

Galloway



• TOWN OF LYONS - 9/6/2022

- **Pedestrian and Vehicular  
Traffic Studies**



• SECTION I

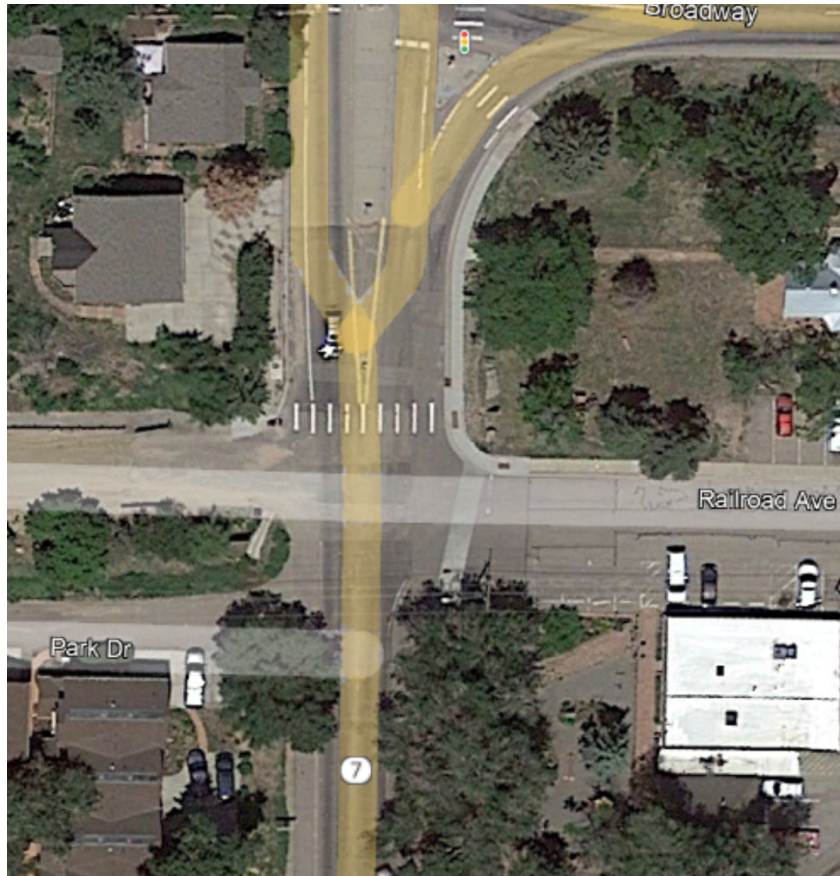
• 9/6/2022

# • SH-7 Crosswalk at Railroad

- SECTION I- SH-7 CROSSWALK AT RAILROAD

## • Study Scope

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- Pedestrian Crossing Installation Guide (CDOT 2021)
- Traffic Count
- Count breakdown
- Review with CDOT
- Recommendations



