



# Glenwood Springs

MULTIMODAL OPTIONS FOR A VIBRANT  
ECONOMY

## MOVE Project Update

October 2020



# CONTENTS

1. Vision, Purpose, Need, Goals
2. Schedule, Study Area and Components
3. Public Involvement
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# Vision

A community with safe, multimodal, and efficient connection options that makes Glenwood Springs a city of great vitality and quality of life.



# Purpose

To optimize the efficiency and utility of the transportation system within and through Glenwood Springs by developing, evaluating, and selecting transportation strategies and opportunities that align with the City's goals for mobility, land use, economic vitality, economic sustainability and quality of life.



# What are the project goals?



Improve mobility, connectivity, safety, and accessibility



Determine effective and affordable transportation solutions with strong community support



Provide reliable BRT access to the downtown/Confluence area of Glenwood Springs



Improve travel time for auto travel and local transit



Reduce congestion in the corridor



Improve service efficiency (e.g. higher transit ridership, riders per trip, riders per hour of service)



Meet current and future person-trip demand



Encourage a shift of auto trips to attractive and reliable alternative modes



Support local livability, development, and sustainability plans and policies



Improve transit connections and accessibility to affordable housing

# PROJECT NEEDS



## Transit

- Integrate and optimize the local and regional transit systems to make them more attractive, convenient, reliable, effective and efficient.



## Parking

- Recommendations for priority parking locations, facilities, phasing plans and policies for City-owned facilities and for RFTA's 27th Street BRT station
- Improve parking management to minimize searching for parking



## Congestion (non-transit)

- Improve traffic safety, circulation and operations particularly during the morning and afternoon peak periods and considering growth over the next 20 years.



## Bicycle and Pedestrian

- Improve pedestrian access throughout the Downtown area including connections with transit stations
- Improve ADA access and SH 82 pedestrian crossings
- Facilitate bicycling as a connection to transit.

# SCHEDULE



## GATHERING PHASE, KICK OFF & BASE INFORMATION

Comprehensive understanding of the past, present, and future transportation conditions of the Glenwood Springs area. Research, document review, traffic projections.



## VISION, PURPOSE & NEED

Develop a vision statement with stakeholders, aligning under a common purpose to achieve a common mission. Create refined list of project goals.



TAC MEETING

## ALTERNATIVE DEVELOPMENT & TECHNICAL ANALYSIS

Transit and multimodal alternatives studies and plan; existing parking and curbside conditions technical memorandum; short-term and long-term parking/curbside recommendations; downtown circulation and intersection operations alternatives development.



TAC UPDATE

ONLINE PUBLIC OUTREACH

FOCUS GROUP

TAC MEETING

## ALTERNATIVES EVALUATION & PUBLIC OUTREACH

Develop range of solutions for critical analysis and public review. Test alternatives against vision and goals.



TAC MEETING

FOCUS GROUP

ONLINE PUBLIC OUTREACH

## FINAL EVALUATION & PREFERRED ALTERNATIVE

Refine alternatives based on stakeholder and community feedback. Select preferred alternative.



TAC MEETING

## CONCEPTUAL DESIGN

Process report document, development of conceptual design, implementation schedule, and conceptual cost estimate.



