

10th Street Campus Mobility Study

Evaluation of Alternatives

9/10/09



Agenda

- Open House
- Presentation
- Breakout Sessions
- Regroup

Project Team

- Bloomington/Monroe County Metropolitan Planning Organization (MPO)
- City of Bloomington
- Indiana University
- Consultant Team
 - Gorove/Slade Associates
 - Bledsoe Riggert Guerrettaz

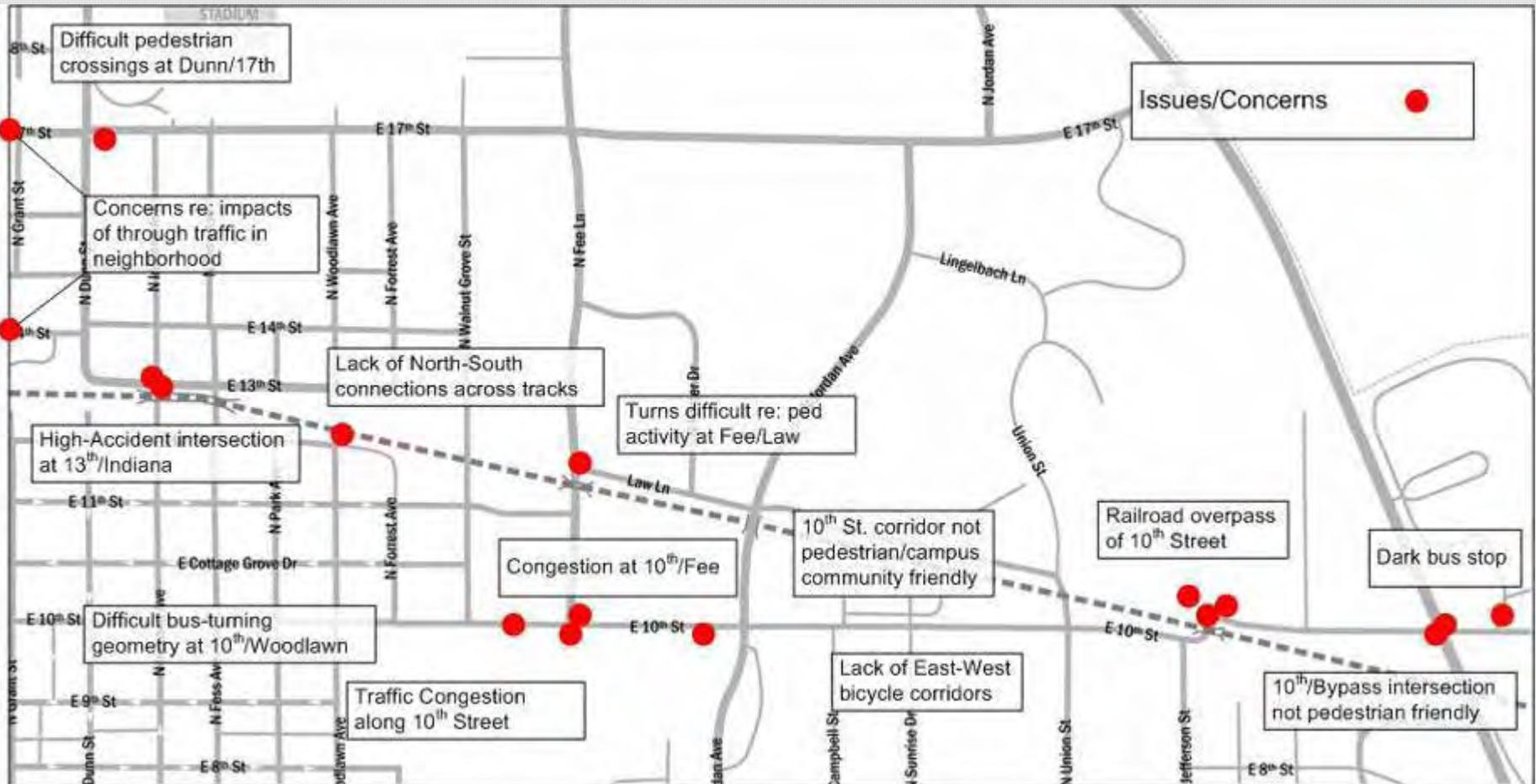
Project Timeline

- March 2009: Project Kick-off
- March-May 2009: Data Collection
- April 16, 2009: First public workshop held to get public input
- May-June 2009: Completed Existing Conditions Analysis
- June–August 2009: Alternatives developed and analyzed
- *September 10, 2009: Second public workshop to review alternatives and gain input*
- Fall 2009: Finalize preferred alternative & draft final report

Study Goals

- Study feasibility of corridor solutions
- Build upon prior planning efforts
- Increase mobility and connectivity of each mode of transportation
 - Public Vehicle
 - Transit
 - Pedestrian
 - Bicycle
- Enhance safety of study area transportation network
- Identify preferred alternative and estimate cost for TIP

