

Twin Cities Regional Truck Corridors Study

MnDOT Metro Freight Studies Roundup

February 3, 2017



Study Background

- **Transportation Policy Plan**

- **Goal:** *“The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and state.”*
- **Objective:** *“Support the region’s economic competitiveness through the efficient movement of freight.”*
- **Work Program Item** *to identify truck freight highway needs on important freight corridors.*

- **FAST Act Freight Investment Program**

Key Study Questions

- What are the key regional truck corridors?
- What criteria should be used to evaluate corridors?
- Where is freight most affected by congestion along key freight corridors?
- Where are there major safety issues or physical constraints along the key corridors?
- How can data & truck corridors be used to encourage regional highway investments to benefit freight?

Study Results

How might study results be used?

- Transportation Policy Plan Update
 - Action strategies/investments to improve key truck corridors
 - Freight-related performance measures
- Designate critical urban & rural freight corridors as required in FAST Act
- Prioritizing criteria for federal Regional Solicitation funding

Agency Involvement

Technical Advisory Group

| | | |
|------------------------|----------------------------|--------------------------------|
| Met Council | Scott County | Bay & Bay Trucking |
| Anoka County | Washington County | Dedicated Logistics |
| Carver County | City of Blaine | St. Paul Port Authority |
| Dakota County | City of Minneapolis | MnDOT Freight Office |
| Hennepin County | City of Savage | MnDOT Metro District |
| Ramsey County | City of Saint Paul | |

Stakeholder Interviews

Open-ended Questions about:

- **Shipping behaviors**
 - commodities, frequencies, volumes, destinations
- **Most heavily relied upon corridors**
(incl. local routes, first-/ last-mile connections)
- **Availability of alternative routes** (or lack thereof)
- **Corridor issues**, including:
 - major issues such as **congested locations**
 - safety, geometric, or other infrastructure issues

Stakeholders Consulted

| Industry Sector | Stakeholder |
|----------------------------|------------------------------|
| Manufacturing | 3M |
| | Andersen Windows |
| | Medtronic |
| Natural Resources | Aggregate Industries |
| | Flint Hills Resources |
| | Land O' Lakes |
| Transportation & Logistics | Bay and Bay Transportation |
| | CHS |
| | Dedicated Logistics |
| | Manning Transfer |
| | Midwest Motor Express |
| | St. Paul Port Authority |
| Other | Styer Transportation |
| | Midwest Shippers Association |



US-10 eastbound to I-694 eastbound (big bottleneck)

Congestion on the shared portion of I-35W and US-10

Blocked crossing at CP Shoreham Yard - 4th Street NE/30th Ave NE.

Safety issue - I-35E to I-694 westbound. Huge delay, ramp turns into exit only lane for Rice St.

Safety issue - I-694 merge onto I-35W. NB rollover location

Safety issue - entrance on MN-280 bet. Kasota & Hennepin Ave

Congestion on I-394 between MN-100, US-169, and I-494

- Congestion on I-35W southbound to I-94 westbound
- Local roads are used to bypass this crossing

US-169/US-212/MN-62 - very hard merge from MN-62 to US-212

Congestion on I-494 in Edina

I-35 interchanges in Lakeville have short, dangerous ramps

US-52/145th/140th Streets - Roundabout proposed.

Truck parking on I-35 south of the Cities is very much needed.

Legend

- City
- Freight Facilities
- County
- Urban Area
- Key Corridors
- Interstates
- Principal Arterial