— PUBLIC MEETING

— TAC MEETING

2019

DEC

2020

JAN

FEB

MAR

APR

MAY

JUN

JUL

AUG

SEPT

OCT

NOV

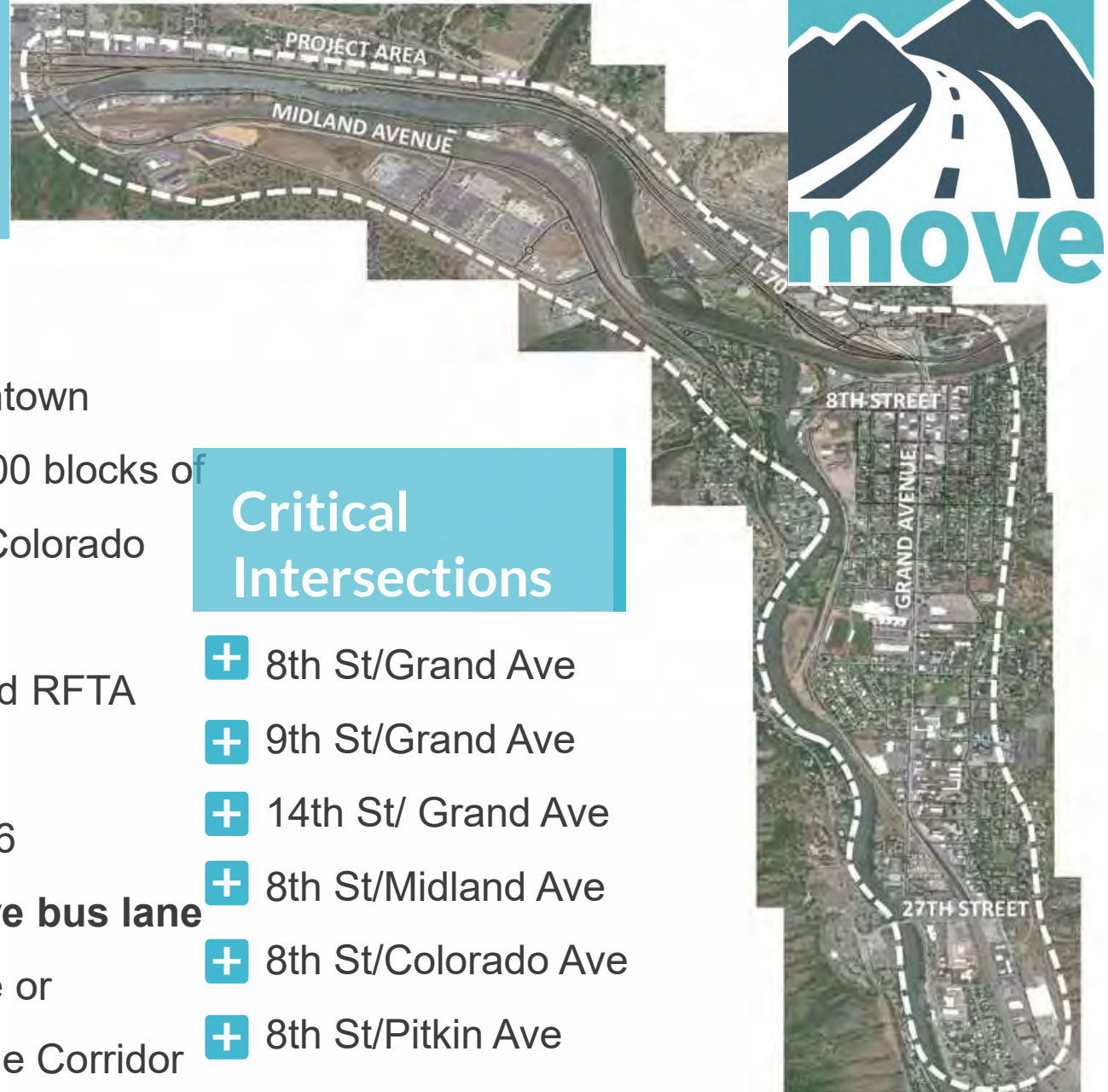
2020

DEC

# STUDY AREA

## Study Components

- **Oversupply and undersupply parking issues** downtown around 7th and 8th streets and the 800, 900, and 1000 blocks of Grand Avenue, Cooper Avenue, Pitkin Avenue, and Colorado Avenue
- **Parking study** for the 27th Street and West Glenwood RFTA Stations
- **Transit center location** in downtown core and/or SH6
- **Alignment for possible exclusive or semi-exclusive bus lane** from 27th Street to 8th Street including Grand Avenue or alternate routes such as parallel streets or Rio Grande Corridor (while maintaining current bicycle and pedestrian trail)



## Critical Intersections

- + 8th St/Grand Ave
- + 9th St/Grand Ave
- + 14th St/ Grand Ave
- + 8th St/Midland Ave
- + 8th St/Colorado Ave
- + 8th St/Pitkin Ave

# Virtual Public Outreach



## PROVIDE

an overview of the project

## UPDATE

public on project's progress

## PRESENT

evaluated alternatives

## OBTAIN

public input on remaining alternatives

Round 2 of Public Outreach:  
August 20-September 11, 2020

<https://rftaglenwoodspringsmove.com/>



# Feedback from the City's DDA and Transportation Commission



## **DDA:**

- **Concerned about loss of parking with BRT on Grand**
- **Concerned about maintaining the character of the Rio Grande Trail**
- **Concerned about the character of downtown with Grand Avenue turning into a “highway” feel with three travel lanes in each direction**

## **Transportation Commission:**

- **Not sure that having BRT in downtown is beneficial to Glenwood Springs**
- **Very concerned about having the BRT on the Rio Grande Trail**
- **Evaluate peak hour and peak hour/peak direction bus/right turn lanes on Grand.**
- **Evaluate just using the RFTA West Glenwood Park and Ride instead of a station downtown**
- **Evaluate TDM. Add paid parking downtown.**
- **Obtain origin and destination information to evaluate ridership**
- **Evaluate one bus lane on the Rio Grande**
- **Evaluate in line stations on Grand at 8<sup>th</sup> and 14th**

# Feedback from the Focus Group and the Public

## Focus Group:

- Evaluate “Hybrid” RGT Option - Grand Avenue to 14<sup>th</sup> and then transitioning to the Rio Grande Trail from 14<sup>th</sup> to 8<sup>th</sup>.
- Need to minimize economic and community character impacts to the corridor.

