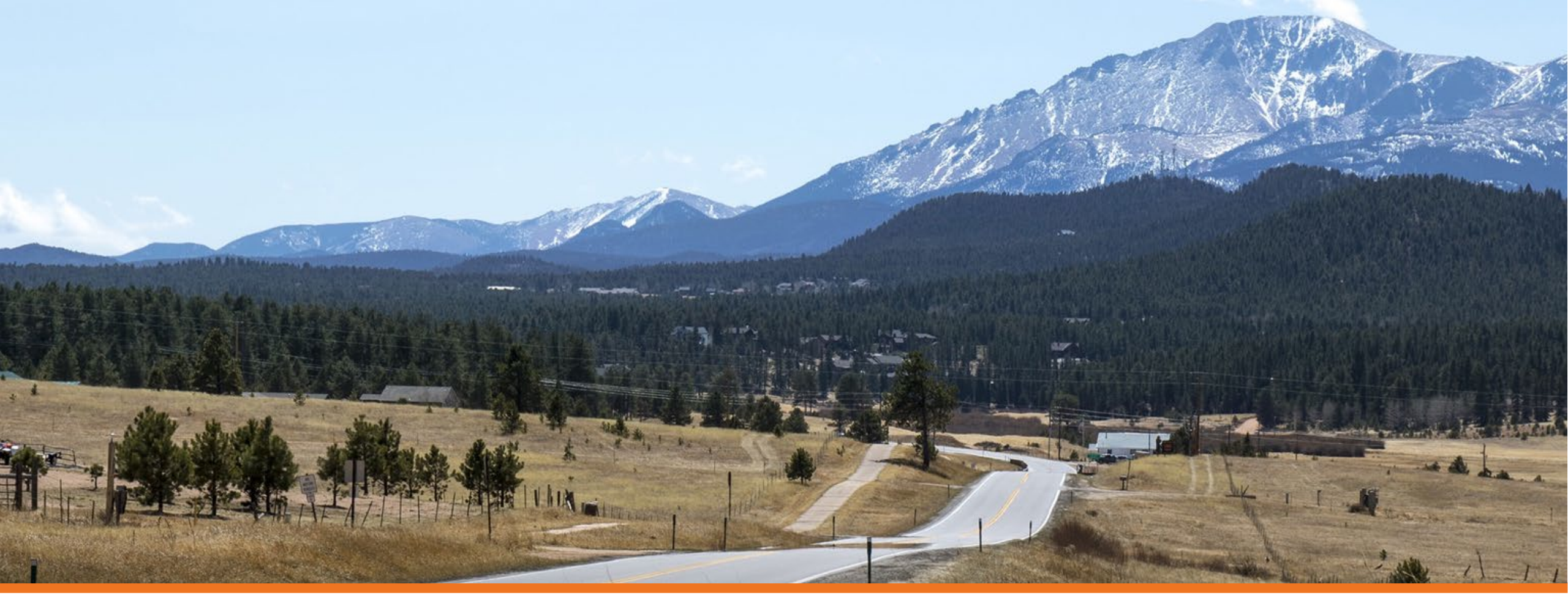


COLORADO
Department of Transportation

Walsenburg Intersection Study: US 160 at Main Street/7th Street

Outline

Presentation Outline

- Scope of work
- Measure of Effectiveness
- 2025 Existing conditions
- 2045 No build conditions
- 2045 Alternatives analysis
- Recommendations

Scope of Work

Study Location:

- US 160 at Main Street/7th Street intersection

Purpose of Work

Intersection improvement study

- Evaluate traffic operations & safety
- Identify and evaluate possible solutions
- Develop sketch concepts drawings and preliminary estimates
- Provide recommendations

