City of Ketchum
Transportation Projects Update

04/11/2022

1. Main Street Signal Timing – Short Term Improvements
2. Main Street Corridor – Long Term Concepts
3. Main Street Corridor – Mid Term Concept
4. Warm Springs Road Corridor - Short Term Concepts
5. Warm Springs Road Corridor - Long Term Concepts

Main Street Analysis Goals

- Improve vehicle progression along the corridor
- Improve pedestrian and bike facilities and crossings
- Enhance streetscape and pedestrian realm

Planning for Achieving the Goals

- Short term – By the Fourth of July
  - Coordinate signal timing for improved motorized vehicle flow
- Long Term – beyond 2025
  - Explore lane reconfiguration options along Main Street that:
    - Maintain motorized vehicle flow at low speed on Main Street
    - Avoid diverting traffic to adjacent local streets
  - Improve pedestrian and bike facilities and crossings
- Mid term – 2023 to 2025
  - Improve intersections with upcoming ITD project

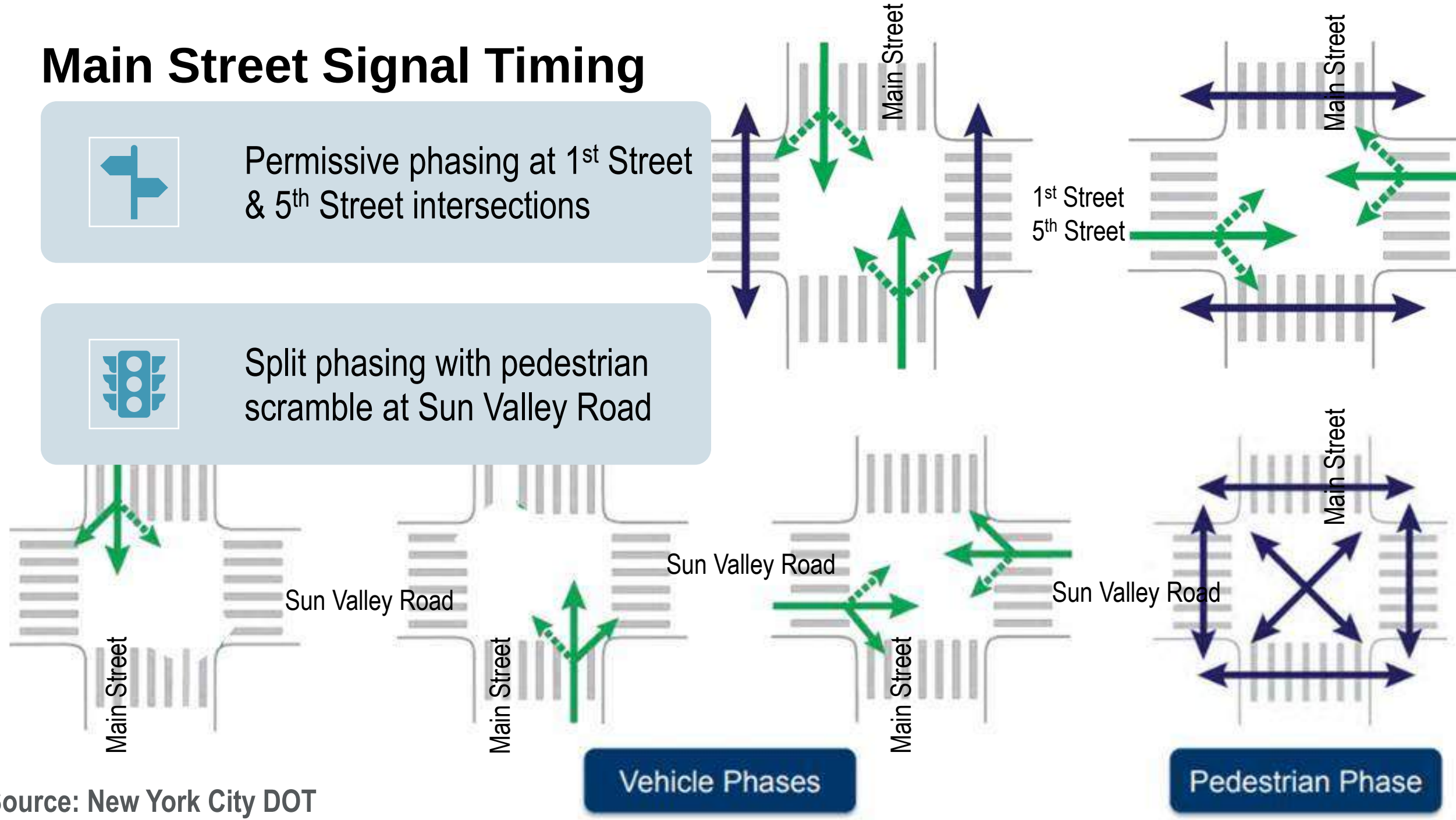
1

Main Street Corridor Short Term Improvements

Main Street Signal Timing

Permissive phasing at 1st Street & 5th Street intersections

Split phasing with pedestrian scramble at Sun Valley Road

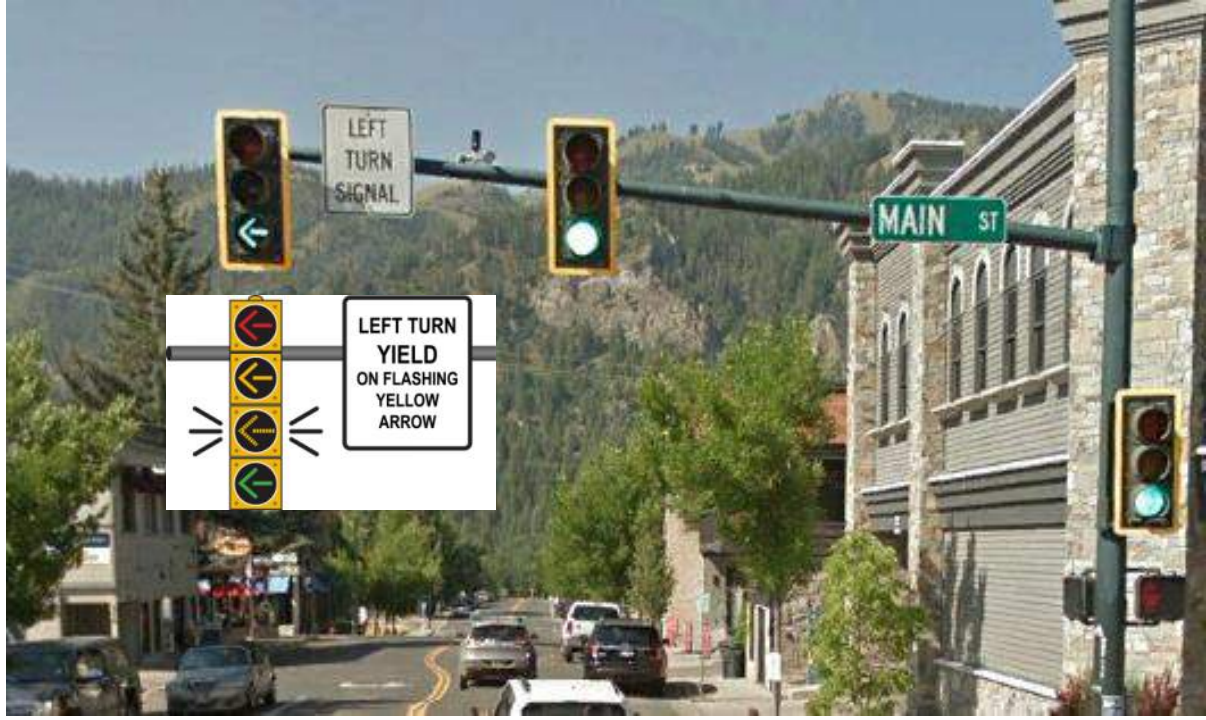


Source: New York City DOT

Main Street Signal Timing

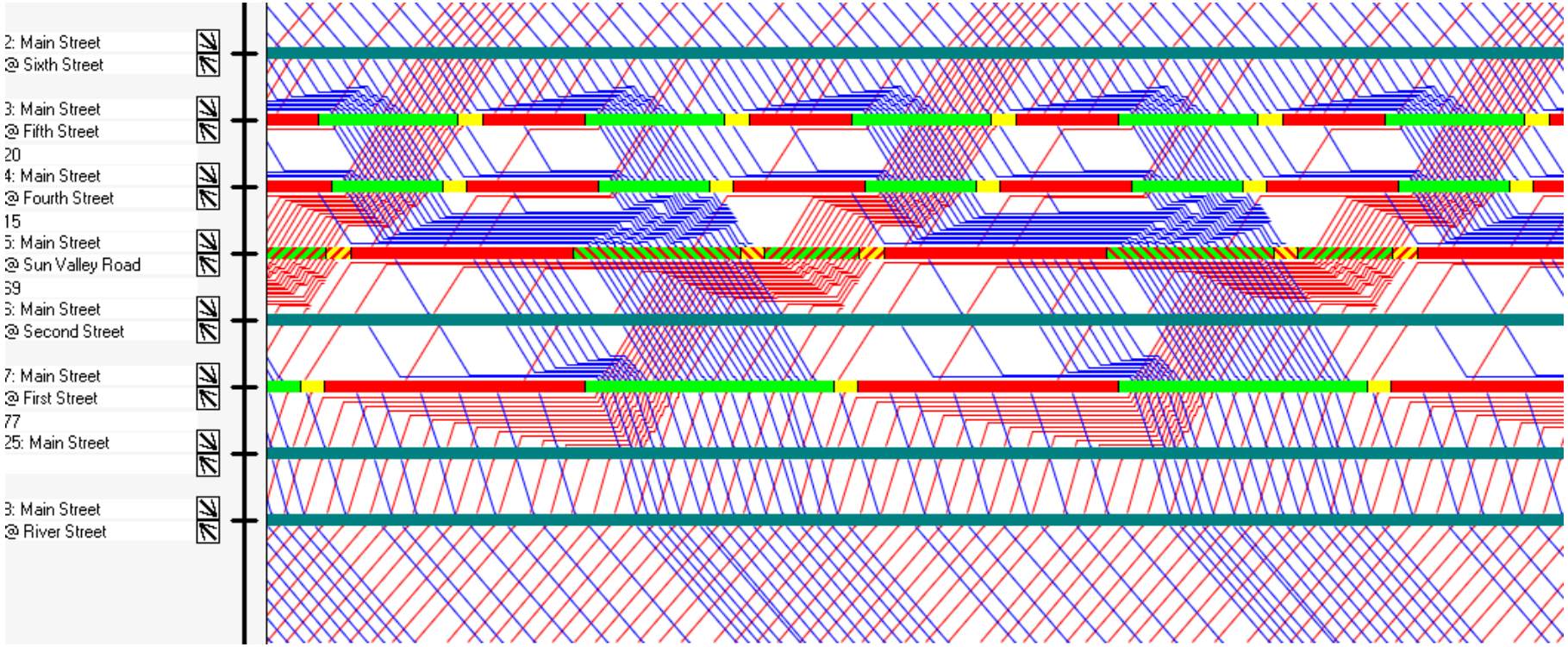
Existing Inefficiencies

- Pedestrian scramble has good intentions but complicates corridor operations and adds delay to both pedestrians and vehicles
