SH 82-Aspen West Transportation Needs Study

Transportation Coalition Meeting
May 1, 2025

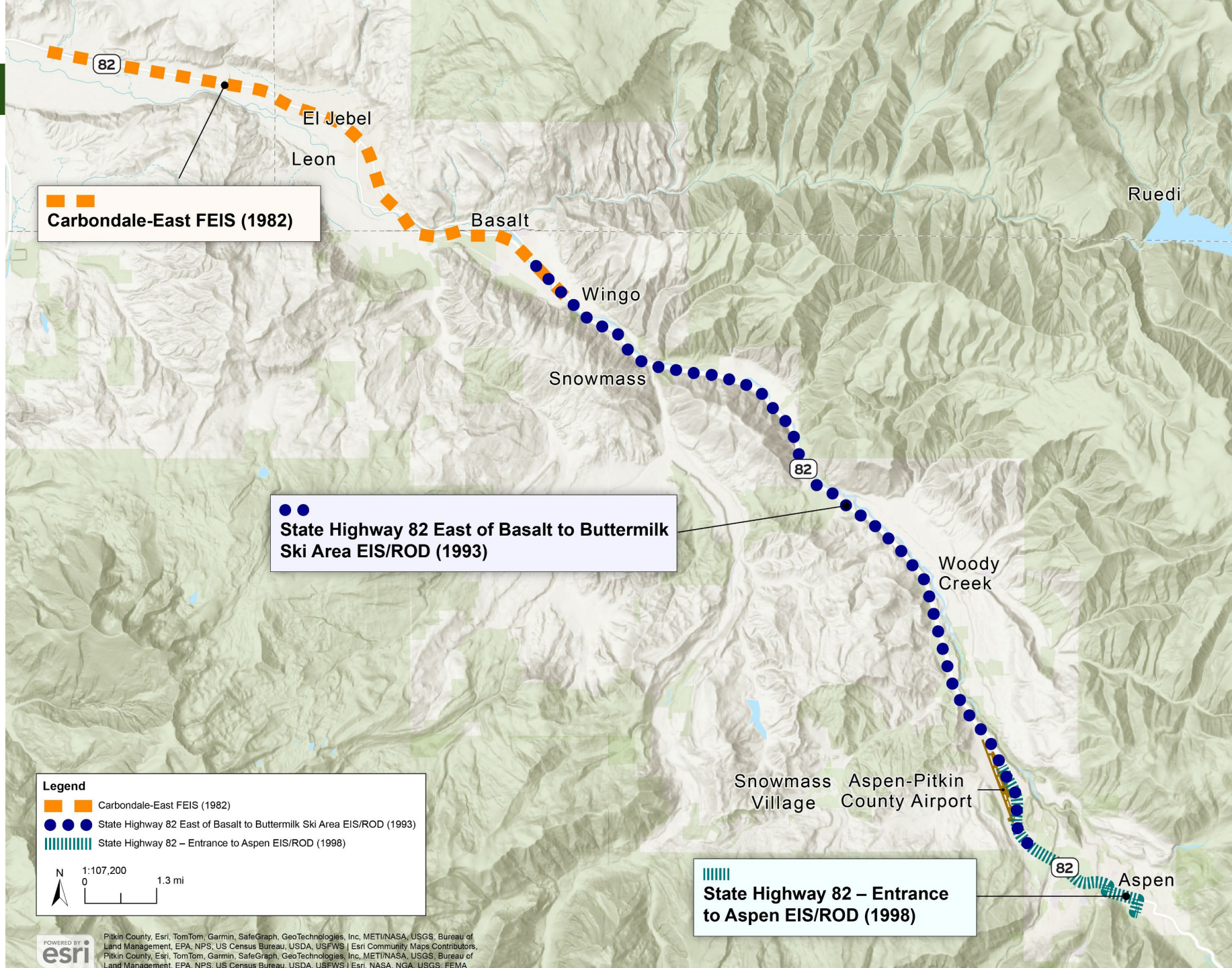
Agenda

- Background and History
- Purpose and Need
- Available Data on Transportation Needs
- Project Limits
- Next Steps

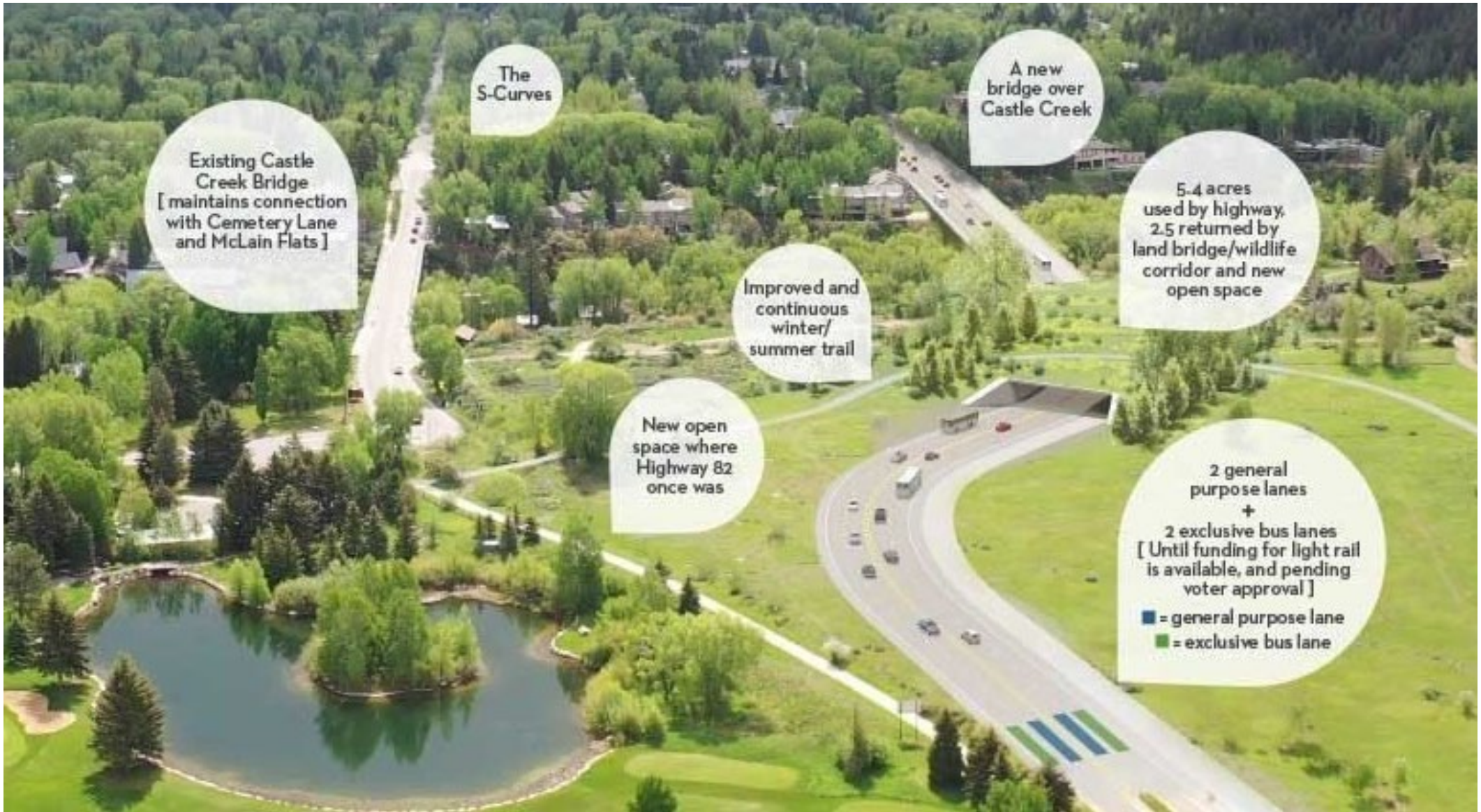
CITY OF ASPEN

Background and History

Background and History – Prior SH 82 Studies



Background and History – ETA Preferred Alternative: Uncompleted Improvements



Background and History – Castle Creek Bridge Studies (2024)

Spring 2024

- Bridge Feasibility Report
  - Rehab Existing Bridge
  - 2-Lane Replace
  - 3-Lane Bridge Options
- S-Curves widening memo
  - 2 to 4 lanes (dedicated transit)
- NEPA Processes

Summer 2024

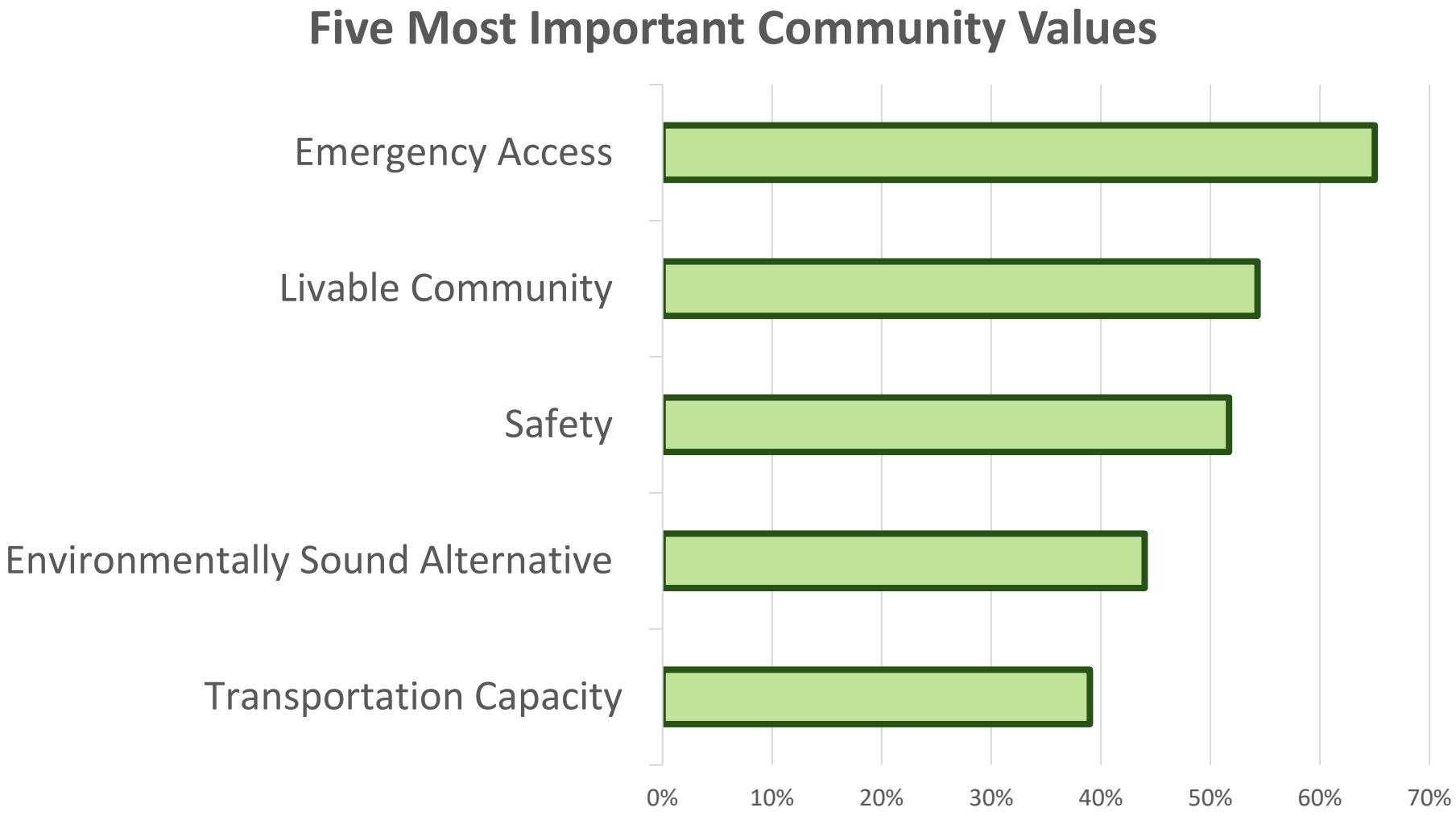
- Traffic Memo/Alts
- S-Curve refinements
- CCB Sidewalk removal
- Alternatives Sensitivity Analysis
- Funding Options
- Economic Impact Analysis

Background and History – CCB Inspection

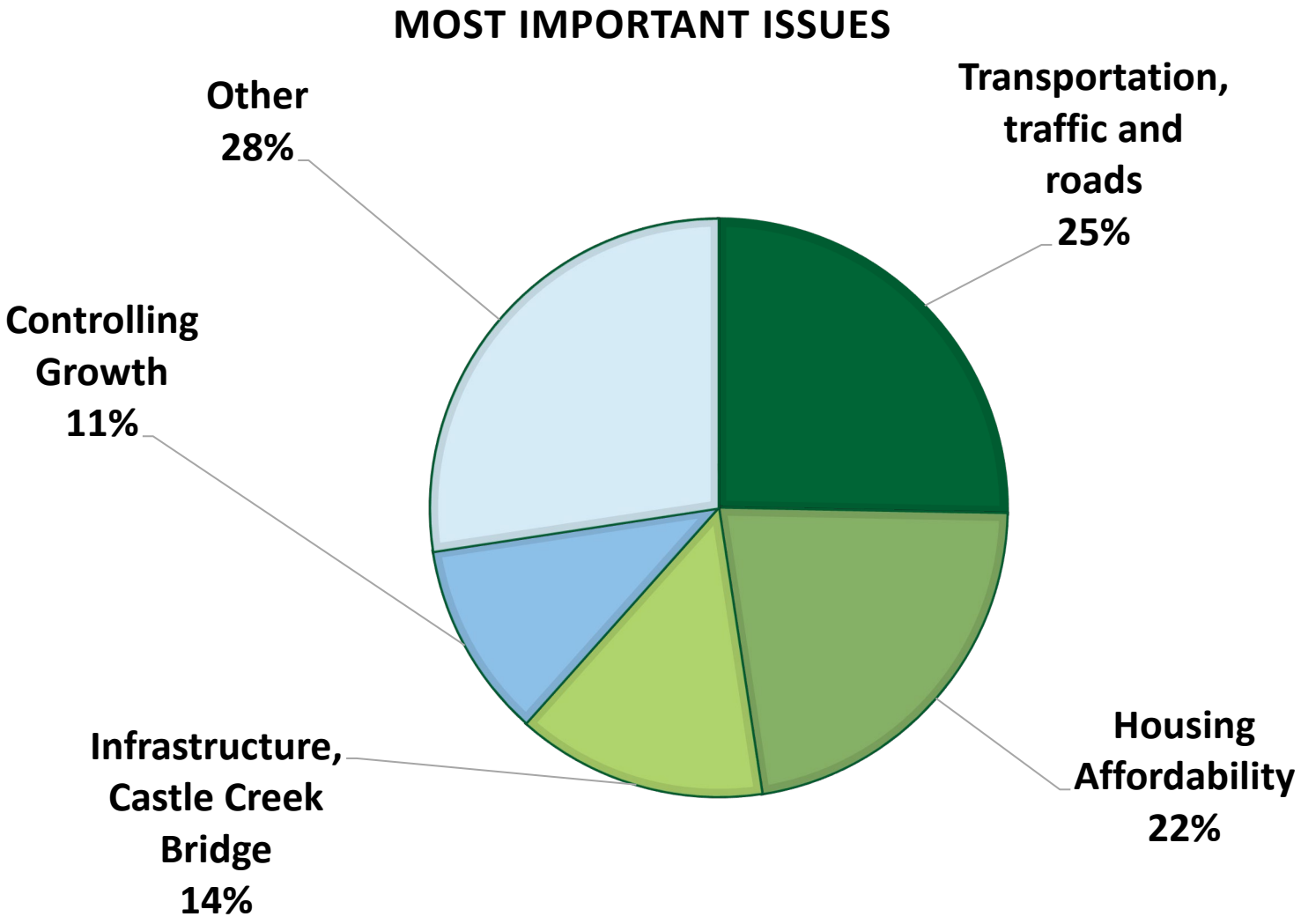
CCB Reinspected – Fall 2024

- Fair Condition
  - Deck, Substructure and Superstructure
  - Fair Condition means *structural elements are sound*
  - Preventative maintenance measures may be needed
- No Safety Concerns
- Next inspection 2026

Background and History – City Polling Result (December 2024)



Background and History – City Polling Result (December 2024)



For specific issues:

86% - Traffic congestion and travel times are important in any ETA solution

83% - Ensuring there are multiple ways to leave Aspen in the event of an emergency is important

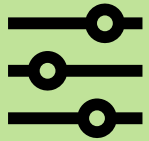
CITY OF ASPEN

Purpose and Need

Purpose and Need – What is a “Purpose and Need” Statement?

Foundation of Project

Establishes what the agency is proposing and why the project is needed.