## Public input Phase II - 198 responses:

- Most people do not favor any of the BRT route options; but of the options presented the Grand Avenue corridor received the most support
- Most people do not favor any of the transit center options, but of the options presented the transit center south of 8<sup>th</sup> and SH 6 got the most support
- Support for downtown parking and for building another garage
- Support maintaining the trails year-round, increasing dedicated trail networks, improving intersections for bike safety, and changing the signal timing on Grand to allow more time for pedestrians
- Support improving the signal timing on Grand for vehicles to get through town



## Take-aways from City/RFTA Staff and Project Team

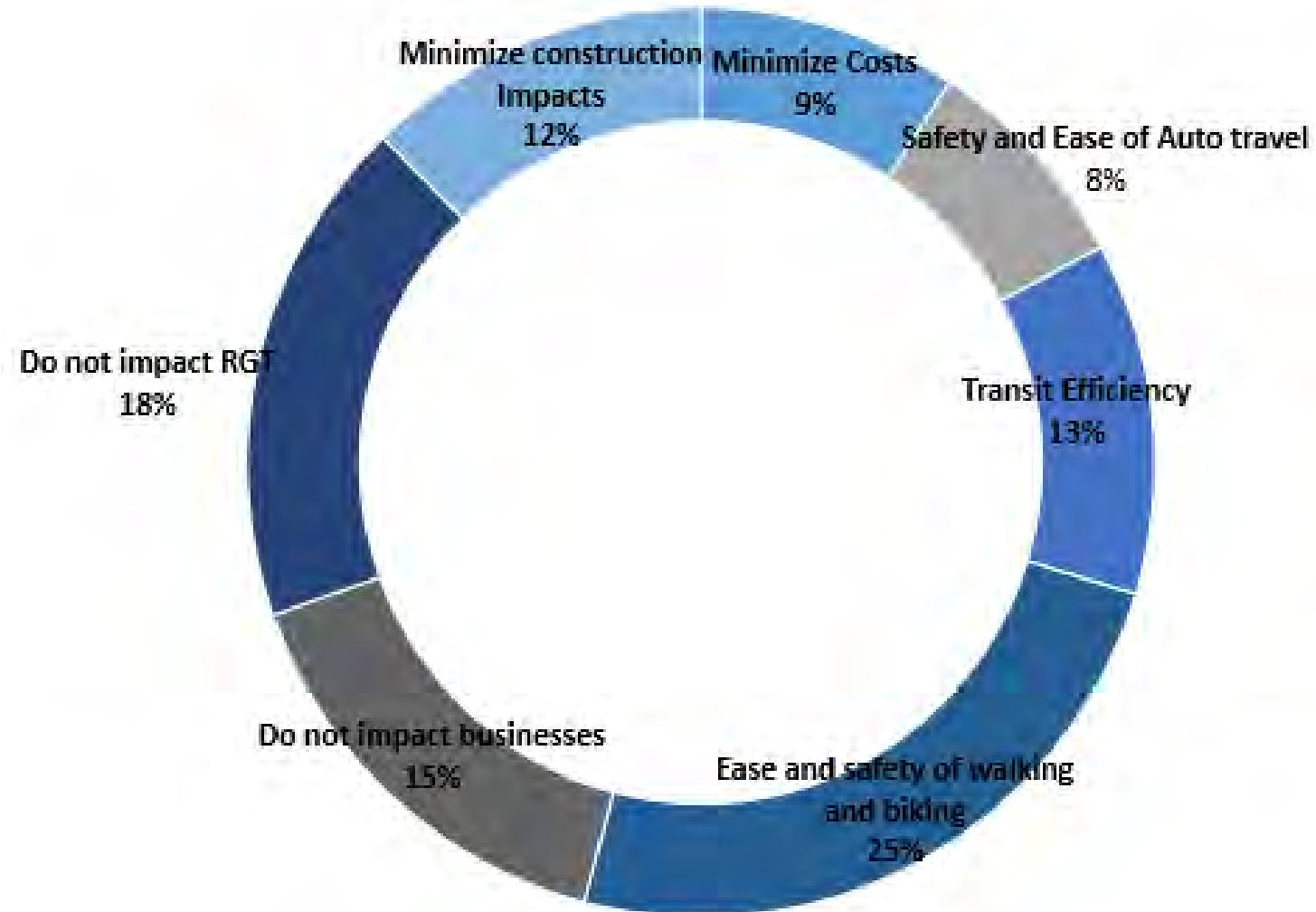
1. Need to evaluate options from 27<sup>th</sup> Street to West Glenwood Springs PNR, with an in-line transit station downtown and a transit center at West Glenwood PNR
2. Need to focus on regional impacts of these improvements: within Glenwood Springs, to West I-70, to Southeast SH82
3. Lots of things on people's minds: COVID-19, Wildfires/ Climate Change, the Election, etc. that really take the FUN out of Corridor Studies