Cons/Issues



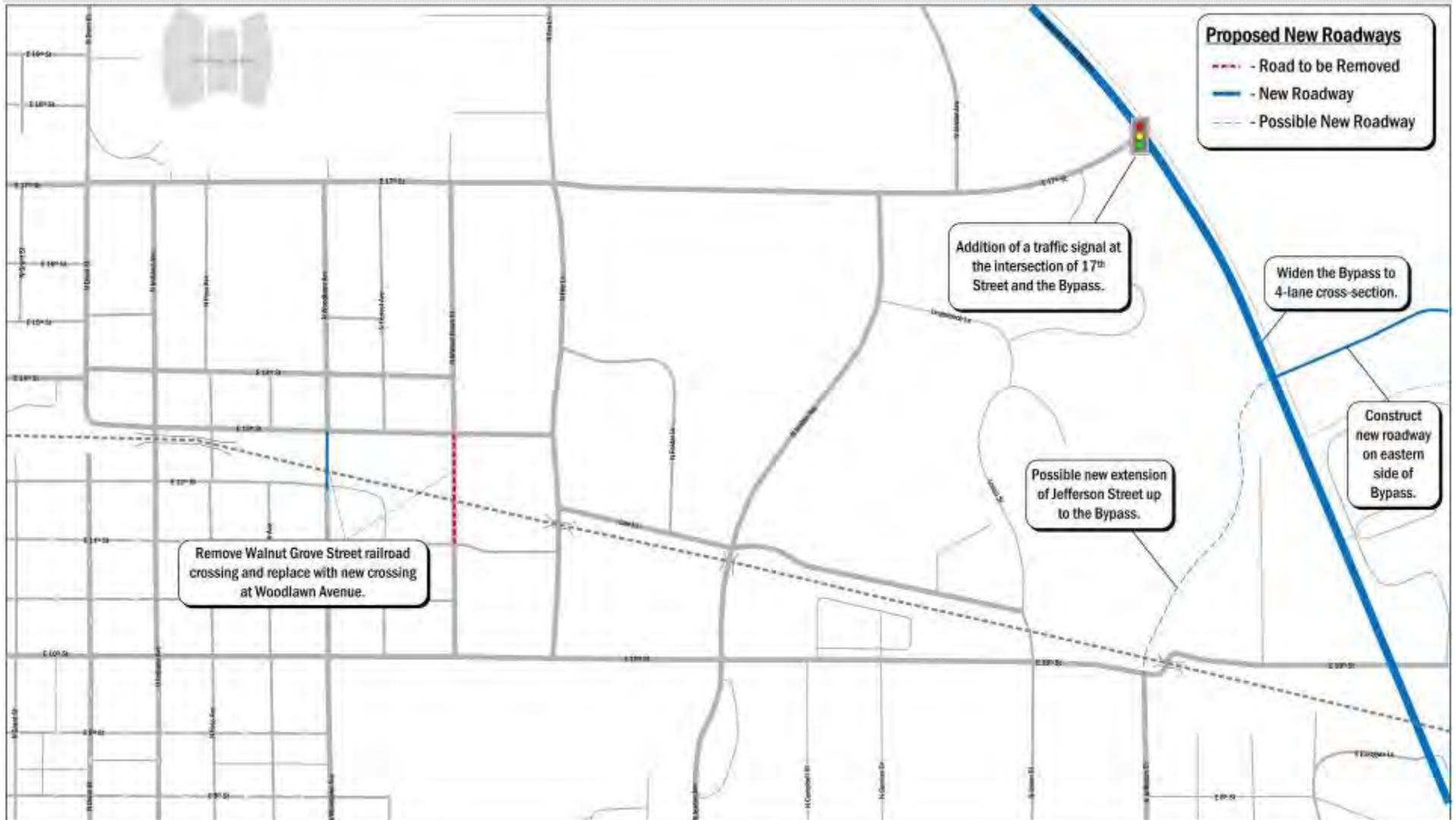
Summary of Public Input

- Connect Law Lane
- Improve Connectivity
- Create/Improved Railroad Crossings for Vehicles and Pedestrians
- Provide Two-Way Circulation
- Improve Pedestrian/Transit Environment
- Maintain Green Space