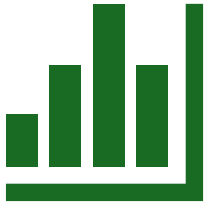


Basis for developing the range of reasonable alternatives required in an EIS

Alternatives are measured by their ability to address the purpose and need

Purpose and Need – Guidance for Developing Purpose and Need

Purpose identifies what the project is intended to achieve but does not specify the solution



Needs clearly define the transportation problems and are supported by data

May also identify other objectives related to the primary transportation purpose

Should be concise and understandable for the general public

CITY OF ASPEN

Planning Context

Planning Context – Review of Regional Adopted Plans and Goals

- Purpose of Review
  - Promotes consistency with goals and objectives developed through public planning process.
  - Establish community thinking and goals
  - City of Aspen, Pitkin County, CDOT and RFTA/EOTC Planning documents were reviewed

Planning Context – Key Themes from Adopted Plans

CDOT

- Safety – Vision zero
- Resilience – Ability to keep roads open and functional in the face of unexpected events and challenges
- Fix it First – Invest in fixing facilities before rebuilding them
- Multimodal – Improve access to travel options beyond the single occupancy vehicle

Pitkin County

- Preserve rural character
- Maintain public facilities at their current capacities
- Make necessary safety improvements to roads
- Improve bicycle and pedestrian trails

RFTA

- Improve ped connections to transit stops
- Develop a multimodal solution to the ETA

City of Aspen

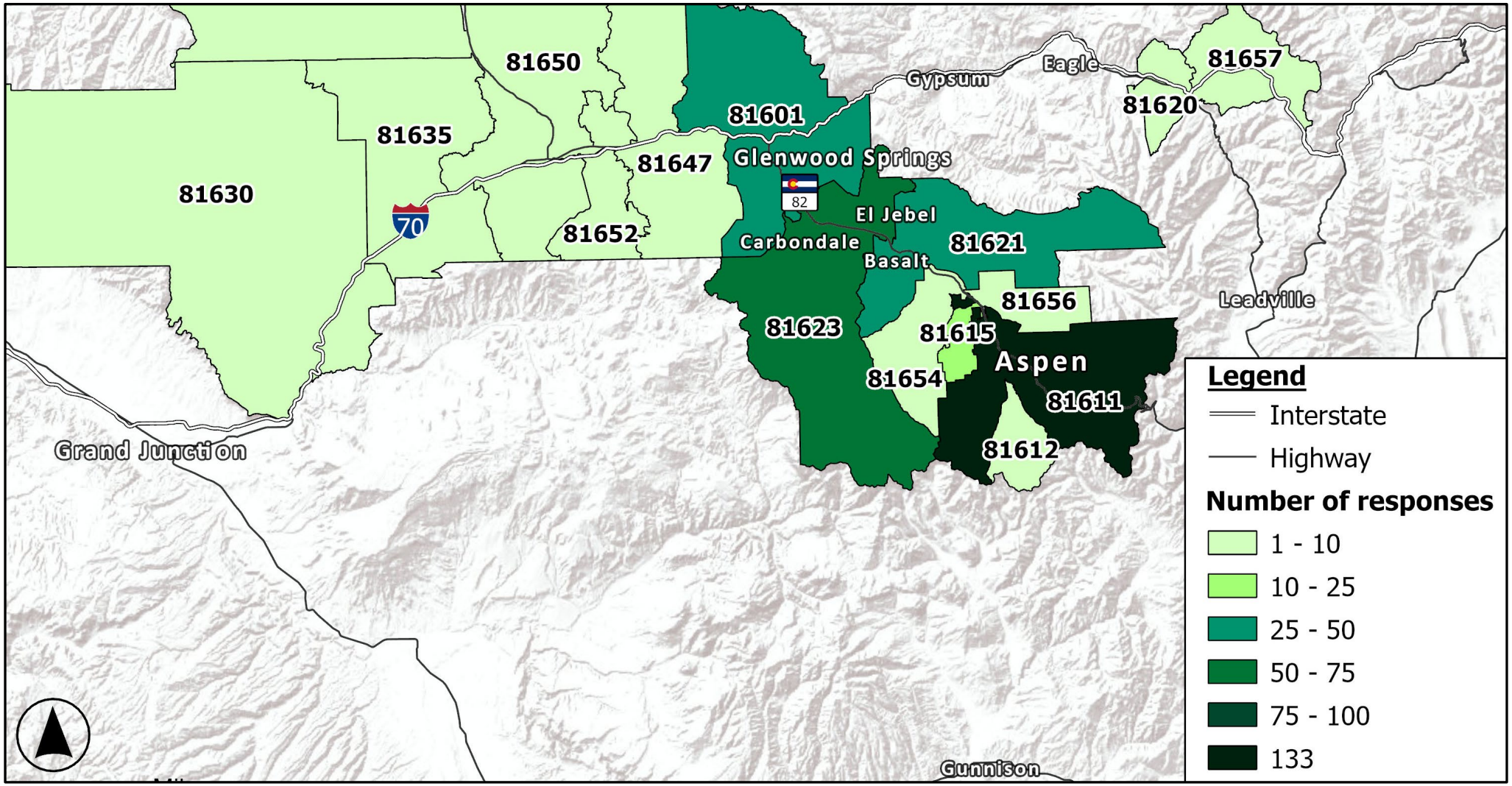
- Use transportation demand management to limit AADT to 1993 levels
- Improve regional transit
- Improve commuter bike and pedestrian trails
- Retain small town character
- Avoid a new loss of open space
- No new vehicular capacity on SH 82

CITY OF ASPEN

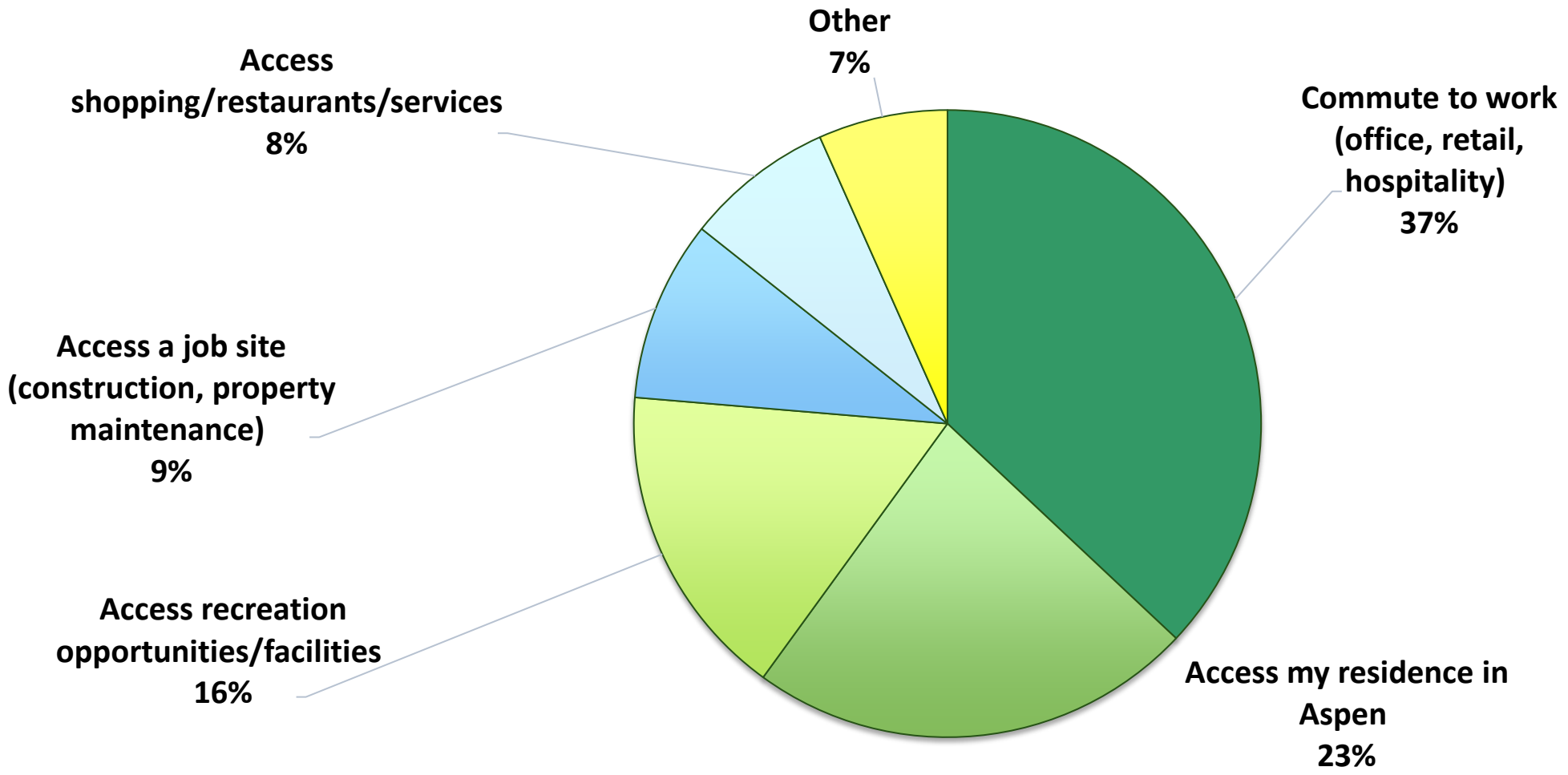
Available Data on Transportation Needs

Public Input on SH 82

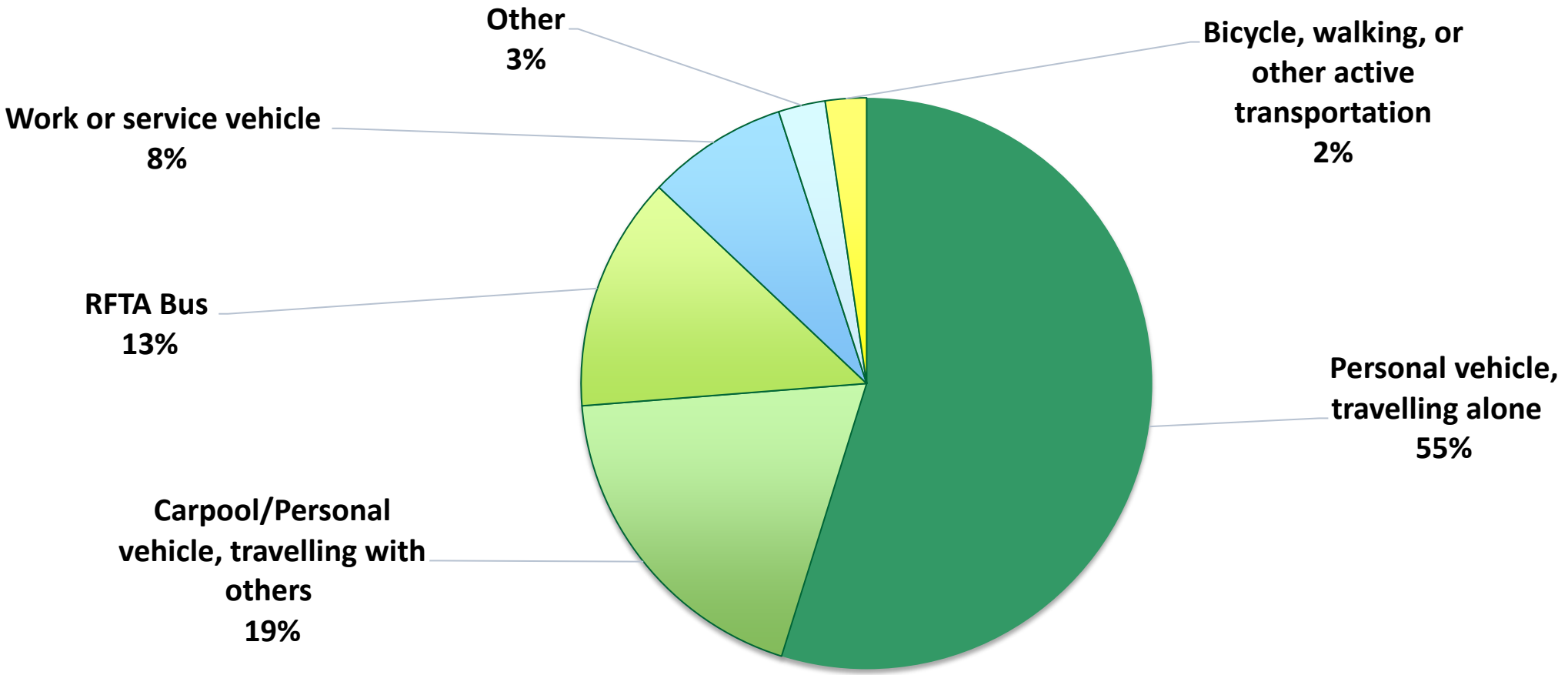
Public Input on SH 82 – Responses by ZIP Code



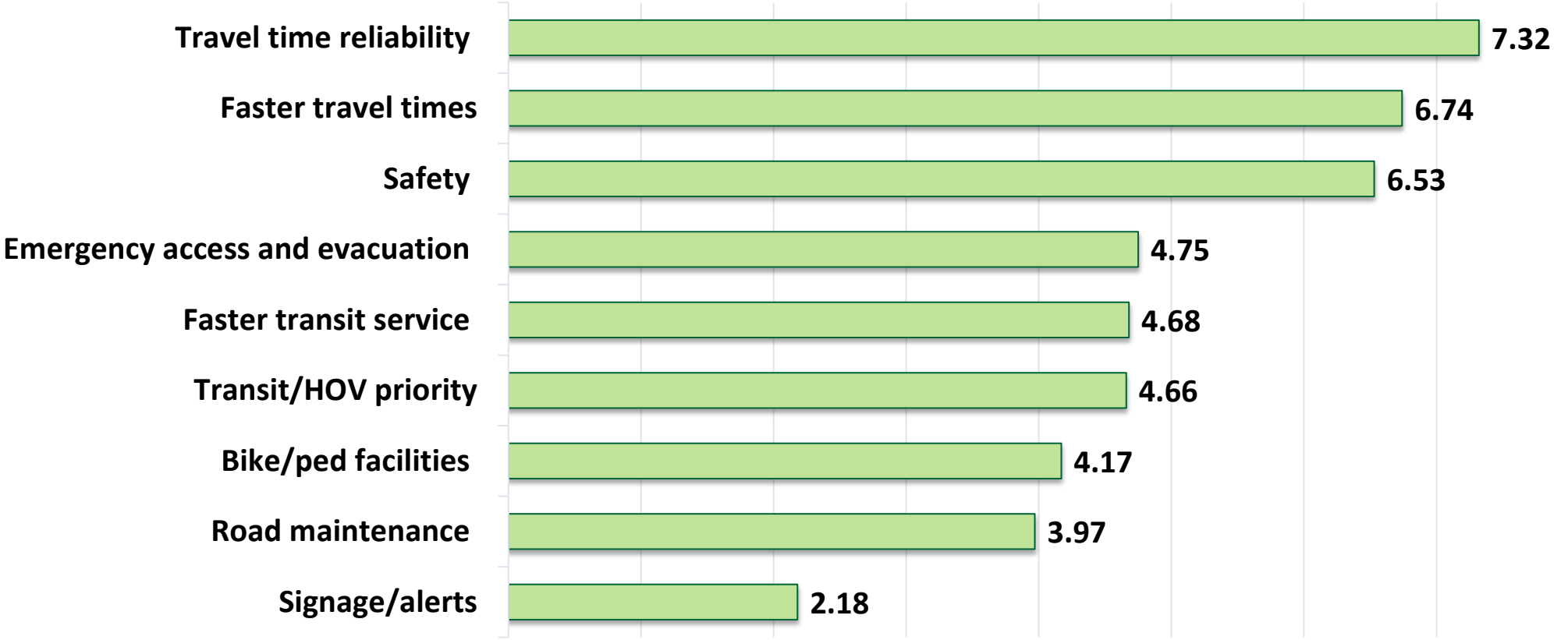
Public Input on SH 82 – Which Statement Best Describes Why You Travel to Aspen?



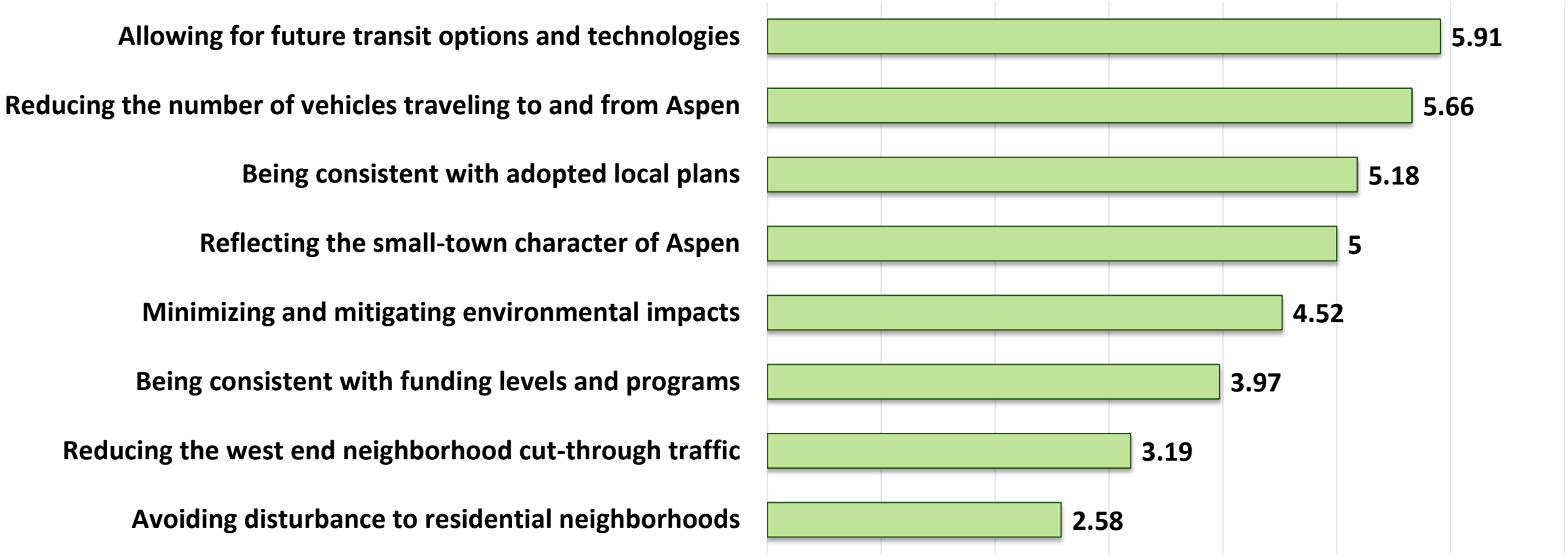
Public Input on SH 82 – What Mode of Travel Do You Use When for Travel to/from Aspen?