- Providing flashing yellow arrows for left turns at Sun Valley Road to be more efficient and could reduce delay
- Southbound merge prior to 1st Street causes congestion



Main Street Signal Timing

- Developed two signal timing plans
  - Proposed: Keeps existing phasing, specifically the pedestrian scramble at Sun Valley Road intersection
  - Alternative: Removes pedestrian scramble



Main Street Signal Timing

- Coordinated with ITD in January 2022, adjusted timing plans
  - Shared observed inefficiencies and opportunities for improvement
  - Kept cycle lengths to 130 seconds or less
  - Provided two cycles of the 4th Street HAWK for each Sun Valley Road cycle

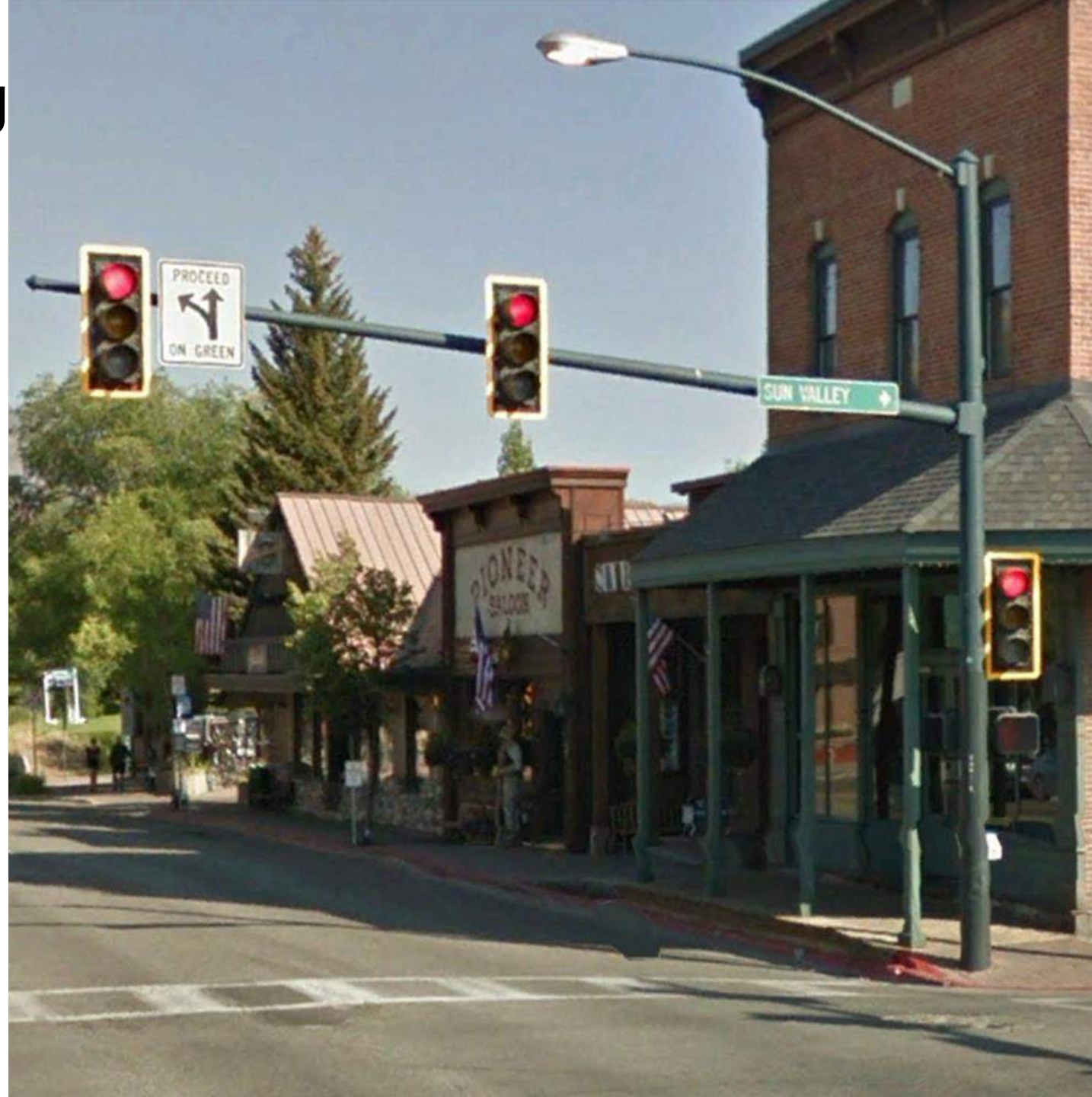
Table 1. Comparison of Signal Timing Plans

Measure of Effectiveness	Proposed AM	Proposed PM	Alternative AM	Alternative PM
Delay Per Veh (secs/veh)	23	35	10	14
Stops Per Veh	0.29	0.30	0.31	0.34
Total Delay (hr)	49	93	22	37
Average Speed (mph)	8	6	13	11
Unserved Vehicles (#)	138	296	0	0

Main Street Signal Timing

Next Steps

- ITD will implement the timing plans once radios are installed to synchronize signal control
  - Determine if pedestrian scramble can be removed and leading pedestrian phase be implemented
- Goal to have the timing plans operation by the 4th of July
- ITD and the City should observe traffic patterns during implementation and make needed adjustments the timing plans

