



City of Ketchum

October 3, 2022

Mayor Bradshaw and City Councilors
City of Ketchum
Ketchum, Idaho

Mayor Bradshaw and City Councilors:

Receive Briefing & Provide Direction on Warm Springs Road and Main Street Transportation Improvement Opportunities

Recommendation and Summary

The city retained HDR Engineering to complete a technical analysis of future transportation enhancements on Main Street and Warm Springs Road. During the April 11th Council meeting, HDR and staff presented the following recommendations for Main Street:

- Request ITD to discontinue the scramble crosswalk while implementing the new signal timing plan for all four intersections. Revert to traditional crosswalk but with new feature of a pedestrian queue – **Council approved/project complete**
- Advance concept design of new Sun Valley Road intersection to understand pros/cons – **COUNCIL CONCURED**
- Not proceed with further analysis related to lane reconfiguration – **COUNCIL DID NOT APPROVE**

The Council later approved a task order to complete the detailed computer modeling to understand impact to travel time in the corridor. HDR has completed that task and will review the results with the Council to receive feedback. Attached is the staff presentation, however due to file size, you will need to go to www.projectketchum.org to view the three micro simulation videos.

During the July 18th Council meeting, HDR presented five potential future Warm Springs intersection configurations. Council was requested to select two options to move forward for deeper technical review. The Council endorsed alternate #2 (roundabout at Lewis Street) and alternate #4 (realign 10th Street with Lewis Street via one roundabout). HDR has completed the remaining technical review (attached) between the two options for Council feedback.

Three public engagement sessions are scheduled on Tuesday, October 4th at City Hall to review this information and seek feedback.

Sustainability Impact

No direct impact. The project seeks to improve pedestrian and bicycle facilities along the corridor which should increase alternative mobility choices.

Financial Impact

None at this time.

Attachments

PowerPoint Presentation
Warm Springs Road new intersection pro/cons comparison

City of Ketchum Transportation Projects Update

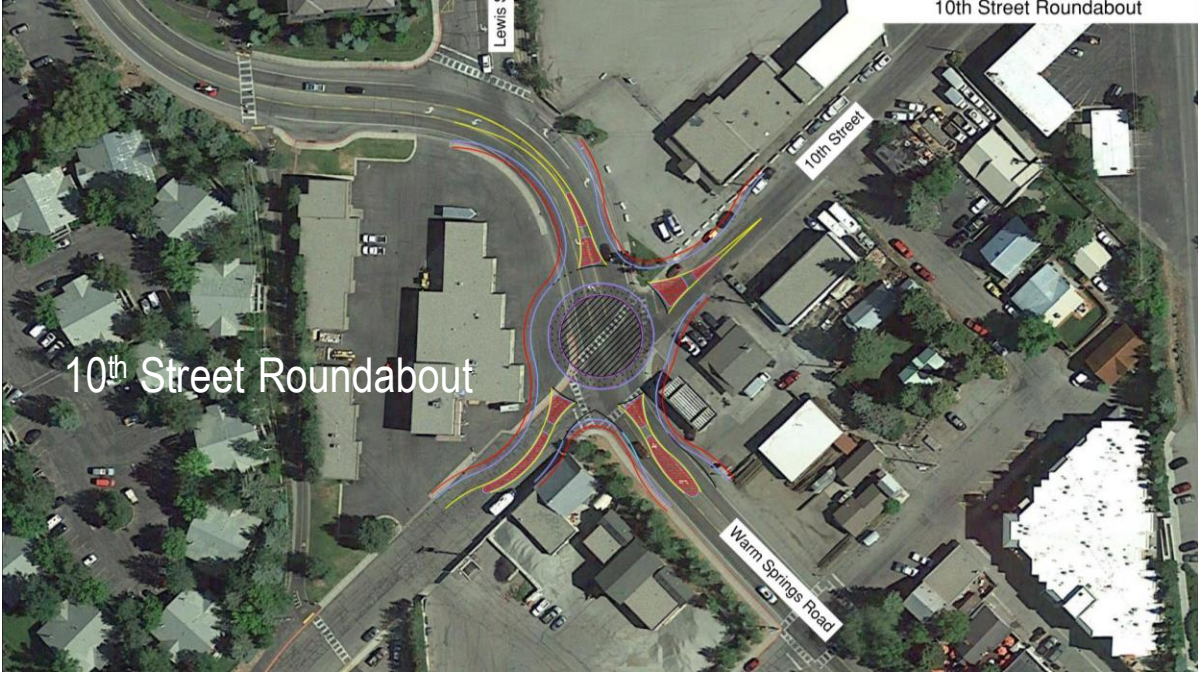


Warm Springs Road Alternatives Analysis

Project Background

Warm Springs Road

- Two Intersections with Warm Springs
 - Lewis Street
 - 10th Street
- Project Goals
 - Address traffic calming needs and slow vehicle speeds
 - Improve access for all modes of travel – walking, biking and transit
 - Enhance public realm to serve as a gateway or transition zone
 - Provide an intersection that will serve traffic adequately in the future



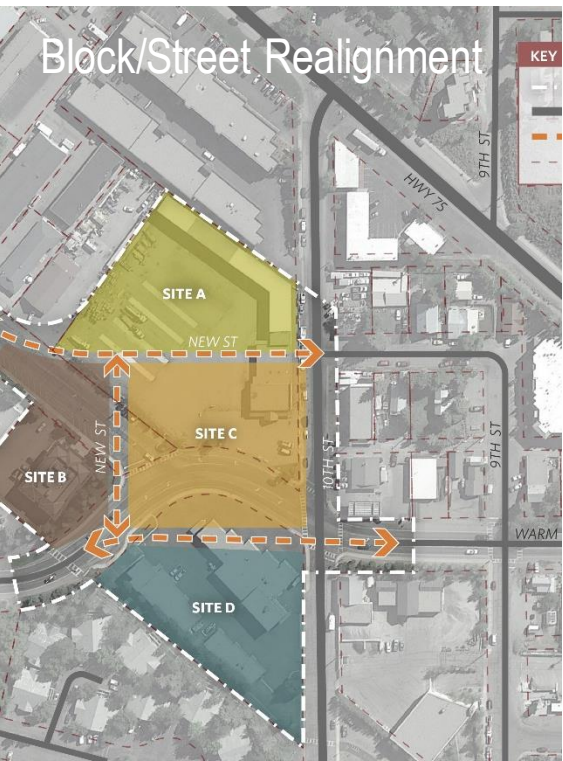
10th Street Roundabout

10th Street Roundabout



10th Street & Lewis Street Realignment & Roundabout

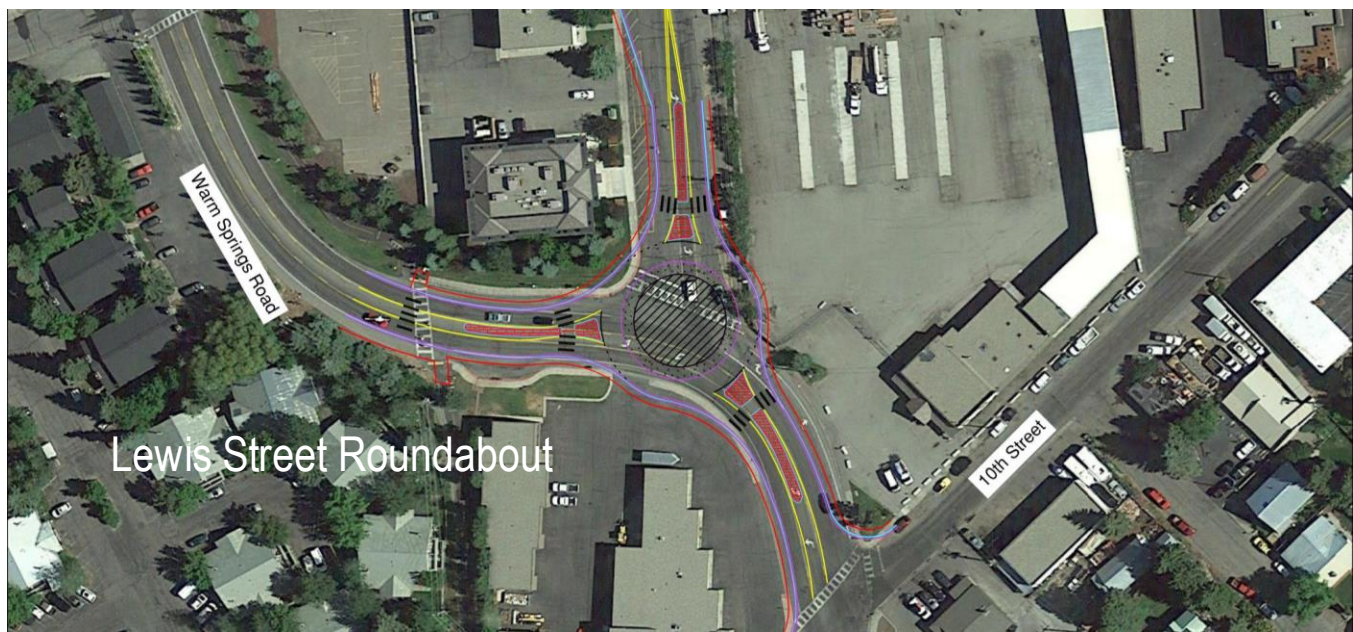
10th Street Realignment Concept Option 1B - Roundabout