Study Location

Source: Google Maps

Measure of Effectiveness

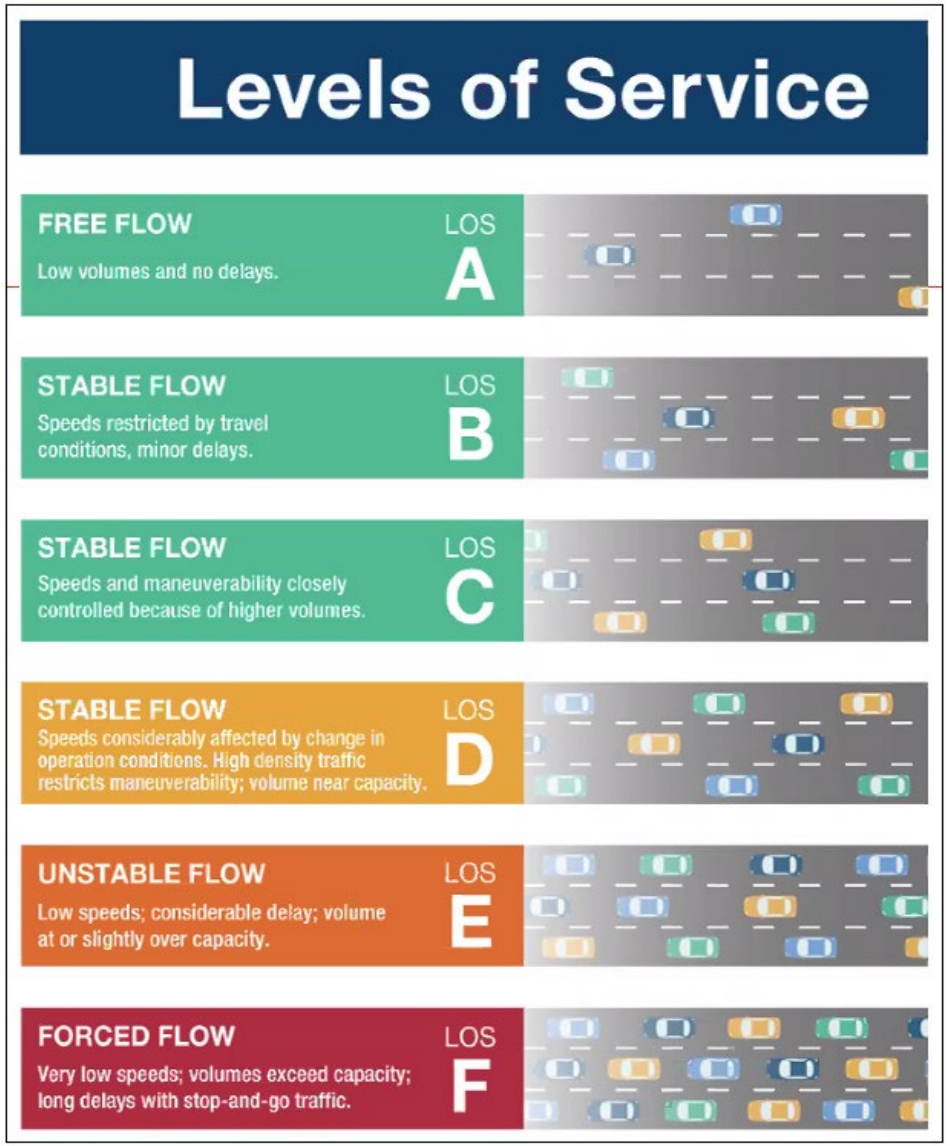
Level of Service (LOS):

It's a way to categorize traffic conditions from "free flow" to "gridlock"

Measures a driver's experience on the road and at intersections based on factors:

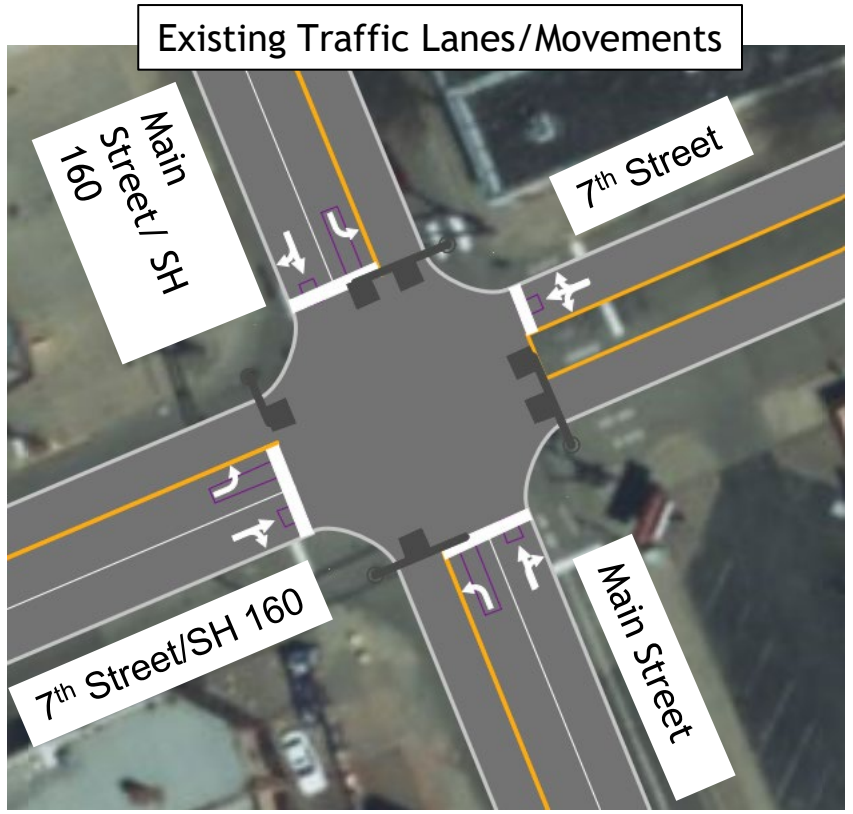
Speed	Safety
Travel Time	Delay
Maneuverability	

