Castle Creek Bridge

Prepared for the City of Aspen, Colorado

August 05, 2024 Part 1

Jacobs Engineering Group Inc

CITY OF ASPEN

Presenters:

City of Aspen: Jenn Ooton; Pete Rice, PE, Carly McGowan, PE

Jacobs: Jim Clarke, AICP; Doug Stremel, PE; Peter Kozey PE, PTOE

Agenda

- Introductions/Presentation Overview
- Day 1:
  - Refresh: 2002 Land Swap
  - CDOT/FHWA Responses to City Questions
  - Alternatives Footprint and Sensitivity Analysis
- Day 2:
  - Bridge Sidewalk Removal
  - Right-Of-Way Needs for 3-Lane Bridge Options
  - S-Curve Refinement
  - Traffic Modeling
  - Economic Impact Analysis
  - Funding and Financial Assessment
  - Follow-up from Previous Meeting/Next Steps/Council Direction

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Refresh: 2002 Land Swap

COLORADO
Department of Transportation

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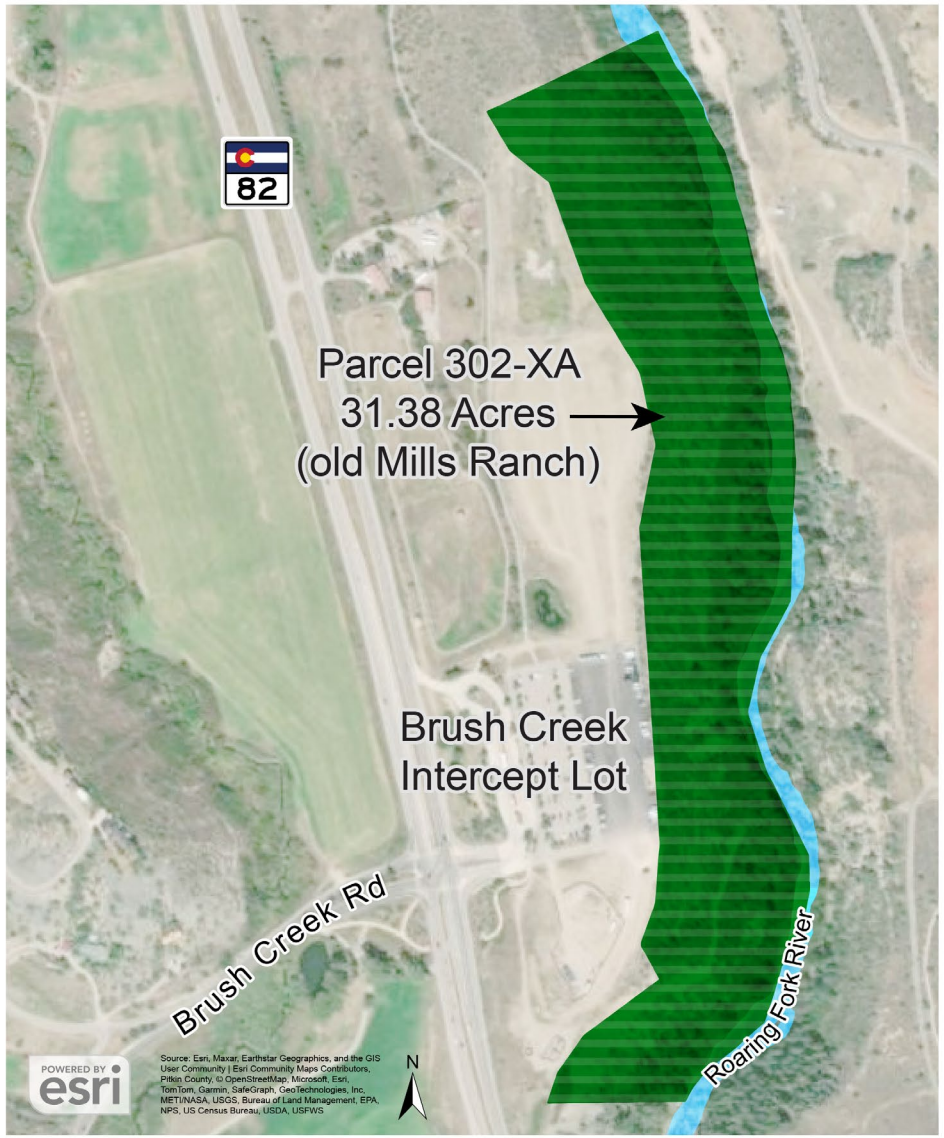

