Principal Arterial Intersection Conversion Study

Technical Advisory Committee

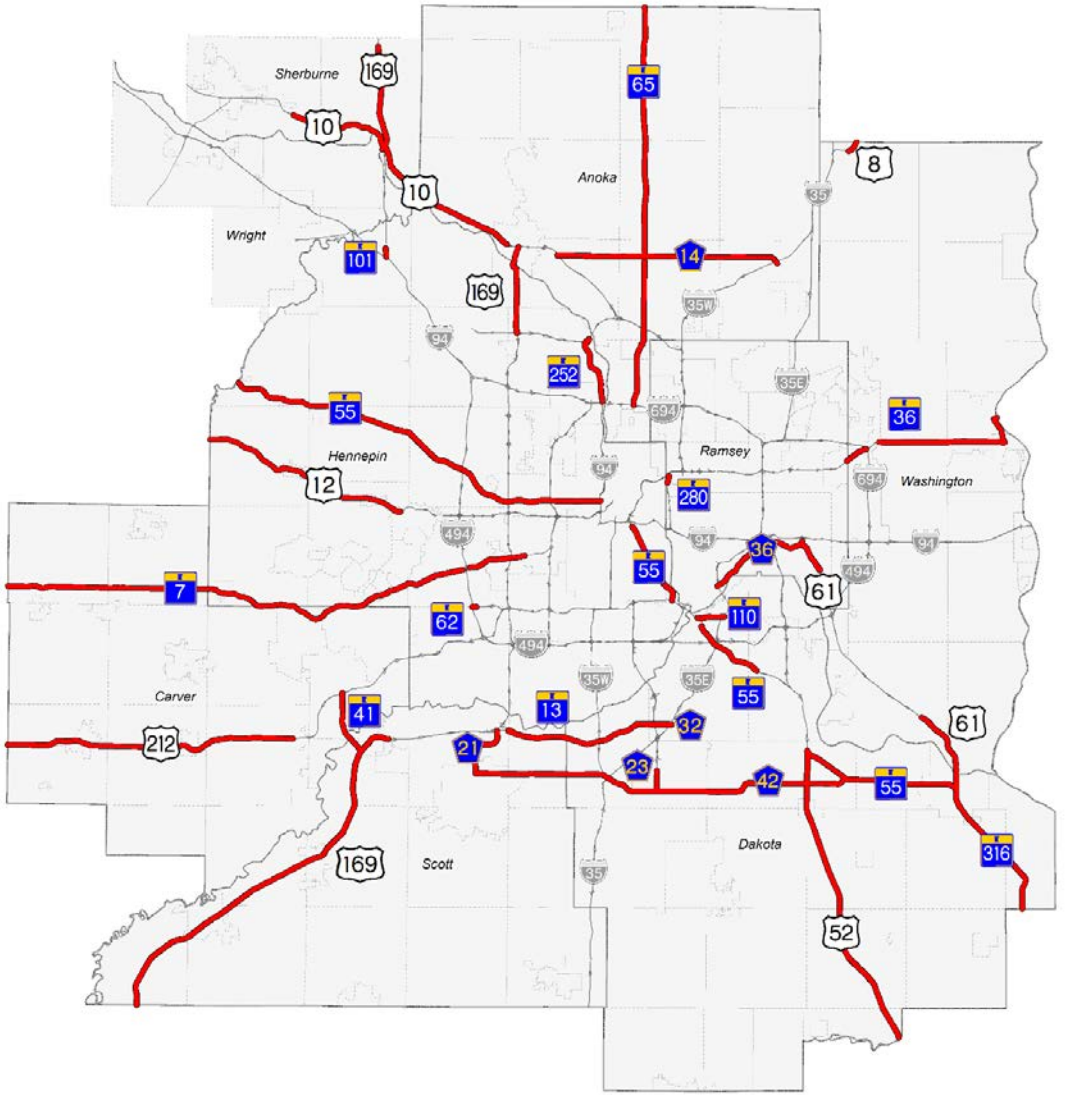
June 1, 2016

Presentation Overview

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