# Round 2 Public Involvement Snapshot



What are your top 3 Project Priorities?  
186 Responses





# Screening Process



# Alternatives and Improvements Considered



## Transit Alternatives

- BRT extension from 27<sup>th</sup> Street RFTA station to downtown Glenwood Springs
- Transit center locations in downtown Glenwood Springs



## Parking

- Short term and long-term improvements for downtown Glenwood Springs
- Short term and long-term improvements for the Glenwood Springs RFTA park-n-ride stations



## Congestion (non-transit)

- Traffic flow and congestion improvements for Grand Avenue and 8<sup>th</sup> Street.



## Bicycle and Pedestrian

- Pedestrian improvements throughout the downtown area
- Bicycle improvements connecting to transit
- Pedestrian improvements connecting to transit



## Transit Center Alternatives

# DOWNTOWN TRANSIT STATION

1. 7<sup>th</sup> Street and Colorado Avenue
2. Rio Grande corridor alignment
3. SH 6 Area
4. In-line stations at 8<sup>th</sup> (and 14<sup>th</sup>)
5. RFTA West Glenwood Park and Ride



## BRT Extension Alternatives

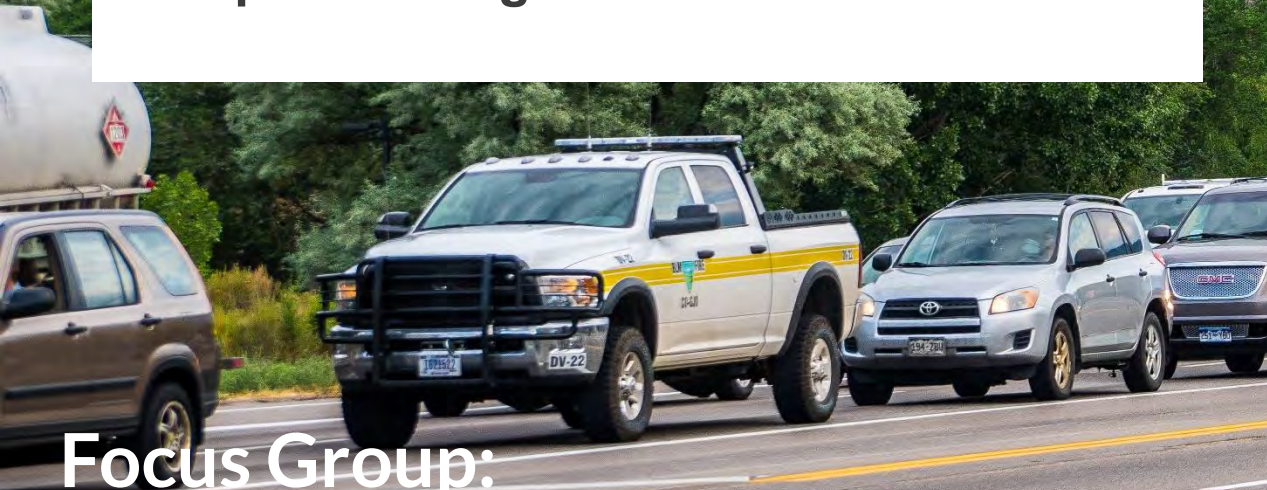
# 27<sup>th</sup> STREET TO DOWNTOWN

- 1. Grand Avenue**
- 2. Rio Grande corridor (+ *Hybrid*)**
3. Blake Avenue
4. Cooper/Colorado Avenues one-way couplet
5. Pitkin Avenue
- 6. *Midland Avenue***





- **Faster travel time using a portion of the Rio Grande corridor**
- **No impact to parking along Grand Avenue**
- **Lower capital cost than the full Rio Grande corridor option**
- **Reduces the extent of perceived impacts along the Rio Grande corridor**