Other Key Issues

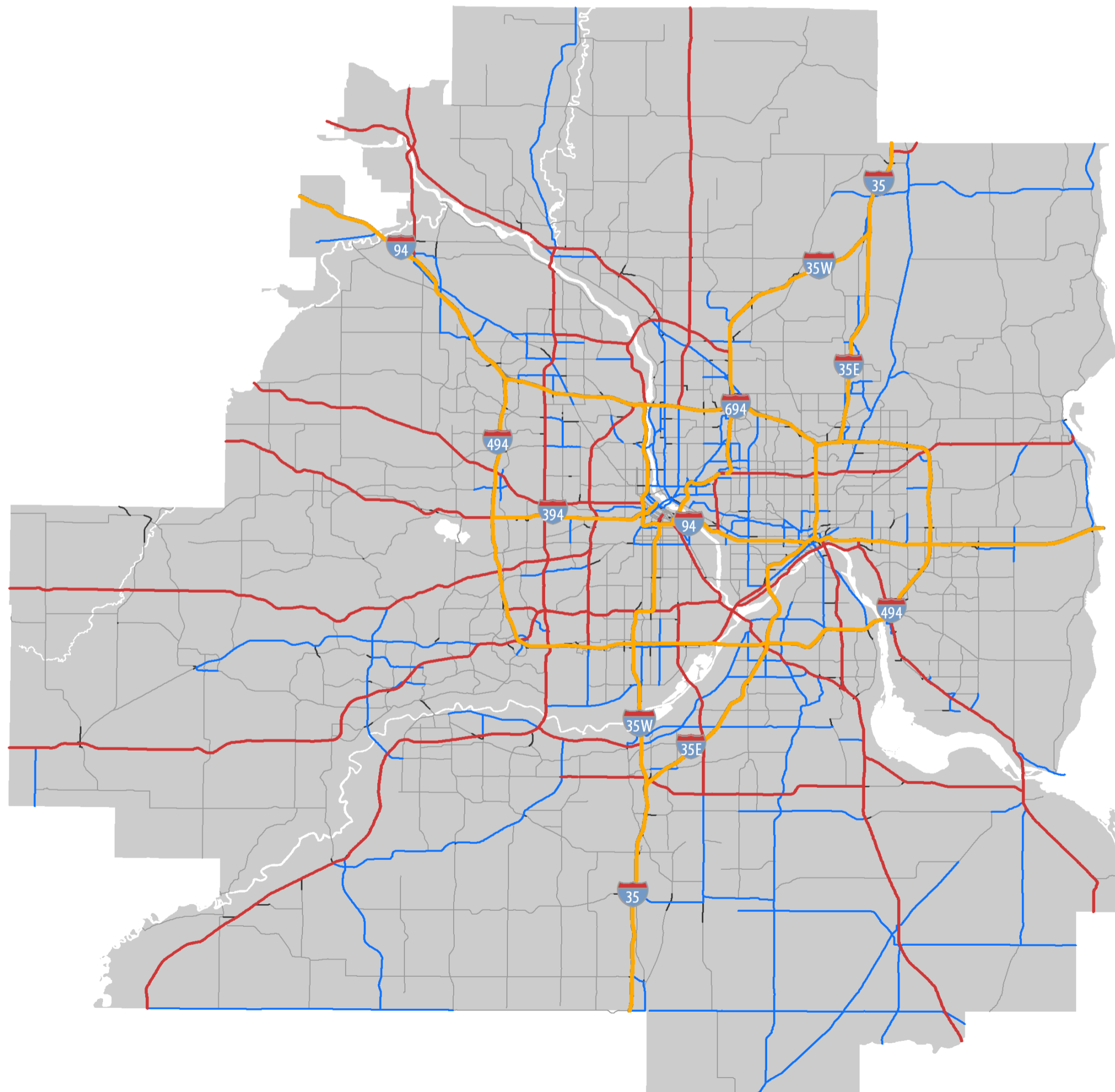
- 5. Congestion in the rural areas due to no alternative routes
- 6. Congestion in the Northern Metro affecting on time deliveries to production facilities
- 7. Interstate congestion due to rush hour and construction activity
- 8. Conditional use permits in some communities restricting hours of operations
- 9. Ad hoc fees imposed by some communities for overweight loads (in addition to fees already enforced by State legislation)
- 10. Requirements by some communities for companies to pay for access and other infrastructure improvements
- 11. Driver shortage
- 12. Port of Minneapolis closure
- 13. HOS requirements
- 14. Lack of alternative routes to freight facilities
- 15. At grade crossings at Port of St. Paul terminal locations
- 16. I-35E parkway restrictions



Corridor Scoring Criteria

| Scoring Criteria | Criterion Weights |
|---------------------------------|-------------------|
| Average daily truck volumes | 60 % |
| Truck % of total traffic | 20 % |
| Proximity to freight clusters | 10 % |
| Proximity to freight facilities | 10 % |

