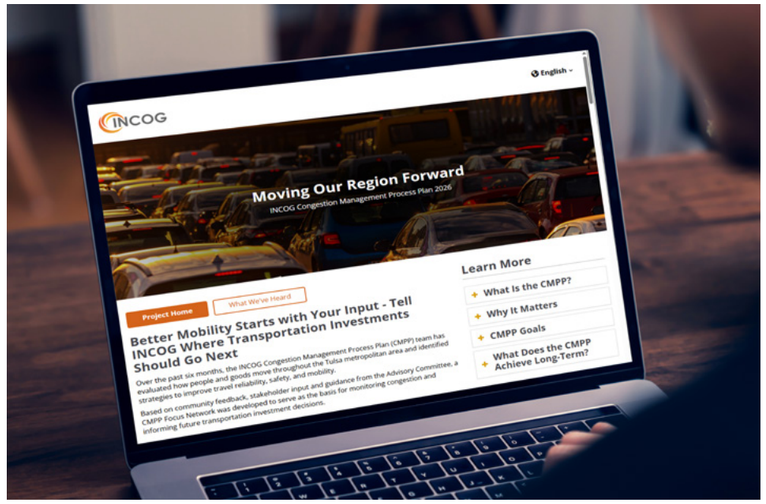
AERO BRT STOP ON PEORIA AVENUE - TULSA, OK

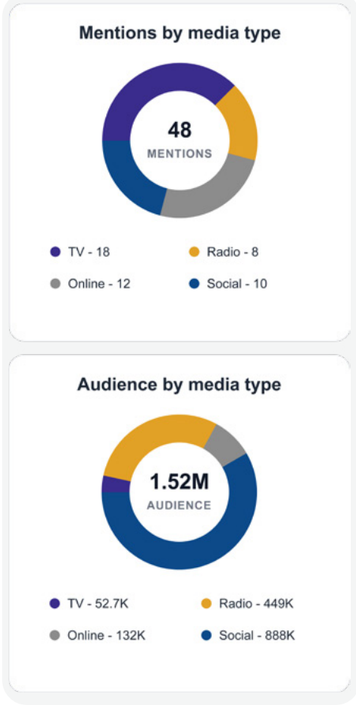
CHAPTER 4

What We Heard

PROJECT WEBSITE

Thank you to the residents, businesses, and stakeholders who participated in the CMP process. Your input played an important role in helping identify transportation challenges, validate analysis findings, and shape a shared vision for improving mobility across the region.



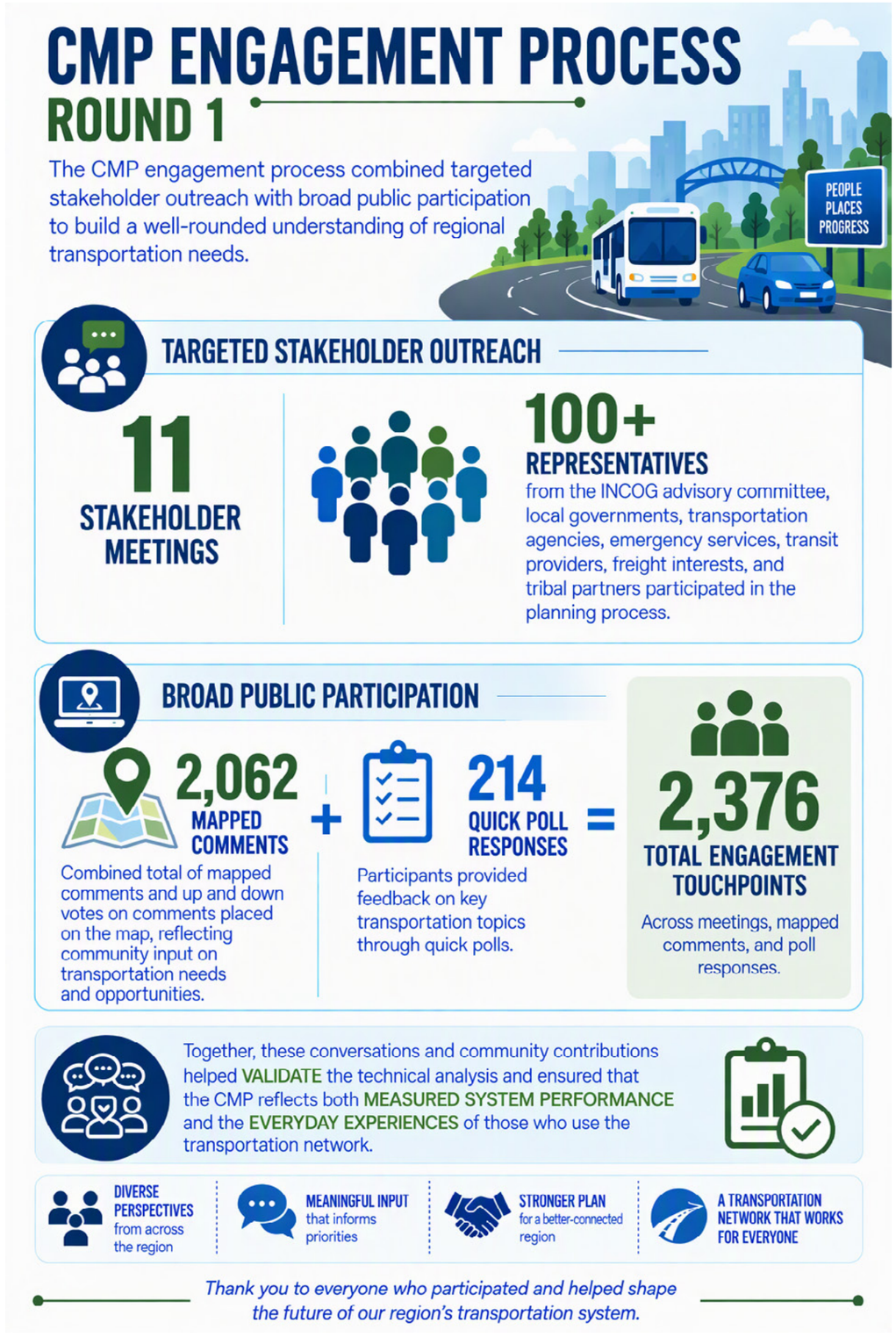


ROUND 1 ENGAGEMENT

Public input adds context that cannot be captured by regional datasets alone. The first round of engagement asked travelers where they experience congestion, when it occurs, and what types of problems affect their trips.

WHAT PARTICIPANTS EMPHASIZED

1. Daily and recurring congestion on major corridors
2. Crashes, incidents, and other unpredictable disruptions
3. Afternoon and evening travel challenges
4. Roadway maintenance, safety, and selected capacity needs
5. The importance of preserving the existing transportation system



STAKEHOLDER THEMES

Interviews and working discussions with local governments, transportation agencies, emergency responders, transit providers, freight interests, and state agencies and tribal nations added operational knowledge and information about planned improvements.

Table 4.1- Stakeholder Themes

Theme	What Stakeholders Described
Daily congestion	Recurring challenges on US-169, US-75, Memorial Drive, the Broken Arrow Expressway, SH-67, and other major corridors.
Safety and incidents	Crashes and incident clearance can create substantial non-recurring delay.
Signal timing	Corridor coordination and modern signal systems are recurring needs.
Freight mobility	Truck access, rail activity, port connections, and first/last-mile reliability are regional economic concerns.
Multimodal options	Transit, walking, and bicycling can provide alternatives where service and networks are practical and connected.
Regional coordination	Congestion crosses jurisdictional boundaries and requires shared data, operations, scheduling/sequencing, and project planning.
School traffic	Arrival and dismissal create intense, localized congestion at a different time than the regional PM peak.



***SPOTLIGHT:* SCHOOL TRAFFIC IS DIFFERENT**

School congestion is highly concentrated in place and time, often peaking around 3:00-4:00 PM. Solutions may involve circulation, access, walking and bicycling, arrival management, crossing safety, and coordination with school districts.

ROUND 1 ENGAGEMENT

Mapped comments were concentrated in Tulsa and surrounding communities including Bixby, Broken Arrow, Jenks, Owasso, and Claremore. The pattern generally reinforced key commuter corridors and locations identified through the technical analysis.

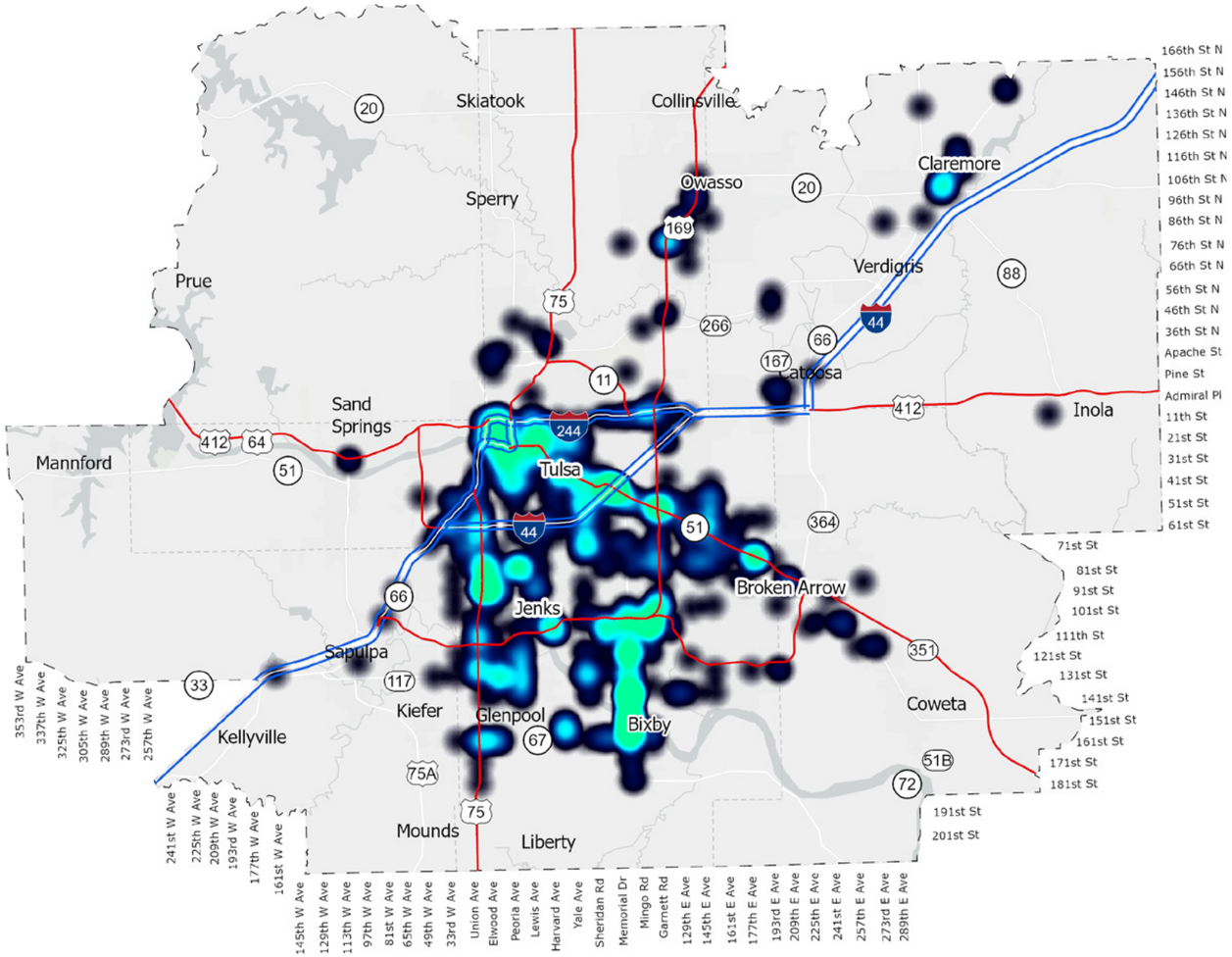


FIGURE 4.1 - ROUND 1 ENGAGEMENT HEAT MAP

CHAPTER 5

The CMPP Focus Network

The CMPP Focus Network is a targeted set of corridors where congestion and unreliable travel have the greatest regional significance. It converts thousands of individual roadway segments into a manageable set of corridors for monitoring, coordination, and strategy development.

WHY FOCUS ON SPECIFIC CORRIDORS?

The Focus Network helps turn a large regional transportation system into a manageable set of priority corridors for analysis and action. These corridors were selected using a combination of transportation performance data, multimodal network analysis, land use and growth patterns, and community input to determine which corridors warranted regional prioritization and further evaluation. The analysis identified additional corridors experiencing congestion. However, **the Focus Network represents those corridors determined to have the greatest regional significance based on the CMP evaluation criteria.**

Key context mapping themes included safety and perations, transit, walking, bicycling, freight and economic activity, future growth, and public input.

> ***If everything is important, then nothing is."***
>
> *—Patrick Lencioni*

Improvements can have the greatest impact on reliability, safety, and mobility at the regional scale. Importantly, focusing on these corridors does not mean other roads are unimportant. Instead, it recognizes that when every corridor is treated as a top priority, it becomes difficult to determine where limited resources can do the most good. The Focus Network provides a clear starting point for making strategic, data-driven transportation investments.

If you'd like to learn more, ***Technical Memo 2*** walks through identifying and defining the Focus Network.

INCOG TMA NETWORK

Interstate Highways, Freeways, Principal and Minor Arterials, Major and Minor Collectors, Local Roads, etc. (All roadways within the TMA)

→

INCOG CMPP NETWORK

Interstate Highways, Freeways, Principal and Minor Arterials, and a select few major collectors.

→

CMPP FOCUS NETWORK

A priority network defined through system performance, regional priorities, future growth, and stakeholder input.

CONGESTION SEVERITY

Congestion severity provides a snapshot of where recurring delays and unreliable travel conditions are most pronounced across the region. These locations help define priority corridors where operational, multimodal, or capacity-focused strategies may improve travel time and reliability. Figure 5.1 shows the hot spots of congestion and unreliable segments.

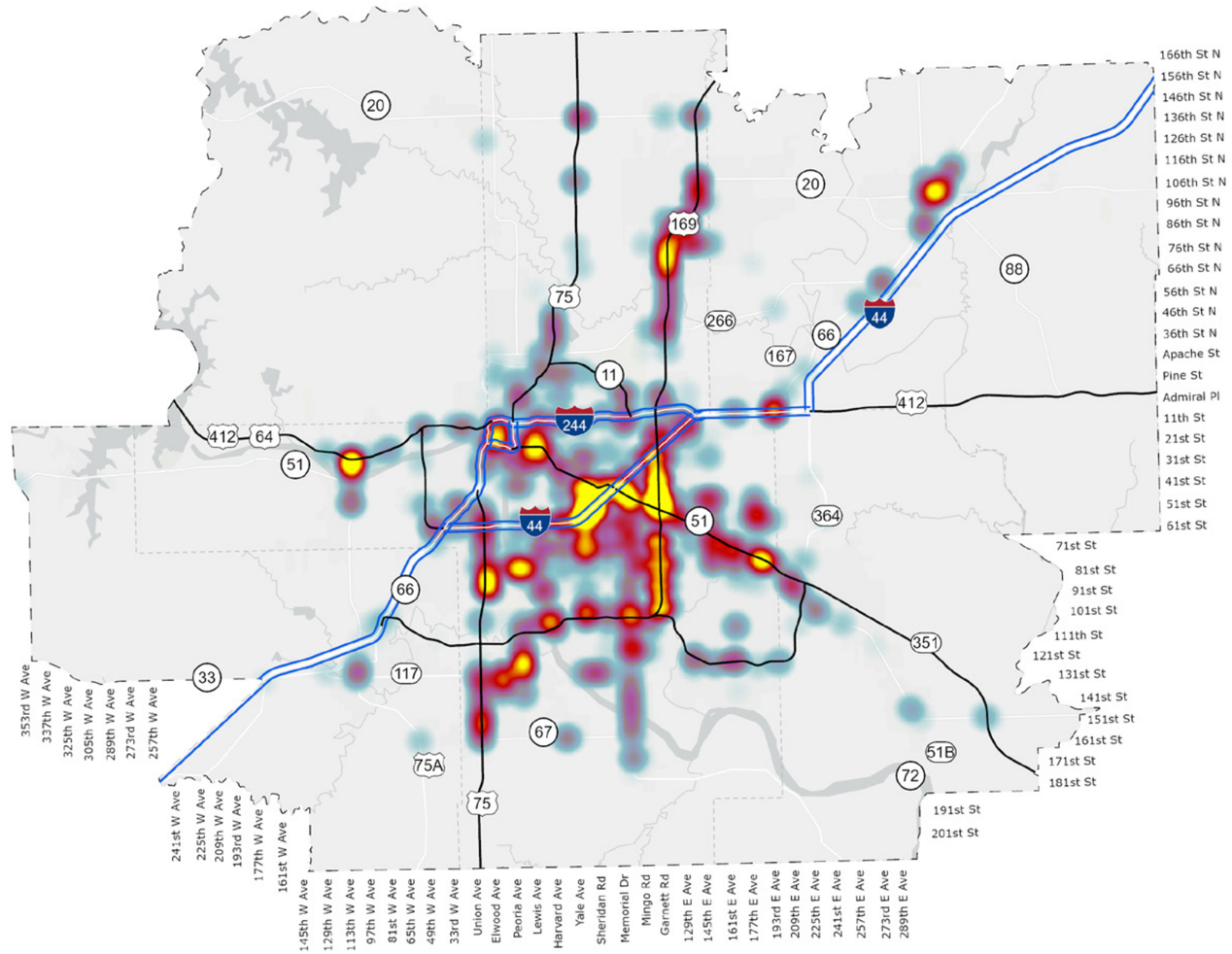


FIGURE 5.1 - CONGESTION SEVERITY MAP

SAFETY

Crashes are a source of non-recurring congestion, creating unexpected delays and reducing the reliability of the transportation network. Areas with higher crash concentrations help identify corridors where safety improvements may also support more consistent traffic flow and system performance. Figure 5.2 shows crash density in the most recent data.

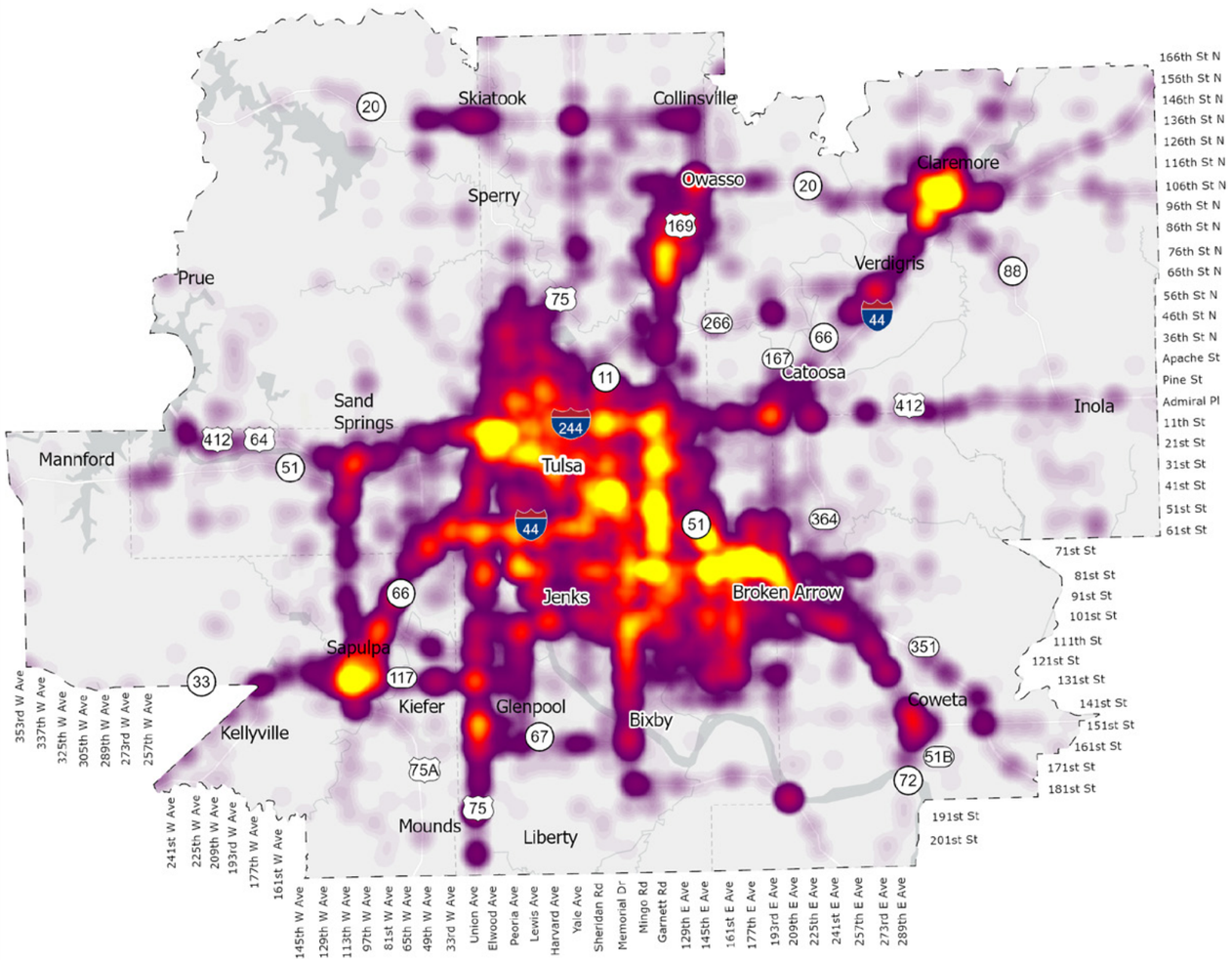


FIGURE 5.2 - SAFETY MAP

SCHOOL TRAFFIC

School traffic can create localized congestion during morning arrival and afternoon dismissal periods, adding concentrated demand to nearby corridors and intersections. Understanding where schools cluster helps identify locations where these recurring peaks may compound broader transportation challenges and create additional safety and access needs. Figure 5.3 shows proximity to school parcels.

