



Memorandum

TO: Transportation & Safety Committee

FROM: Alex Ariniello, Public Works & Utilities Director

DATE: August 5, 2019

RE: 76th Street/Sycamore Street Pedestrian Enhancement Update

Background

At the April 1, 2019 meeting the TSC received a request to improved pedestrian crossing protection at 76th Street and Sycamore Street. The intersection is wide and the school bus stops north of the intersection. Several solutions were discussed. A neighborhood meeting was subsequently held on April 4th, 2019 to brainstorm options for improving the intersection (see attached notes). Based on input received at this meeting staff worked up several concepts for pedestrian enhancement at the 76th/Sycamore intersection.

Staff also applied for a DRCOG grant to fund potential improvements, with total project costs estimated at \$200,000 with an 80% federal/20% local split.

Staff drafted the attached survey to be sent to nearby residents to solicit feedback on the pedestrian enhancement concepts. After TSC review, the survey will be sent out with responses due September 5, 2019. Staff also drafted the neighborhood boundary shown on the attached map.

Attachments

- 76th/Sycamore June 24, 2019 Neighborhood Meeting Notes
- 76th/Sycamore Draft Survey
- Neighborhood Boundary



Meeting Summary

76th/Sycamore Neighborhood Meeting
April 4, 2019
5:30-7:00 PM
BOARD ROOM, TOWN HALL

Agenda

- Introductions and review agenda (5:30 PM)
- Neighborhood Traffic Calming Program overview (5:35 PM)
- Group mapping exercise for 76th an Sycamore area (5:45 PM)
- Review traffic calming toolbox options for 76th an Sycamore (6:15 PM)
- Identify preferred option for the TSC to consider at June meeting (6:30 PM)
- Summarize meeting and next steps (6:55 PM)
- Adjourn neighborhood meeting (7:00 PM)

Staff Present

- Alex Ariniello
- Carlos Hernandez, FTH

Neighborhood Present

- Alie Hopper
- 10 residents

Summary of existing conditions input from neighborhood

- The area has increased traffic, congestion and speed thru the intersection
- No forced yield or stop for pedestrians
- No signage for crosswalks
- Very wide roads lead to difficulty with pedestrian visibility
- No pedestrian islands or refuges
- People driving cars abide by or see the school bus stop sign when picking up or dropping off children for/from school
- Speed limit is too high and there's not stop signs warning for potential pedestrians

- Car driving on 76th Street wouldn't slow down to stop for the pedestrian waiting for crossing the intersection
- Cars driving too fast and sometimes not stopping for pedestrians in the crosswalk
- Cars disregards the stop sign on the school bus
- Visibility?
- Signs for bus stops?
- Pedestrian crossings lights/signs not there
- Traffic on 76th too fast
- People NOT stopping at crossing
- Cars driving too fast zooming past the cross intersection with no traffic light nor stop sign to slow them down The cross section at south 76th and South Sycamore Street is too wide for pedestrians to cross safely without worrying about speedy cars mentioned above
- Safety concerns about the crosswalk and the amount of kids that are crossing daily with cars that fly through there without paying any regard to pedestrians
- Only having 2 stop signs is problematic because a car may stop but speeds through to beat another car coming knowing that other cars will not stop
- Also, a driver with 2 way stop and bikers flying through without them stopping
- Speed of cars/vehicles on S. 76th Street especially through the intersection with Sycamore St.
- Cars passing stopped school busses while bus is loading/unloading
- Crossing S. 76th St. to reach the park when vehicles are flying down the road.
- Baking safety into the design such that a 4-year old can safely cross the street. This means reducing vehicle speeds at the intersection to 25 MPH or less (85th percentile)
- Encourage yielding behavior beyond just the regulatory signs/crosswalks
- Paint is worn in some crosswalks and cannot be seen
- West leg crosswalk is difficult to see due to the drain pan depressed location

Summary of toolbox options discussed with neighborhood

- Pedestrian refuge islands at Sycamore and 76th intersection
- Speed feedback signs on 76th north of Sycamore intersection
- Speed humps on 76th north of Sycamore intersection
- Travel lane width reduction
- Turn lane removal
- MUTCD pedestrian crossing signage
- Repaint crosswalks
- Rumble strips
- 4-way stop (if warrants are met)
- On-street bike lanes

Proposed toolbox options to discuss with Transportation Safety Committee at the June 1, 2019 meeting:

- Pedestrian refuge islands at Sycamore and 76th intersection (phase 1)

- On-street bike lanes (phase 1)
- Turn lane removal (phase 1)
- Travel lane width reduction (phase 1)
- MUTCD pedestrian crossing signage (phase 1)
- Repaint crosswalks (phase 1)
- Speed feedback signs on 76th north of Sycamore intersection (phase 2)
- Speed humps on 76th north of Sycamore intersection (phase 2)

Official Town of Superior TSC Survey: 76th and Sycamore Intersection Traffic Calming

The Town of Superior's Transportation and Safety Committee (TSC) is considering traffic calming options at the 76th and Sycamore intersection. Several options were identified with neighborhood residents at a workshop in April 2019. The TSC would appreciate your feedback on six questions related to the traffic calming options at this intersection. The results will be shared at the October 2019 TSC meeting. This survey will be closed on September 6th, 2019 at 5:00 PM.

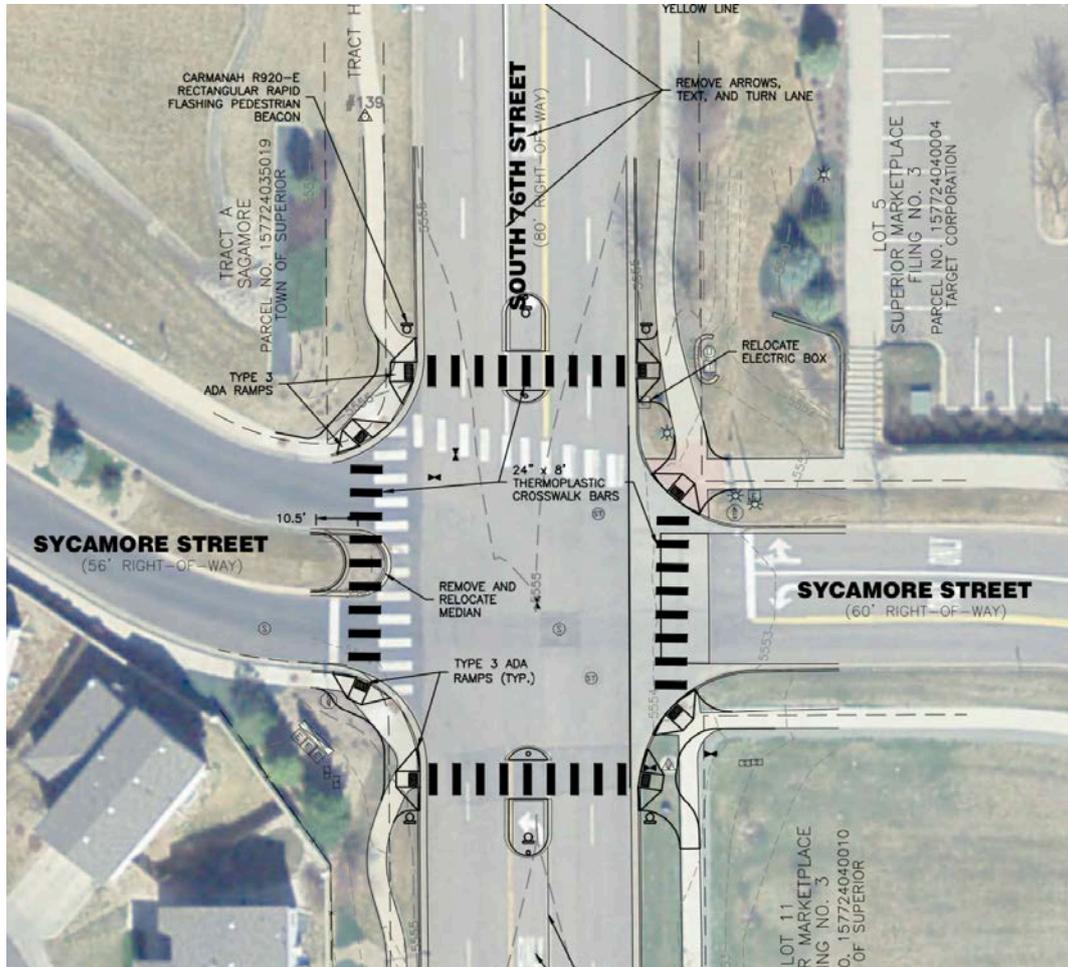


1. The following best describes me:

- Sagamore resident
- Nearby neighborhood resident
- Other Superior resident
- Not a Superior resident
- Nearby business owner or employee

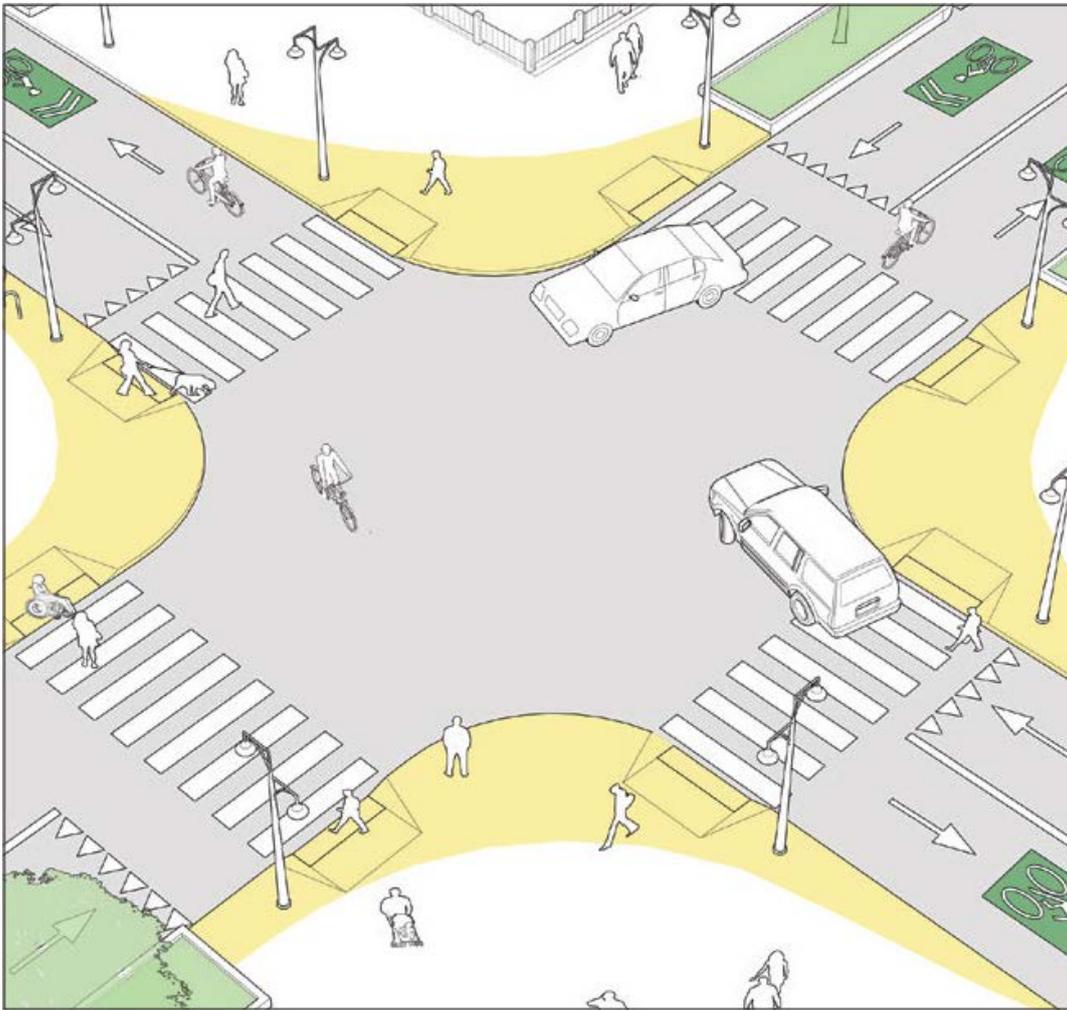
2. Option 1: Would removing left turn lanes, adding new concrete medians islands in the middle of the street and adding new flashing crosswalks **improve awareness of people and kids crossing the intersection (see concept below)?**