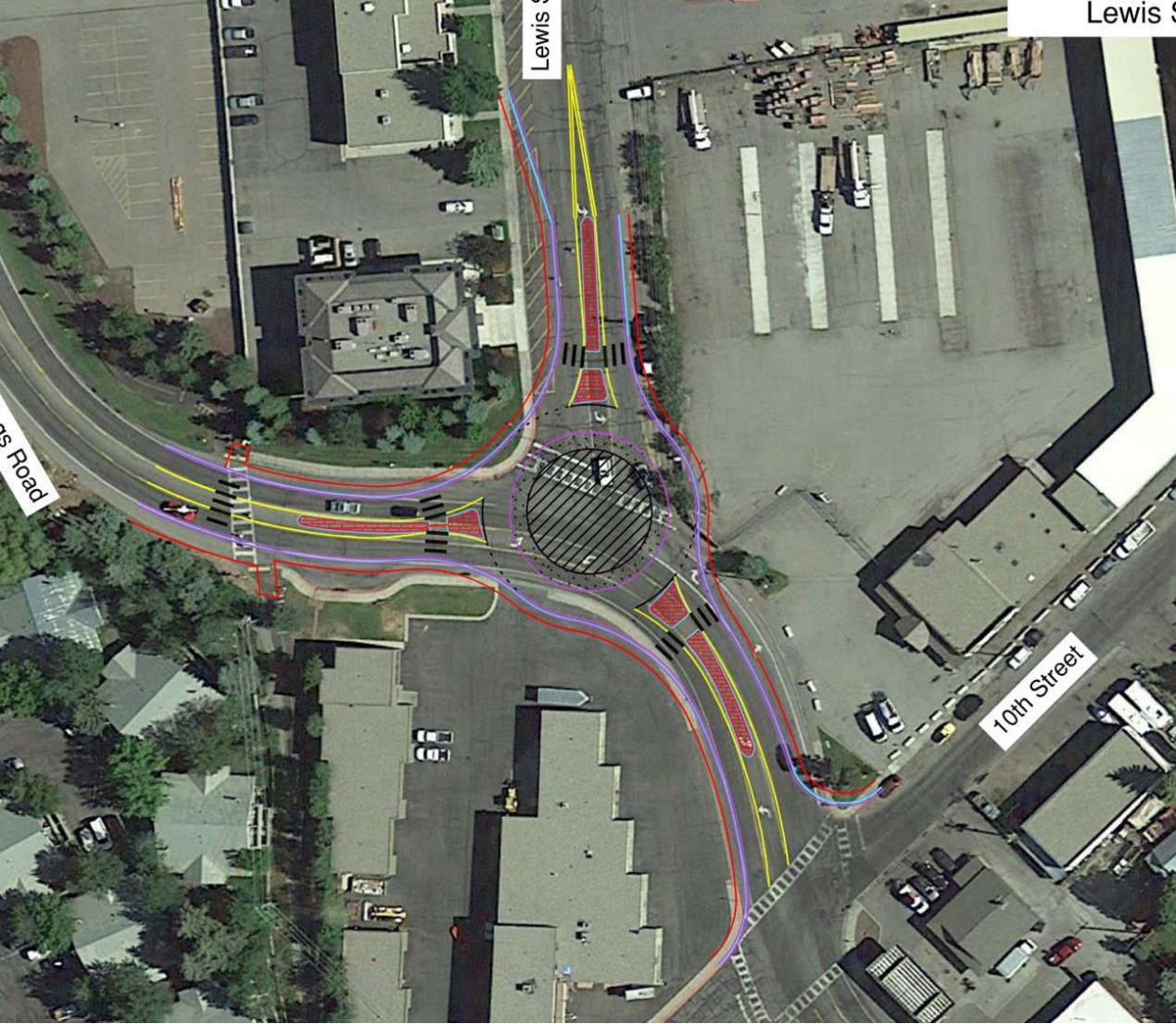
Block/Street Realignment



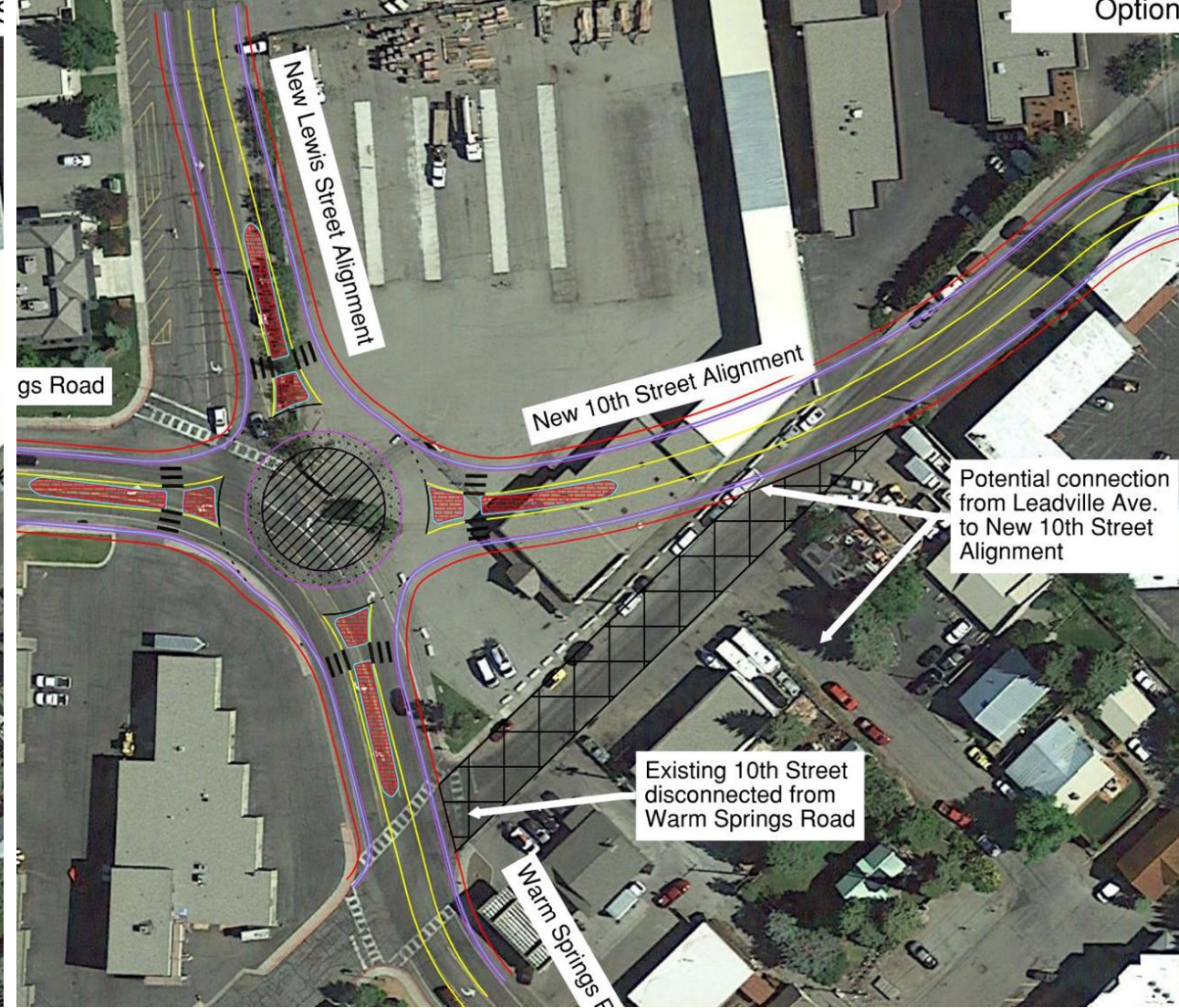
10th Street & Lewis Street Dogbone Roundabout