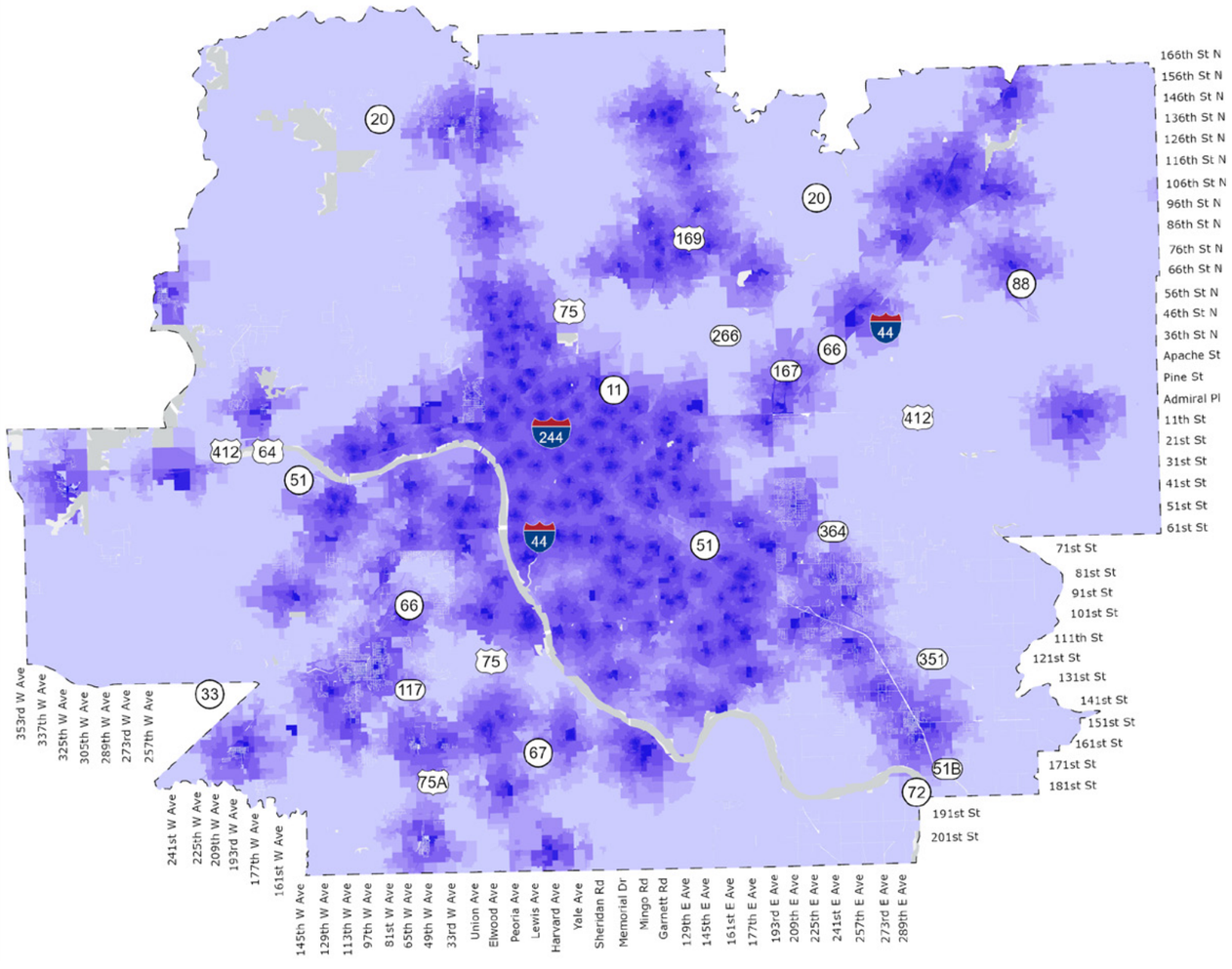


FIGURE 5.3 - SCHOOL TRAFFIC MAP

FUTURE GROWTH

Future population and employment growth will influence where and how travel demand increases across the region. Areas experiencing higher levels of growth may place additional pressure on nearby roadways and interchanges, helping identify corridors where congestion and mobility needs could become more pronounced over time. Figure 5.4 shows projected population growth in the region.

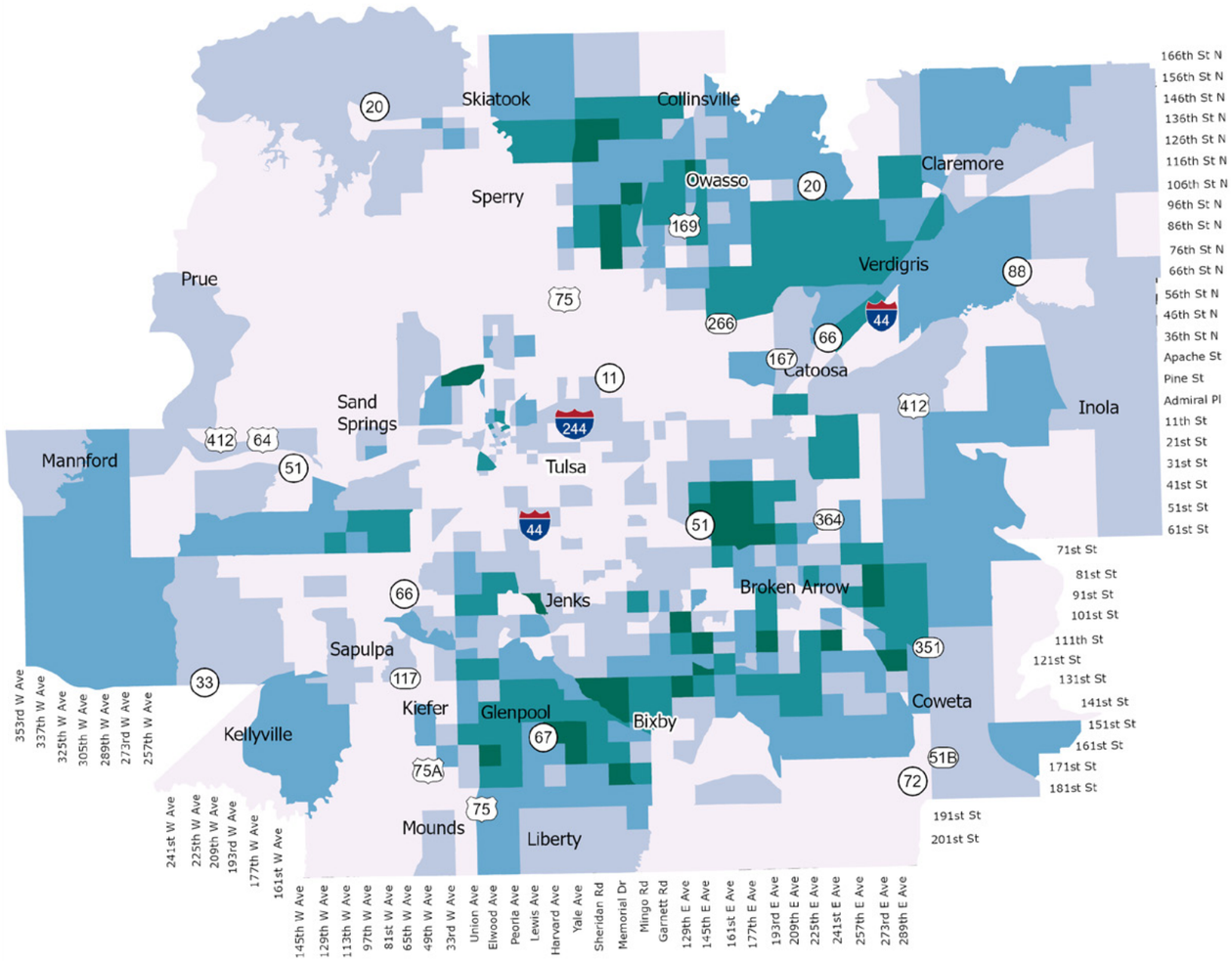


FIGURE 5.4 - FUTURE GROWTH MAP

DEFINING THE CMPP FOCUS NETWORK

Developing the CMPP Focus Network starts with the broader INCOG TMA roadway system and progressively narrows the network to corridors most relevant to regional congestion. The following analysis and engagement help refine these roadways into the final Focus Network. Figure 5.5 shows the different layers and filtering that took place during this analysis

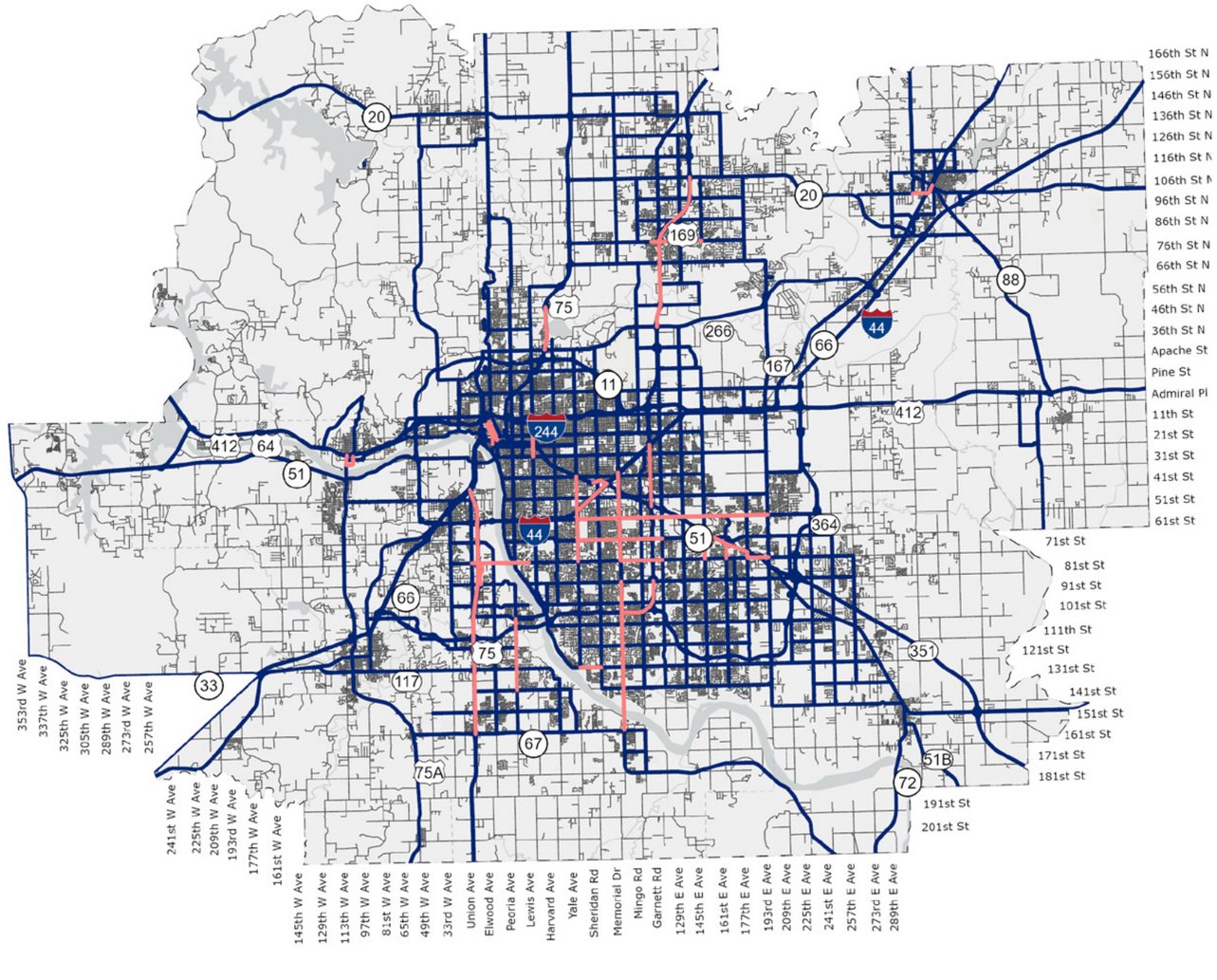


FIGURE 5.5 - NETWORK TYPES MAP

A NETWORK OF DIFFERENT CORRIDOR TYPES

The 25 corridors include freeways, interchanges, arterials, regional connections, and downtown Tulsa streets. The table of typology below is intended to help communicate the different settings represented in the network, but was not used to define or identify any analysis associated with the Focus Network.

Table 5.1- Corridor Types

Corridor Type	Number	Characteristics
Freeway / Expressway / Interchange	**9**	Ramps, weaving, incidents, bottlenecks, capacity, inter-agency operations
Non-Freeway Arterial	**7**	Signals, access, turning movements, transit, crossings, commercial frontage
Regional connector / Growth corridor	**6**	Growth, connectivity, cross-jurisdiction travel, limited alternatives, multiple street functions
Downtown / Central corridor	**3**	Signals, parking, transit, pedestrian access, multiple street functions

FOCUS NETWORK

Below is the list of corridors, corresponding to the map on page 17.

A. 86th St. Owasso
B. US-169 to Owasso*
C. Boulder Ave.*
D. Denver Ave.*
E. E. 51st St.
F. E. 61st St.
G. E. 71st St.
H. W. 71st St.
I. E. 121st St. South
J. Elm St.
K. SH-51 to Broken Arrow
L. Creek Turnpike
M. US-75 at I-44*
N. US-75 to Glenpool*
O. US-75 North*
P. US-75 from I-44 to 121st St.*
Q. US-169 from I-44 and US-64*
R. I-44 / US-64
S. Memorial Dr. north of Arkansas River
T. Memorial Dr. south of SH-51
U. Olympia Ave.
V. SH-66 in Claremore*
W. S. Lewis Ave.
X. US-412 in Sand Springs*
Y. Yale Ave.

Focus segments that are marked with an asterisk (*) were under construction during the study period. These projects may address or reduce some of the congestion issues identified through the analysis.

CMPP FOCUS NETWORK

The selected Focus Network is dispersed across the region, with concentrations of corridors in the center of the region around the intersection of I-44 and SH-51.

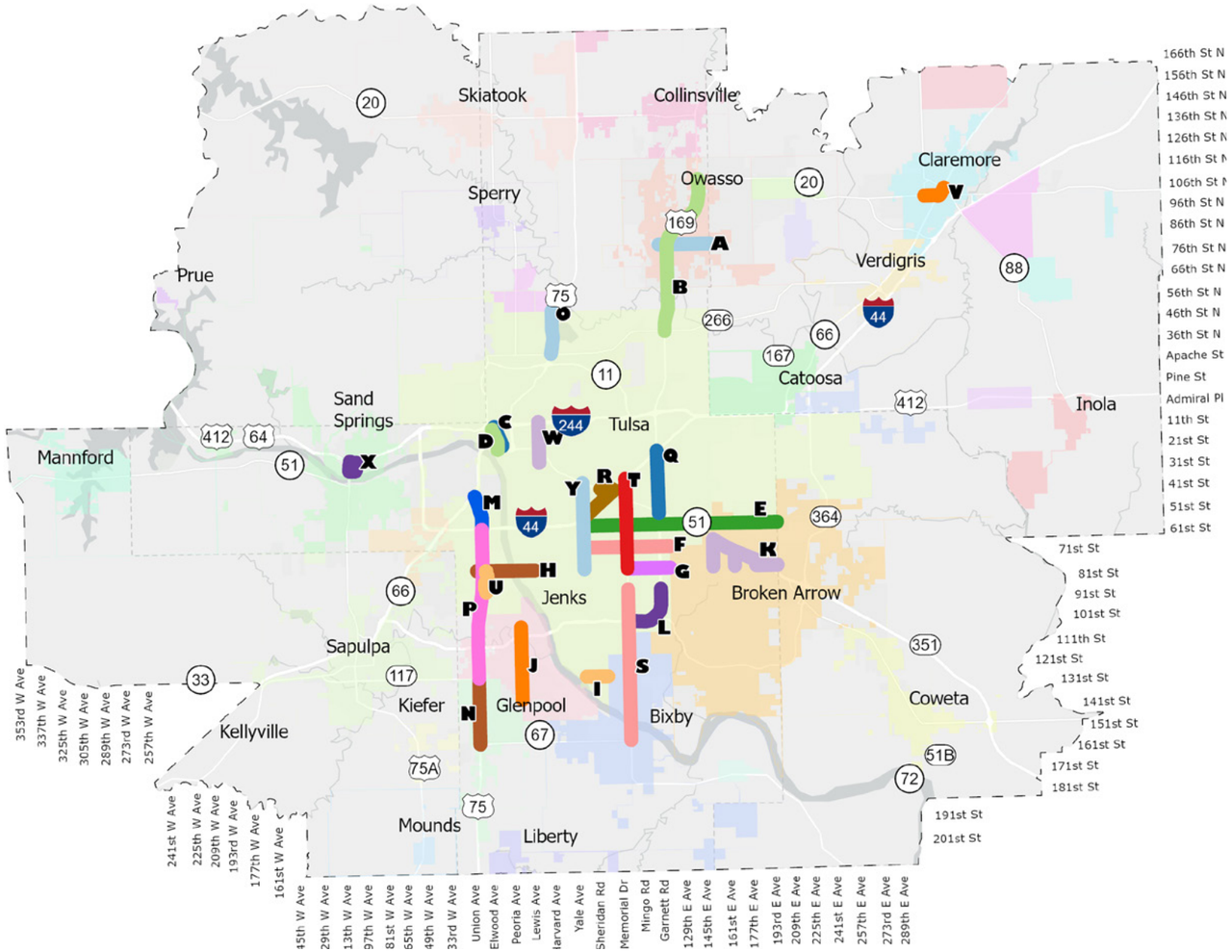


FIGURE 5.6 - CMPP FOCUS NETWORK

***KEY CORRIDORS** | Public Feedback from Round 1 fully encapsulated all Focus Network Corridors, indicating the validity behind the public comments received.*

ROUND 2 ENGAGEMENT

The second round of engagement shifts the conversation from identifying problems to considering solutions.

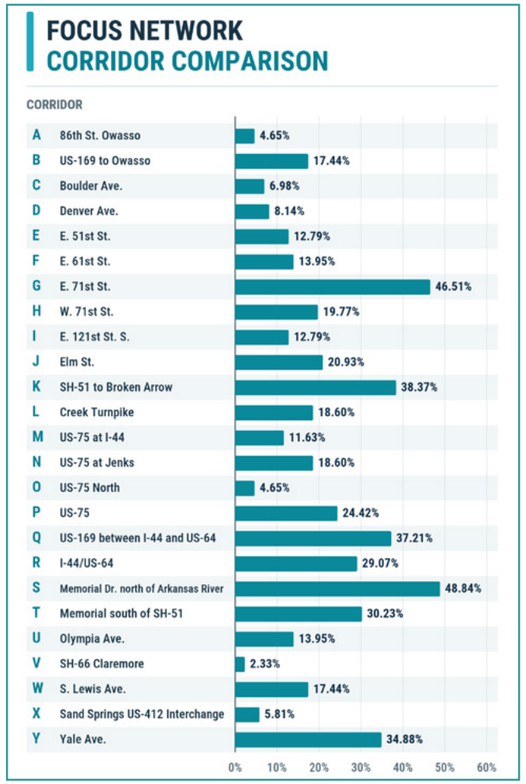
PROJECT WEBSITE

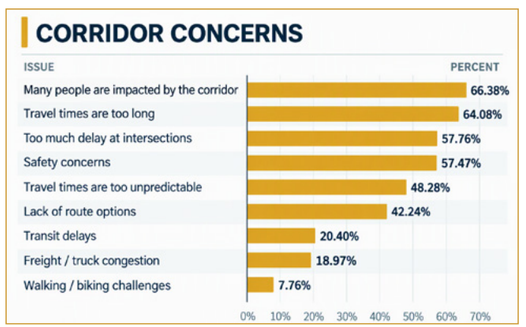
Round 2 of engagement gave community members an opportunity to review and respond to the emerging Focus Network through a survey on the project website. Participants identified the corridors that affect them, the congestion issues they experience, and the transportation outcomes they value most. Their responses highlighted concerns such as long and unpredictable travel times, intersection delay, and safety, while also showing strong interest in improved safety, shorter trips, and more reliable travel.

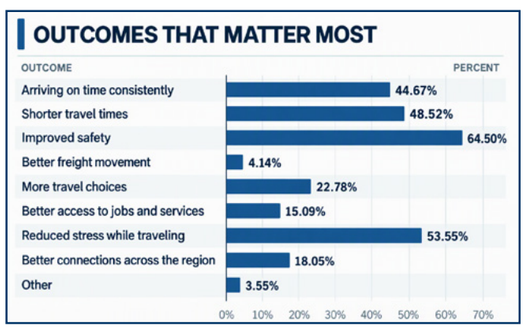
This feedback added lived experience to the technical analysis. It helped the project team assess whether the identified corridors reflected conditions experienced across the region, refine the network, and confirm the top 25 focus corridors. The responses will also inform the strategies considered for each corridor by connecting measured congestion conditions with the issues people encounter in daily travel.

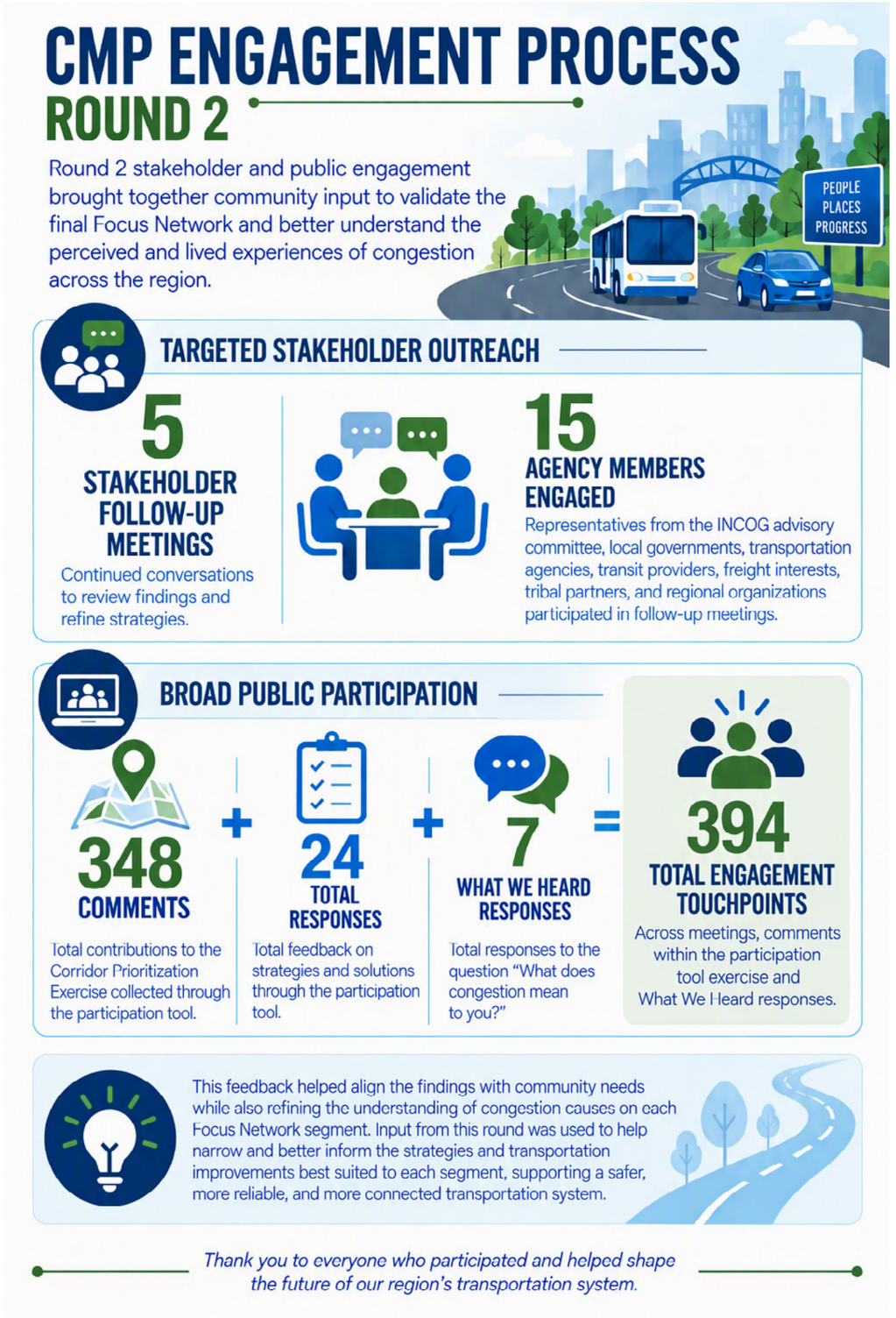
WHAT PARTICIPANTS EMPHASIZED

Growth Areas *emerged as the strongest anticipated driver of future congestion, followed closely by land use decisions. This reinforces the critical connection between development patterns and transportation system performance.*









CHAPTER 6

Toolbox for Managing Congestion

THE TOOLS

- Travel Demand Management
- Traffic Operations
- Public Transportation Improvements
- Technology & Systems Management
- Bike/Ped & Land Use
- Roadway Design & Capacity Improvements

NO ONE-SIZE FITS ALL

Congestion cannot be solved with one strategy. The appropriate response depends on why congestion occurs, who is affected, the corridor setting, what projects are already planned, and which agency or partner can act. These factors were variables in defining the Focus Network, and sensibly play a role in what tool is appropriate for managing congestion. For more details and information on the toolbox of congestion management strategies, see Technical Memorandum 4.