- Yes
- Maybe
- Not sure
- No



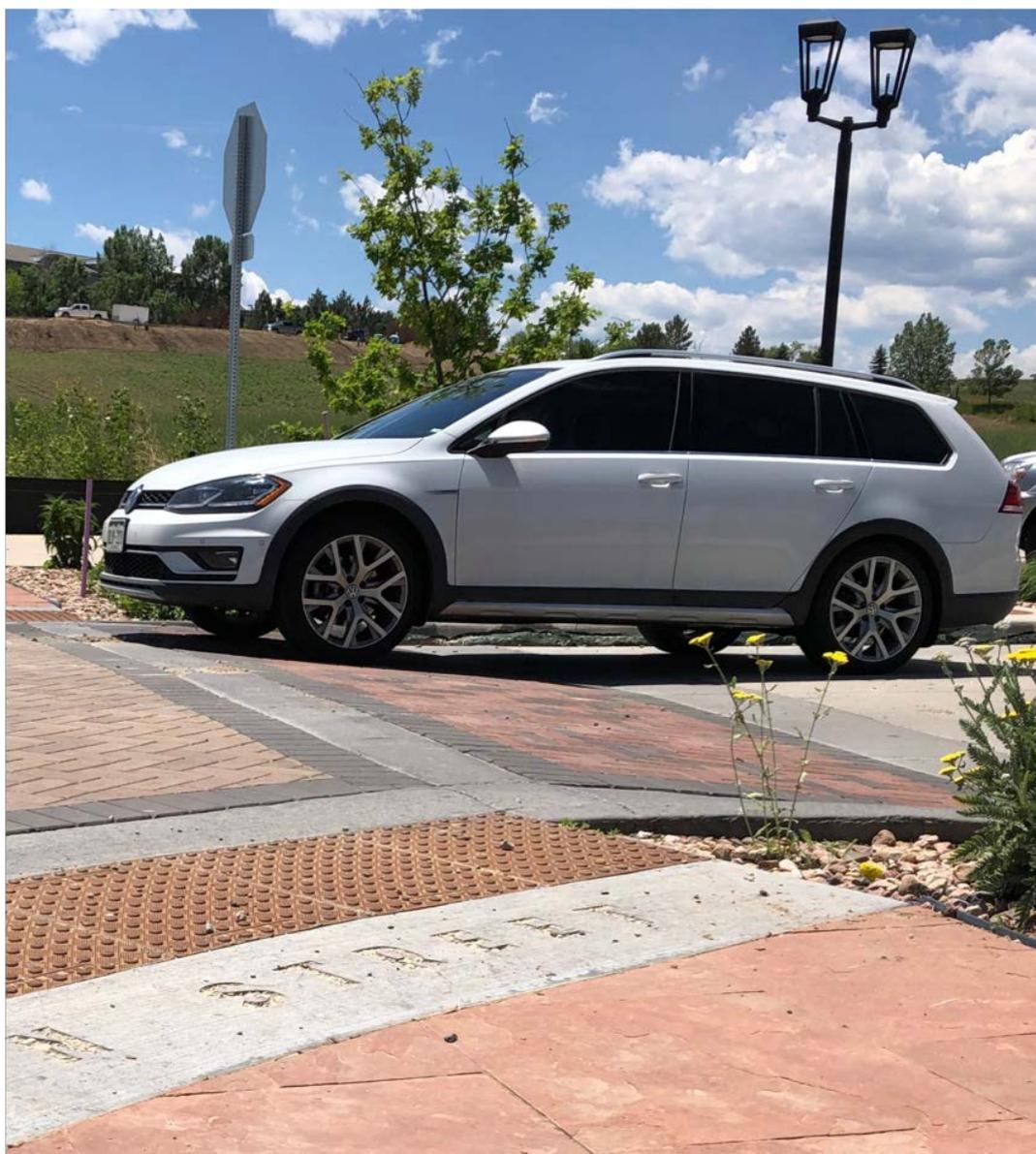
3. Option 2: Would removing left turn lanes, adding new concrete medians islands in the middle of the street, adding new flashing crosswalks, AND narrow the intersection **improve awareness of people and kids crossing the intersection (see concept below)?**

- Yes
- Maybe
- Not sure
- No



4. Option 3: Would rebuilding the intersection as a raised intersection **improve awareness of people and kids crossing the intersection (see photos below)?**

- Yes
 - Maybe
 - Not sure
 - No
-



5. Please rank each of the options based on how you think they will improve

awareness of people and kids crossing the intersection (1 is the least favorable and 5 is the most favorable)

	1	2	3	4	5
Option 1: median islands with flashing crosswalks	<input type="radio"/>				
Option 2: median islands, flashing crosswalks, and narrow intersection	<input type="radio"/>				
Option 3: raised intersection	<input type="radio"/>				

6. Please rank each of the intersection design options given cost considerations (1 is the least favorable and 5 is the most favorable)

	1	2	3	4	5
Option 1 as the lowest cost option	<input type="radio"/>				
Option 2 as the middle cost option	<input type="radio"/>				
Option 3 as the highest cost option	<input type="radio"/>				

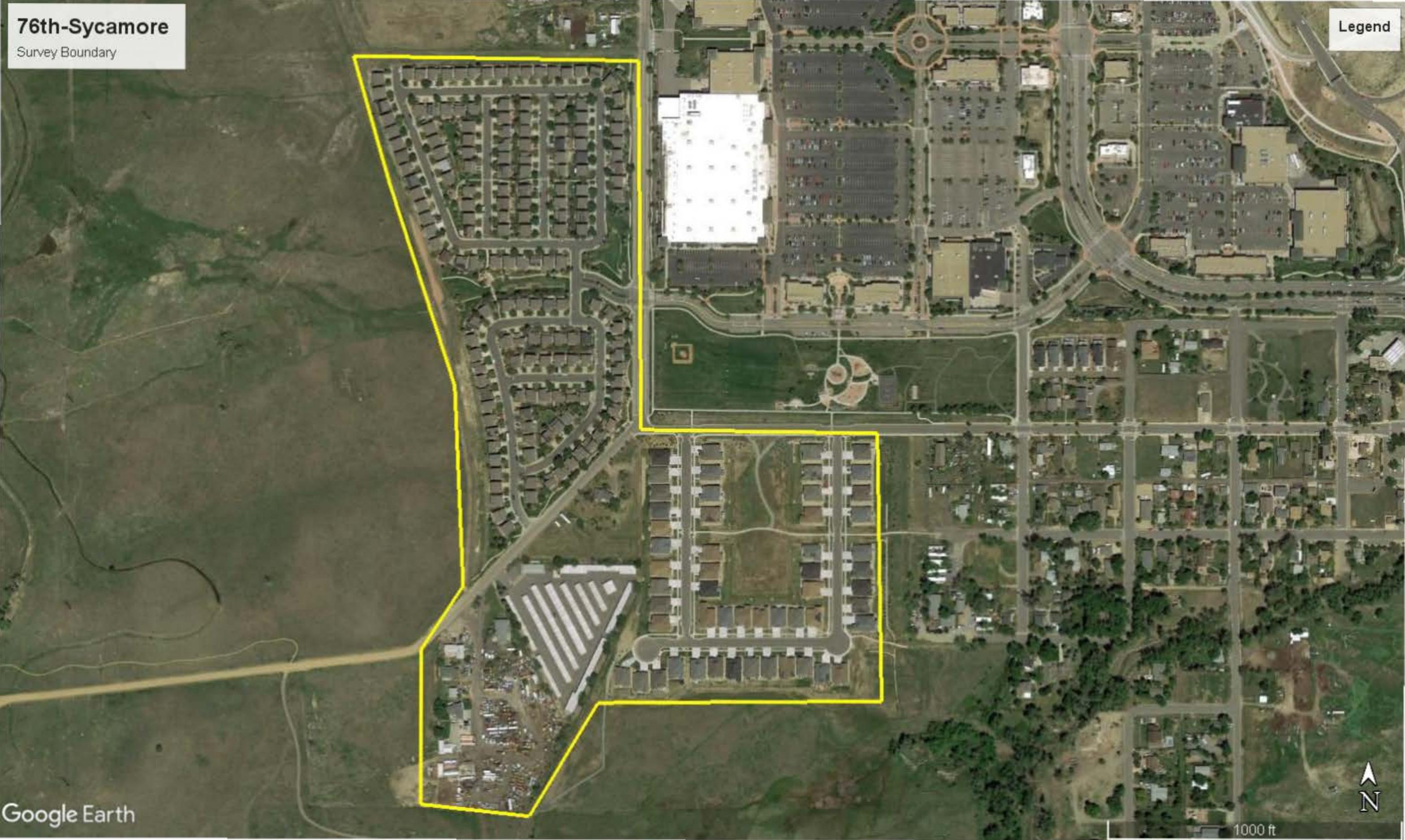
Submit

0%

76th-Sycamore

Survey Boundary

Legend





Memorandum

TO: Transportation & Safety Committee

FROM: Alex Ariniello, Public Works & Utilities Director

DATE: August 5, 2019

RE: Rock Creek Circle Traffic Calming Update

Background

At the April 1, 2019 meeting the TSC received a request to evaluate traffic calming on Rock Creek Circle. After discussing this request, the TSC directed staff to work with the Summit HOA and Yarrow residents to identify mitigation measures. A neighborhood meeting was held at the Summit on June 24, 2019 after notices were sent out to all residents south of Coalton Road. Notes from that meeting are attached. A link to the PowerPoint presentation is available on the NCTP webpage (<https://www.superiorcolorado.gov/board-advisory-groups/transportation-and-safety-committee-tsc/neighborhood-traffic-calming>).

Based on input received at this meeting staff worked up several concepts for traffic calming measures for Rock Creek Circle including:

1. Lowering the speed limit to 25 MPH and posting speed radar feedback signs
2. Narrowing the intersections with painted zones and flexible posts along the corridor to improve driver awareness of people crossing and visibility for drivers turning on to Rock Creek Circle
3. Raised Crosswalks

Staff drafted a survey to be sent to all residents south of Coalton Road to solicit feedback on these concepts. After TSC review, the survey will be sent out with responses due September 5, 2019. The draft survey and neighborhood boundary are attached.

Also discussed at the June 24, 2019 neighborhood meeting was the need for a mid-block pedestrian crossing on Coalton Road to connect the Summit with the Safeway shopping center. Subsequently, a survey was sent out to summit residents. Attached are the results. 75% of the 40 respondents were in favor or not sure about installing the crossing with 25% opposed. Staff

recommends incorporating this improvement into the 2019 street project.

Attachments

- Rock Creek Circle June 24, 2019 Neighborhood Meeting Notes
- Rock Creek Circle Draft Survey
- Neighborhood Boundary
- Coalton Pedestrian Crossing Drawing
- Coalton pedestrian Crossing Survey Results

Rock Creek Circle Neighborhood Meeting Summary

Monday, June 24th, 2019

7:00 PM to -8:30 PM

Summit Neighborhood Community Room



1. Agenda

Introductions and review agenda (7:00 PM)

Neighborhood Traffic Calming Program overview (7:05 PM)

Review existing conditions data and feedback (7:15 PM)

Traffic calming toolbox options (7:45 PM)

Toolbox questionnaires (8:00 PM)

Next steps (8:25 PM)

Adjourn neighborhood meeting (8:30 PM)



2. Workshop Comments on Rock Creek Circle Existing Conditions

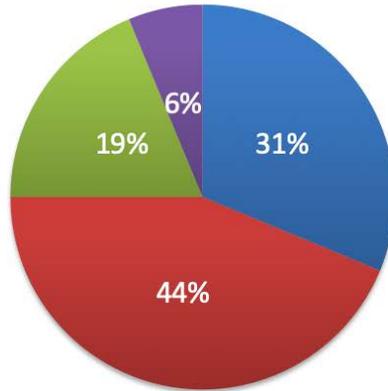
- I use this street more without a vehicle (bike/ped) and sometimes feel I'm walking next to a heavily used boulevard
- Pedestrian crossings visibility issues, WB vehicles cannot be seen at intersections, eastern crosswalks have low vehicle stop compliance
- Lack of stopping for crosswalks on Rock Creek Circle
- I experience westbound traffic on Rick Creek Circle that does not stop for pedestrian crossings the street at Torrey's Peak in the zebra stripes (crosswalks)
- Westbound at E. Yarrow appears the worst to me

- Cluttered visibility on Rock Creek Circle,
- Low visibility increases risk of collision at W. Yarrow and Rock Creek Circle
- Speeding on the east end of Rock Creek Circle needs to be addressed to prevent bigger issues and keep favoring bikes and pedestrians
- Concern is not so much speed, but lack of cars yielding at crosswalks along Rock Creek Circle (especially at Torrey's Peak). Kids crossing street going to Eldorado at risk – usually must wait 7 to 10 cars before one will stop. Because of curve of street, cars may not become visible until already in crosswalk and may not stop in time
- Eastbound Rock Creek Circle: create speed bumps to slow traffic. There is a blind corner on East Yarrow
- My concern is the curve westbound on westbound side of Rock Creek Circle (approaching Torreys Peak). Cars coming very fast around that corner and exiting The Summit does not have good visibility
- We need traffic calming measures at the east end of Rock Creek Circle based on the data, although it seems like drivers fly around the corner at the west end when pulling out of the west end of Summit @ Rock Creek Circle
- Center area of Rock Creek Circle seems to be acceleration zone. 25 MPH posted speed seems to be a better deterrent
- People don't stop at stop signs feeding onto Rock Creek Circle
- West Yarrow to Rock Creek Circle feels super busy in the mornings with cars not always coming to full stop. Need more visibility for pedestrians
- Based on the data: no real problem based on average speed and based on # of accidents. May need a lighted sign for pedestrians. Parking should be moved to the other side of street at night