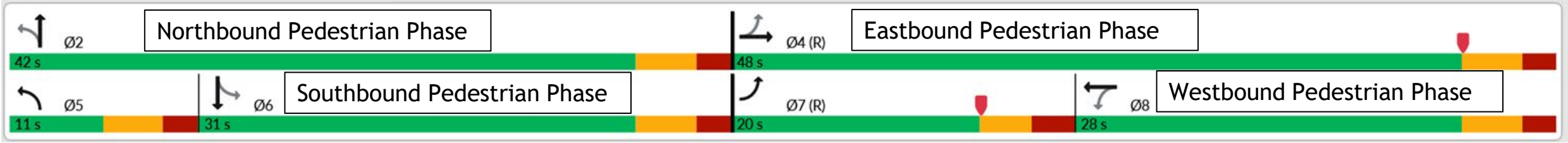
The LOS of an intersection is designated by a letter grade of A (free flow) to F (near gridlock).



2025 Existing Conditions

- Peak traffic on Friday
- Traffic movements (see figure to right)
- Signal operations (see below)
- Northbound Main Street and eastbound 7th Street have protected/permitted left turns
- Southbound Main Street and westbound 7th Street have permitted left turns
- Pedestrian movements allowed across all four approaches





2025 Existing Conditions

- Level of service (LOS) C (acceptable) in peaks
- Southbound Main Street is LOS D (unacceptable)

Approach	Existing	
	AM	PM
Eastbound (US 160/West 7th St)	B	B
Westbound (East 7th St)	C	C
Northbound (Main St)	C	B
Southbound (US 160/Main St)	D	D
Overall	C	C

- Northbound queuing issues during the peaks

2045 No Action

- No change to traffic lanes, movements, or signal operations
- Expected traffic growth of 2% over 20 years
- LOS same as existing due to very low traffic growth

Approach	No Action	
	AM	PM
Eastbound (US 160/West 7th St)	B	B
Westbound (East 7th St)	C	C
Northbound (Main St)	C	B
Southbound (US 160/Main St)	D	D
Overall	C	C

- Northbound and southbound queuing issues are expected

2045 Alternatives Analysis

Constraints and Considerations

- Identify 3 alternatives using CDOT's intersection control assessment tool (ICAT)
- Traffic Operations/Safety for each alternative
- Environmental Conditions
- Construction Cost
- Avoid Right-of-Way impacts
- Investigate access restrictions
- Investigate pedestrian movement restrictions