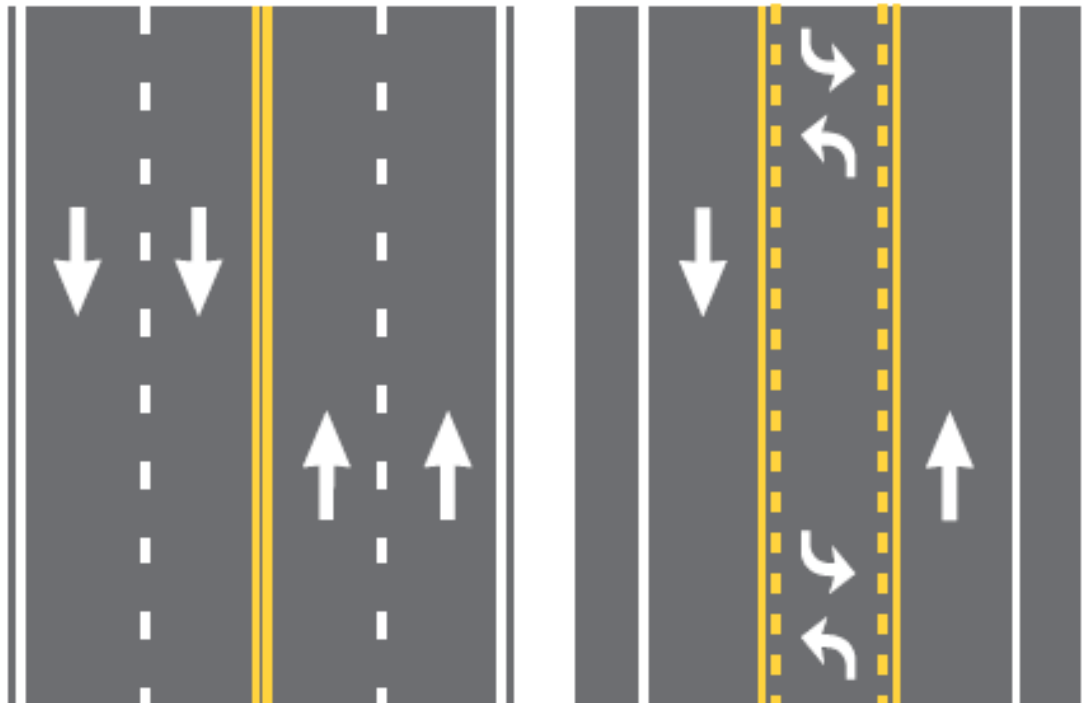


2 Main Street Corridor Long Term Concepts

Main Street Corridor – Long Term

Initial Alternatives

- Investigated future 2042 average and summer conditions
- No-Build Scenario
- Build Scenario - Lane Reconfiguration
  - One lane in each direction, dedicated left turn lane at each intersection on Main Street



Source: Road Diet Informational Guide

Main Street Corridor

Build Scenario Results

- Level of service (LOS) improved at Sun Valley Road with left turn lanes
- Reduced Main Street width allowing parking and streetscape enhancements
- Congestion/gridlock and travel time is estimated to increase significantly due high volumes and less storage capacity on Main Street
- Traffic could shift to local streets with congestion on Main Street

2042 No-Build Summer PM Peak Hour

Main Street Intersection	Overall Intersection		Main Street				Cross Street			
	LOS	Average Delay (s)	Movement	Average Delay (s)	LOS	95th Percentile Queue Length (feet)	Movement	Average Delay (s)	LOS	95th Percentile Queue Length (feet)
River Street	F		NBL	13	B		WBL	108.8	F	110
1st Street	B	14.8	SBT/R	15.7	B	228	WB	18.7	B	267+
			NBT/R	11.8	B	131	EB	13.6	B	83
2nd Street	C		SBL	22.1	C		EBL	21.6	C	25
Sun Valley Road	F	121.4	SBT/R	108	F	520+	WBL	69	E	338+
			NBT/R	213.1	F	435+	EBL	55.6	E	86
4th Street	A									
5th Street	A	9.6	SBT/R	8.1	A	205	WB	19.4	B	95
			NBT/R	5.5	A	91	EB	19.3	B	117
6th Street	B		NBL	11	B	45	EBL	12.4	B	25
Total Delay (hours)	93	26 s/veh								
Total Stops	5,059									
Stops per vehicle	0.39									
Average speed (mph)	7									
Travel time (hours)	132									
Unserved Vehicles	200									

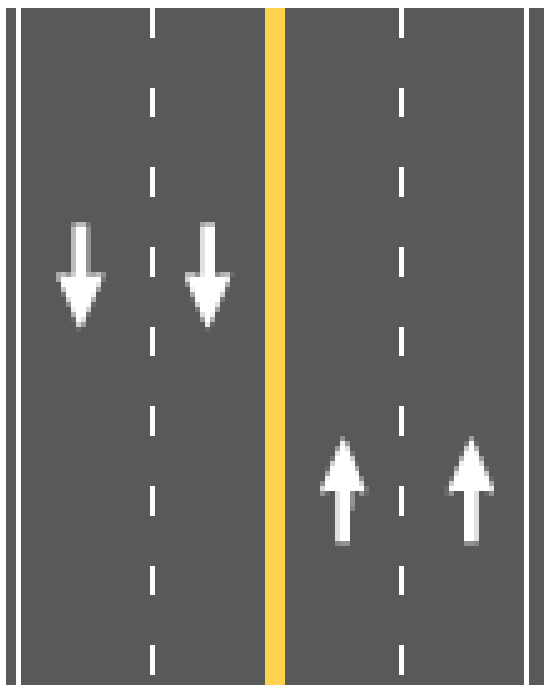
2042 Build Summer PM Peak Hour

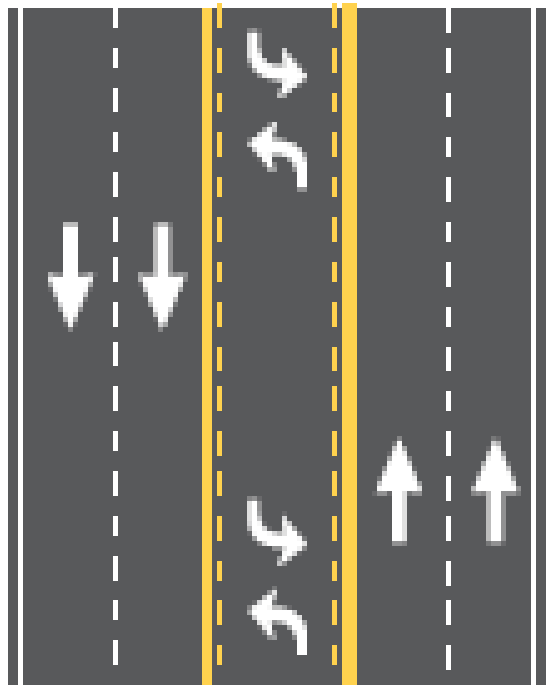
Main Street Intersection	Overall Intersection		Main Street				Cross Street			
	LOS	Average Delay (s)	Movement	Average Delay (s)	LOS	95th Percentile Queue Length (feet)	Movement	Average Delay (s)	LOS	95th Percentile Queue Length (feet)
River Street	F		NBL	13	B		WBL	100.7	F	110
1st Street	E	75.8	SBT/R	116.7	F	838+	WB	84.9	F	511+
			NBT/R	27.1	C	583	EB	28.2	C	136
2nd Street	D		SBL	29.5	D		EBL	30.8	D	27.5
Sun Valley Road	C	30.7	SBT/R	30.9	C	869+	EBT/R	46.6	D	135
			NBT/R	6.3	A	514+	WBL	66.8	E	217
4th Street	A		SBT/R	6.2	A	136				
5th Street	C	23.7	SBT/R	27.1	C	868+	EB	41.9	D	244+
			NBT/R	8.4	A	157	WB	37.8	D	157
6th Street	B		NBL	11	B	45	EBL	12.4	B	25
Total Delay (hours)	105	29 s/veh								
Total Stops	4,667									
Stops per vehicle	0.36									
Average speed (mph)	7									
Travel time (hours)	143									
Unserved Vehicles	200									

Main Street Corridor

Additional Alternatives

1. Add left turn lanes on Main Street at Sun Valley Road, removing split phasing & pedestrian scramble
2. Prohibit left turn movements from Main Street except at Sun Valley Road where left turn lanes are added
3. Install a five-lane section along Main Street with left turn lanes at each intersection





Source: Road Diet Informational Guide

Main Street Corridor

Additional Alternatives

- Each of these alternatives provide:
  - Better LOS
  - Less congestion/gridlock
  - Shorter length of waiting vehicles
  - Better progression and travel time for vehicles, same pedestrian crossing opportunities
  - Shorter cycle lengths = shorter wait times for pedestrians to cross at signalized intersections

Main Street & 5th Street

2042 PM Peak Hour Estimated Congestion Lengths

Main Street

Southbound

- No build = 205 feet
- Three lanes on Main = 868 feet
- Add left turn lanes at Sun Valley IS = 130 feet