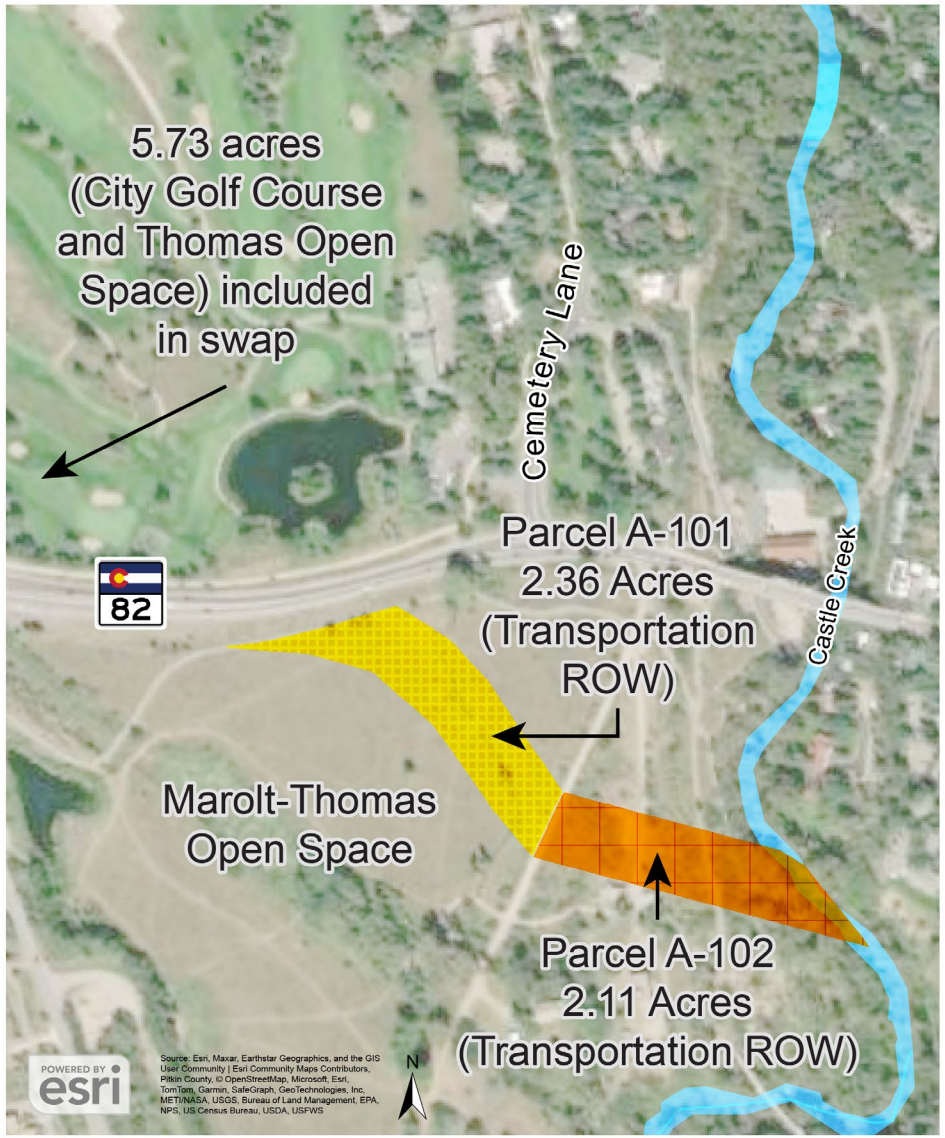

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CDOT/FHWA Responses to City

CDOT/FHWA Letter: Key Takeaways

- No known process for City to withdraw from the ROD
- Selected PA remains in effect unless CDOT and FHWA withdraw or change ROD.
- If City self-funds and/or seeks state funding, ROD stays in effect unless changed
- Self-funding other SH 82 improvements requires CDOT & FHWA coordination
- Pursuing a new solution requires, at a minimum, a Supplemental EIS
- SH 82 devolution an option, but ROD remains in effect