TRAVEL DEMAND MANAGEMENT

WHAT IS IT?

Travel Demand Management strategies reduce the number of vehicles on the road or shift trips to different times, routes, or travel options.

WHEN WOULD WE USE IT?

These strategies are often used when congestion is concentrated during peak periods and there is an opportunity to reduce peak-period traffic without building new roads or widening existing roads.

- Volume Exceeds Capacity

EXAMPLES

- Flexible Work/Telework
- Carpool/Vanpool
- Park-and-Ride
- Ridesharing
- Commuter Incentives
- Fixed Route Transit



THE ROSE DISTRICT - BROKEN ARROW, OK

TRAFFIC OPERATIONS

WHAT IS IT?

Traffic Operations strategies improve how existing roads function by making traffic move more smoothly and efficiently.

WHEN WOULD WE USE IT?

These solutions are often used when congestion is caused by busy intersections, turning movements, closely spaced driveways, or other roadway operations issues rather than a lack of roadway capacity.

- Intersection / Signal Density
- Ramp Backups
- Poor Signal Timing

EXAMPLES

- Improved traffic signal timing
- Traffic Signal Spacing
- Turn lanes at intersections
- Roundabouts
- Bottleneck removal projects
- Access management along commercial corridors
- Freeway Interchange Spacing
- Medians
- Rail grade separation



AERO BUS RAPID TRANSIT SERVICE - TULSA, OK

PUBLIC TRANSPORTATION IMPROVEMENTS

WHAT IS IT?

Public transportation strategies improve transit service and make it easier for people to choose transit for some of their trips. It is also makes more efficient use of a roadway.

WHEN WOULD WE USE IT?

These solutions are most effective in areas with concentrations of jobs, housing, shopping, or community destinations where more people could reasonably use transit.

- Limited Multimodal Options
- Volume Exceeds Capacity

EXAMPLES

- More frequent bus service
- Expanded transit routes
- Bus Rapid Transit (BRT)
- Urban Density/Mixed Use
- Provide real-time transit information
- Improved bus stops and shelters



TRANSPORTATION TECHNOLOGY & SYSTEM MANAGEMENT

WHAT IS IT?

These strategies use technology, real-time information, and coordinated operations to manage traffic more efficiently and respond to changing conditions.

WHEN WOULD WE USE IT?

These solutions are often used where crashes, special events, construction, or unpredictable traffic conditions create delays. They can often improve reliability without expanding roadways.

- **Poor Signal Timing**
- **Traffic Incidents / Crashes**
- **Ramp Backups**

EXAMPLES

- Coordinated traffic signals
- Real-time traffic monitoring
- Dynamic message signs
- Crash and incident management programs
- Work zone management
- Phone Applications/Connected Vehicles



BICYCLE/PEDESTRIAN, LAND USE, & REGIONAL COORDINATION

WHAT IS IT?

These strategies improve travel options and reduce the need for longer vehicle trips by creating more connected communities and transportation networks.

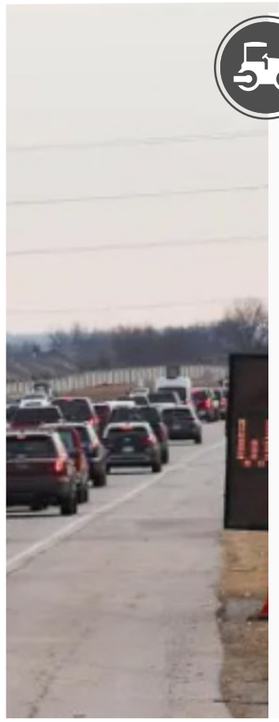
WHEN WOULD WE USE IT?

These solutions are often long-term investments that help people walk, bike, ride transit, or reach destinations more easily while supporting future growth.

- **Limited Multimodal Options**
- **Intersection/ Signal Density**

EXAMPLES

- Sidewalk and trail connections
- Transit and trail oriented development
- Bicycle facilities
- Enhanced visibility crossings and mid-block crossings
- Infill development incentives
- Mixed-use development and zoning reform
- Better connections between neighborhoods, schools, jobs, and services



HWY 75 NEAR 81ST STREET SOUTH - TULSA, OK

ROADWAY DESIGN & CAPACITY IMPROVEMENTS

WHAT IS IT?

These strategies involve physical changes to the roadway network to reduce bottlenecks or accommodate growing travel demand.

WHEN WOULD WE USE IT?

These solutions are generally considered when other strategies alone cannot adequately address congestion, safety concerns, or growth-related transportation needs.

- **Closely Spaced Interchanges**
- **Traffic Incidents / Crashes**
- **Intersection / Signal Density**
- **Volume Exceeds Capacity**
- **Ramp Backups**

EXAMPLES

- Intersection improvements
- Additional turn lanes
- New roadway connections
- Improved signage and wayfinding
- New bridge crossings

CAPACITY OF ROADWAY DEMANDS

Capacity improvements can address congestion; however, they should be considered after other strategies have been explored.

Scenario A: Traffic managed with bike/ped, land use, and coordination



Mixed and complementary land uses, with a connected road network. This pattern allows for a variety of modes alongside providing flexibility for what future uses buildings can accommodate.

Scenario B: Traffic managed with roadway and capacity improvements



Variety of land uses with no cross-access, but a primary arterial street. This pattern requires certain roads to "do it all" which leads to capacity constraints, limited options, and restricts future uses due to single purpose buildings.

STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
1. TRAVEL DEMAND MANAGEMENT					
1.1 ALTERNATIVE WORK SCHEDULES	LOW	MODERATE	HIGH	HIGH	TELECOMMUTING; EMPLOYER INCENTIVE PROGRAMS; PRICING STRATEGIES
1.2 TELECOMMUTING	LOW	MODERATE	HIGH	HIGH	ALTERNATIVE WORK SCHEDULES;EMPLOYER INCENTIVE PROGRAMS; GUARANTEED RIDE HOME PROGRAMS
1.3 RIDESHARING	LOW-MEDIUM	MODERATE	HIGH	HIGH	EMPLOYER INCENTIVE PROGRAMS; GUARANTEED RIDE HOME PROGRAMS; PRICING STRATEGIES
1.4 ALTERNATIVE MODE EVENTS	LOW	LOW-MODERATE	LOW	HIGH	RIDESHARING; IMPROVING BUS STOPS; BIKE-SHARE SYSTEMS; SECURE BICYCLE PARKING
1.5 EMPLOYER INCENTIVE PROGRAMS	LOW-MEDIUM	MODERATE	HIGH	HIGH	RIDESHARING; TELECOMMUTING; VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES
1.6 CARSHARING	MEDIUM	LOW-MODERATE	LOW	HIGH	MOBILITY HUBS IN MIXED USE AREAS; MIXED-USE DEVELOPMENT / ZONING REFORM; SHARED PARKING POLICIES
1.7 GUARANTEED RIDE HOME PROGRAMS	LOW	LOW-MODERATE	HIGH	HIGH	RIDESHARING; EMPLOYER INCENTIVE PROGRAMS; VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES
1.8 PRICING STRATEGIES	MEDIUM	MODERATE-HIGH	HIGH	HIGH	PARKING MANAGEMENT PROGRAM; EMPLOYER INCENTIVE PROGRAMS; MANAGED LANES (HOV, HOT, REVERSIBLE LANES, ETC.)

*** RELATIVE COST RATINGS ARE BASED ON A GENERAL ASSESSMENT OF THE ANTICIPATED COST TO IMPLEMENT EACH STRATEGY, PROVIDING A HIGH-LEVEL COMPARISON OF THE POTENTIAL INVESTMENT REQUIRED.**

STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
2. TRAFFIC OPERATIONS					
2.1 ACCESS MANAGEMENT	MEDIUM	HIGH	LOW	HIGH	SIGNAL SPACING; ACCESS MANAGEMENT IMPROVEMENTS/CONSOLIDATION; TRANSPORTATION IMPACT MITIGATION PROGRAM
2.2 SIGNAL SPACING	LOW-MEDIUM	MODERATE-HIGH	NONE	HIGH	ACCESS MANAGEMENT; TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; TURN RESTRICTIONS
2.3 INTERSECTION CONTROL EVALUATION *(ROUNDABOUT, R-CUTS, MEDIAN, U-TURN, ETC.)*	MEDIUM-HIGH	HIGH	LOW	HIGH	ACCESS MANAGEMENT; TURN LANE ADDITIONS; GEOMETRIC DESIGN IMPROVEMENTS TO INTERSECTIONS AND INTERCHANGES
2.4 TURN LANE ADDITIONS	MEDIUM	MODERATE	LOW	HIGH	SIGNAL SPACING; INTERSECTION CONTROL EVALUATION (ROUNDABOUT, RCUTS, MEDIAN U-TURN, ETC.); TURN RESTRICTIONS
2.5 FREEWAY RAMP METERING	MEDIUM	HIGH	HIGH	NON-APPLICABLE	INCIDENT MANAGEMENT SYSTEM; DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; REGIONAL TRAFFIC MANAGEMENT CENTER (TMC)
2.6 INTERAGENCY CORRIDOR MANAGEMENT AGREEMENTS	LOW-MEDIUM	MODERATE	HIGH	HIGH	INTEGRATED CORRIDOR MANAGEMENT; REGIONAL TRAFFIC MANAGEMENT CENTER (TMC); COMMUNICATIONS NETWORKS AND ROADWAY MONITORING COVERAGE
2.7 BOTTLENECK REMOVAL PROJECTS	MEDIUM-HIGH	HIGH	HIGH	HIGH	AUXILIARY LANES; GEOMETRIC DESIGN IMPROVEMENTS TO INTERSECTIONS AND INTERCHANGES; INCIDENT MANAGEMENT SYSTEM
2.8 MANAGED LANES *(HOV, HOT, REVERSIBLE LANES, ETC.)*	HIGH-VERY HIGH	HIGH	HIGH	MEDIUM	PRICING STRATEGIES; DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; REGIONAL TRAFFIC MANAGEMENT CENTER (TMC)

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STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
3. PUBLIC TRANSPORTATION IMPROVEMENTS					
3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY	MEDIUM	MODERATE	MEDIUM	HIGH	IMPROVING BUS STOPS; INCREASING SERVICE HOURS; PROVIDE REAL-TIME TRANSIT INFORMATION
3.2 INCREASING SERVICE HOURS	MEDIUM	MODERATE	MEDIUM	HIGH	INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY; EMPLOYER INCENTIVE PROGRAMS; MOBILITY HUBS IN MIXED USE AREAS
3.3 IMPROVING BUS STOPS	LOW-MEDIUM	LOW-MODERATE	LOW	HIGH	CONSTRUCTING NEW SIDEWALKS / SIDEWALK GAP ELIMINATION; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS; PROVIDE REAL-TIME TRANSIT INFORMATION
3.4 IMPLEMENTING BUS RAPID TRANSIT (BRT) SERVICE	HIGH	HIGH	MEDIUM	HIGH	TRANSIT SIGNAL PRIORITY; DEDICATED TRANSIT RIGHTS-OF-WAY; OR QUEUE JUMPS; MOBILITY HUBS IN MIXED USE AREAS; MIXED-USE DEVELOPMENT / ZONING REFORM
3.5 INSTALL TRANSIT ASSISTING TRAFFIC CONTROL ELEMENTS *(SUCH AS TRANSIT SIGNAL PRIORITY, DEDICATED TRANSIT RIGHTS-OF-WAY, OR QUEUE JUMPS)*	MEDIUM-HIGH	MODERATE-HIGH	LOW	HIGH	TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; IMPLEMENTING BUS RAPID TRANSIT (BRT) SERVICE; INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
3.6 PROVIDE REAL-TIME TRANSIT INFORMATION	LOW-MEDIUM	LOW-MODERATE	LOW	HIGH	IMPROVING BUS STOPS; MOBILITY HUBS IN MIXED USE AREAS; PARTNERSHIP WITH PRIVATE COMMERCIAL TRAFFIC/TRAVEL APPS
3.7 CONSTRUCT MOBILITY HUBS IN MIXED-USE AREAS	MEDIUM-HIGH	MODERATE	MEDIUM	HIGH	CARSHARING; BIKE-SHARE SYSTEMS; SECURE BICYCLE PARKING; MIXED-USE DEVELOPMENT / ZONING REFORM
3.8 VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES	MEDIUM	MODERATE	HIGH	HIGH	EMPLOYER INCENTIVE PROGRAMS; GUARANTEED RIDE HOME PROGRAMS; RIDESHARING

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STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
4. TRANSPORTATION TECHNOLOGY & SYSTEM MANAGEMENT					
4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION	MEDIUM	HIGH	NONE	HIGH	SIGNAL SPACING; COMMUNICATIONS NETWORKS AND ROADWAY MONITORING COVERAGE; INSTALL TRANSIT ASSISTING TRAFFIC CONTROL ELEMENTS SUCH AS TRANSIT SIGNAL PRIORITY, DEDICATED TRANSIT RIGHTS-OF-WAY, OR QUEUE JUMPS
4.2 INTEGRATED CORRIDOR MANAGEMENT	MEDIUM-HIGH	HIGH	HIGH	HIGH	INTERAGENCY CORRIDOR MANAGEMENT AGREEMENTS; REGIONAL TRAFFIC MANAGEMENT CENTER (TMC); DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS
4.3 PARTNERSHIP WITH PRIVATE COMMERCIAL TRAFFIC/TRAVEL APPS	LOW-MEDIUM	LOW-MODERATE	HIGH	HIGH	DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; INCIDENT MANAGEMENT SYSTEM; WORK ZONE MANAGEMENT
4.4 ENHANCED ENFORCEMENT	LOW-MEDIUM	LOW-MODERATE	HIGH	HIGH	INCIDENT MANAGEMENT SYSTEM; WORK ZONE MANAGEMENT; SPEED HARMONIZATION
4.5 INCIDENT MANAGEMENT SYSTEM	MEDIUM	HIGH	HIGH	MEDIUM	REGIONAL TRAFFIC MANAGEMENT CENTER (TMC); DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; ENHANCED ENFORCEMENT
4.6 WORK ZONE MANAGEMENT	LOW-MEDIUM	MODERATE	HIGH	HIGH	PARTNERSHIP WITH PRIVATE COMMERCIAL TRAFFIC/TRAVEL APPS; DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; INCIDENT MANAGEMENT SYSTEM
4.7 COMMUNICATIONS NETWORKS AND ROADWAY MONITORING COVERAGE	MEDIUM-HIGH	MODERATE-HIGH	HIGH	HIGH	REGIONAL TRAFFIC MANAGEMENT CENTER (TMC); TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS
4.8 DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS	MEDIUM	MODERATE	HIGH	MEDIUM	INCIDENT MANAGEMENT SYSTEM; WORK ZONE MANAGEMENT; PARTNERSHIP WITH PRIVATE COMMERCIAL TRAFFIC/TRAVEL APPS

STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
4. TRANSPORTATION TECHNOLOGY & SYSTEM MANAGEMENT (CONTINUED)					
4.9 REGIONAL TRAFFIC MANAGEMENT CENTER (TMC)	HIGH	HIGH	HIGH	HIGH	COMMUNICATIONS NETWORKS AND ROADWAY MONITORING COVERAGE; INCIDENT MANAGEMENT SYSTEM; INTEGRATED CORRIDOR MANAGEMENT
4.10 PARKING MANAGEMENT PROGRAM	LOW-MEDIUM	MODERATE	LOW	HIGH	PRICING STRATEGIES; SHARED PARKING POLICIES; MIXED-USE DEVELOPMENT / ZONING REFORM
4.11 SPEED HARMONIZATION	MEDIUM-HIGH	MODERATE-HIGH	HIGH	LOW	DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; REGIONAL TRAFFIC MANAGEMENT CENTER (TMC); INCIDENT MANAGEMENT SYSTEM

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STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
5. ROADWAY DESIGN & CAPACITY IMPROVEMENTS					
5.1 IMPROVED SIGNAGE AND WAYFINDING	LOW-MEDIUM	LOW-MODERATE	MEDIUM	HIGH	DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS; ACCESS MANAGEMENT IMPROVEMENTS/CONSOLIDATION; CONSTRUCT MOBILITY HUBS IN MIXED USE AREAS
5.2 TURN RESTRICTIONS	LOW-MEDIUM	MODERATE	LOW	HIGH	SIGNAL SPACING; ACCESS MANAGEMENT IMPROVEMENTS/ CONSOLIDATION; INTERSECTION CONTROL EVALUATION (ROUNDABOUT, R-CUTS, MEDIAN U-TURN, ETC.)
5.3 AUXILIARY LANES	HIGH	HIGH	HIGH	MEDIUM	BOTTLENECK REMOVAL PROJECTS; INCIDENT MANAGEMENT SYSTEM; INTERCHANGE MODERNIZATION
5.4 ADOPTING LOCAL COMPLETE STREETS POLICIES	LOW	LOW-MODERATE	NON-APPLICABLE	HIGH	CONSTRUCTING NEW SIDEWALKS / SIDEWALK GAP ELIMINATION; PROTECTED BICYCLE LANES; MIXED-USE DEVELOPMENT / ZONING REFORM
5.5 GEOMETRIC DESIGN IMPROVEMENTS TO INTERSECTIONS AND INTERCHANGES	HIGH	HIGH	HIGH	HIGH	BOTTLENECK REMOVAL PROJECTS; TURN LANE ADDITIONS; INTERSECTION CONTROL EVALUATION (ROUNDABOUT, RCUTS, MEDIAN U-TURN, ETC.)
5.6 ADDING CAPACITY THROUGH RESTRIPING ACTIVITIES OR WIDENING (IF APPROPRIATE)	MEDIUM-HIGH	MODERATE-HIGH	HIGH	HIGH	ACCESS MANAGEMENT IMPROVEMENTS/ CONSOLIDATION; TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; ADOPTING LOCAL COMPLETE STREETS POLICIES
5.7 CONSTRUCTION OF NEW ARTERIALS OR FREEWAYS	VERY HIGH	HIGH	HIGH	HIGH	REGIONAL GROWTH MANAGEMENT POLICIES; STREET CONNECTIVITY REQUIREMENTS; TRANSPORTATION IMPACT MITIGATION PROGRAM

STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
5. ROADWAY DESIGN & CAPACITY IMPROVEMENTS (CONTINUED)					
5.8 CONSTRUCTION OF NEW BRIDGE CROSSINGS	VERY HIGH	HIGH	HIGH	HIGH	CONSTRUCTION OF NEW ARTERIALS OR FREEWAYS; REGIONAL GROWTH MANAGEMENT POLICIES; INTEGRATED CORRIDOR MANAGEMENT
5.9 ROAD RECONFIGURATION	HIGH	HIGH	LOW	HIGH	TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; PROTECTED BICYCLE LANES; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS
5.10 ROADWAY DESIGN IMPROVEMENTS & CAPACITY EXPANSION	HIGH	HIGH	HIGH	MEDIUM	AUXILARY LANES; BOTTLENECK REMOVAL PROJECTS; DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS
5.11 ROAD DIETS WITH OPERATIONAL ENCHANCEMENTS	MEDIUM	MODERATE	LOW	HIGH	TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; PROTECTED BICYCLE LANES; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS

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STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
6. BICYCLE/PEDESTRIAN, LAND USE, AND REGIONAL COORDINATION					
6.1 MIXED-USE DEVELOPMENT/ZONING REFORM	LOW-MEDIUM	MODERATE	LOW	HIGH	TRANSIT/TRAIL-ORIENTED DEVELOPMENT; ACTIVITY CENTER PLANNING; SHARED PARKING POLICIES
6.2 TRANSIT/TRAIL-ORIENTED DEVELOPMENT	MEDIUM	MODERATE	LOW	HIGH	MIXED-USE DEVELOPMENT / ZONING REFORM; CONSTRUCT MOBILITY HUBS IN MIXED USE AREAS; SHARED-USE PATHS
6.3 ACTIVITY CENTER PLANNING	LOW-MEDIUM	MODERATE	LOW	HIGH	MIXED-USE DEVELOPMENT / ZONING REFORM; PARKING MANAGEMENT PROGRAM; INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
6.4 INFILL DEVELOPMENT INCENTIVES	LOW-MEDIUM	MODERATE	LOW	HIGH	MIXED-USE DEVELOPMENT / ZONING REFORM; ACTIVITY CENTER PLANNING; SHARED PARKING POLICIES
6.5 STREET CONNECTIVITY REQUIREMENTS	LOW-MEDIUM	MODERATE	LOW	HIGH	CONSTRUCTION OF NEW ARTERIALS OR FREEWAYS; CONSTRUCTING NEW SIDEWALKS / SIDEWALK GAP ELIMINATION; LOW-STRESS BICYCLE NETWORK DEVELOPMENT
6.6 TRANSPORTATION IMPACT MITIGATION PROGRAM	LOW-MEDIUM	MODERATE-HIGH	MEDIUM	HIGH	ACCESS MANAGEMENT IMPROVEMENTS/ CONSOLIDATION; STREET CONNECTIVITY REQUIREMENTS; REGIONAL GROWTH MANAGEMENT POLICIES
6.7 REGIONAL GROWTH MANAGEMENT POLICIES	LOW-MEDIUM	LOW-MODERATE	HIGH	HIGH	CONSTRUCTION OF NEW ARTERIALS OR FREEWAYS; ACTIVITY CENTER PLANNING; MIXED-USE DEVELOPMENT / ZONING REFORM
6.8 SHARED PARKING POLICIES	LOW	LOW-MODERATE	LOW	HIGH	PARKING MANAGEMENT PROGRAM; MIXED-USE DEVELOPMENT / ZONING REFORM; ACTIVITY CENTER PLANNING
6.9 CONSTRUCTING NEW SIDEWALKS/ SIDEWALK GAP ELIMINATION	LOW-MEDIUM	LOW-MODERATE	NONE	HIGH	IMPROVING BUS STOPS; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS; SAFE ROUTES TO SCHOOL

STRATEGY	RELATIVE COST*	EXPECTED CONGESTION BENEFIT	FREEWAY SUITABILITY	NON-FREEWAY SUITABILITY	COMPLEMENTARY STRATEGIES
6. BICYCLE/PEDESTRIAN, LAND USE, AND REGIONAL COORDINATION (CONTINUED)					
6.10 ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS	LOW-MEDIUM	LOW-MODERATE	NONE	HIGH	CONSTRUCTING NEW SIDEWALKS / SIDEWALK GAP ELIMINATION; LEADING PEDESTRIAN INTERVALS; ROAD RECONFIGURATION
6.11 BICYCLE & PEDESTRIAN, LAND USE, AND REGIONAL COORDINATION	LOW-MEDIUM	LOW-MODERATE	NONE	HIGH	CONSTRUCTING NEW SIDEWALKS / SIDEWALK GAP ELIMINATION; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS; NEIGHBORHOOD GREENWAYS
6.12 LEADING PEDESTRIAN INTERVALS	LOW	LOW	NONE	HIGH	TRAFFIC SIGNAL COORDINATION AND MODERNIZATION; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS; CONSTRUCTING NEW SIDEWALKS / SIDEWALK GAP ELIMINATION
6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK	MEDIUM	MODERATE	NONE	HIGH	PROTECTED BICYCLE LANES; NEIGHBORHOOD GREENWAYS; SECURE BICYCLE PARKING
6.14 SHARED-USE PATHS	MEDIUM-HIGH	MODERATE	LOW	HIGH	TRANSIT/TRAIL-ORIENTED DEVELOPMENT; CONSTRUCT MOBILITY HUBS IN MIXED USE AREAS; SECURE BICYCLE PARKING
6.15 PROTECTED BICYCLE LANES	MEDIUM	MODERATE	NONE	HIGH	ROAD RECONFIGURATION; SECURE BICYCLE PARKING; BIKE-SHARE SYSTEMS
6.16 NEIGHBORHOOD GREENWAYS	LOW-MEDIUM	LOW-MODERATE	NONE	HIGH	SAFE ROUTES TO SCHOOL; CONSTRUCTING LOW-STRESS BICYCLE NETWORK DEVELOPMENT; ENHANCED VISIBILITY CROSSINGS & MID-BLOCK CROSSINGS
6.17 BIKE-SHARE SYSTEM	MEDIUM	LOW-MODERATE	NONE	HIGH	CONSTRUCT MOBILITY HUBS IN MIXED USE AREAS; SECURE BICYCLE PARKING; PROTECTED BICYCLE LANES
6.18 SECURE BICYCLE PARKING	LOW-MEDIUM	LOW	NONE	HIGH	BIKE-SHARE SYSTEMS; CONSTRUCT MOBILITY HUBS IN MIXED USE AREAS; PROTECTED BICYCLE LANES

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CHAPTER 7

Corridor Investment Approach

CALL TO ACTION

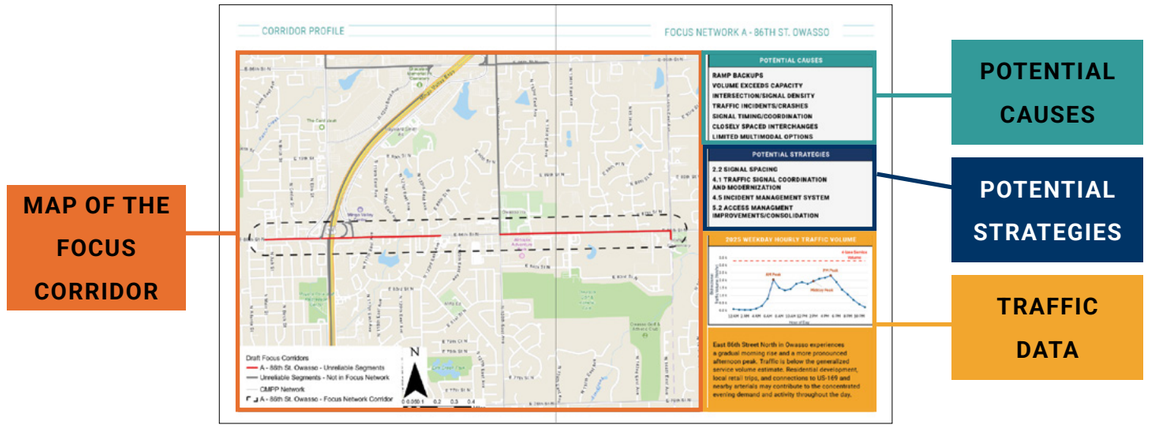
These corridors represent key transportation network segments across the INCOG TMA that have significant impacts on the general traveling public. Congestion does not stop at city limits. Delays on a single corridor can affect travel, freight movement, transit operations, and economic activity across the region. The CMP Focus Network identifies corridors where local investments can provide regional benefits, helping communities target resources where they will have the greatest impact on mobility, reliability, and safety.

