Accommodating Emergency Vehicles in Complete Streets Project for Fairbanks, Alaska

ITE Western District 2016 Annual Meeting
Albuquerque, NM
Jeanne Bowie, PE, PhD, PTOE
Randy Kinney, PE, PTOE
Monday, July 11, 2016
Cushman Street Celebration

Monday, July 11th from 5-7pm

Cushman Street will be closed from 6th to 2nd Ave for a Ribbon Cutting and Block Party to celebrate the completion of the Cushman Street Reconstruction project.
Project Location: Fairbanks, AK

Fairbanks Population: 32,000
Tourism: 325,000 visitors per year
January Temperatures:  
- -11 F (average)
- -60 F (record)
July Temperatures:  
- 72 F (average)
- 92 F (record)
Project History

- Cushman Street
  - 3-lane northbound arterial
- 2006 – Fire Station moved to Cushman Street between 11th and 12th Ave
- 2008 – Vision Fairbanks
  - Cushman “Signature Street”
  - Convert to two-way
Project History (continued)

- At request of Fire Department, converted to two-way from 10th Ave to south
  - Serves Fire Station
  - Serves Police
Project History (continued)

- Dec 2010 – Two-way conversion abandoned by Fairbanks Metropolitan Area System (FMATS) & City Council
- 2011 – Complete Street
  - Steering Committee appointed
  - Consultant hired to study Complete Street potential
Cushman Street - Before
Cushman Street - After
Fire Station Alternatives

- Maintain existing condition (two lanes northbound and one lane southbound)

- Convert southbound lane to Emergency Vehicle only
  - Maintain Fire Department response times
  - No sidewalk improvements

- Remove southbound lane from 10th to Gaffney
  - Brings wider sidewalks south to Gaffney
  - Increases Fire Department response times

- Reduce to one southbound lane and one northbound lane
  - Brings wider sidewalks south to Gaffney
  - Not enough capacity for existing traffic
ITS Solution

- Two northbound lanes starting at Gaffney
- Fire station can preempt Gaffney signal and travel southbound
  - Maintain Fire Department response times
  - Brings wider sidewalks south to Gaffney
Northbound Green
East- and Westbound Green
Preemption: Southbound Green
Challenges

- Location of preemption activation
  - Dispatcher
  - Fire Station
- Signal faces
  - Red arrow vs red ball
- Preemption Timing
  - Preemption activation hold
  - Clearance time
  - Fire Vehicle travel time
Thank You!