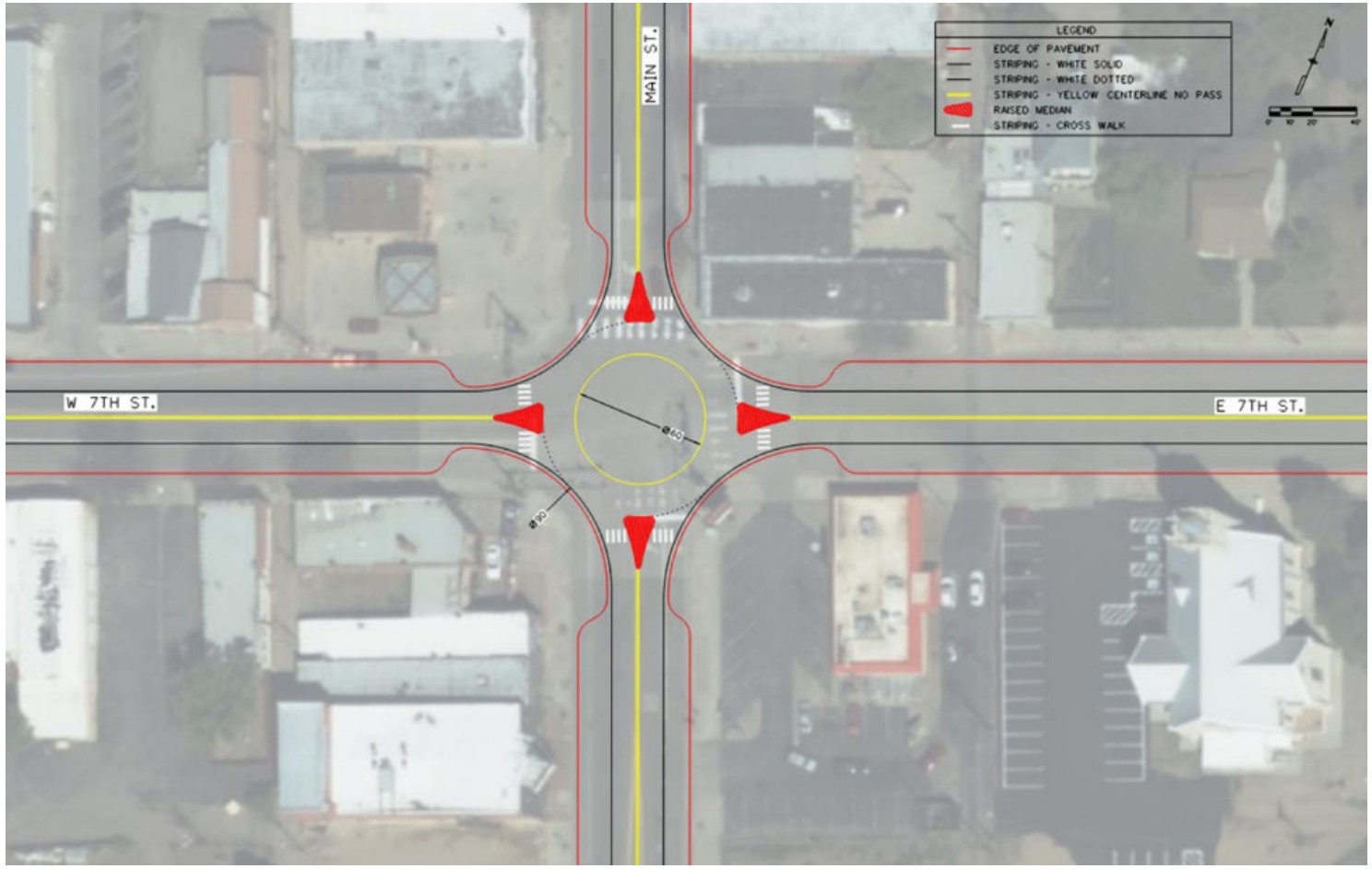
Source: Google Maps

2045 Alternatives Analysis

Alternative #1 - Mini Roundabout

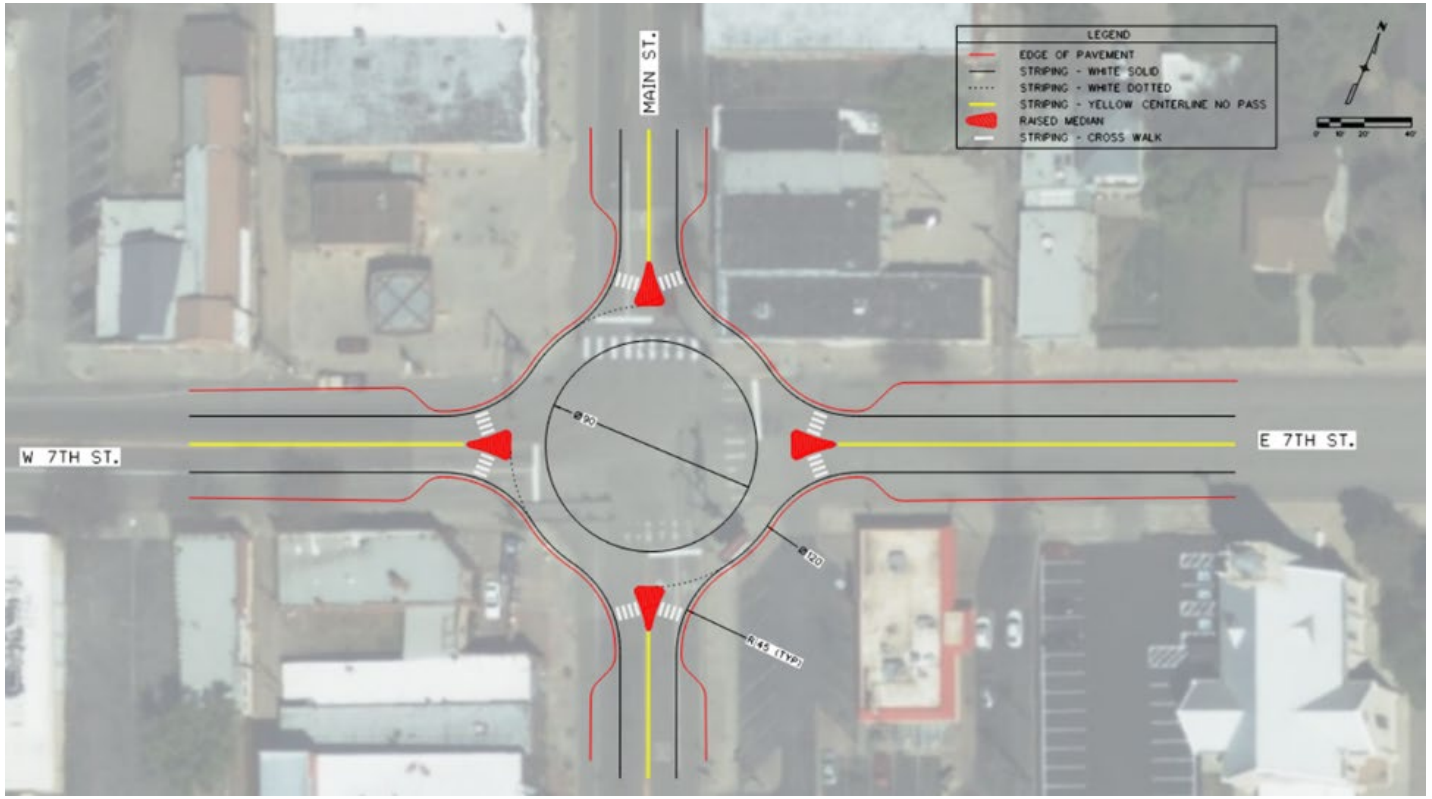
- Operations – LOS A
- Safety
  - Not a common design
  - Driver confusion
  - Safety concerns about pedestrian movements
- No Environmental or ROW issues
- Low costs for construction

****Eliminated from further analysis due to ROW concerns & R2 Commitment**



Alternative #2 – Single Lane Roundabout

- Operations – LOS A
- Safety
  - Safety concerns about pedestrian movements
- No Environmental issues
- ROW impacts in all corners
- Significant impact to drainage
- High construction costs



****Eliminated from further analysis due to ROW issues & R2 Commitment**

2045 Alternatives Analysis

Alternative #3 – Traffic Signal

- Keep existing intersection control but look at Design Options
- Design Option #1 - Change southbound Main Street/SH 160 lane assignments
- Design Option #2 – Convert East 7th Street (east of SH 160) to right-in, right-out access
- Design Option #3 – Convert East 7th Street (east of SH 160) to one-way eastbound operations