Public Input on SH 82 – What is Most Important to You When You Travel to/from Aspen?



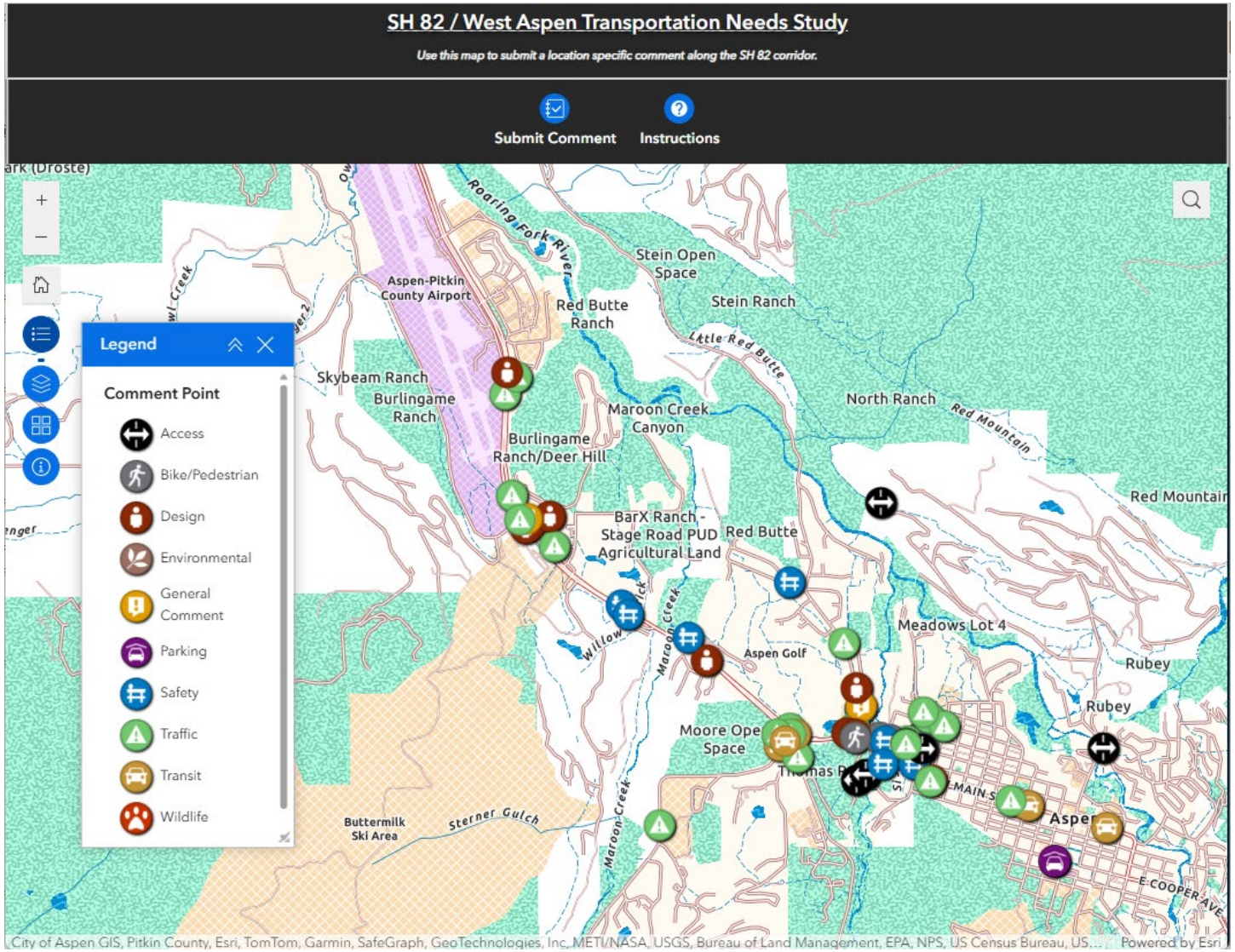
Public Input on SH 82 – What other Considerations are Important for Improving SH 82 to/from Aspen



Public Input on SH 82 – Interactive Map

Top Comment Categories

- Traffic
- Safety
- Bike/Ped

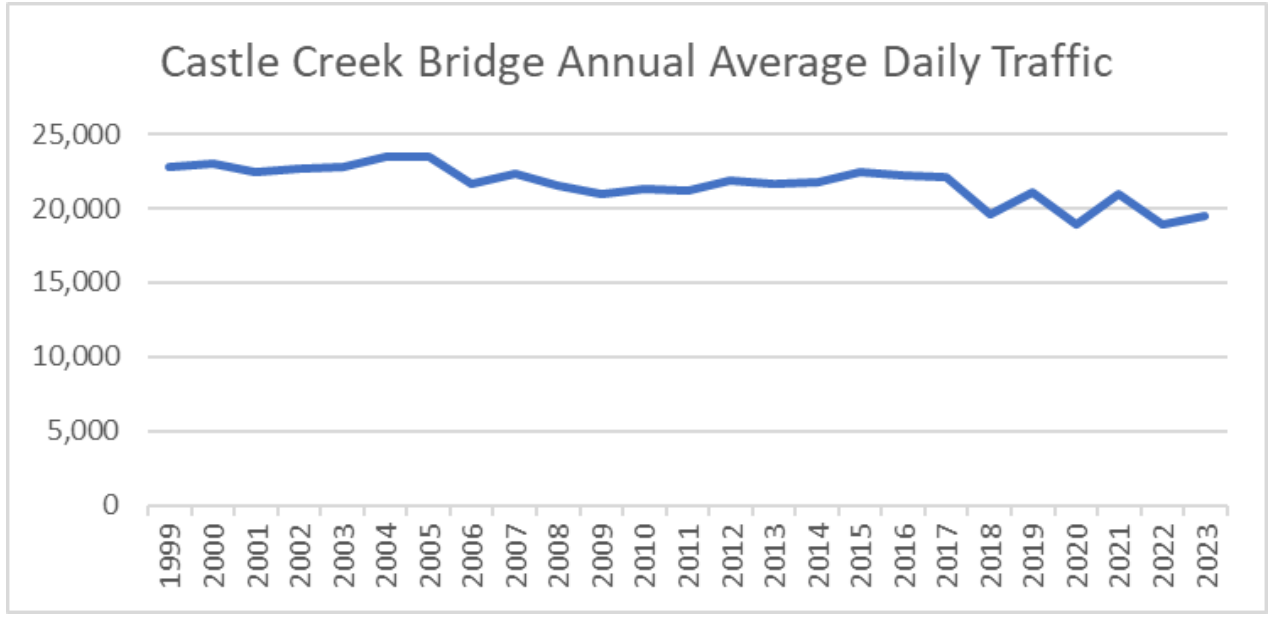


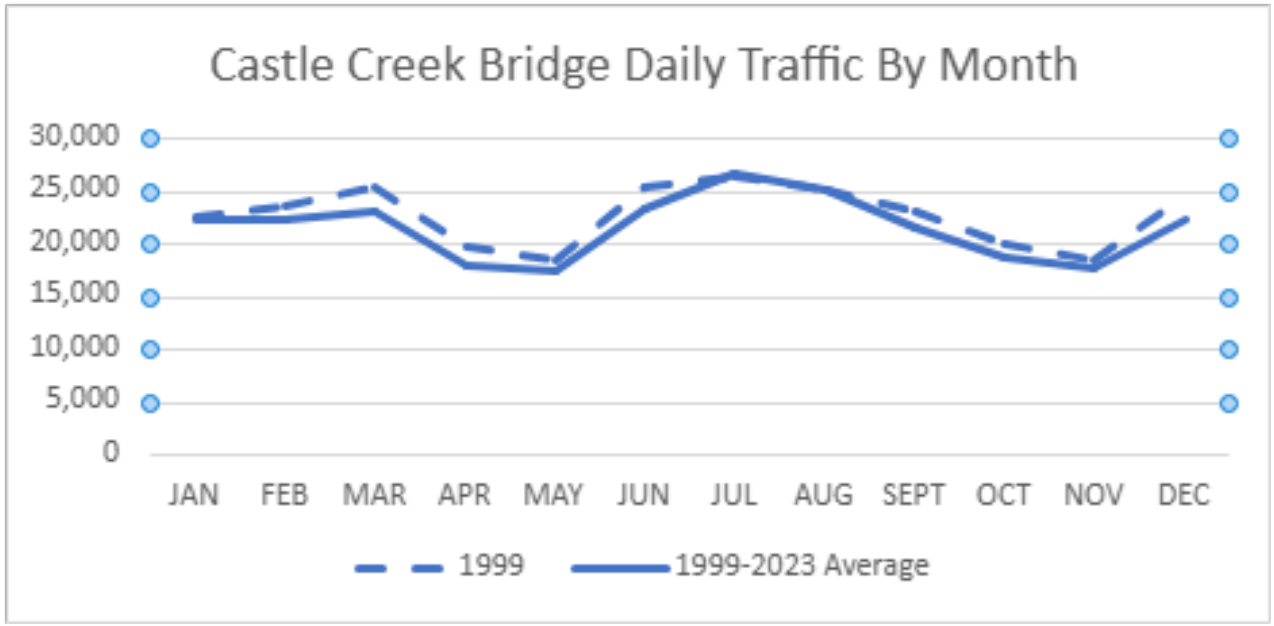
https://experience.arcgis.com/experience/fe2fb1a983d84c549128b57c0cffae30?draft=true

Traffic and Transit

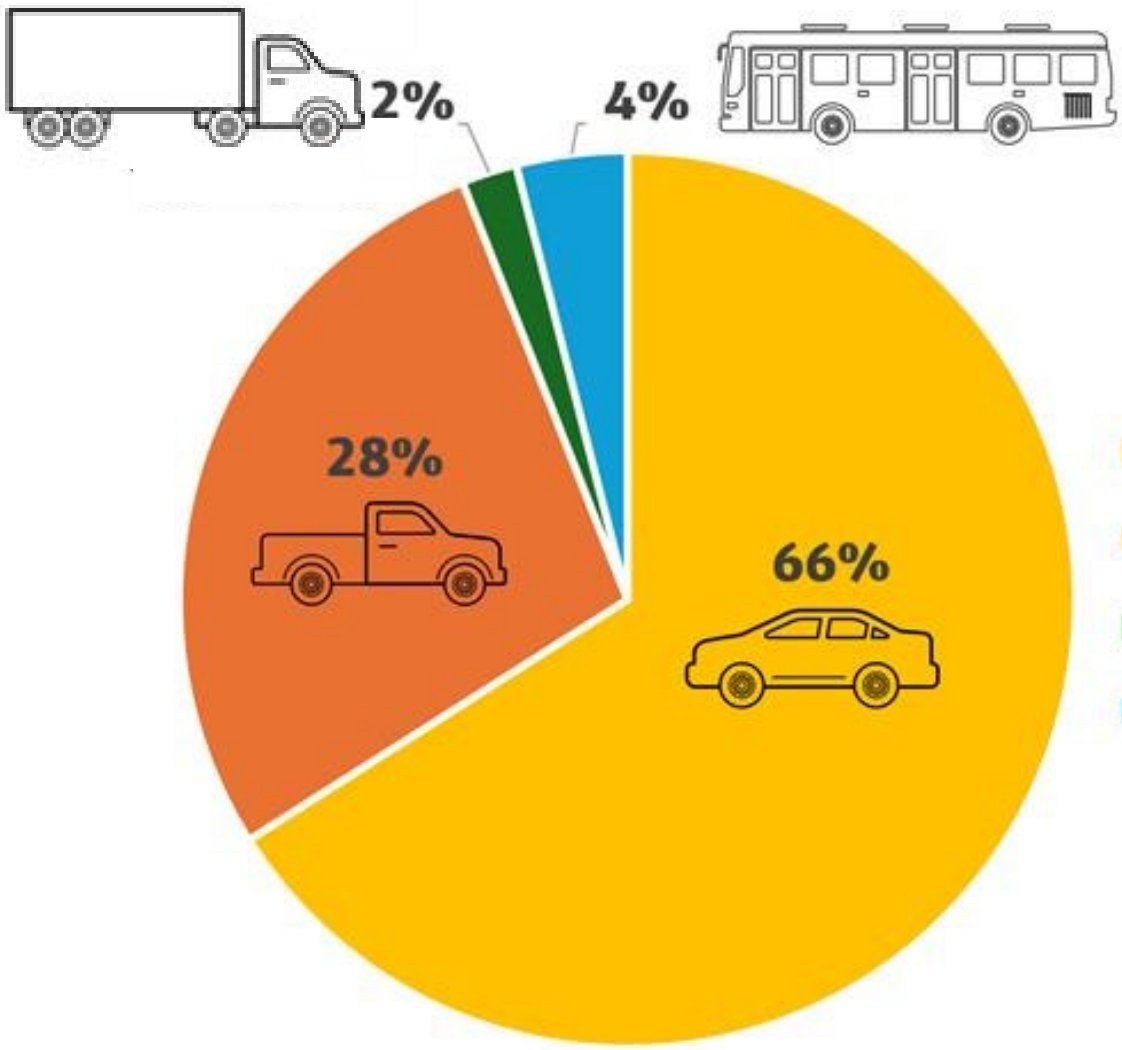
Traffic and Transit – Traffic Volumes

- Key Observations
  - Annual bridge traffic has slightly decreased over the last 25 years
  - July is historically the peak traffic month, which has remained steady over the last 25 years





Traffic and Transit – Vehicle Types

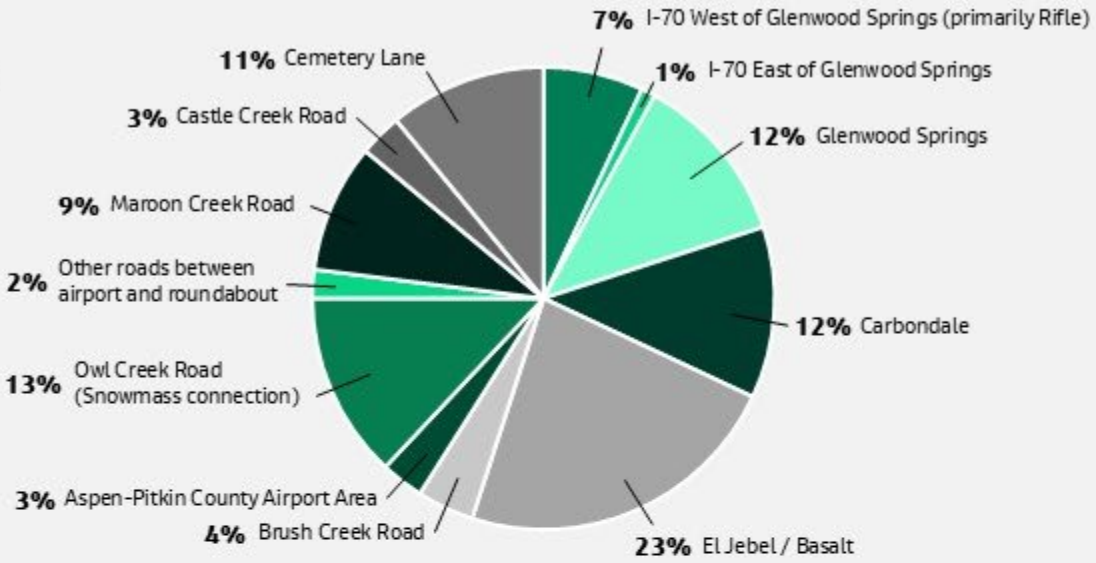


- 66% - Light (passenger cars and motorcycles)
- 28% - Medium (pick-up trucks and vans)
- 2% - Heavy (single unit trucks and trailers)
- 4% - Buses