Lewis Street Roundabout



**Refined Concept Alternative 2 –
Lewis Street Roundabout**



**Refined Concept Alternative 4 – 10th Street
& Lewis Street Realignment & Roundabout**

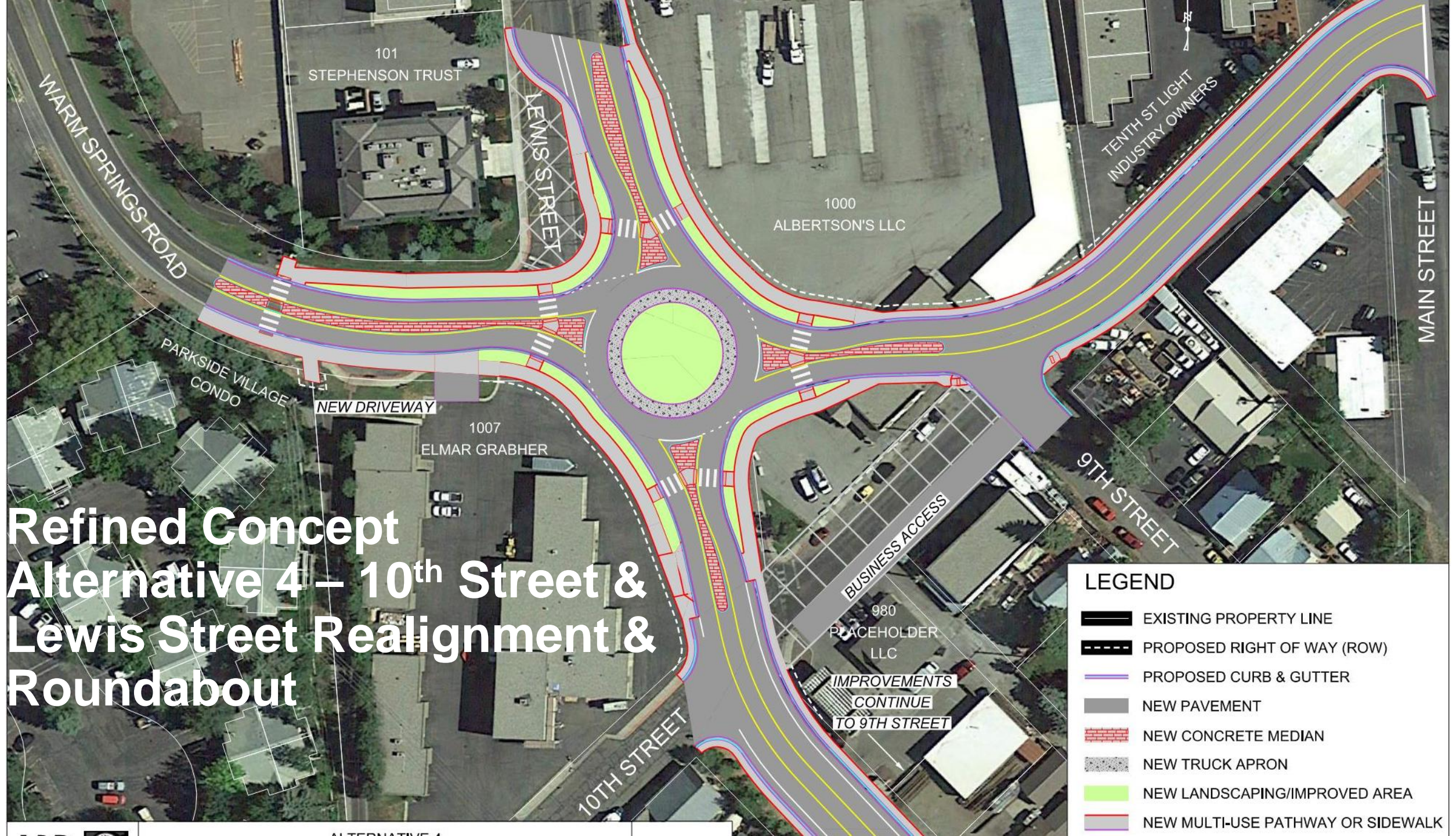
Alternatives Recommended to Move Forward

Refined Concept Alternative 2 – Lewis Street Roundabout



LEGEND	
	EXISTING PROPERTY LINE
	PROPOSED RIGHT OF WAY (ROW)
	PROPOSED CURB & GUTTER
	NEW PAVEMENT
	NEW CONCRETE MEDIAN
	NEW TRUCK APRON
	NEW LANDSCAPING/IMPROVED AREA

Refined Concept Alternative 4 – 10th Street & Lewis Street Realignment & Roundabout



LEGEND	
	EXISTING PROPERTY LINE
	PROPOSED RIGHT OF WAY (ROW)
	PROPOSED CURB & GUTTER
	NEW PAVEMENT
	NEW CONCRETE MEDIAN
	NEW TRUCK APRON
	NEW LANDSCAPING/IMPROVED AREA
	NEW MULTI-USE PATHWAY OR SIDEWALK

NEW DRIVEWAY

BUSINESS ACCESS

IMPROVEMENTS
CONTINUE
TO 9TH STREET

101
STEPHENSON TRUST

1000
ALBERTSON'S LLC

TENTH ST LIGHT
INDUSTRY OWNERS

PARKSIDE VILLAGE
CONDO

1007
ELMAR GRABHER

980
PLACEHOLDER
LLC

WARM SPRINGS ROAD

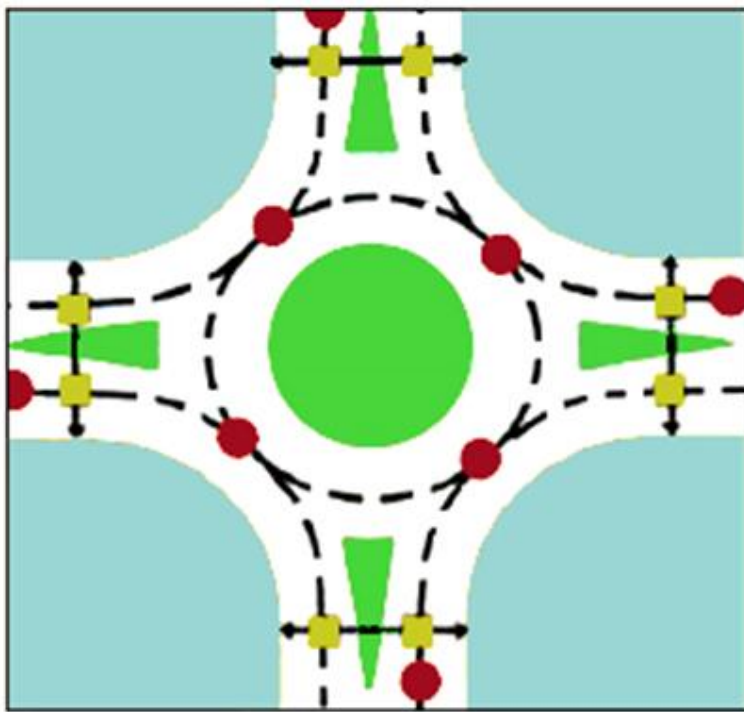
LEWIS STREET

MAIN STREET

9TH STREET

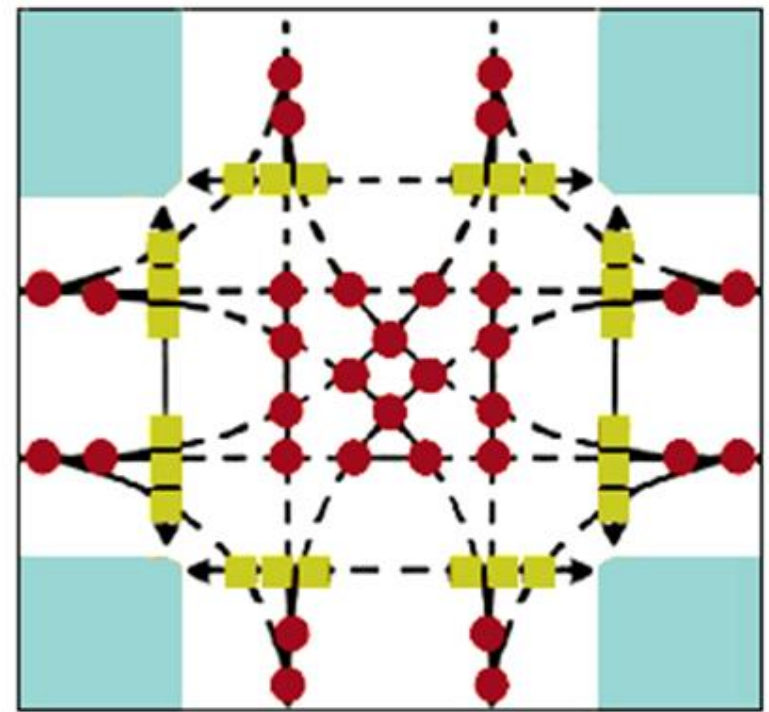
10TH STREET

Roundabout Benefits



● 8 Vehicle conflicts

■ 8 Pedestrian conflicts



● 32 Vehicle conflicts

■ 24 Pedestrian conflicts

- Improved vehicle operations
 - Both options provide good operations in the future
 - Averages between 6 – 10 seconds of delay in peak hours

- Improved Safety
 - Fewer pedestrian and vehicle conflicts
 - Slower speeds approaching and through roundabout
- Opportunity to create a gateway