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Alternatives Footprint and Sensitivity Analysis

Alternative Footprint and Sensitivity Analysis

- Footprint analysis
  - Survey
  - Conceptual design
- Traffic Analysis
- High-Level NEPA Assessment
  - Updated historic information
  - Used EIS Criteria

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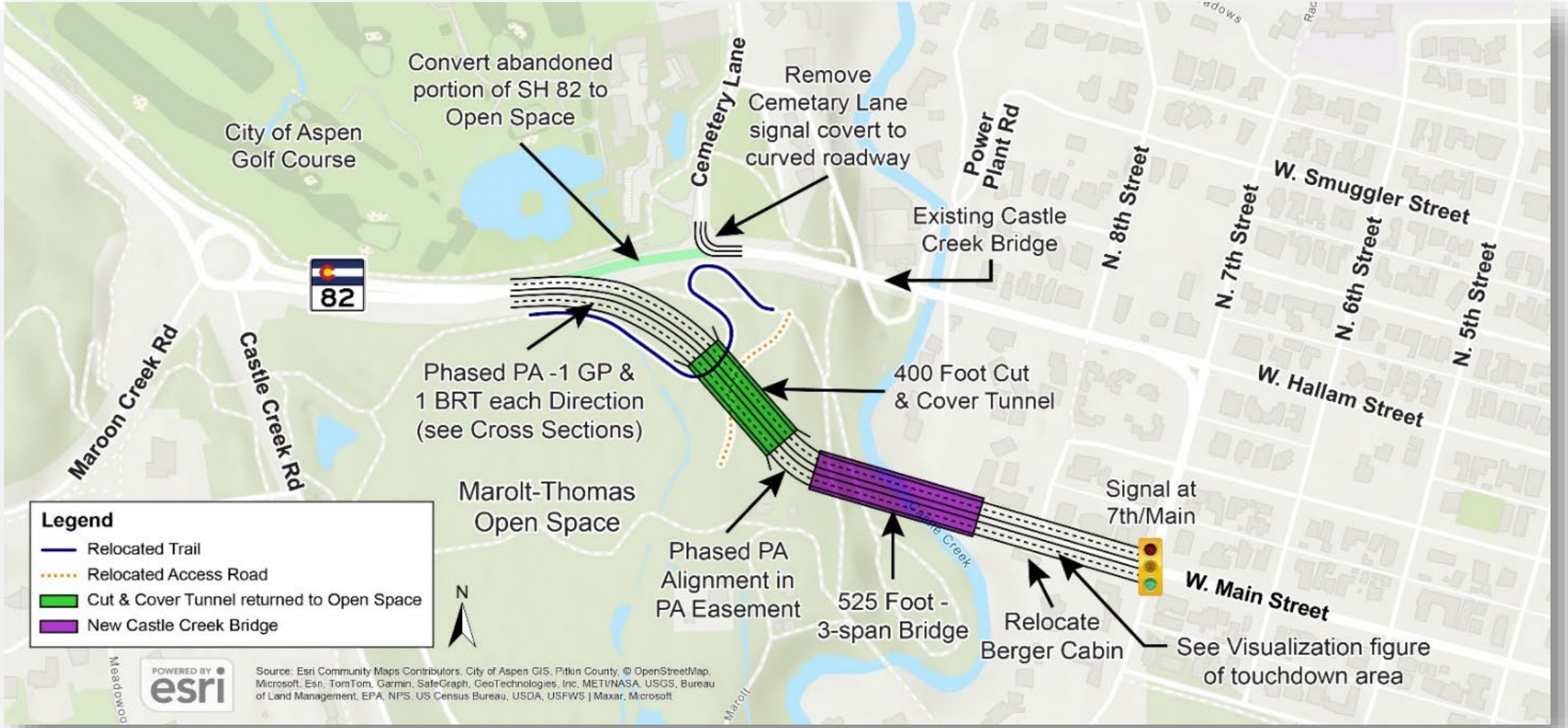
Alternatives

