

Principal Arterial Intersection Conversion Study

Technical Advisory Committee

June 1, 2016



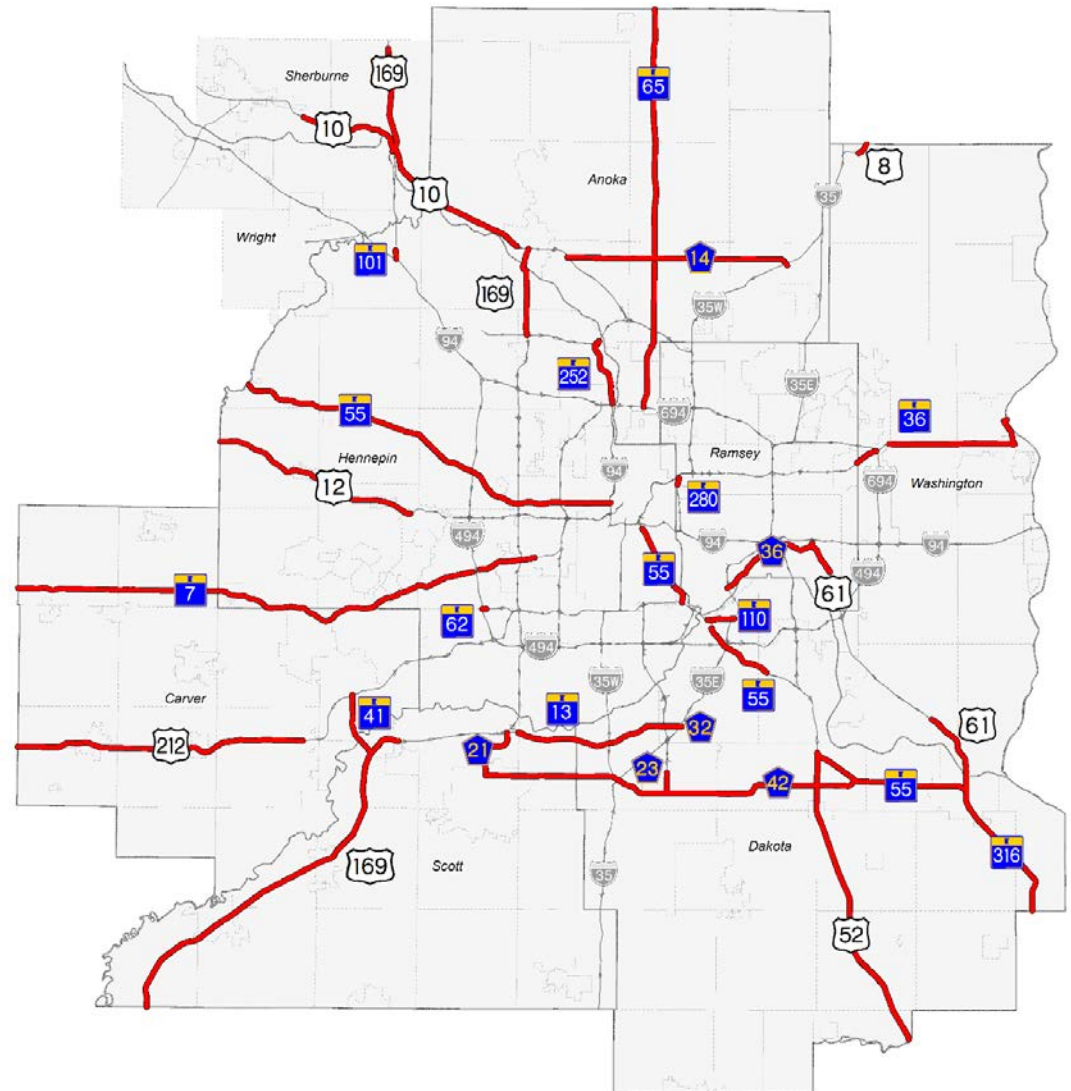
Presentation Overview

- Background – Need for Study, Objectives
- Phase I Screening (Completed)
 - More than 370 intersections initially considered
- Phase II (Ongoing)
 - Approximately 100 intersections



