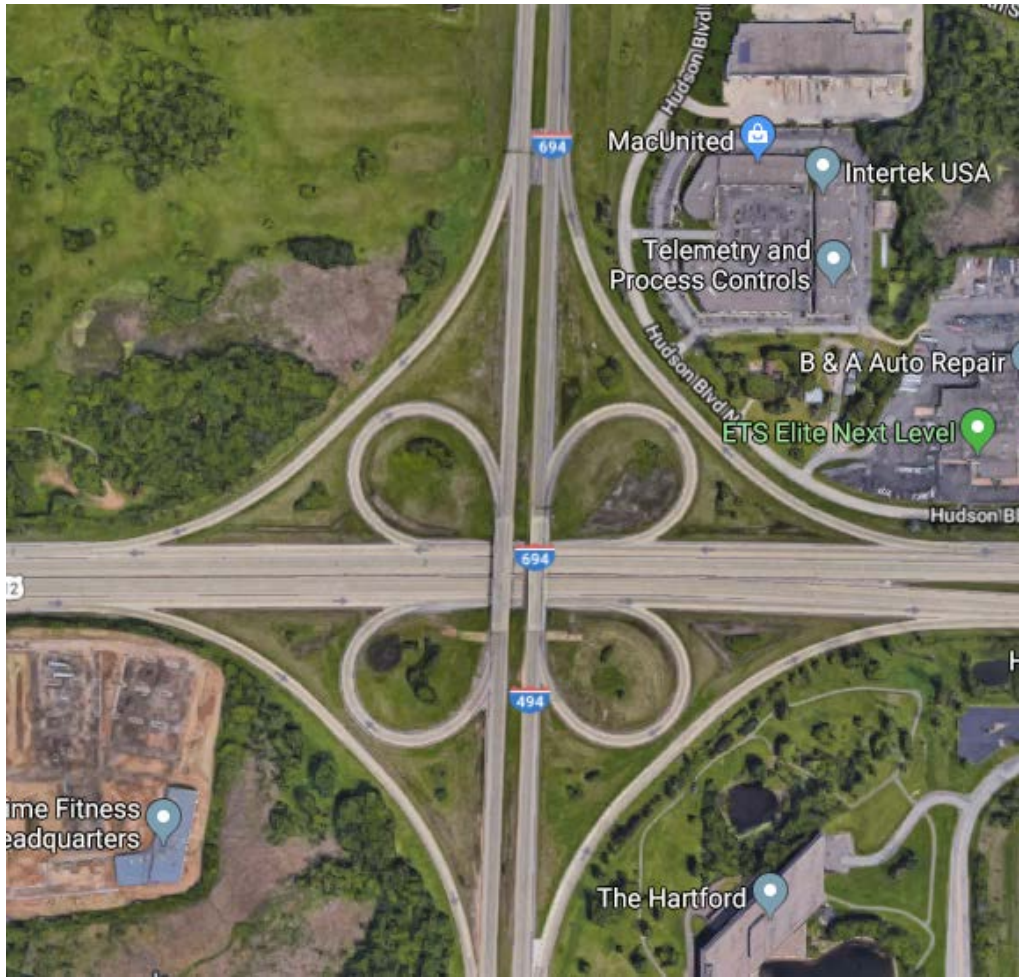
MnDOT/Met Council: Freeway System Interchange Study

Transportation Advisory Board

June 17, 2020

Background

- Investment prioritization study
- System interchanges connect two freeways
- Locations have been evaluated independently
- Interchange Issues:
  - Congestion
  - Crashes
- Systemwide numerous identified needs



Source: Google

Purpose

- Systematically discover and prioritize opportunities across region
- Reduce delay and crashes
- Consider needs of freight and transit
- Right-size investments

Source: SRF Consulting Group

Example of recent investment: I-494/I-35W in Bloomington/Richfield

- North to west directional ramp
- Corridors of Commerce awarded $70 million to begin in 2021
- Includes directional ramp and bridge braids