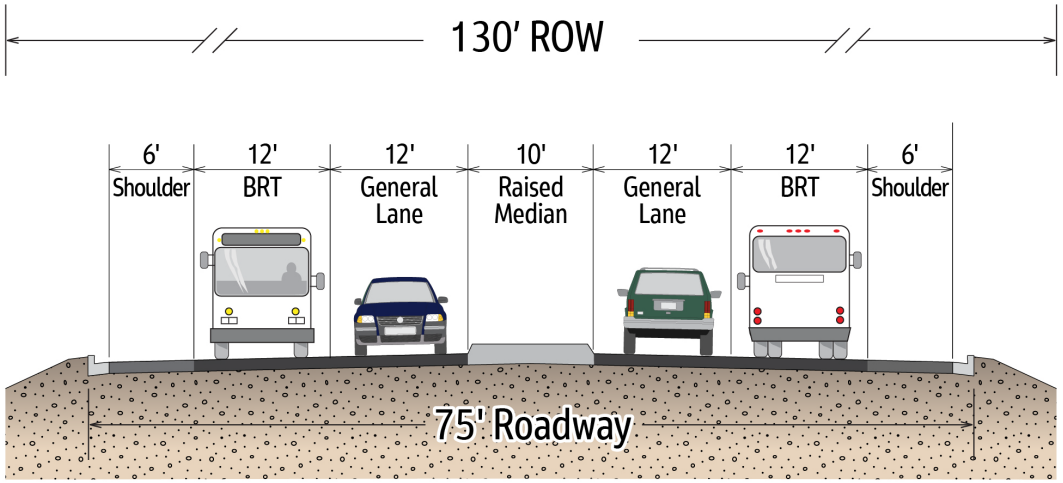
Alternative Footprint and Sensitivity Analysis

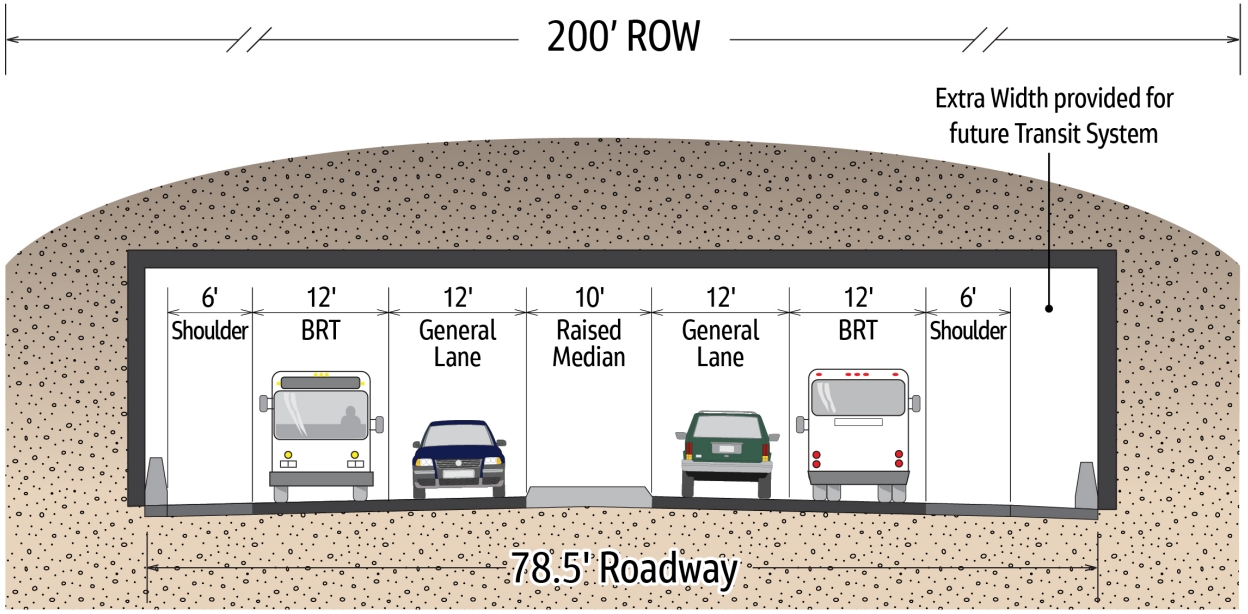
- Phased Preferred Alternative (PA)