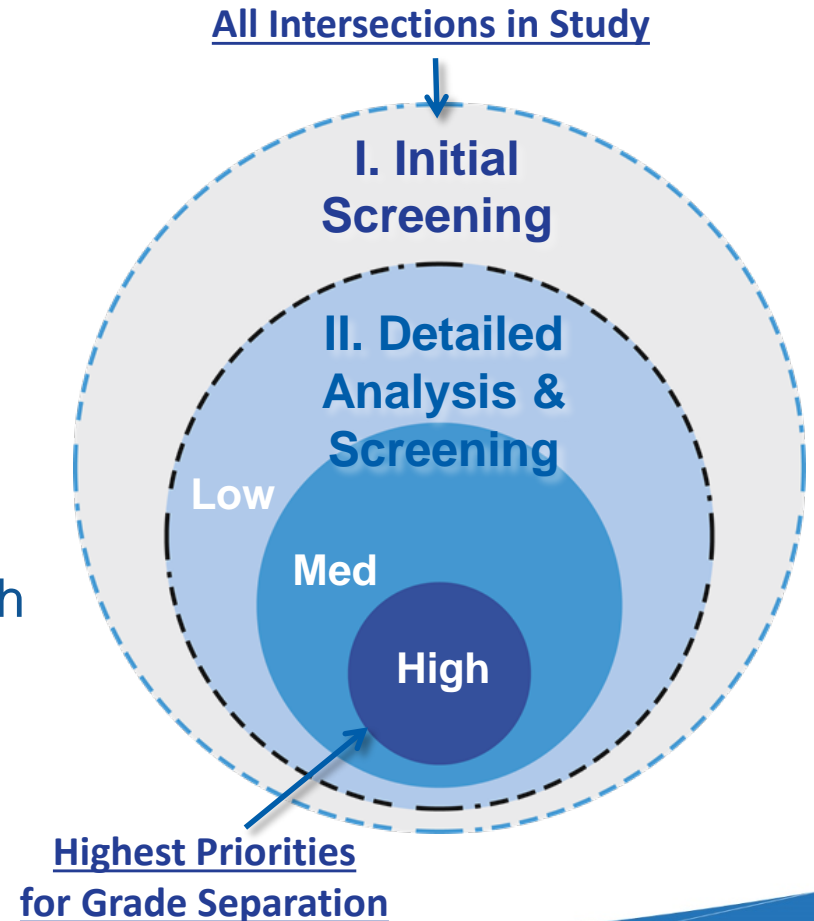
Background – Need for Study

- Identify regional priorities given high demand for grade-separations and limited funding
- Provide input to funding decisions
- First-of-its-kind study; identified in Work Program of 2040 TPP