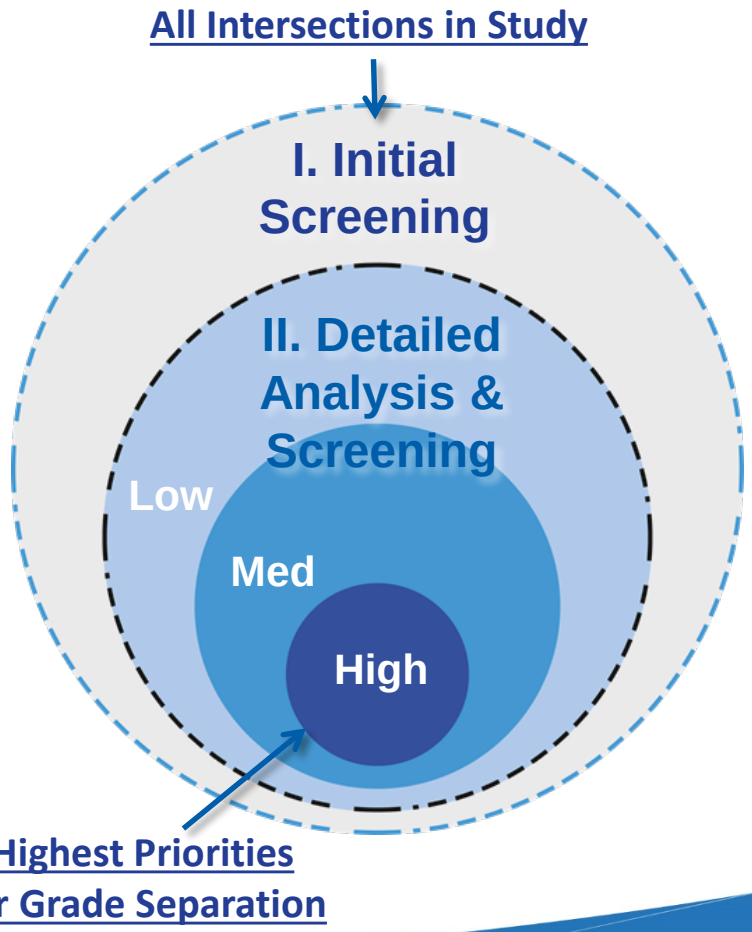
Background – Need for Study

- 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



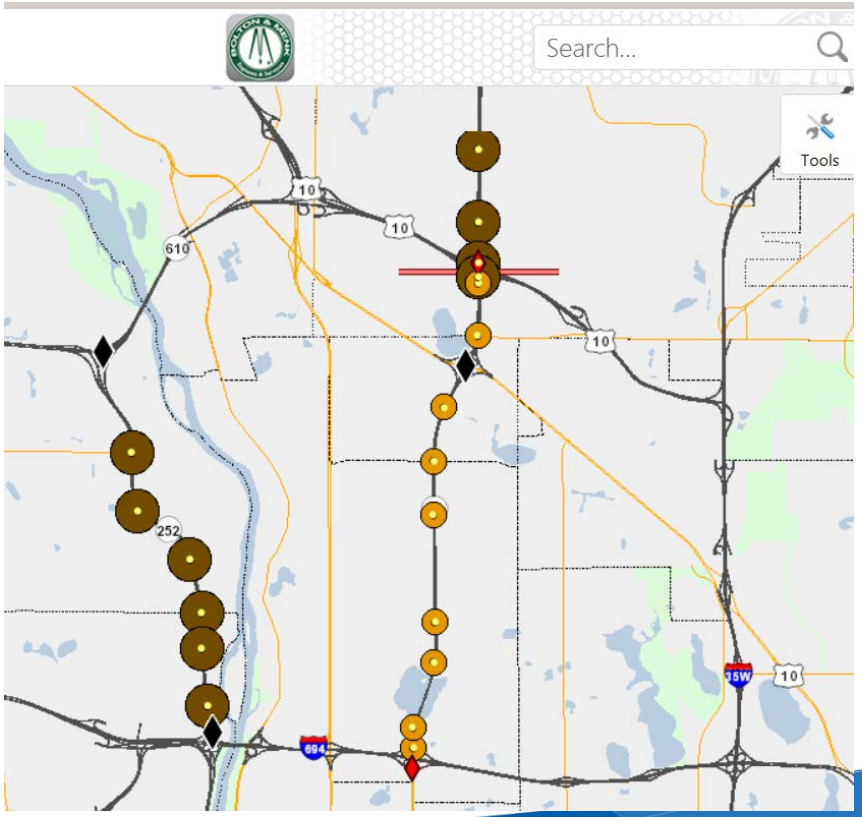
Study Process Overview

- 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)