**Focus Group:**  
**“Hybrid” BRT Alignment**





# Dedicated BRT lanes on Grand Avenue

- Use parking lanes but allow right turns

## Evaluate options:

1. All day (with no parking)
2. Peak hours only
3. Peak period, peak direction (morning SB BRT lane only, afternoon NB BRT lane only)

# SCREENING PROCESS

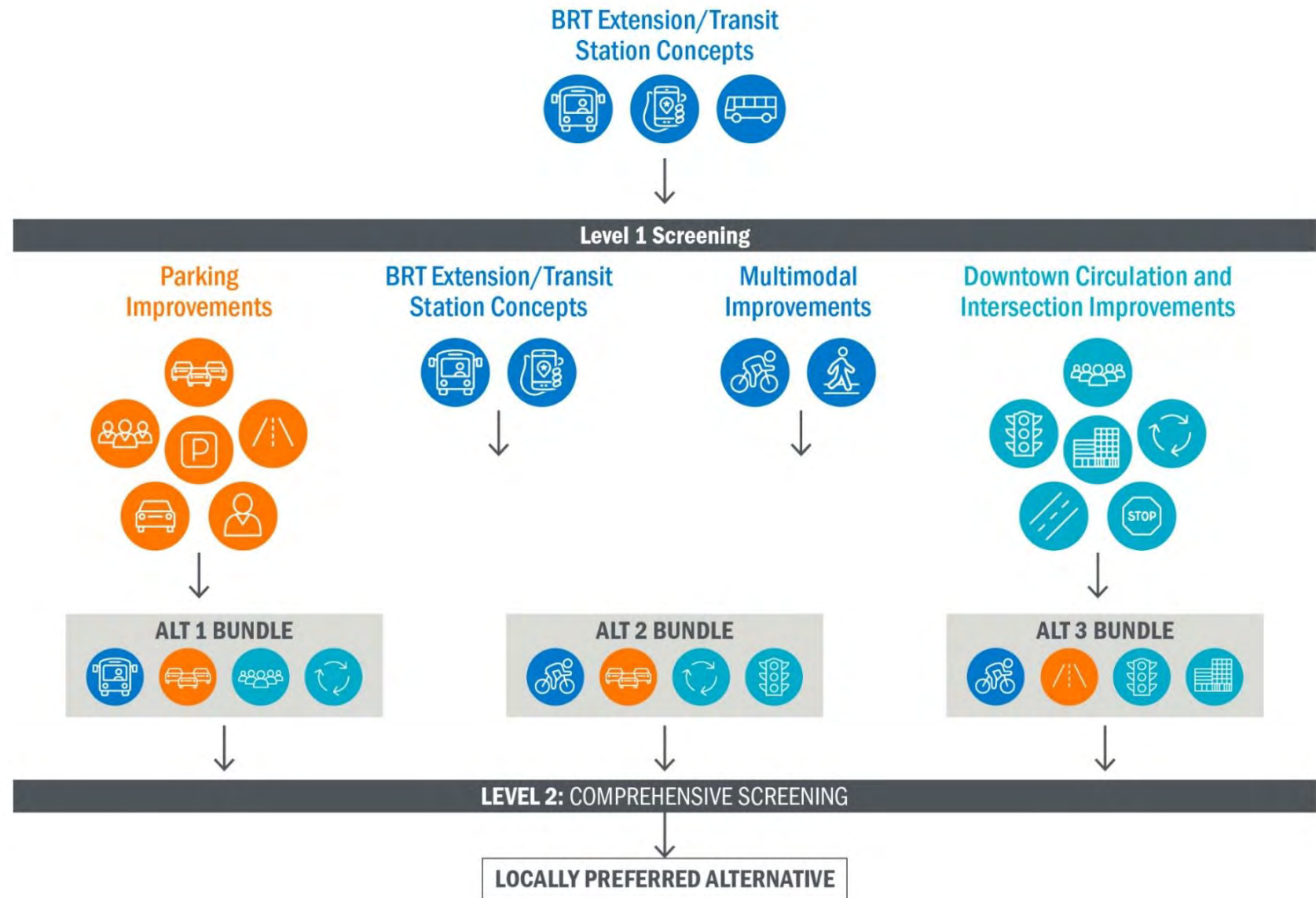
## Level 1

- Meet Purpose and Need
- Evaluate alternatives against transit service criteria and parking impacts

## Level 2

Evaluate alternatives against following criteria:

- Costs
- Multimodal ease and safety
- Traffic Impacts
- Transit Service
- Community amenities
- Community support