Source: City of Bloomington

Stakeholder Engagement

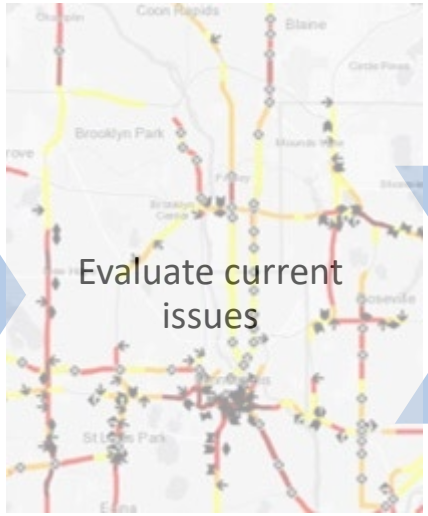
Study Leadership	Agency Outreach
Technical Advisory Committee • Seven-county Metro Area counties • Wright and Sherburne counties • Local governments • Federal Highway Administration • MnDOT • Metropolitan Council	• Minnesota Freight Advisory Committee • Transportation Advisory Board - Technical Advisory Committees • Congestion Management Process • State's Capital Improvements Committee • Met Council Transportation Committee

Study Process

System Interchanges

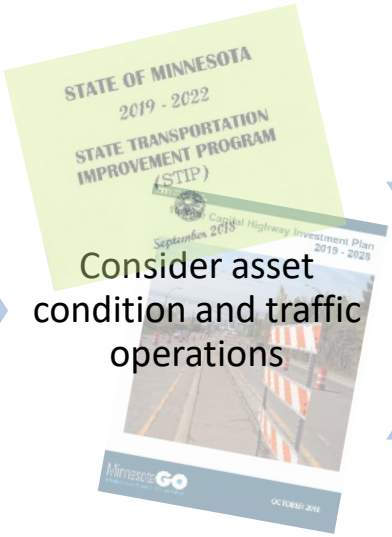
Determine locations to be studied

Study interchanges



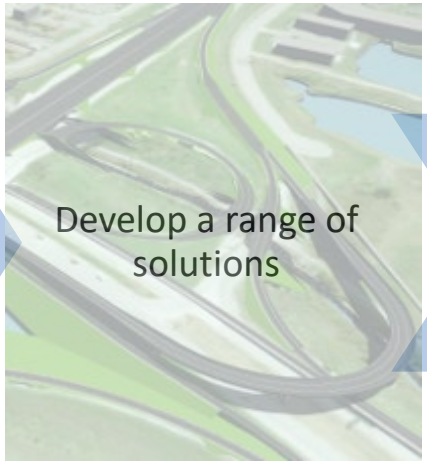
Identify critical problem magnitudes

Focus locations



Consider recent investments and bottleneck causes

Solution locations



Estimate return on investment

Right-sized solutions

Identify improvement opportunities

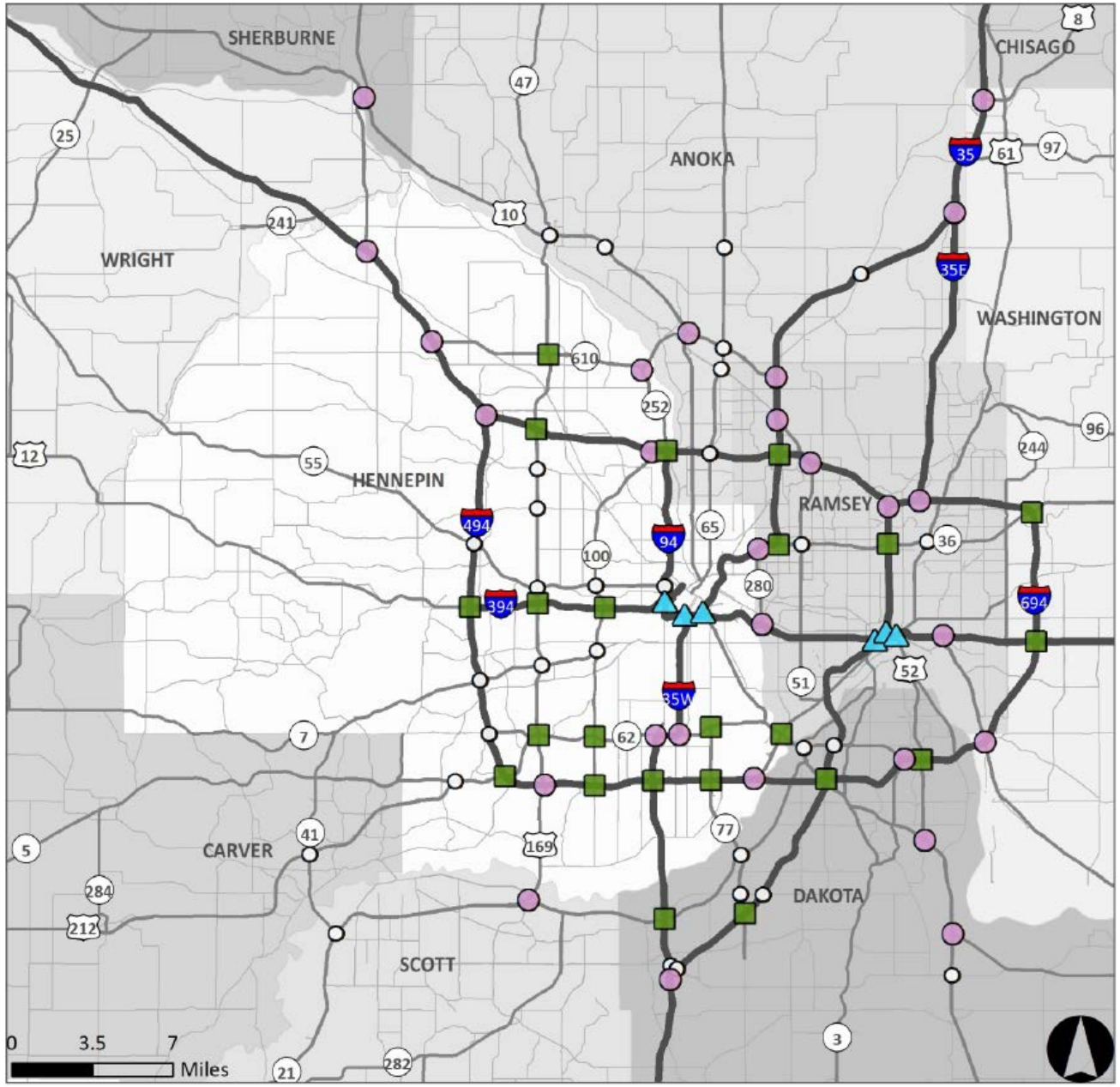
Document observations for future investments