Alternatives

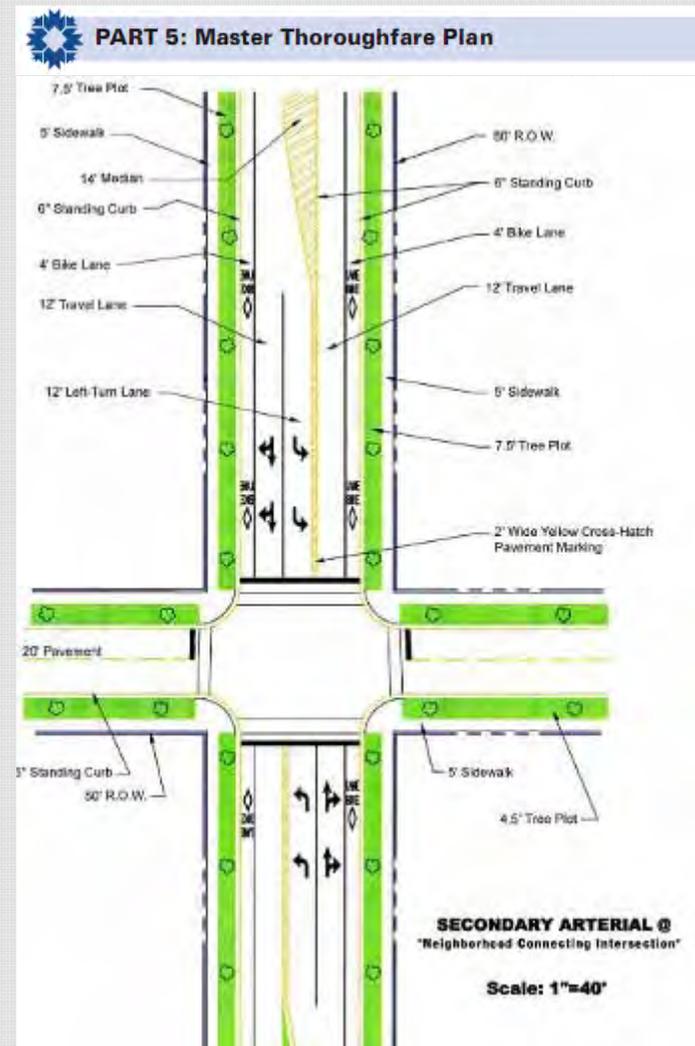
- Three alternatives assembled for evaluation:
 - Alternative 0: No-build scenario
 - Alternative 1: Law Lane and 10th Street as one-way pair
 - Alternative 2: Law Lane and 10th Street as two-way streets
- *Preferred Alternative* will be a refined version of one of these alternatives
- Goal of evaluation process and public input is to select an alternative than can be refined into a Preferred Alternative