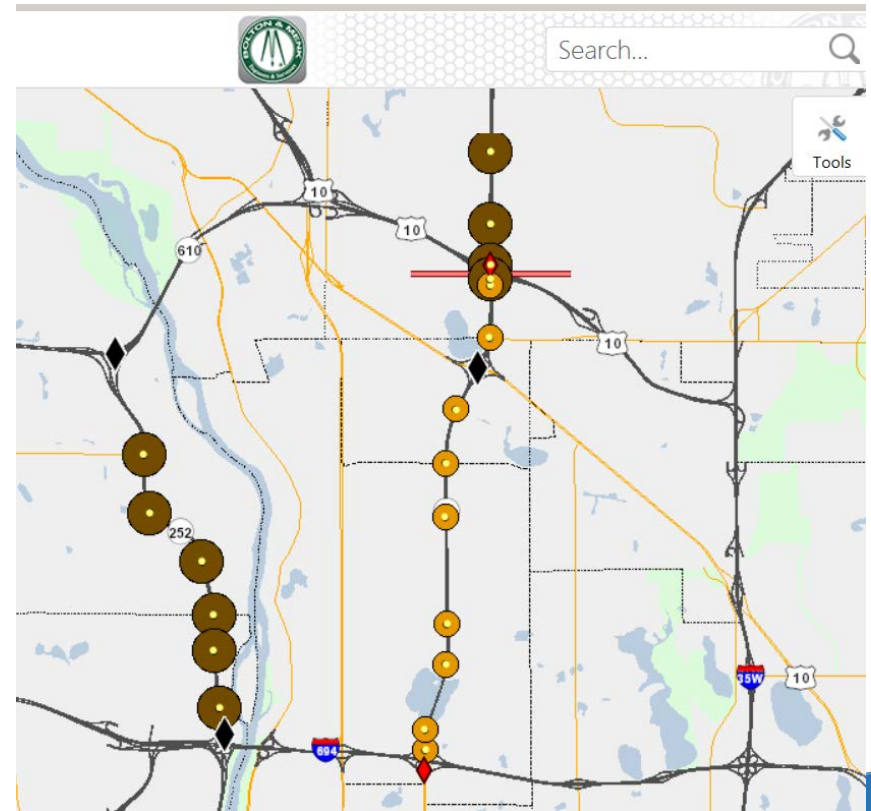
Study Process Overview

- Phase I. Initial Screening
 - Which intersections are not candidates for grade separation at this time?
- Phase II. Detailed Analysis & Screening
 - Set priorities for future grade separations – Low, Medium, High
 - Consider best fit for design solutions (cost effectiveness)



Phase I Screening Process

- 8 local outreach meetings (December 2015):
 - Technical and contextual screening criteria
 - Specific corridors, intersections, and data
- Local input helped refine the Phase I criteria



Phase I Screening: Criteria, Process

Volume and Capacity Factors

Guidance Based on ADT Thresholds

(MnDOT ICE and HCM guidance for signalized intersections)