- SECTION I- SH-7 CROSSWALK AT RAILROAD

- **Installation Guide**

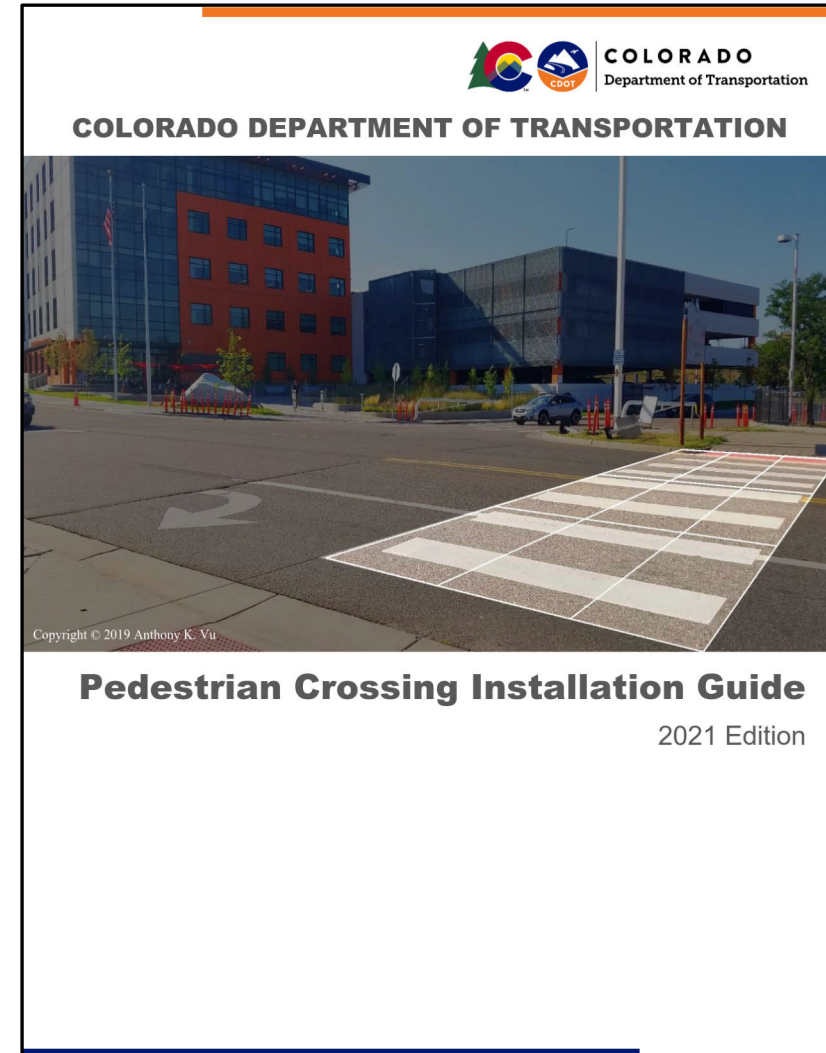
- **1.3 Purpose**

- “Where and how to improve pedestrian crosswalks”
- “used to consistently and transparently determine appropriate treatments”

- **4.2 Data Collection**

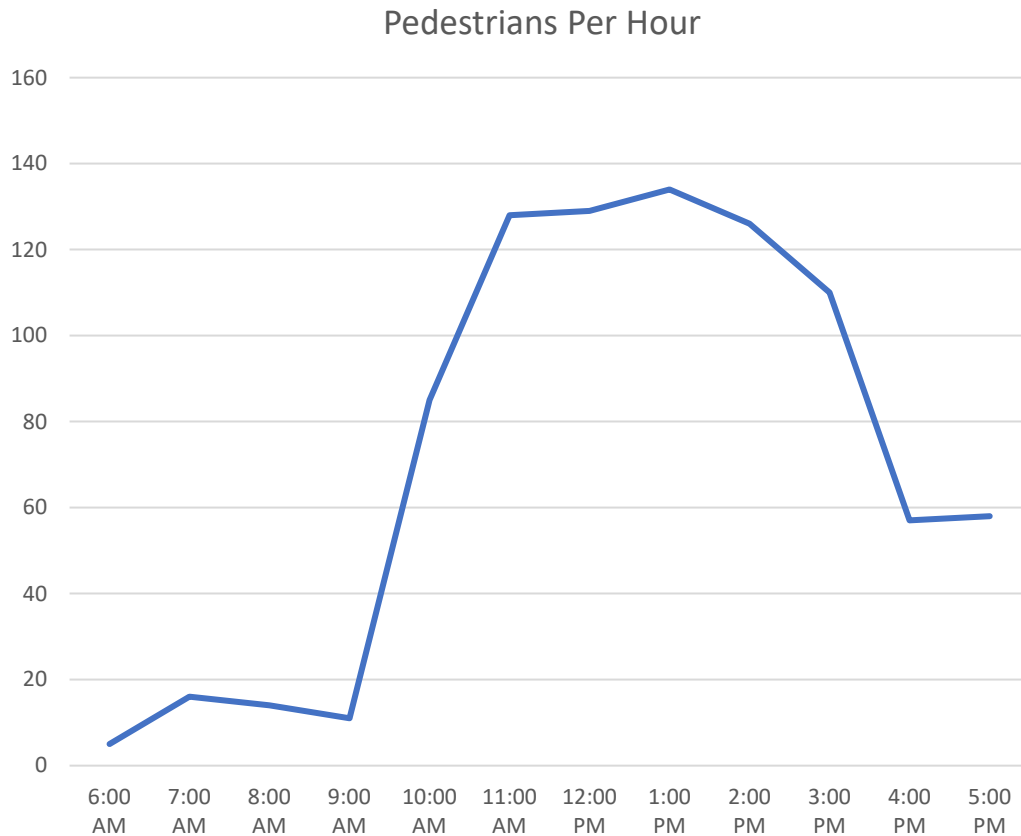
- 4.2.1 Pedestrian Volumes
- 4.2.2 Vehicular Volumes

- **4.3 Determine Appropriate Treatment**



- SECTION I- SH-7 CROSSWALK AT RAILROAD

- **4.2 Data Collection**



- Saturday July 23, 2022

- No major events
- Fair weather

- Vehicular Counts

- ADT: 5,154
- Heavy Vehicle: 8.9%
- 85<sup>th</sup> Percentile Speed:
  - Northbound: 28.5 mph
  - Southbound: 17.7 mph

## SECTION I- SH-7 CROSSWALK AT RAILROAD

# 4.3 Appropriate Treatment

CDOT Pedestrian Crossing Installation Guide, 2021 Edition  
Criteria for Pedestrian Crossing Treatments at Uncontrolled Locations

**Table C1. Criteria for Pedestrian Crossing Treatments at Uncontrolled Locations**

The criteria for pedestrian crossing treatments at uncontrolled locations is intended as a general minimum. Engineering judgment should be used on a case-by-case basis. Prevailing speed may be used if significantly different than posted speed.