Our Findings

Both Alternatives Work

- They both serve 2042 travel demand well
- Both options calm traffic and provide gateway opportunities
- Both provide multi-modal connections
- Alternative 4 better solves the traffic and sight distance issues at both intersections, but is more impactful



Sample Gateway Treatments



Source: Google Maps

Sample Gateway Treatments



Source: Google Maps

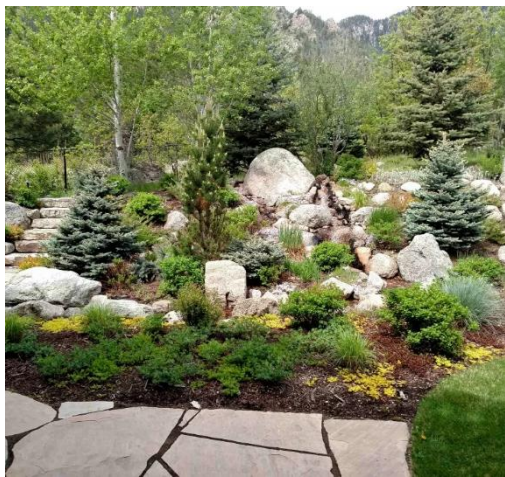
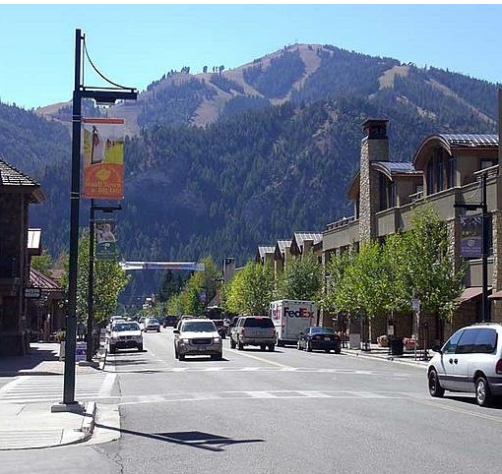
Further Enhancing Pedestrian Safety





Public Realm Improvement Examples

- Specialty landscaping
- Identity signage
- Existing banner poles
- Artwork and sculptures,
- Tree lined streets
- Seating options



Warm Springs Road Corridor

Next Steps

- City Council to provide feedback
- Public feedback
- Identify a preferred alternative to move into a future project
- Develop report documenting the process, analyses, and decisions

Main Street Alternatives Analysis

Project Background

Main Street Existing Conditions

- Great entrance for Ketchum
 - Shows off town well
- Operations
 - Inefficient traffic flow
 - Long queue lengths at Sun Valley Road intersection
 - “Don’t take a left in Ketchum”
- Pedestrian Space
 - Cramped in some places
 - ADA challenges



Project Background

Goals

- Improve vehicle progression along the corridor
- Reduce travel times
- Improve pedestrian space where possible
- Invest in a roadway configuration that will operate well in future years

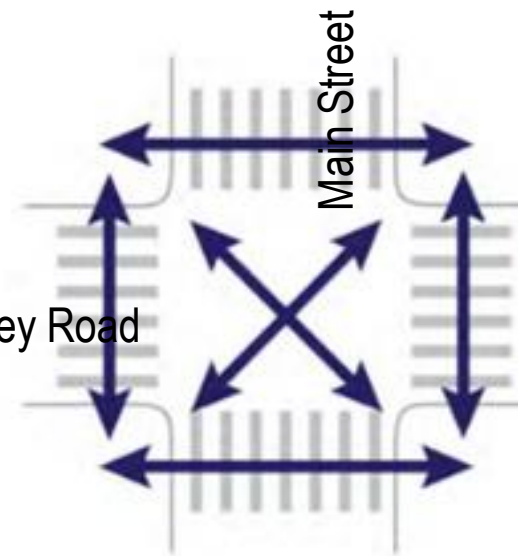
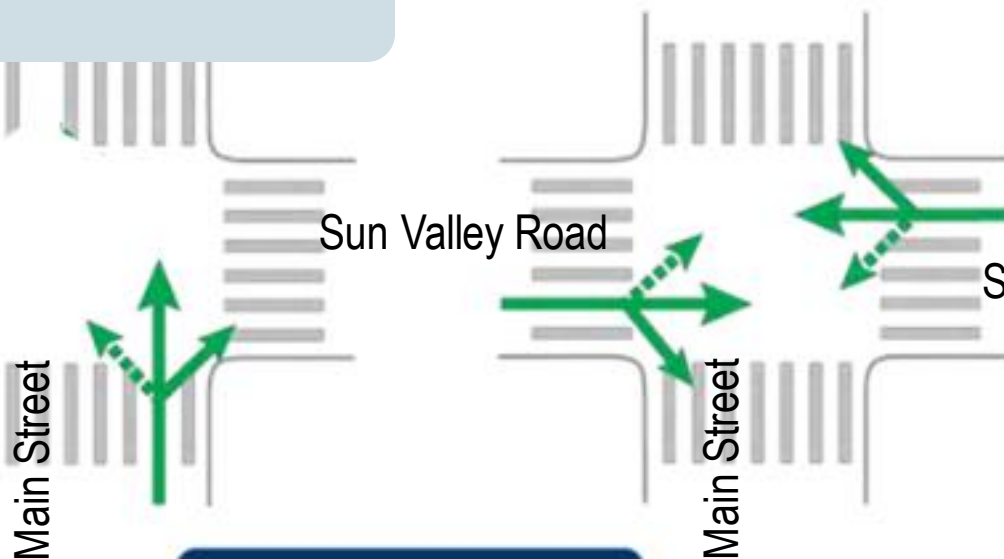
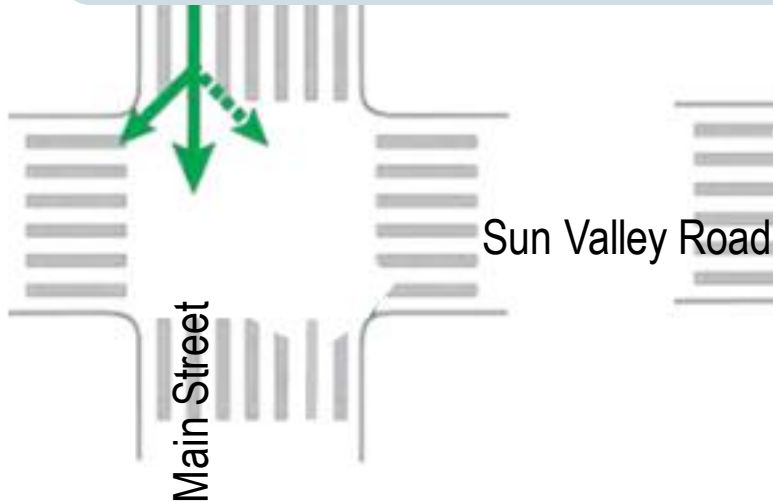
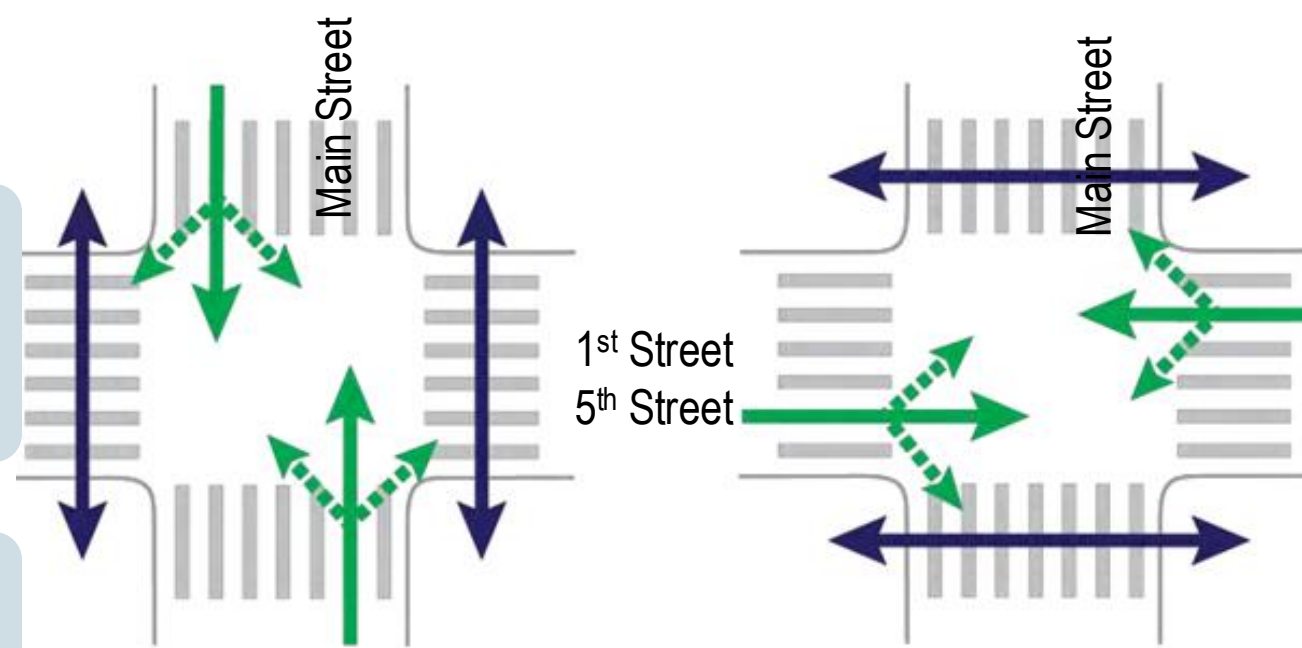
Main Street Signal Timing