Alternative #3 - Analysis of Design Options

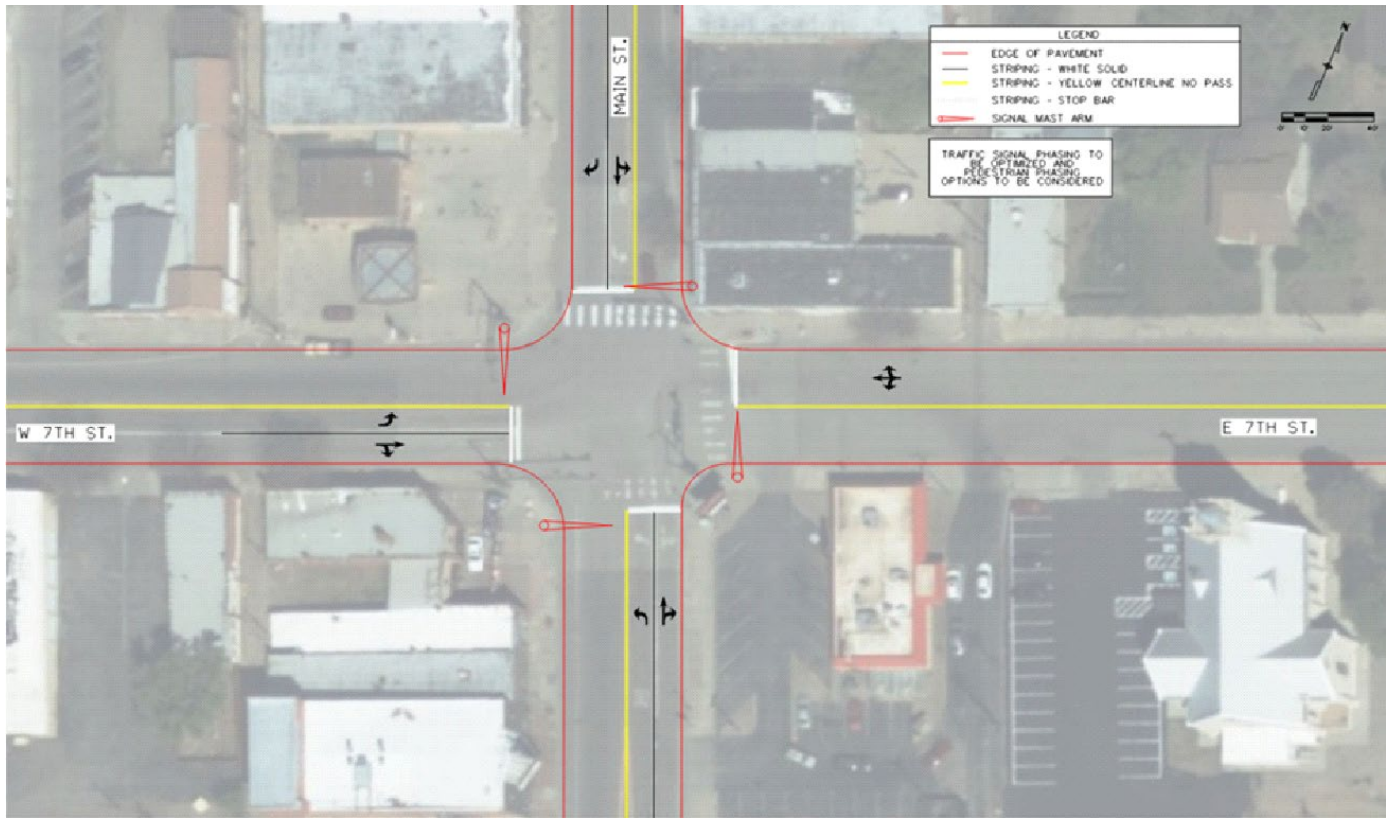
- Each option was evaluated with pedestrian crossings on all four legs (Figure 1)
- Each option was evaluated with no pedestrian crossing on north leg (Figure 2)

Figure 1

Figure 2

Alternative #3– Design Option #1

- Change southbound shared through -right turn lane to a right turn only lane
- Change southbound left turn lane to a shared through-left turn lane