Roadway Configuration	Roadway ADT and Posted Speed (mph)															
	1,500 – 9,000 vpd				9,001 – 12,000 vpd				12,001 – 15,000 vpd				> 15,000 vpd			
	≤30	35	40	≥45	≤30	35	40	≥45	≤30	35	40	≥45	≤30	35	40	≥45
2 lanes, one-way street	A	B	C	E	A	B	C	E	B	B	C	E	B	C	C	E
2 lanes, two-way street with no median	A	B	C	E	A	B	C	E	B	B	C	E	B	C	C	E
3 lanes with raised median	A	B	D	E	A	C	D	E	B	D	D	E	C	D	D	E
3 lanes without raised median	C	C	D	E	C	C	D	E	C	C	D	E	C	D	D	E
4 lanes with raised median	A	B	C	E	A	B	C	E	B	B	C	E	B	C	C	E
4 lanes, two-way street without raised median	A	D	D	E	B	D	D	E	B	D	D	E	D	D	D	E
5 lanes with raised median	A	B	D	E	B	C	D	E	B	C	D	E	C	C	D	E
5 lanes without raised median	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E
6 lanes with or without raised median	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F

### Treatment Descriptions:

- ☐ A. Install marked crosswalk with enhanced roadside signs.

Install a marked crosswalk with a standard W11-2 with a W16-7p plaque mounted on the side of the roadway at the crosswalk location and a standard W11-2 advanced pedestrian warning sign. Use S1-1 signs for school crossing locations. An optional R1-6 may be used in addition.

- ☐ B. Install marked crosswalk with enhanced roadside and in-roadway signs.

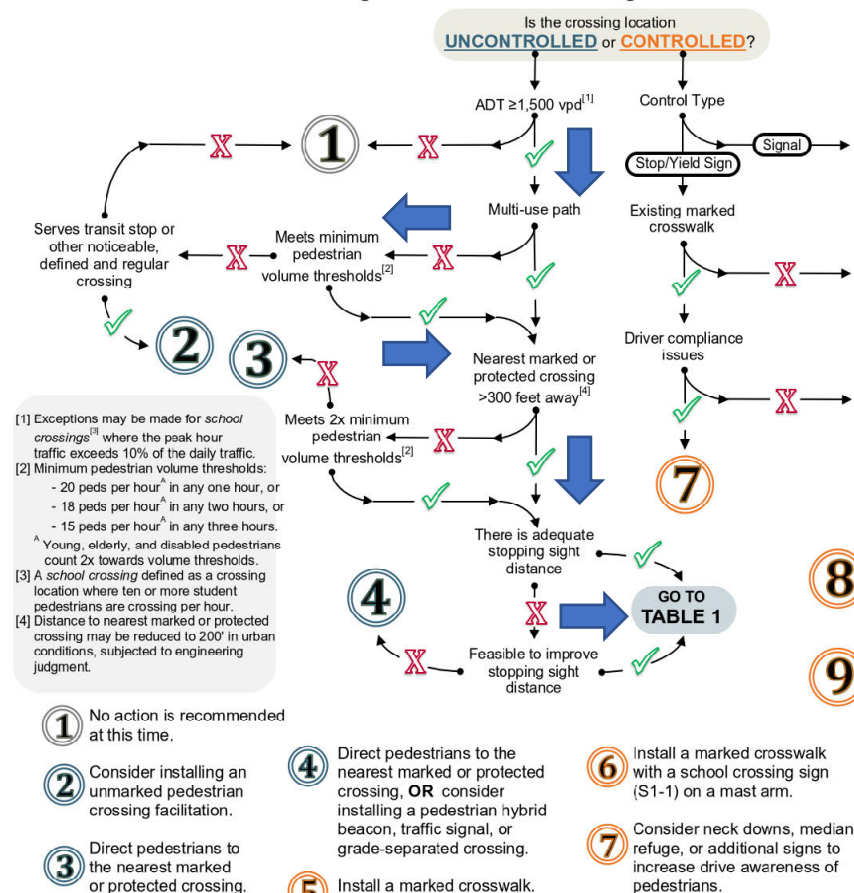
- ☐ C. Install marked crosswalk with enhanced signs and geometric improvements to increase pedestrian visibility and reduce exposure.