Baseline – Alternative 0

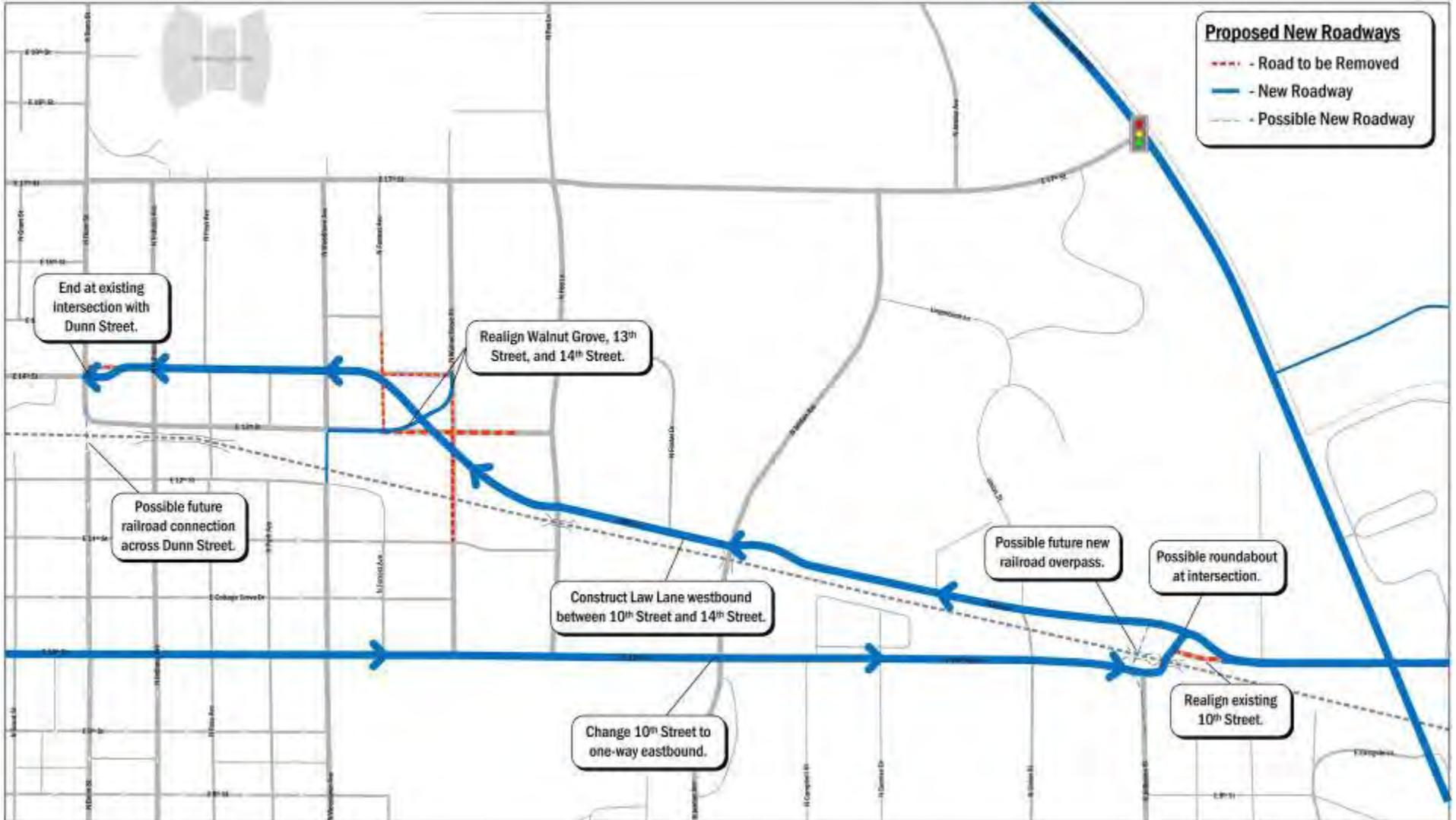


Alternatives 1 & 2

- General alignment of alternatives was agreed to by project team
- Cross-section was set as a Secondary Arterial as per the City's Master Thoroughfare Plan