Permissive phasing at 1st Street & 5th Street intersections



Split phasing with pedestrian scramble at Sun Valley Road



Vehicle Phases

Pedestrian Phase

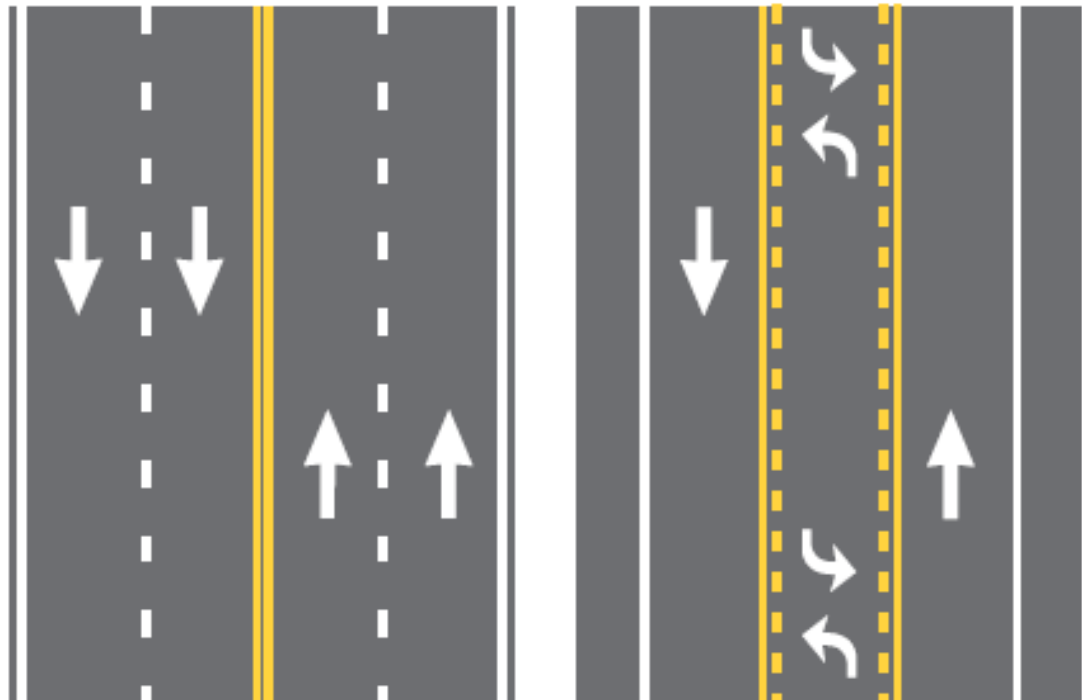
Project Background

Short Term Improvements

- Removed pedestrian scramble to improve traffic flow
 - Adjusted pedestrian crossing times to better serve pedestrians
- Worked with ITD to connect signals to each other
- Implemented coordinated signal timing
- Near Future: Move 1st Street merge taper to be south of River Street

Three Options

- 1 No Build
- 2 Add left turn lanes at Sun Valley Road Intersection
- 3 Lane Reconfiguration: 3 Lanes



Source: Road Diet Informational Guide



Why Microsimulation

- Higher grade of analysis
- Treats vehicles individually instead of assuming them in flows
- More confidence in vehicle-to-vehicle interaction
- Can create visual example of estimated operations



Microsimulation Videos

- No build option
- Adding Left Turn Lanes at Sun Valley Road
- 3 Lane Option

- Discuss benefits and draw backs of each option



Benefits Vs Drawbacks of Adding Left Turn Lanes

- Benefits

- Remove split phasing
- Reduces congestion
- Serves all traffic
- Design year traffic sees comparable travel times to today

- Drawbacks

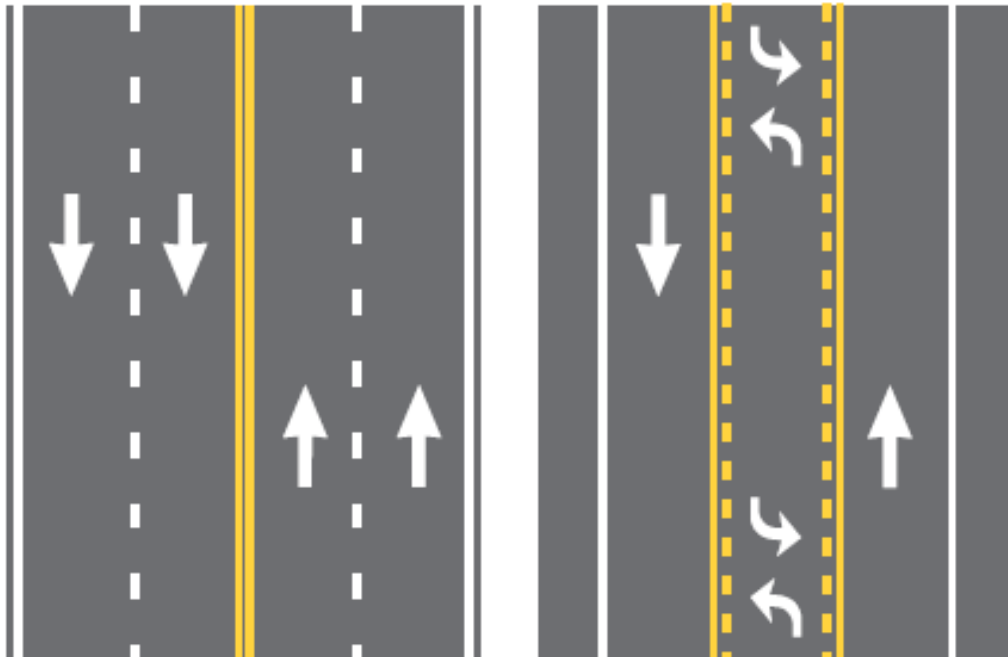
- Increase in pedestrian crossing distance at Sun Valley Road Intersection
- Tight turning movements for trucks at Sun Valley Road
- Removes parking on two blocks



Benefits Vs Drawbacks of Lane Reconfiguration

- Benefits

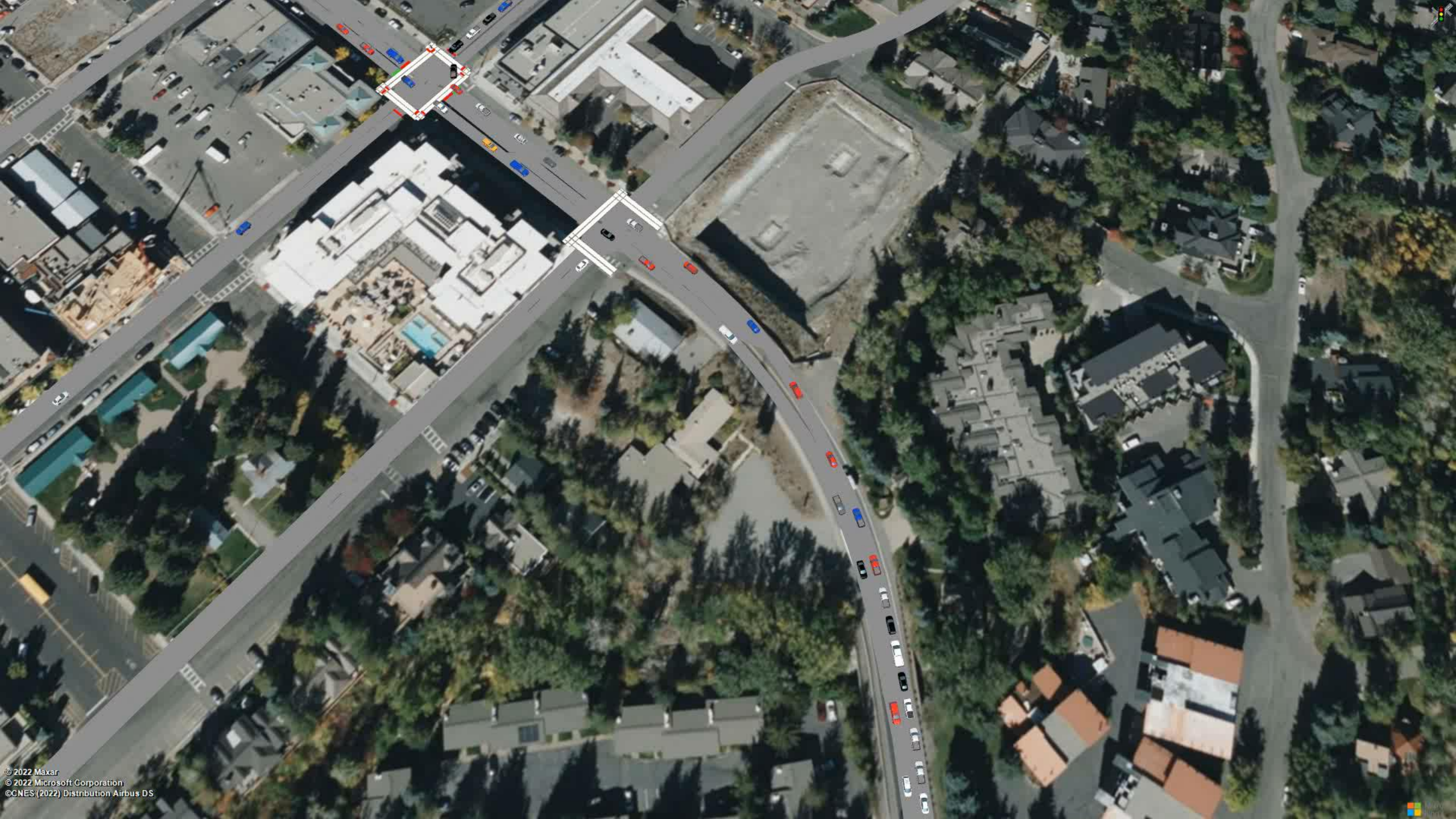
- Remove split phasing
- Shorter pedestrian crossings
- Much wider pedestrian and sidewalk areas could be built