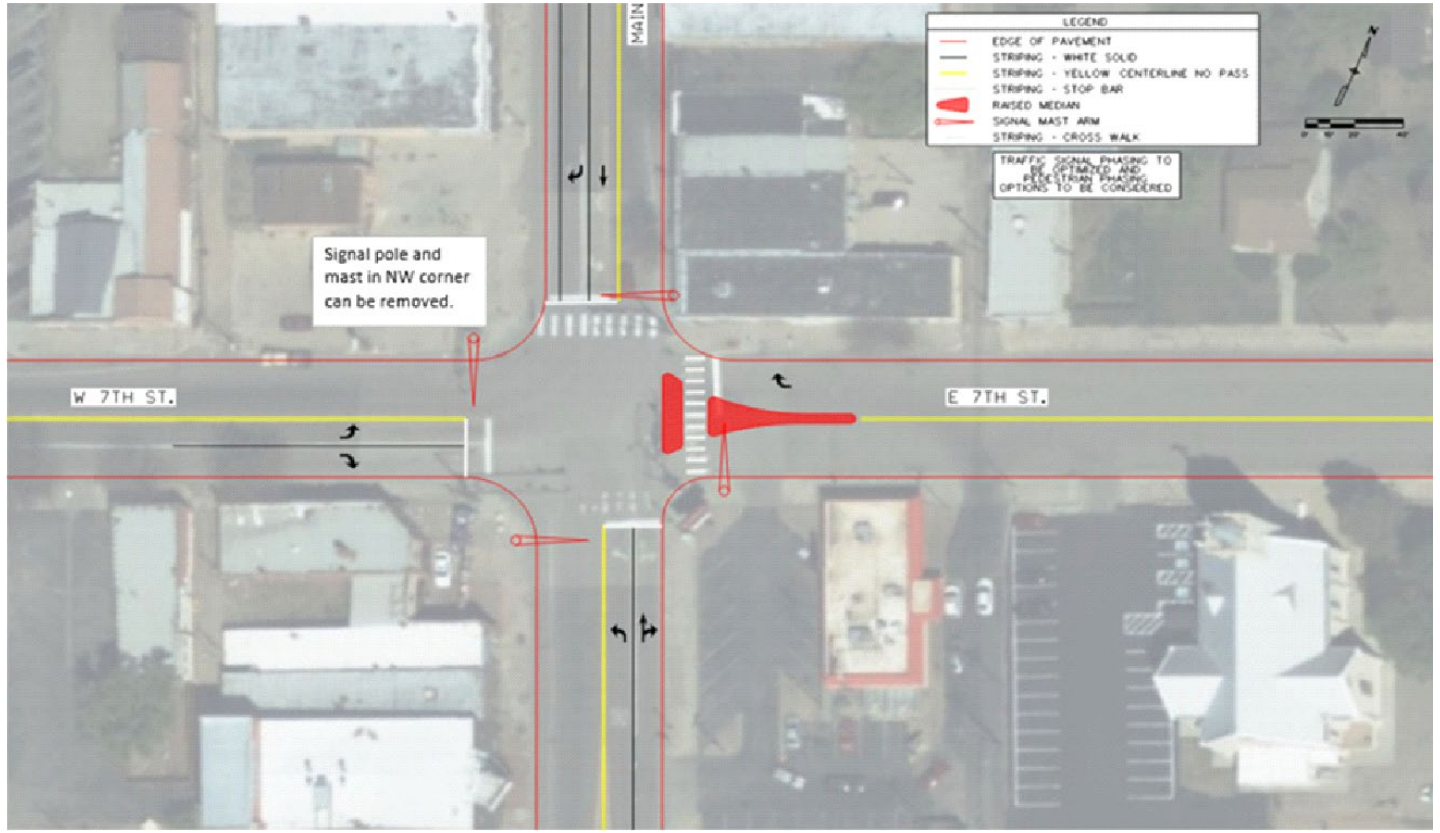


Findings

- Minimum operational improvements (better when pedestrian crossing is removed)
- Safety concerns for shared through-left turn lane – may required restricting left turns
- No ROW/Environmental issues
- No impact to access
- Least costs to implement

Alternative #3– Design Option #2

- Restrict East 7th Street to right-in, right-out access
- No southbound left turns and no eastbound throughs allowed