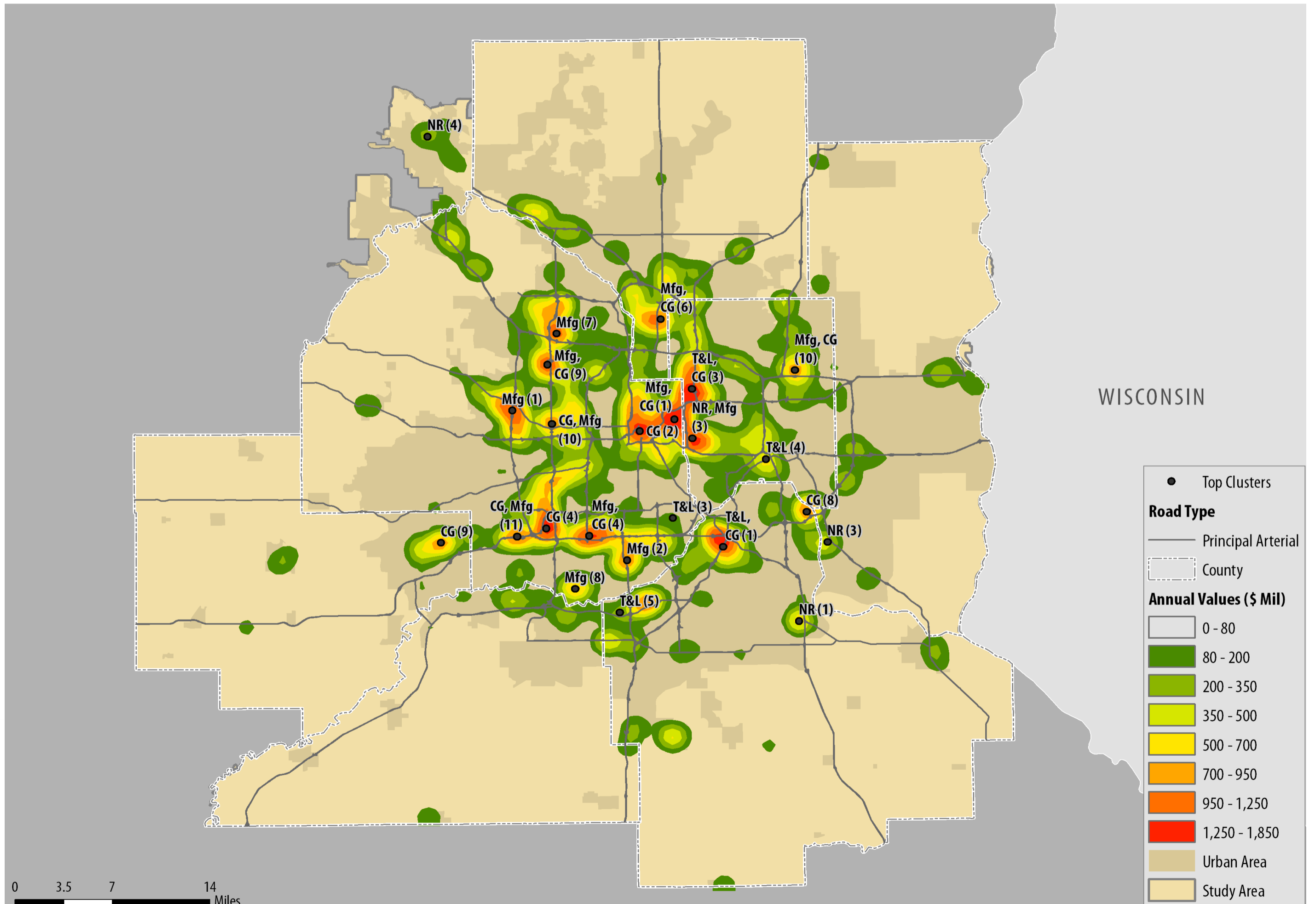
Corridor Analysis: Initial Screening Results



Corridors

- Interstates
- Other NHS
- A-Minor Arterials
- Access Corridors
- Non-corridor Roads

Freight Industry Clusters



Metro Area Freight Terminals

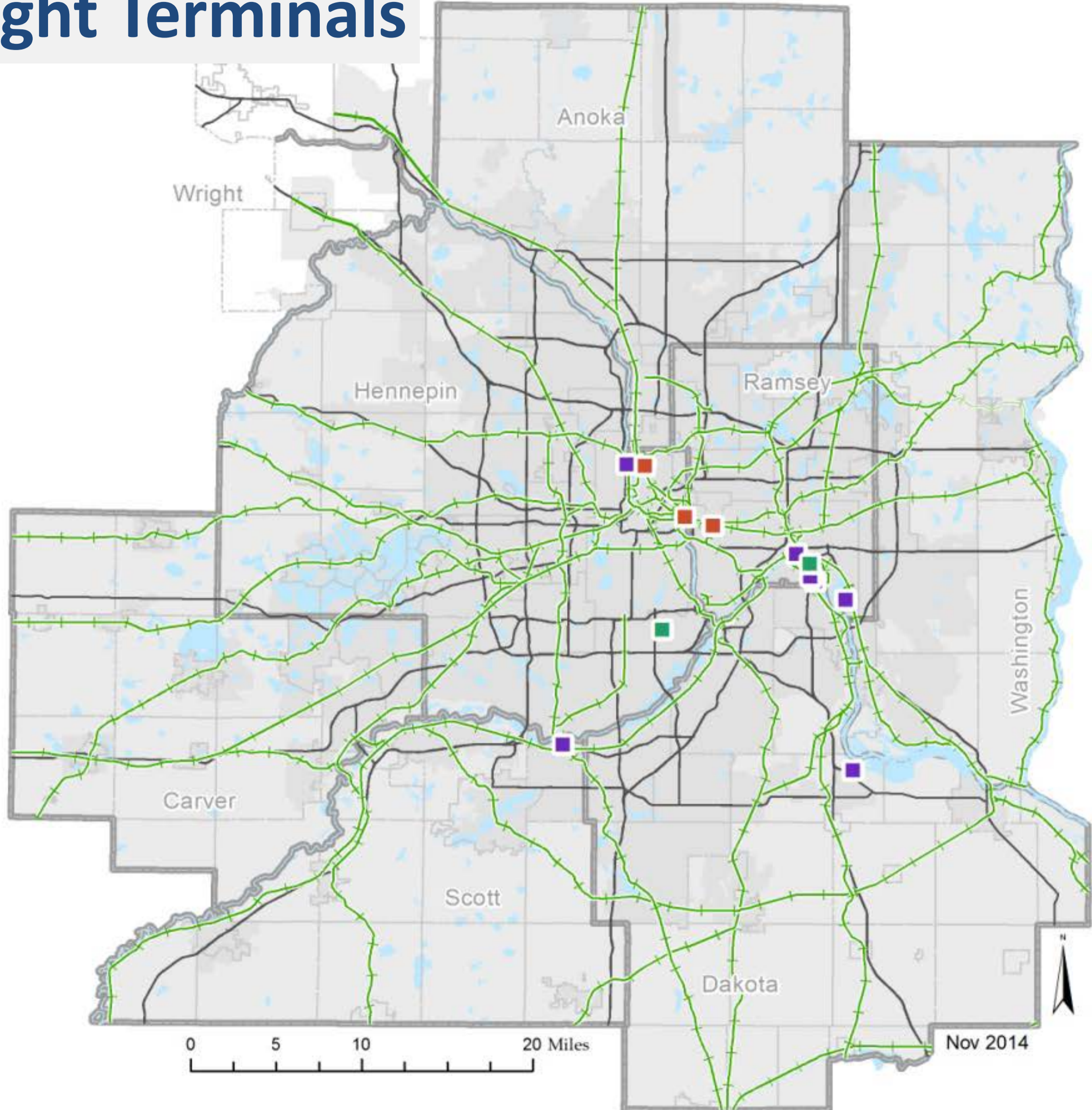
— Railroads (Functional and Abandoned)