Regional opportunities

Phase 1: Study Interchanges

Study Interchanges

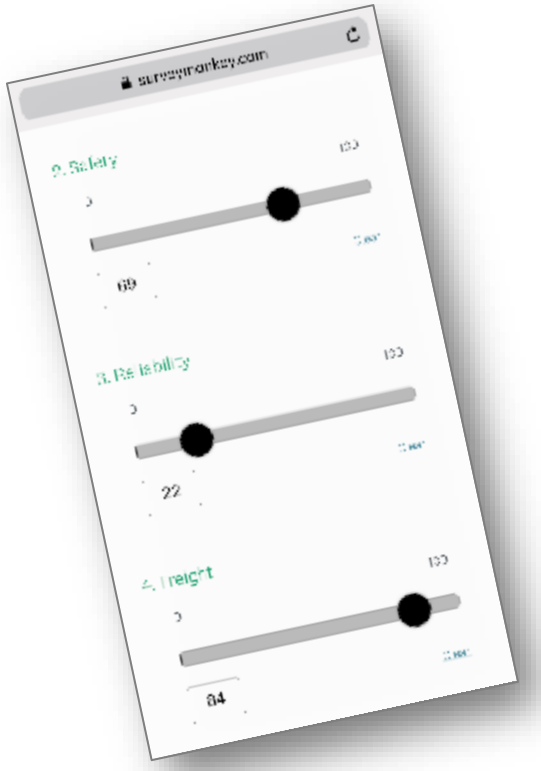
- 56 interchanges
  - Cloverleaf – 23
  - Downtown commons – 6
  - Other interchange types - 27