# Level 1 Screening Results: Transit Centers

Level 1 Evaluation Criteria:	RFTA property on Rio Grande south of 8th St.	7th and Colorado in Confluence area	SH 6 Area
1 <b>Pedestrian and Bicycle Accessibility to Heart of Downtown GWS (Grand Ave/8th Street):</b> One-way distance	1,00'	350'	2,800'
	Score: 2	3	1
2 <b>Routing to West Glenwood PNR:</b> Travel time	5 minutes	6 minutes	6 minutes
	Score: 3	2	2
3 <b>Transit Oriented Location:</b> Density of businesses and activity centers within ¼-mile walk	Lowest	Highest	Middle
	Score: 1	3	2
4 <b>Congestion relief for downtown Glenwood Springs south of I-70:</b> attracting fewest cars through downtown	Fair	Poor	Good
	Score: 2	1	3
<b>TOTAL SCORE</b>	8	9	8

# Level 1 Screening Results: BRT Extensions

		BRT Extension Alignment Alternatives					
Evaluation Criteria	No Build	Grand Avenue	Rio Grande Corridor	Blake Avenue	Cooper/Colorado One-way Couplet	Pitkin Avenue	Midland Ave from 27th St
Level 1 Screening							
<b>Improve BRT Travel Time Reliability (8th Street to 27th):</b> <small>% of alignment in dedicated lanes</small>	<b>1.6 miles</b> <b>0%</b>	<b>1.6 miles</b> <b>25%</b>	<b>1.7 miles</b> <b>100%</b>	<b>1.7 miles total</b> <b>70%</b>	<b>1.6 miles</b> <b>25%</b>	<b>1.7 miles</b> <b>29%</b>	<b>2 miles</b> <b>0%</b>
<b>BRT Travel Time:</b> <small>One-way BRT travel time before and after dedicated lanes. Current time / Projected</small>	<b>8.0 / 8.0</b>	<b>8.0 / 7.1</b>	<b>NA / 4.6</b>	<b>10.6 / 7.9</b>	<b>8.0 / 7.2</b>	<b>9.4 / 8.2</b>	<b>8.0/8.0</b>
<b>BRT Travel Time Savings:</b> <small>One-way BRT transit travel time savings based on average speed with proposed dedicated lanes, compared with Grand Avenue with dedicated lanes.</small>	<b>0.9 min. slower</b>	<b>0.9 min. faster than current</b>	<b>2.5 min. faster</b>	<b>0.8 min. slower</b>	<b>0.1 min slower</b>	<b>1.1 min. slower</b>	<b>.9 min slower</b>
<b>Number of on-street parking spaces displaced</b>	<b>0</b>	<b>140 spaces</b> <b>8th to 13th</b>	<b>0</b>	<b>278 spaces</b> <b>23rd to 8th</b>	<b>140 spaces</b> <b>13th and 8th</b>	<b>161 spaces</b> <b>8th and 14th</b>	<b>0</b>
<b>Community/ Environmental Impact</b>	<b>No Impact</b>	<b>Moderate</b> <b>(downtown community feel)</b>	<b>High</b> <b>(Trail)</b>	<b>High</b> <b>(Residential Parking)</b>	<b>High</b> <b>(Residential Parking)</b>	<b>High</b> <b>(Residential Parking)</b>	<b>Moderate</b> <b>(residential street)</b>

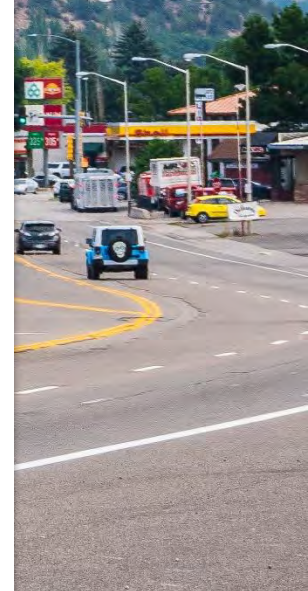
	Basic BRT Alignments after L1 Screen			Refined Alternative BRT Alignments				
Evaluation Criteria	No Build	Grand Avenue BAT Lanes 24 Hours	RGT BRT 24 hours	Hybrid: Grand Ave/ RGT at 14th	Hybrid: Peak hours only	Grand Ave BAT lanes Peak Hours Only	Grand Ave: BAT lanes: Peak Hours/Direction Only	RGT Peak Hours Only
BRT Travel Time to DT	8.46	7.99	5.83	6.84	6.84	7.99	7.99	5.83
BRT Travel Time to WGWS PNR	13.41	12.92	11.17	12.17	12.17	12.92	12.92	11.17
Improve BRT Travel Time Reliability (27th to DT): % dedicated Lanes	0%	25%	100%	33%	33%	25%	25%	100%
BRT Annual Service Hours: 27th to Downtown	6953.5	6953.5	3453.5	5204	5204	6954	6954	3454
BRT Annual Service Hours: 27th to WGWS PNR	15653.5	8753.5	4348	6551	6551	8754	8754	4348
Incremental Annual O&M Cost: 27th to Downtown	\$321,000	\$321,000	\$174,000	\$327,000	\$327,000	\$321,000	\$321,000	\$174,000
Incremental Annual O&M Cost: 27th to WGWS PNR	\$1,128,813	\$862,000	\$568,000	\$582,000	\$582,000	\$862,000	\$862,000	\$568,000
Capital Cost: Concept level	0	\$1M-\$2M	\$18M-\$20M	\$12M-\$14M	\$12M-\$14M	\$1M-2M	\$1M-2M	\$18M-\$20M
Auto Travel Time Improvements on Grand								
Ped/Bike Ability to Cross BRT Alignment	15	15	4	14	14	15	15	4