Source: Road Diet Informational Guide

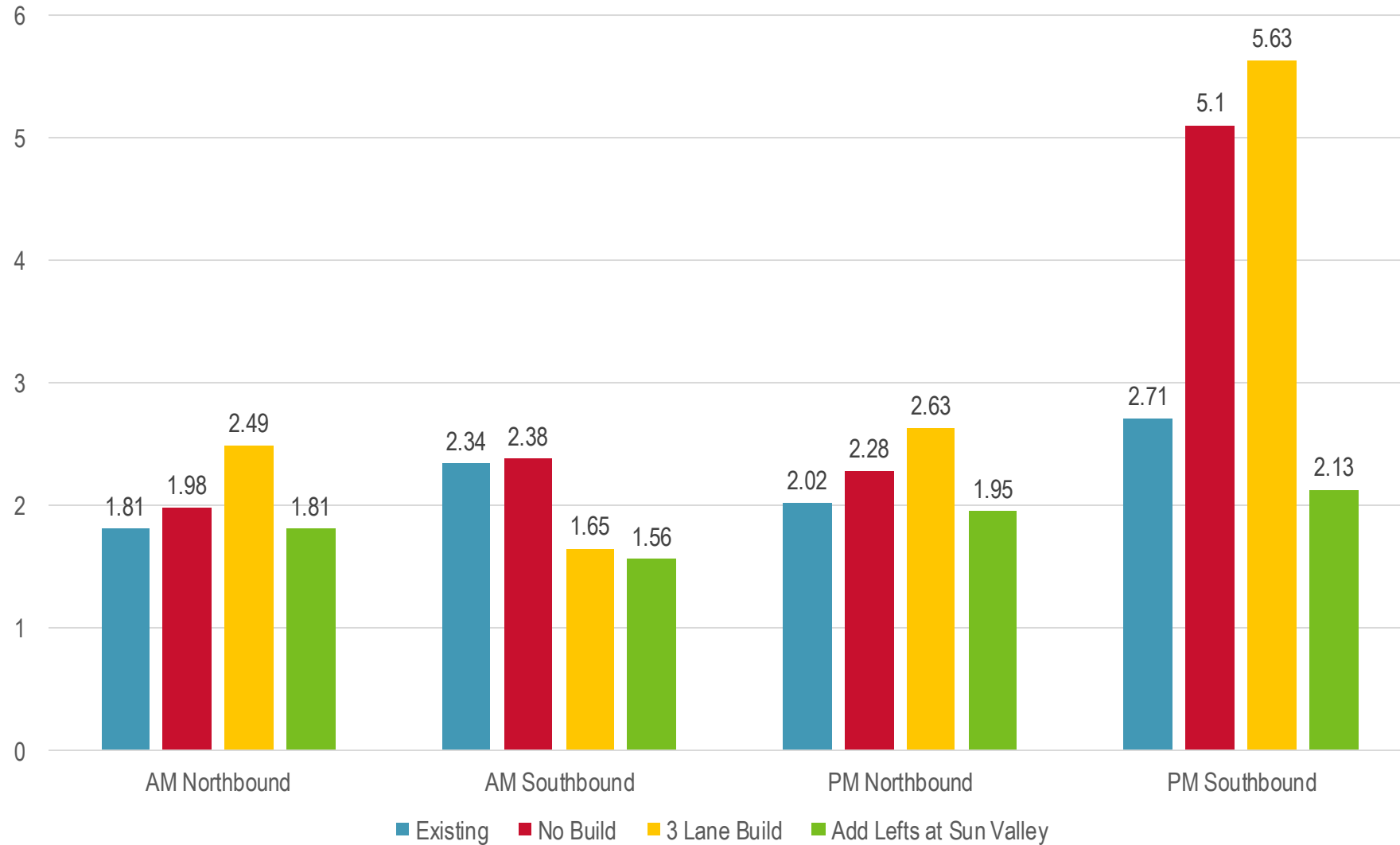
- Drawbacks

- Congestion on Main Street would increase
- Cannot serve all traffic in the peak period
- Waiting vehicles could extend 3 blocks or more on Main Street and 2 blocks or more on cross streets



2042 Model Travel Time Comparison

Travel Time (minutes)



Our Findings

Comparing options

- Both options reduce signal cycle lengths
- The three-lane option shortens pedestrian crossing distance, but at a significant cost to all other modes
- The Sun Valley Road option increases pedestrian crossing distance, but only at one intersection
- The Sun Valley Road option may produce more gaps for pedestrians to cross due to reduced congestion
- The Sun Valley Road option will better serve future traffic growth

Our Findings

Left Turn Lanes at Sun Valley

- Improves traffic flow now and in the future
- With right pedestrian treatments, there are still opportunities to improve pedestrian space.
 - Balance sidewalks on each side
 - 11' lanes, 9.5' wide sidewalks
 - Remove parking
- Could be implemented with ITD's upcoming project



Can we still improve pedestrian space?

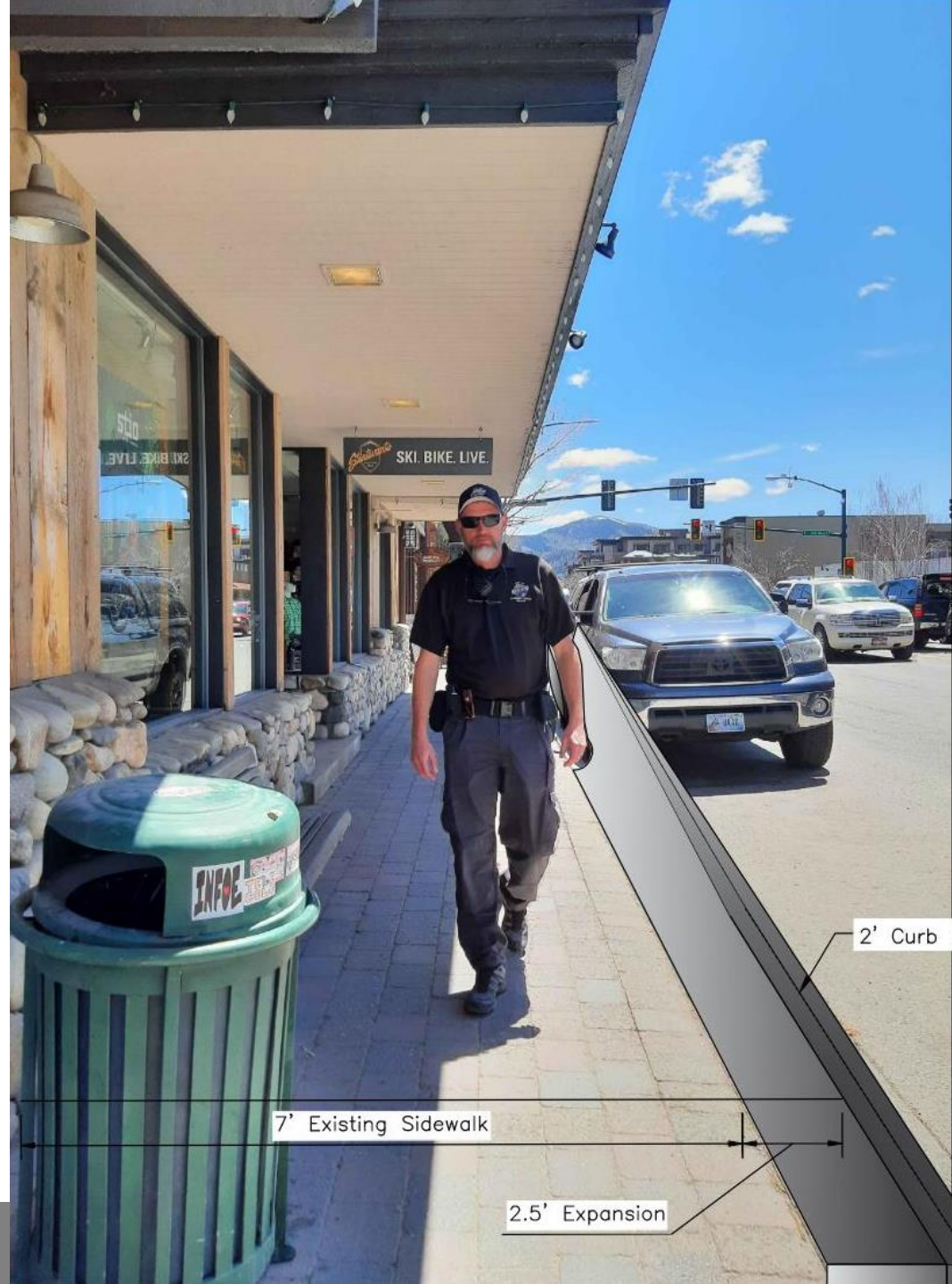
Yes!