- ☐ D. Install marked crosswalk with enhanced signs, pedestrian activated RRFs, and geometric improvements to increase visibility pedestrian and reduce exposure.

- ☐ E. Do not install marked crosswalk at uncontrolled crossing. Determine if speed limit can effectively be reduced to 40 mph by making geometric or other infrastructure changes (i.e., bulb out, median refuge, etc.). If so, utilize criteria D above. If this is not possible, if pedestrian volume meets warrants, consider a pedestrian hybrid beacon, pedestrian traffic signal, or grade separated crossing.

- ☐ F. Do not install marked crosswalk at uncontrolled crossings with three (3) or more through lanes per direction or where the speed limit is greater than or equal to 45 mph and/or there is not a median refuge on a 5-lane crossing. Consider pedestrian hybrid beacon, pedestrian traffic signal, or separated crossing.

**Figure C3. Pedestrian Crossing Evaluation Flowchart**



- SECTION I- SH-7 CROSSWALK AT RAILROAD

- 4.3 Appropriate Treatment**

*Install a marked crosswalk with a standard W11-2 with a W16-7p plaque mounted on the side of the roadway at the crosswalk location and a standard W11-2 advanced pedestrian warning sign. Use S1-1 signs for school crossing locations. An optional R1-6 may be used in addition.*



W11-2\*



W16-7P



R1-6



<sup>02</sup> If yield (stop) lines and Yield Here To (Stop Here For) Pedestrians signs are used in advance of a crosswalk that crosses an uncontrolled multi-lane approach, they should be placed 20 to 50 feet in advance of the nearest crosswalk line (see Section 3B.16 and Figure 3B-17), and parking should be prohibited in the area between the yield (stop) line and the crosswalk.



- SECTION I- SH-7 CROSSWALK AT RAILROAD

- **CDOT Review**

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- Step wise approach
  - Signing
  - Sight distance
- Incidents Reported
- CDOT Submission
- Next Steps