INTEGRATING REGIONAL INVESTMENT DECISIONS

The CMPP is designed to support existing planning and investment processes. Its findings can help inform Moving Forward 2050, corridor studies, Transportation Improvement Program (TIP) funding decisions, local transportation plans, capital improvement programs, and project prioritization efforts. Using a common set of regional priorities helps agencies coordinate investments and maximize transportation benefits.

FOCUS CORRIDOR PROFILES

No two corridors experience congestion in exactly the same way. A school-area corridor may benefit from circulation improvements, safer crossings, and coordination with school districts, while a regional freeway corridor may require operational, technology, freight, and infrastructure investments. These examples demonstrate how the CMP uses data and context to match solutions to the underlying causes of congestion, which are described in Chapter 3. Each corridor profile is detailed in the following pages.

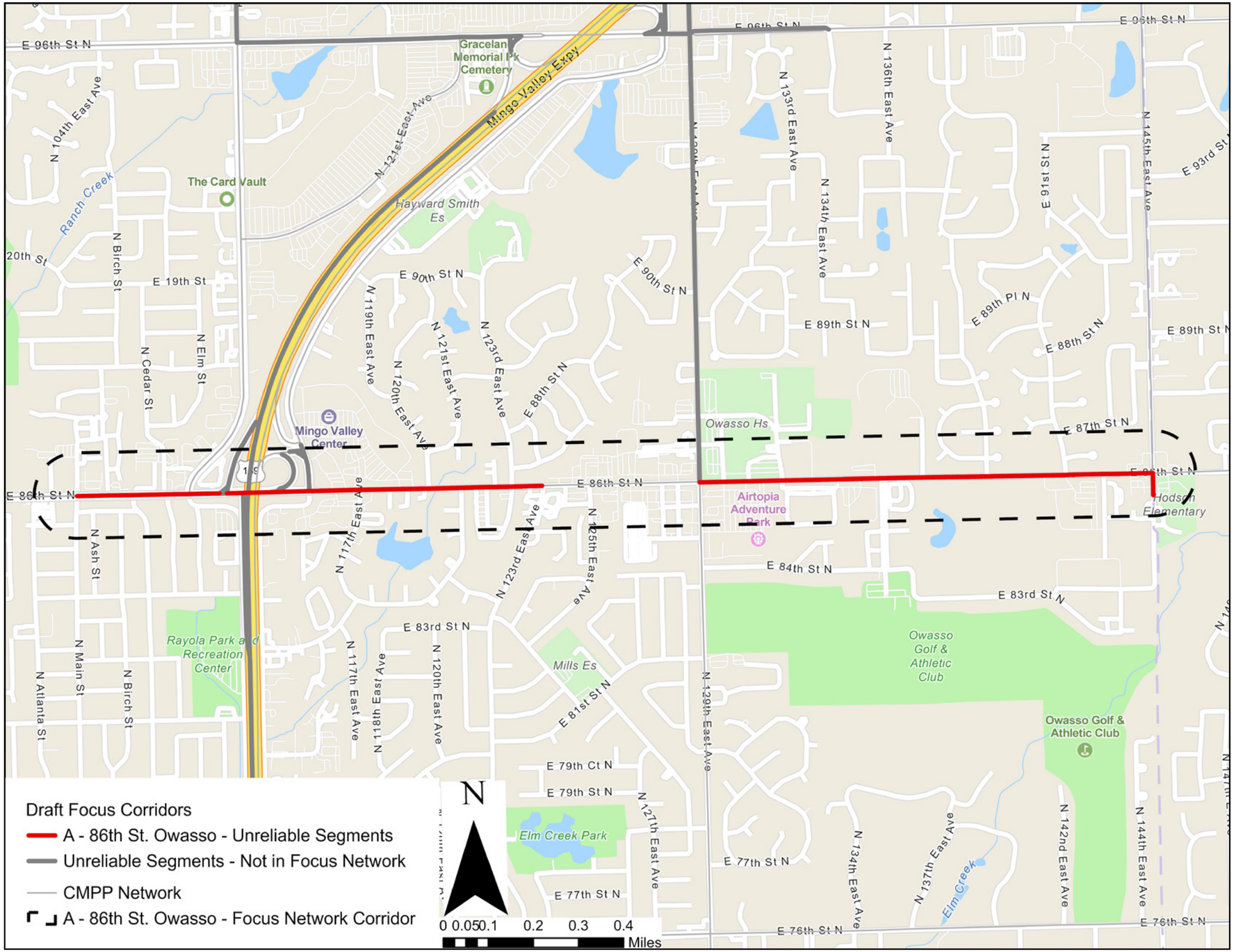


FOCUS CORRIDOR ANALYSIS

While the Focus Network was developed by looking beyond congestion alone and corridors were evaluated through multiple lenses, this analysis was conducted at a regional level. These factors provide a baseline understanding of corridor performance and help identify the most appropriate solutions; however, each corridor should be further evaluated with more robust data to identify the specific set of solutions to address corridor issues. Below is an example process that each corridor should follow.

Step	Application
1. Confirm the corridor	Define limits, responsible agencies, planned projects, and the specific problem to solve.
2. Diagnose causes	Use regional measures, local traffic data, safety information, school and land-use context, and stakeholder knowledge.
3. Build alternatives	Select strategies from multiple toolbox categories and combine complementary actions.
4. Evaluate	Compare congestion, reliability, safety, multimodal, freight, cost, feasibility, and community outcomes.
5. Identify the pathway	Determine whether the next step is an operations change, policy action, corridor study, project development, or long-range investment.
6. Monitor	Establish a baseline and evaluate performance after implementation.

FOCUS NETWORK A - 86TH ST. OWASSO



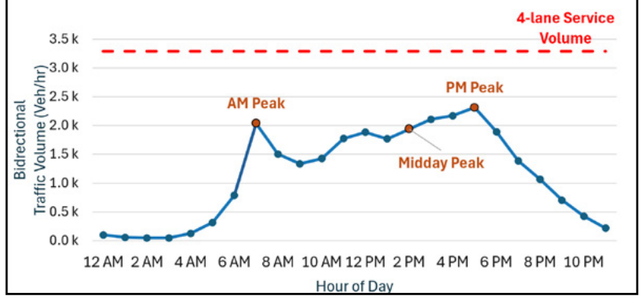
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- CLOSELY SPACED INTERCHANGES
- LIMITED MULTIMODAL OPTIONS

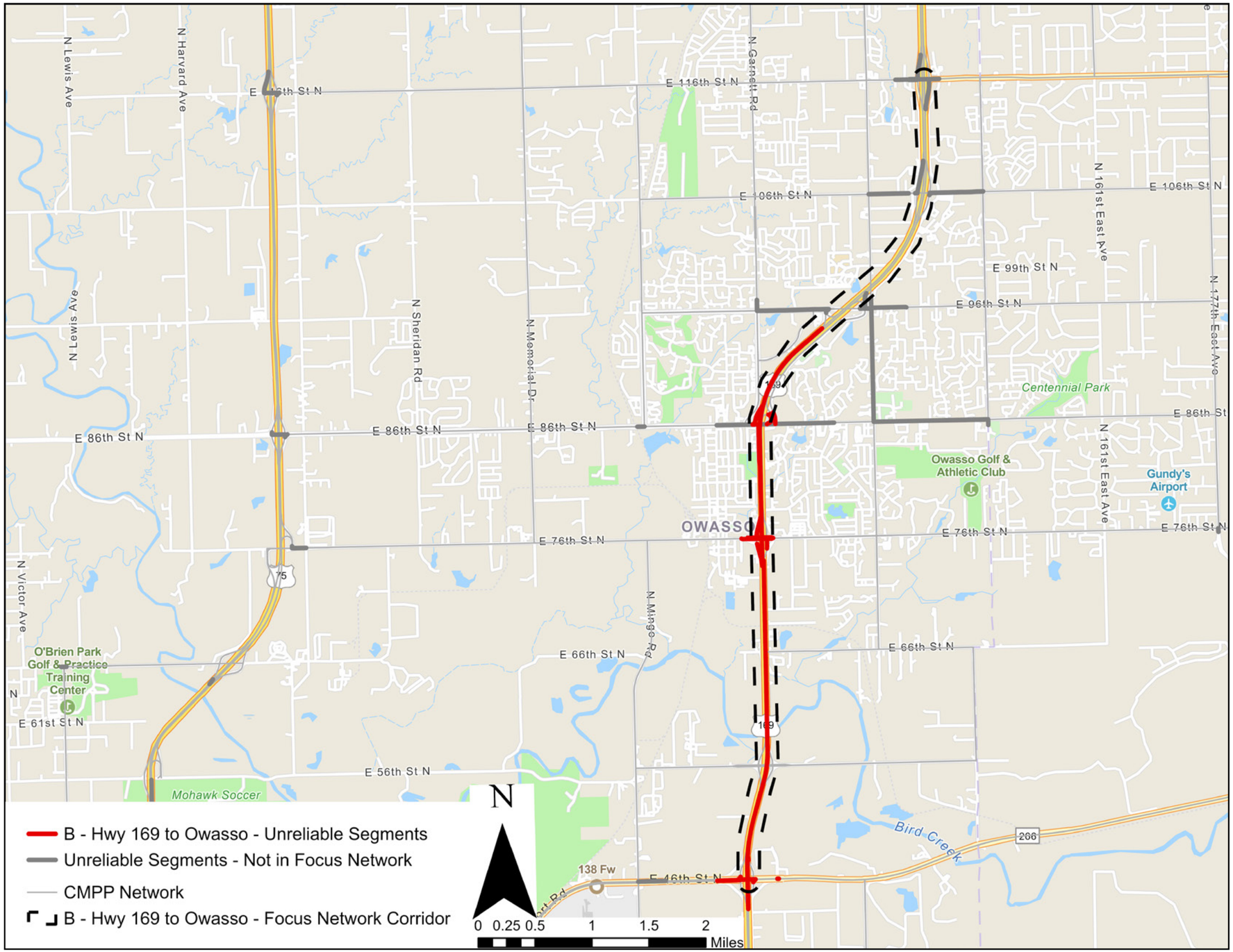
POTENTIAL STRATEGIES

- 2.2 SIGNAL SPACING
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 5.2 ACCESS MANAGMENT IMPROVEMENTS/CONSOLIDATION

2025 WEEKDAY HOURLY TRAFFIC VOLUME



East 86th Street North in Owasso experiences a gradual morning rise and a more pronounced afternoon peak. Traffic is below the generalized service volume estimate. Residential development, local retail trips, and connections to US-169 and nearby arterials may contribute to the concentrated evening demand and activity throughout the day.



POTENTIAL CAUSES

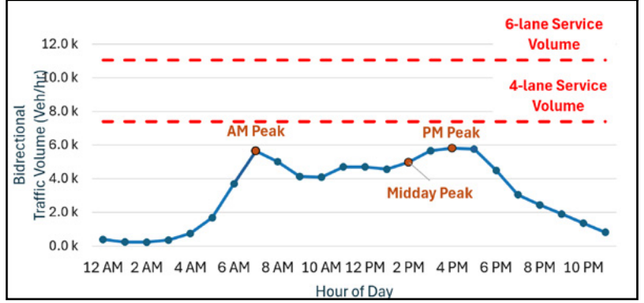
- RAMP BACKUPS
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

**UNDER CONSTRUCTION DURING DATA TIMEFRAME (SOUTH OF 86TH STREET)

POTENTIAL STRATEGIES

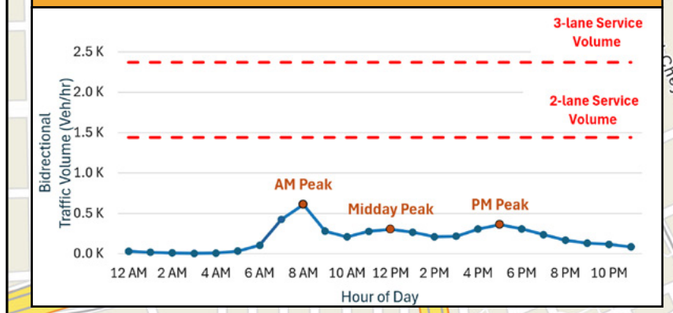
- 2.5 FREEWAY RAMP METERING
- 3.7 CONSTRUCT MOBILITY HUBS IN MIXED USE AREAS
- 3.8 VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES
- 4.2 INTEGRATED CORRIDOR MANAGEMENT
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



US-169 through Owasso displays the familiar two-peak commuter pattern, with the afternoon high slightly exceeding the morning period. Demand remains below the generalized estimates for both four-lane and six-lane configurations. Tulsa-bound regional trips and interchange access may still contribute to delays during the busiest periods.

2025 WEEKDAY HOURLY TRAFFIC VOLUME



South Boulder Avenue has a more prominent morning peak, followed by lighter traffic through the remainder of the day. Observed demand remains well below the generalized estimates for its differing lane configurations. Downtown signal timing, turning activity, and changes in cross section may nevertheless affect travel conditions at individual intersections.

POTENTIAL CAUSES

INTERSECTION/SIGNAL DENSITY

TRAFFIC INCIDENTS/CRASHES

POOR SIGNAL TIMING/COORDINATION

LIMITED MULTIMODAL OPTIONS

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

1.4 ALTERNATIVE MODE EVENTS

1.8 PRICING STRATEGIES

2.8 MANAGED LANES

3.2 INCREASING SERVICE HOURS

3.5 INSTALL TRANSIT ASSISTING TRAFFIC CONTROL

3.7 CONSTRUCT MOBILITY HUBS

4.2 INTEGRATED CORRIDOR MANAGEMENT

4.5 INCIDENT MANAGEMENT SYSTEM

4.10 PARKING MANAGEMENT PROGRAM

5.11 ROAD DIETS WITH OPERATIONAL ENHANCEMENTS

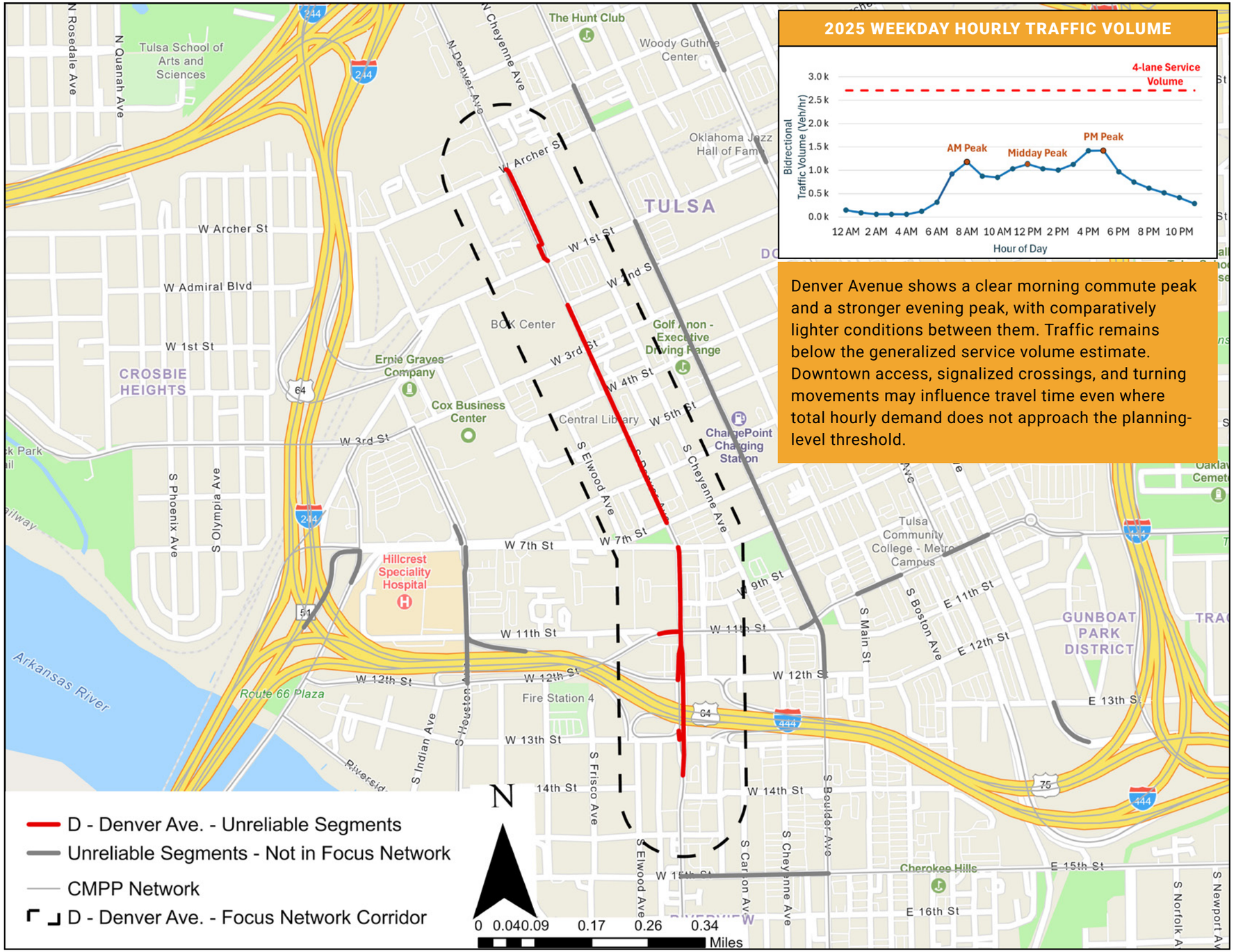
6.2 TRANSIT/TRAIL-ORIENTED DEVELOPMENT

6.8 SHARED PARKING POLICIES

6.12 LEADING PEDESTRIAN INTERVALS

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

6.18 SECURE BICYCLE PARKING



2025 WEEKDAY HOURLY TRAFFIC VOLUME

Denver Avenue shows a clear morning commute peak and a stronger evening peak, with comparatively lighter conditions between them. Traffic remains below the generalized service volume estimate. Downtown access, signalized crossings, and turning movements may influence travel time even where total hourly demand does not approach the planning-level threshold.