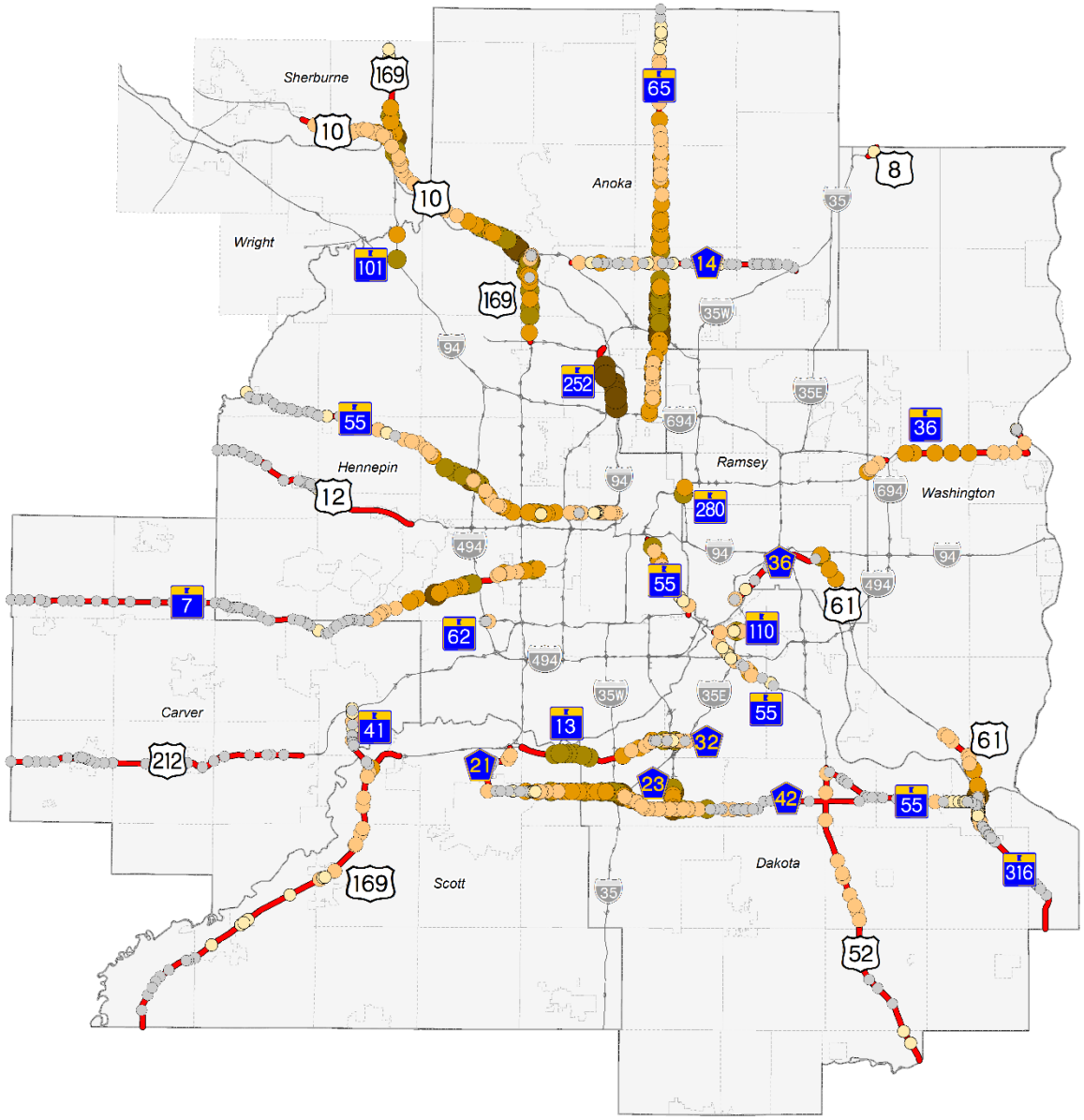
Safety, Context & Local Input Factors

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**