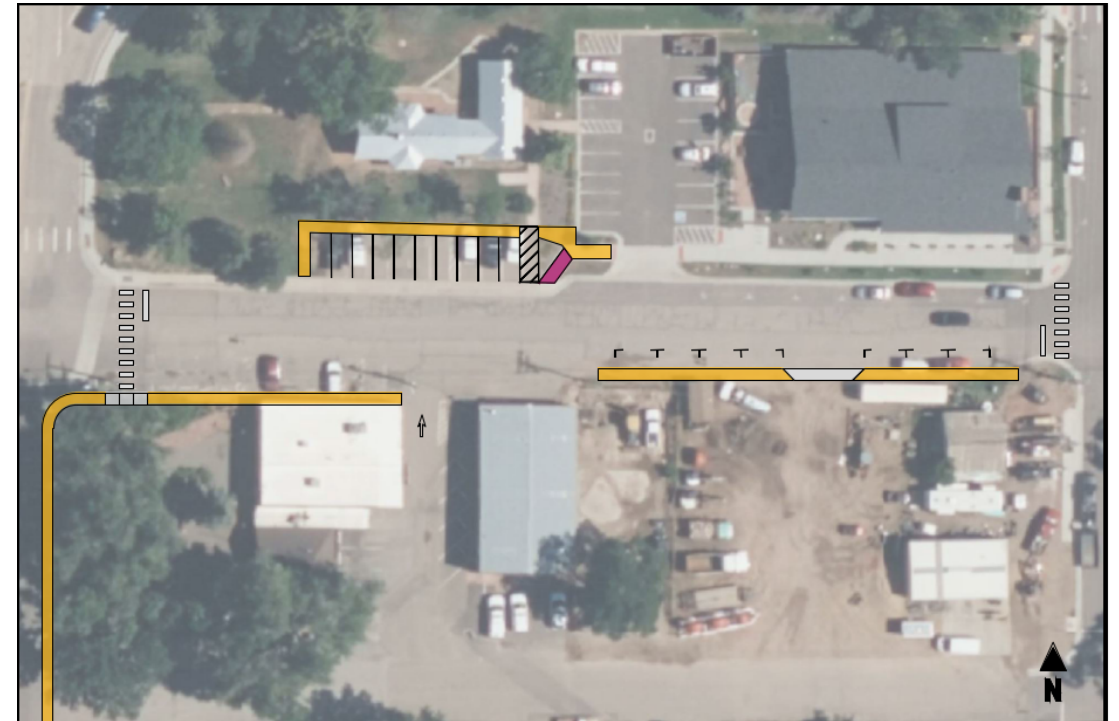
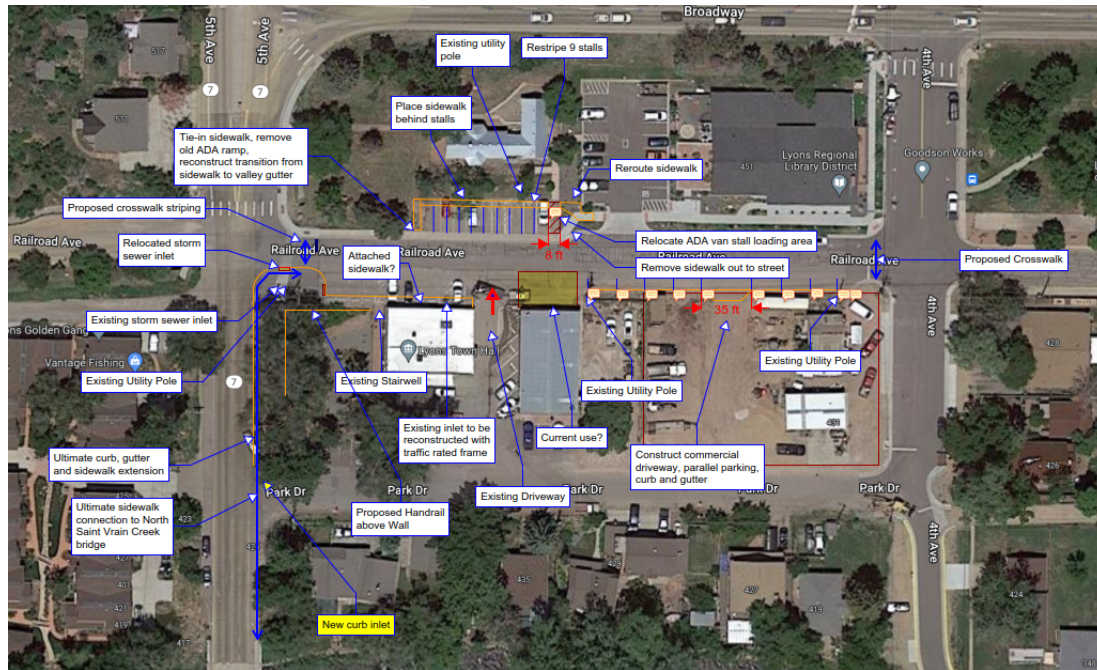
- SECTION 2