POTENTIAL CAUSES

RAMP BACKUPS

TRAFFIC INCIDENTS/CRASHES

SIGNAL TIMING/COORDINATION

LIMITED MULTIMODAL OPTIONS

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

1.4 ALTERNATIVE MODE EVENTS

1.8 PRICING STRATEGIES

2.8 MANAGED LANES

3.2 INCREASING SERVICE HOURS

3.5 INSTALL TRANSIT ASSISTING TRAFFIC CONTROL

3.7 CONSTRUCT MOBILITY HUBS

4.2 INTEGRATED CORRIDOR MANAGEMENT

4.5 INCIDENT MANAGEMENT SYSTEM

4.10 PARKING MANAGEMENT PROGRAM

5.11 ROAD DIETS WITH OPERATIONAL ENHANCEMENTS

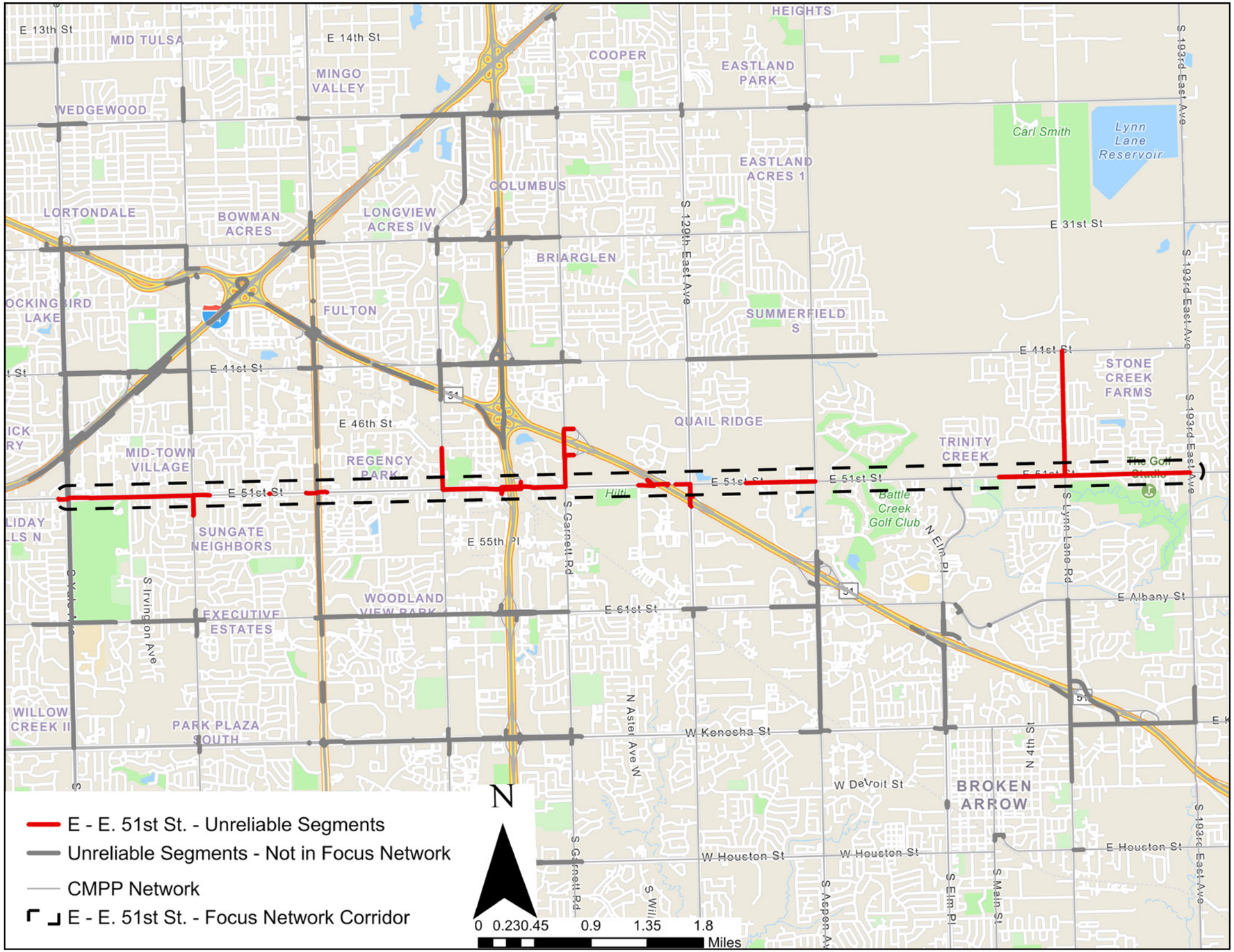
6.2 TRANSIT/TRAIL ORIENTED DEVELOPMENT

6.8 SHARED PARKING POLICIES

6.12 LEADING PEDESTRIAN INTERVALS

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

6.18 SECURE BICYCLE PARKING



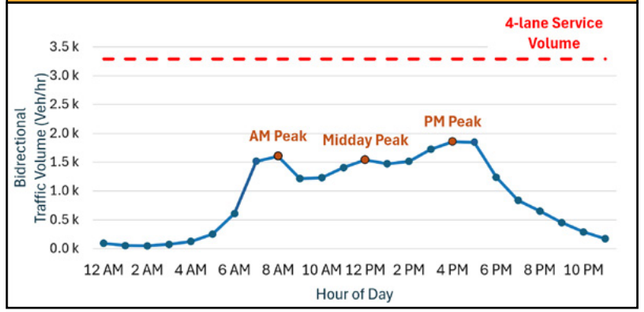
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

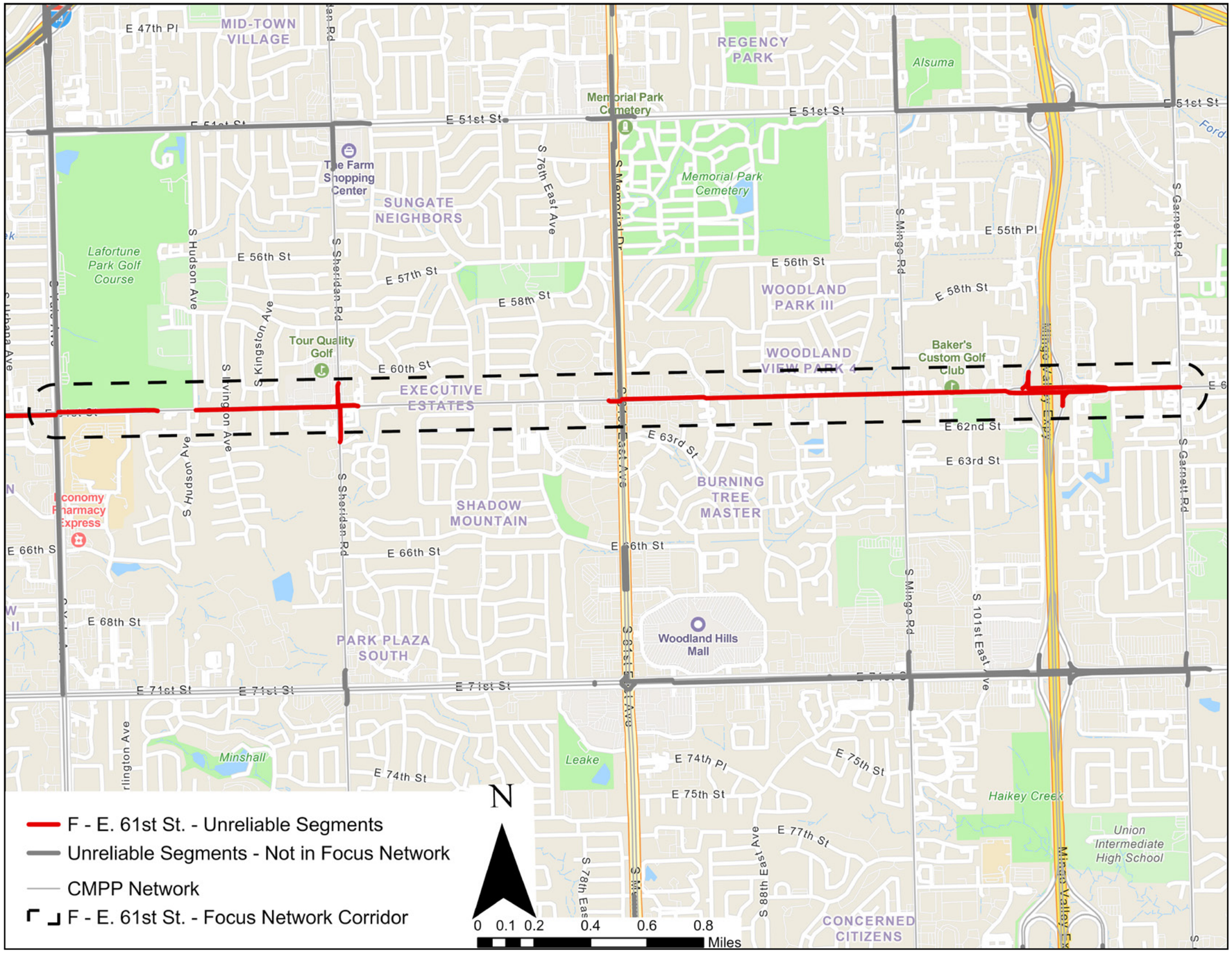
POTENTIAL STRATEGIES

- 2.1 ACCESS MANAGEMENT
- 2.3 INTERSECTION CONTROL EVALUATION
- 2.4 TURN LANE ADDITIONS
- 3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



East 51st Street experiences a moderate morning rise followed by a stronger late-afternoon peak. Overall demand remains well below the generalized service volume estimate. Its established commercial frontage, signalized intersections, and turning movements may contribute to short delays despite the apparent capacity margin on the corridor-wide chart.



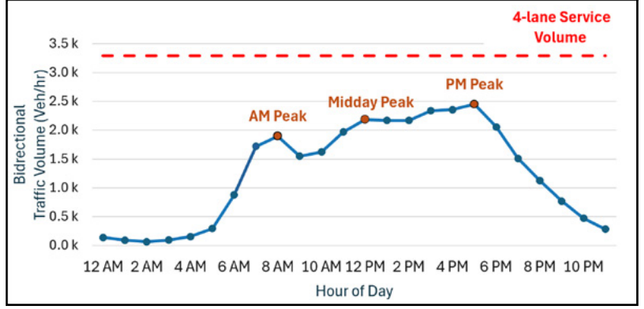
POTENTIAL CAUSES

- INTERSECTION/SIGNAL DENSITY
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

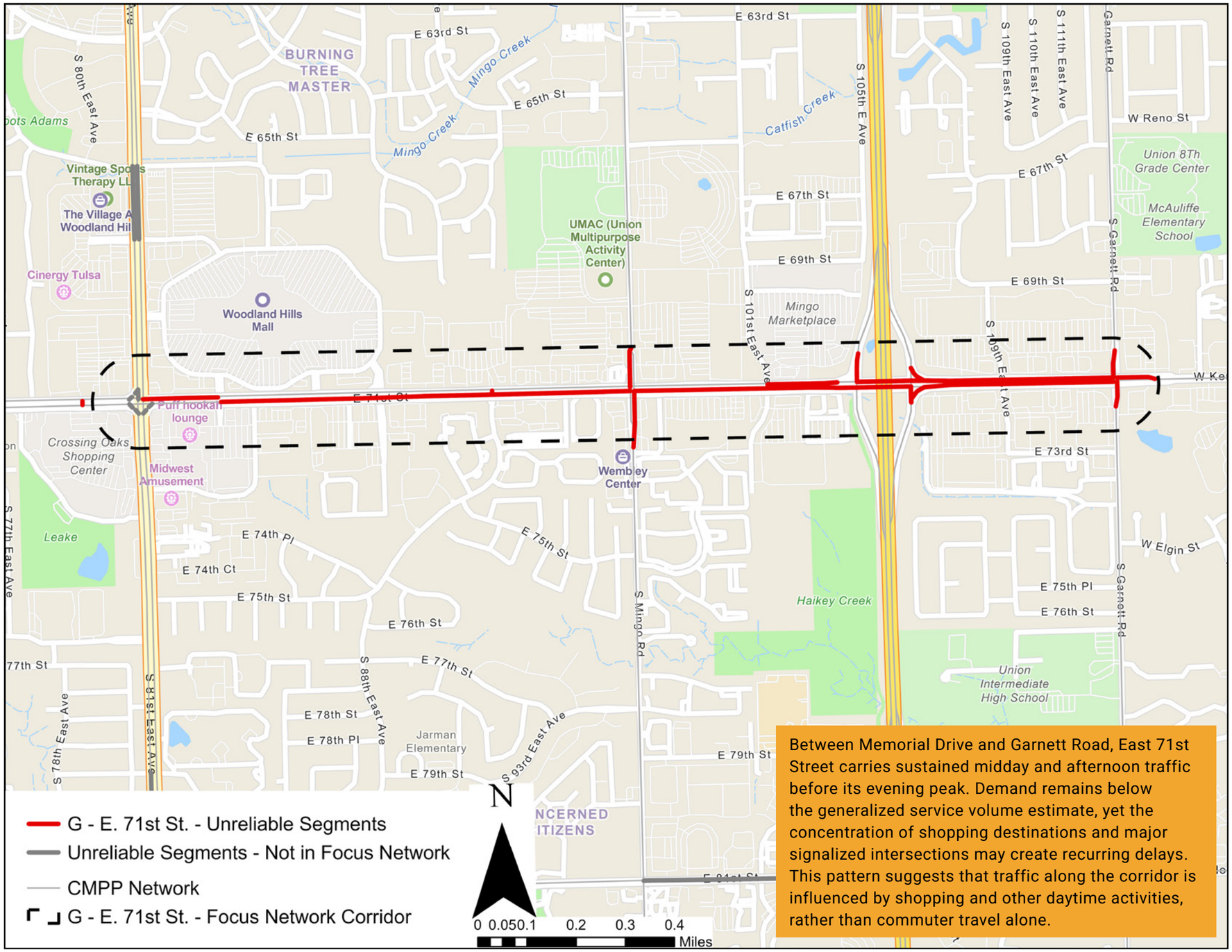
POTENTIAL STRATEGIES

- 1.5 EMPLOYER INCENTIVE PROGRAMS
- 2.1 ACCESS MANAGEMENT
- 3.4 IMPLEMENTING BUS RAPID TRANSIT (BRT) SERVICE
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 6.2 TRANSIT/TRAIL ORIENTED DEVELOPMENT
- 6.3 ACTIVITY CENTER PLANNING
- 6.8 SHARED PARKING POLICIES
- 6.13 CONSTUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



East 61st Street builds gradually through the morning and maintains a relatively strong afternoon flow before its evening peak. Hourly demand remains below the generalized service volume estimate. The mix of residential access, neighborhood destinations, and crossings with major north-south arterials may produce a broad travel-demand pattern and localized signal delays.



Between Memorial Drive and Garnett Road, East 71st Street carries sustained midday and afternoon traffic before its evening peak. Demand remains below the generalized service volume estimate, yet the concentration of shopping destinations and major signalized intersections may create recurring delays. This pattern suggests that traffic along the corridor is influenced by shopping and other daytime activities, rather than commuter travel alone.

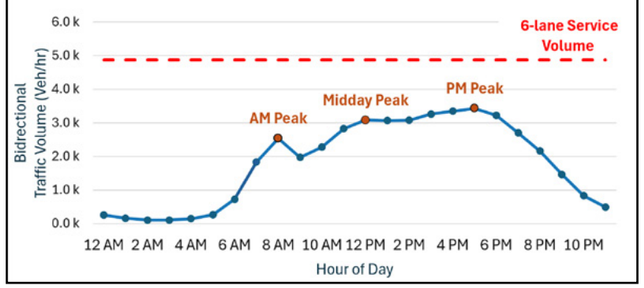
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.8 PRICING STRATEGIES
- 2.1 ACCESS MANAGEMENT
- 2.2 SIGNAL SPACING
- 2.3 INTERSECTION CONTROL EVALUATION
- 3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
- 3.5 INSTALL TRANSIT ASSISTING TRAFFIC CONTROL ELEMENTS
- 3.7 CONSTRUCT MOBILITY HUBS
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 6.1 MIXED-USE DEVELOPMENT
- 6.2 TRANSIT/TRAIL-ORIENTED DEVELOPMENT
- 6.8 SHARED PARKING POLICIES

2025 WEEKDAY HOURLY TRAFFIC VOLUME





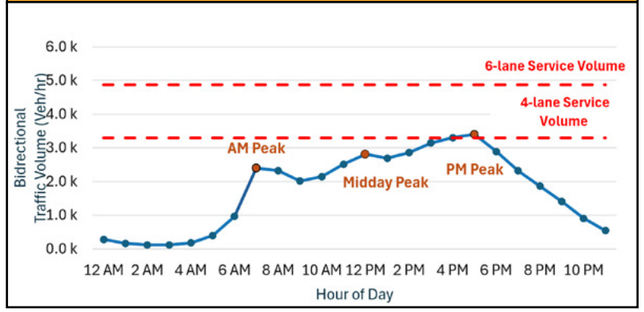
POTENTIAL CAUSES

- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.4 ALTERNATIVE MODE EVENTS
- 2.3 INTERSECTION CONTROL EVALUATION
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 5.9 CONSTRUCTION OF NEW BRIDGE CROSSINGS
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



West 71st Street sustains high demand through the afternoon, reaching its highest hourly volume during the evening commute period. The peak exceeds the generalized estimate for four-lane sections but stays below the six-lane estimate, making changes in roadway width important to interpreting the chart. Commercial access and major intersections may compound delays where capacity is more constrained.



POTENTIAL CAUSES

LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

1.4 ALTERNATIVE MODE EVENTS

2.3 INTERSECTION CONTROL EVALUATION

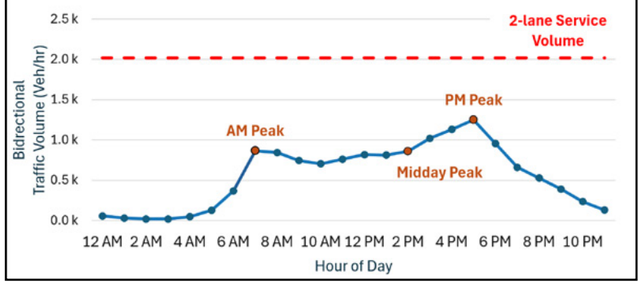
5.11 ROAD DIETS WITH OPERATIONAL ENHANCEMENTS

6.5 STREET CONNECTIVITY REQUIREMENTS

6.9 CONSTRUCTING NEW SIDEWALKS/SIDEWALK GAP ELIMINATION

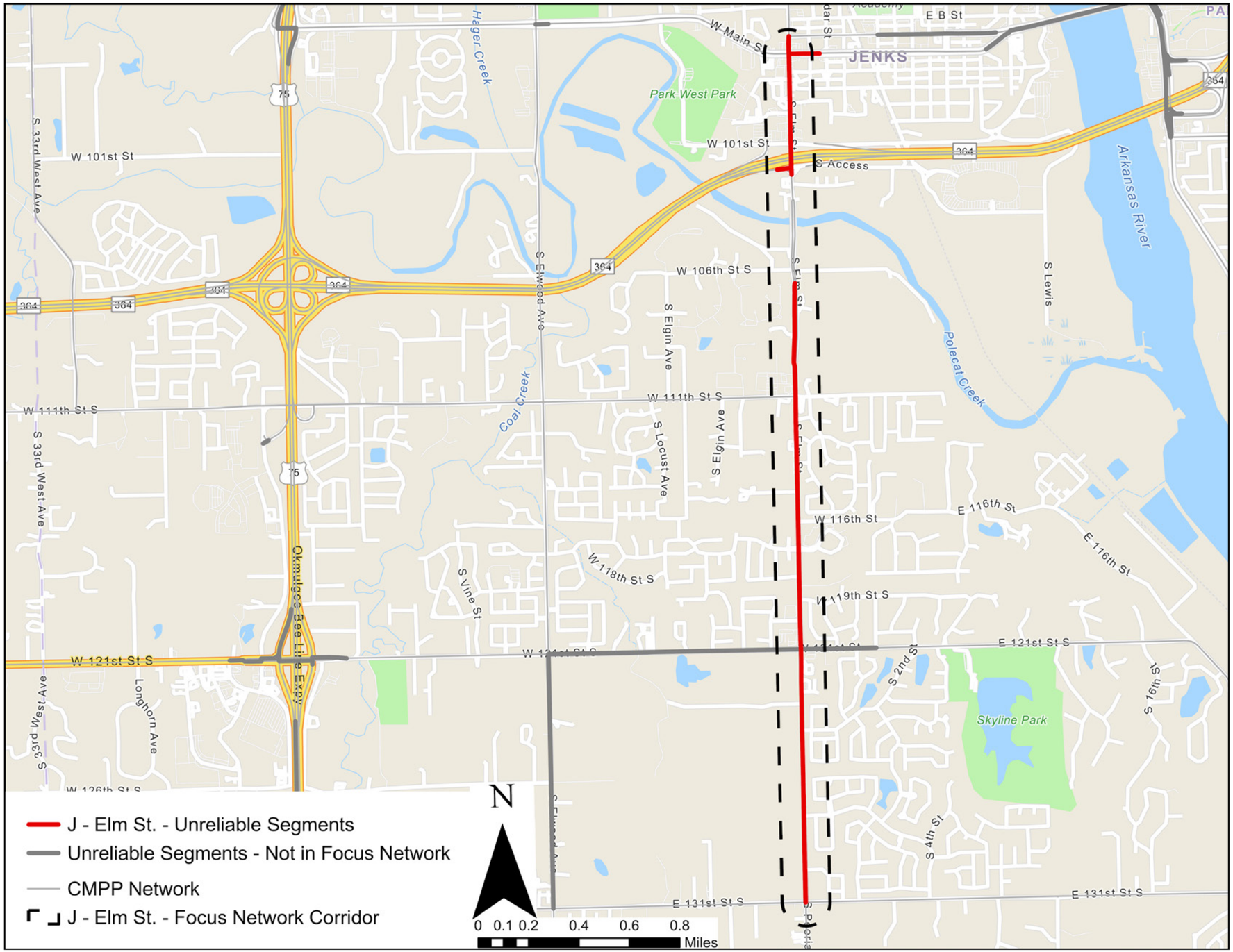
6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



East 121st Street has a pronounced afternoon buildup, with a substantially stronger evening peak than morning demand. The peak remains below the generalized estimate for its two-lane configuration. Neighborhood travel, school-related activity, and connections to larger north-south roads may concentrate trips during the afternoon and contribute to intersection queues.

FOCUS NETWORK J - ELM STREET



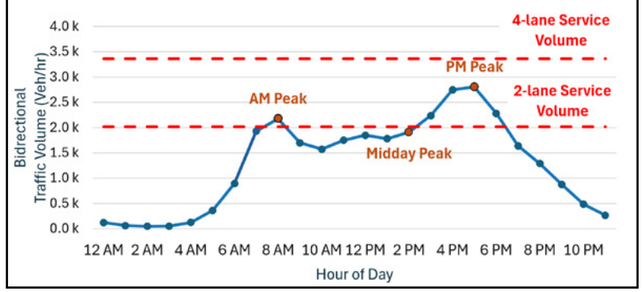
POTENTIAL CAUSES

VOLUME EXCEEDS CAPACITY
SIGNAL TIMING/COORDINATION
LIMITED MULTIMODAL OPTIONS

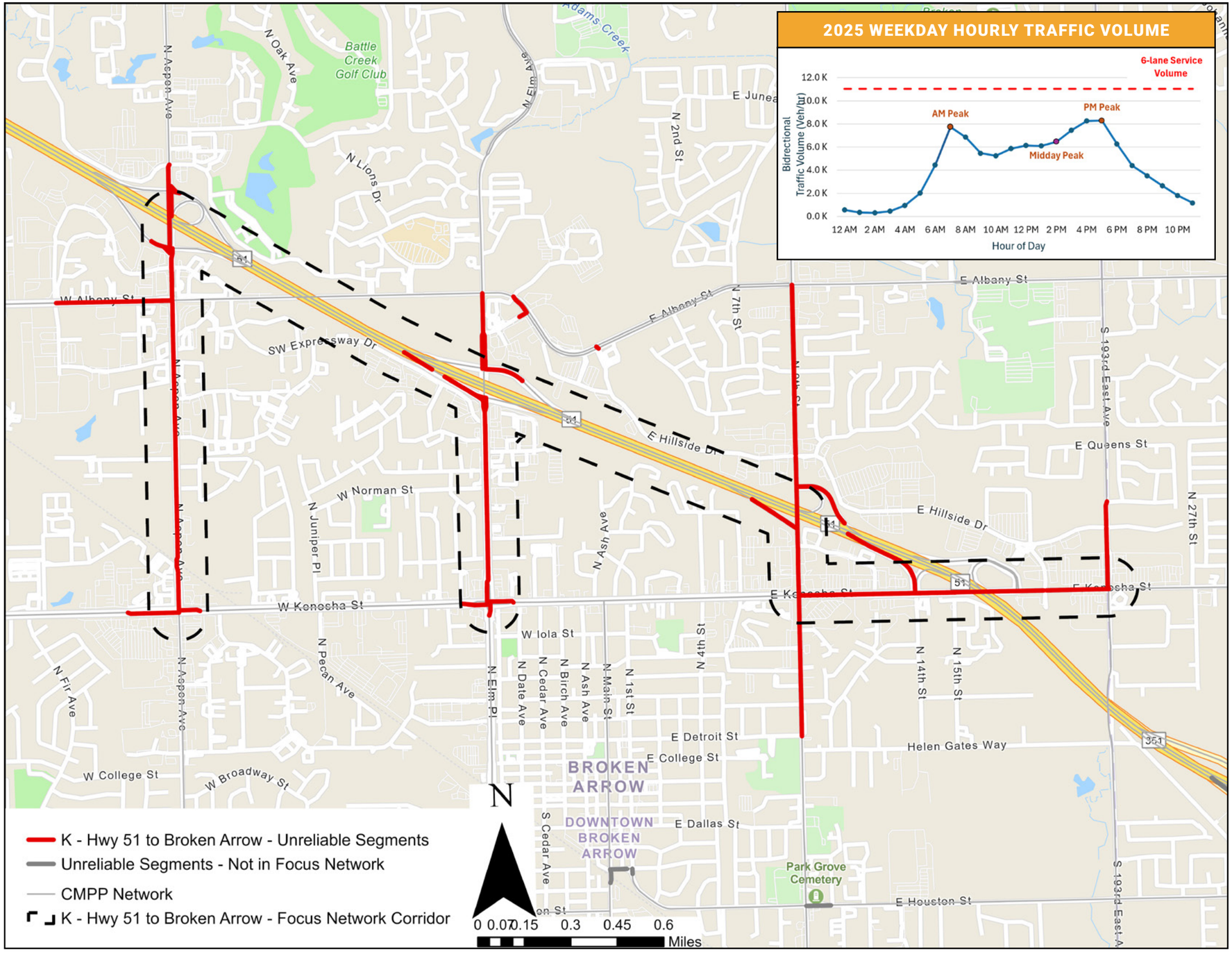
POTENTIAL STRATEGIES

2.3 INTERSECTION CONTROL EVALUATION
3.4 IMPLEMENTING BUS RAPID TRANSIT (BRT) SERVICE
4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
6.5 STREET CONNECTIVITY REQUIREMENTS
6.7 REGIONAL GROWTH MANAGEMENT POLICIES

2025 WEEKDAY HOURLY TRAFFIC VOLUME



South Elm Street in Jenks shows a pronounced evening commute peak after sustained daytime traffic. Peak demand exceeds the generalized estimate for two-lane portions but remains below the four-lane estimate. Changes in cross section, combined with residential growth and trips accessing downtown Jenks and the creek turnpike, may help explain bottlenecks.