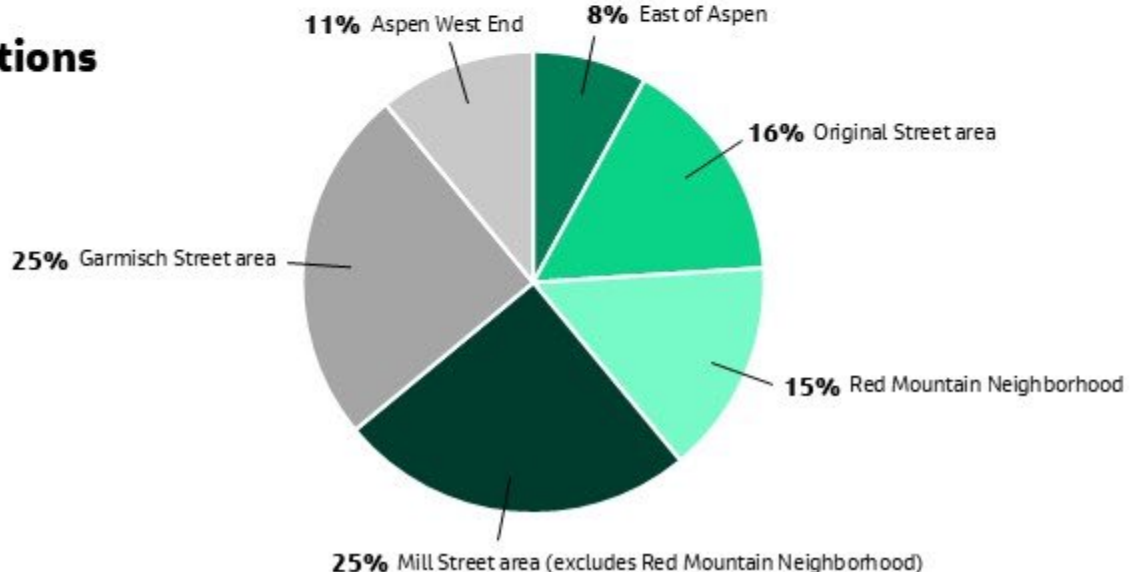
*Source: continuous counts collected December 2024 to February 2025 on SH 82 and Power Plant Road

Traffic and Transit – Origin-Destination Study (AM Inbound)

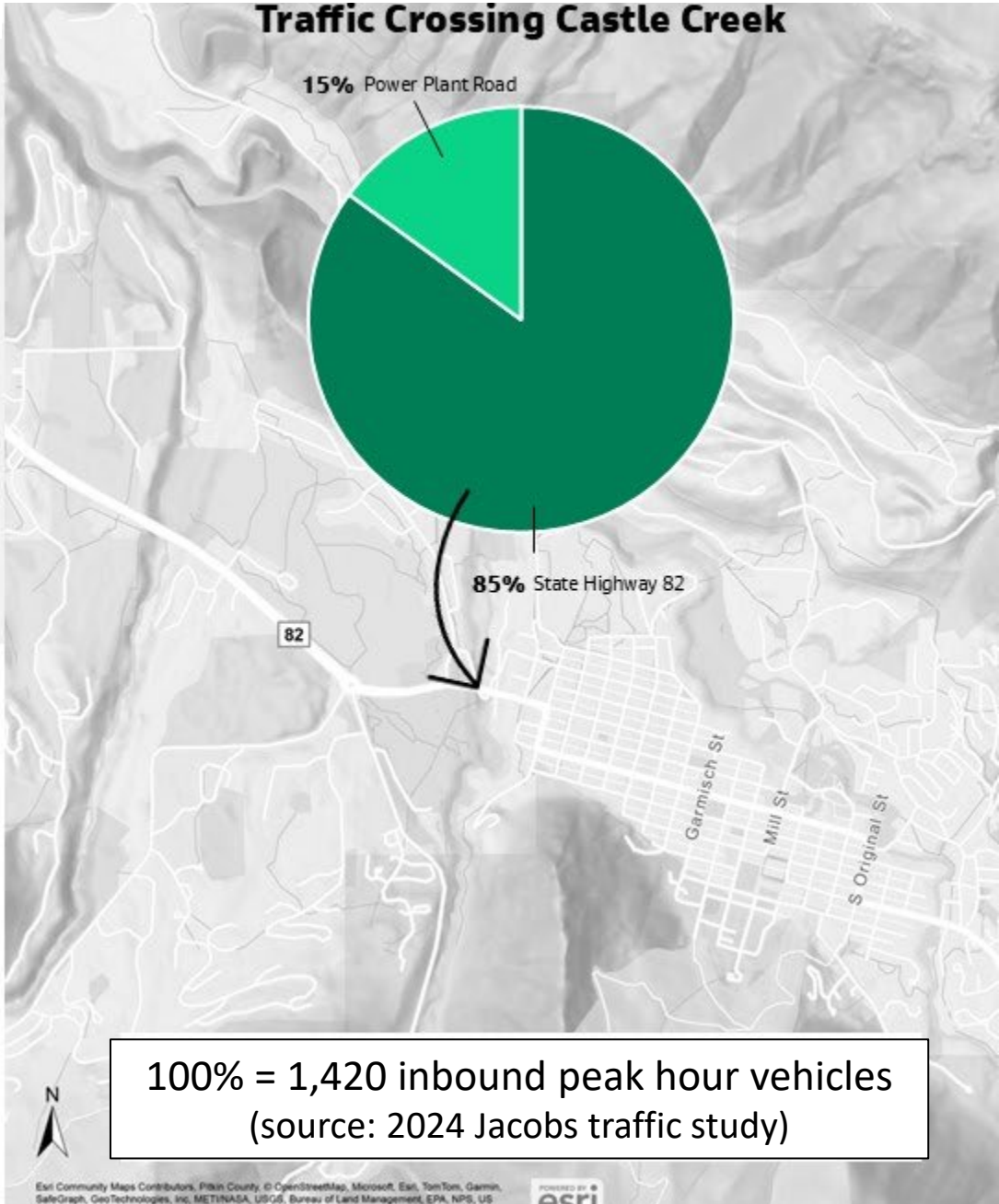
Origins



Destinations



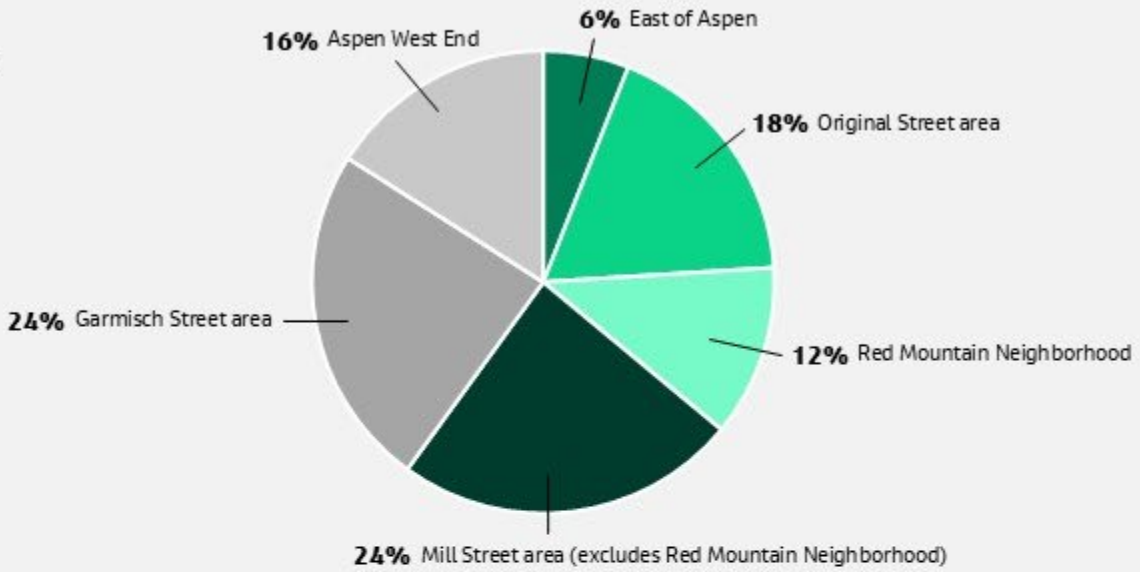
Traffic Crossing Castle Creek



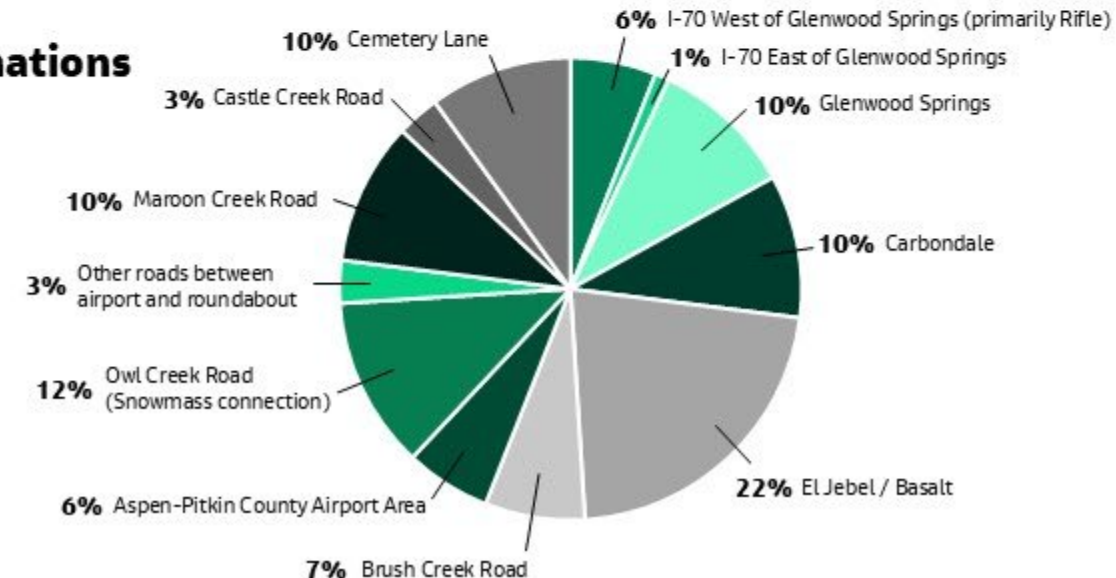
100% = 1,420 inbound peak hour vehicles
(source: 2024 Jacobs traffic study)

Traffic and Transit – Origin-Destination Study (PM Outbound)