3. Summary of Rock Creek Circle Questionnaire (16 responses)

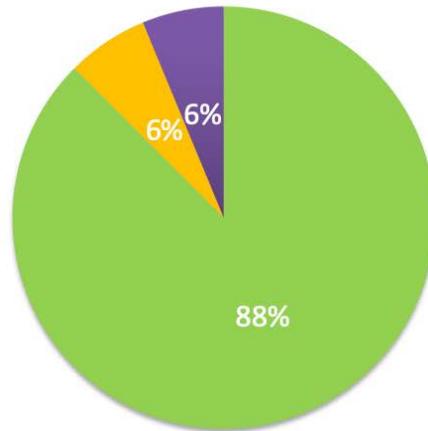
- What about combining speed feedback signs with changes to parking on the north side of Rock Creek Circle?
- Traffic circles on raised tables that flares lanes as it enters the circle. Ped flashing lights and long raised table coming into the intersection.
- Visibility turning left from Torrey's Peak on Rock Creek Circle also needs mirror to show cars coming uphill. Also need flashing crosswalks and consider the bus stop.
- Very tired of speed bumps and prefer lower speed with feedback signs and enforcement
- Flashing crosswalks are needed
- I think the police should be in this area more writing tickets for people going through stop signs and speeding. I drive 30 MPH and don't want to keep slowing down. If word gets out that police are writing tickets I think people will follow the rules more.

The following best describes me



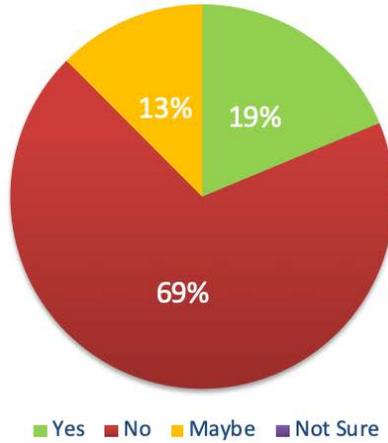
■ Summit resident living on Rock Creek Circle ■ Summit resident living off of Rock Creek Circle
■ Neighborhood resident living near Rock Creek Circle ■ Superior resident living away from Rock Creek Circle

Do you think additional traffic calming is needed on Rock Creek Circle?

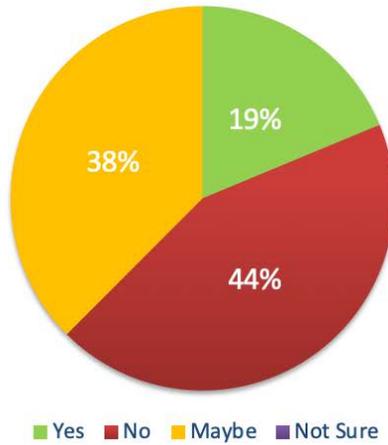


■ Yes ■ No ■ Maybe ■ Not Sure

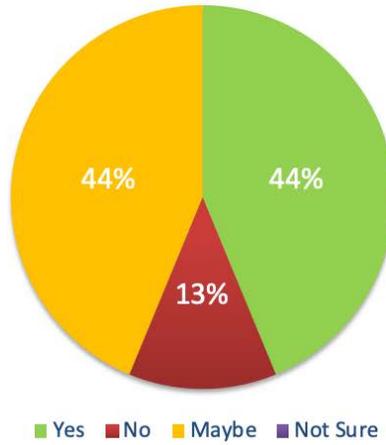
Do you think SPEED HUMPS should be considered for traffic calming on Rock Creek Circle?



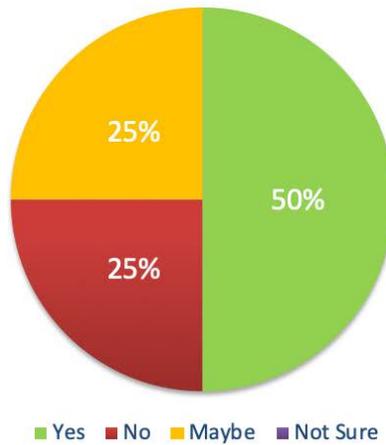
Do you think INTERSECTION SPEED TABLES should be considered for traffic calming on Rock Creek Circle?



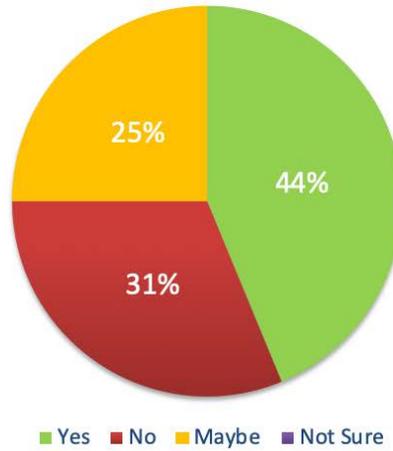
Do you think RAISED PEDESTRIAN CROSSWALKS should be considered for traffic calming on Rock Creek Circle?



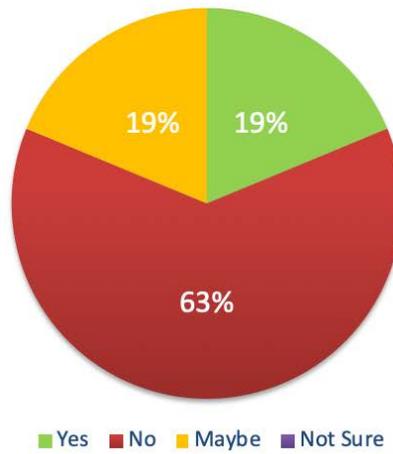
Do you think SPEED FEEDBACK SIGNS should be considered for traffic calming on Rock Creek Circle?



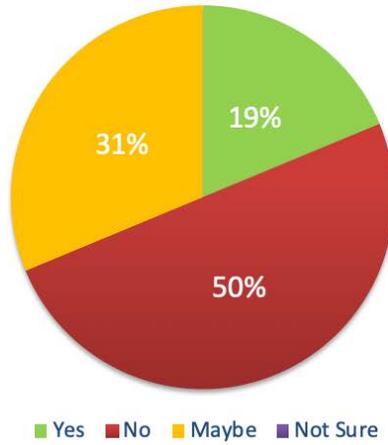
Do you think SPEED FEEDBACK SIGNS should be considered for traffic calming on Rock Creek Circle?



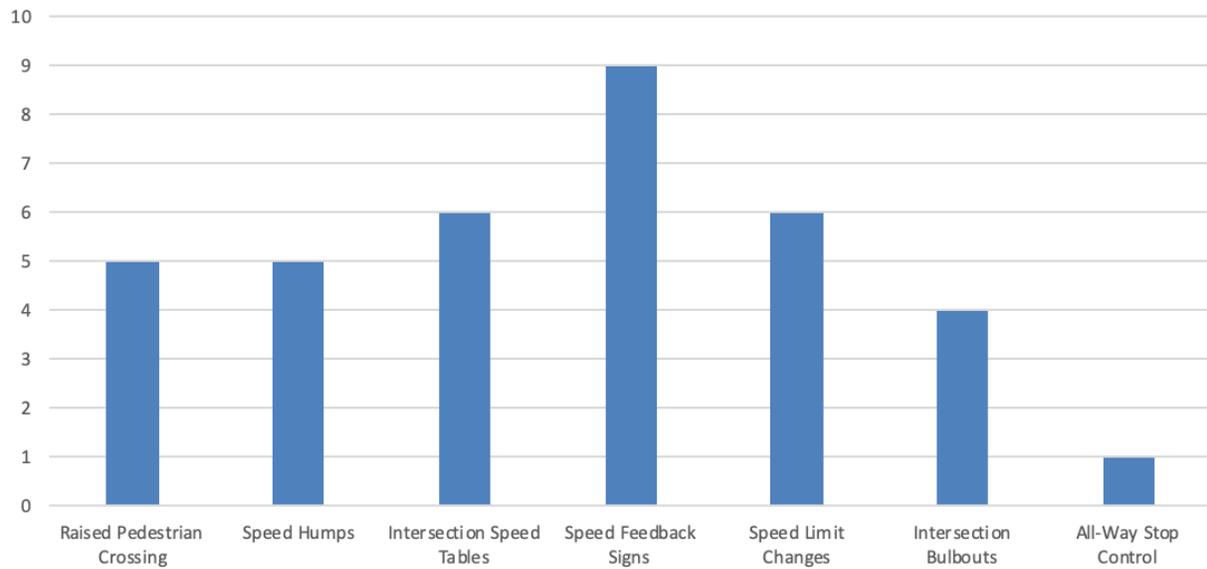
Do you think INTERSECTION BULBOUTS should be considered for traffic calming on Rock Creek Circle?



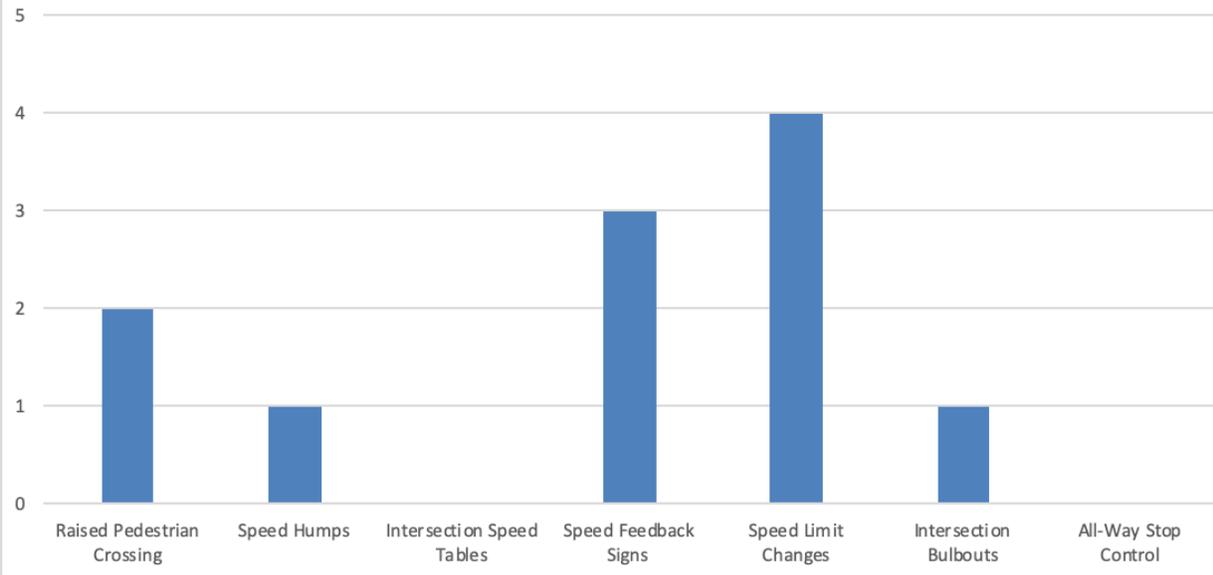
Do you think ALL-WAY STOP CONTROL should be considered for traffic calming on Rock Creek Circle?