2025 WEEKDAY HOURLY TRAFFIC VOLUME

POTENTIAL CAUSES

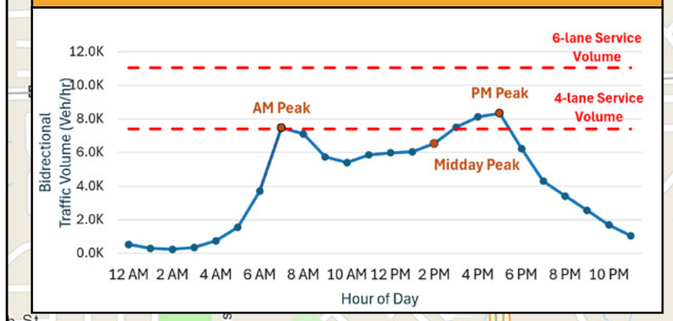
- RAMP BACKUPS
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- POOR SIGNAL TIMING/COORDINATION
- CLOSELY SPACED INTERCHANGES
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.3 RIDESHARING
- 2.2 SIGNAL SPACING
- 2.3 INTERSECTION CONTROL EVALUATION
- 2.6 INTERAGENCY CORRIDOR MANAGEMENT AGREEMENTS
- 3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
- 4.2 INTEGRATED CORRIDOR MANAGEMENT
- 5.2 ACCESS MANAGEMENT IMPROVMENTS/CONSOLIDATION
- 5.3 TURN RESTRICTIONS
- 6.5 STREET CONNECTIVITY REQUIREMENTS
- 6.7 REGIONAL GROWTH MANAGEMENT POLICIES

The hourly traffic volume chart represents the Hwy 51 portion of corridor K. Hwy 51 carries a pronounced morning rise followed by a stronger evening peak, with substantial demand persisting between the two periods. The peak remains below the generalized service volume estimate. As a regional connection, the corridor likely accommodates a mix of longer-distance commuting and trips accessing adjacent communities and interchanges. However, congestion along Hwy 51 can affect traffic conditions on connecting roadways, particularly near interchanges where vehicles enter and exit the highway. Similarly, delays at intersections and along connecting streets can contribute to backups near ramps, affecting traffic flow across the broader corridor.

2025 WEEKDAY HOURLY TRAFFIC VOLUME



Creek Turnpike displays a clear commuter profile, with an earlier morning increase and a higher evening peak. Peak traffic exceeds the generalized four-lane service volume estimate but remains below the six-lane estimate. Lane-count transitions and interchange merging activity are therefore important when evaluating potential constraints along this segment.

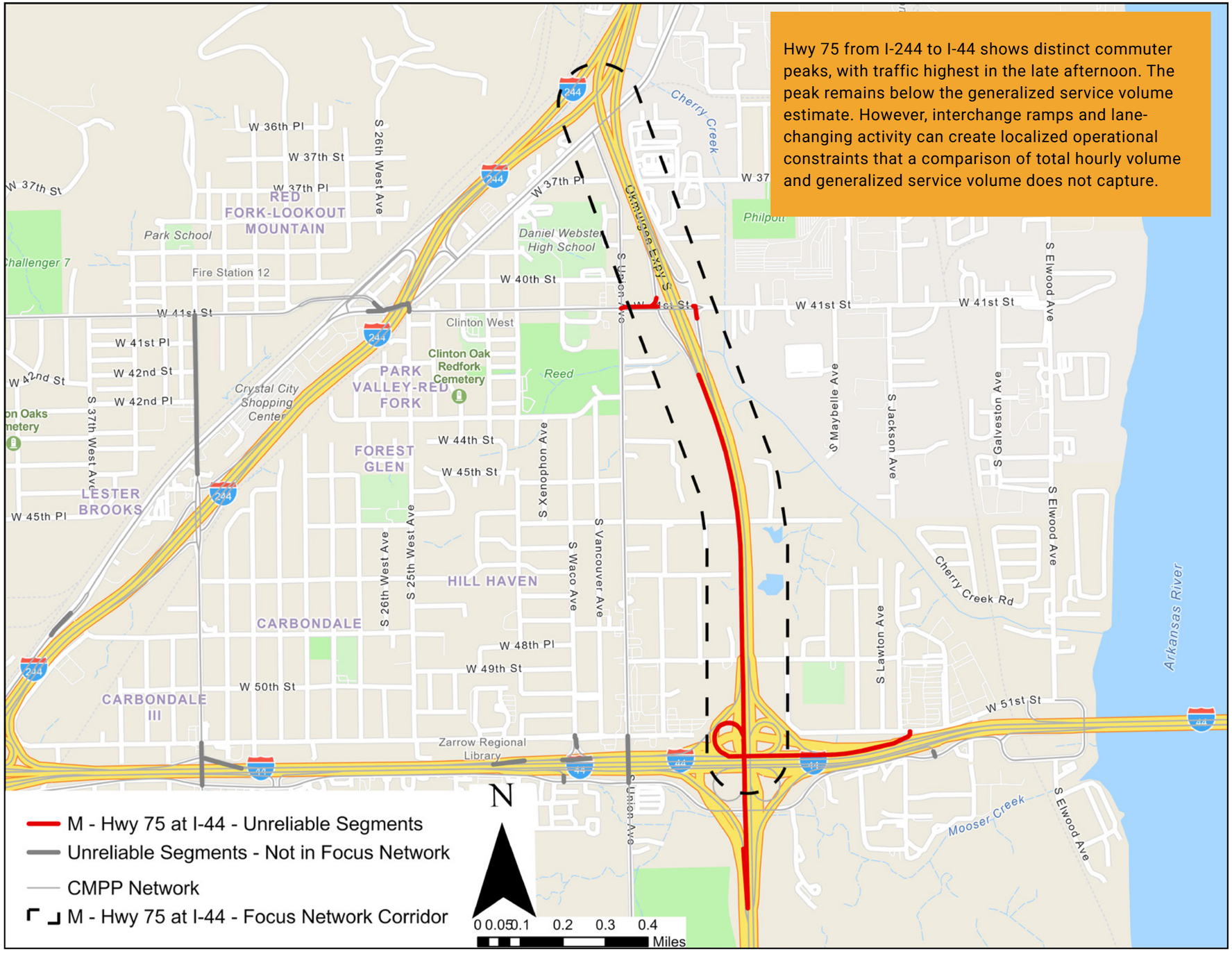
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSATION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.1 ALTERNATIVE WORK SCHEDULES
- 2.3 INTERSECTION CONTROL EVALUATION
- 3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
- 4.2 INTEGRATED CORRIDOR MANAGEMENT
- 6.9 CONSTUCTING NEW SIDEWALKS/SIDEWALK GAP ELIMINATION
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

FOCUS NETWORK M - US-75 AT I-44



Hwy 75 from I-244 to I-44 shows distinct commuter peaks, with traffic highest in the late afternoon. The peak remains below the generalized service volume estimate. However, interchange ramps and lane-changing activity can create localized operational constraints that a comparison of total hourly volume and generalized service volume does not capture.

POTENTIAL CAUSES

RAMP BACKUPS

VOLUME EXCEEDS CAPACITY

TRAFFIC INCIDENTS/CRASHES

CLOSELY SPACES INTERCHANGES

LIMITED MULTIMODAL OPTIONS

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

2.7 BOTTLENECK REMOVAL PROJECTS

3.8 VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES

4.7 DYNAMIC MESSAGE SIGNS AND TRAFFIC COMMUNICATIONS

4.11 SPEED HARMONIZATION

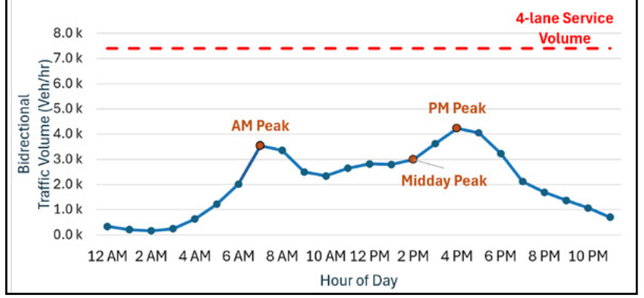
5.6 GEOMETRIC DESIGN IMPROVEMENTS TO INTERSECTIONS AND INTERCHANGES

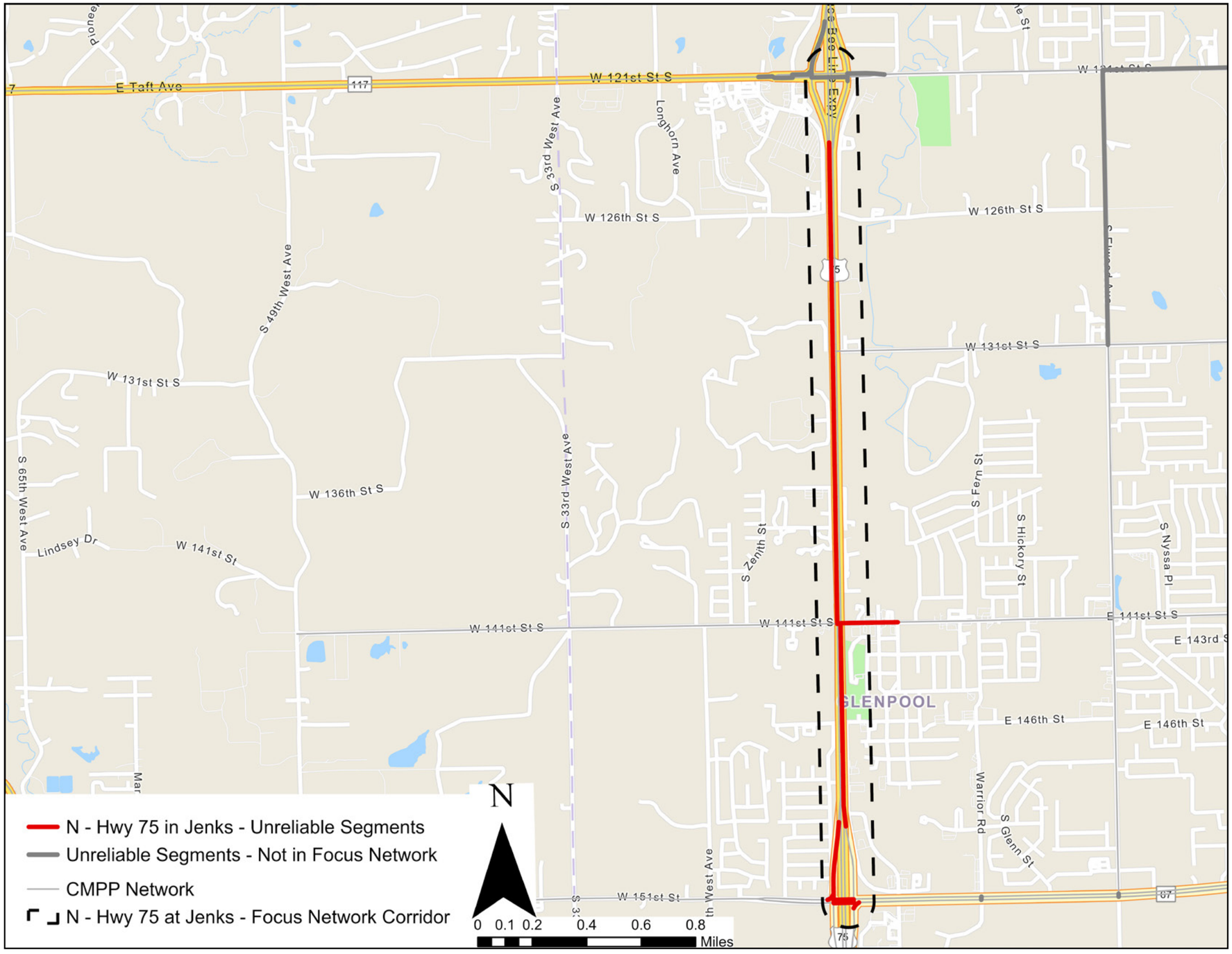
6.6 TRANSPORTATION IMPACT MITIGATION PROGRAM

6.7 REGIONAL GROWTH MANAGEMENT POLICIES

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME





POTENTIAL CAUSES

TRAFFIC INCIDENTS/CRASHES

LIMITED MULTIMODAL OPTIONS

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

2.7 BOTTLENECK REMOVAL PROJECTS

3.8 VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES

4.6 WORK ZONE MANAGEMENT

4.11 SPEED HARMONIZATION

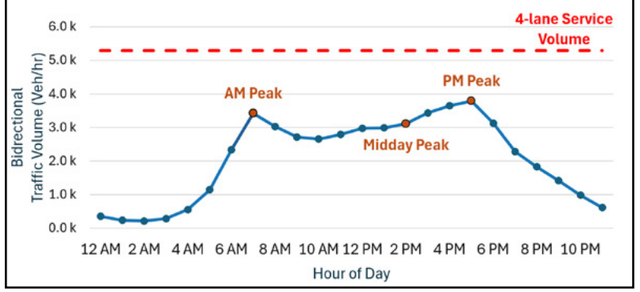
6.5 STREET CONNECTIVITY REQUIREMENTS

6.6 TRANSPORTATION IMPACT MITIGATION PROGRAM

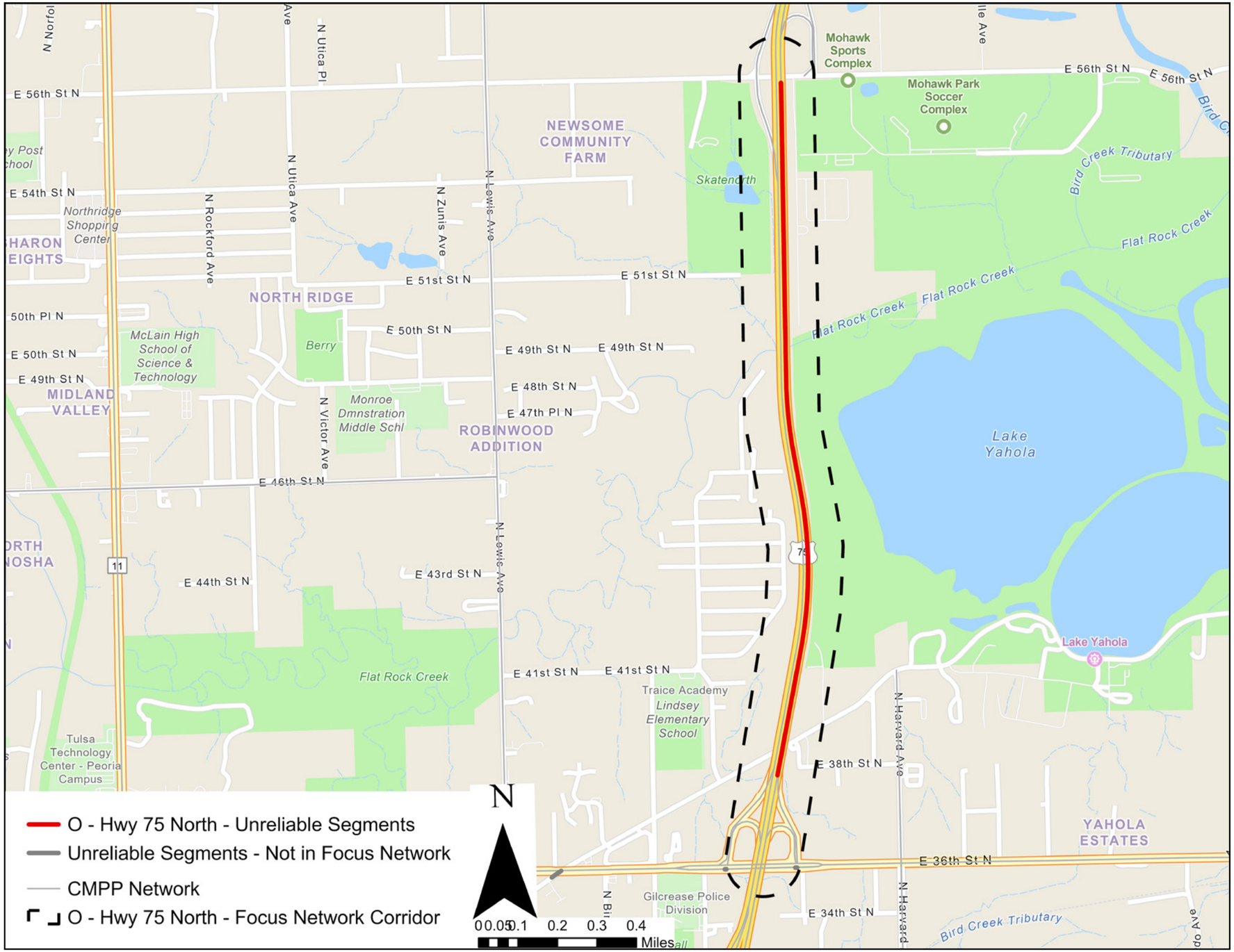
6.7 REGIONAL GROWTH MANAGEMENT POLICIES

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



Hwy 75 near Glenpool shows a commuter-oriented pattern, with an evening high after a morning increase. Demand remains below the generalized service volume estimate. Regional travel between southern Tulsa County communities and Tulsa may explain the distinct peaks, while interchange activity can still influence travel reliability at specific locations.



POTENTIAL CAUSES

VOLUME EXCEEDS CAPACITY

LIMITED MULTIMODAL OPTIONS

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

1.1 ALTERNATIVE WORK SCHEDULES

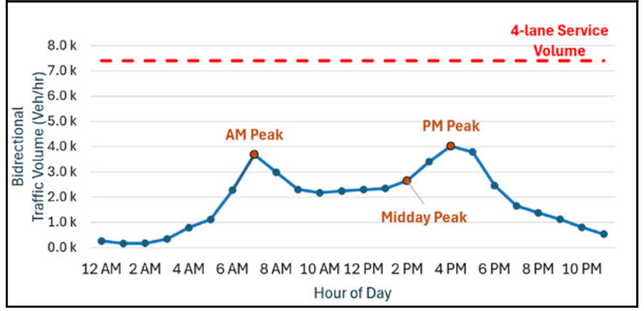
1.2 TELECOMMUTING

1.3 RIDESHARING

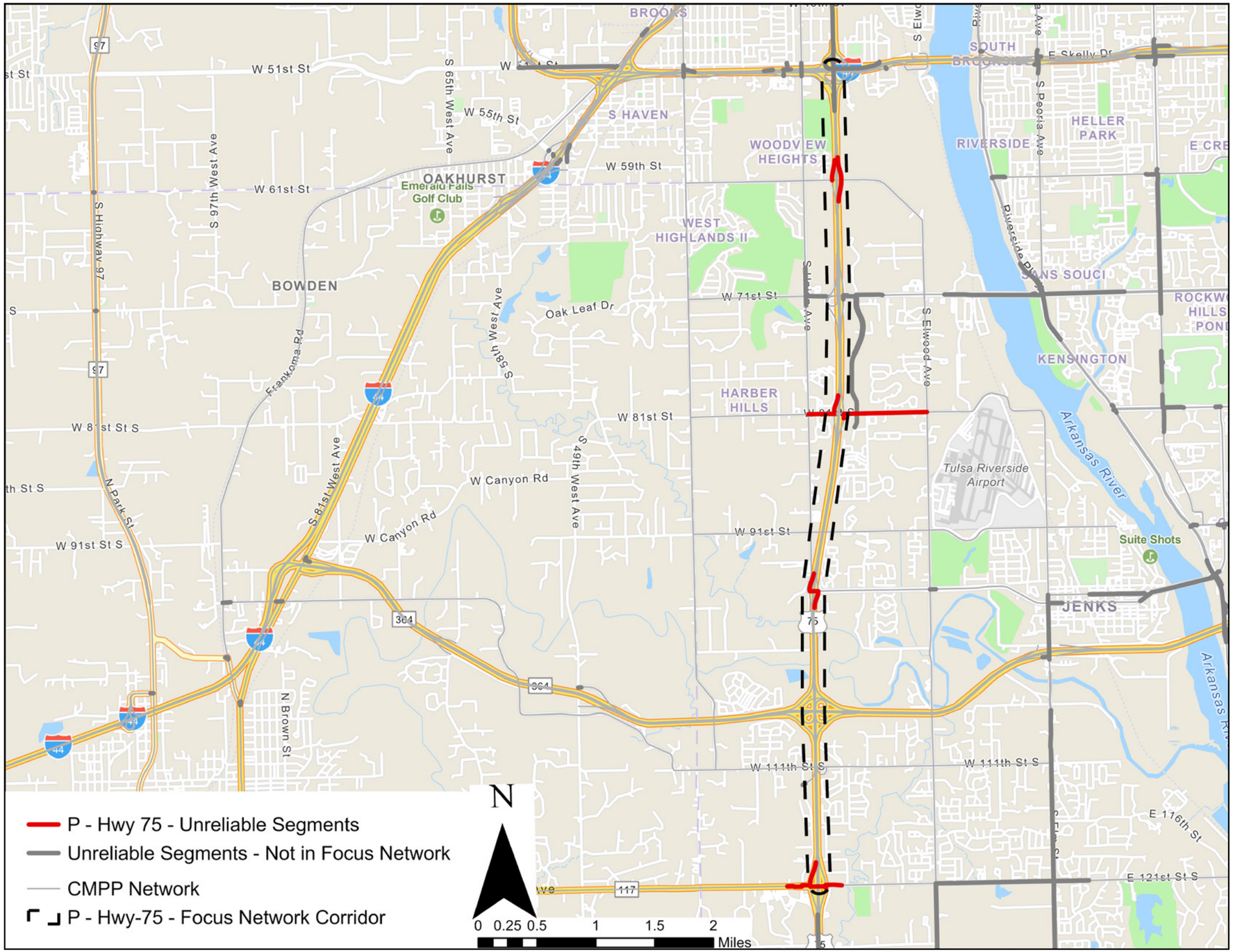
6.9 CONSTRUCTING NEW SIDEWALKS/SIDEWALK GAP ELIMINATION

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



North US-75 between 36th Street North and 56th Street North has recognizable morning and afternoon commute peaks, with the latter occurring earlier in the evening period. Demand remains below the generalized service volume estimate. Regional trips and nearby interchange movements may shape travel conditions even when corridor-wide hourly volumes appear to leave available capacity.