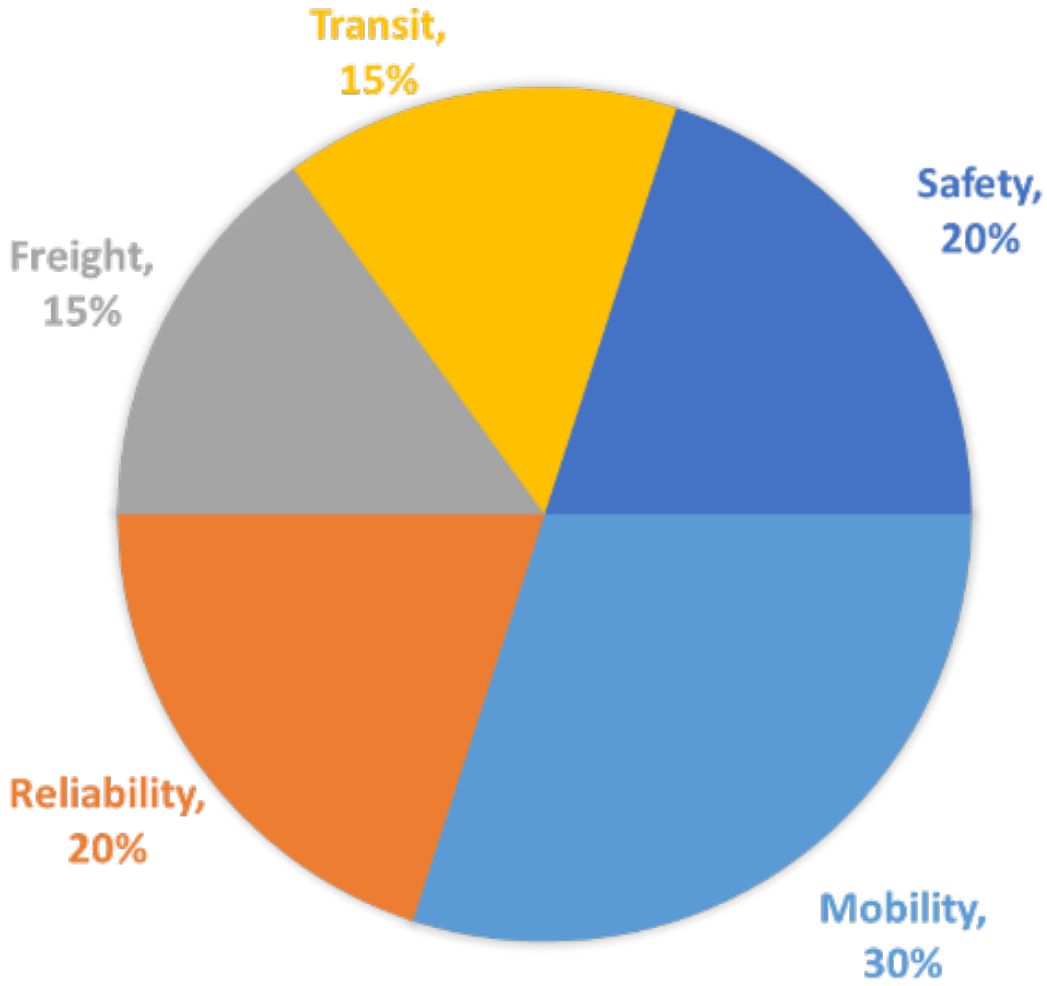


Phase 2: Focus Locations

Weighting

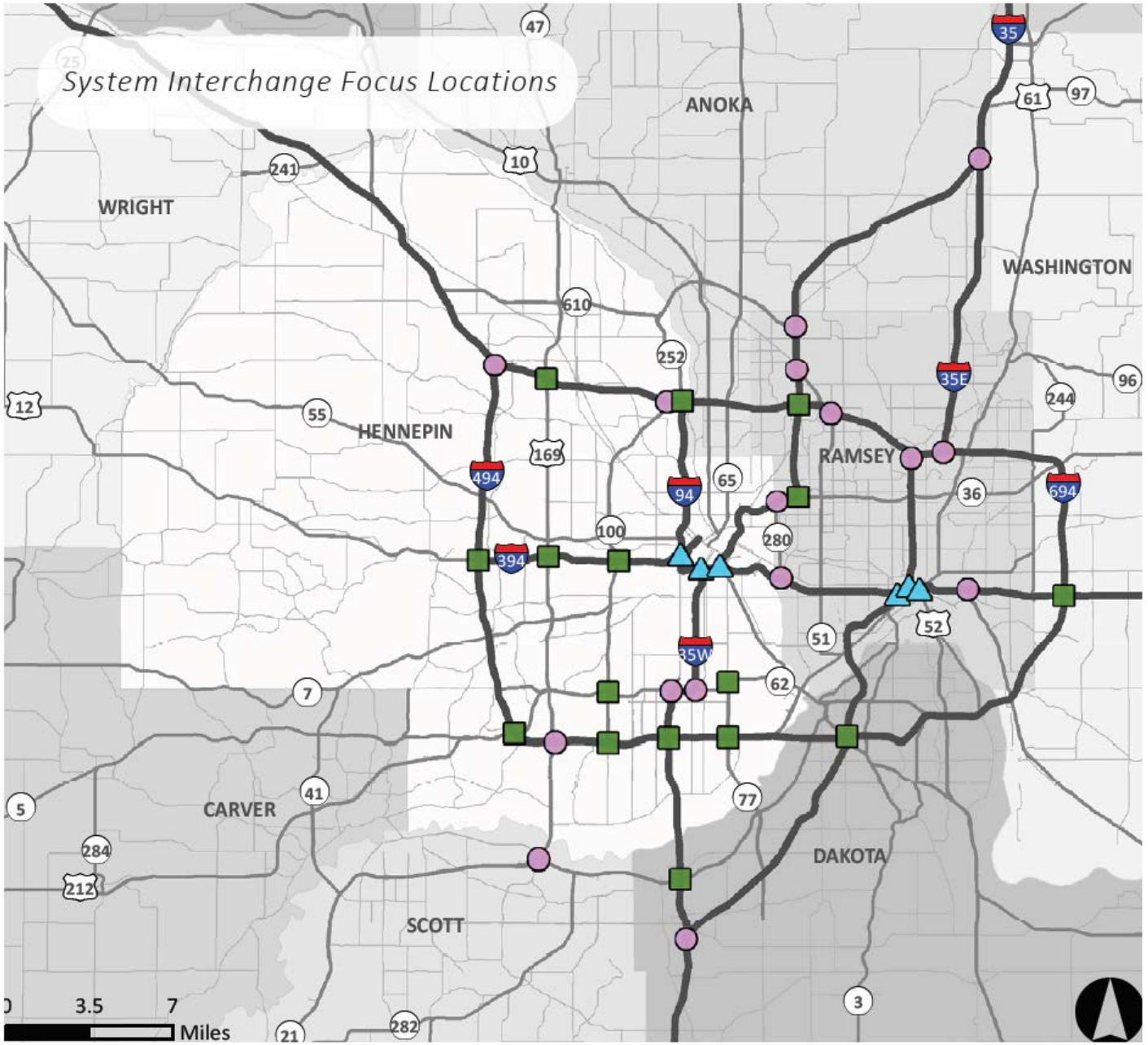
- Technical scoring process based on performance measures and weights