- 9/6/2022

- **Railroad Avenue Improvements**

- SECTION 2-RAILROAD AVENUE IMPROVEMENTS

- Study Scope**

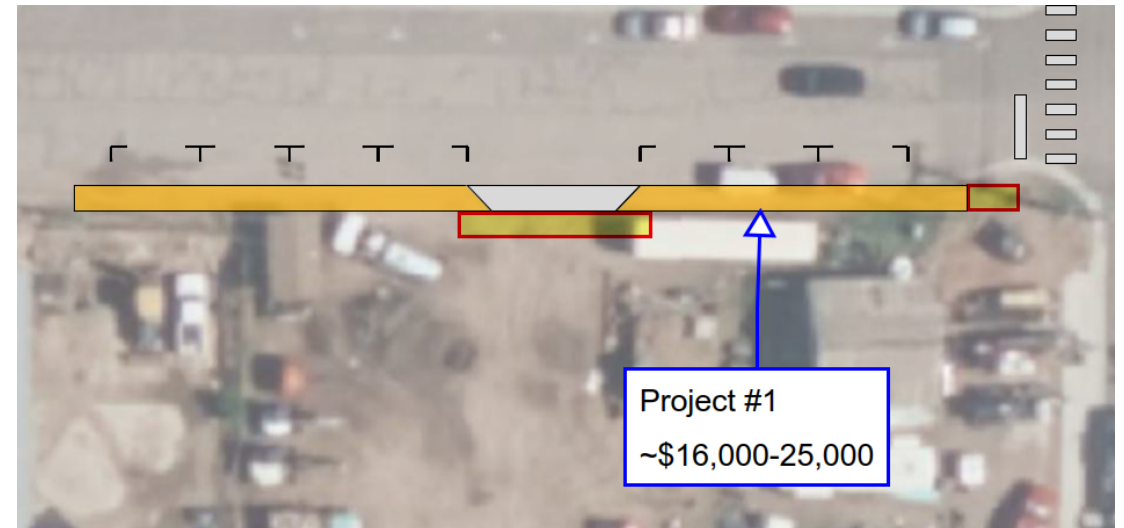




- SECTION 2-RAILROAD AVENUE IMPROVEMENTS

- **Project #1**

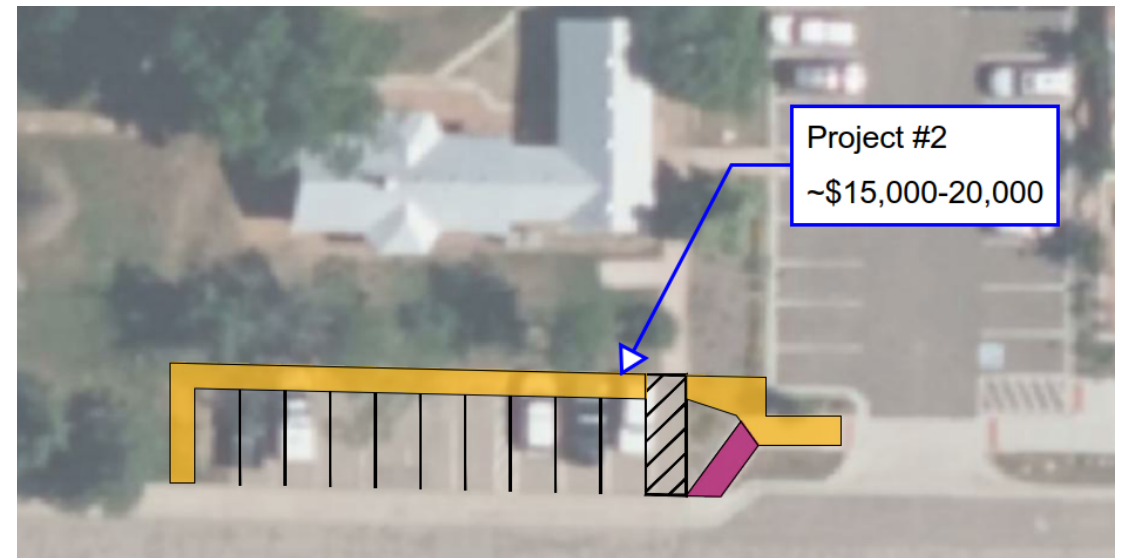
- 195 L.F. Curb and Gutter
- 975 S.F. Sidewalk
- Driveway includes Ramps
- Painting and Striping



- SECTION 2-RAILROAD AVENUE IMPROVEMENTS

- **Project #2**

- Sidewalk Removal
- Landscaping
- Asphalt Removal
- 109 L.F. Curb and Gutter
- 792 S.F. Sidewalk
- Painting and Striping