Alternative 1



Alternative 2

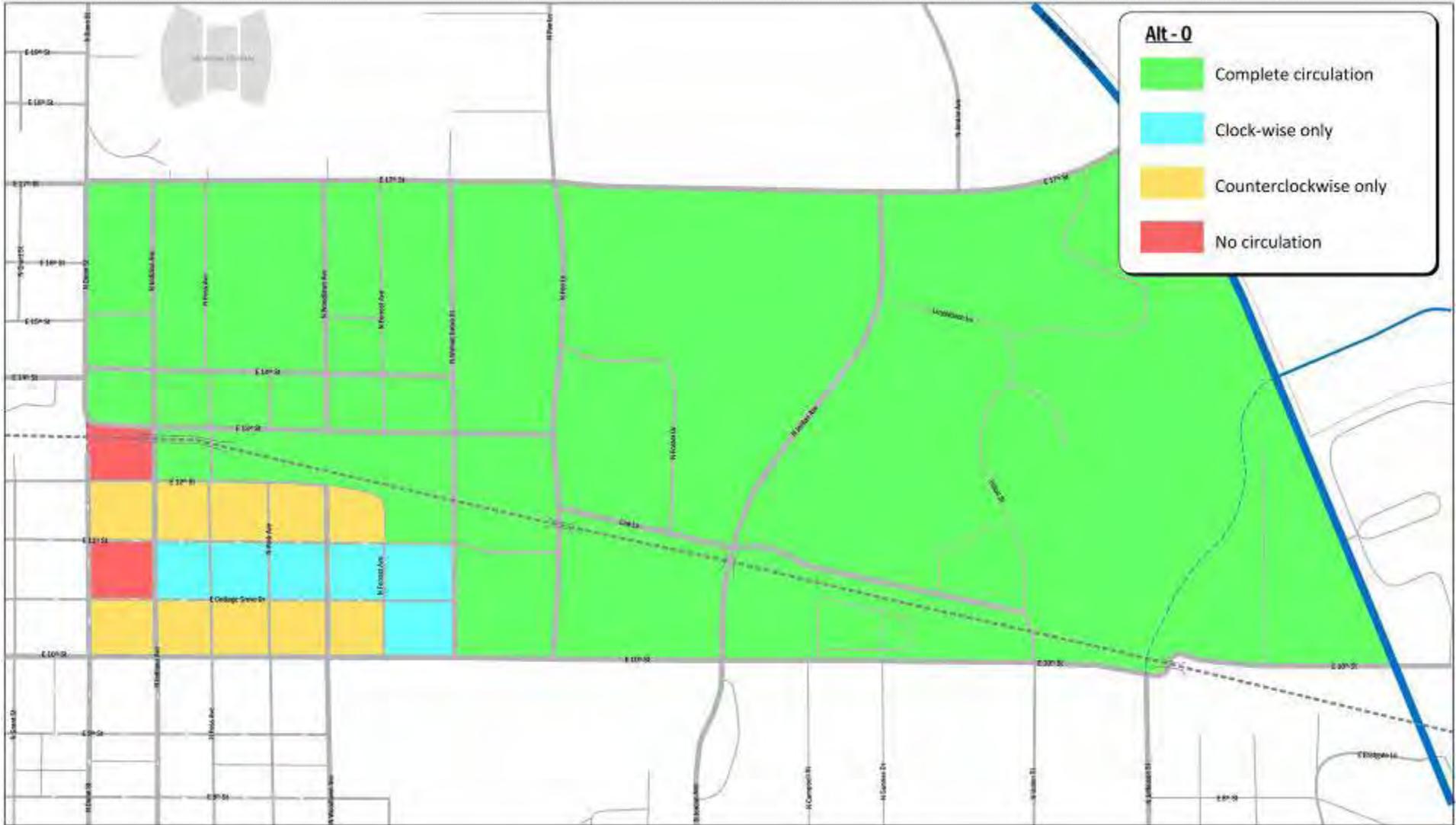


Evaluation of Alternatives

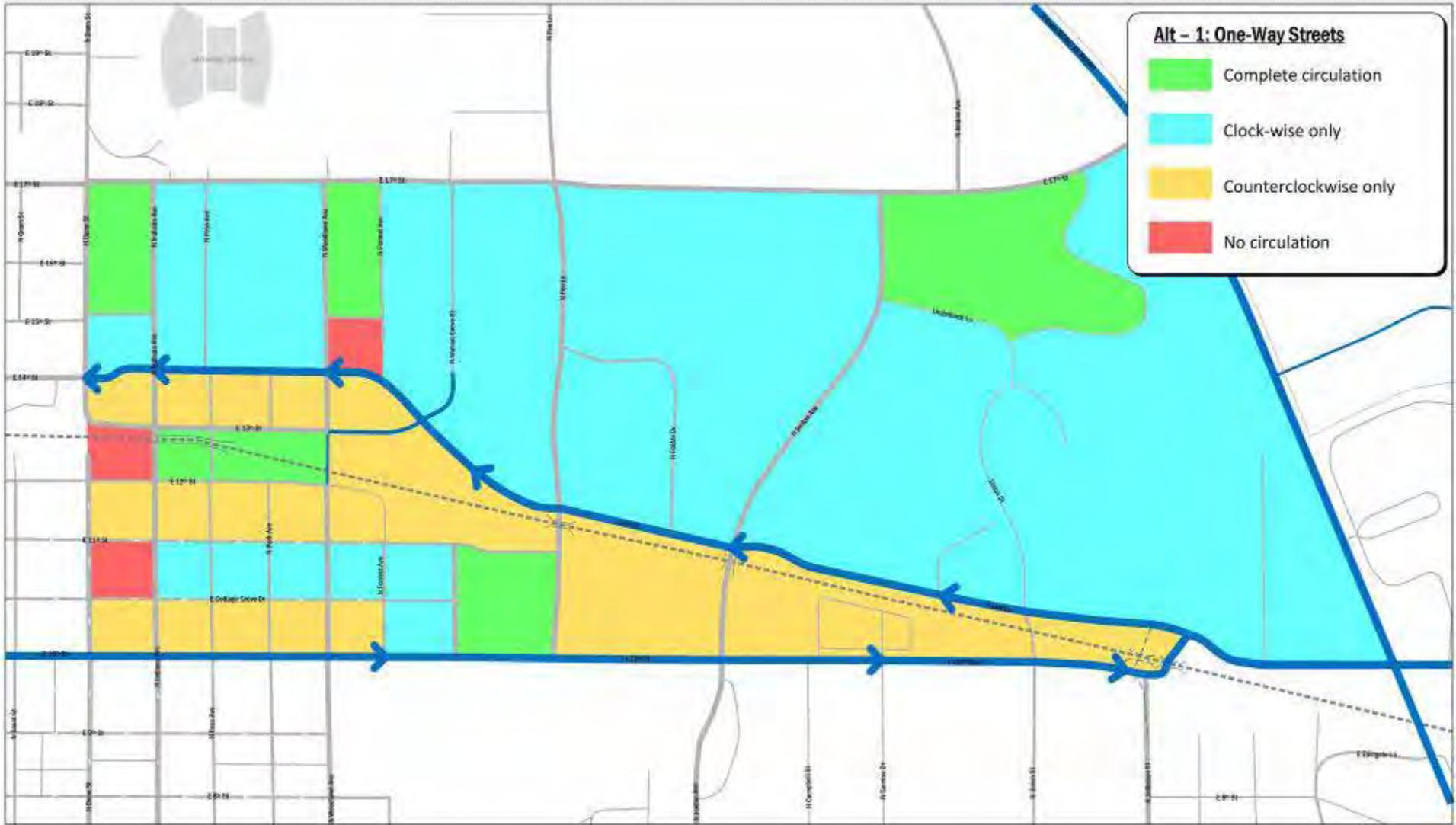
- Goals of Study:
 - Increase mobility and connectivity of each mode of transportation
 - Public Vehicle
 - Transit
 - Pedestrian
 - Bicycle
 - Improve safety of study area transportation network
- For each Goal of the study, a list of Measures of Effectiveness (MOEs) were developed
 - Quantitative & Qualitative