- Potential to install bulb outs along Main Street
- Narrow travel lanes and give extra space to pedestrians
- Investigate raised intersection at Sun Valley





Northeast corner looking south



2' Curb And Gutter

7' Existing Sidewalk

2.5' Expansion



Southwest corner looking north



Raised Intersection Example

- Source: NACTO

Other Items

Signal improvements

- Opportunity to upgrade signal equipment
 - Pedestrian pushbutton poles
 - Relocate equipment
- Prohibit left turns at 1st and 5th during peak hours
 - Our model suggests there may be enough gaps with the Sun Valley Left Turn option to allow for lefts at 1st and 5th.
 - We recommend a wait and see approach

Main Street Corridor

Next Steps

- City Council to provide feedback
- Public feedback
- Identify a preferred alternative to coordinate with ITD's future project
- Develop report documenting the process, analyses, and decisions

Category	Information	Alternative		
		No Build	2 - Lewis Street Roundabout	4- 10th Street & Lewis Street Realignment & Roundabout
Operational Analysis Results - Summer 2042 forecasts	Warm Springs Road & 10th Street	Two-way stop - Eastbound left = LOS C Westbound left = LOS D	Two-way stop - Eastbound left = LOS C Westbound left = LOS D	10th St. stop - Eastbound left = LOS C
	Warm Springs Road & Lewis Street	Lewis St. stop - Southbound left = LOS D	Roundabout - LOS A	Roundabout - LOS B
	10th Street & Main Street (SH-75)	10th St. stop - Eastbound left = LOS C	10th St. stop - Eastbound left = LOS C	10th St. stop - Eastbound left = LOS C
Safety Factors	<p>Three crashes in last 5 years</p> <ul style="list-style-type: none"> • 10th Street west of SH-75, parked car struck, no injury, 2016 • Warm Springs Road south of 10th Street, rear end crash with vehicle turning into gas station, 1 injury, 2017 • Warm Springs Road & Lewis Street southbound left turning vehicle failed to yield, struck, no injury, Feb 2018 	<ul style="list-style-type: none"> • Low crash frequency but sight distance concerns at Warm Springs Road intersections with 10th Street and Lewis Street and Wood River Trail crosswalk due to curves. • New RRFB and raised median island refuge for Wood River Trail crosswalk being installed will help with pedestrian and bicyclist visibility. 	<ul style="list-style-type: none"> • Roundabout removes 5 vehicle to vehicle conflicts and 6 vehicle to pedestrian conflict points at Lewis Street intersection. • Roundabout provides geometric features to slow vehicles on Warm Springs Road and Lewis Street to slow down, calming traffic. • It will remove right angle, left turn, and head on collisions at the Lewis Street intersection as well as reduce severity of crashes. • The 10th Street intersection can be adjusted to reduce the skew and the roundabout should help slow vehicles approaching through this intersection. • Overall crash reduction at Lewis Street is estimated at 44% with injury crashes reduced 72-80%. • Increased safety for pedestrians who cross through roundabouts in one direction of traffic at a time with a median refuge between the opposing travel lanes. They only have to look for approaching traffic from a single direction as opposed to both directions. • Increased safety for cyclists who can cross like pedestrians or travel through the roundabout like vehicles. • The addition of RRFB's for pedestrian crossing of the roundabout legs will improve safety for pedestrians and bicyclists, making them more visible to drivers. 	<ul style="list-style-type: none"> • Alternative removes 21 vehicle to vehicle and 12 pedestrian conflict points at 10th Street and 5 vehicle to vehicle conflicts and 6 vehicle to pedestrian conflict points at Lewis Street intersection. • Roundabout provides geometric features to slow vehicles on Warm Springs Road, Lewis Street, and 10th Street to slow down, calming traffic. • It will remove right angle, left turn, and head on collisions at the Lewis Street intersection as well as reduce severity of crashes. • Overall crash reduction with roundabout is estimated at 44% with injury crashes reduced 72-80%. • Increased safety for pedestrians who cross the roundabout one direction of traffic at a time with a median refuge between the opposing travel lanes. They only have to look for approaching traffic from a single direction as opposed to both directions. • Increased safety for cyclists who can cross like pedestrians or travel through roundabout like vehicles. • Removing the east leg of the 10th Street intersection removes conflicts for bicyclists, pedestrians, and vehicles. • The addition of RRFB's for pedestrian crossing of the roundabout legs will improve safety for pedestrians and bicyclists, making them more visible to drivers.
Pedestrian and Bike Facilities	<ul style="list-style-type: none"> • Sidewalk on the west side of both Warm Springs Road and Lewis Street. • Wood River Trail crosses west of Lewis Street with flashing beacons and is then parallel to Warm Springs Road north. Crossing is being upgraded with RRFB and raised median island refuge. • Bike lane on the west side of Warm Springs from Main Street to Wood River Trail. • Gaps in sidewalk and pathway connections, non-ADA compliant driveways and ramps are concerns. • Inconsistent bike facilities connection to Wood River Trail and other facilities. 	<ul style="list-style-type: none"> • Sidewalk on the west side of both Warm Springs Road and Lewis Street. • Crosswalks for Lewis Street and Warm Springs Road are one direction at a time with raised median refuge islands. • Incorporates Wood River Trail crossing RRFB and median island improvements. • Bike lanes provided on both sides of Warm Springs Road and Lewis Street. • Bike lanes and sidewalk connect to multi-use pathways around roundabout. • Multi-use pathways are buffered from roundabout for user safety and comfort. • Multi-use pathways connect sidewalk and bike lanes to Wood River Trail. • Updated driveways and pedestrian ramps within project limits. 	<ul style="list-style-type: none"> • Adds sidewalk on east side of both Warm Springs Road and Lewis Street and connects existing sidewalk segments on cross streets. • Sidewalk added to both sides of 10th Street up to Main Street. • Crosswalks for Lewis Street, 10th Street, and Warm Springs Road at the roundabout are one direction at a time with raised median refuge islands. • Incorporates Wood River Trail crossing RRFB and median island improvements. • Bike lanes provided on both sides of Warm Springs Road and Lewis Street. • Bike lanes and sidewalk connect to multi-use pathways around roundabout. • Multi-use pathways are buffered from roundabout for user safety and comfort. • Multi-use pathways connect sidewalk and bike lanes to Wood River Trail. • Updated driveways and pedestrian ramps within project limits. 	