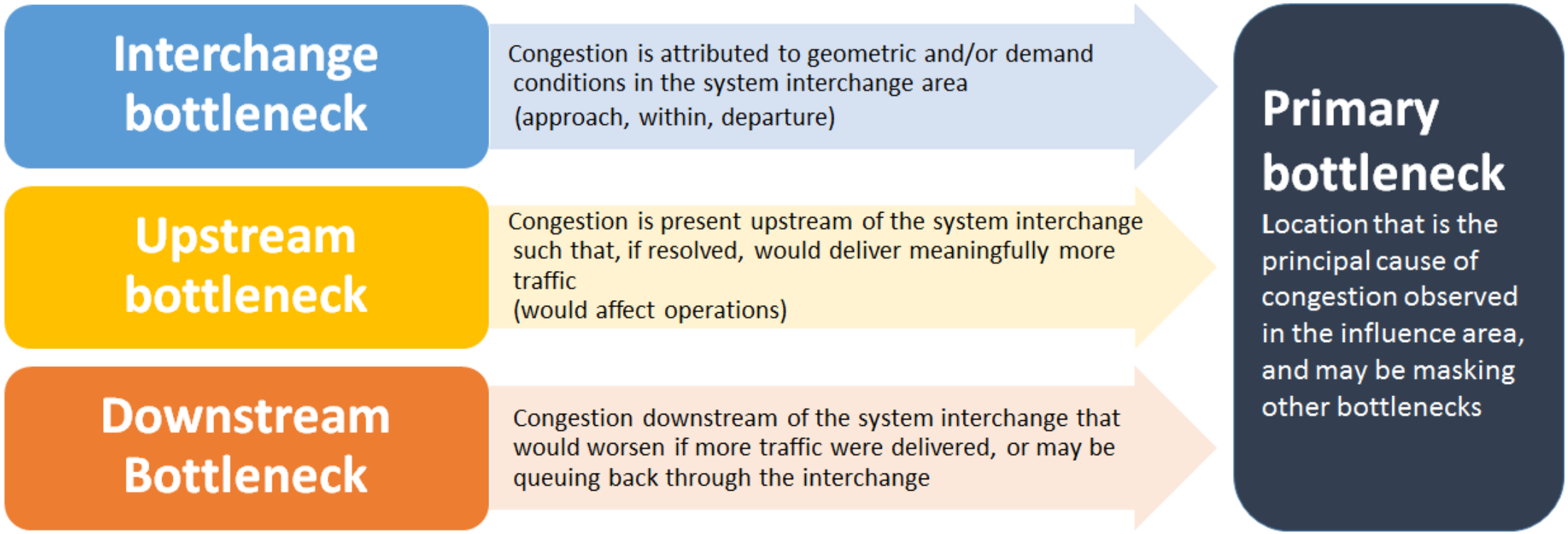
Focus Locations

- **37** system interchanges with **94** focus locations
  - Top 63 approaches
  - 31 add'l Interstate-to-Interstate