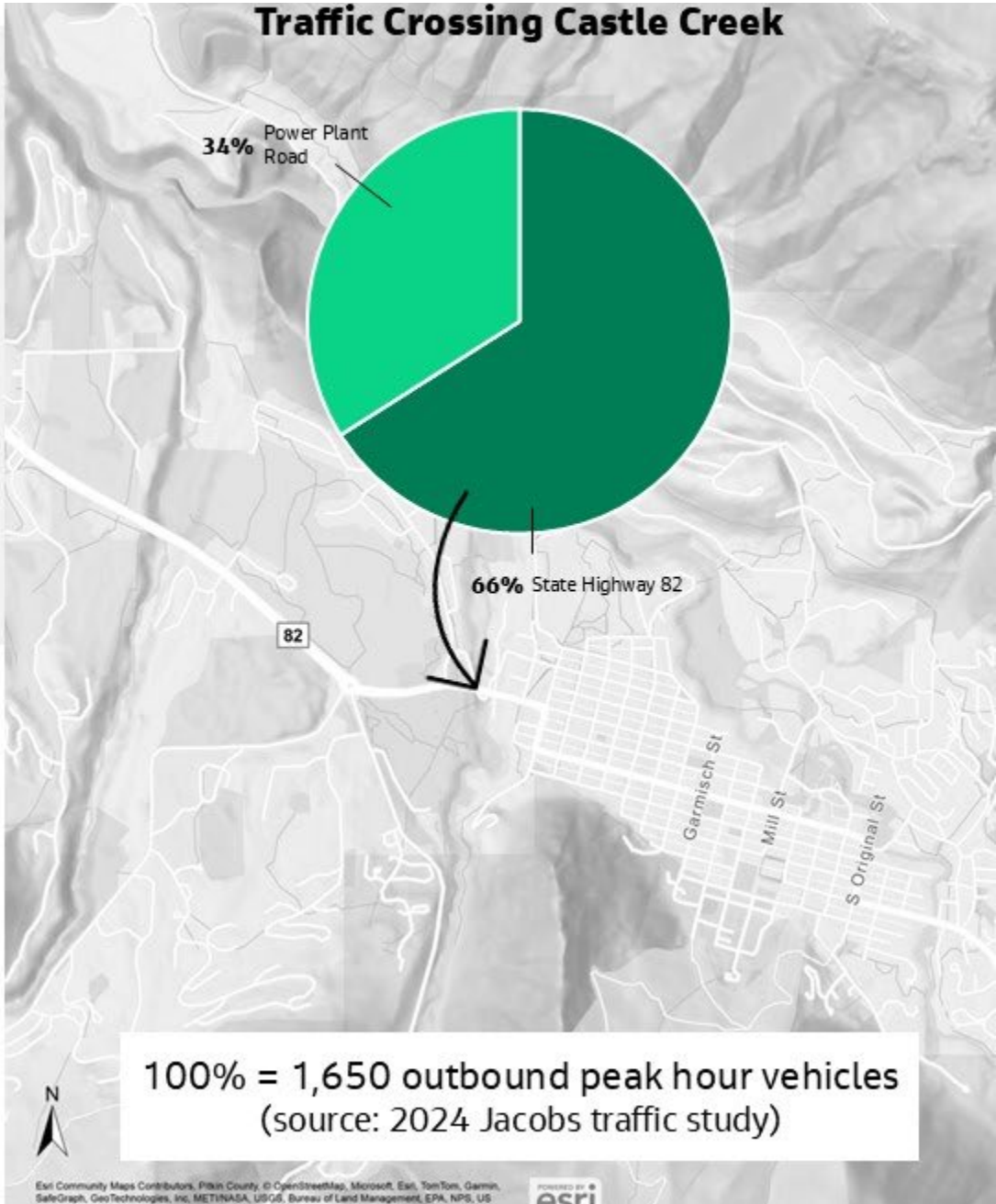
Origins



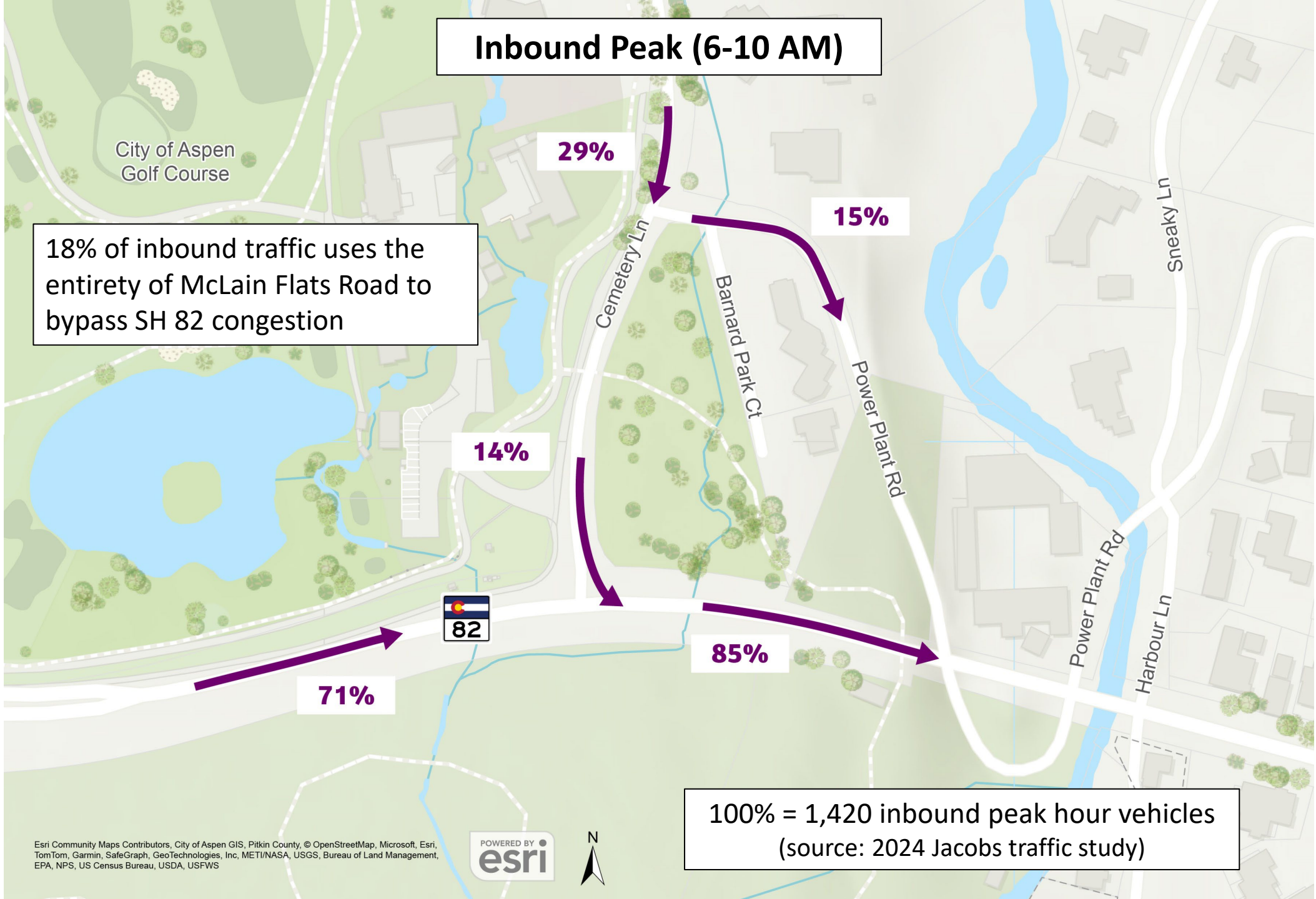
Destinations



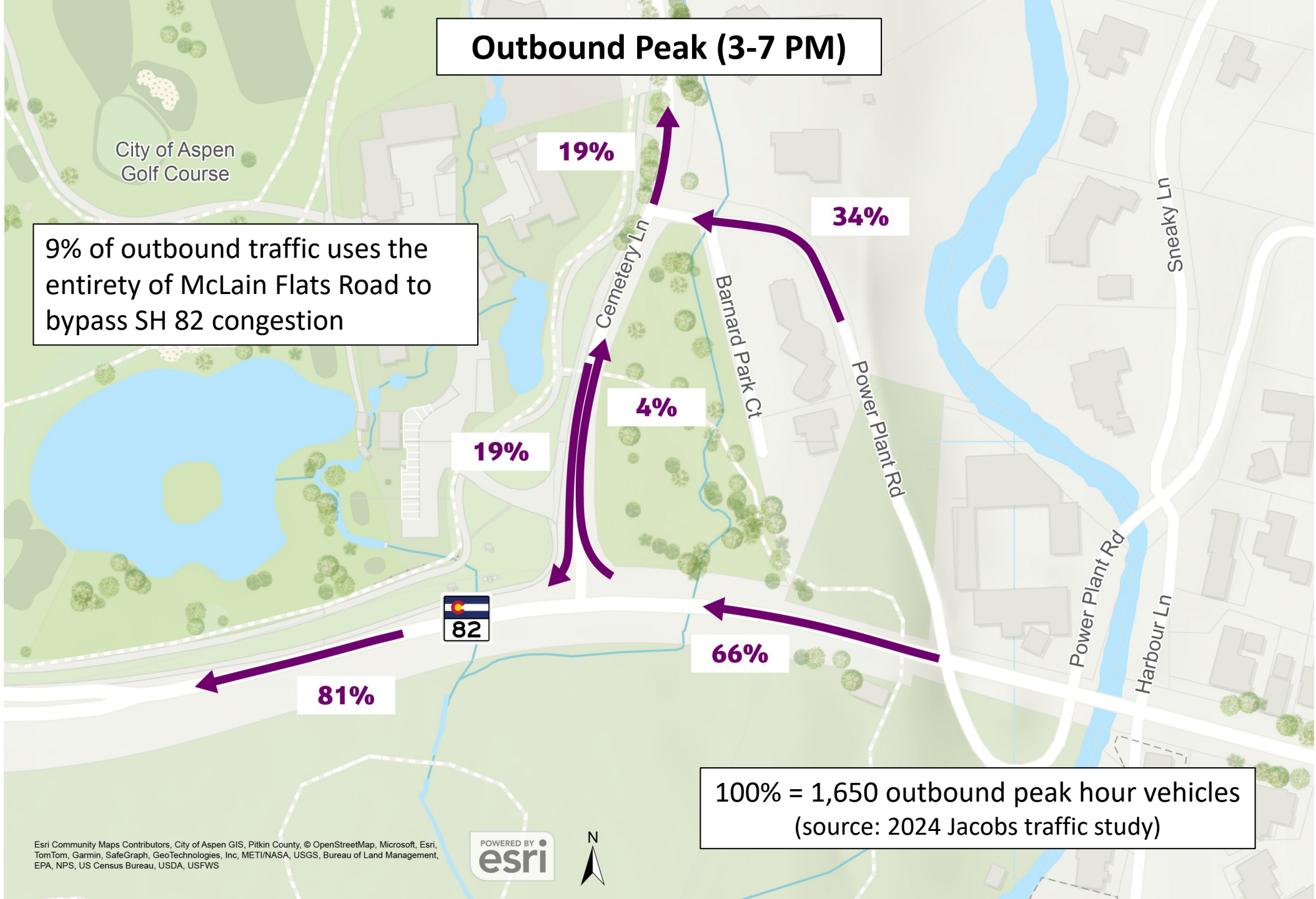
Traffic Crossing Castle Creek



Traffic and Transit – Inbound Cemetery Lane Area



Traffic and Transit – Outbound Cemetery Lane Area

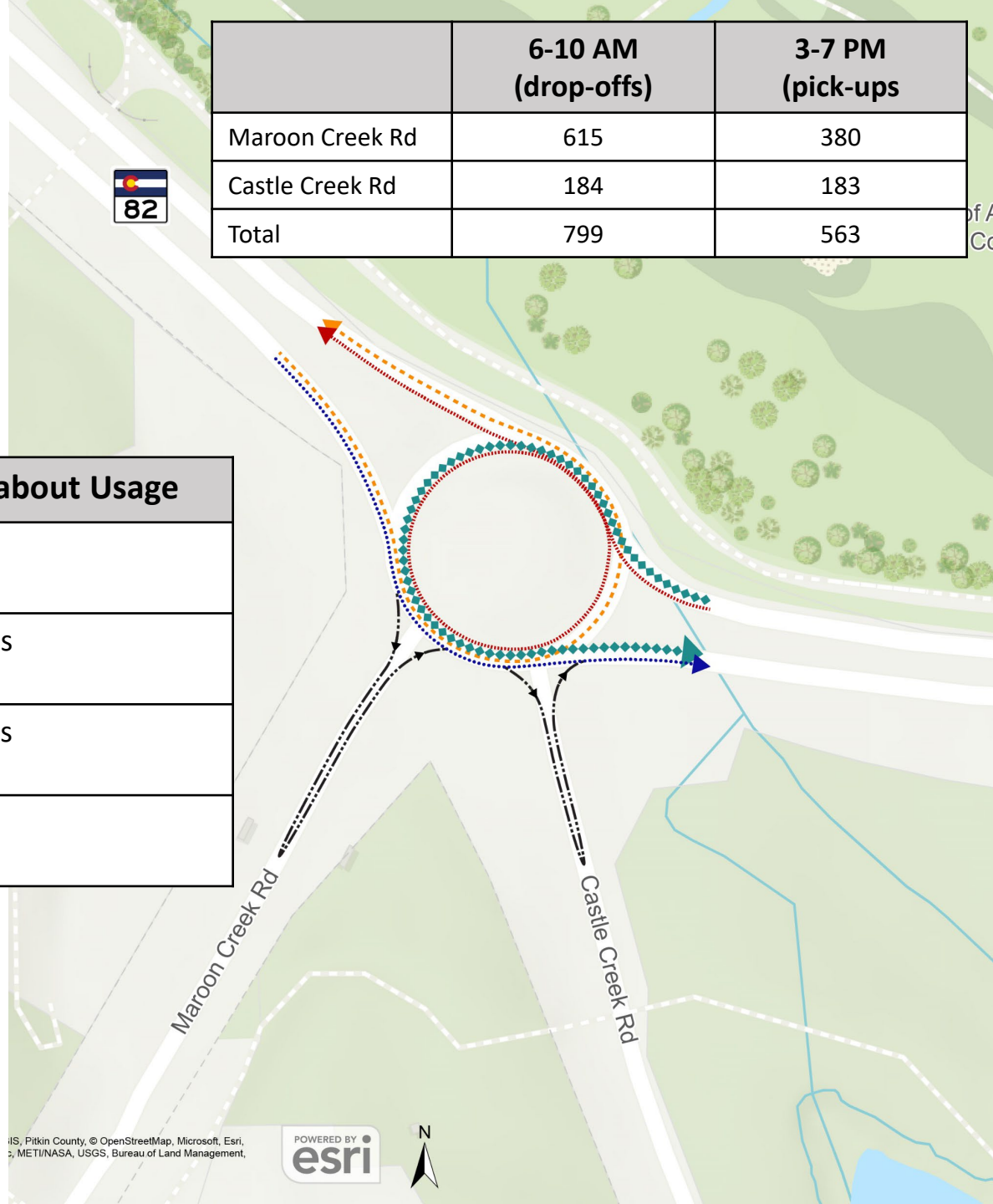


Traffic and Transit – Maroon Creek Roundabout

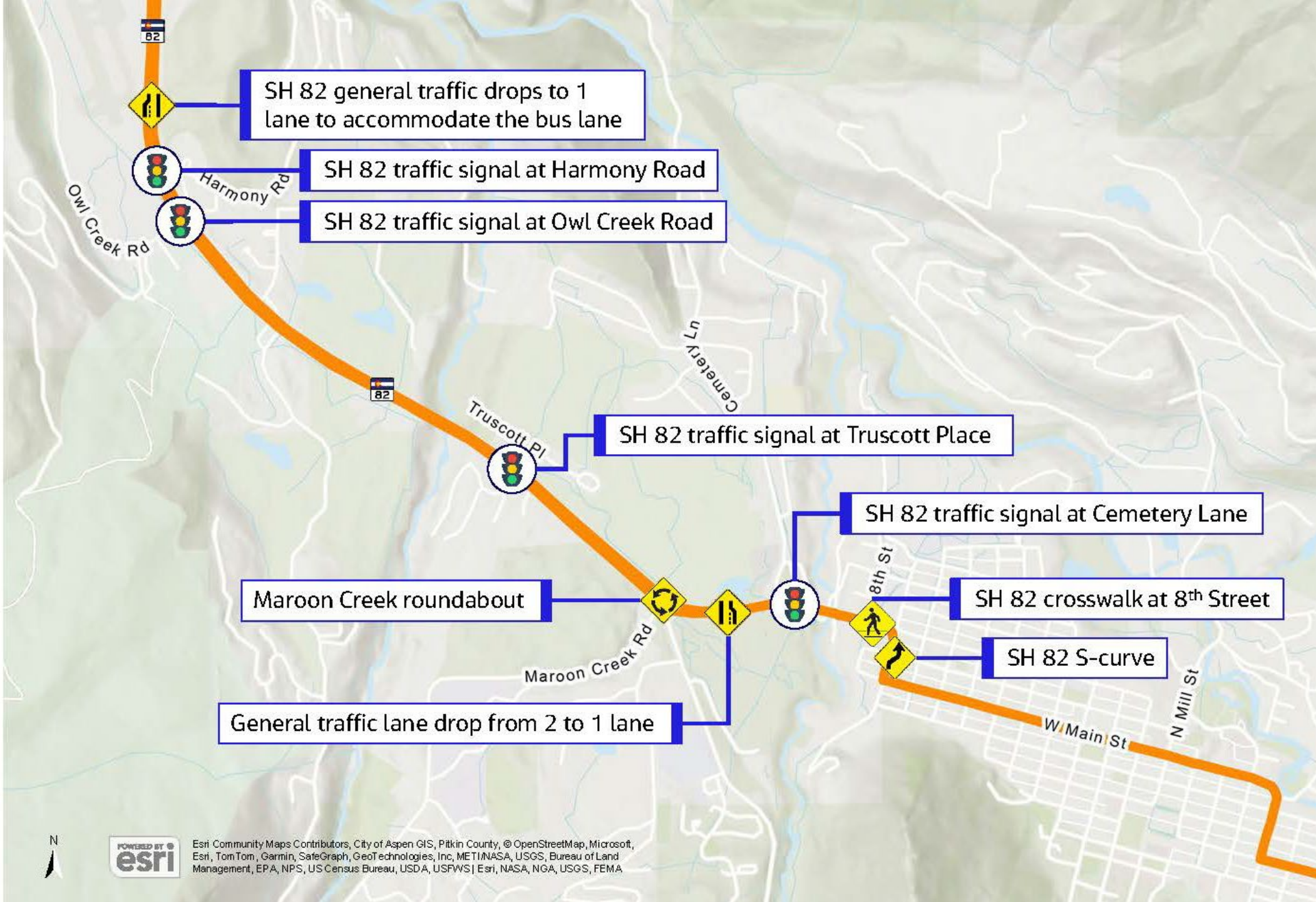
Note: All vehicle trips in this slide use Maroon Creek Road or Castle Creek Road for a pick-up or drop-off (data from February 2024)

Line Color	Primary Trip Purpose	Percent of Total	Roundabout Usage
	People who live around Downtown Aspen, returning home	43%	1 loop
	People who live around Downtown Aspen, going to work downvalley	21%	1.5 loops
	People who live downvalley, going to work around Downtown Aspen	20%	0.5 loops
	People who live downvalley, returning home	16%	1 loop

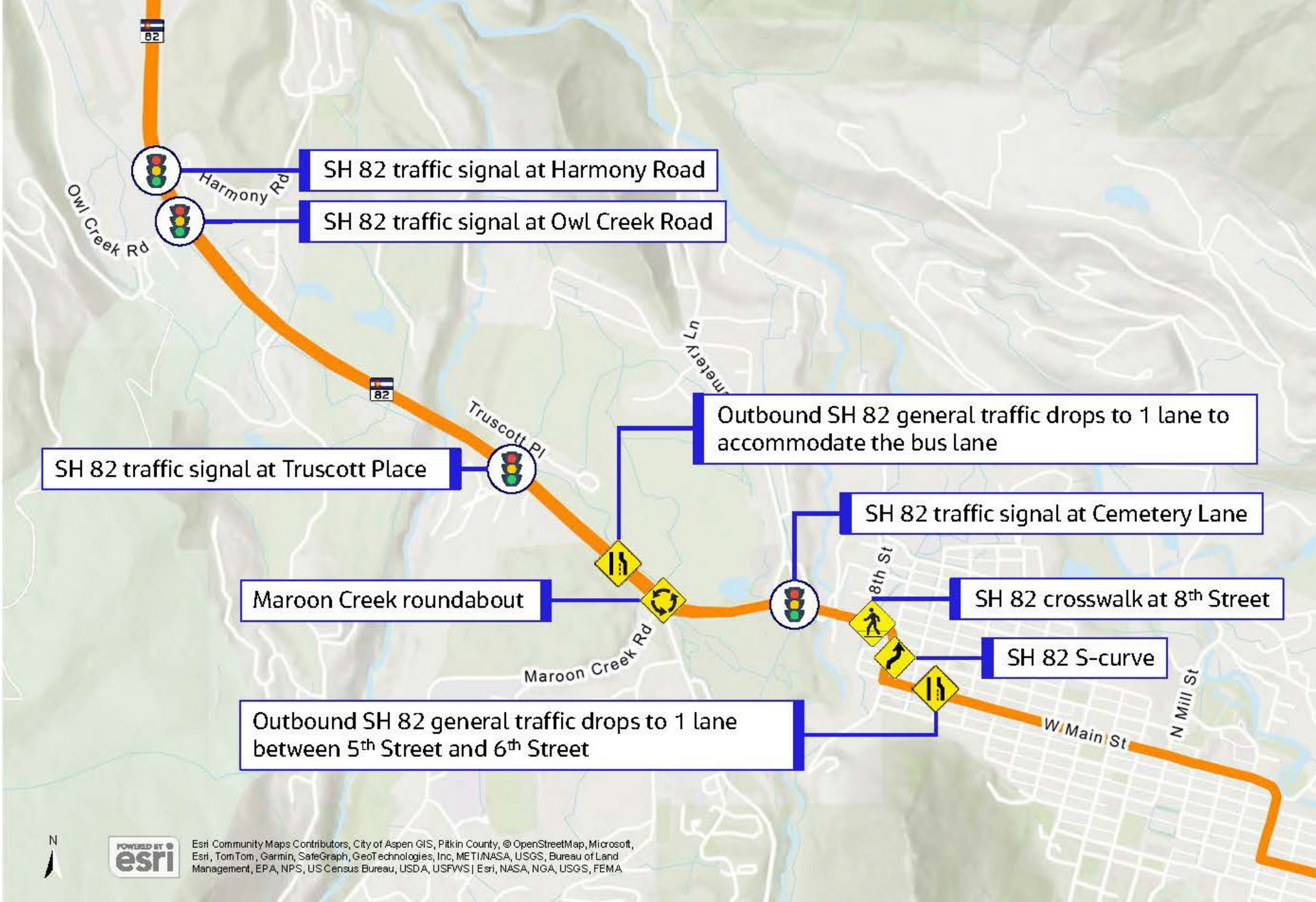
	6-10 AM (drop-offs)	3-7 PM (pick-ups
Maroon Creek Rd	615	380
Castle Creek Rd	184	183
Total	799	563