Alternative Footprint and Sensitivity Analysis

- Phased Preferred Alternative (PA) – Platform Widths



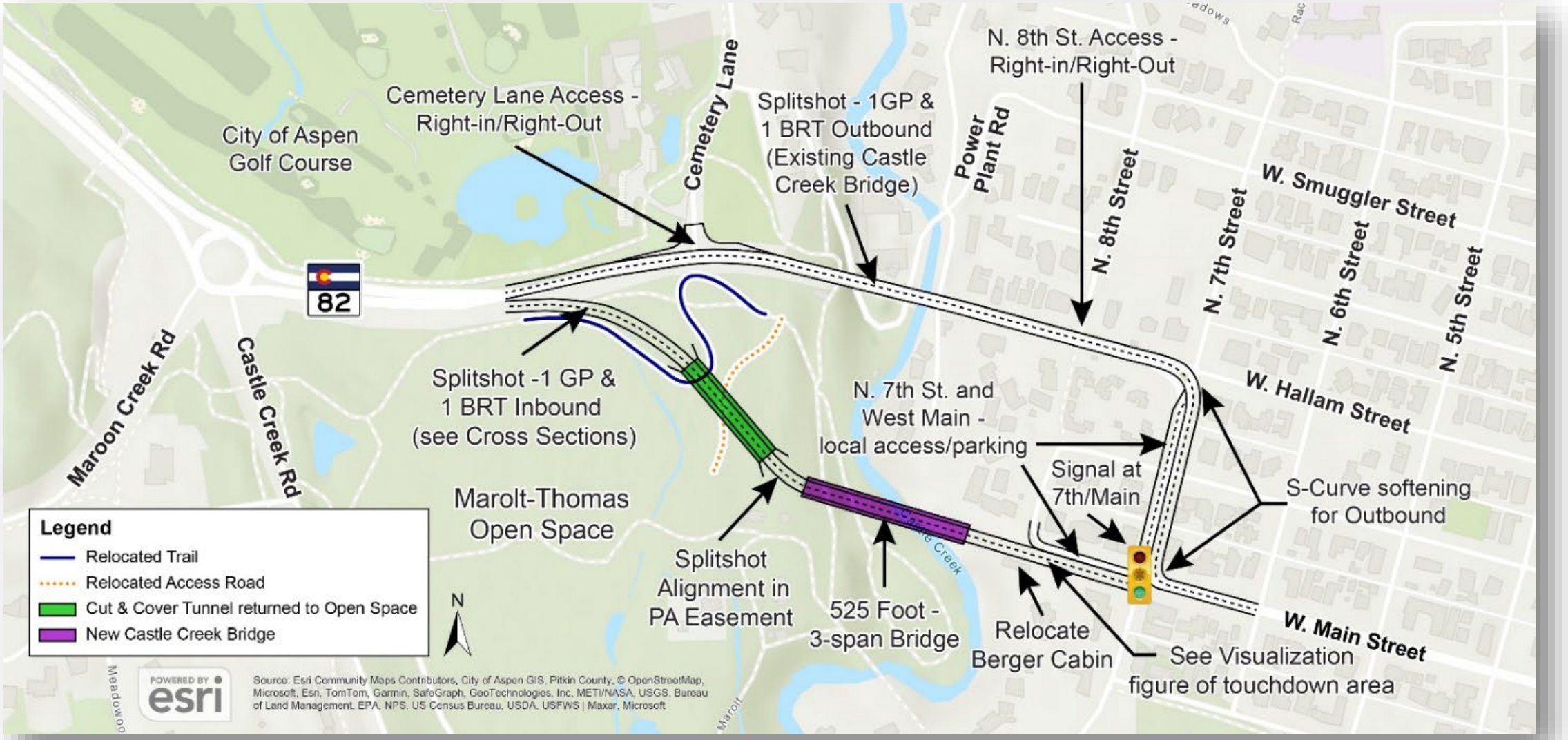


Alternative Footprint and Sensitivity Analysis