Phase 3: Solution Locations

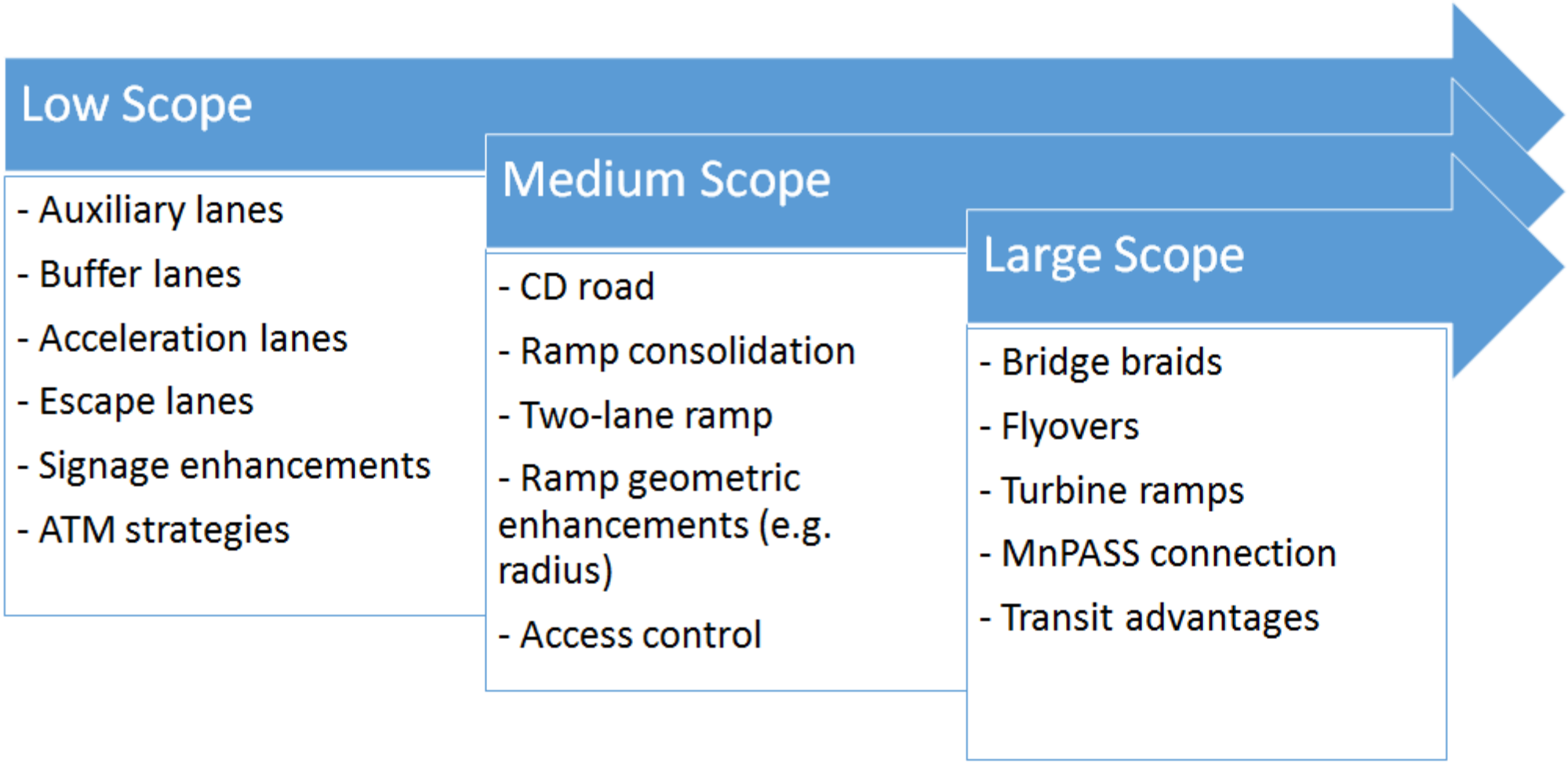
Bottleneck Definitions



Outcome: Carry approaches forward to **Solution Locations** when **Interchange** bottleneck = **Primary** bottleneck