Northbound

- No build = 91 feet
- Three lanes on Main = 157 feet
- Add left turn lanes at Sun Valley IS = 50 feet

5th Street

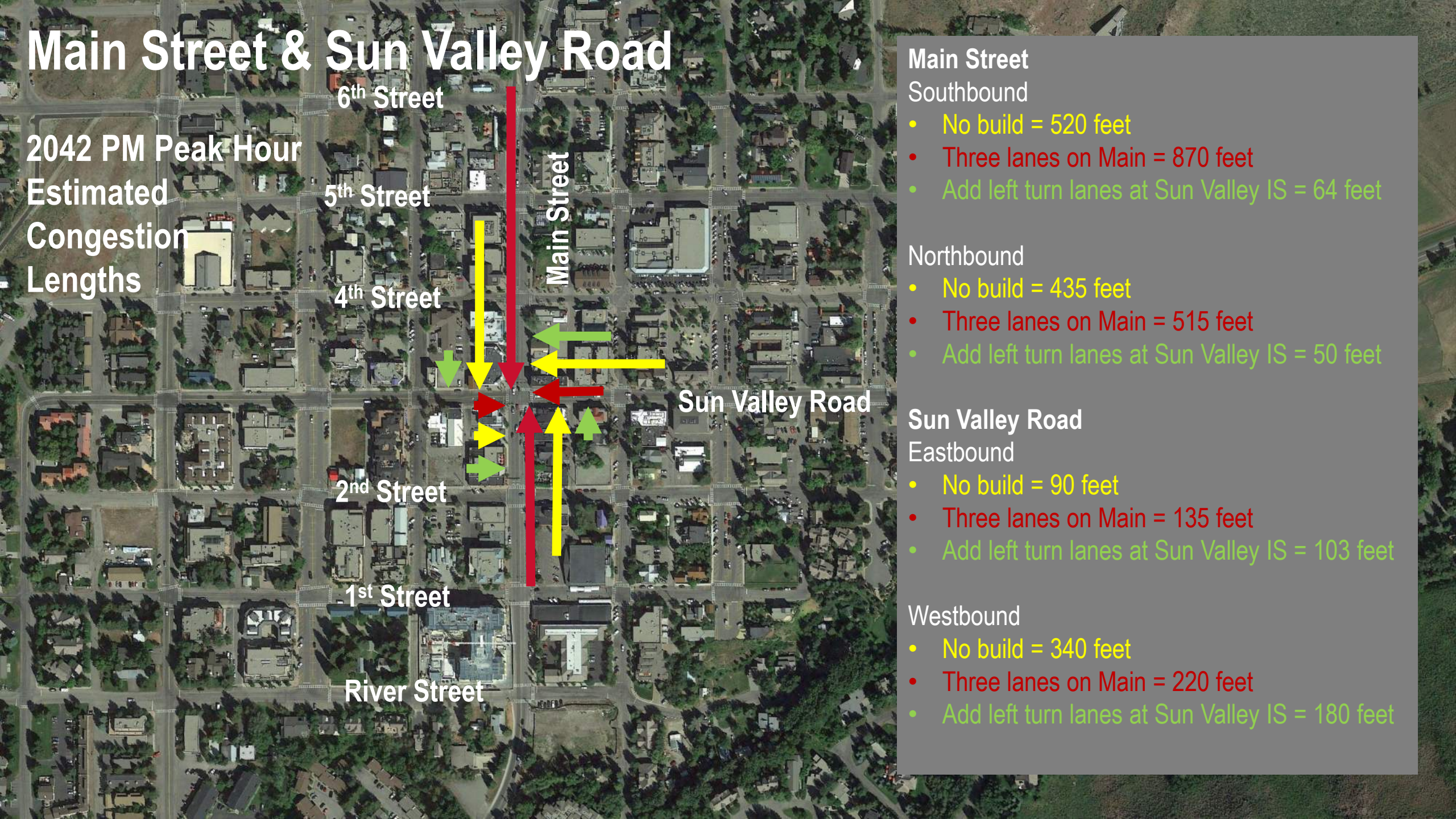
Eastbound

- No build = 95 feet
- Three lanes on Main = 244 feet
- Add left turn lanes at Sun Valley IS = 161 feet

Westbound

- No build = 117 feet
- Three lanes on Main =157 feet
- Add left turn lanes at Sun Valley IS = 162 feet

Main Street & Sun Valley Road



2042 PM Peak Hour Estimated Congestion Lengths

Main Street

Southbound

- No build = 520 feet
- Three lanes on Main = 870 feet
- Add left turn lanes at Sun Valley IS = 64 feet

Northbound

- No build = 435 feet
- Three lanes on Main = 515 feet
- Add left turn lanes at Sun Valley IS = 50 feet

Sun Valley Road

Eastbound

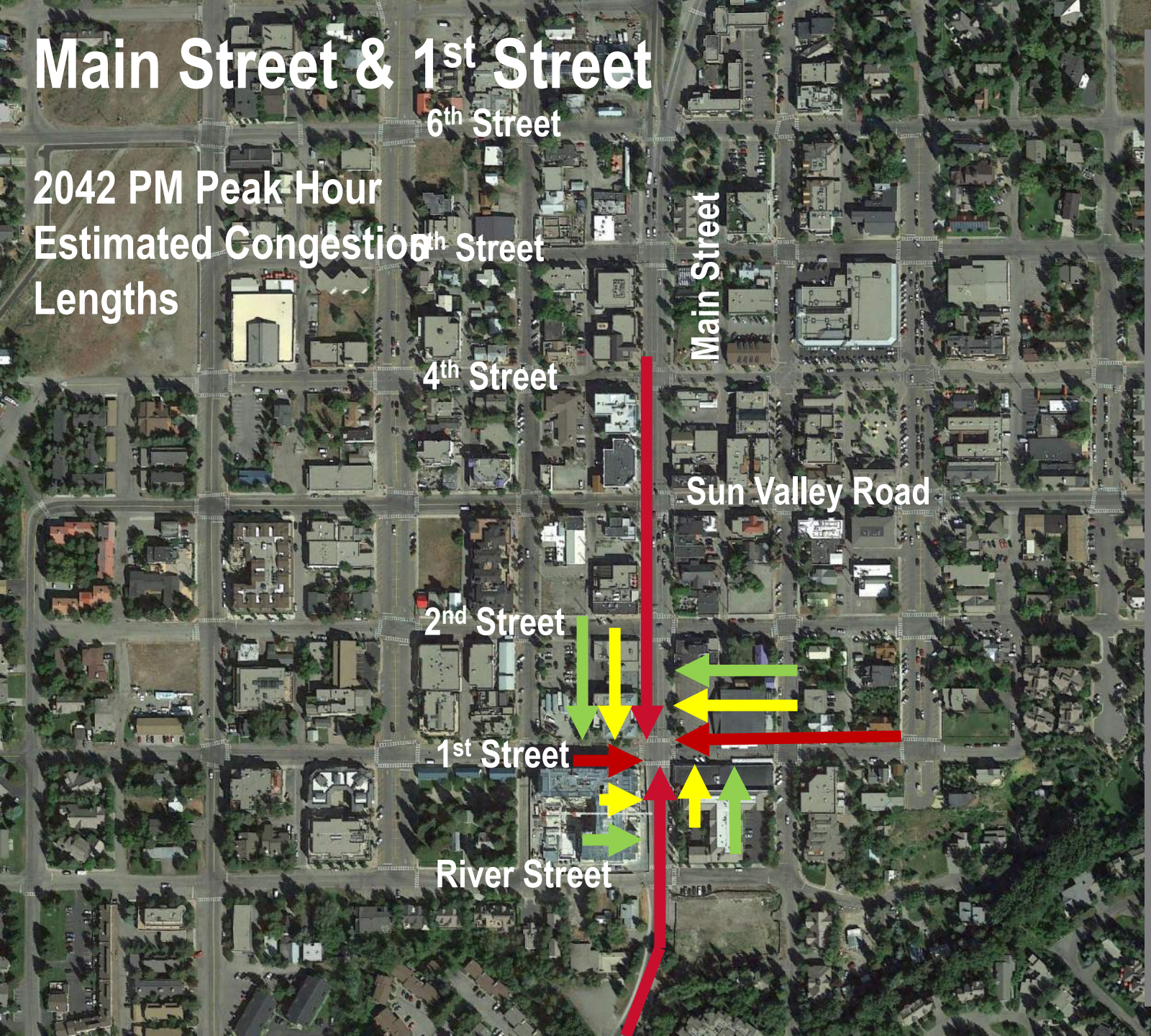
- No build = 90 feet
- Three lanes on Main = 135 feet
- Add left turn lanes at Sun Valley IS = 103 feet