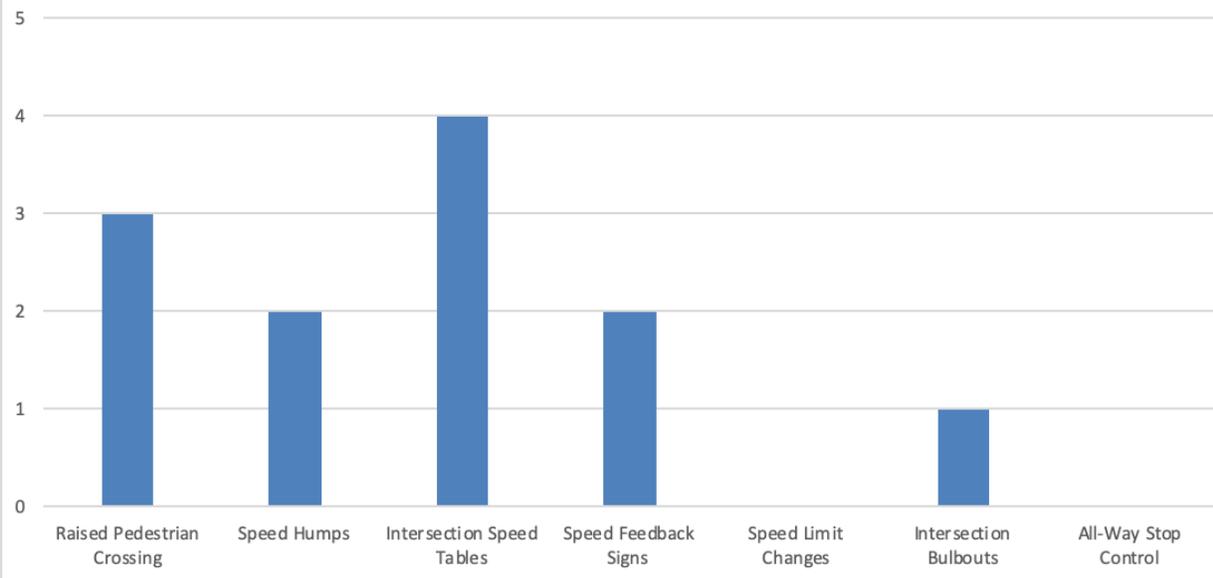
Please rank the traffic calming measures (1st to 3rd composite)

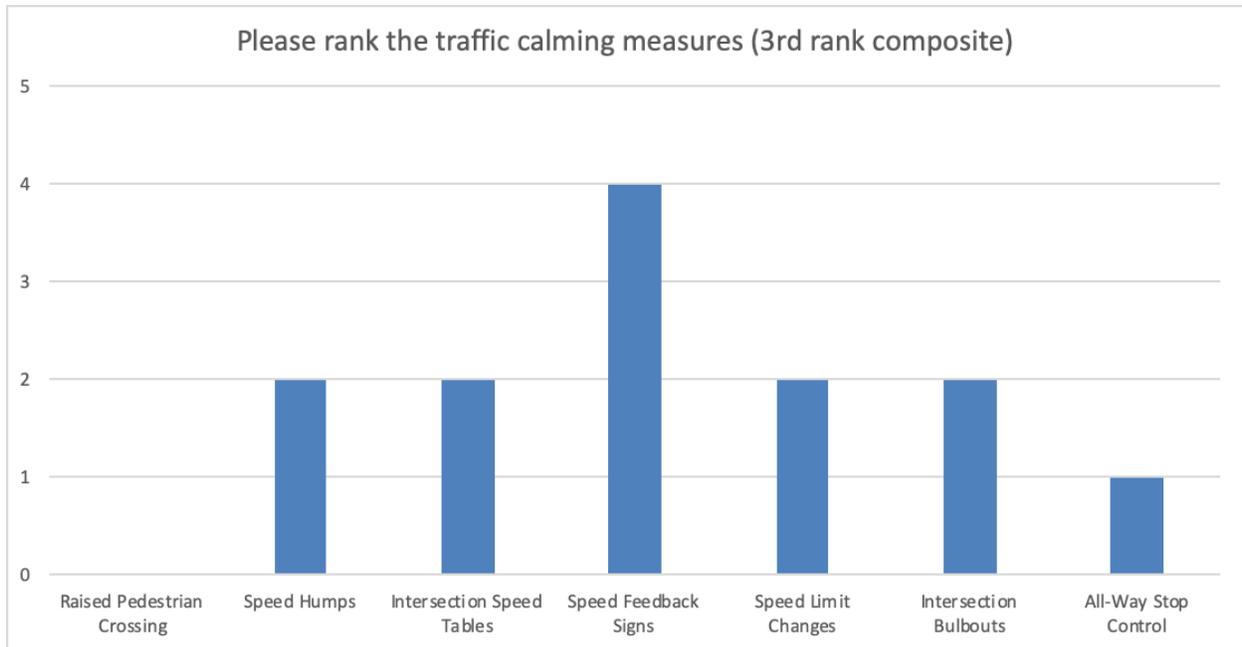


Please rank the traffic calming measures (1st rank composite)



Please rank the traffic calming measures (2nd rank composite)

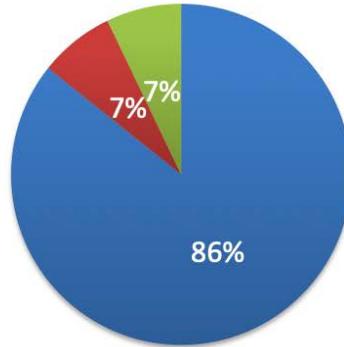




4. Summary of Coalton Road Mid-Block Crossing Questionnaire (13 to 14 responses)

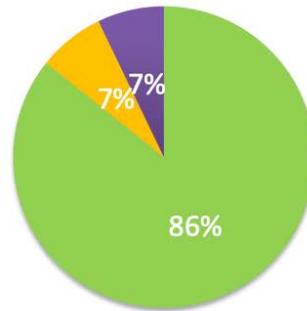
- I usually cross east of proposed crossing area and go to Safeway
- Great idea finally!
- People cross here anyway, lighted crosswalks will make it safer for both pedestrians and cars. Cars often get distracted by jaywalkers- unsure whether to yield to them or not.
- Great idea!
- Range Rover location future use would also factor into this decision
- By adding the crosswalk you'll be making an on-going situation much safer. The crossing will continue unless there are changes to enforcement.

The following best describes me



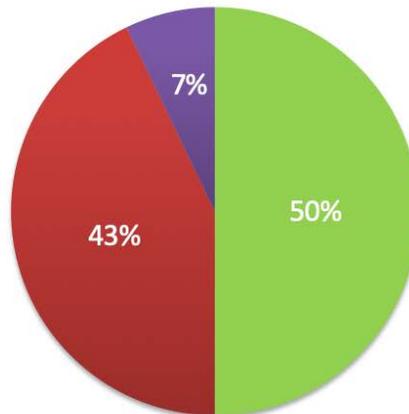
- Summit resident
- Neighborhood resident living near Coalton Road
- Superior resident living away from Coalton Road

Do you think a mid-block crossing on Coalton Road (across from Safeway) should be installed this summer with the scheduled construction project in July 2019?



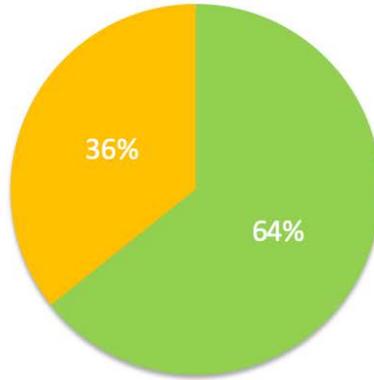
- Yes
- No
- Maybe
- Not Sure

If this mid-block crossing on Coalton Road were in place would you use it?



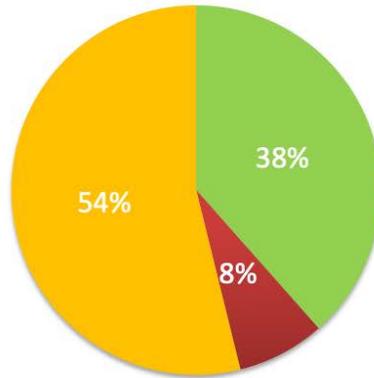
- Yes, often
- Yes, occasionally
- Seldom
- Never

Do you think the mid-block crossing on Coalton Road will reduce walking and bicycling distances?



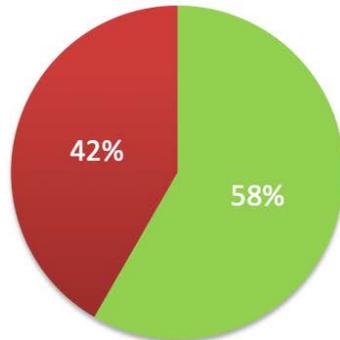
■ Yes ■ No ■ Maybe ■ Not Sure

Do you think the mid-block crossing on Coalton Road will encourage more walking and bicycling?



■ Yes ■ No ■ Maybe ■ Not Sure

How do you think the mid-block crossing on Coalton Road will affect motor vehicle travel times?



■ Delays will be increased by less than a minute ■ No significant changes
■ Delays will be increased by several minutes ■ Not Sure



Rock Creek Circle Traffic Calming Meeting 6/24/2019

Name	Address	Phone Number/Email
Co-buttl Henniger	3177 W. Xanadu	720 484 6601
Jaine Delaney	2855 Rock Creek Cir #285	719-648-2601 jaine@delaneyweb.com
Melanie Howard	" " " #308	Melanie.howard@pr.com
Rich: Carole Walker	2855 Rock Creek Cir #115	970-309-5155
DAN GEIGER	2855 " " #274	303 885-8169
E. D. N.	2001 Delaney St	303 429-9807
Charles Guffel	Unit 170	
Shawn Harris	148	shawn.harris@ymail.com
Cindy Pedigo	2855 Rock Creek Cir #101	bestpedigo@comcast.net
Vern + Terri Warkentien	" " #169	303-919-7977 v.warkentien@reagan.com
ARIEL LIBERTON	" " #171	303-994-1656 gisey@reagan.com
Susan McNamara	2927 W. Yarrow	303 953 1640
Sang Gu Lee	1504 Ivy Pl	314-478-9215

Notes & Agendas: www.superiorcolorado.gov/boards-committees/transportation-safety-committee-tsc/agendas-meeting-notes

Video: <http://www.superiorcolorado.gov/boards-committees/board-of-trustees/agendas-minutes-and-meeting-videos>
Under "Community Programming"



Rock Creek Circle Traffic Calming Meeting 6/24/2019

Name	Address	Phone Number/Email
John Pavol	1038 Huson Peak Ave	
Brian Delaney	2855 Rock Creek Cir #285	

Notes & Agendas: www.superiorcolorado.gov/boards-committees/transportation-safety-committee-tsc/agendas-meeting-notes
Video: <http://www.superiorcolorado.gov/boards-committees/board-of-trustees/agendas-minutes-and-meeting-videos>
Under "Community Programming"

Official Town of Superior TSC Survey: Rock Creek Circle Traffic Calming

The Town of Superior's Transportation and Safety Committee (TSC) is considering traffic calming options along Rock Creek Circle. Several options were identified with neighborhood residents at a workshop in June 2019. The TSC would appreciate your feedback on six questions related to the traffic calming concepts along Rock Creek Circle. The results will be shared at the October 2019 TSC meeting. This survey will be closed on September 5, 2019 at 5:00 PM.



1. The following best describes me:

- Summit resident
- Neighborhood resident near Rock Creek Circle
- Other Superior resident
- Not a Superior resident

2. Speed change and feedback signs: Would you support reducing the posted limit from 30 MPH to 25 MPH and installing feedback signs along the corridor (**see photo below**)?

- Yes
- Maybe
- Not sure
- No





3. Narrow intersections: Do you support narrowing the intersections with painted

zones and flexible posts along the corridor to improve driver awareness of people crossing and visibility for drivers turning on to Rock Creek Circle (see photos below)?