Phase 4: Right-Sized Solutions

Solution Development

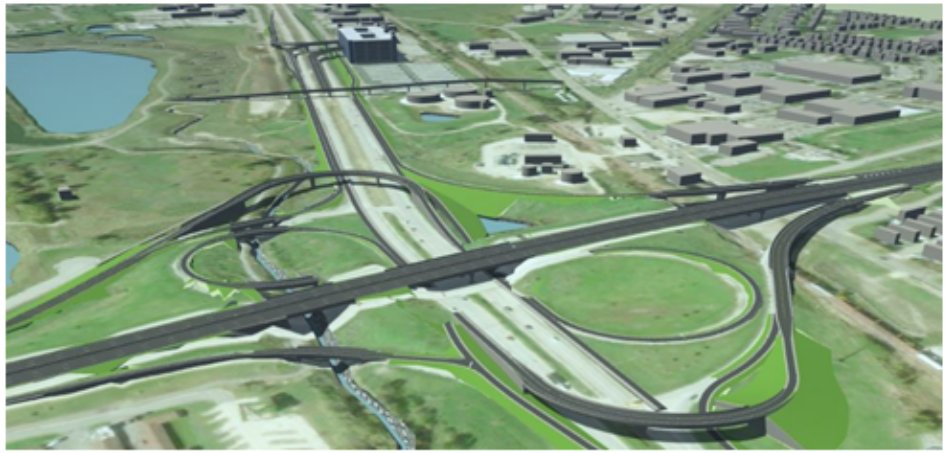


Solution Development

- Bottom-up design approach
  - Assess if lower-cost solutions can address operational issues before moving to higher-cost solutions

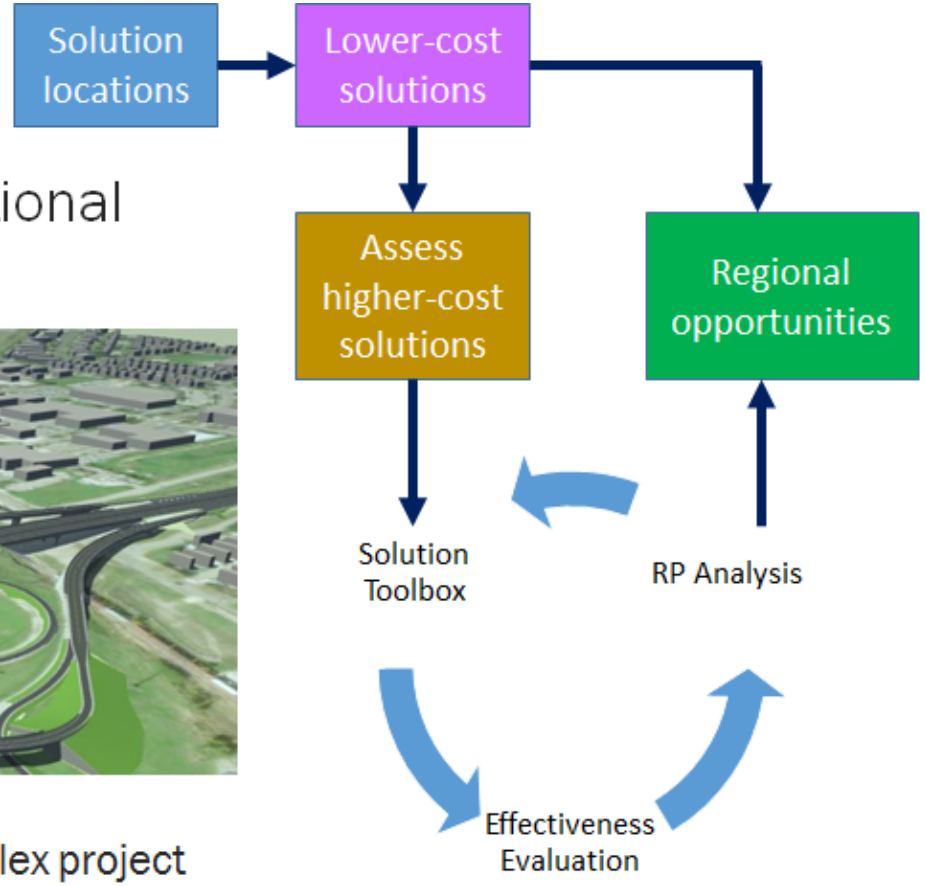
Low Scope Solutions

- Planning-level concept sketches
- Assess severity of pavement and grading, right-of-way impacts, etc.