Westbound

- No build = 340 feet
- Three lanes on Main = 220 feet
- Add left turn lanes at Sun Valley IS = 180 feet

Main Street & 1st Street

2042 PM Peak Hour Estimated Congestion Lengths



Main Street

Southbound

- No build = 228 feet
- Three lanes on Main = 838 feet
- Add left turn lanes at Sun Valley IS = 250 feet

Northbound

- No build = 131 feet
- Three lanes on Main = 583 feet
- Add left turn lanes at Sun Valley IS = 154 feet

1st Street

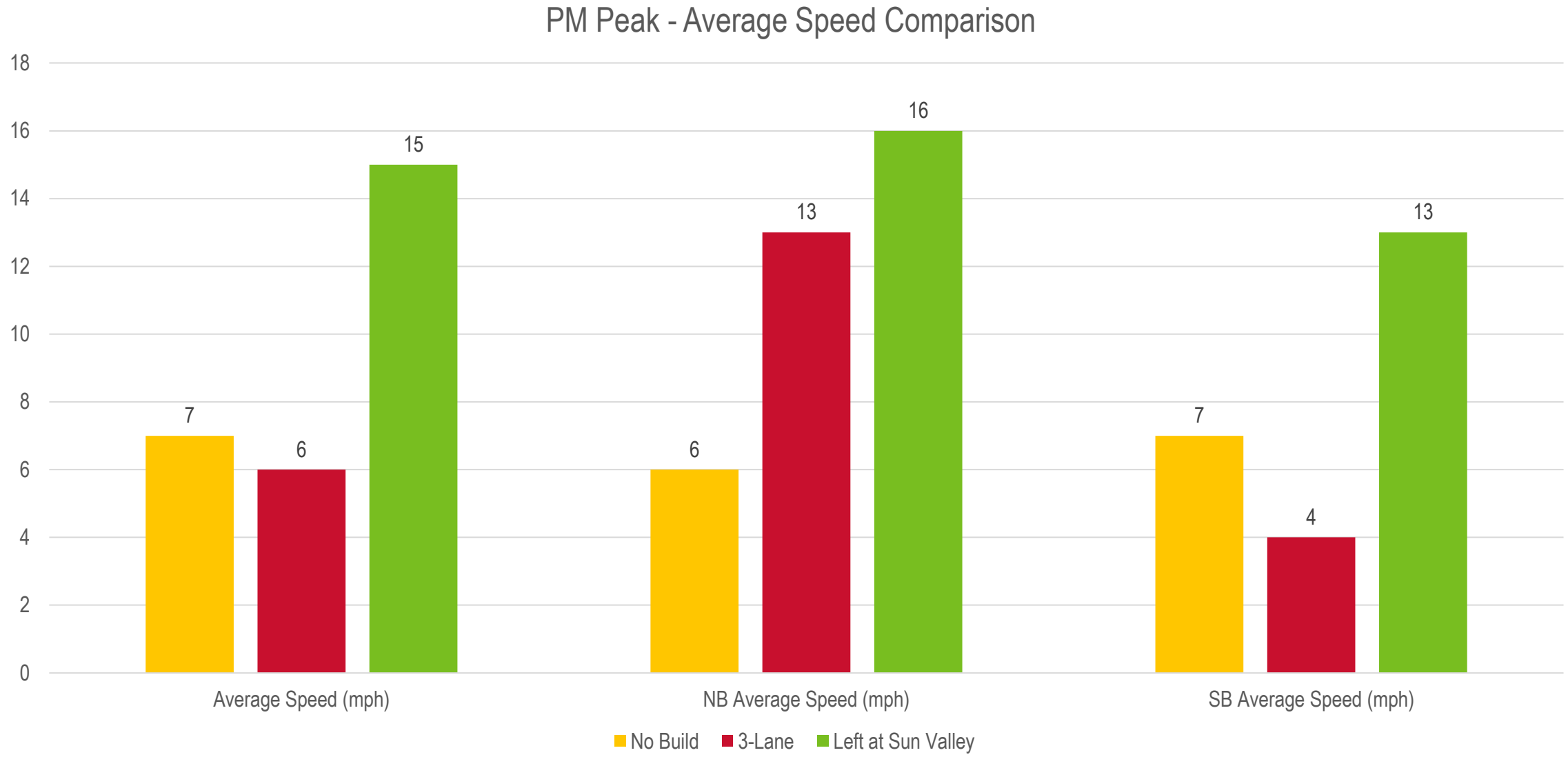
Eastbound

- No build = 83 feet
- Three lanes on Main = 136 feet
- Add left turn lanes at Sun Valley IS = 117 feet

Westbound

- No build = 267 feet
- Three lanes on Main = 511 feet
- Add left turn lanes at Sun Valley IS = 262 feet

Main Street Corridor Additional Alternatives



Main Street Corridor

Long Term Recommendations

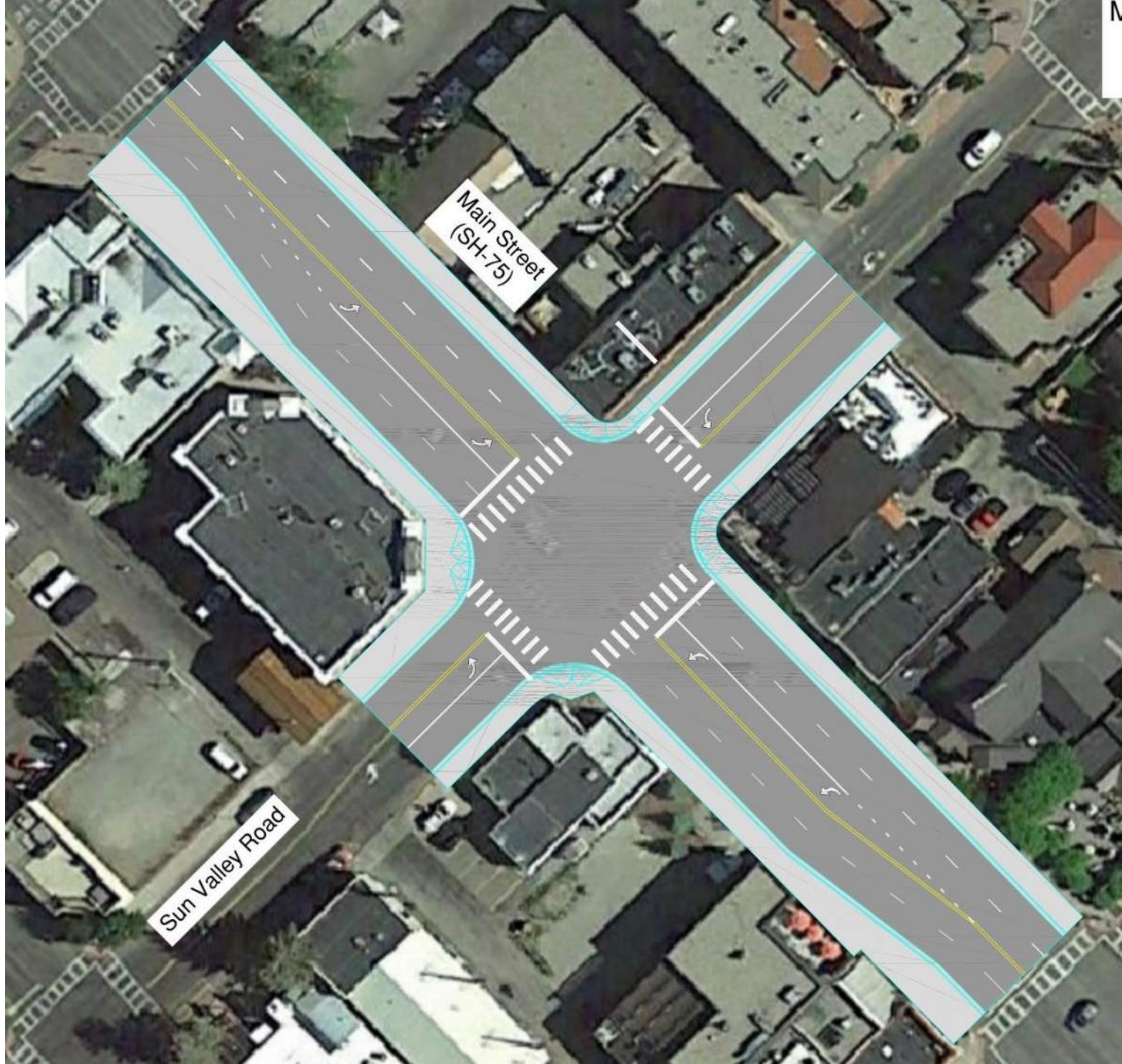
- Do not pursue three lane section
  - Significant impacts to motorized vehicle flow & travel time
  - Congestion on Main Street could cause traffic to use adjacent streets to get through town, increasing volumes, congestion, and conflicts on local streets
- Investigate other alternatives for mid- and long-term concepts