Traffic and Transit – Inbound SH 82 Bottlenecks

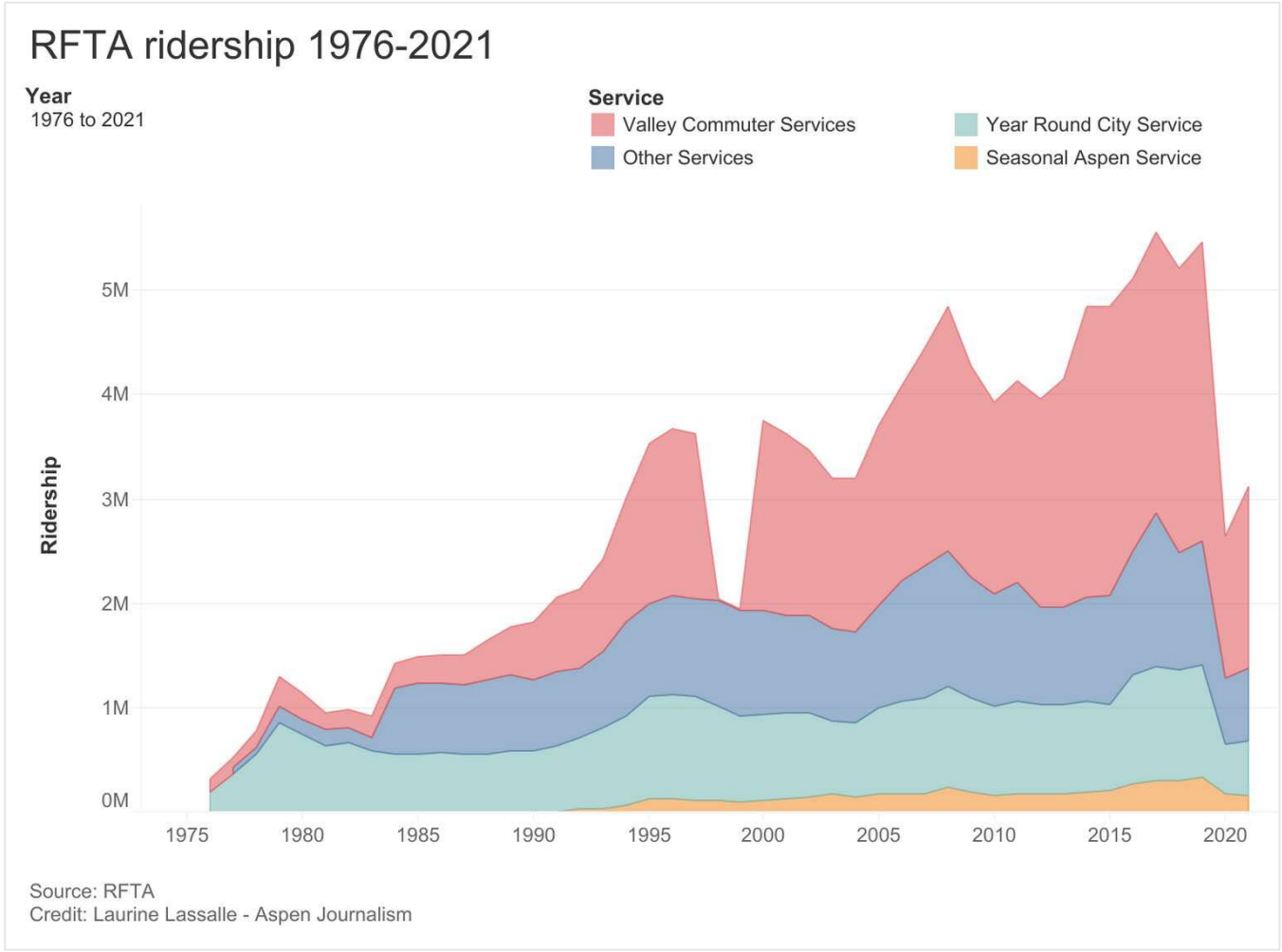


Traffic and Transit – Outbound SH 82 Bottlenecks



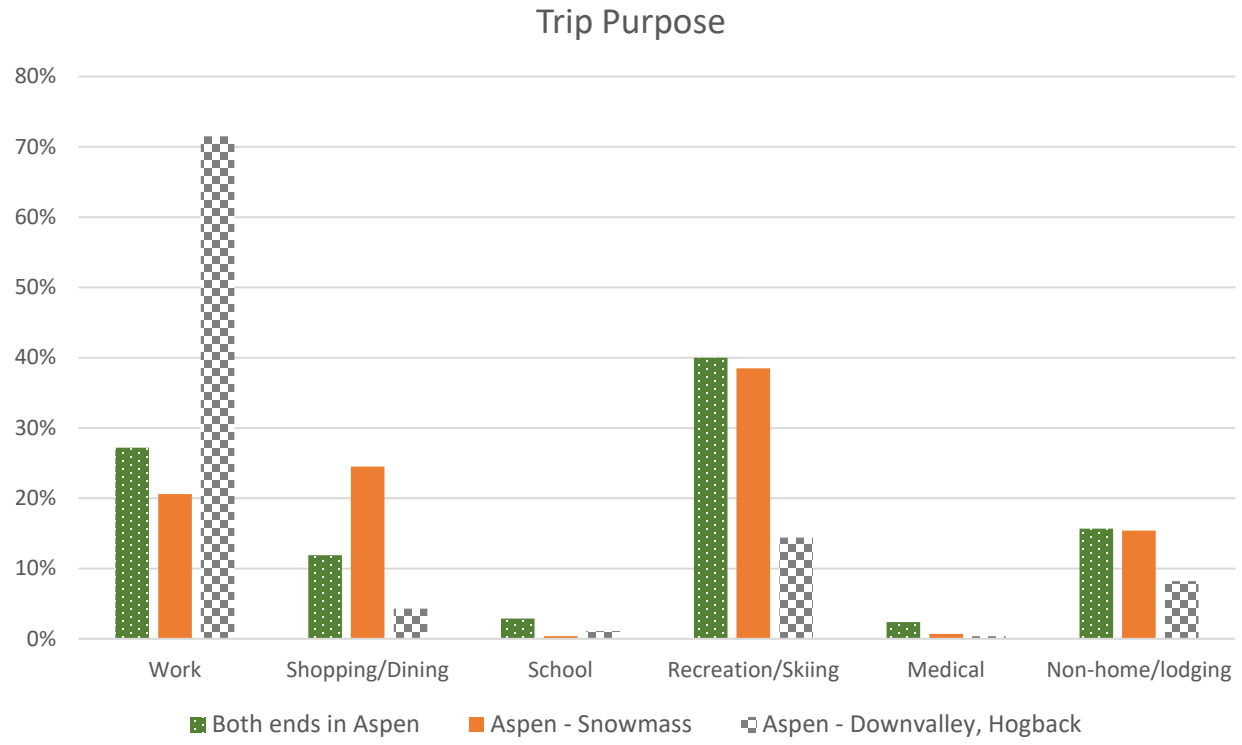
Traffic and Transit – RFTA Ridership Over the Years

- Key Observation
  - RFTA ridership has generally increased over the last 50 years, particularly for valley commuters



Traffic and Transit – RFTA 2022 Passenger Survey

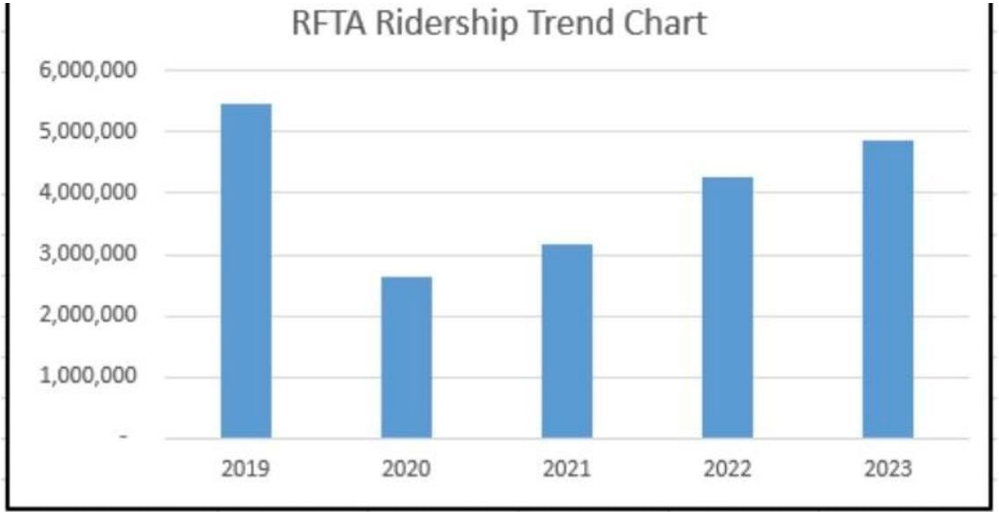
- Of 1,537 valid responses, 994 responses contained a trip-end in Aspen
  - 32%: both trip-ends in Aspen
  - 31%: Aspen–Snowmass
  - 37%: Aspen–Downvalley, Hogback (I-70)



Traffic and Transit – RFTA 2022 Passenger Survey

Top Reasons for Riding

1. **Avoid traffic congestion**
   - Least important for Aspen–Snowmass riders
2. **Help the environment**
   - Most important for riders with both trip-ends in Aspen
3. **Convenient to allow someone else to drive**
   - Least important for Aspen–Snowmass riders
4. **Save money on parking**
   - Most important for Aspen–Downvalley, Hogback riders
5. **Save money on gas**
   - Most important for Aspen–Downvalley, Hogback riders
6. **No access to car and/or license**
   - Most important for Aspen–Snowmass riders



Year	2019	2020	2021	2022	2023
Passenger Trips	5,468,641	2,647,936	3,154,534	4,259,383	4,863,638

Traffic and Transit – Key Findings

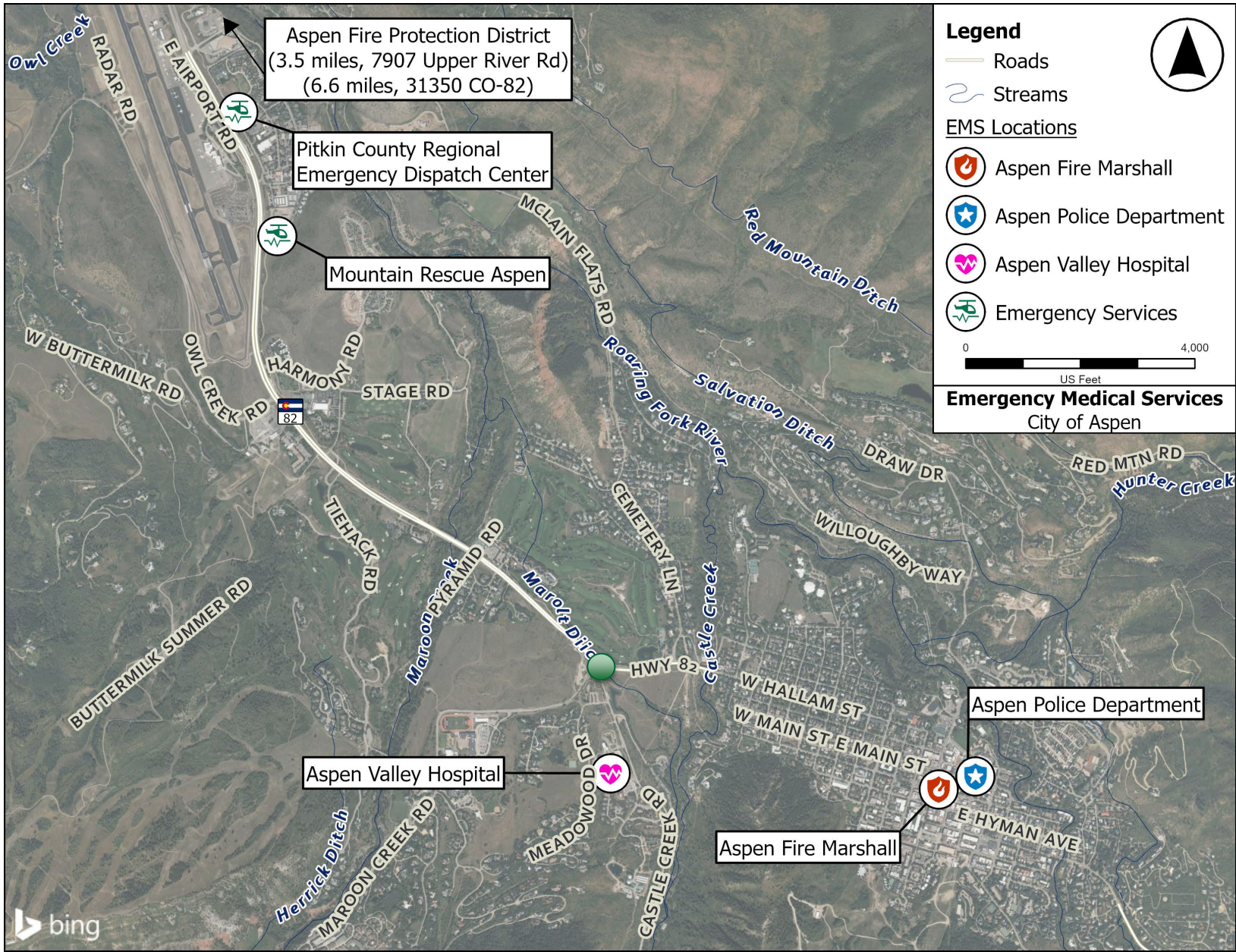
- Transit:
  - Transit is heavily used to get into and out of Aspen – but not always convenient
  - Non-continuous bus lanes lead to transit delay in mixed traffic
- General Traffic:
  - Bottlenecks contribute to large queues and travel delays
  - Congestion encourages queue jumpers
    - Inbound and outbound commuters use McLain Flats Road - not intended for heavy traffic.
    - Outbound queue jumpers cause congestion in West End neighborhoods (via Power Plant Road).
  - Seasonal traffic mixes with commuter traffic at Maroon Creek roundabout:
    - School traffic (single bell schedule)
    - Winter ski traffic
    - Summer visitor/residential traffic

System Redundancy – Emergency Response and Evacuation

System Redundancy – Emergency Response Issues

Congestion / Heavy Traffic Effects

- Slower response times.
- Sirens don't help much during peak hours
- Visitors in the roundabout are often confused
- All ambulances come and go from the hospital and must go through the roundabout in a "hub and spoke" manner
- Scheduled surgeries have been delayed
- Ambulance calls for non-life-threatening injuries.



System Redundancy – Other Hazards Affecting the Entrance to Aspen

Dam Failure / Inundation

- Leonard Thomas Reservoir on Castle Creek is listed in a significant hazard class

Flash Flooding/ Debris Flow

- The center pier of Castle Creek Bridge and Power Plant Road are located within the flood plain of Castle Creek.

Wildfire

- Marolt Open Space
- Surrounding Aspen

System Redundancy – Wildfire Risks

Recent GIS based modeling indicates 13.5 hours to evacuate the city on a peak summer day

- Lack of egress routes are a primary concern for evacuation.
- Topography and wind patterns in the west end of Aspen create a high possibility of a structure-to-structure transfer.
- There is insufficient infrastructure to facilitate a fast-moving fire.
- Evacuation orders will be issued as early as possible and will cover large areas.
- The “S Curves” and the Maroon Creek roundabout create unavoidable congestion and long evacuation times.

System Redundancy – Other Emergency Management Concerns

Key Points from Local Emergency Professionals

- Visitors do not have cars or access to emergency notifications.
- The roadway network operates like a cul de sac

Potential Unmapped Risk

- Current wildfire mapping (Colorado Forest Atlas and Federal No Harm) consider developed areas as unburnable, which has proven to be untrue based on recent fires in Colorado and other parts of the US.
- Many recent fires have burned quickly through areas that were low burn risk areas.

System Redundancy – Climate Change

2024 Colorado Water Conservation Board - Colorado Climate Assessment Report

- Indicates a trend of lower spring snowpack, lower summer soil moisture and lower annual streamflow

Wildfire Risk

- Potential 100% - 500% increase in frequency
- 400% increase of very large wildfires (over 50,000 acres)

Extreme Rainfall Risk

- A 2-12 percent increase in the 24 hour -100-year storm event by 2050.

System Redundancy/Emergency Response and Evacuation – Key Findings

- Congestion on SH 82 and lack of redundancy results in:
  - High emergency response times
  - Long evacuation times
- Problems will worsen with new development, traffic increases and climate change

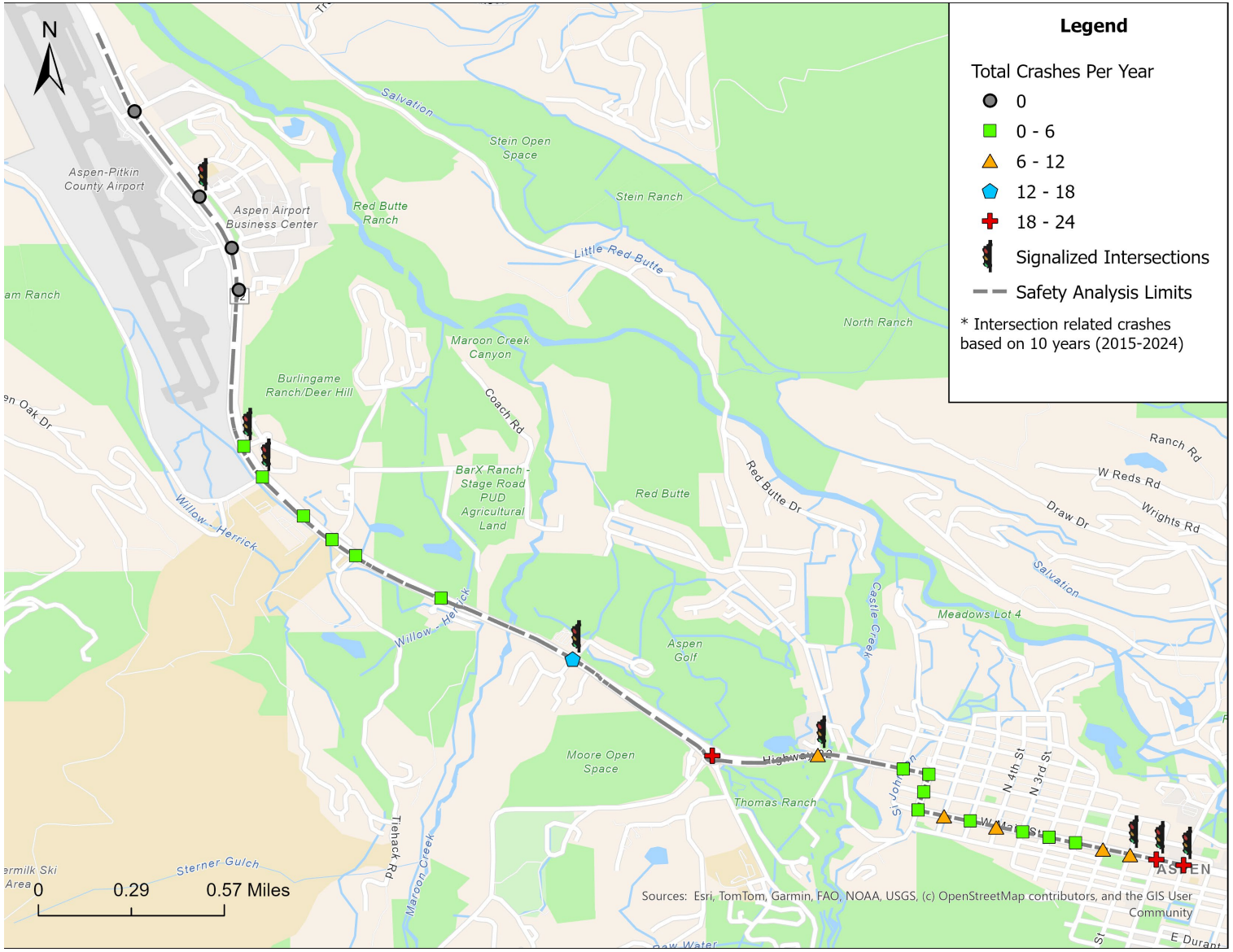
Safety

Safety

- Data and Study Area
  - Study Area (SH 82 and McLain Flats Rd)
  - Data Sources
    - City and CDOT (geocoded data from 2015 to 2024)
- SH 82 Specific Analysis
  - Intersections
  - Segments
  - Level of Safety Service (LOSS)
  - Roundabout and Rubey Park Transit Center
- McLain Flats Rd Diversion