Freight Terminals

- Air / Truck
- Barge / Truck
- Rail / Truck

Reference Items

- Lakes and Rivers
- City Boundary
- County Boundary
- 2040 Urban Service Area MPO Area



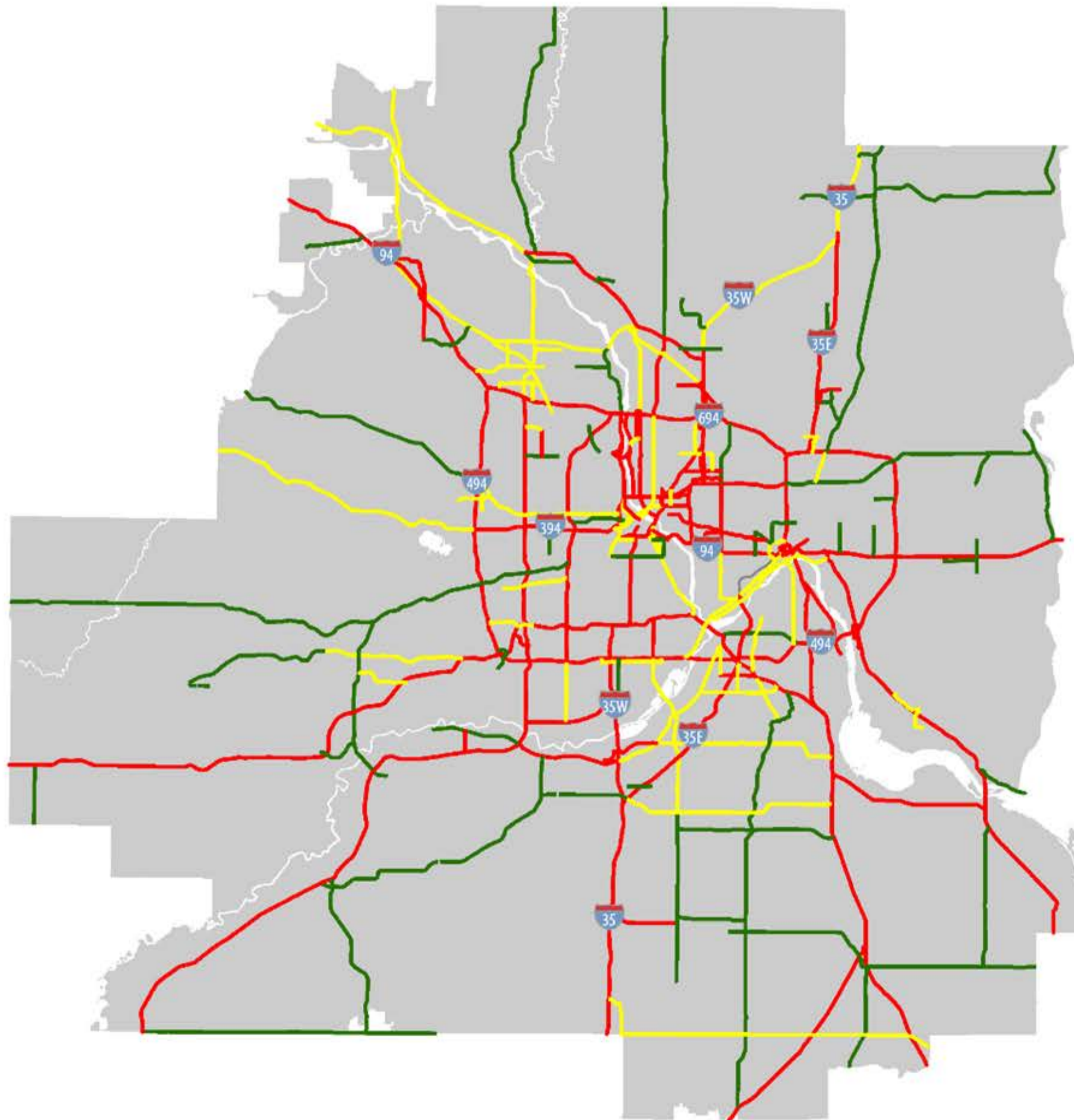
County Review Process

Met with each County to:

- Address specific questions on data & how they were applied