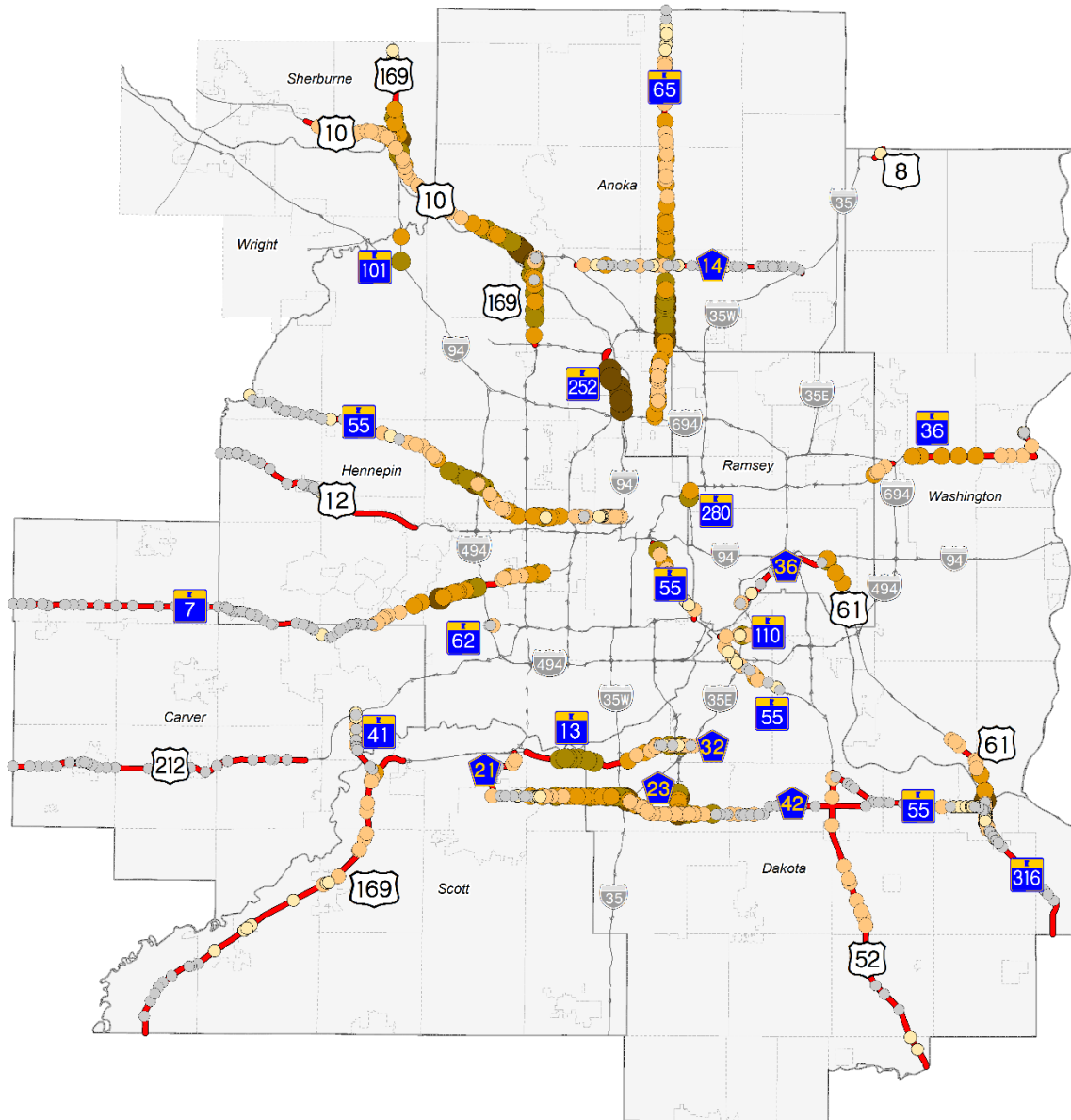
Safety, Context & Local Input Factors

Criteria Based on PA Role, Previous Planning, and Local Context

1. **Safety** (critical crash index)
2. **Functional Class & System Context**
3. **Local Planning Support** (previous studies; support at meetings)
4. **Right-of-Way and Physical Feasibility** (expressway or urban street?)
5. **Regional Mobility or Growth Corridor**
6. **Infrastructure and Funding Cycle**

(Items 3, 4, and 6 were sometimes significant in Phase I screening decisions.)

Phase I Screening



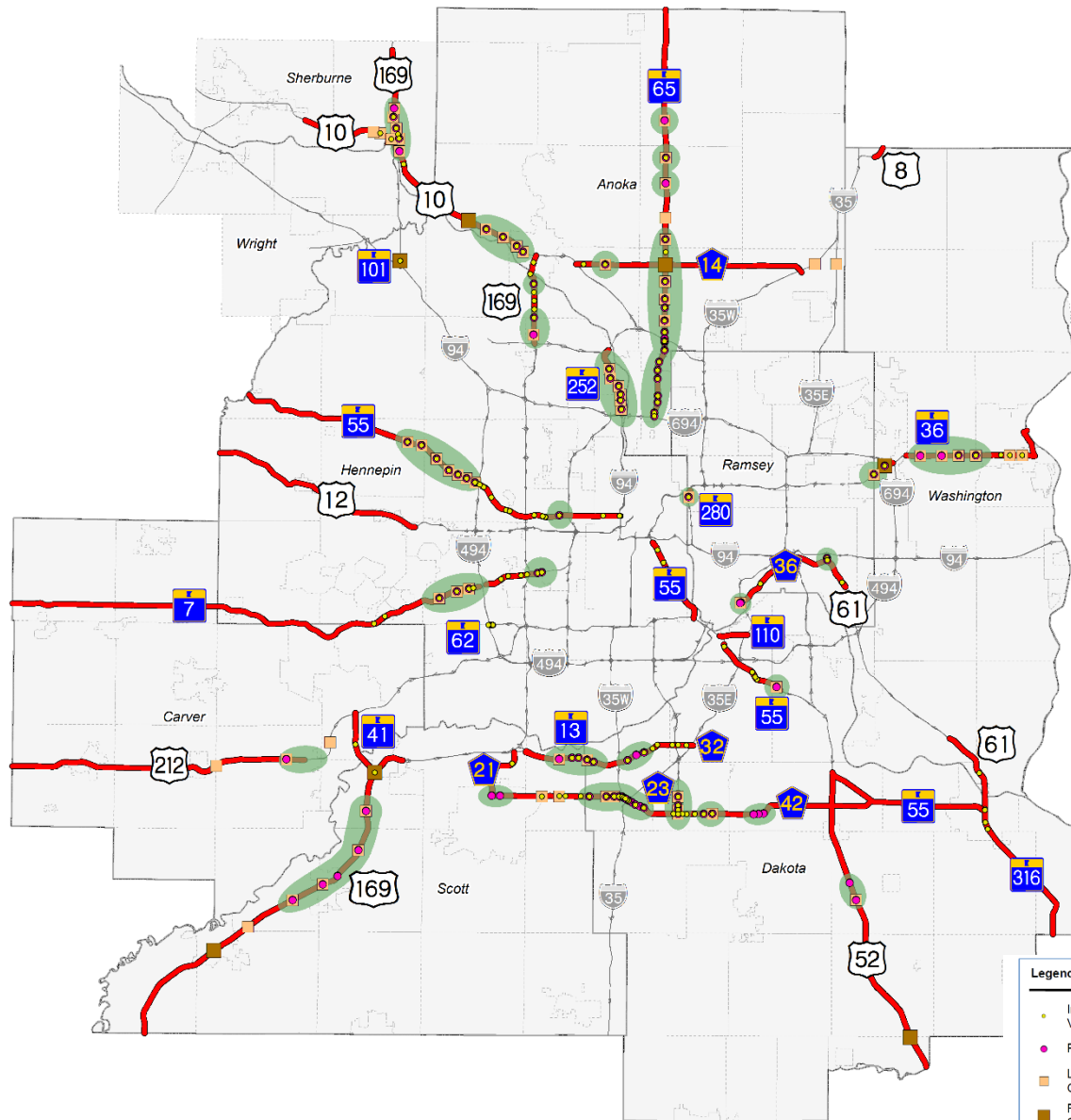
All Intersections
(374)