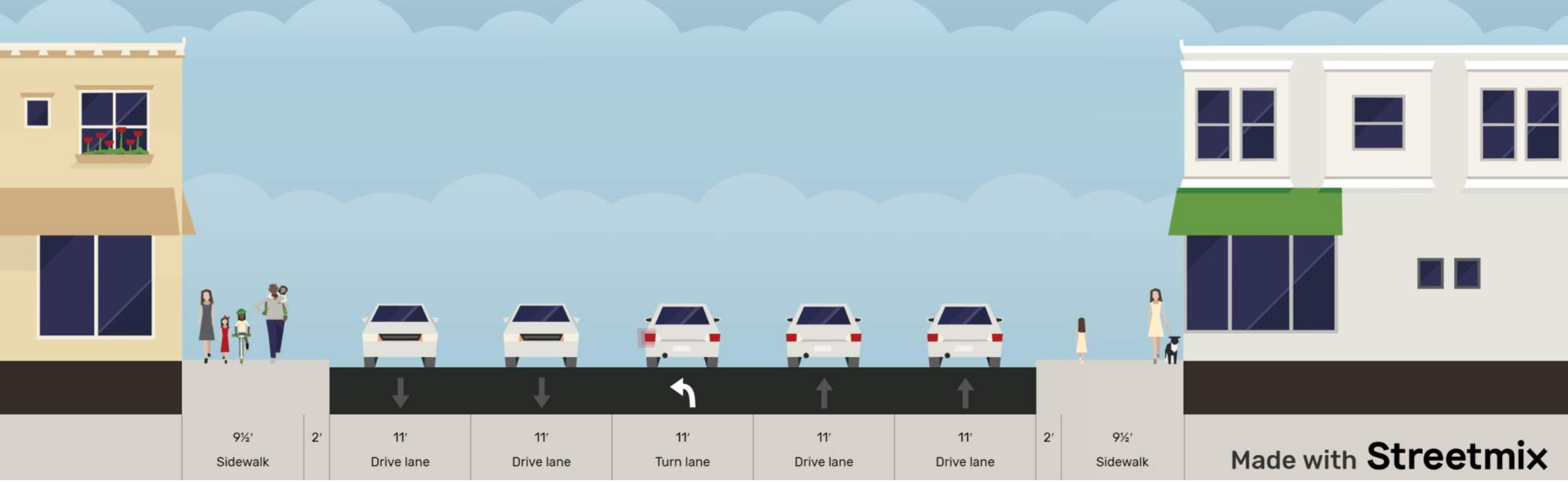
3 Main Street Corridor Mid Term Concept

Main Street / Sun Valley Road

Concept Layout

- Replace pedestrian scramble with leading pedestrian phase
- Investigate adding left turn lanes on Main Street
  - Curb, gutter, and sidewalk replacement
    - Balance sidewalks on each side
    - 11’ lanes, 9.5’ wide sidewalks
  - Remove parking
  - Could be implemented with ITD’s upcoming project





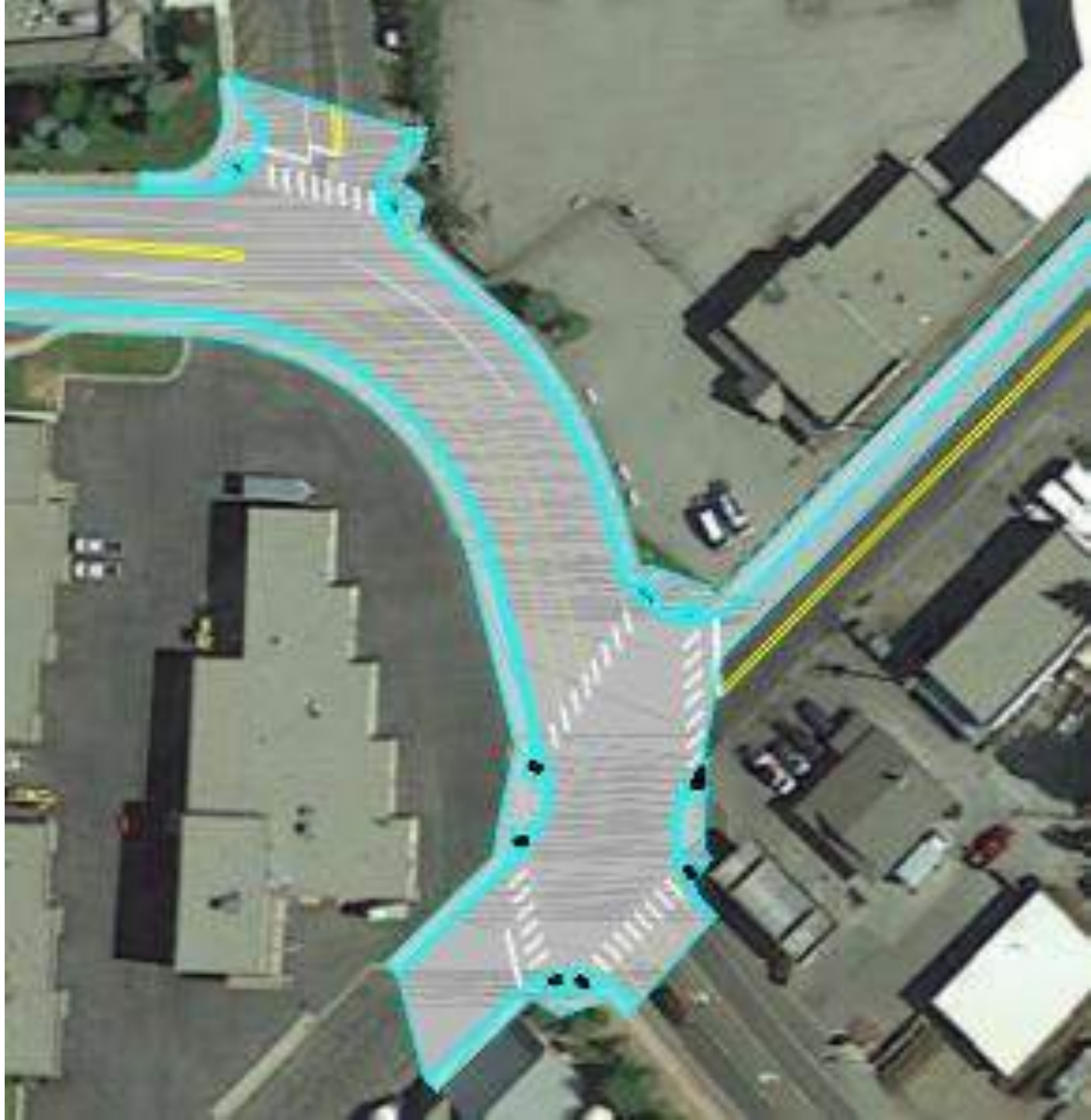
Main Street Corridor – Next Steps

- Continue to refine Sun Valley Road concept
- Review other intersections
  - Potential for similar improvements
  - Close left turns from Main Street at 1st & 5th Streets during peaks
  - Identify pedestrian improvements

Warm Springs Road

Warm Springs Road Analysis Goals

- Enhance pedestrian and bicycle comfort
- Improve pedestrian and bicycle connectivity with new sidewalk and new crossings
- Calm vehicular traffic
- Maintain appropriate LOS for vehicles to move through corridor