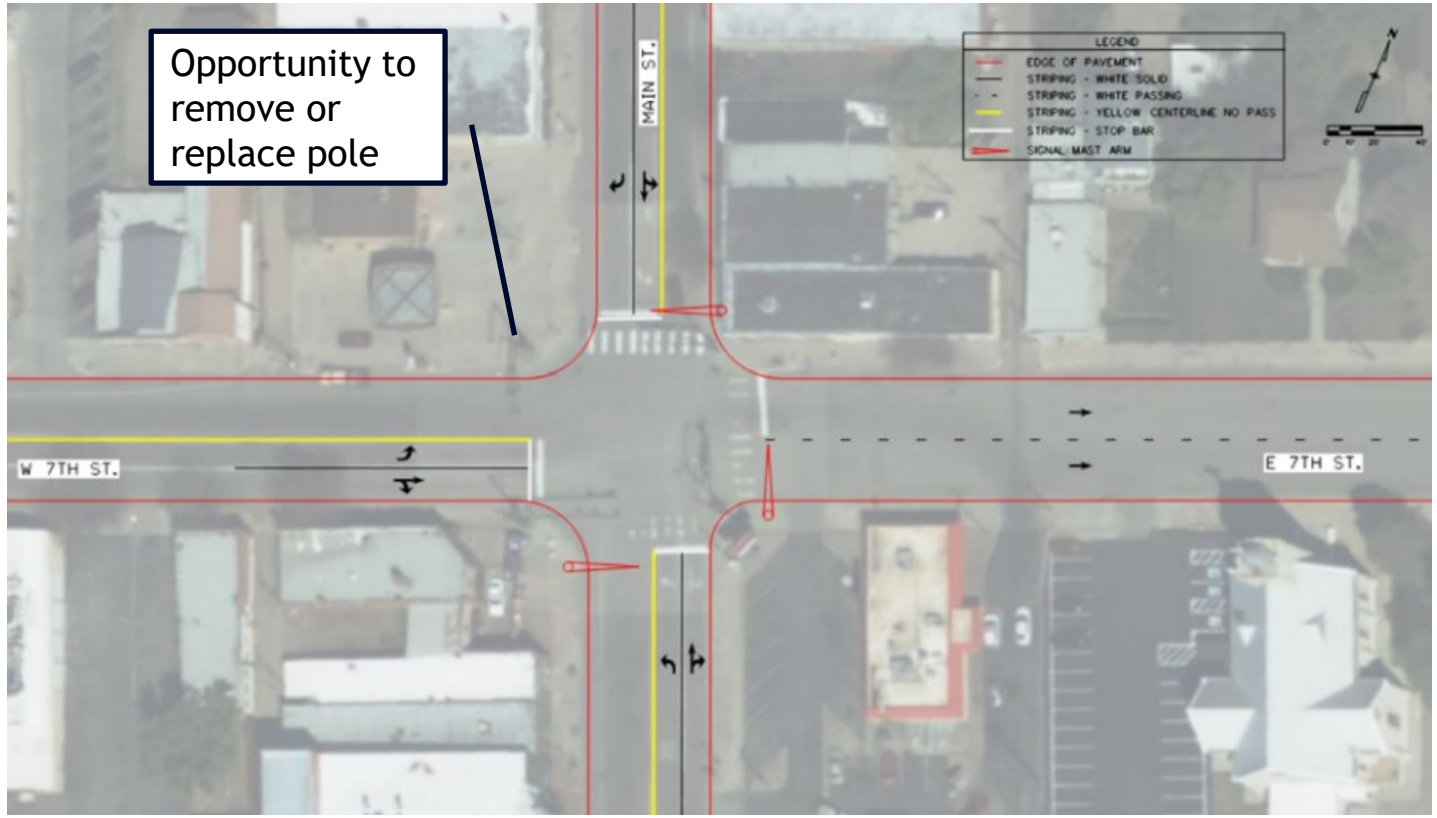


Findings

- Best operations (better when pedestrian crossing is removed)
- Best potential to reduce crashes
- No ROW/Environmental issues
- Moderate impact to access
- Most costly option to implement
- Traffic signal pole in NW corner can be removed or replaced with pedestrian pedestal pole

Alternative #3– Design Option #3

- Change East 7th Street to one-way eastbound roadway
- No westbound movements on East 7th Street



Findings

- Good operations (better when pedestrian crossing is removed)
- Some reduction in crash potential
- No ROW/Environmental issues
- Significant impact to access
- Low cost to implement
- Traffic signal pole in NW corner can be removed or replaced with pedestrian pedestal pole

Recommendations

- Preferred Alternative #3
- Design Option #2
- Convert East 7th Street to Right-in, Right-out
- Remove the east-west pedestrian crossing on the north side of intersection

- Alternative Approach
- Design Option #1
- Monitor shared through-left turn lane for safety
- Implement Design Option #2 if crashes occur

#1 – Lane Assignment Changes	+	+	+++	+++	+++	+++	2
#2 – East 7th Street is Right-in, Right-out	+++	+++	+++	+++	++	+	1
#3 – East 7th Street is One Way	++	++	+++	+++	+	++	3