Goal: Public Vehicle Mobility/Connectivity

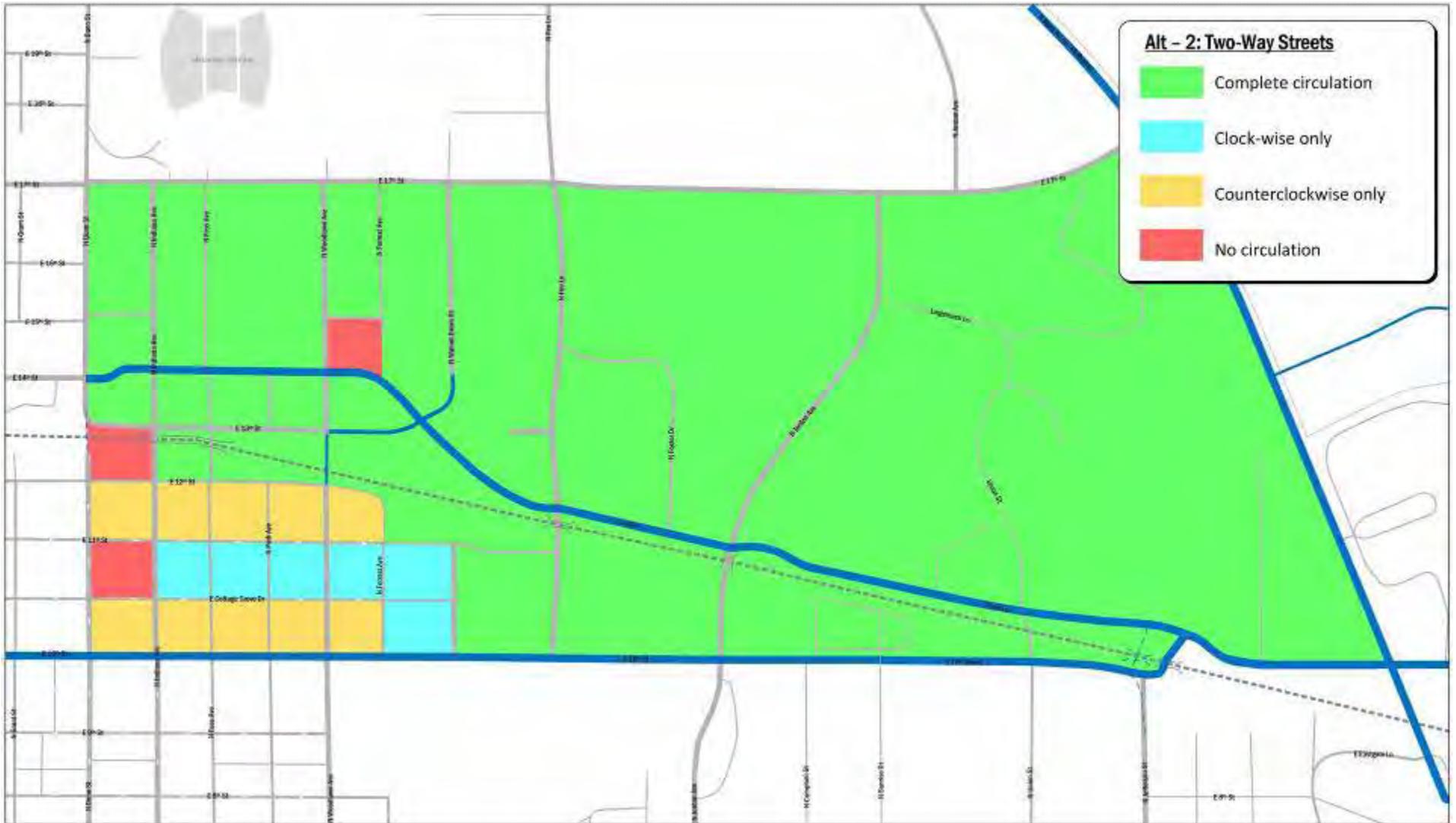
- Quantitative MOEs:
 - Block circulation
 - Intersection capacity (traffic modeling)
 - Corridor travel times across study area (traffic modeling)
- Qualitative MOEs:
 - None
- Summary of findings:
 - Both alternatives show improvements over baseline.
 - One-way street system shows more reductions in delay for each intersection, helping both E-W and N-S routes.
 - Two-way streets have better block circulation