Planning for Achieving the Goals

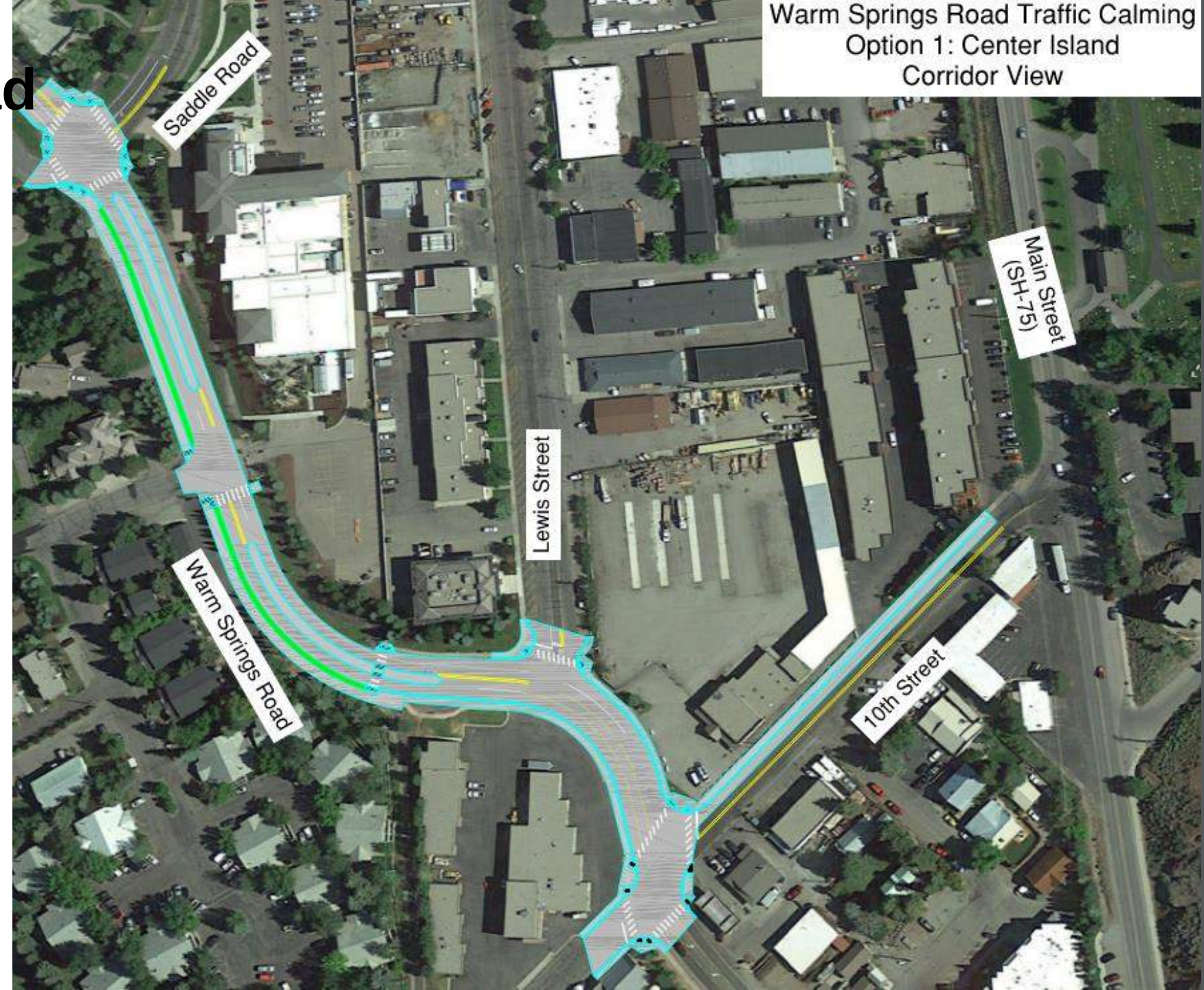
- Short term – this summer
  - Traffic calming and enhanced pedestrian/bike environment from 10th Street to Saddle Road
  - Evaluate traffic calming options from Main Street to 10th Street
- Long Term – beyond 2025
  - Explore intersection and roadway realignment alternatives
  - Enhance infrastructure to serve land use and create a “place making” opportunity
  - Improve pedestrian and bike facilities and crossings

4 Warm Springs Road Corridor Short Term Concepts

Warm Springs Road – 10th to Saddle

Traffic Calming Option 1

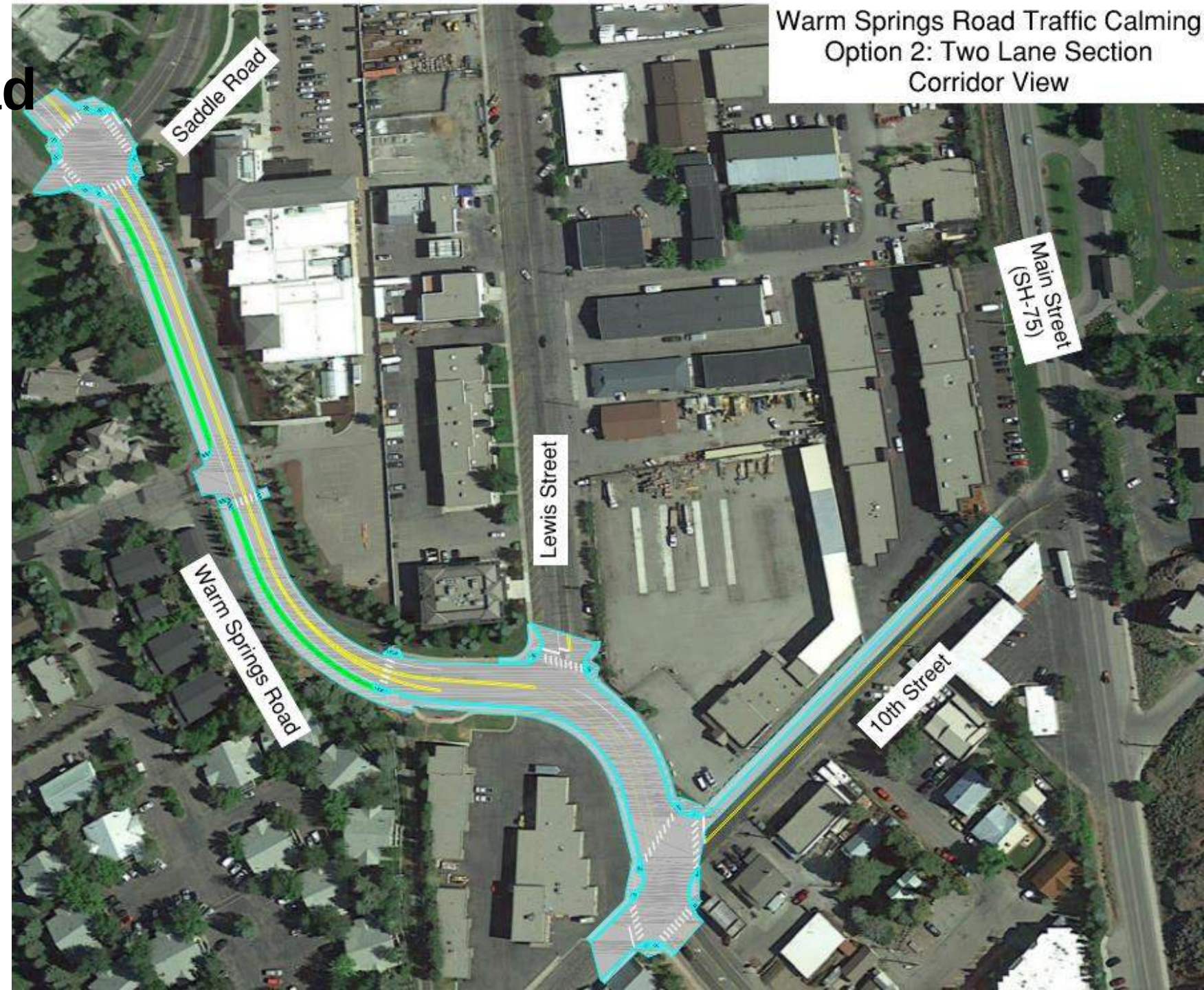
- Add median island on Warm Springs from Saddle to Lewis, parallel path on the west side
- Improve trail crossing
- Add sidewalk connectivity through Lewis and 10th Street, up 10th Street north side to SH-75



Warm Springs Road – 10th to Saddle

Traffic Calming Option 2

- Remove center turn lane on Warm Springs from Saddle to Lewis, parallel path on the west side
- Improve & shorten trail crossing
- Add sidewalk connectivity through Lewis and 10th Street, up 10th Street north side to SH-75