POTENTIAL CAUSES

RAMP BACKUPS

CLOSELY SPACED INTERCHANGES

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

2.3 INTERSECTION CONTROL EVALUATION

3.8 VANPOOL PROGRAMS AND/OR EMPLOYER SHUTTLE SERVICES

4.6 WORK ZONE MANAGEMENT

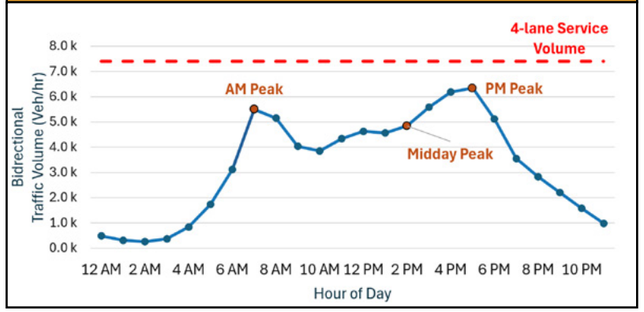
6.5 STREET CONNECTIVITY REQUIREMENTS

6.6 TRANSPORTATION IMPACT MITIGATION PROGRAM

6.7 REGIONAL GROWTH MANAGEMENT POLICIES

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

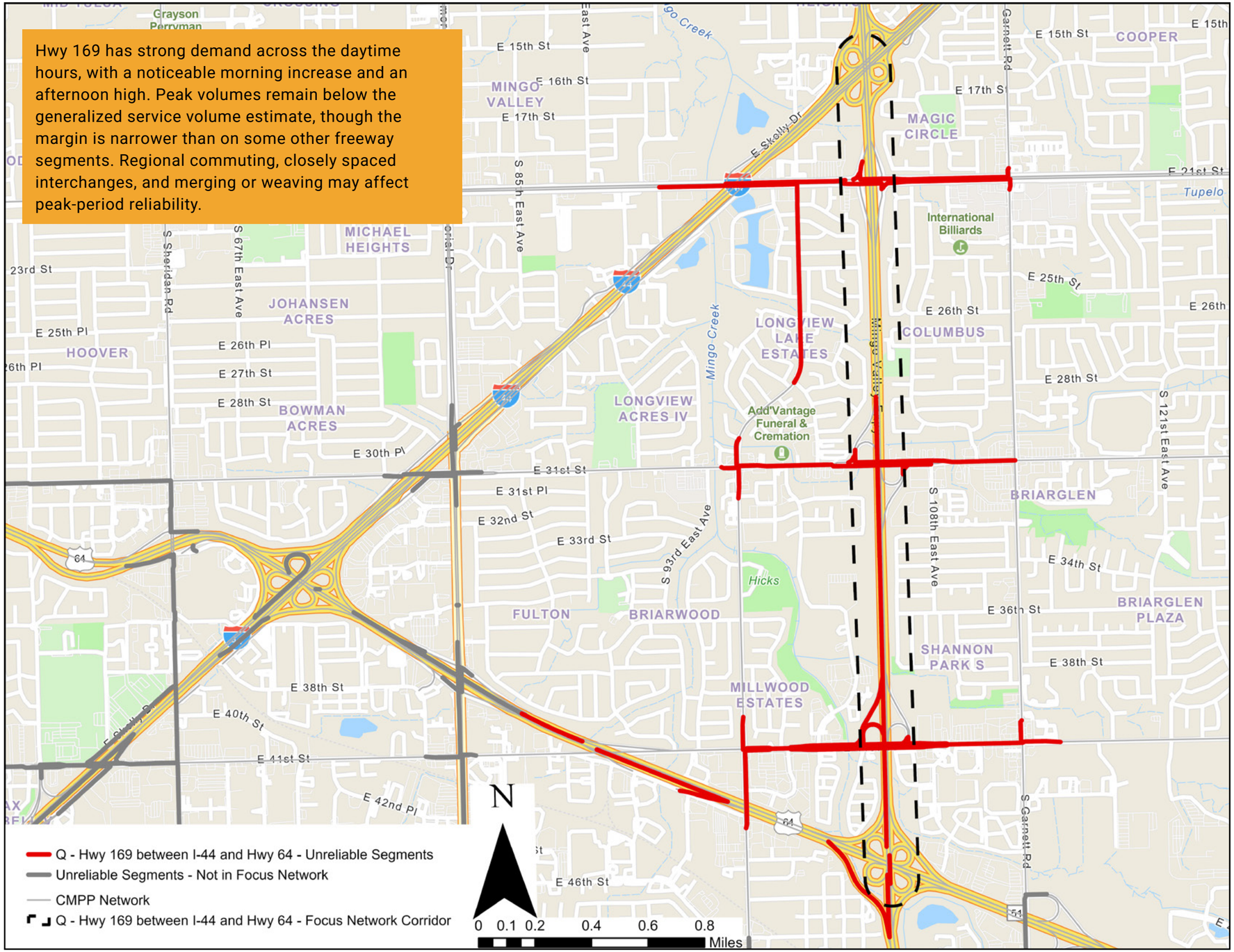
2025 WEEKDAY HOURLY TRAFFIC VOLUME



Hwy 75 south of I-44 exhibits a pronounced commute pattern and a stronger evening peak. Demand approaches, but does not exceed, the generalized service volume estimate, indicating relatively limited planning-level headroom at the busiest time. Major interchange connections and concentrated north-south regional travel may contribute to observed peak-period congestion.

FOCUS NETWORK Q - US-169 FROM I-44 TO US-64

Hwy 169 has strong demand across the daytime hours, with a noticeable morning increase and an afternoon high. Peak volumes remain below the generalized service volume estimate, though the margin is narrower than on some other freeway segments. Regional commuting, closely spaced interchanges, and merging or weaving may affect peak-period reliability.



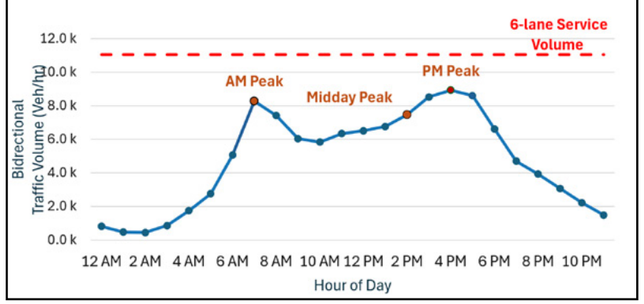
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSECTION SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS
- **UNDER CONSTRUCTION DURING DATA TIMEFRAME

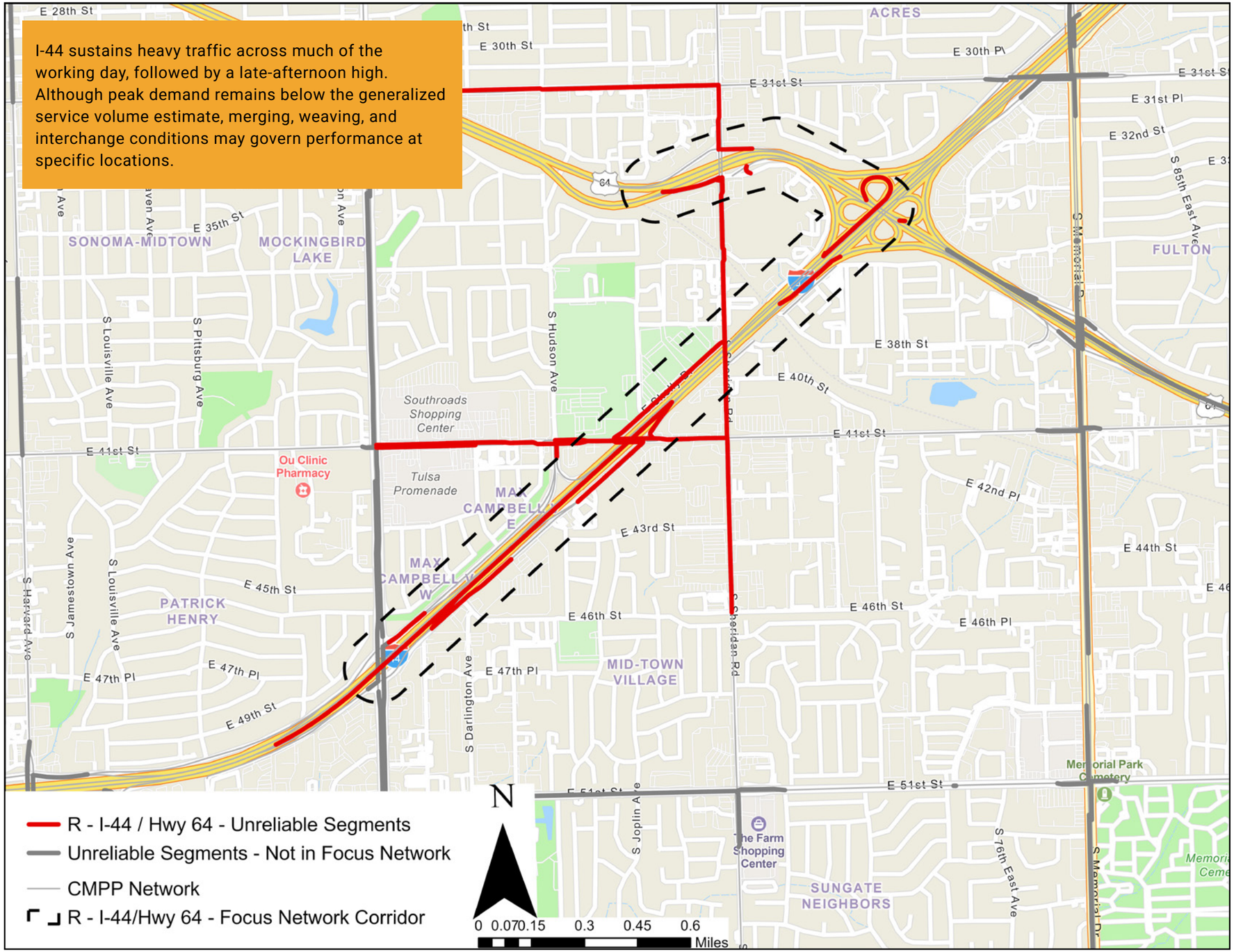
POTENTIAL STRATEGIES

- 2.1 ACCESS MANAGEMENT
- 2.3 INTERSECTION CONTROL EVALUATION
- 2.7 BOTTLENECK REMOVAL PROJECTS
- 3.4 IMPLEMENTING BUS RAPID TRANSIT (BRT) SERVICE
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 5.6 GEOMETRIC DESIGN IMPROVEMENTS TO INTERSECTIONS AND INTERCHANGES

2025 WEEKDAY HOURLY TRAFFIC VOLUME



I-44 sustains heavy traffic across much of the working day, followed by a late-afternoon high. Although peak demand remains below the generalized service volume estimate, merging, weaving, and interchange conditions may govern performance at specific locations.



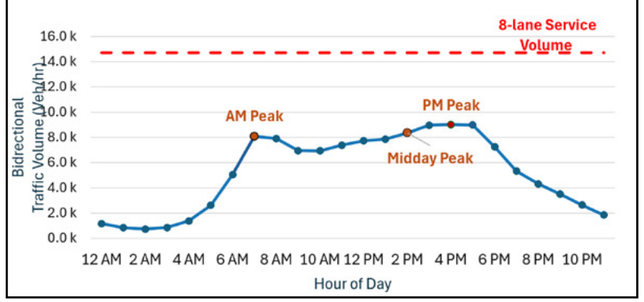
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- CLOSELY SPACED INTERCHANGES

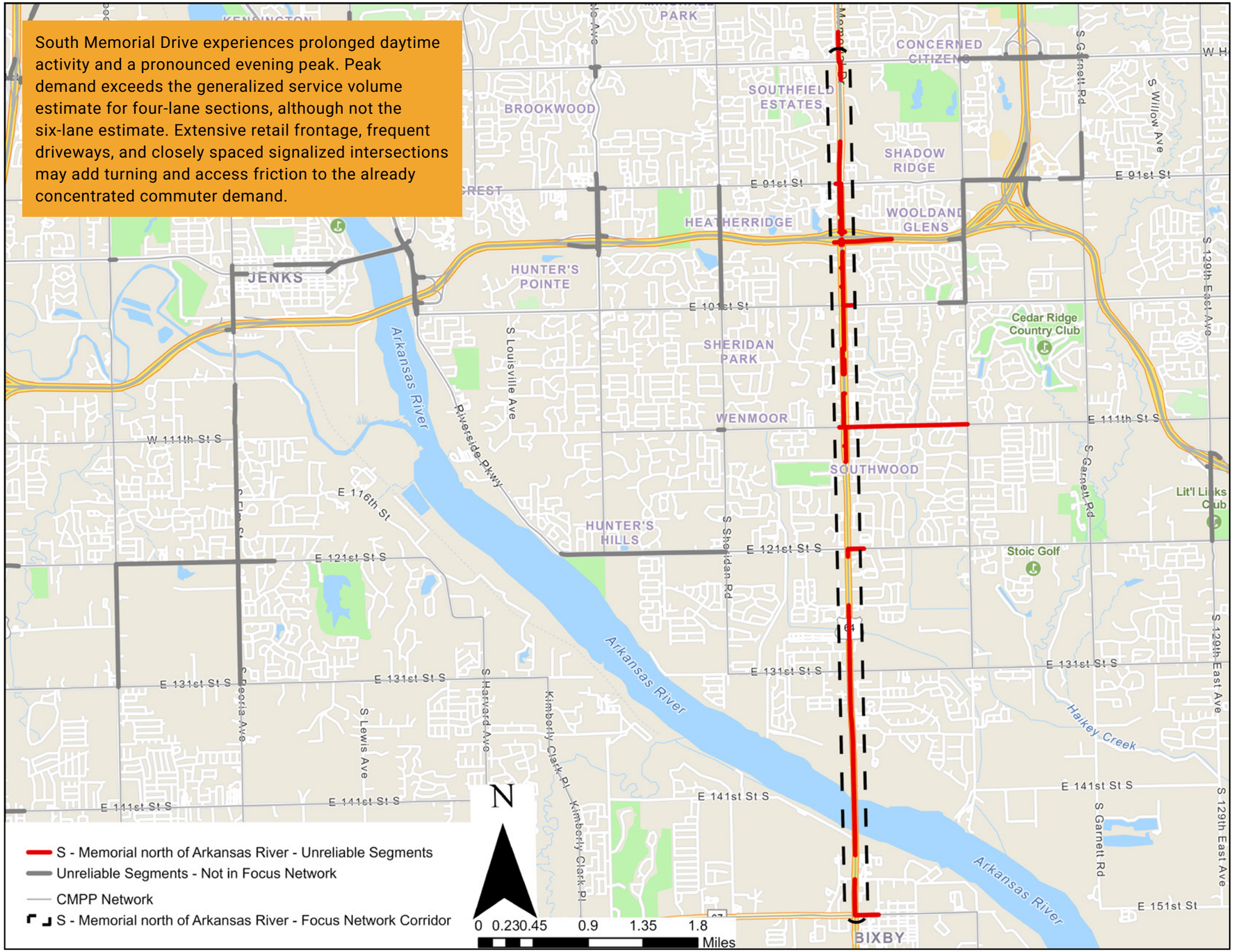
POTENTIAL STRATEGIES

- 1.8 PRICING STRATEGIES
- 2.5 FREEWAY RAMP METERING
- 2.1 ACCESS MANAGEMENT
- 2.7 BOTTLENECK REMOVAL PROJECTS
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 5.6 GEOMETRIC DESIGN IMPROVEMENTS TO INTERSECTIONS AND INTERCHANGES
- 6.3 ACTIVITY CENTER PLANNING
- 6.8 SHARED PARKING POLICIES
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



South Memorial Drive experiences prolonged daytime activity and a pronounced evening peak. Peak demand exceeds the generalized service volume estimate for four-lane sections, although not the six-lane estimate. Extensive retail frontage, frequent driveways, and closely spaced signalized intersections may add turning and access friction to the already concentrated commuter demand.



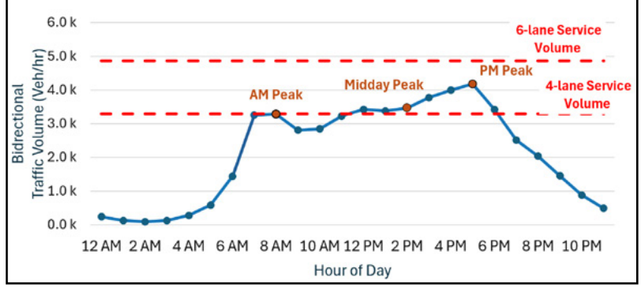
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

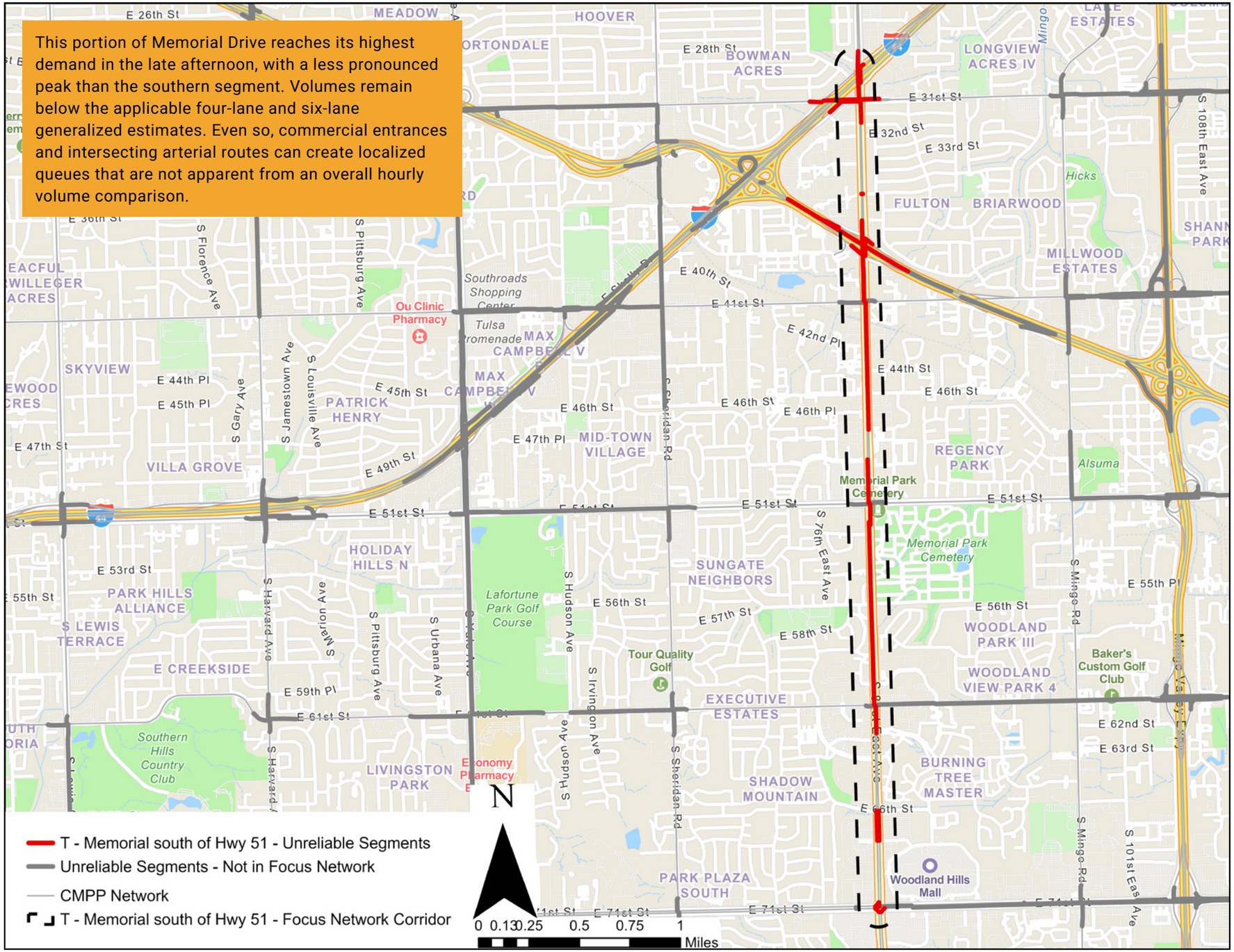
POTENTIAL STRATEGIES

- 1.2 TELECOMMUTING
- 2.1 ACCESS MANAGEMENT
- 2.4 TURN LANE ADDITIONS
- 2.5 FREEWAY RAMP METERING
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 6.9 CONSTRUCTING NEW SIDEWALKS/SIDEWALK GAP ELIMINATION
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



This portion of Memorial Drive reaches its highest demand in the late afternoon, with a less pronounced peak than the southern segment. Volumes remain below the applicable four-lane and six-lane generalized estimates. Even so, commercial entrances and intersecting arterial routes can create localized queues that are not apparent from an overall hourly volume comparison.