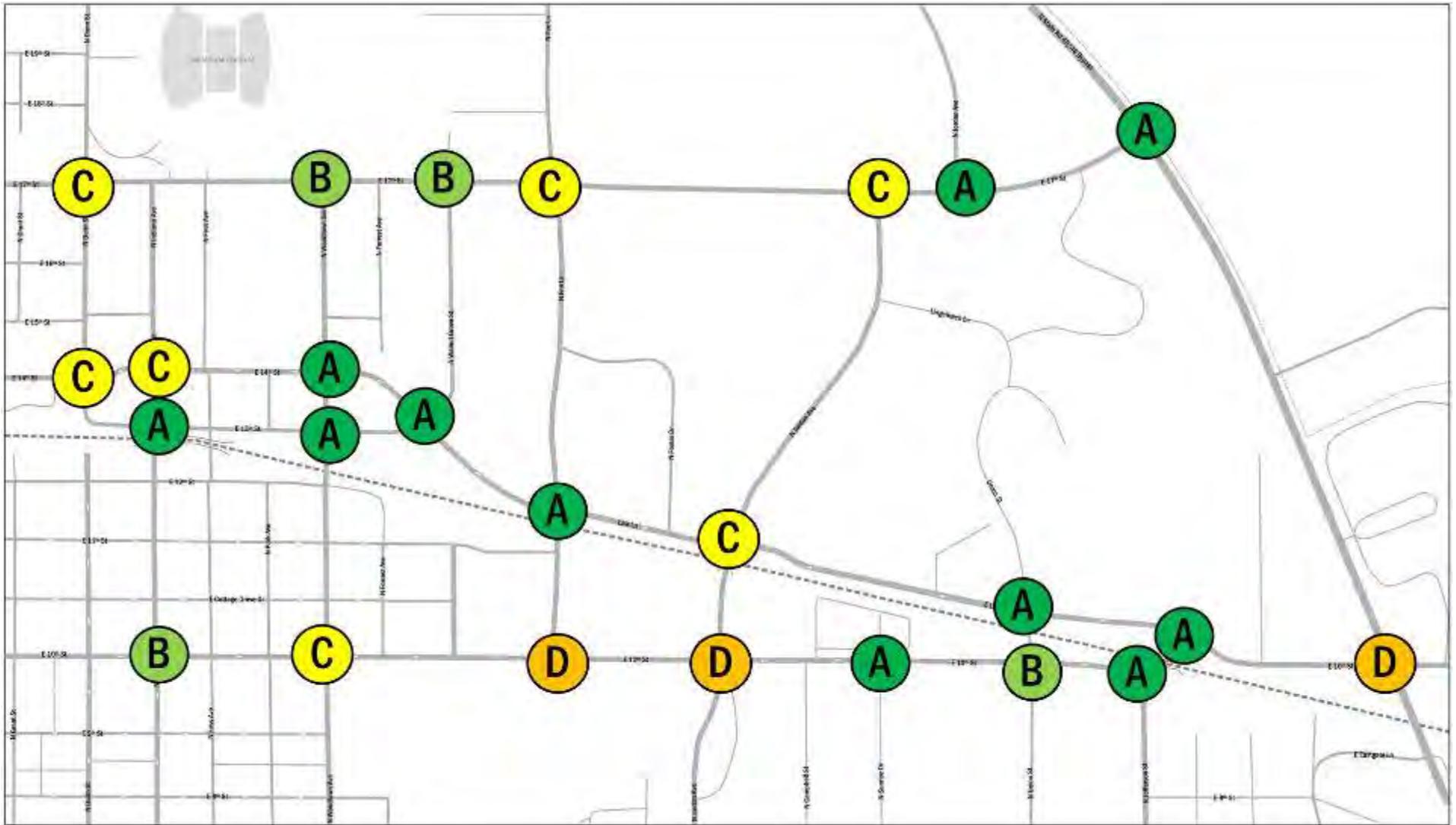
Block Circulation: Baseline Alternative



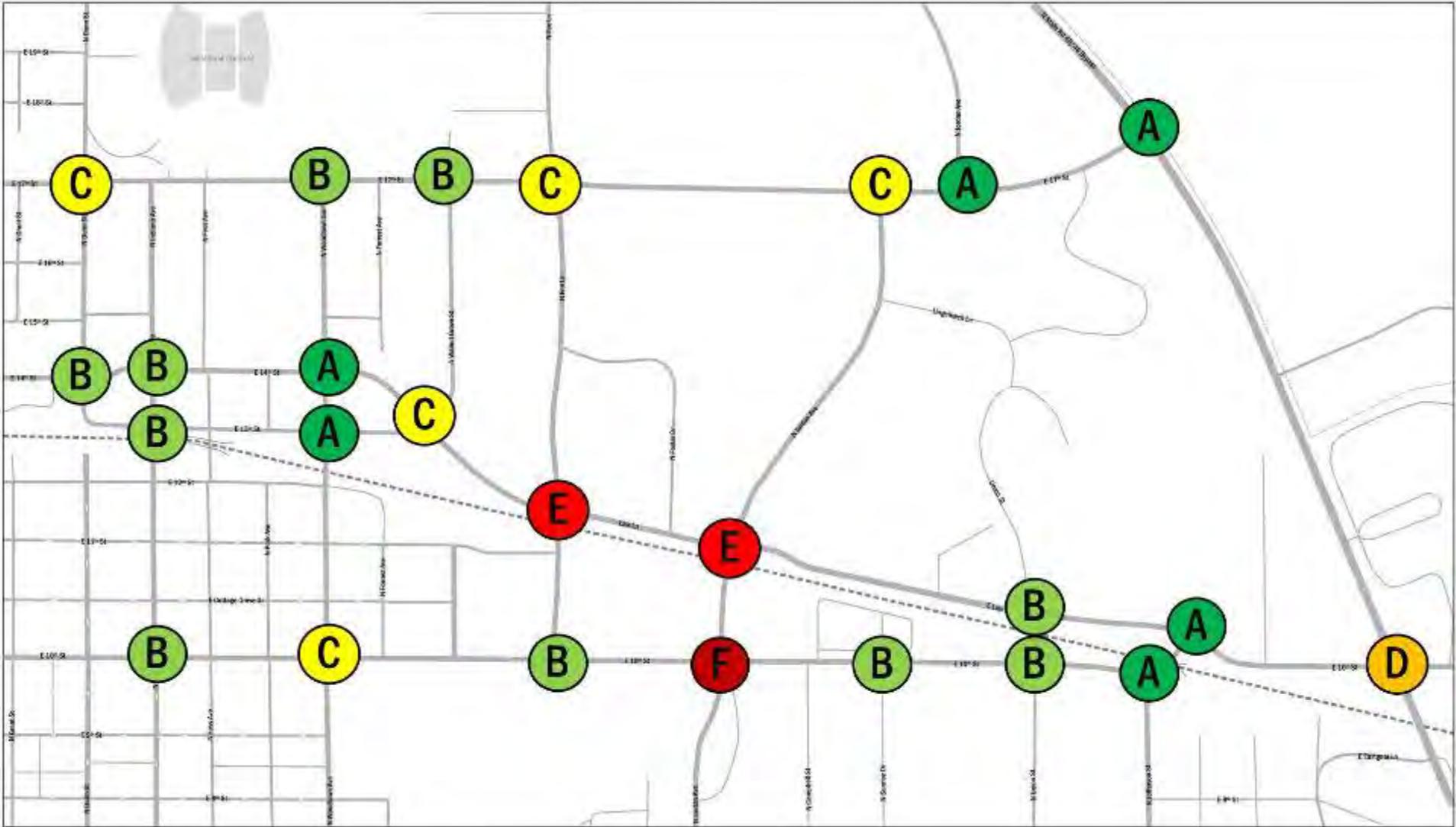
Block Circulation: Alternative 1



Block Circulation: Alternative 2



Intersection Capacity (Evening Rush Hour): Alternative 1



Intersection Capacity (Evening Rush Hour): Alternative 2

Goal: Transit Mobility/Connectivity

- Quantitative MOEs:
 - Block circulation
 - Intersection capacity (traffic modeling)
 - Corridor travel times across study area (traffic modeling)
- Qualitative MOEs:
 - Ease of locating bus stops
- Summary of findings:
 - One-way alternative shows better improvement in reducing congestion than two-way alternative
 - Two-way alternative has more flexibility in routing
 - Two-way alternative allows for stops on both sides of street

Goal: Pedestrian Mobility/Connectivity

- Quantitative MOEs:
 - Pedestrian Facility Coverage
 - Pedestrian Delay at Intersections
- Qualitative MOEs:
 - Reduction of mobility barriers
- Summary of findings:
 - Both alternatives significantly increase amount of sidewalk in study area
 - Both alternatives do not have large delays for pedestrians at existing or projected new traffic signals

Goal: Bicycle Mobility/Connectivity

- Quantitative MOEs:
 - Bicycle Facility Coverage
- Qualitative MOEs:
 - Reduction of mobility barriers
- Summary of findings:
 - One-way alternative has fewer linear feet of bicycle lane
 - One-way streets can lead towards bicycle using sidewalks, and longer travel distances
 - Two-way alternative creates more intuitive east-west bicycle connections

Goal: Safety Concerns

- Quantitative MOEs:
 - None
- Qualitative MOEs:
 - Review of factors that effect accident rates at intersections:
 - Alignments, speed, geometry, number of conflict points
 - Emergency vehicle access
- Summary of findings:
 - Alternatives are very similar, only the amount of conflict points at intersections is a major difference
 - One-way streets will have fewer conflict points
 - Some studies have shown reductions in vehicular accident rates after streets have been converted from two-way to one-way

Cost Estimate

- One-way alternative will have less overall pavement than two-way alternative
- Two-way alternative will have no pavement marking/traffic signal work on 10th Street
- Preliminary estimates:
 - \$13 million for one-way alternative
 - \$15 million for two-way alternative

Break-Outs

- Review how each alternative meets the project goals
- Each group should fill out a scorecard

Next Steps

- Finalize analysis
- Select alternative based on analyses and stakeholder input
- Refine preferred alternative
- Develop cost estimate
- Draft report for review