- Phased Preferred Alternative (PA) Visualization

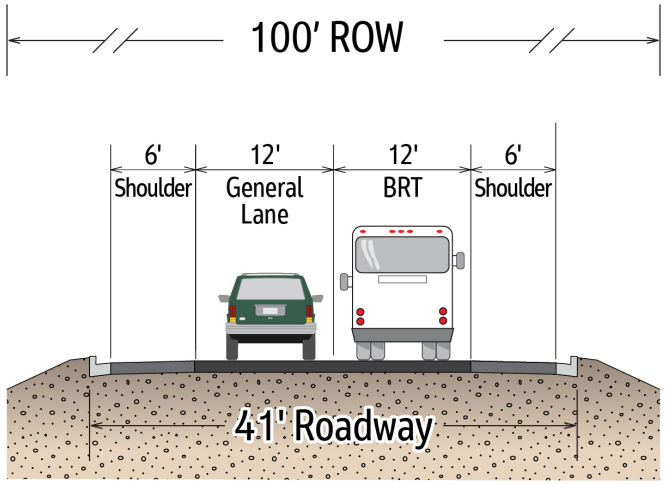
Alternative Footprint and Sensitivity Analysis

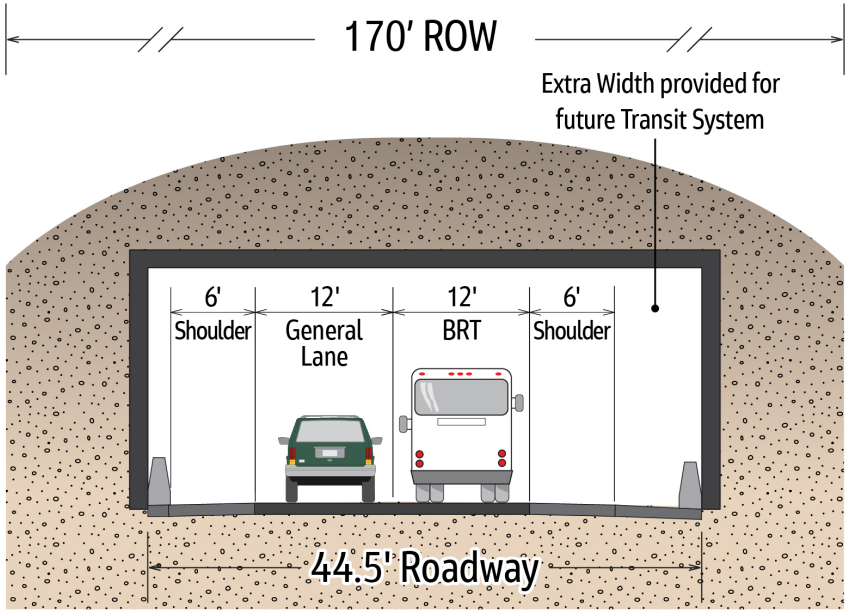
- Splitshot (Couplet)