	Basic BRT Alignments after L1 Screen			Refined Alternative BRT Alignments				
Evaluation Criteria	No Build	Grand Av BAT Lanes 24 Hr	RGT BRT 24 Hr	Hybrid: Grand Ave/ RGT at 14th	Hybrid: Peak hours only	Grand Ave BAT lanes Peak Hrs Only	Grand Ave: BAT lanes: Peak Hrs/Dir	RGT Peak Hours Only
Multimodal-BRT conflict points: bike/ped crossings of BRT route	15	15	4	14	14	15	15	4
Buffer from BRT traffic: physical separation from BRT route	4.3'	2'	4.1'	2.3'	2.3'	2'	2'	4.1'
Number of on-street parking spaces displaced	None	140	None	None	None	140	70 (during peak)	None
Impacts to Rio Grande Multimodal Trail (noise, visual, user experience)	3	3	1	2	2	3	3	1
Construction Impacts	3	3	1	2	2	3	3	1
Expected BRT Ridership (General estimate )	1	3	2	2	2	2	2	1
Community Support/Preference:	3	1	1	1	1	2	2	2
Focus Group Support/Preference:	2	1	1	2	2	2	2	2
TC Support/Preference:	2	1	1	1	1	3	3	1
<b>Total Score</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>37</b>	<b>37</b>	<b>41</b>	<b>42</b>	<b>41</b>

# Improvements to consider: Pedestrian



- Repair downtown sidewalks and ADA ramps (Continuous, comfortable sidewalks)
- Improve signal timing to walk across Grand Avenue downtown
- Improve shelters and signage at major transit stops
- Year-round maintenance of sidewalk, trail, and bicycle networks

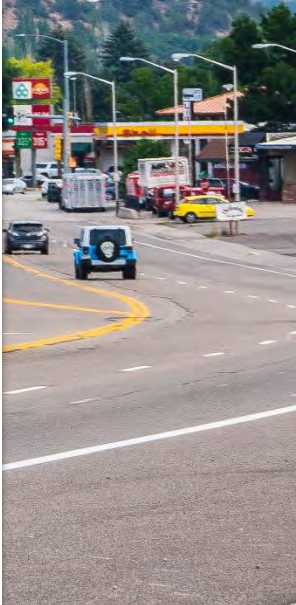




# Improvements to consider: Bicycle



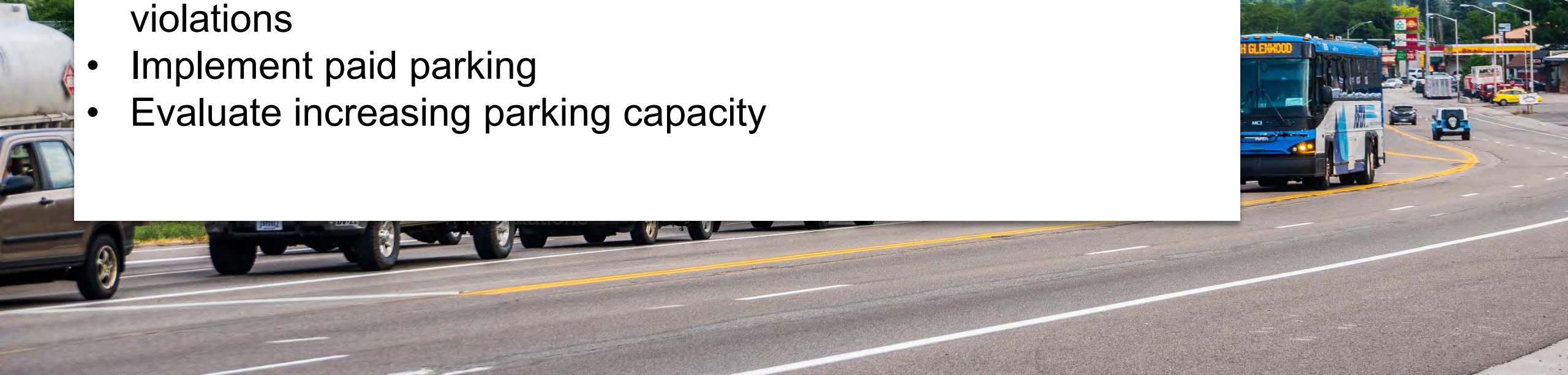
1. Bike Share Program
2. Connected, dedicated bike networks (not sidewalks)
3. Bicycle intersections improvements (striping, signalization, geometrics)
4. Maintain bicycle networks year-round