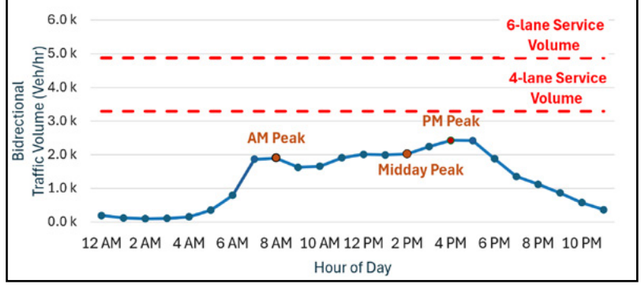
POTENTIAL CAUSES

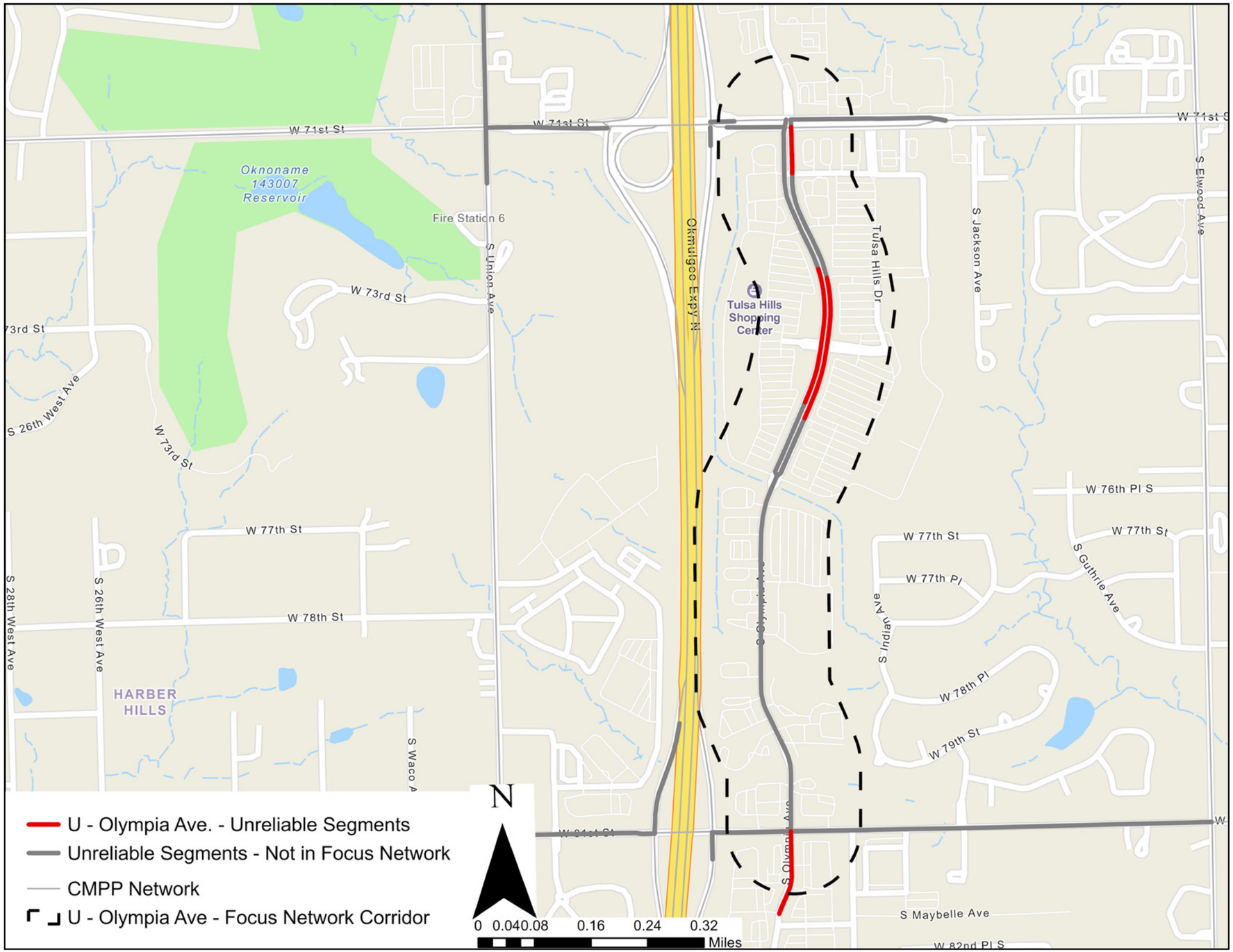
- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- CLOSELY SPACED INTERCHANGES
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.5 EMPLOYER INCENTIVE PROGRAMS
- 2.1 ACCESS MANAGEMENT
- 2.2 SIGNAL SPACING
- 3.1 INCREASING FIXED ROUTE COVERAGE OR FREQUENCY
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME





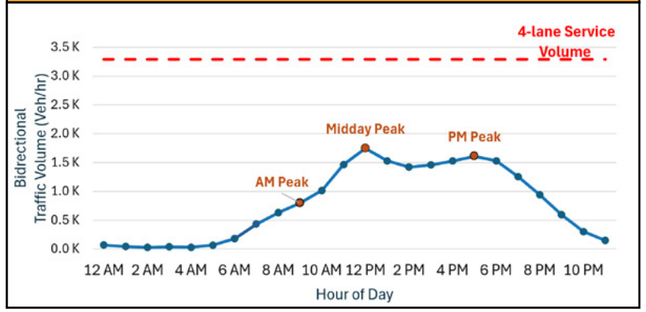
POTENTIAL CAUSES

- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 2.3 INTERSECTION CONTROL EVALUATION
- 3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
- 6.5 STREET CONNECTIVITY REQUIRMENTS
- 6.7 REGIONAL GROWTH MANAGEMENT
- 6.8 SHARED PARKING POLICIES
- 6.14 SHARED-USE PATHS

2025 WEEKDAY HOURLY TRAFFIC VOLUME



Olympia Avenue has a broad midday high rather than a sharply defined commuter peak. Traffic is well below the generalized service volume estimate, but access to the Tulsa Hills shopping area can generate turning movements and localized intersection delays. Retail and service trips may account for the corridor's relatively strong midday demand.



POTENTIAL CAUSES

INTERSECTION/SIGNAL DENSITY

TRAFFIC INCIDENTS/CRASHES

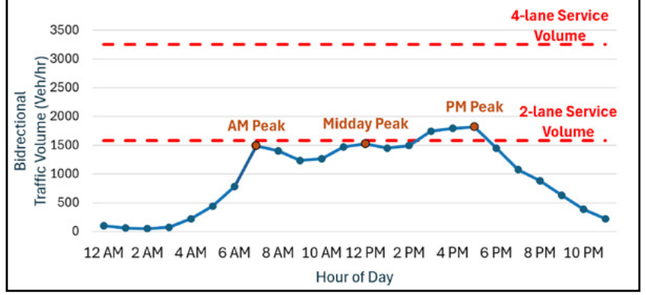
****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

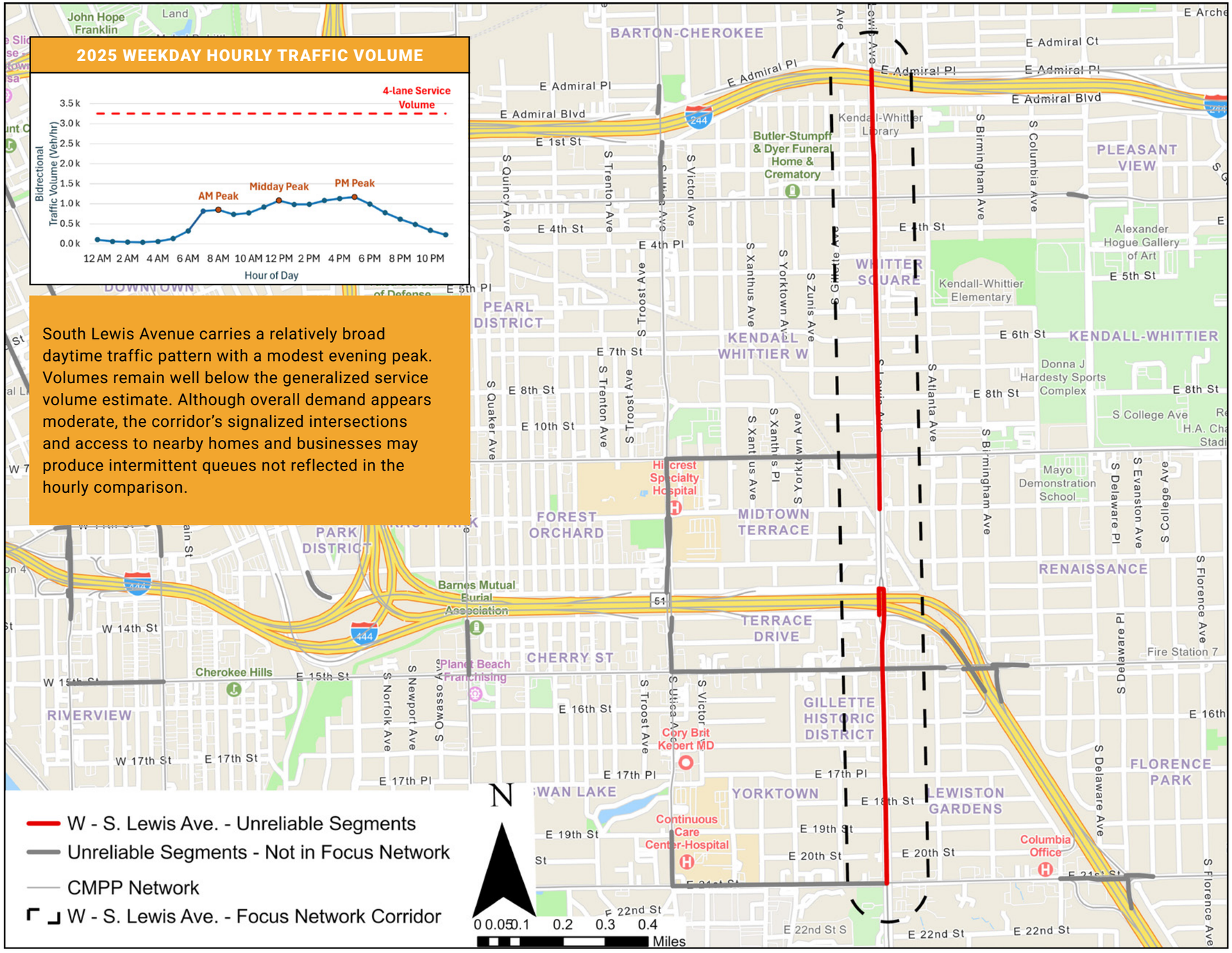
4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION

6.7 REGIONAL GROWTH MANAGEMENT POLICIES

2025 WEEKDAY HOURLY TRAFFIC VOLUME



Traffic along Route 66 in Claremore remains relatively steady through midday before increasing toward the evening peak. Demand exceeds the generalized service volume estimate for two-lane sections but remains below the four-lane estimate. In addition to commercial access and turning movements, nearby at-grade railroad crossings can disrupt traffic flow, contributing to intermittent delays and queuing along connecting roadways.



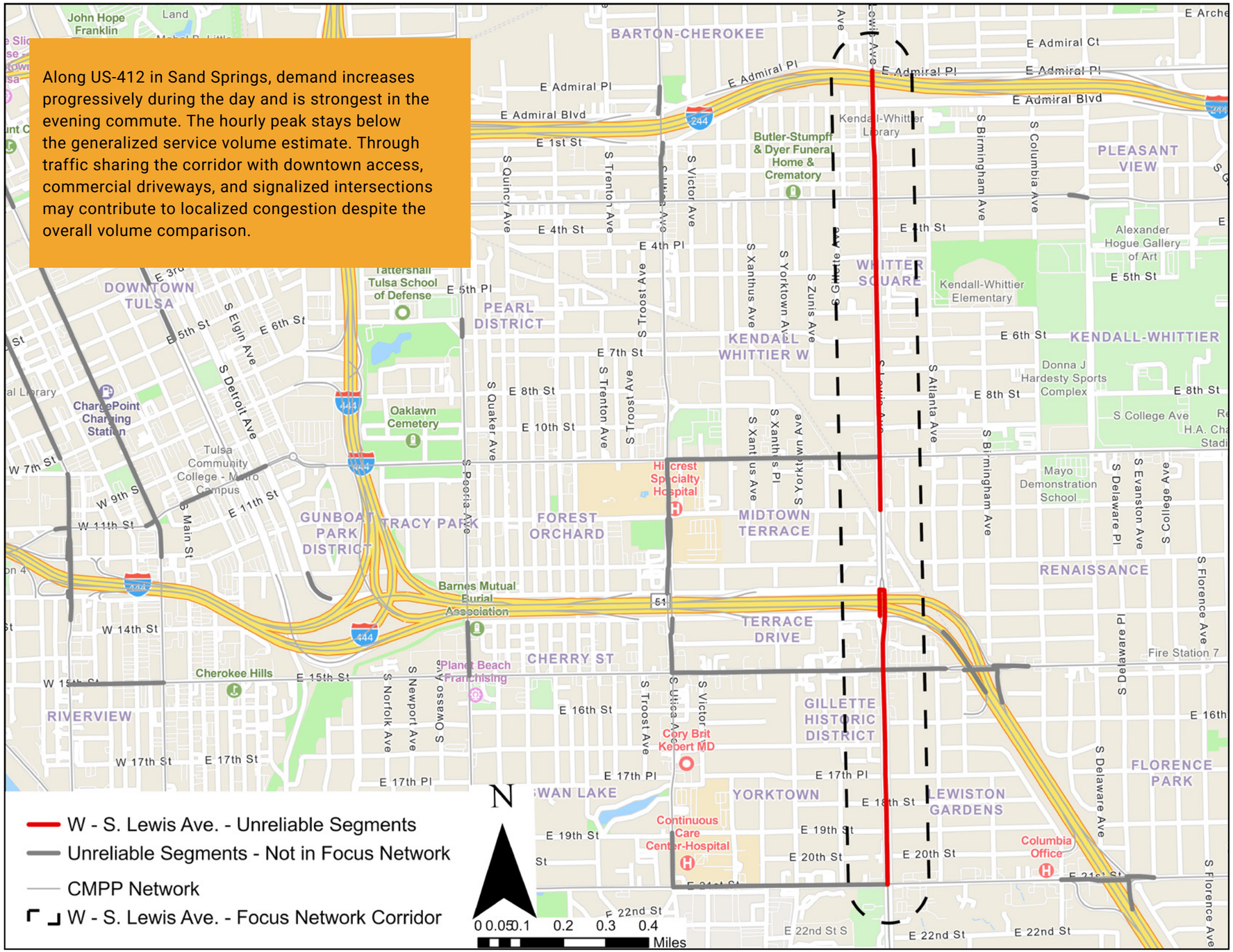
POTENTIAL CAUSES

- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.4 ALTERNATIVE MODE EVENTS
- 3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY
- 3.3 IMPROVING BUS STOPS
- 3.5 INSTALL TRANSIT ASSISTING TRAFFIC CONTROL
- 3.7 CONSTRUCT MOBILITY HUBS
- 4.2 INTEGRATED CORRIDOR MANAGEMENT
- 4.5 INCIDENT MANAGEMENT SYSTEM
- 4.10 PARKING MANAGEMENT PROGRAM
- 5.11 ROAD DIETS WITH OPERATIONAL ENHANCEMENTS
- 6.2 TRANSIT/TRAIL ORIENTED DEVELOPMENT
- 6.8 SHARED PARKING POLICIES
- 6.12 LEADING PEDESTRIAN INTERVALS
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

Along US-412 in Sand Springs, demand increases progressively during the day and is strongest in the evening commute. The hourly peak stays below the generalized service volume estimate. Through traffic sharing the corridor with downtown access, commercial driveways, and signalized intersections may contribute to localized congestion despite the overall volume comparison.



POTENTIAL CAUSES

RAMP BACKUPS

SIGNAL TIMING/COORDINATION

LIMITED MULTIMODAL OPTIONS

****UNDER CONSTRUCTION DURING DATA TIMEFRAME**

POTENTIAL STRATEGIES

1.1 ALTERNATIVE WORK SCHEDULES

1.2 TELECOMMUTING

1.3 RIDESHARING

2.3 INTERSECTION CONTROL EVALUATION

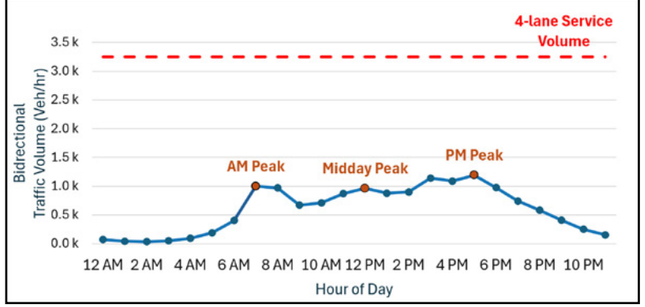
3.1 INCREASING FIXED BUS ROUTE COVERAGE OR FREQUENCY

4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION

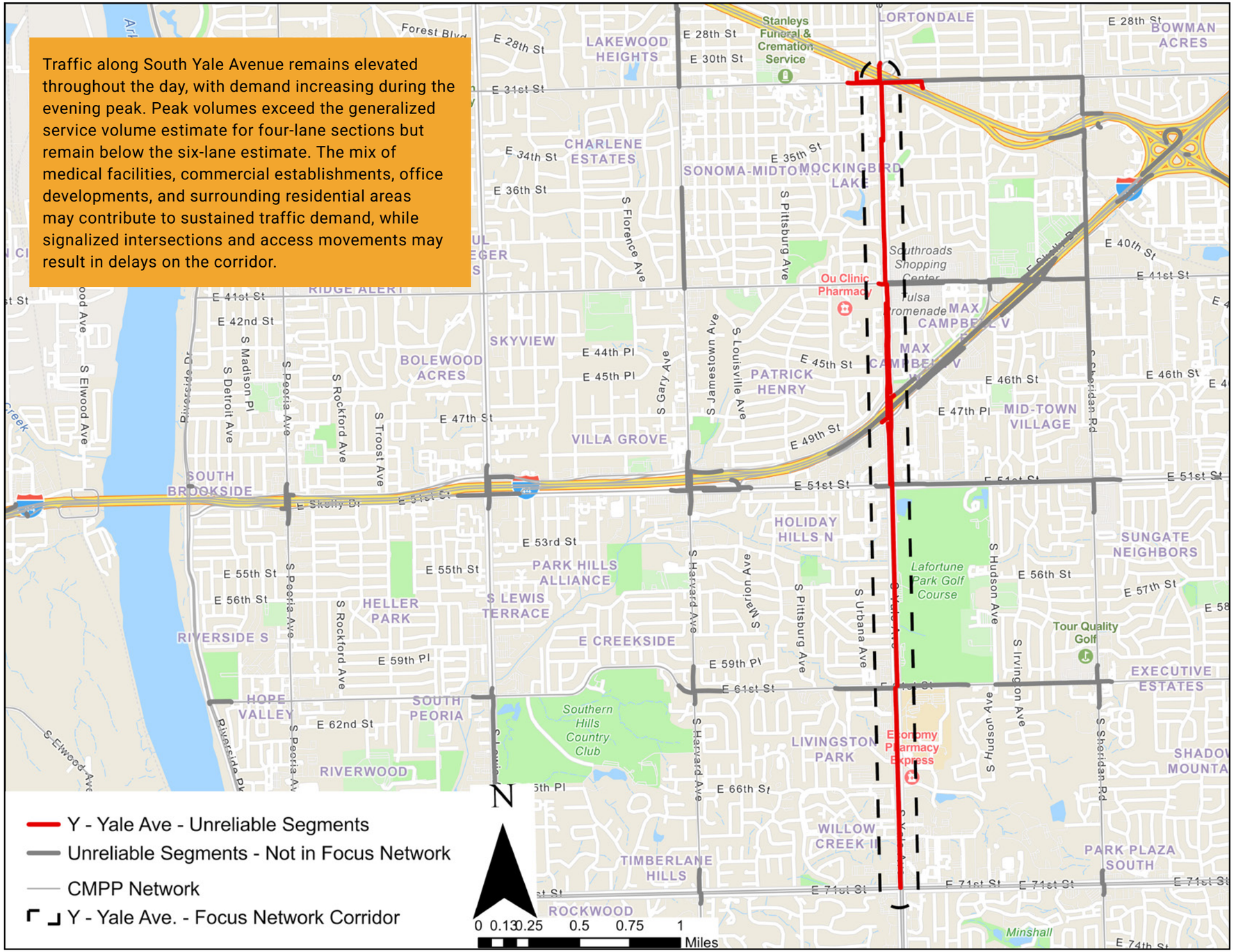
6.9 CONSTRUCTING NEW SIDEWALKS/SIDEWALK GAP ELIMINATION

6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



Traffic along South Yale Avenue remains elevated throughout the day, with demand increasing during the evening peak. Peak volumes exceed the generalized service volume estimate for four-lane sections but remain below the six-lane estimate. The mix of medical facilities, commercial establishments, office developments, and surrounding residential areas may contribute to sustained traffic demand, while signalized intersections and access movements may result in delays on the corridor.



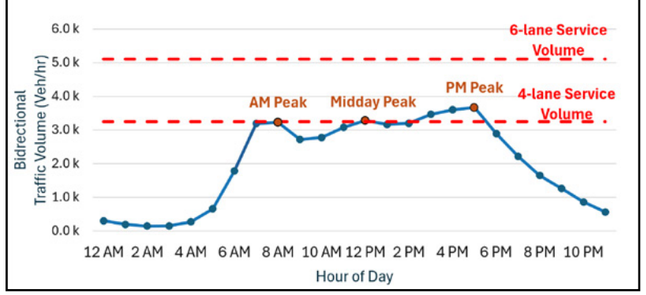
POTENTIAL CAUSES

- RAMP BACKUPS
- VOLUME EXCEEDS CAPACITY
- INTERSECTION/SIGNAL DENSITY
- TRAFFIC INCIDENTS/CRASHES
- SIGNAL TIMING/COORDINATION
- CLOSELY SPACED INTERCHANGES
- LIMITED MULTIMODAL OPTIONS

POTENTIAL STRATEGIES

- 1.5 EMPLOYER INCENTIVE PROGRAMS
- 2.1 ACCESS MANAGEMENT
- 3.1-3.5 (GENERAL PUBLIC TRANSIT IMPROVEMENTS)
- 4.1 TRAFFIC SIGNAL COORDINATION AND MODERNIZATION
- 6.2 TRANSIT/TRAIL ORIENTED DEVELOPMENT
- 6.3 ACTIVITY CENTER PLANNING
- 6.8 SHARED PARKING POLICIES
- 6.13 CONSTRUCTING LOW-STRESS BICYCLE NETWORK

2025 WEEKDAY HOURLY TRAFFIC VOLUME



CHAPTER 8

Measuring Success

CMPP OBJECTIVES

The CMPP is intended to improve transportation system reliability, efficiency, and accessibility while making the best use of existing infrastructure. Key objectives include:

Improve safety and travel reliability. Reduce crashes and unexpected delays to create safer, more predictable trips across the transportation network.

Expand transportation choices and connectivity. Strengthen connections between driving, transit, walking, and biking to provide more ways to reach destinations.

Reduce recurring congestion. Address routine bottlenecks and delay through targeted operational, multimodal, and infrastructure strategies.

Improve system operations and coordination. Use technology, operational improvements, and agency coordination to make the transportation system work more efficiently.

Support freight movement and economic activity. Improve the reliable movement of goods and access to key employment and commercial areas.

Monitor performance and adapt over time. Track transportation conditions and outcomes to identify changing needs and refine strategies as the region evolves.

COORDINATION

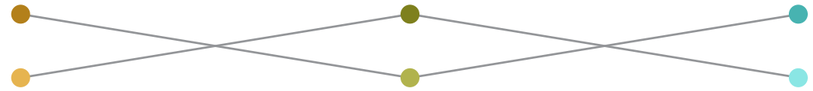
Many Focus Network corridors cross jurisdictional boundaries and serve regional travel markets. Continued coordination among INCOG, local governments, ODOT, transit providers, school districts, freight stakeholders, tribal governments, and other partners will be essential for identifying priorities, sharing information, and advancing effective solutions.

IMPLEMENTATION

CMP findings are intended to guide future transportation investments and project development. The Focus Network, corridor analyses, and toolbox strategies can be incorporated into the MTP. TIP development, corridor studies, local transportation plans, and capital improvement programs, helping ensure that transportation funding supports regional mobility goals.

REASSESS

Congestion management is an ongoing process. Conditions should be regularly monitored to understand how travel patterns are changing and whether implemented projects are producing desired results. The CMPP recommends tracking performance at three levels:



REGIONAL

Monitor broad transportation trends across the Tulsa metropolitan area.

FOCUS NETWORK

Track conditions on priority corridors and identify emerging congestion hotspots.

PROJECT

Compare before-and-after performance to measure the effectiveness of specific investments.

Together, these measures create a continuous feedback loop that helps agencies evaluate progress, refine priorities, and guide future transportation decisions.
Technical Memorandum 3 defines all the performance measures, sources, cadence, and further details.

Measure	Baseline	Desired Trend
Unreliable roadway mileage	17.5% of CMPP Network at 7 AM; 22.1% at 5 PM	Down
TTI above 1.45	11.7% of CMPP Network at 7 AM; 15.1% at 5 PM	Down
Daily V/C above 1.15	1.10% of modeled centerline miles	Down
Transit on-time performance	92.3% (Fixed Route Only)	Up
Transit ridership	2,376,768 total rides; 2,197,793 unlinked passenger trips	Up
Low-stress bicycle network	585.6 miles	Up
Sidewalk network	2,662.4 miles	Up
	472 miles of Arterial Sidewalk Gaps	Down
Fatalities and serious injuries	375 in 2022; 468 in 2021; 427 in 2020	Down

*The CMP follows a simple cycle: **understand conditions, focus resources, implement solutions, measure results, and adapt over time.** By working together and investing in corridors with the greatest regional impact, transportation partners can build a safer, more reliable, and more connected transportation system for the Tulsa region.*