Warm Springs Road – 10th to Saddle

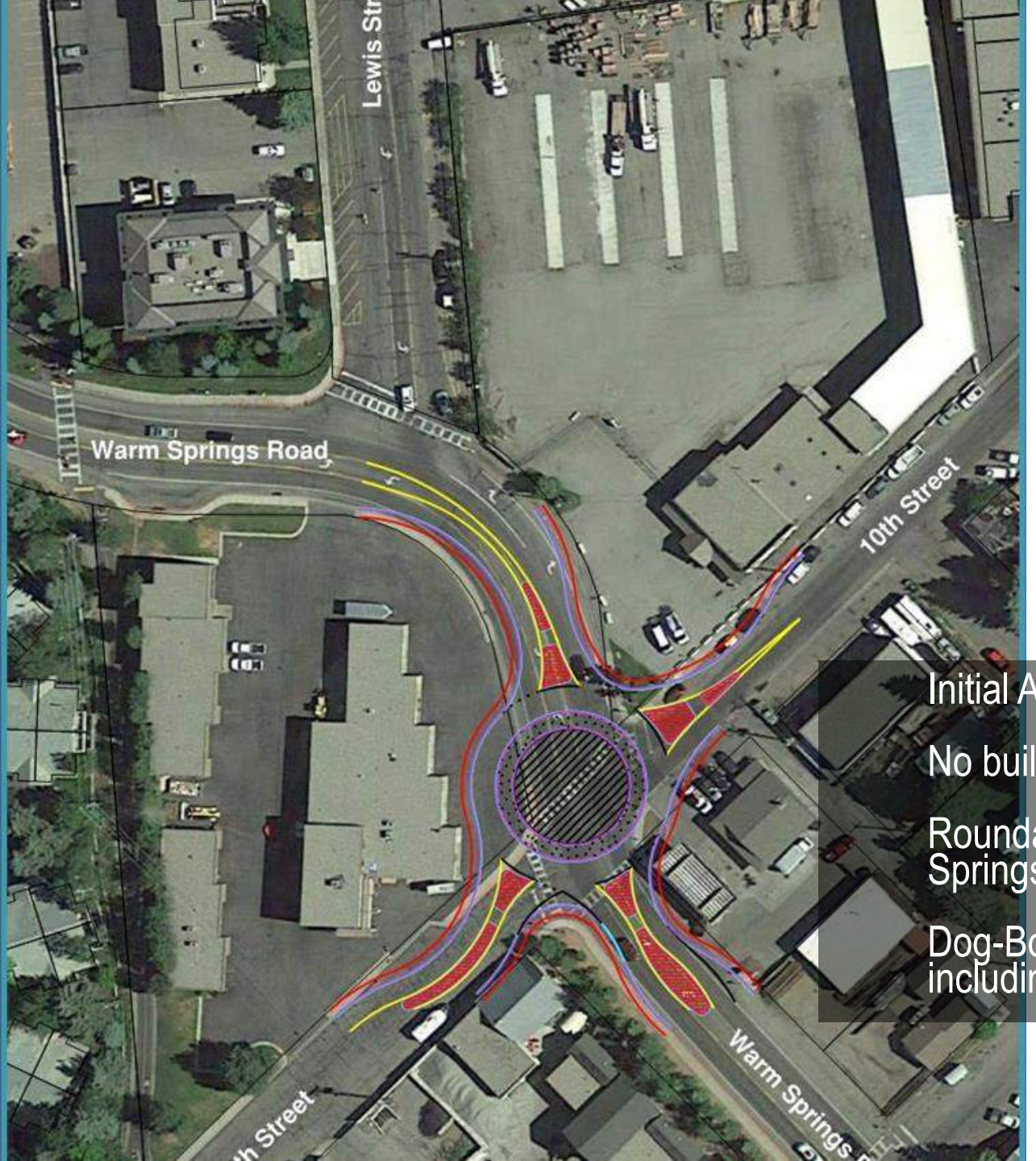
Traffic Calming Option 2

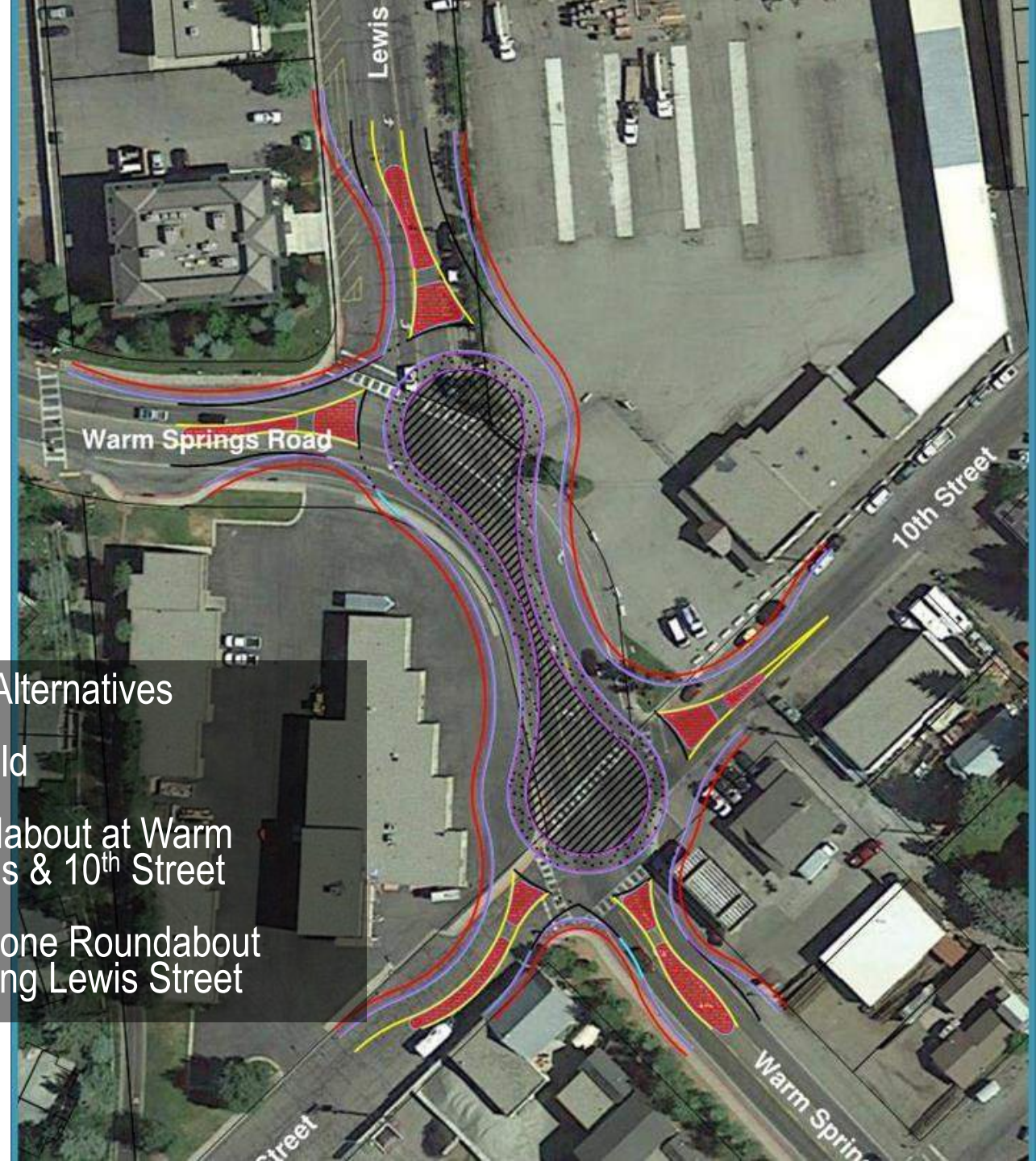
- Could be a pilot project this summer to evaluate permanent improvements
- Pavement markings and channelization devices

Warm Springs Road – Main to 10th

- Right-of-way is tight
- Adjacent businesses use center turn lane
- Curb, gutter, and sidewalk can provide traffic calming benefits
- Look forward to options for this segment

5 Warm Springs Road Corridor Long Term Concepts





Initial Alternatives

No build

Roundabout at Warm Springs & 10th Street

Dog-Bone Roundabout including Lewis Street

Pros

- All operate well under 2042 summer conditions
- Roundabouts offer safety and traffic calming benefits
- Will work with traffic calming options

Cons

- Large ROW and parking impacts
- Pedestrian and bike challenges
- May not fit developing context of the area

Realignment Alternatives

Realign 10th Street to Lewis & Warm Springs, new intersection

Straighten Warm Springs & realign Lewis to 10th Street

Pros

- Allow new pedestrian and bike connections
- Open up new development and place making opportunities
- Will work with traffic calming options

Cons

- Large ROW and parking impacts
- Split existing property, may change access

Warm Springs Road Corridor

Next Steps

- Review City Council feedback
- Share alternatives with the community and gather feedback
- Identify two alternatives, along with no build, for more in-depth analysis
- Compare alternatives to share with City Council and community