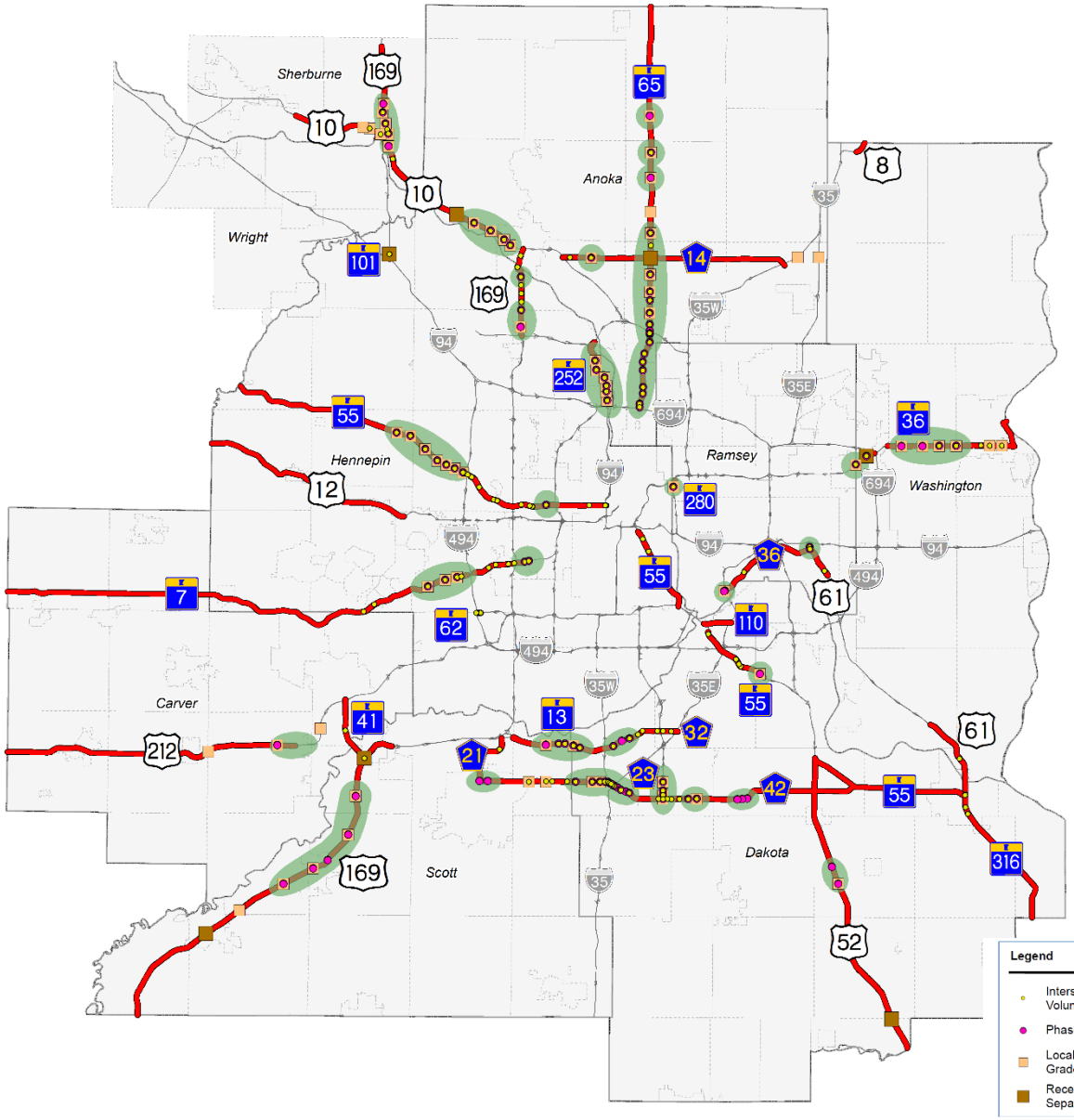
(Items 3, 4, and 6 were sometimes significant in Phase I screening decisions.)