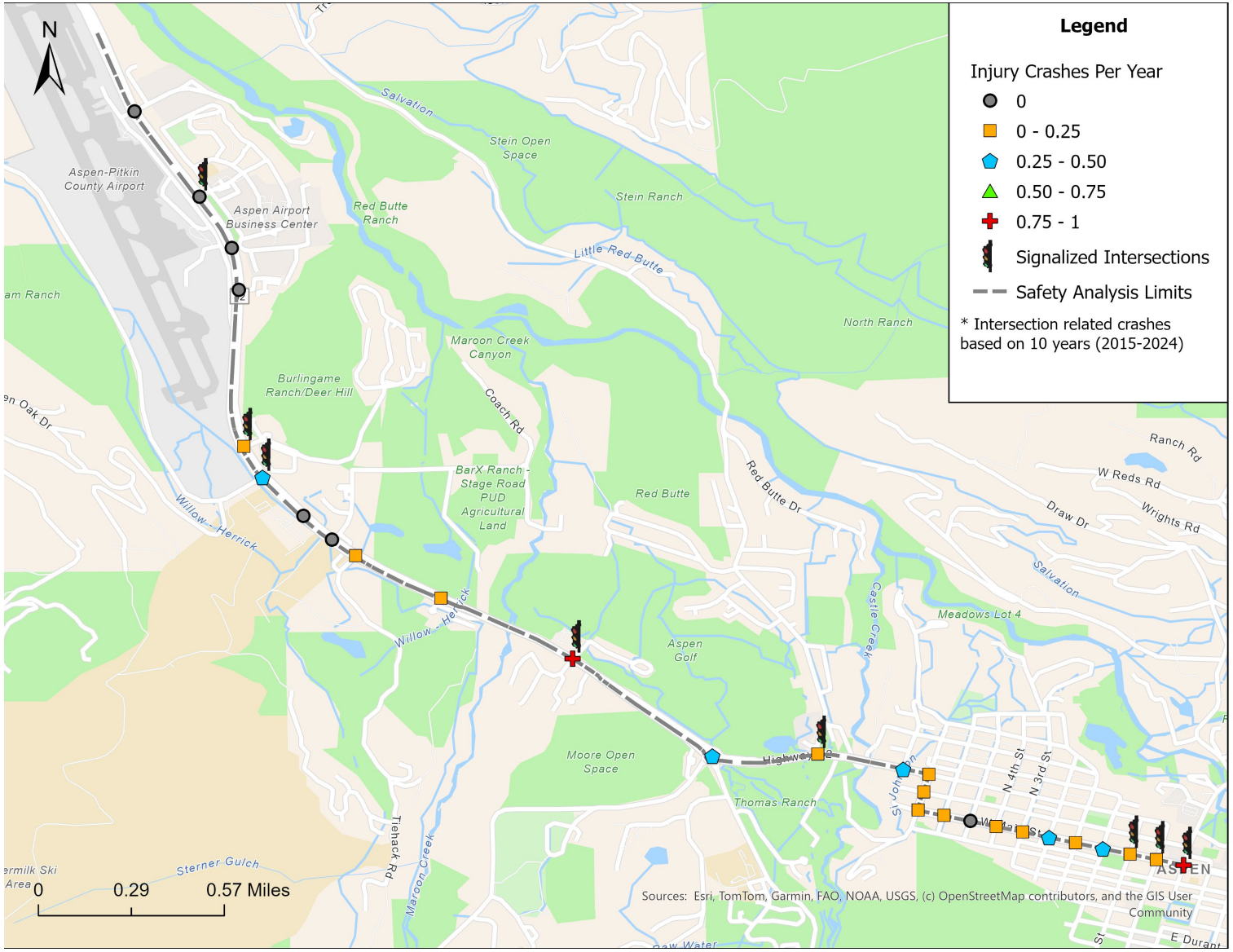
Safety – City Data – Total Crashes per Year at Intersections

- The analysis area includes a total of 27 intersections
  - 8 signalized,
  - 18 minor-leg stop controlled
  - 1 roundabout
- 1,544 crashes



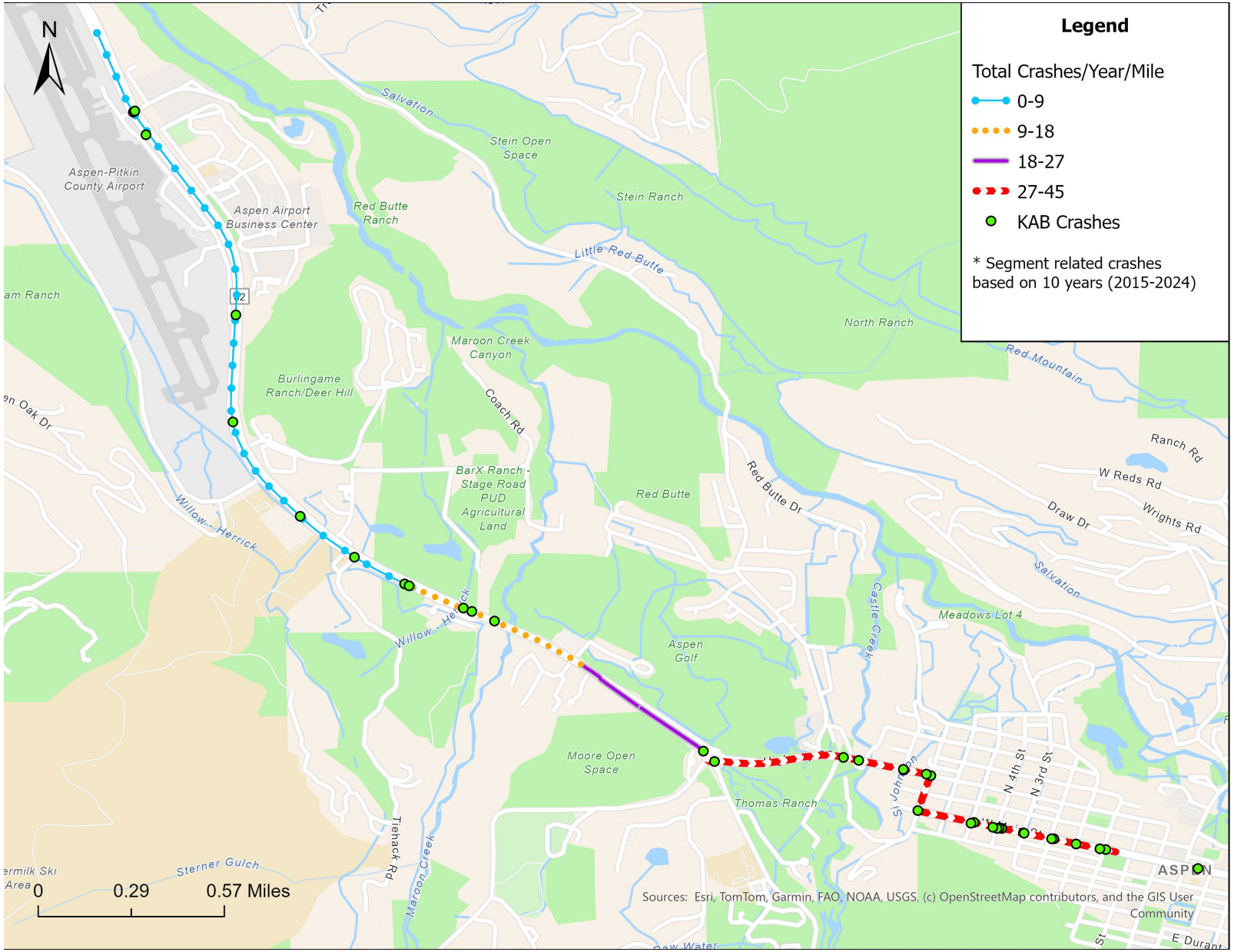
Safety – City Data – Injury Crashes per Year at Intersections

- 53 injury crashes at intersections



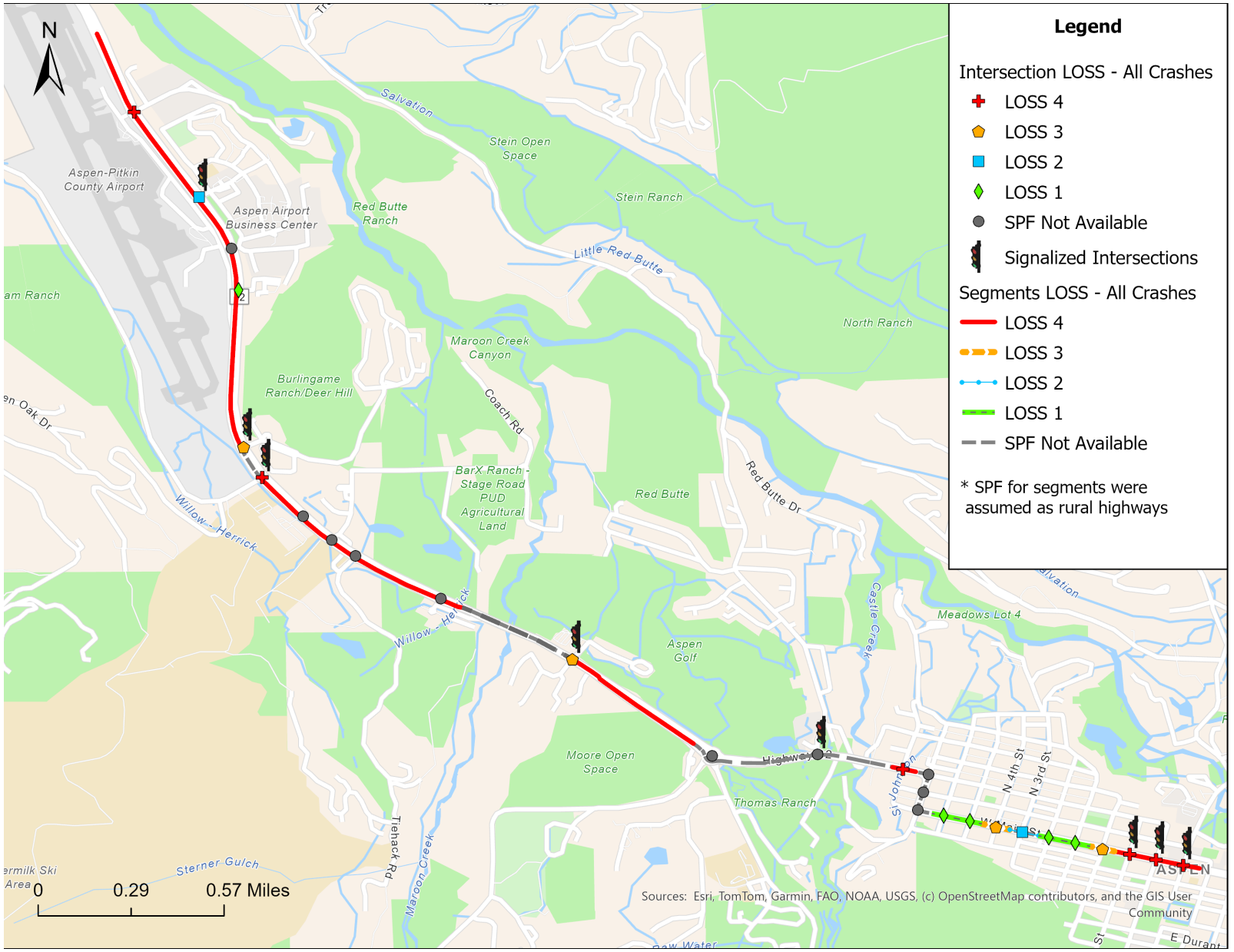
Safety – CDOT Data – SH 82 Total Crashes per Mile

- 760 Segment Crashes
  - 31 KAB (injury/fatal)
- Crash Types
  - Rear-ends
  - Sideswipes
  - VRU (ped/bikes)
- Crash Times
  - During the Day



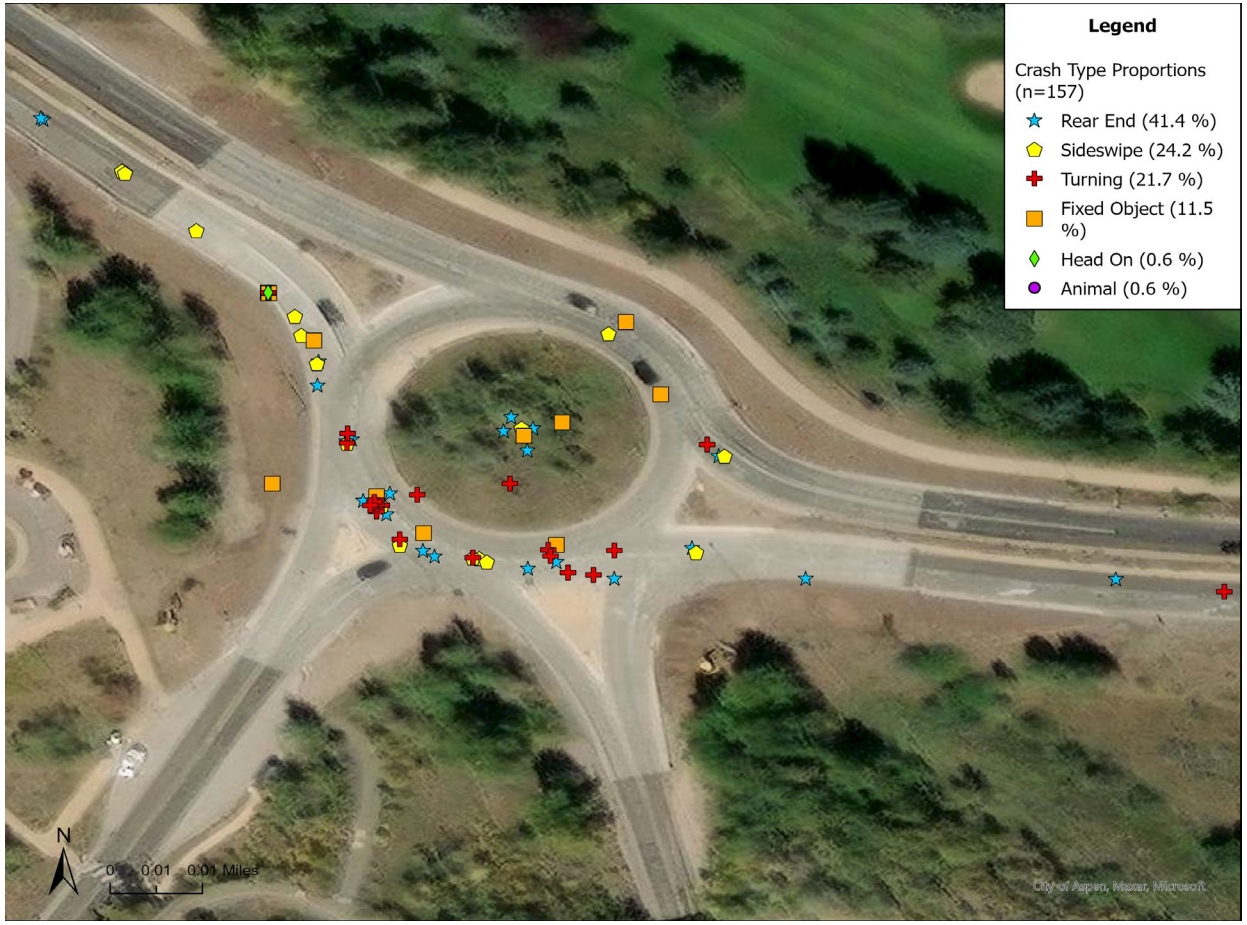
Safety – CDOT Data – SH 82 LOSS All Crashes

- Level Of Safety Service (LOSS)
  - Predictive crash metric for expected crashes on a type of roadway facility
  - LOSS 3 and LOSS 4 are locations experiencing crashes at a higher rate of frequency
  - Countermeasures are recommended for these locations