- Verify that defined truck corridors were consistent with local knowledge about freight centers/truck operations
- Offer opportunity to provide local truck counts

Feedback resulted in corridor revisions in every county

Study Results: Regional Truck Corridors



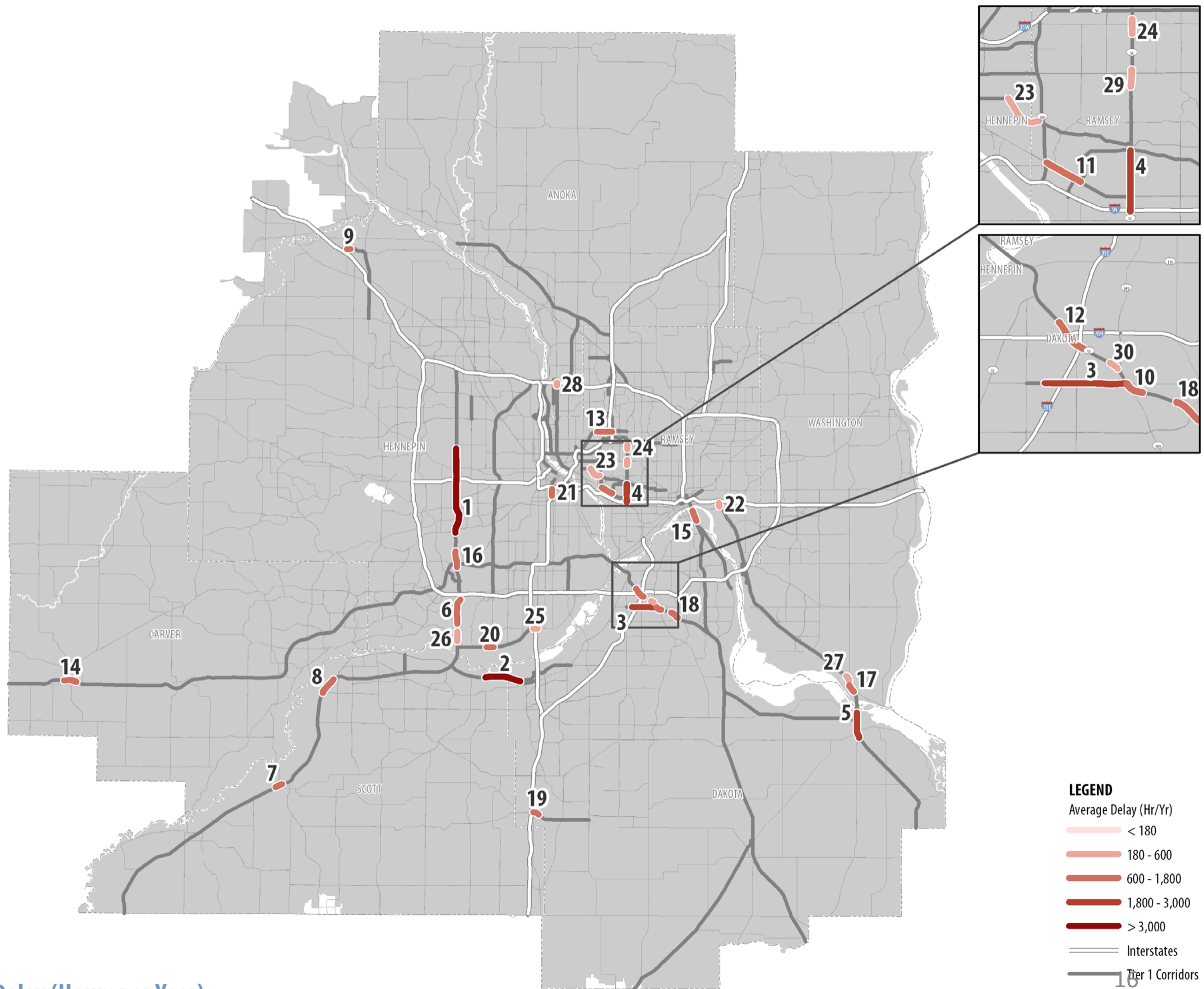
Corridor Tiers
— Tier One
— Tier Two
— Tier Three