- Yes
- Maybe
- Not sure
- No



4. Raised Crosswalks: Do you support adding raised crosswalks at each of the

intersections to **improve driver awareness of people and kids crossing the intersections (see photos below)?**

- Yes
- Maybe
- Not sure
- No





5. Please rank each of the options based on how you think they could calm traffic on Rock Creek Circle (1 is the least favorable and 5 is the most favorable)

	1	2	3	4	5
Speed change and feedback signs	<input type="radio"/>				
Narrow intersection	<input type="radio"/>				
Raised crosswalks	<input type="radio"/>				

6. Please rank each of the options based on their planning level costs (1 is the least favorable and 5 is the most favorable)

	1	2	3	4	5
Lowest cost: Speed change and feedback signs	<input type="radio"/>				
Mid-range cost: Narrow	<input type="radio"/>				

intersection

Highest cost: Raised
crosswalks

Submit

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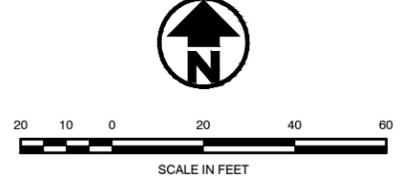
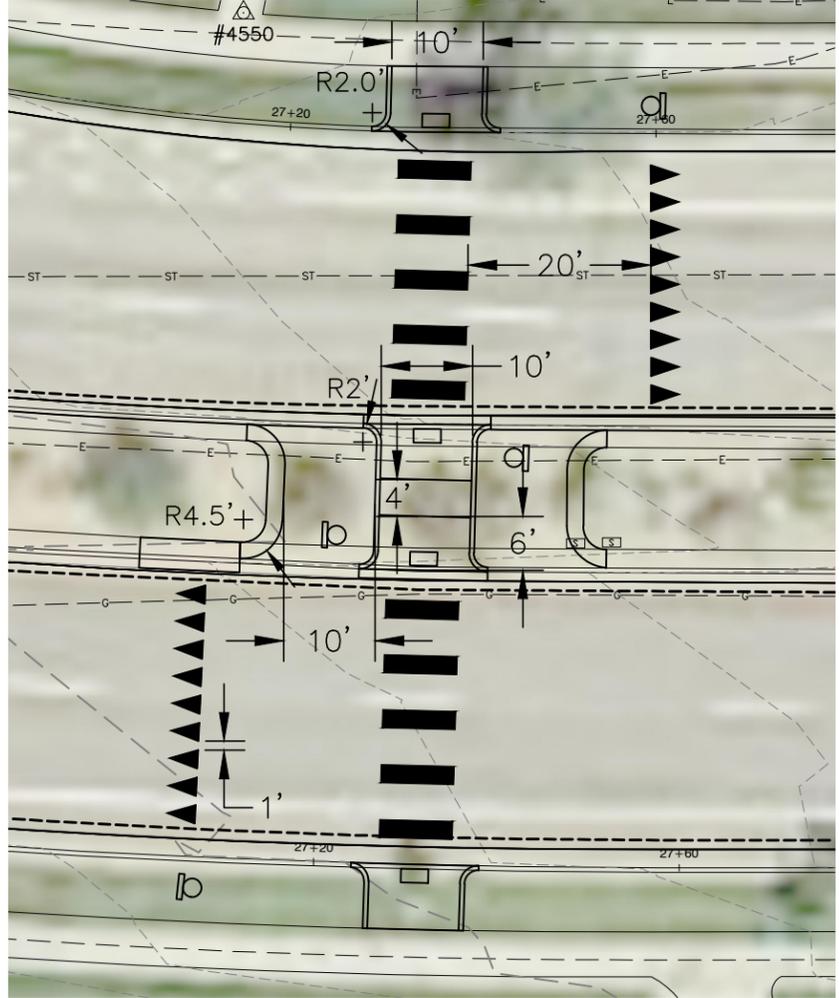
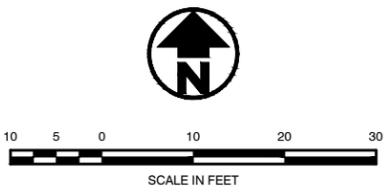
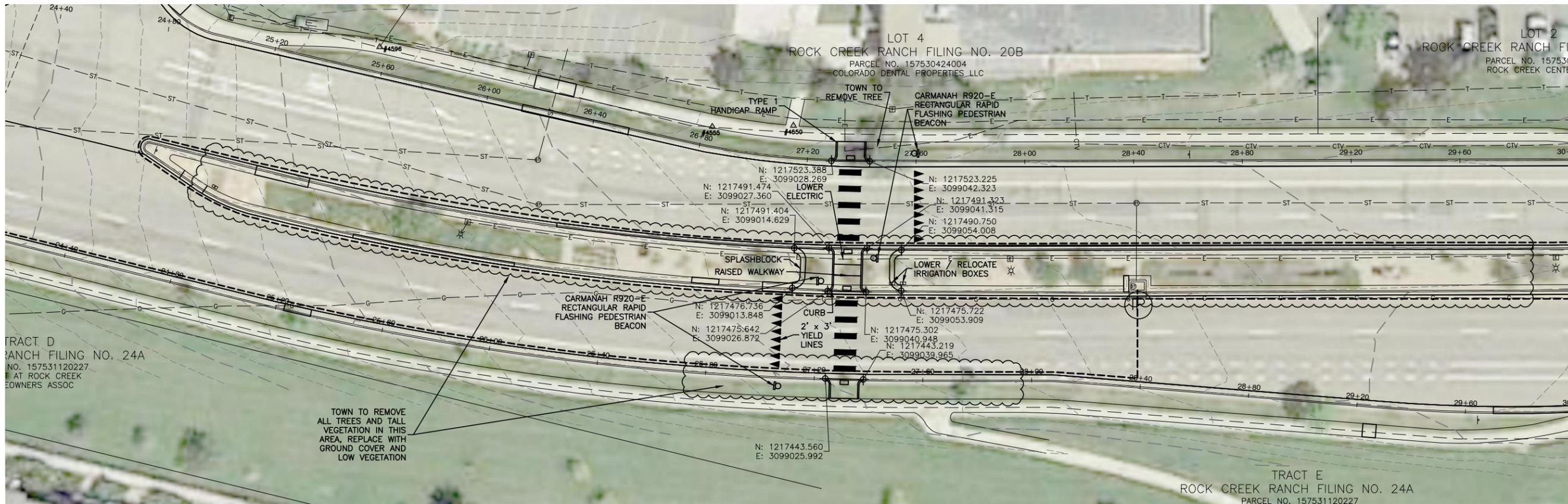
Rock Creek Circle Traffic Calming

Survey Boundary

Legend



P:\19109 Superior Coalton\Drawings\Plan Sheets\03-JT-Coalition Rehabilitation.dwg_Layout2_7/10/2019 3:55:46 PM



ISSUED FOR CONSTRUCTION

REVISIONS			
No.	Date	By	Description

Job #	19109
Date	4/12/19
Drawn By	WSS
Designed By	TPY
Checked By	JCY
File	As Shown

Sheet: **4a** of 17

J&T Consulting, Inc.
 305 Denver Avenue - Suite D
 Fort Lupton, CO 80621
 Ph: 303-857-6222 Fax: 303-857-6224
 www.jtconsulting.com

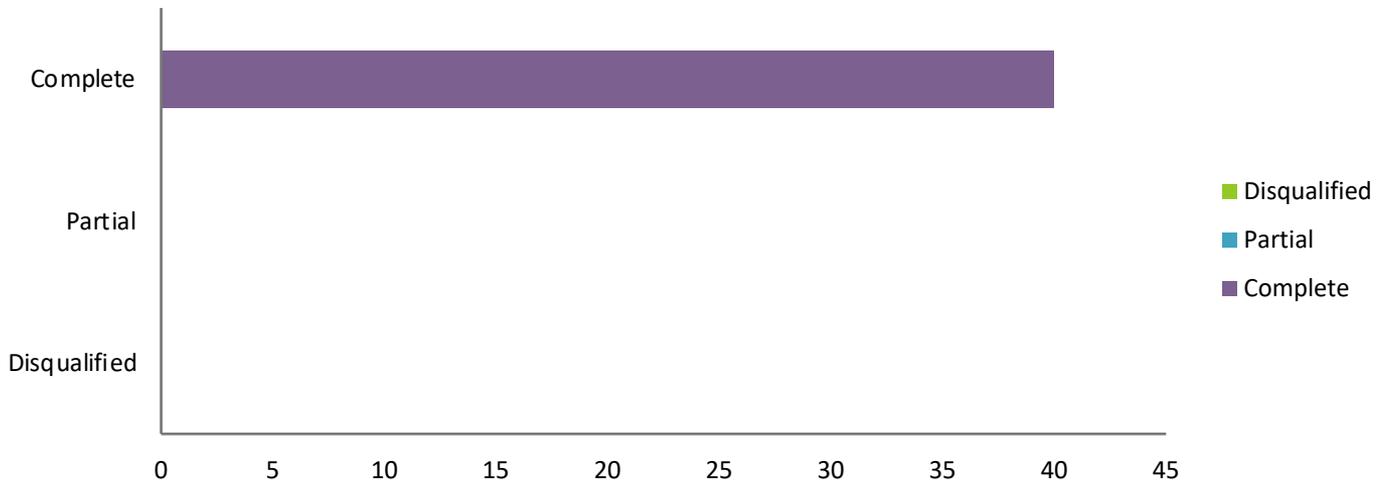
Coalton Road Rehabilitation Project
 Site Plan

Town of Superior

Report for Coalton Road Mid-Block Crossing Survey

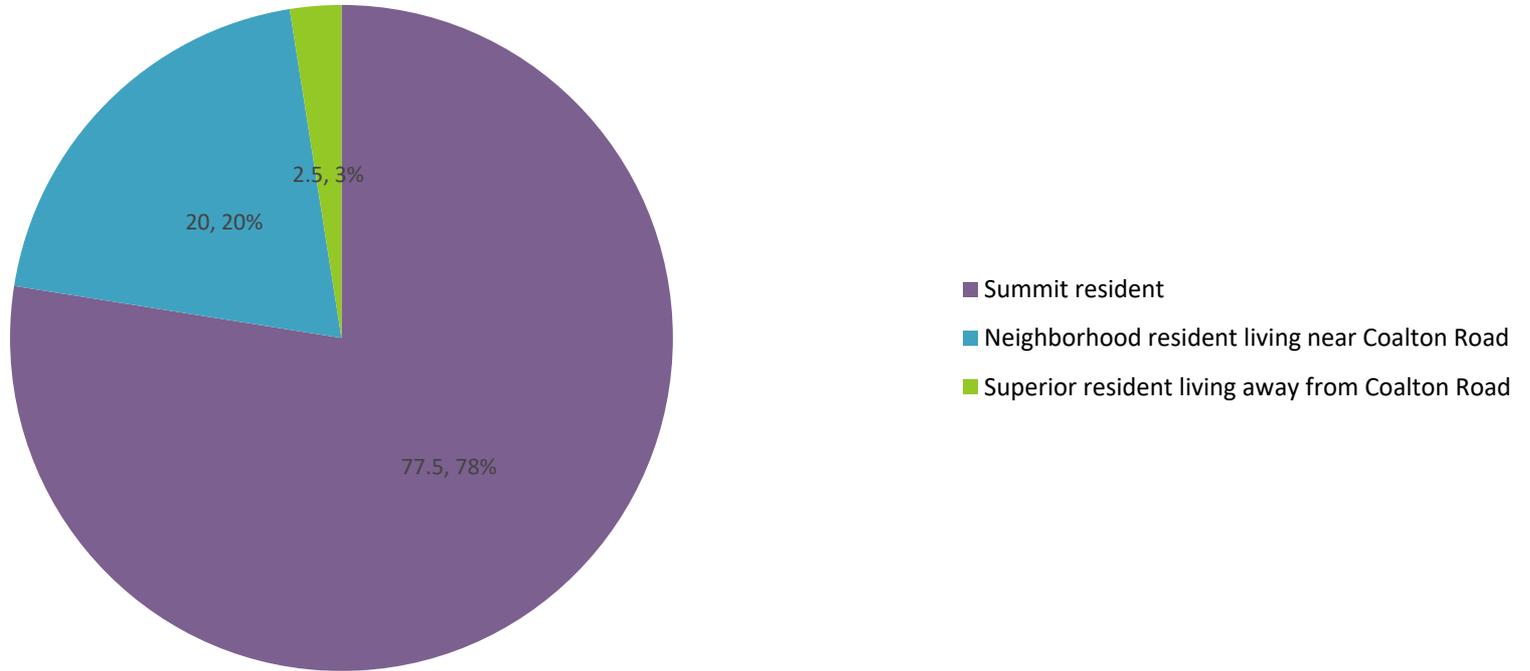
Coalton Road Mid-Block Crossing Survey

Response Statistics



	Count	Percent
Complete	40	100
Partial	0	0
Disqualified	0	0
Totals	40	

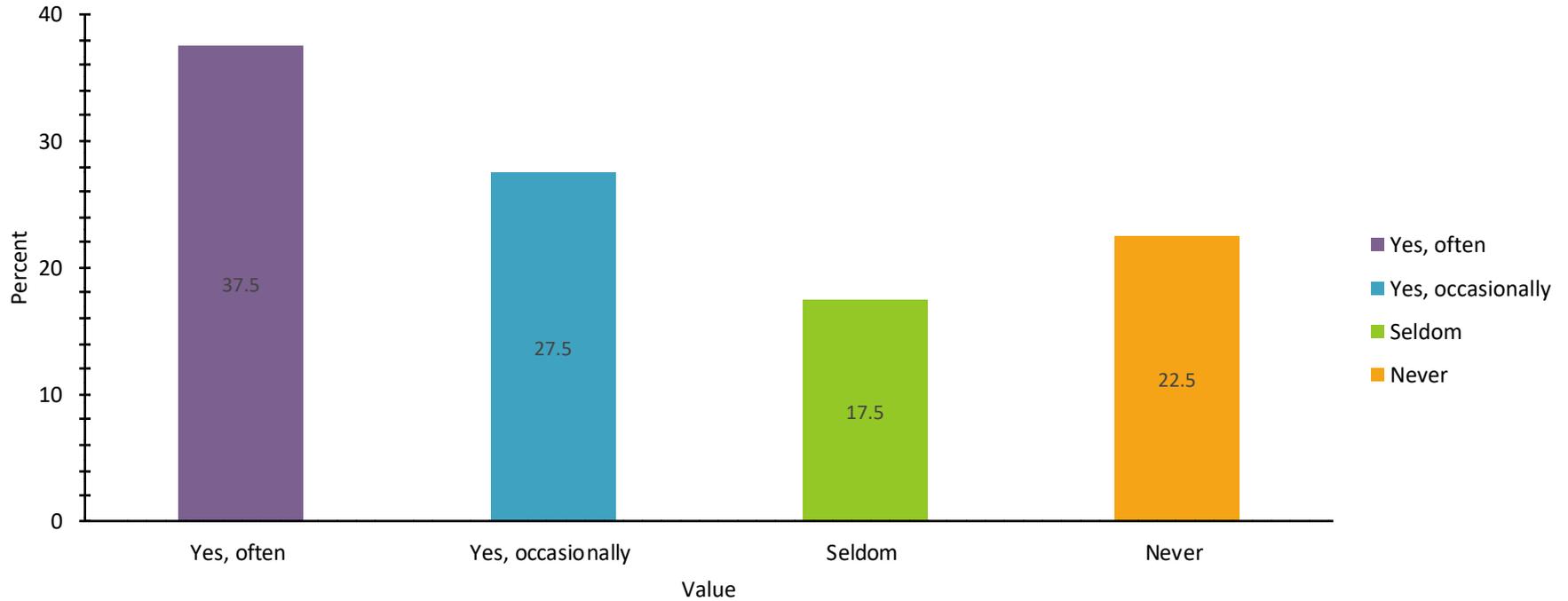
1.The following best describes me:



1.The following best describes me:

Value		Percent	Count
Summit resident		77.5%	31
Neighborhood resident living near Coalton Road		20.0%	8
Superior resident living away from Coalton Road		2.5%	1
Totals			40

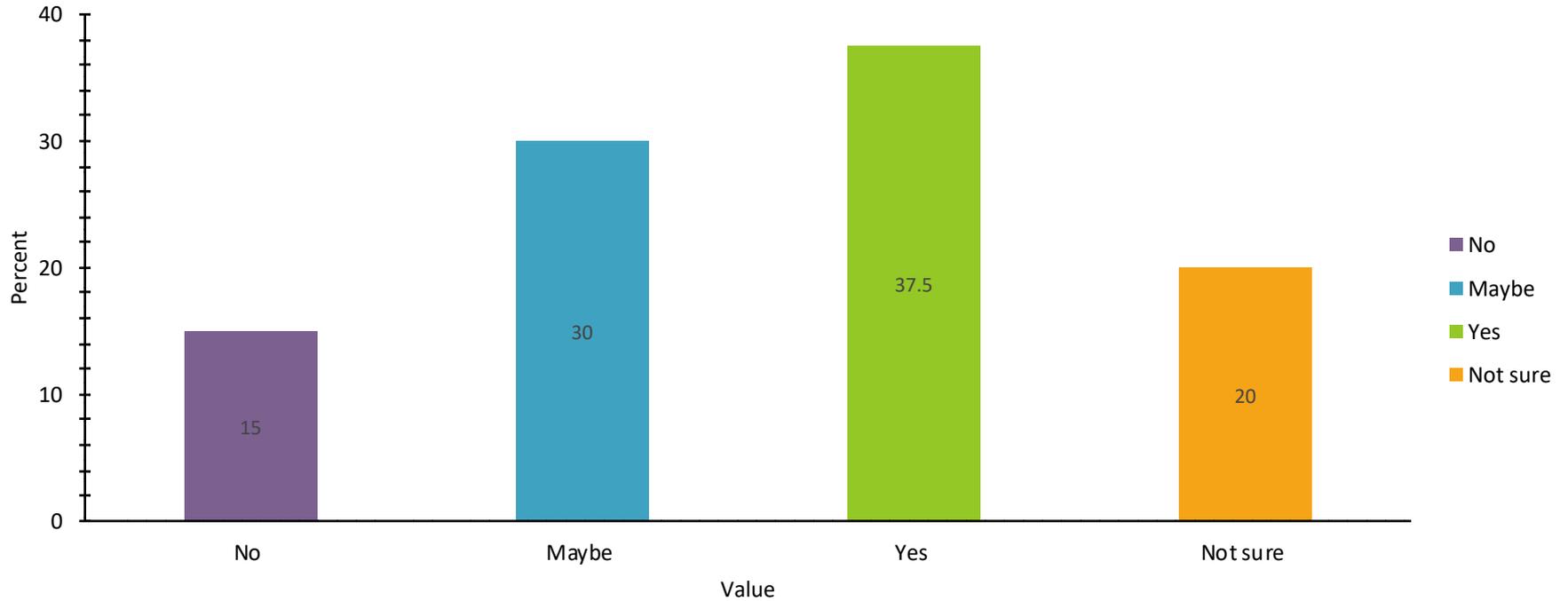
2.If this mid-block crossing on Coalton Road between Rock Creek Circle and Rock Creek Parkway were in place would you use it?



2.If this mid-block crossing on Coalton Road between Rock Creek Circle and Rock Creek Parkway were in place would you use it?

Value		Percent	Count
Yes, often		37.5%	15
Yes, occasionally		27.5%	11
Seldom		17.5%	7
Never		22.5%	9

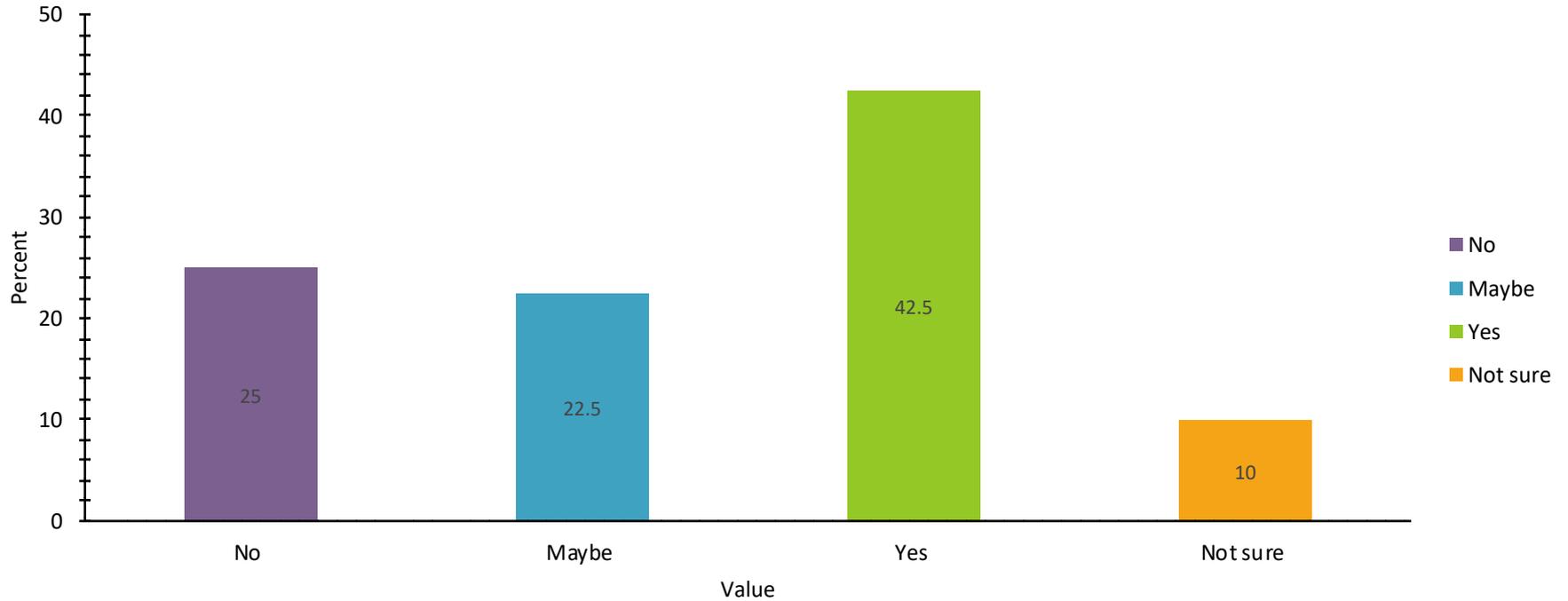
3. Do you think the mid-block crossing on Coalton Road will reduce walking and bicycling distances?



3. Do you think the mid-block crossing on Coalton Road will reduce walking and bicycling distances?

Value		Percent	Count
No		15.0%	6
Maybe		30.0%	12
Yes		37.5%	15
Not sure		20.0%	8

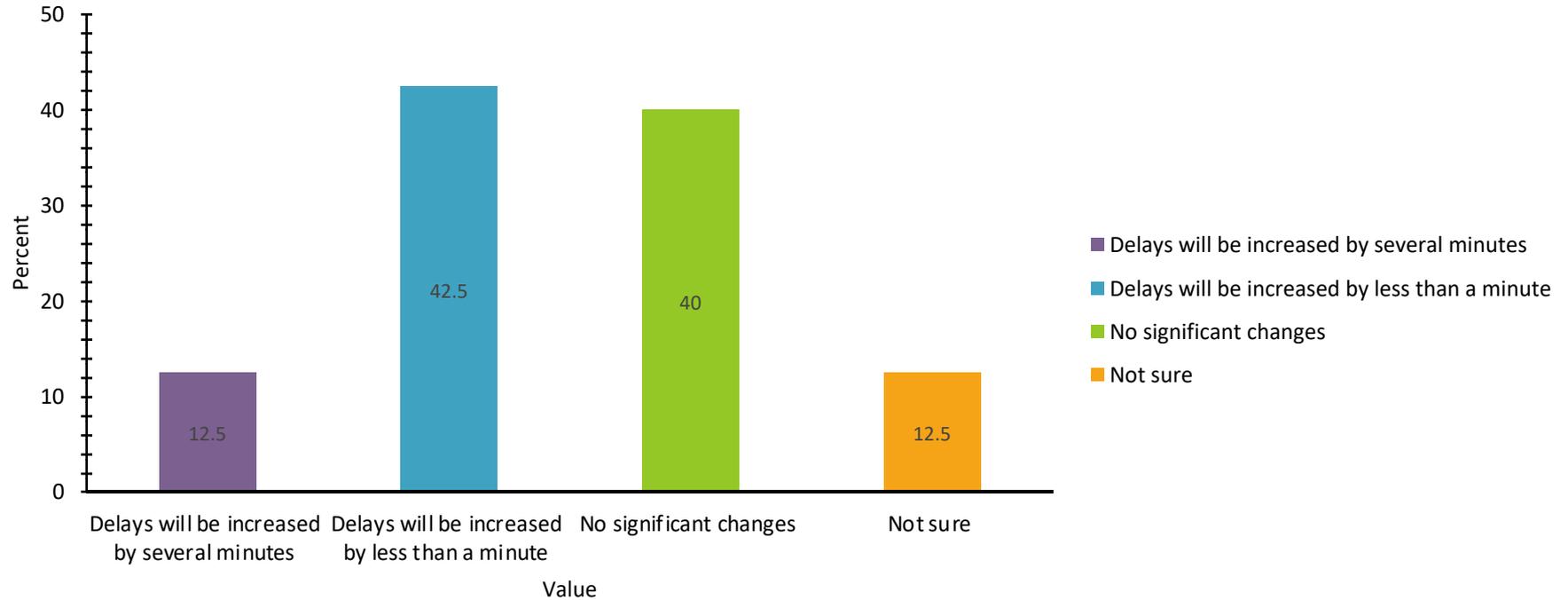
4. Do you think the mid-block crossing on Coalton Road will encourage more walking and bicycling?