- SECTION 2-RAILROAD AVENUE IMPROVEMENTS

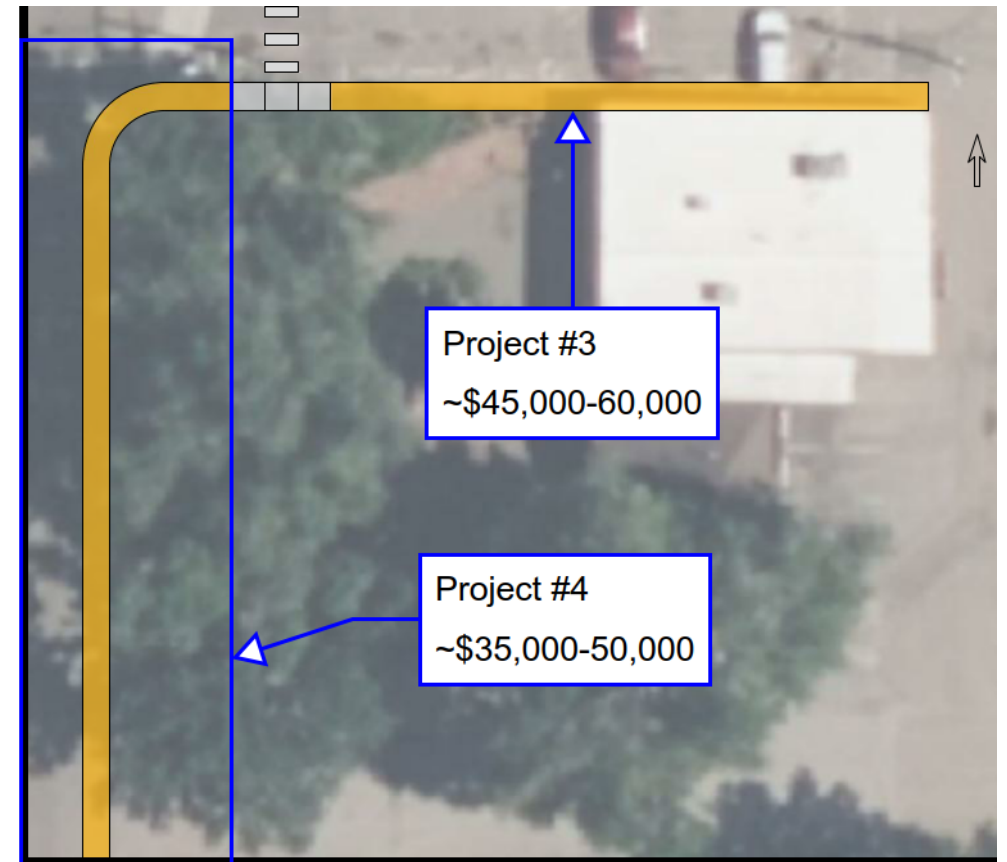
- **Project #3 and #4**

- **#3**

- Removal of Paving and Inlet
- 130 L.F. Curb and Gutter
- 635 S.F. Sidewalk
- ADA Ramp
- Inlet
- Handrail
- Painting and Striping

- **#4 – to Bridge**

- 245 L.F. Curb and Gutter
- 1125 S.F. Sidewalk
- Inlet Removal and New Inlet
- (2) ADA Ramps
- Painting and Striping