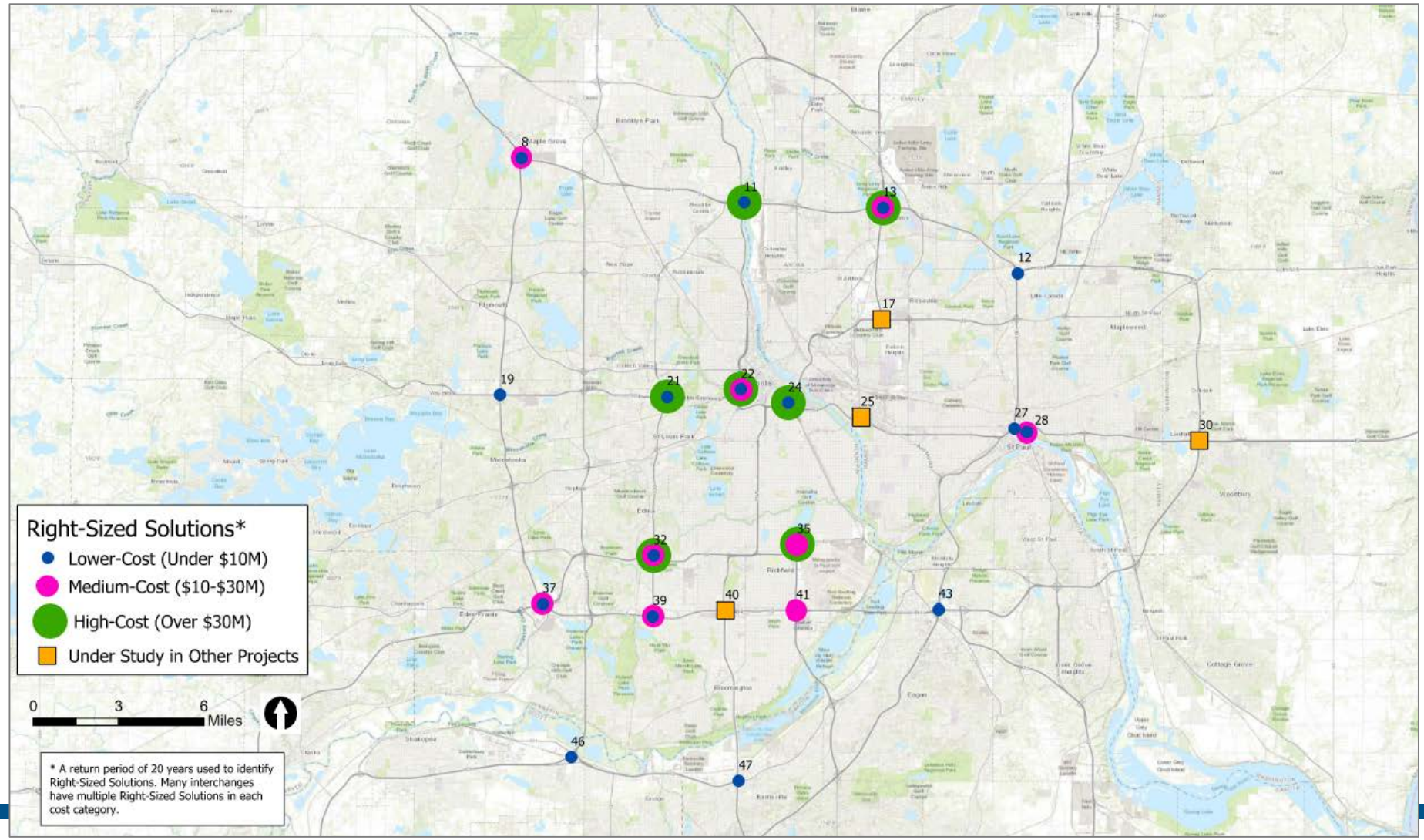


High Scope Solutions

- Detailed design intended for complex project alternatives
- Assess vertical and horizontal clearance, quantify itemized construction elements, etc.



Right-Sized Solution Locations



Phase 5: Regional Opportunities

Freeway System Interchange Investment Approach

- Preservation projects should be used as a catalyst to address other identified safety, mobility, freight, bicycle, and pedestrian needs
- Integrating with preservation projects:
  - Minimizes costs
  - Reduces inconvenience to travelers
  - Addresses multiple policy objectives
- Where mobility needs are identified, investments should be made in lower cost projects that produce high benefits and avoid exceeding the point of diminishing returns

The "Regional Opportunity" categories are intended to inform project scoping and future funding decisions

Funding plans, funding decisions, and project priorities will be proposed by MnDOT and the Metropolitan Council separate from this study process

Thank you!

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