4. Do you think the mid-block crossing on Coalton Road will encourage more walking and bicycling?

Value		Percent	Count
No		25.0%	10
Maybe		22.5%	9
Yes		42.5%	17
Not sure		10.0%	4

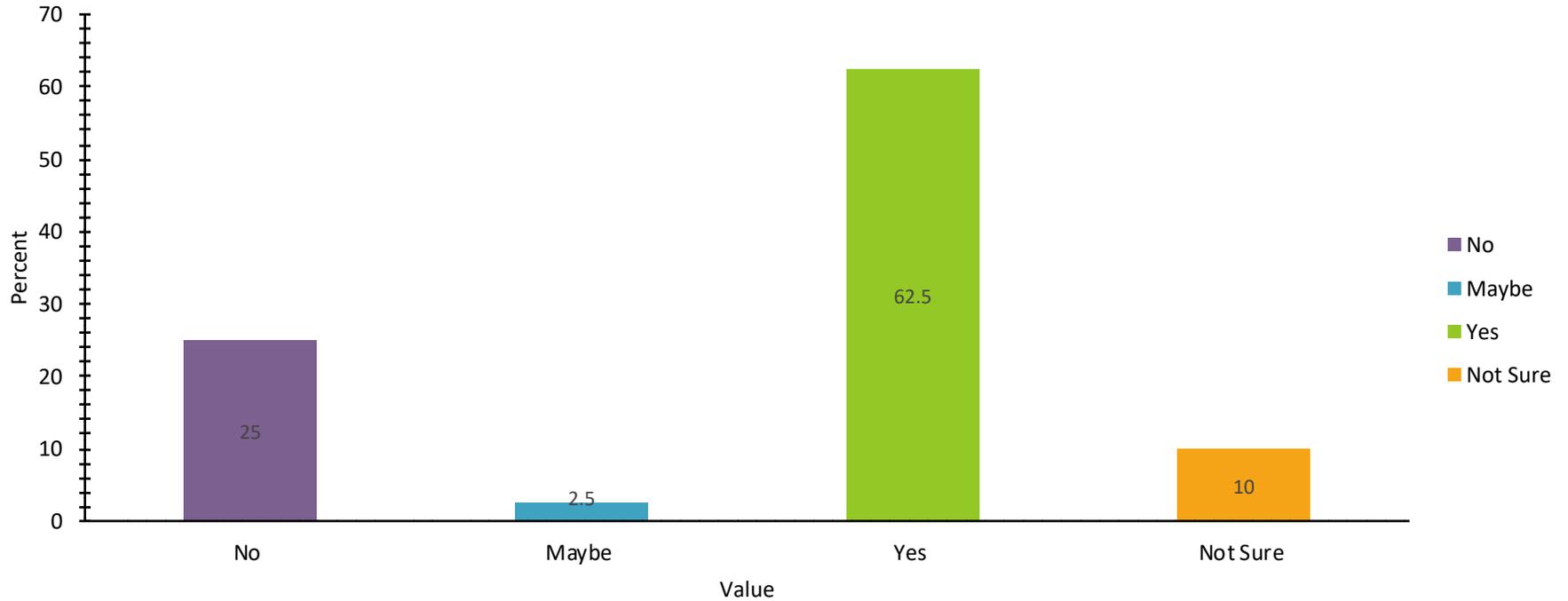
5. How do you think the mid-block crossing on Coalton Road will affect motor vehicle travel times?



5. How do you think the mid-block crossing on Coalton Road will affect motor vehicle travel times?

Value		Percent	Count
Delays will be increased by several minutes		12.5%	5
Delays will be increased by less than a minute		42.5%	17
No significant changes		40.0%	16
Not sure		12.5%	5

6. Do you think a mid-block crossing on Coalton Road (across from Safeway) should be installed this summer with the scheduled construction project in July 2019?



6. Do you think a mid-block crossing on Coalton Road (across from Safeway) should be installed this summer with the scheduled construction project in July 2019?

Value		Percent	Count
No		25.0%	10
Maybe		2.5%	1
Yes		62.5%	25
Not Sure		10.0%	4



Memorandum

TO: Transportation & Safety Committee

FROM: Alex Ariniello, Public Works & Utilities Director

DATE: August 5, 2019

RE: McCaslin/Indiana Improvement Options

Background

At the April 1, 2019 TSC Meeting Jack Chang requested a traffic signal at Indiana Street and McCaslin Boulevard. The Notes from this meeting include:

- Trustee Skaldzinski asked if the intersection was wide enough for a roundabout or if a traffic signal is the only option. Carlos presented several options for improving the intersection such as moving the stop bar and using green ground treatments to highlight the biking areas. Trustee Ryan expressed support for targeting this intersection in the 5-year CIP plan and asked for input from the cycling community. Carlos pointed out CDOT's new approach to how downhill deceleration lanes will interface with bike lanes. Staff will evaluate the feasibility of a roundabout at this location and collect traffic data for a signal warrant analysis. Short-term striping changes will also be evaluated.

Traffic Signal Warrant Analysis

Traffic Data was collected during the first week of April, 2019 with the results displayed in Figure 1. The weekday traffic volume on McCaslin was about 9,500 vehicles per day (vpd) and on Indiana about 1,870 vpd. During the morning peak hour, there were 64 vehicles per hour turning left from Indiana onto McCaslin with 25 vehicles making this movement during the afternoon peak hour.

The traffic count data was plotted on the Manual of Uniform Traffic Control Devices (MUTCD) 4-hour and peak hour traffic signal warrant curves as shown in Figures 2 and 3. Both of these warrants are currently not met.

Warrant 7 (Crash Experience) requires that *“five or more reported crashes, of types susceptible to correction by a traffic signal, have occurred within a 12-month period”*. Four crashes have been reported during the last eight years with one occurring in 2018 so Warrant 7 (Crash Experience) is not currently met.

Intersection Improvement Options and Costs

Staff and its consultants developed four options for improving the intersection:

1. **Installation of a Traffic Signal:** This option could reduce delay on the Indiana approach while increasing delay on McCaslin. The safety benefits of this option are that perpendicular right-angle crashes could be reduced, however, rear-end accidents could increase. This option is estimated to cost about \$560,000 to design and construct.
2. **Roundabout:** A roundabout is feasible at this intersection as shown in Figure 4. While there are no MUTCD warrants for roundabouts, a rule of thumb is that the side street volume should exceed 10% of the main street volume to minimize delay on the main street. Indiana currently has about 20% of the volume on McCaslin. Roundabouts have significant safety benefits including the virtual elimination of perpendicular (T-bone) high speed crashes. There could be an increase in less severe rear-end and side-swipe accidents. The roundabout would have a traffic calming benefit forcing northbound vehicles to slow down as they travel from the rural stretch of McCaslin south of Indiana to the more urban environment north of Indiana. It also could serve as major entry feature for the Town enhanced by a work of art. This option is estimated to cost \$1.7 to \$2.0 million to design and construct depending on whether pedestrian walks are included around the roundabout.
3. **Left-turn Acceleration Lane:** This option would add a left-turn acceleration lane on McCaslin for vehicles turning left from Indiana onto McCaslin as shown in Figure 5. Left-turning vehicles would only have to find gaps in the northbound traffic stream since they could enter McCaslin and travel side-by-side with southbound traffic until the merge point. Intersection delays would be reduced. To improve safety, a median island on McCaslin is recommended to allow for safe interaction between left-turning vehicles and southbound traffic. This option is estimated to cost about \$800,000 to design and construct.
4. **Short-term Striping Changes:** This option is shown in Figure 6 and would add a raised pork-chop island with stop sign on north east corner of Indiana; move the WB Indiana stop line closer to McCaslin, add new signage for the turn lanes on McCaslin and add green bike lane skip striping in the merge zones before, after and at the intersection. This option would provide better visibility and reduce acceleration distances for vehicles turning from westbound Indiana to southbound McCaslin. It will also increase driver's awareness of the downhill McCaslin bicycle lane and make conflict zones more visible for people riding downhill on bicycles. It is estimated to cost about \$75,000 to design and construct.

RECOMMENDED ACTION:

Staff recommends pursuing Option 4, short-term striping changes in the coming year. For the long term, staff recommends programming improvements in the Town's CIP for improvements to this intersection in conjunction with resurfacing of McCaslin from Coalton Road to SH 128. During the year prior to this project, a community outreach process should be undertaken to fully evaluate the benefits and costs of potential improvement options for this intersection. The process should be completed prior to budget development for the following year.



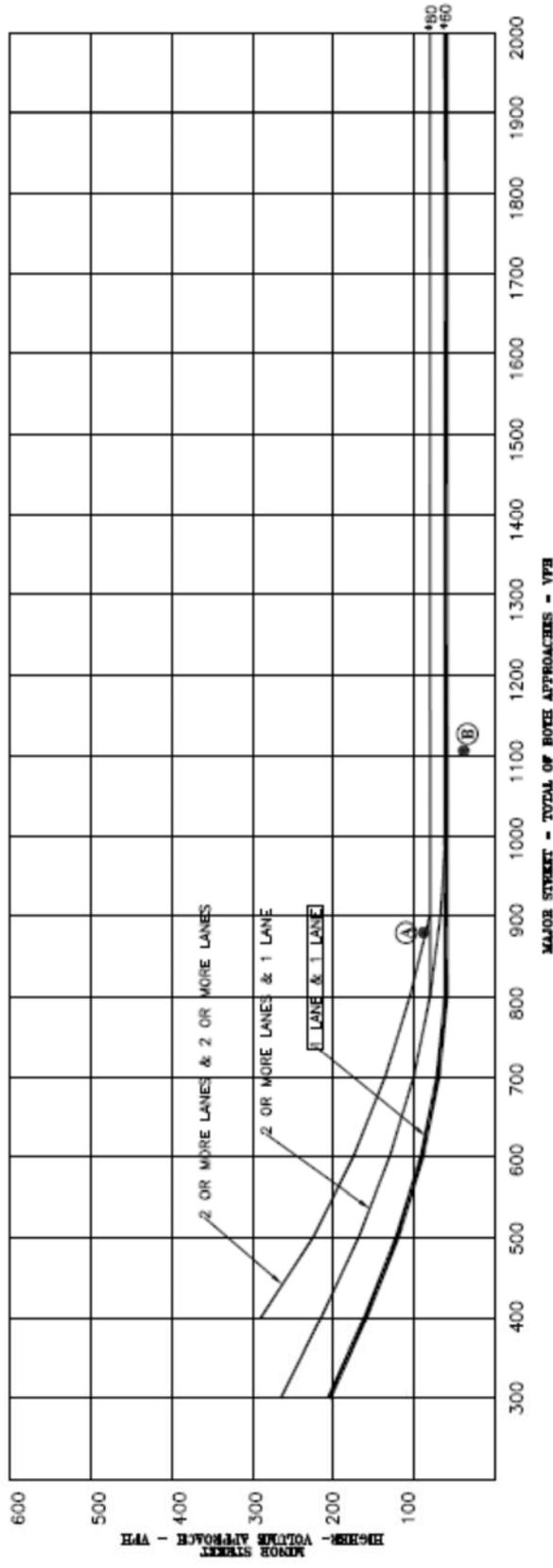
Note: The daily traffic volume on McCaslin Boulevard included about two percent buses and/or trucks with three or more axles.

- LEGEND:
- ↑ = Stop Sign
 - (45) = Posted Speed Limit
 - $\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$
 - 1,000 = Average Daily Traffic

Figure 1
**Existing Traffic, Lane
 Geometry and Traffic Control**
 Superior 2019 Traffic Engineering (LSC #190050)



Figure 4C-2. Warrant 2 Four-Hour Vehicular Volume (70% Factor)
 (Community Less than 50,000 population or above 40 mph on Major Street)



Data Points = (Major Street, Minor Street)
 (A) Existing AM Peak = (880,88)
 (B) Existing PM Peak = (1106,38)

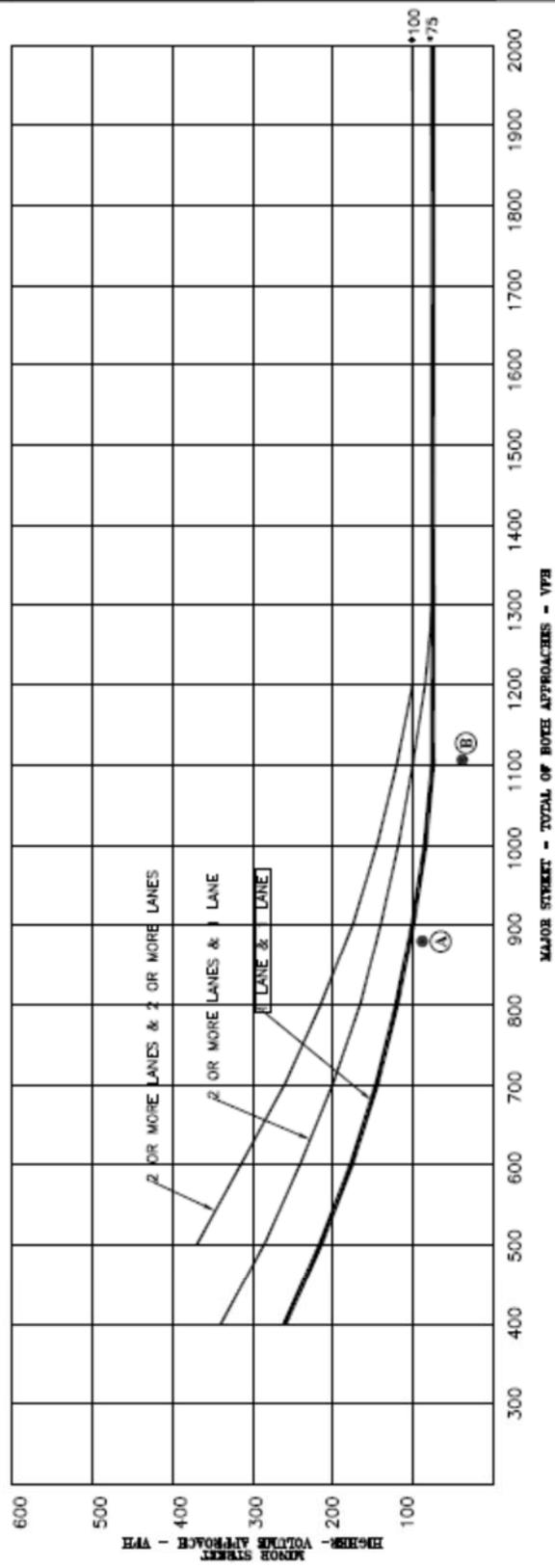
This warrant is not currently met.

