Evaluating the Summit Street Protected Bicycle Lanes
Agenda

• Project Overview

• Evaluation Methodology and Criteria

• Recent Findings and Next Steps
Project Overview

Timeline

• **September 2015**: Paving starts
• **November 25, 2015**: Protected bicycle lanes open to traffic with temporary signs at signals
• **July 2016**: 11th Ave signal complete
• **August 2016**: Remaining signal work begins
• **September 9, 2016**: Signal work 11th Ave to 17th Ave complete
• **October 7, 2016**: Project ongoing
Evaluation Methodology

• Before and after bicycle counts
• Before and after pedestrian counts
• Video capture of design element usage
  – Protected bicycle lane terminus
  – Protected bicycle lane configuration
  – Signalized intersection, un-signalized intersection
  – Alley crossing, driveway crossing
  – Two-stage turn queue box, Bicycle-only turn lane
  – Bus stop
Bicycle Counts
Pedestrian Counts
Evaluation Criteria

• Levels of overall and injury crashes
• Levels of bicycling and walking
• Mid-block user position
• Bicycle-motor vehicle-pedestrian interactions
  – Signalized intersections
  – Un-signalized intersections
  – Alley crossings, driveway crossings
  – Bus stops
Protected Bicycle Lane Terminus

Positive Indicators:
- High compliance with traffic control
- Limited conflicts at signal
Protected Bicycle Lane Configuration

Positive Indicator:
- User positions match expectations
Signalized Intersections

Positive Indicators:

- High compliance with traffic control
- Limited conflicts at signal
Un-Signalized Intersections

Positive Indicators:
• Limited conflicts at intersection
• Some conflicts at intersection that are later mitigated
Alley Crossings

Positive Indicators:
• Limited conflicts at alley
• Some conflicts at alley that are later mitigated
Driveway Crossings

Positive Indicators:
• Limited conflicts at driveway
• Some conflicts at driveway that are later mitigated
Positive Indicators:
- Compliance with through prohibition
Two-Stage Turn Queue Box

Positive Indicators:
• High usage of turn box for turning bicyclists
Bicycle-Only Turn Lane

Positive Indicators:
- High usage of bicycle-only turn lane or through lane for intended movements
Bus Stop

Positive Indicators:
• Limited conflicts at bus stop
What is a conflict?

• Not every bicycle-pedestrian-motor vehicle interaction
• Methodology from June 2014 National Institute for Transportation and Communities report NITC-RR-583
• Interaction Types:
  – Major: near collision with emergency braking and/or change of direction
  – Substantial: emergency braking and/or change of direction
  – Minor: precautionary braking and/or change of direction
  – Precautionary: low-risk interaction with minor change in direction or speed
  – No conflict: no change in direction or speed due to interaction
• Record timestamp from every interaction to facilitate verification
No Conflict
Precautionary Braking
Minor
Substantial
Recent Findings - Bicycle Crashes

• 2011-2014
  – 6 Total Crashes, 1 Fatal, 5 Non-Incapacitating Injury

• 2016
  – 11 Total Crashes, 0 Fatal, 8 Non-Incapacitating Injury, 1 Possible Injury, 2 No Injury
  – 4 involving EB vehicles proceeding from stop sign
    • 3 occurring at 14th Ave, 1 at Wyandotte Ave
  – 2 involving SB right hooks at 15th Ave prior to adding right turn signal
  – 2 involving red light running at signalized intersections
  – 1 involving right turn on red prior to installation of NTOR sign
  – 1 involving through vehicle at Maynard in violation of left turn only
  – 1 involving motor vehicle in bike lane and high speed bike in travel lane
Recent Findings - Video Analysis

• Over 500 hours of video collected at 10 locations
• 135 hours analyzed
• 1395 bicyclists observed
• <1% of observed bicyclists interacted with a motor vehicle
• Over 40% noncompliance with Tompkins through prohibition in peak hour
Next Steps

• Complete video analysis
• Study site distance at 14th Ave
• Consider enhancing through prohibition at Tompkins
• Update evaluation plan to reflect actual project completion date and initial findings
Thank you

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