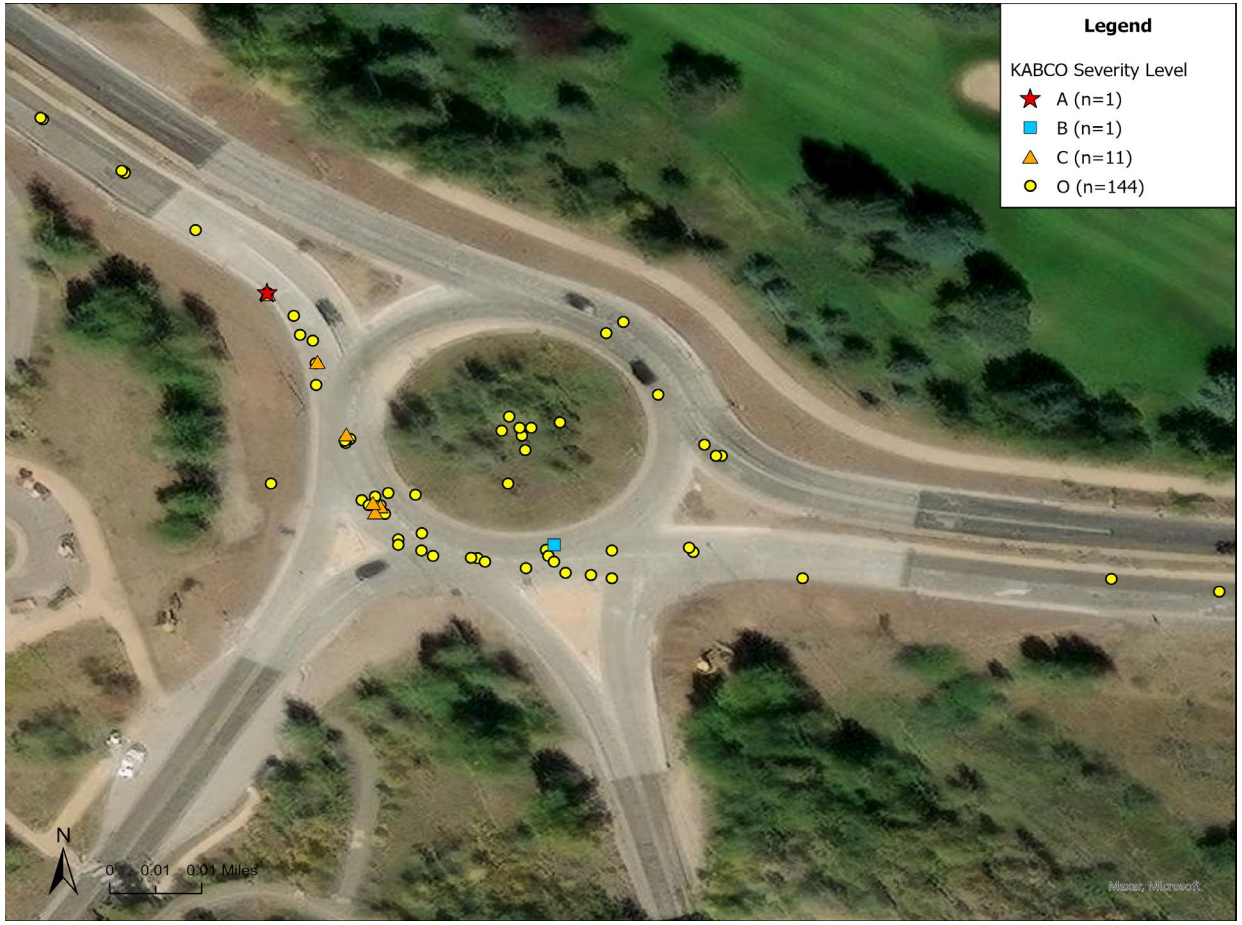


Safety – CDOT Data – Roundabout Crashes

- Total Crashes by Type



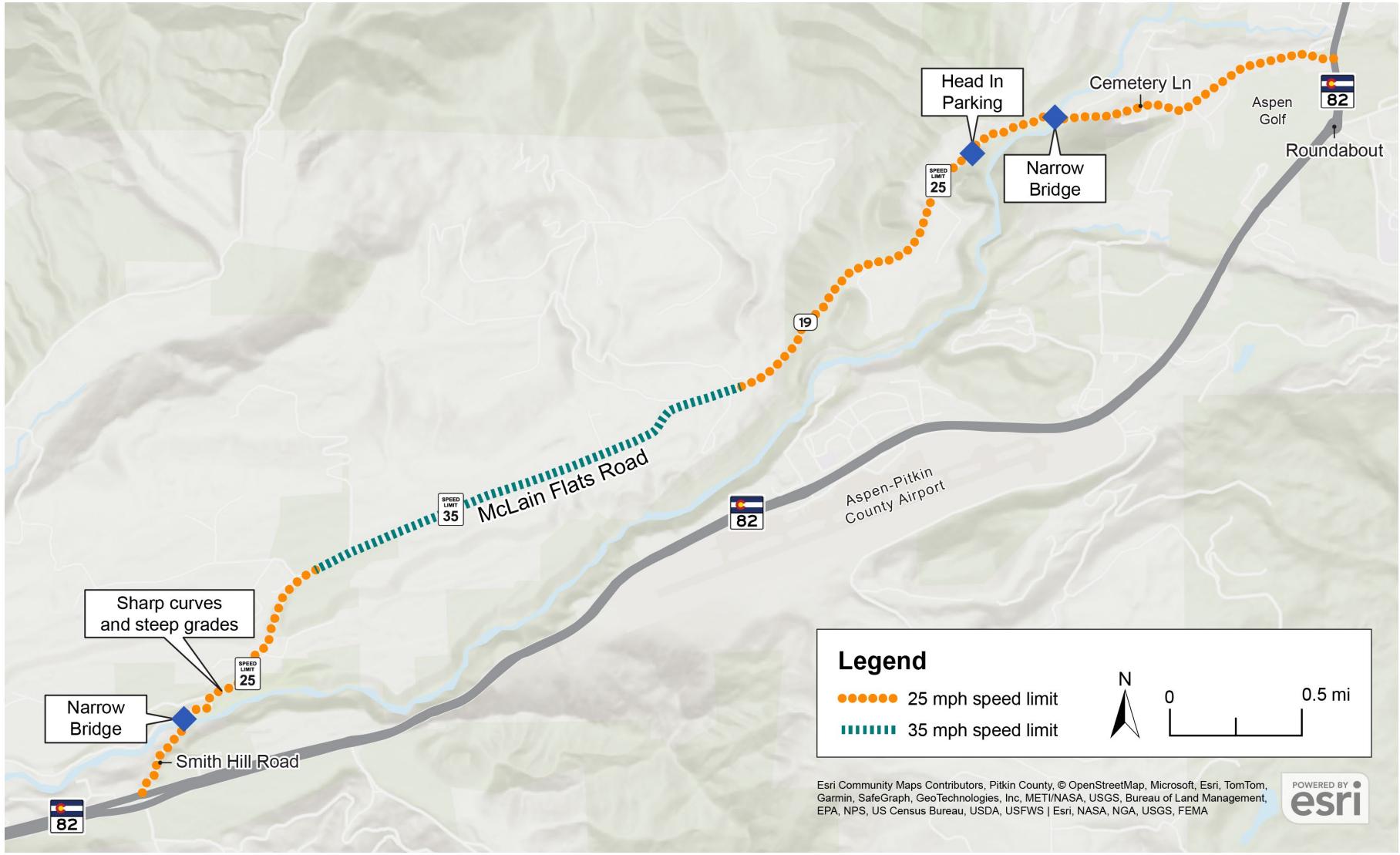
- Injury Crashes



Safety – Rubey Park Transit Center

- Excessive bus staging contributes to decreased sight lines - causing safety concern for pedestrians, bikes, and cars.
- Passenger car drop-off mingling with bus circulation could be contributing to high crash rates in and around the transit center

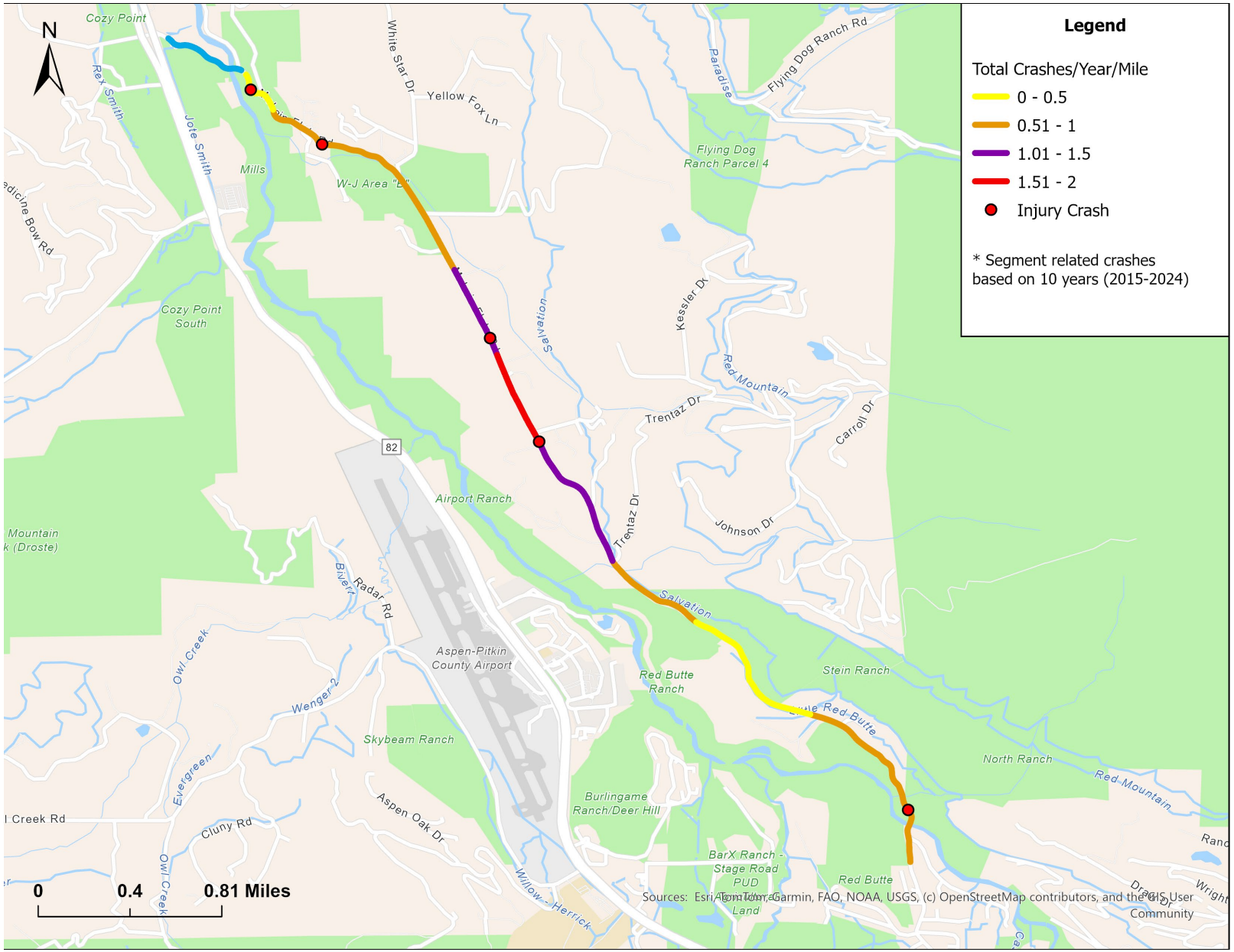
Safety – McLain Flats Road Diversion



- Local road is used as a detour – bypassing congestion
- Road classification not intended for daily commuter traffic

Safety – McLain Flats Road Diversion

- Segment Crashes per Year
  - 2015-2024
  - 107 crashes
  - 7.5% injury



Safety – Key Findings

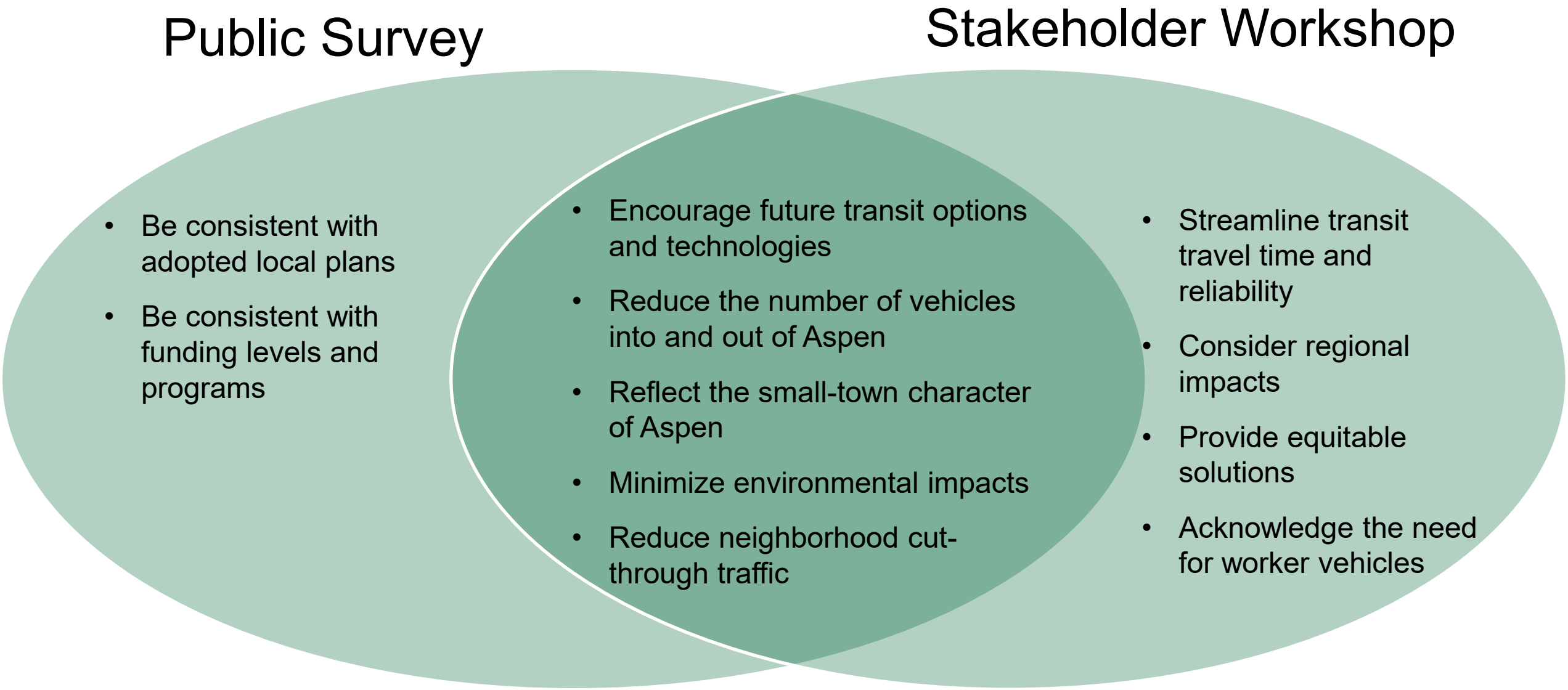
- SH 82
  - Traffic crashes progressively worsen as you get into Aspen
  - Crash rates higher than similar highways
  - Congestion is primary cause
- Intersections
  - High intersection crash rates in town and near Rubey Park Transit center –higher crash and injury rates with pedestrians
- McLain Flats Road Diversion
  - Road not designed for heavy commuter traffic volumes
  - SH 82 congestion causing diversion—results in high number of crashes

CITY OF ASPEN

Project Limits

Project Limits

Stakeholder Input on Community Goals



Next Steps – Meetings

- EOTC Briefing (5/15)
  - Report out on Pre-NEPA tasks and activities
  - Listening session regarding project limits, needs and goals
- CDOT/FHWA Coordination Meeting (TBD)
- City Council Meeting (6/24)
  - Present draft Purpose and Need Statement
  - Request Council direction on next steps

New EIS

We are here

Pre-NEPA

- Traffic and safety analysis
- Stakeholder workshop
- Public survey
- Develop purpose and need
- Council listening session
- **EIS Initiation Memo***
- **City Funding Authorization (6/24)***

Initiation and Scoping ◇ ★

- Agency and public coordination plan
- Collect resource data
- **Notice of Intent***
- Agency and public scoping meetings

Alternatives Development and Evaluation ◇ ★

- Develop screening criteria Develop range of alternatives
- Screen alternatives Agency and public outreach
- Identify alternatives to advance

DEIS ◇ ★

- Prepare resource studies, impact assessment, and identify mitigation
- Agency coordination
- Prepare DEIS
- Identify environmentally preferred alternative

Public Comment ◇ ★

- **Notice of Availability***
- 45-day public comment period

Combined FEIS/ROD ◇ ★

- Address comments
- Agency coordination
- Prepare FEIS/ROD
- **Issue ROD***

Funding/ Design/ Permitting ★

Legend

★ Council Input

◇ Requires CDOT/FHWA review/approval

Red text with * are CDOT/FHWA tasks

Next Steps

Draft purpose and need for CDOT/FHWA review

City funding authorization

Initiate NEPA