# Improvements to consider: Downtown Parking



- Parking enforcement technology - hand held license plate recognition (LPR) devices paired with automated ticket printing.
- Increase fines (and/or introduce tiered system) for parking violations
- Implement paid parking
- Evaluate increasing parking capacity



# Improvements to consider: Traffic Operations and Safety



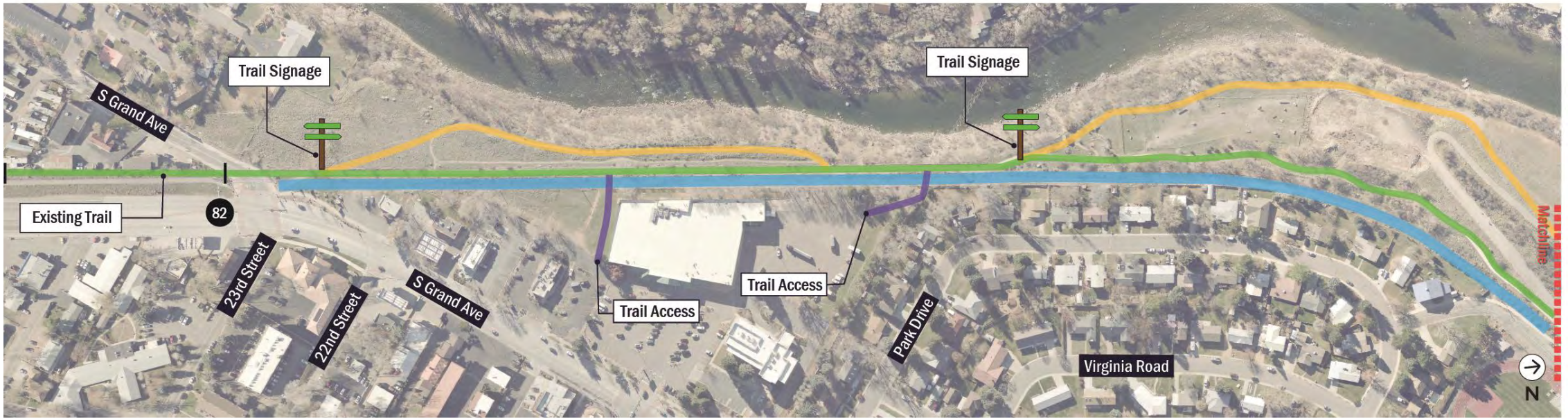
- Improve traffic signal coordination/progression
- Transit signal priority (TSP)
- Safety improvements

# Improvements to consider: Regional and Local Bus Service

- Improve local transit service to optimize ridership
- Improve local/regional transit service connections
- Reduce local/regional transit service redundancies



# Rio Grande Corridor - Minimal Construction Option



# Rio Grande Corridor - Minimal Construction Option

## Info and Features

- Minimizes the width of disturbance and places the trail and transit alignment next to each other with a barrier separation
- Capital cost is roughly \$15M-\$20M
- Can accommodate widening the width of the existing trail from 10' to 12'



# Rio Grande Corridor - Vertical Separation Option



# Rio Grande Corridor - Vertical Separation Option

## Info and Features:

- 70% of trail will move to at least 8' away from the busway (Rendering 3)
- 30% of trail will be next to busway but vertically separated (Rendering 4)
- Capital cost is roughly \$20M-\$25M
- Includes landscaping between trail, busway, and properties and parallel gravel running path where space allows
- Maximizes visual separation between bus lane and trail user



MOVE Study

# NEXT STEPS



1. Select preferred BRT extension alternative
2. Evaluate complementary multimodal transportation improvements
3. Prepare conceptual designs and cost estimates
4. Prepare implementation plan
5. Review with the community

<https://rftaglenwoodspringsmove.com/>