Agenda

- Study Background
- Before-and-After Results
- Equity Evaluation
- Scoring and Tiering Results
- Implementation Next Steps
- Application of IMSS in 2050 Transportation Policy Plan (TPP)
- Application of IMSS in Regional Solicitation
Study Background

- Review implementation from 2017 Principal Arterial Intersection Conversion Study
- Analyze before-and-after conditions of previous projects
- Prioritize intersections (high, medium, low – similar to last study effort)
- Use this information to influence project scoping in the short term, and long-range investment planning
  - Identify regional priorities for 2050 TPP and Regional Solicitation
Study Locations
Before-and-after Results
Before-and-After Analysis

Quantitative and Qualitative Assessment

- Includes mobility, emissions, safety, equity, engagement, land use impacts, and multimodal accessibility
- Locations:
  - Hwy 65 and Viking Blvd
  - Hwy 169 and Hwy 41

Qualitative Assessment

- Includes equity, engagement, land use impacts, and multimodal accessibility
- Locations:
  - Hwy 10 and Armstrong Blvd
  - Hwy 7 and Louisiana Ave
Key takeaways:

- All four projects provided enhanced multimodal connectivity by including local improvements (marked crosswalks, refuge islands, ped signals, bike paths, lighting, etc.) or connecting access to regional trails.
- Projects support local comprehensive and transportation plan goals.
Equity Evaluation Framework

Evaluation Criteria

**Benefits**
- Active transportation: Project improves or expands bicycle or pedestrian facilities. Features may include
  - Separated shared-use trails
  - Grade-separated crossings
  - Improved lighting.
- Transit access and service: Project improves transit service and/or access, including first- and last-mile access. Investments may include
  - Transit stop improvements
  - Transit advantages
  - Added transit service.
- Americans with Disabilities Act (ADA): Project improves accessibility for persons with disabilities
  - Transit stops
  - ADA curb ramps
  - Audio-visual signals
  - Driveway grade

**Burdens**
- Significant barrier effects (e.g., widen from four to six lanes, grade change, etc.)
- Significant cumulative/disproportionate impacts
- Increases displacement of residents, businesses or public amenities
- Reduces business revenue and employment (e.g., by relocating businesses)
- Greatly increases noise or emissions
- Reduces safety and personal security
Before-and-After Analysis

Hwy 169 and Hwy 41

• Annual benefits
  • $1.8 million in annual travel time savings
  • $5.4 million in annual crash cost savings

• Travel time reliability – Planning Time Index
  • NB Hwy 169: 1.28→1.04
  • SB Hwy 169: 1.42→1.13
Scoring and Tiering Results
<table>
<thead>
<tr>
<th>MOBILITY</th>
<th>SAFETY</th>
<th>MULTIMODAL &amp; EQUITY</th>
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</thead>
<tbody>
<tr>
<td>Total Intersection Delay</td>
<td>Severe Crash Rate</td>
<td>Aggregate score of 19 factors for ped/bike and equity</td>
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<tr>
<td>Peak Period Delay</td>
<td>Total Crash Cost</td>
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<tr>
<td>Cross-Street Delay</td>
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<tr>
<td>Transit Passenger Delay</td>
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<tr>
<td></td>
<td>Daily person-hours for all approaches</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Person-hours for worst approach and worst peak</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daily person-hours for cross street approaches</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daily person-hours on buses passing through intersection</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rate of K+A crashes over 5 years per MEV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total dollar value over 5 years, K=2xA</td>
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## Top Scoring Locations

<table>
<thead>
<tr>
<th>Rank</th>
<th>Location</th>
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<tbody>
<tr>
<td>1</td>
<td>6TH AVE N &amp; HIGHWAY 55 &amp; LYNDALE AVE N</td>
</tr>
<tr>
<td>2</td>
<td>HWY 51 &amp; CR B</td>
</tr>
<tr>
<td>3</td>
<td>CSAH 23 (CEDAR AVE) &amp; CSAH 42</td>
</tr>
<tr>
<td>4</td>
<td>HIGHWAY 55 &amp; PENN AVE N</td>
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<tr>
<td>5</td>
<td>46TH ST E &amp; HIAWATHA AVE</td>
</tr>
<tr>
<td>6</td>
<td>TH 252 &amp; 85TH AVE</td>
</tr>
<tr>
<td>7</td>
<td>26TH ST E &amp; HIAWATHA AVE</td>
</tr>
<tr>
<td>8</td>
<td>HIGHWAY 55 &amp; LYNDALE AVE N</td>
</tr>
<tr>
<td>9</td>
<td>TH 65 NE &amp; OSBORNE RD</td>
</tr>
<tr>
<td>10</td>
<td>TH 252 &amp; 66TH AVE</td>
</tr>
<tr>
<td>11</td>
<td>CSAH 42 &amp; CSAH 5</td>
</tr>
<tr>
<td>12</td>
<td>CSAH 23 (CEDAR AVE) &amp; 140TH ST</td>
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<tr>
<td>13</td>
<td>38TH ST E &amp; HIAWATHA AVE</td>
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<td>14</td>
<td>35TH ST E &amp; HIAWATHA AVE</td>
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<td>15</td>
<td>FERRY ST N &amp; FERRY ST S &amp; MAIN ST W</td>
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<tr>
<td>16</td>
<td>CEDAR AVE &amp; 160TH ST</td>
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<tr>
<td>17</td>
<td>HIGHWAY 101 &amp; DIAMOND LAKE RD S</td>
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<tr>
<td>18</td>
<td>TH 13 &amp; NICOLLET AVE</td>
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<td>19</td>
<td>HIGHWAY 169 &amp; DAYTON RD</td>
</tr>
<tr>
<td>20</td>
<td>CSAH 42 &amp; NICOLLET AVE</td>
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</tbody>
</table>