Entering Volumes

- ◇ 5435 - 20000
- 20001 - 25000
- 25001 - 35000
- 35001 - 45000
- 45001 - 55000
- 55001 - 68850

Phase I Screening

104 intersections identified for Phase II analysis



Legend

- Intersections Meeting Volume Criteria
- Phase II Intersections
- Locally Identified Future Grade Separation
- Recent or Funded Grade Separation
- Principal Arterial
- Non-Freeway Study Segments
- Phase II Study Area
- City/Township Boundaries
- County Boundaries

0 9 Miles
Source: MetroGIS, MnDOT

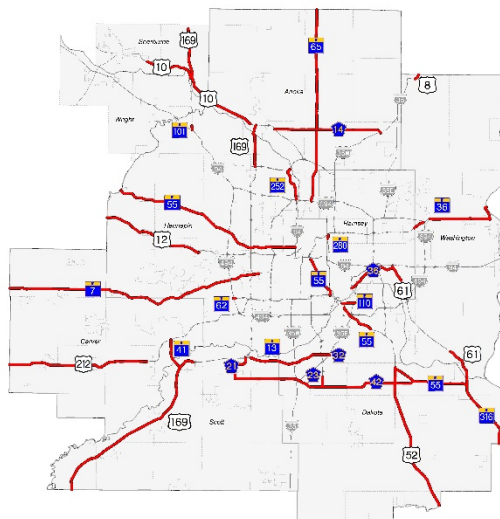
Phase I Results

- Of 374 intersections, 104 (28%) advanced to Phase II
- Some locations were screened out based on context – examples:
 - TH 55 Hiawatha Ave.
 - TH 36 in Oak Park Heights
- Phase I Tech Memo (pdf on project website)

<http://www.metrocouncil.org/PAICS>

PRINCIPAL ARTERIAL INTERSECTION CONVERSION STUDY

METROPOLITAN COUNCIL MINNESOTA DEPARTMENT OF TRANSPORTATION





Description:
This deliverable provides a complete review of study activities and results through completion of the Phase I screening process, which identified corridors and intersections to advance for detailed study. The next steps (Phase II) will include additional studies and prioritization for the selected intersections to identify potential grade separations and priorities.

Principal Arterial Intersection Conversion Study Background Data, Outreach Summary, and Phase I Screening (Technical Memo)

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Metropolitan Council
Minnesota Department of Transportation, Metro District

Prepared by:
Bolton & Menk, Inc.
Stonebrooke Engineering



Phase II Screening Steps/Criteria

- First... Provide higher scores for intersections that:
 - Serve higher volumes of traffic, reduce mobility, and cause variable travel times? **(Mobility and Reliability)**
 - Have a higher rate/cost of severe crashes? **(Safety)**
 - Can accommodate grade separation, serve regional routes, and leverage other modes? **(Corridor Context)**
- Technical Steering Committee (TSC) members are helping to establish weights



Next Steps (Phase II)

- Finish intersection data collection (detailed turning volumes)
- Compute composite scores
- Run volume/capacity scenarios before and after improvements (FHWA Capacity Analysis Tool)
- Work with TSC members to complete the study
- Final study products: late 2016/early 2017

Questions

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Project Website:
<http://www.metrocouncil.org/PAICS>