Phase I Screening



All Intersections (374)

Phase I Screening

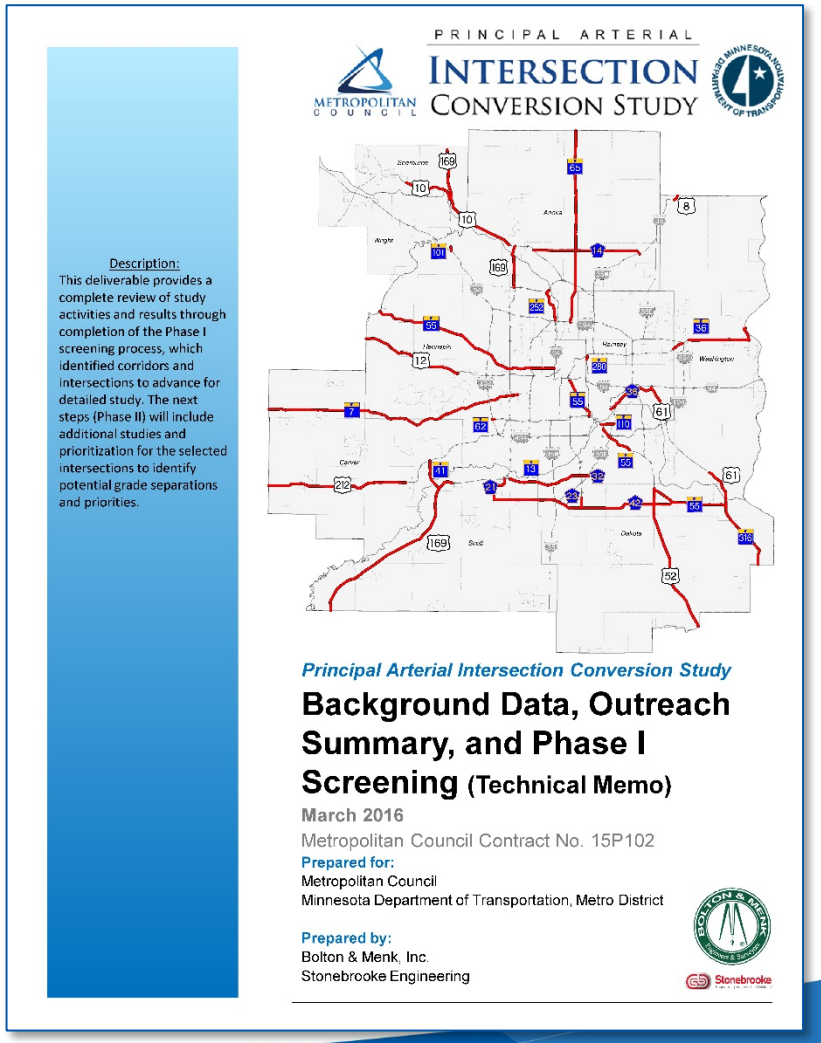


104 intersections identified for Phase II analysis

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



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

Steve Peterson, Metropolitan Council Project Manager

651-602-1819 or Steven.Peterson@metc.state.mn.us

Paul Czech, MnDOT Project Manager

651-234-7785 or Paul.Czech@state.mn.us

Project Website:

http://www.metrocouncil.org/PAICS