Total high need locations = 82
Map of Tiering Results

Legend
- High (90)
- Medium (117)
- Low (312)
- Study Corridors
- Funded/Under Construction
## Corridor Sections

<table>
<thead>
<tr>
<th>Corridors/Locations</th>
<th>Intersections</th>
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</thead>
<tbody>
<tr>
<td>TH 13: Quentin Ave to Washburn Ave</td>
<td>4</td>
</tr>
<tr>
<td>TH 252: 66th Ave to Brookdale Dr</td>
<td>6</td>
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<tr>
<td>TH 65: I-694 to CR 10</td>
<td>2</td>
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<tr>
<td>TH 65: 131st to Bunker Lake Blvd</td>
<td>3</td>
</tr>
<tr>
<td>TH 55: CSAH 61 to CR 101 (Plymouth)</td>
<td>6</td>
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<tr>
<td>Cedar Ave: CSAH 42 to 138th St</td>
<td>3</td>
</tr>
<tr>
<td>CSAH 42: Cedar Ave to Flagstaff Ave</td>
<td>4</td>
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<tr>
<td>CSAH 42: CR 5 to I-35E (Burnsville)</td>
<td>4</td>
</tr>
<tr>
<td>TH 55: I-94 to Penn Ave (Olson Memorial)</td>
<td>7</td>
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<tr>
<td>TH 55: TH 100 to General Mills Blvd (Golden Valley)</td>
<td>2</td>
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<tr>
<td>TH 61: Burns Ave to Warner Rd</td>
<td>2</td>
</tr>
<tr>
<td>TH 7: Blake Rd to Texas Ave</td>
<td>2</td>
</tr>
<tr>
<td>Shepard Rd (CH 36): Jackson St to Sibley St</td>
<td>2</td>
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<tr>
<td>TH 36 (Oak Park Heights): Washington Ave; Osgood Ave</td>
<td>2</td>
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<tr>
<td>TH 55: 46th St E to 26th St E (Hiawatha)</td>
<td>8</td>
</tr>
<tr>
<td>TH 169: 109th Ave to Dayton Rd (Champlin)</td>
<td>8</td>
</tr>
</tbody>
</table>
Regional Priorities Overview
Identifying Regional Priorities

- Review agency priorities with tiering results
  - Do problem magnitudes and types align with local vision?
- Identify optimal interchange projects
  - High regional priority + local priority + planning work complete
  - Consider surrounding context
    - Is there a corridor need or location-specific issue?
- Identify optimal projects for other local priorities
  - Review performance across scoring criteria
  - Determine appropriate project scope and type based on observed problems
Implementation Plans

Intersection Mobility and Safety Study

Highway 13: Savage to Burnsville
Quentin Avenue to Washburn Avenue

Highlight of location needs
• This corridor has some of the highest levels of vehicle delay during peak periods
• This corridor has a high number of crashes regionally and overall

Corridor vision
• Grade separation throughout the corridor and at two key intersections
• Create a freeway facility from Highway 13 to Interstate 35W

Existing funding opportunities
• Meets criteria for various programs
• Key funding opportunities include:
  – MPDG
  – RAISE

Priority criteria

Study status

Environmental doc

Underway

Funding status

Partial funding

Evaluation scores

Contacts

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Implementation
Next Steps
Findings and Conclusions

• Approximately 90 intersections in the region with High Priority needs
• An additional 115 locations are Medium Priority where needs suggest substantial investment ($5M-$20M) could be cost effective
• Majority of high-need intersections in corridors with several high-need locations
  • Many of these have been studied or are advancing through project development
  • Corridor-level solutions may be more effective than isolated improvements
  • Remaining stand-alone locations are also critical to fill gaps in the regional highway system
• Recently completed projects show high effectiveness in improving mobility and safety performance
• An equity evaluation framework is proposed to help ensure equitable project outcomes
Application of IMSS in TPP

- All high priority locations will be included in Current Revenue Scenario as “opportunity areas” with most locations being at-grade solutions, except for those high regional priorities that were also high local priorities and had completed planning work that pointed to grade separations:
  - TH 13
  - TH 65
  - TH 36 and TH 120
  - TH 5 and Hennepin CSAH 4 (Eden Prairie Rd)
Funding Considerations

- Important role of Regional Solicitation in partially funding projects
- Regional Solicitation funds are often “first dollars in”
- Once partial funding is committed (i.e., Regional Solicitation), project becomes more competitive in grant opportunities
- Agencies can leverage study findings identifying their locations as regional priorities when applying for funding (e.g., MnDOT’s Reconnecting Communities grant application on Highway 55 west of downtown Minneapolis)
Funding Considerations

• Findings from Before-and-After studies demonstrate that these projects yield significant benefits

• Regional Solicitation is instrumental in helping implement these projects

• However, that remains a minor share of project cost and must be supplemented with more funding, typically from several additional sources
Application of IMSS in Regional Solicitation

• $10M Regional Solicitation maximum for Strategic Capacity is an increasingly small proportion of interchange costs (currently $40M+).

• The committees may want to consider increasing the Regional Solicitation maximum for both Strategic Capacity and Roadway Reconstruction to fund a higher proportion of project cost and to simplify implementation on larger projects.

• The committees may want to also consider increasing the maximum funding award for at-grade solutions (Spot Mobility and Safety) to implement multiple locations at once at a corridor level. Current maximum is $3.5M.
Questions?

Steve Peterson, Senior Manager of Highway Planning