Figure 2

Warrant 2 - Four-Hour Vehicular Volume McCaslin Boulevard/S. Indiana Street



Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (Community Less than 50,000 population or above 40 mph on Major Street)



*Note: 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

Note: Posted speed limit is greater than 40mph.

Data Points = (Major Street, Minor Street)

• A Existing AM Peak = (880,88)

• B Existing PM Peak = (1106,38)

This warrant is not currently met.

Figure 3

Warrant 3 - Peak-Hour Vehicular Volume

McCaslin Boulevard/S. Indiana Street

Superior 2019 Traffic Engineering (LSC #190050)

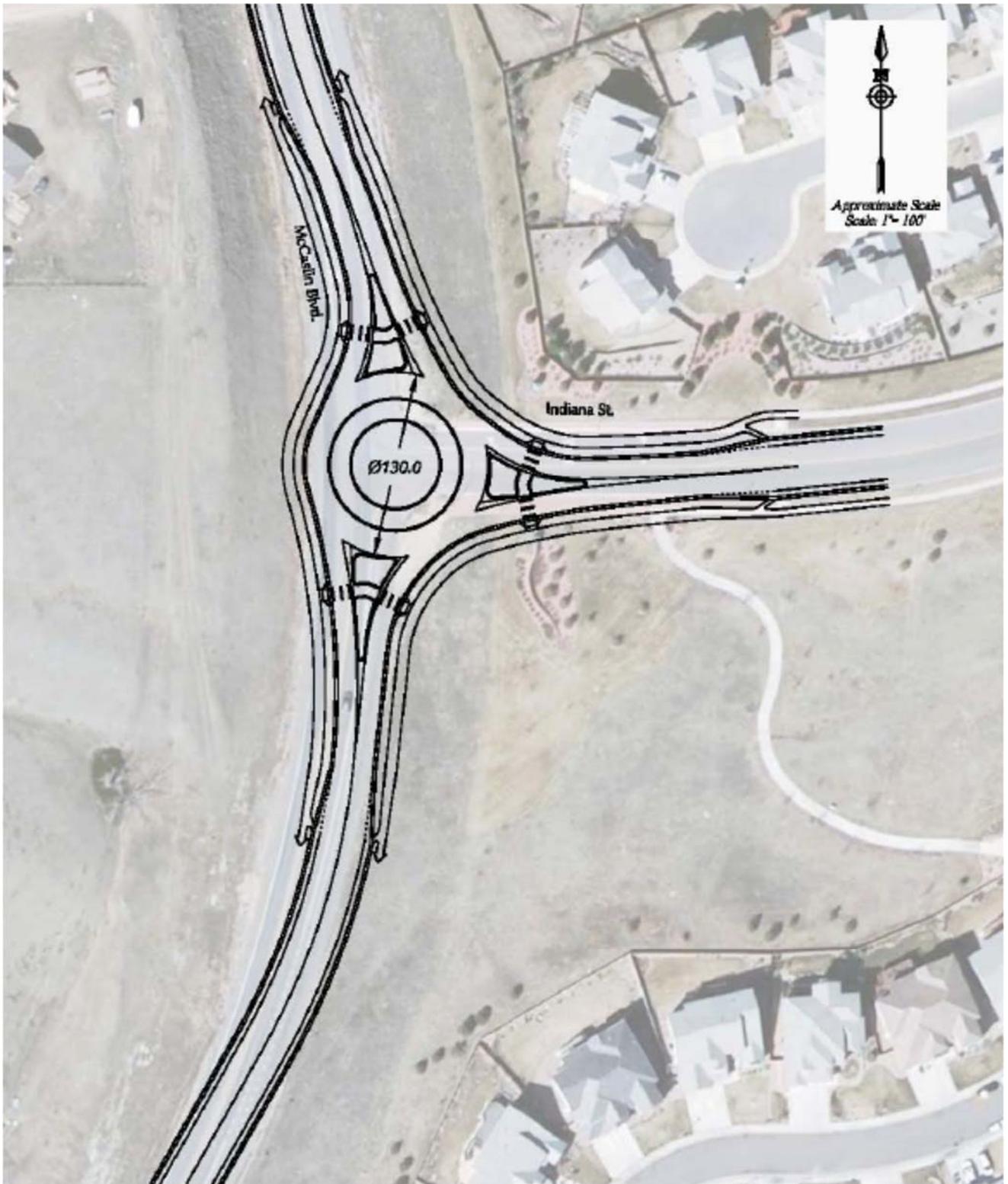


Figure 4
Conceptual Roundabout

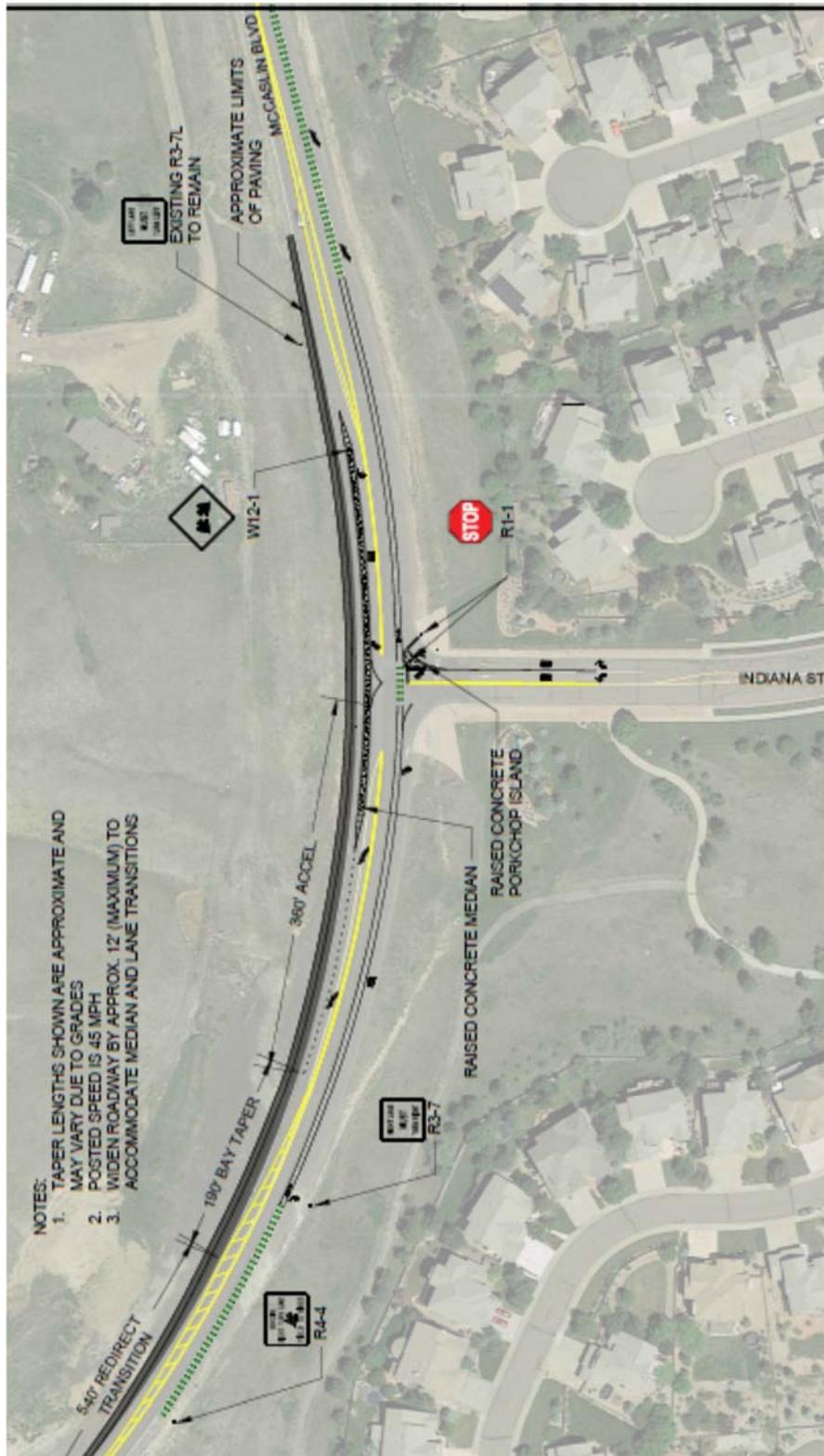


Figure 5
Left-Turn Acceleration Lane

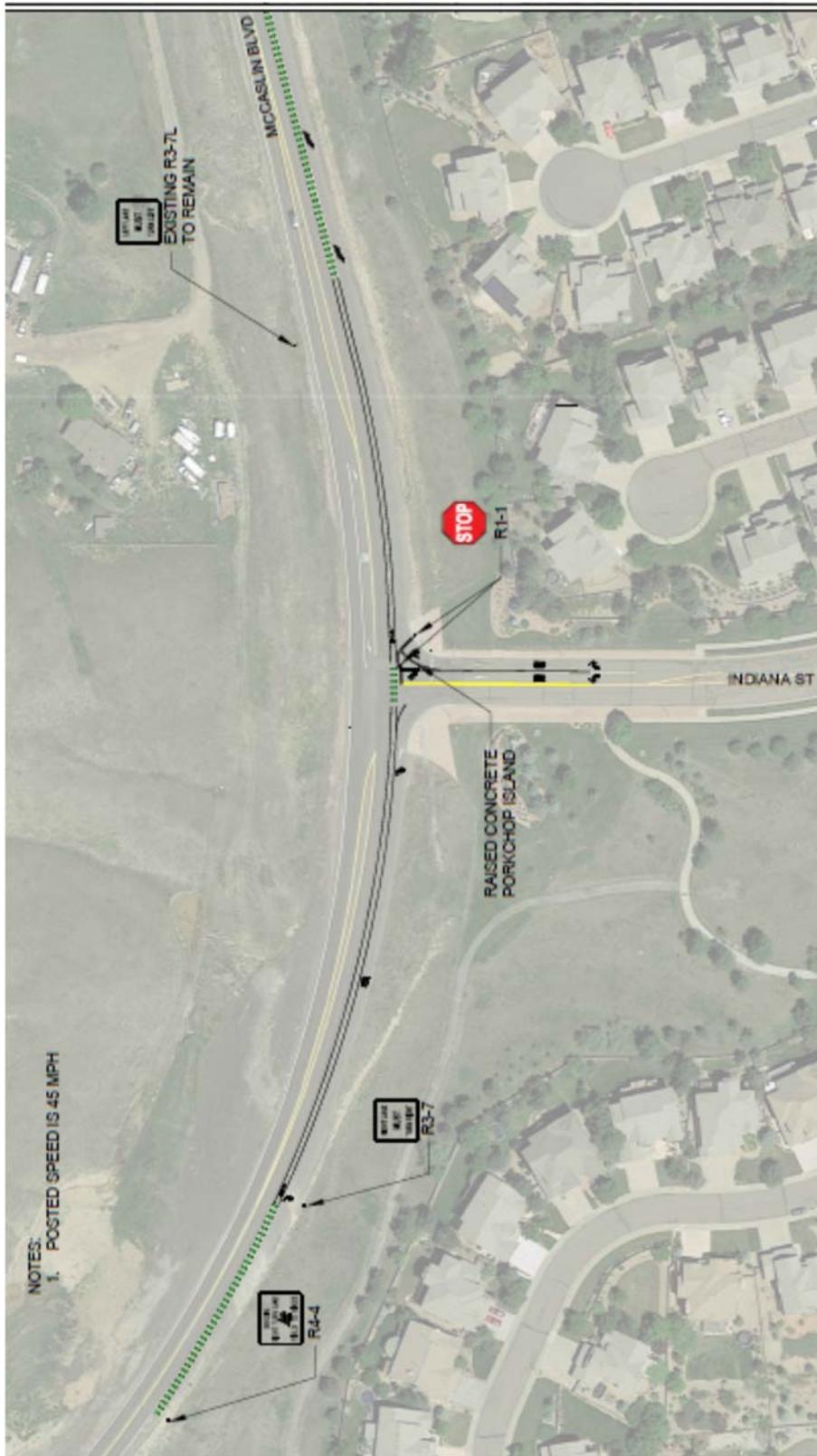


Figure 6
Short-Term Striping Changes