Category	Information	Alternative		
		No Build	2 - Lewis Street Roundabout	4- 10th Street & Lewis Street Realignment & Roundabout
Utility considerations		<p>Existing utilities within public right-of-way in the study area include:</p> <ul style="list-style-type: none"> • City water pipes under Warm Springs, Lewis, and 10th Street • City sewer pipes under 10th Street, Lewis, and Warm Springs from 10th to Lewis • Abandoned Ketchum Spring Water (KSW) pipes under 10th Street, Lewis, and Warm Springs from 10th to Lewis • Overhead power lines along the east side of Lewis, then connecting to the alley parallel to Warm Springs Road, and along the west side of Warm Springs Road north of Lewis. • Underground power lines from the northeast corner of Lewis/Warm Springs, then along the east side of Warm Springs Road. • Natural gas or Fiber Optic along Warm Springs 	<ul style="list-style-type: none"> • Roadways stay on existing alignments, so no significant changes anticipated for underground utilities (water, sewer, gas). Normal valve adjustments will be needed. • Overhead power lines between 10th Street and Lewis Street will need to be relocated. • Underground power along Warm Springs may need to be adjusted. • Fire hydrants in the northeast and northwest corners of the Lewis Street intersection will need to be relocated. 	<ul style="list-style-type: none"> • 10th Street and Lewis Street move to new alignments, so potential significant changes for underground utilities on these legs (water, sewer, gas), especially if existing ROW is vacated. • Overhead power lines between 10th Street and Lewis Street will need to be relocated • Underground power along Warm Springs should be retained, but the connection to overhead power will need to be adjusted. • The fire hydrant in the northeast corner of the Lewis Street intersection will need to be relocated.
Stormwater Considerations		<ul style="list-style-type: none"> • Curb and gutter on west side of Warm Springs Road and Lewis Street. • Warm Springs Road and 10th Street intersection is low point with stormwater flowing to it. • One inlet in the southeast corner of 10th Street intersection and one inlet in the northwest corner of the Lewis Street intersection. 	<ul style="list-style-type: none"> • Curb and gutter provided along both sides of each road within the project limits. • Stormwater will need to be collected, treated, and infiltrated. • May require subsurface infiltration facilities beneath the roadways/pathways. 	<ul style="list-style-type: none"> • Curb and gutter provided along both sides of each road within the project limits. • Stormwater will need to be collected, treated, and infiltrated. • May require subsurface infiltration facilities in the abandoned roadway areas of 10th Street and Lewis Street or under roadways/pathways.
On street parking Considerations		<ul style="list-style-type: none"> • On street parking in marked stalls on Lewis Street. • On street parking on the north side of 10th Street between Warm Springs Road and Main Street. 	<ul style="list-style-type: none"> • 11 parking spots removed from Lewis Street 	<ul style="list-style-type: none"> • 12 parking spots removed from Lewis Street • No parking allowed on 10th Street between Warm Springs Road and Main Street, estimated at 20 parking spots removed.
	Right-of-way (ROW)		<ul style="list-style-type: none"> • Total ROW needed = 8,600 SF from 4 properties, Stephenson Trust, Placeholder LLC, Albertsons LLC, and Elmar Grabher. • Corners of Stephenson Trust, Placeholder LLC, and Albertsons LLC ROW needed. • More ROW needed from Elmar Grabher. 	<ul style="list-style-type: none"> • Total ROW needed = 35,900 SF from 7 properties, Stephenson Trust, Placeholder LLC, Albertsons LLC, Lewis Street LLC, Parkside Village Condo, Tenth St Light Industry Owners, and Elmar Grabher. • Corners or small amounts of ROW needed from Stephenson Trust, Placeholder LLC, Parkside Village Condo, Tenth St Light Industry Owners, and Lewis Street LLC ROW needed. • Gas station can be retained. • More ROW needed from Elmar Grabher. • Albertson LLC parcel split with significant amount of ROW needed (90%+ of total needed for alternative). • Allows public ROW on 10th Street between Warm Springs Road and 9th Street as well as small section on Lewis Street west of roundabout to be repurposed.

Category	Information	Alternative		
		No Build	2 - Lewis Street Roundabout	4- 10th Street & Lewis Street Realignment & Roundabout
Private Property Impacts	Parking	No change	<ul style="list-style-type: none"> • Parking impacts to Elmar Grabher building nearest to Warm Springs Road due to pathway moving closer to building. • Potential to remove some parking and may need curb/barrier between parking and pathway. 	<ul style="list-style-type: none"> • Parking impacts to Elmar Grabher building nearest to Warm Springs Road due to pathway moving closer to building. • Potential to remove some parking and may need curb/barrier between parking and pathway.
	Access		<ul style="list-style-type: none"> • Existing north driveway access to Elmar Grabher property will be removed with roundabout. May be able to replace with a right-in/right-out (RIRO) driveway to the west of existing. Drivers can use the roundabout to U-turn and access Warm Springs Road to the west. • East driveway on Warm Springs Road may be retained as RIRO or removed. South driveway to 10th Street can remain. • Albertsons driveway to Warm Springs Road can be retained as a RIRO. Drivers can use the roundabout to U-turn and access Warm Springs Road to the south. • Driveways to gas station on Placeholder LLC parcel are too close to the intersection but may not be able to be removed or consolidated based on current land use. 	<ul style="list-style-type: none"> • Existing north driveway access to Elmar Grabher property will be removed with roundabout. May be able to replace with a RIRO driveway to the west of existing. Drivers can use the roundabout to U-turn and access Warm Springs Road to the west. • East driveway on Warm Springs Road may be retained as RIRO or removed. South driveway to 10th Street can remain. • New access to Albertsons parcel will need to be provided. • Existing 10th Street driveway to gas station on Placeholder LLC parcel may be removed or reconnected with adjustments to existing public street. Warm Springs Road Driveway can remain.
	Development opportunities	<ul style="list-style-type: none"> • Minimal changes to the land uses in the area if no roadway improvements are applied. • Large underdeveloped parcel owned by Albertson's intends to be developed into a grocery store. • Land uses in this area shift from downtown commercial to light industrial, to residential and recreational land uses. • Although both ends of the corridor lead to important parts of the city, one to the downtown core and the other to ski areas, the quick transition of land uses in this area lend to a disjointed experience where there could be a gateway opportunity in and out of the city. 	<ul style="list-style-type: none"> • Large underdeveloped parcel owned by Albertson's can continue to be developed into a grocery store. • New grocery store could be built with frontage along 10th street to improve pedestrian experience. • Extra space at the southern portion of the Albertson's parcel creates allows for a distinctive plaza to be created, providing the needed space for a gateway element identifying the transition in and out of the city. • Roadway improvements have minimal impacts to existing business parcels. • May make the Elmar Grabher parcel more challenging to access with existing buildings and parking configuration. 	<ul style="list-style-type: none"> • Large underdeveloped parcel owned by Albertson's can continue to be developed into a grocery store. • New grocery store could be built with frontage along 10th Street to improve pedestrian experience. • New parcel is formed between Warm Springs Road and 9th Street with frontage to new roundabout design. Land use of this site could be commercial uses, thus continuing the downtown vibe farther up Warm Springs Road. • Roadway improvements will have impacts to existing businesses and roads such as 10th Street, 9th Street and Lewis Street. • Albertsons LLC will have to reconfigure planned development to fit in the remaining property after project ROW is acquired. • May make the Elmar Grabher parcel more challenging to access and redevelop with existing buildings and parking configuration.

Category	Information	Alternative		
		No Build	2 - Lewis Street Roundabout	4- 10th Street & Lewis Street Realignment & Roundabout
Land use Considerations	Placemaking Opportunities	<ul style="list-style-type: none"> Overall, the area lacks a consistent and safe public realm critical to of the extension of the downtown environment. The public realm does not support the City of Ketchum's existing identity that is displayed in other parts of the city such as downtown. Public realm elements that should be continued include wide detached sidewalks, benches and sitting areas, tree coverage, specialty paving, signage and wayfinding and/or artwork. 	<ul style="list-style-type: none"> Space inside roundabout can be used for public realm enhancements, such as artwork, specialty landscaping, and/ or signage and wayfinding. New roadway improvements enable public realm and place-making elements to continue farther down Warm Springs Road and Lewis Street along the streets themselves. Public realm and place-making elements that should be continued include wide detached sidewalks, benches and sitting areas, tree coverage, specialty paving, signage and wayfinding and/or artwork. Proposed landscaping can replace impacts to Stephenson Trust parcel landscaping. A gateway treatment may be appropriate with the project. 	<ul style="list-style-type: none"> Space inside roundabout can be used for public realm enhancements, such as artwork, specialty landscaping, and/ or signage and wayfinding. New roadway improvements enable public realm elements to continue farther down Warm Springs Road and Lewis Street along the streets themselves. Public realm and place-making elements that should be continued include wide detached sidewalks, benches and sitting areas, tree coverage, specialty paving, signage and wayfinding and/or artwork. New expanded right of way along Lewis Street can be repurposed to enhance the public realm, again allowing the downtown land use to be extended across the roundabout, rather than ending at 10th street. Roundabout allows for some unique landscaping and street art in the buffer spaces, center island, and even splitter islands. Proposed landscaping can replace impacts to Stephenson Trust parcel landscaping. A gateway treatment may be appropriate with the project.
Concept Level Cost Estimate (2022 \$)	Design & Construction	No change	\$1,820,000	\$2,515,000
	Contingency (25%)		\$383,000	\$530,000
	ROW		\$1,075,000	\$4,462,000
	Total		\$3,278,000	\$7,507,000