Study Results

Mileage Summary

| Grouping | Interstates | Principal Arterials | A-Minor Arterials | TOTAL |
|----------|-------------|---------------------|-------------------|-------|
| Tier 1 | 211 | 227 | 108 | 546 |
| Tier 2 | 18 | 111 | 166 | 295 |
| Tier 3 | 0 | 95 | 290 | 385 |
| TOTAL | 229 | 433 | 564 | 1226 |

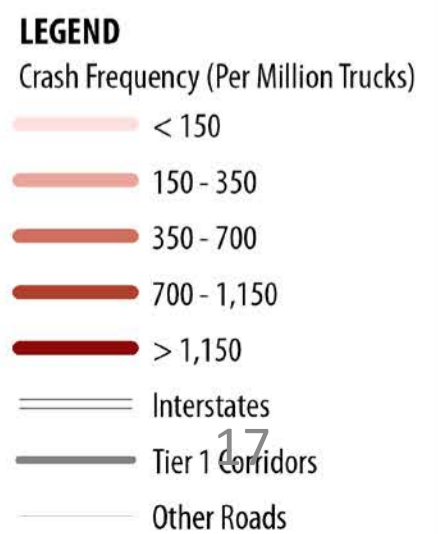
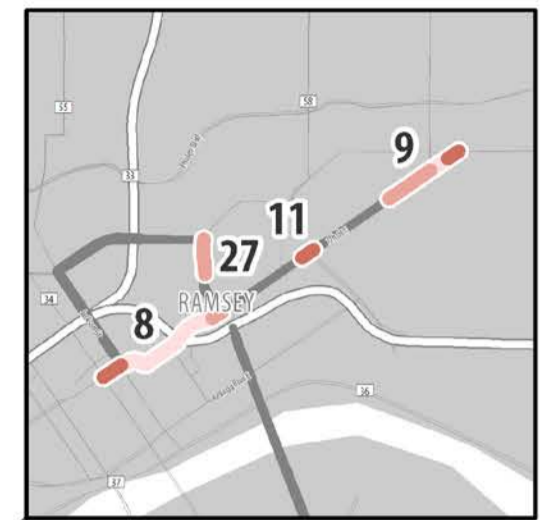
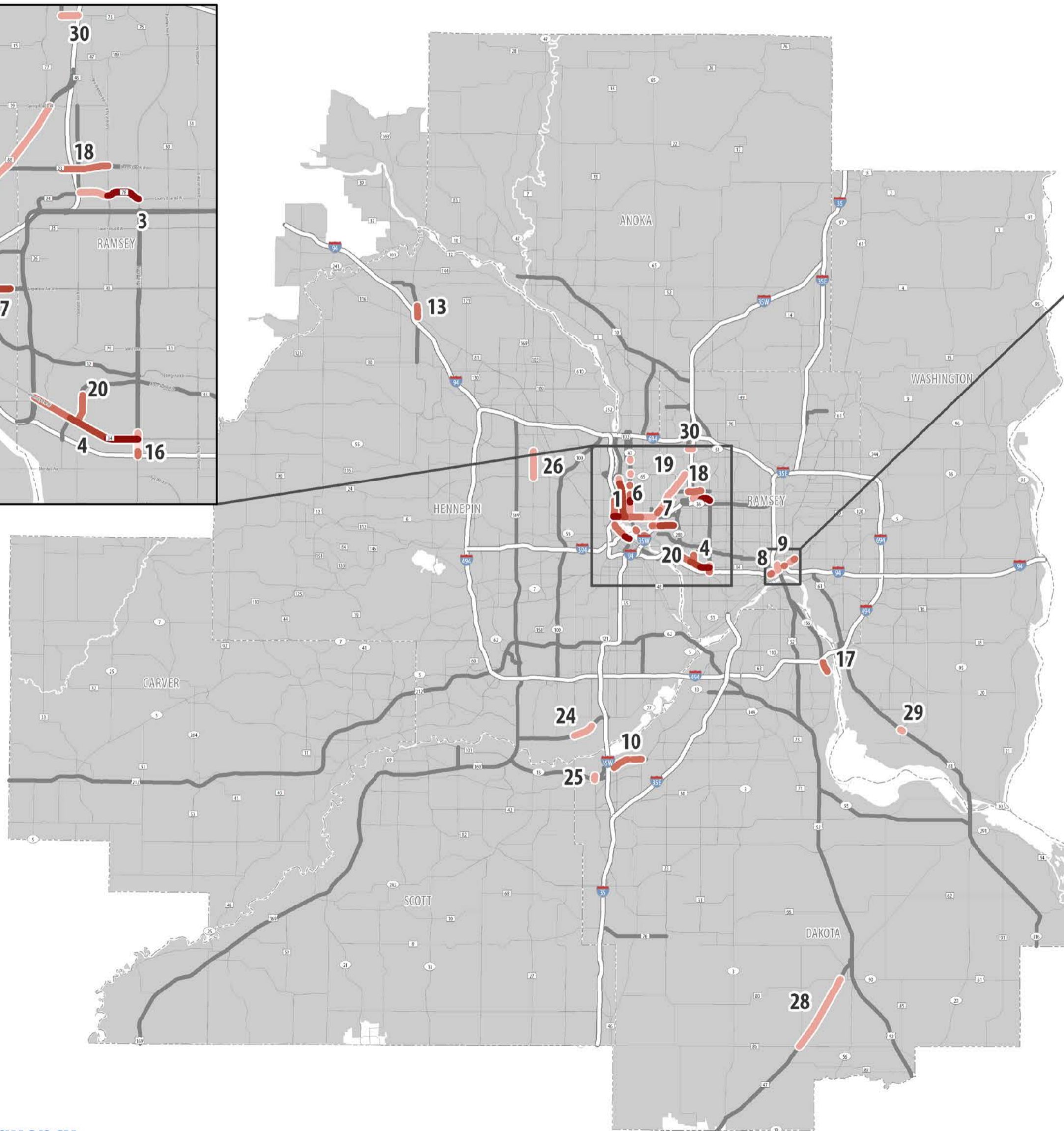
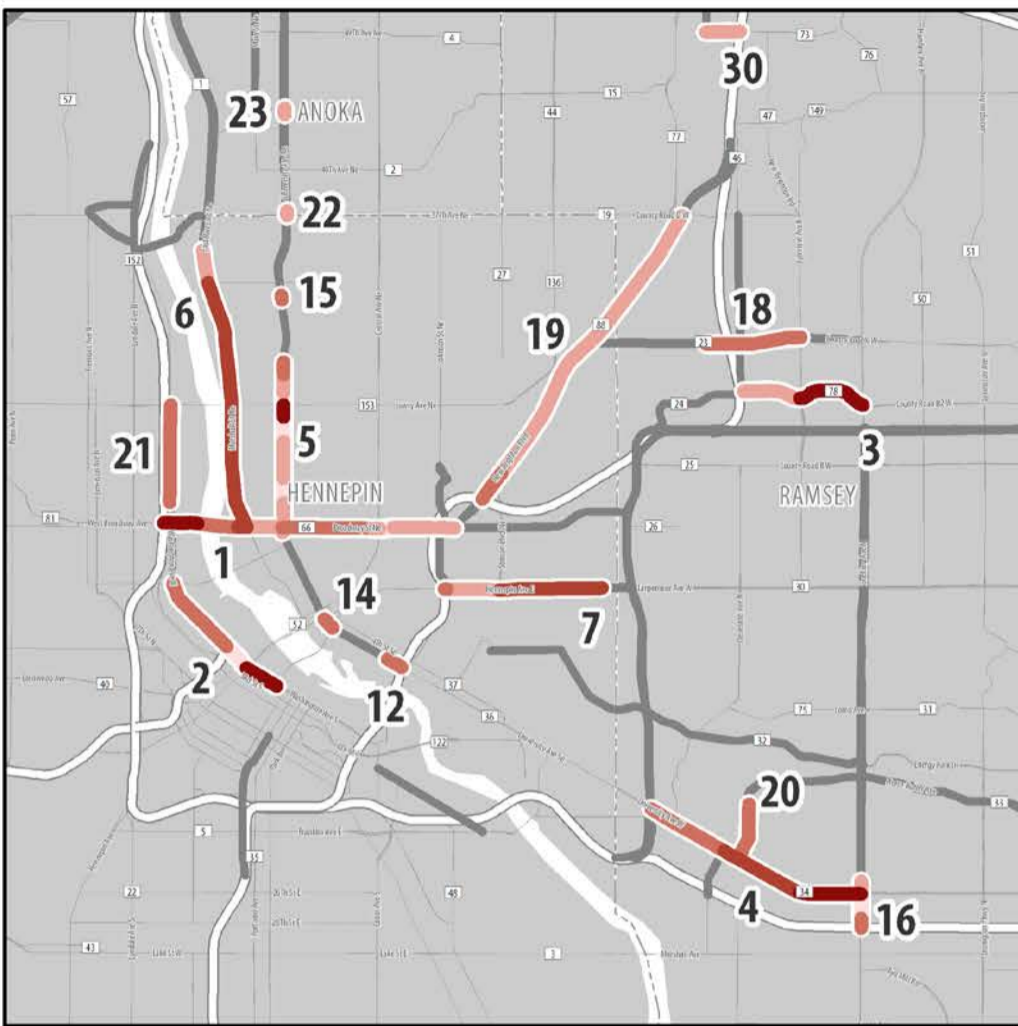
Congestion Bottlenecks



Top Corridors by Average Delay (Hours per Year)

LEGEND
 Average Delay (Hr/Yr)
 < 180
 180 - 600
 600 - 1,800
 1,800 - 3,000
 > 3,000
 Interstates
 Tier 1 Corridors
 Other Roads