- SECTION 3

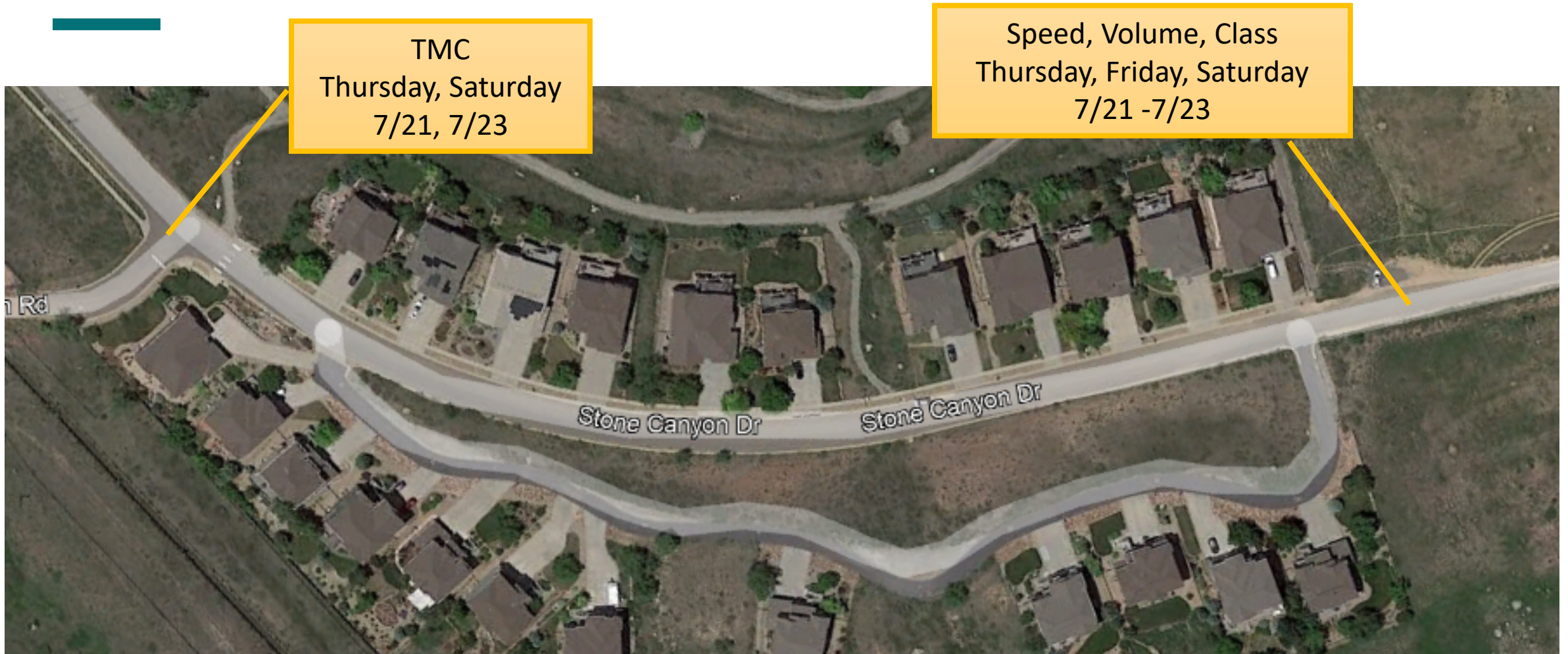
- 9/6/2022

- **Stone Canyon Drive Study**



- SECTION 3 - STONE CANYON DRIVE

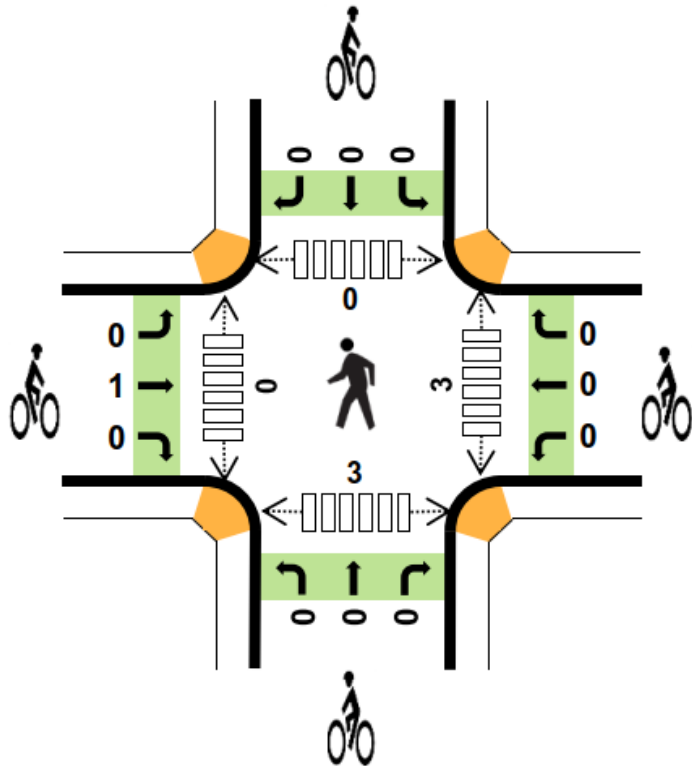
- **Study Scope**



- SECTION 3 - STONE CANYON DRIVE

- **Stone Canyon Drive/ Nolan Drive**

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- Fewer than 30 vehicles entering/exiting the intersection
- Minimal ped/bike volume
- No operational concerns
- Potential Signage improvements

- SECTION 3 - STONE CANYON DRIVE

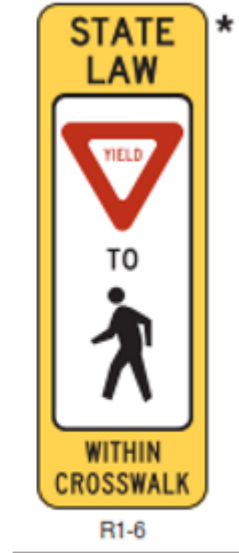
- **Stone Canyon Drive/ Nolan Drive**



W11-2\*



W16-7P



• SECTION 3 – STONE CANYON DRIVE

• **Stone Canyon Drive North of Housing**



Approach/ Movement	HV%	85th % Speed	Posted Speed	Thursday Volume	Friday Volume	Saturday Volume
Northbound	17%	29.9 mph	20 mph	185	177	140
Southbound	<u>27%</u>	29 mph	20 mph	<u>184</u>	<u>174</u>	<u>141</u>
Total	22%	-	-	369	351	281



- SECTION 3 – STONE CANYON DRIVE

- **Stone Canyon Drive North of Housing**

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**TOWN OF LYONS,  
COLORADO**

**ORDINANCE NO. 803**

**AN ORDINANCE ESTABLISHING A SPEED LIMIT OF 20  
MILES PER HOUR IN THE TOWN OF LYONS UNLESS  
OTHERWISE POSTED AND DECLARING AN EMERGENCY**



- **Stone Canyon Drive North of Housing**

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- <https://www.ite.org/technical-resources/traffic-calming/traffic-calming-measures/>

- Horizontal Deflection

- Lateral Shift
    - Chicane
    - Traffic Circle
    - Roundabout

- Vertical Deflection

- Speed Hump
    - Speed Cushion
    - Speed Table
    - Raised Crosswalk
    - Raised Intersection

- Street Width Reduction

- Corner Extension/Bulb Out
    - Choker
    - Median Island
    - On-Street Parking
    - Road Diet

- Routing Restriction

- Diagonal Diverter
    - Closure
    - Median Barrier/Forced Turn Island