Crash Hotspots



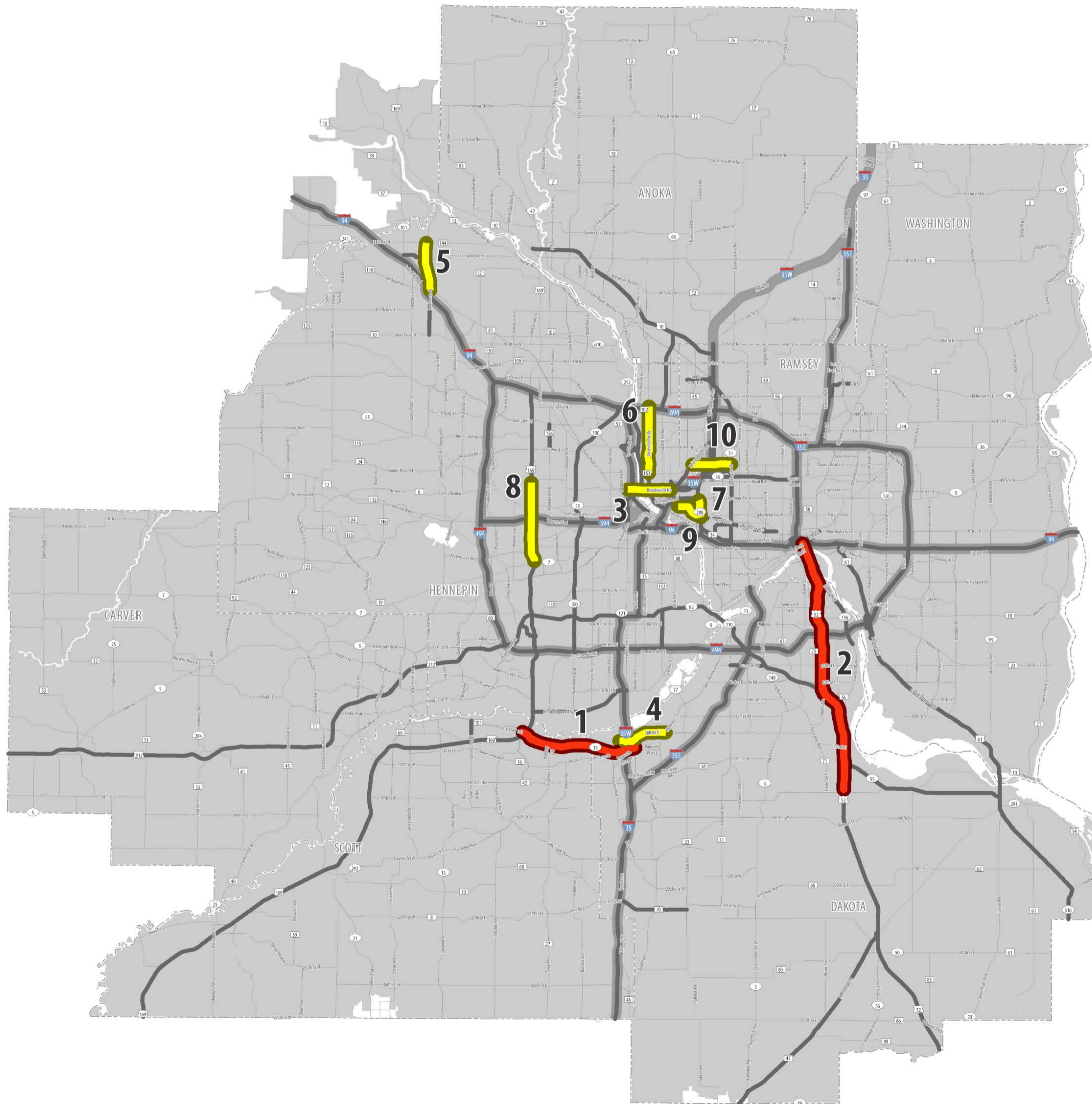
Top Corridors by Crash Frequency

In-Corridor Field Analysis

Specific issues reviewed:

- Bridge clearance issues
- Tight turning radii
- Short merge zones
- Signal timing issues
- General congestion/queuing issues
- Rail crossings on heavy truck routes
- Bridge or pavement weight limits

Truck Corridors Observed in Field



Legend

Site Visits

 Existing

 Proposed

Roads

 Tier One Corridors

 Interstates

 Other Roads

 County

Potential Solutions Review

ITS & Physical Improvements

- Freight Terminal queuing systems
- Real-time gate status reporting
- Signal coordination in some corridors
- Vertical height detection systems
- Dynamic message signing applied to freight on Tier 1 corridors
- Physical improvements to correct for
 - Short merge zones
 - Sub-standard freeway interchanges
 - Insufficient accel/deceleration lanes

Next Steps

- Findings, conclusions & recommendations memo
- Draft study report (February)
- Final TAG meeting (March)
- Final study wrap-up (March)

Thank you

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