Alternative Footprint and Sensitivity Analysis

- Splitshot – Platform Widths





Alternative Footprint and Sensitivity Analysis

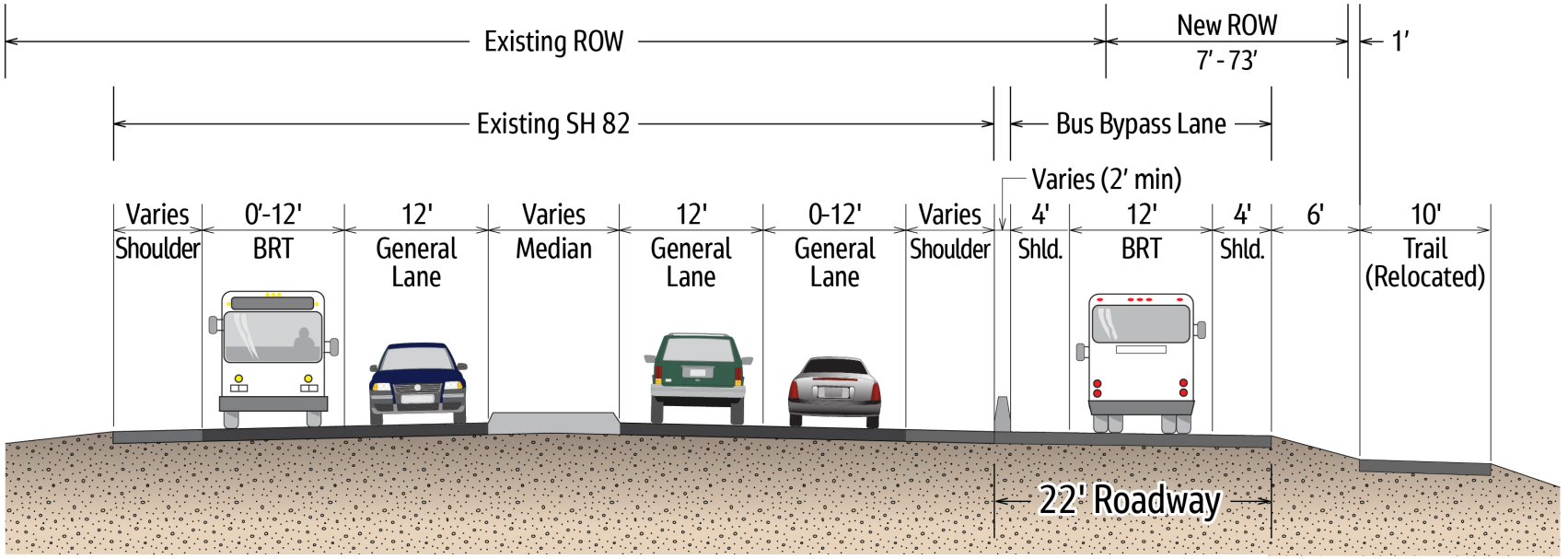
- Splitshot Visualization

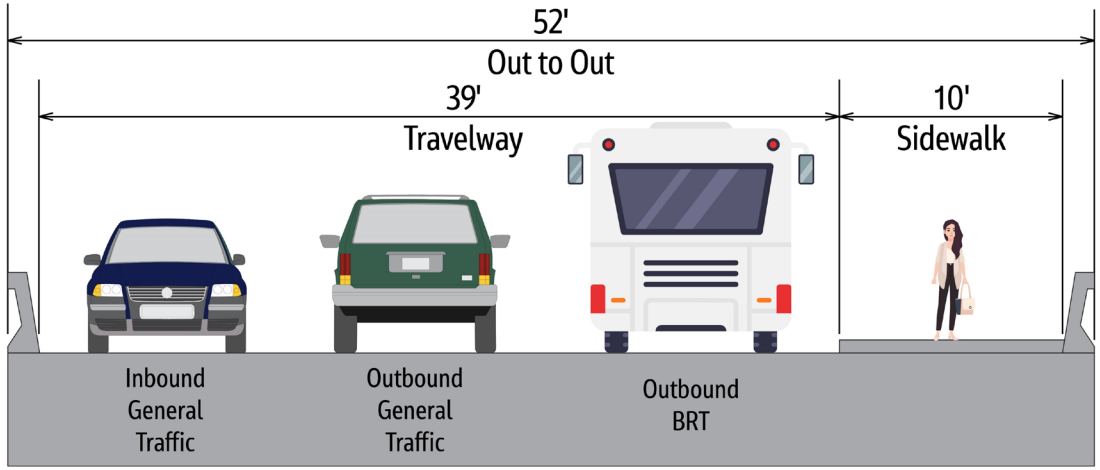
Alternative Footprint and Sensitivity Analysis

- 3-lane Shifted Bridge (with Bus Bypass and S-Curve Improvements)

Alternative Footprint and Sensitivity Analysis

- 3-lane Shifted Bridge (with Bus Bypass and S-Curve Improvements) - Platform Widths





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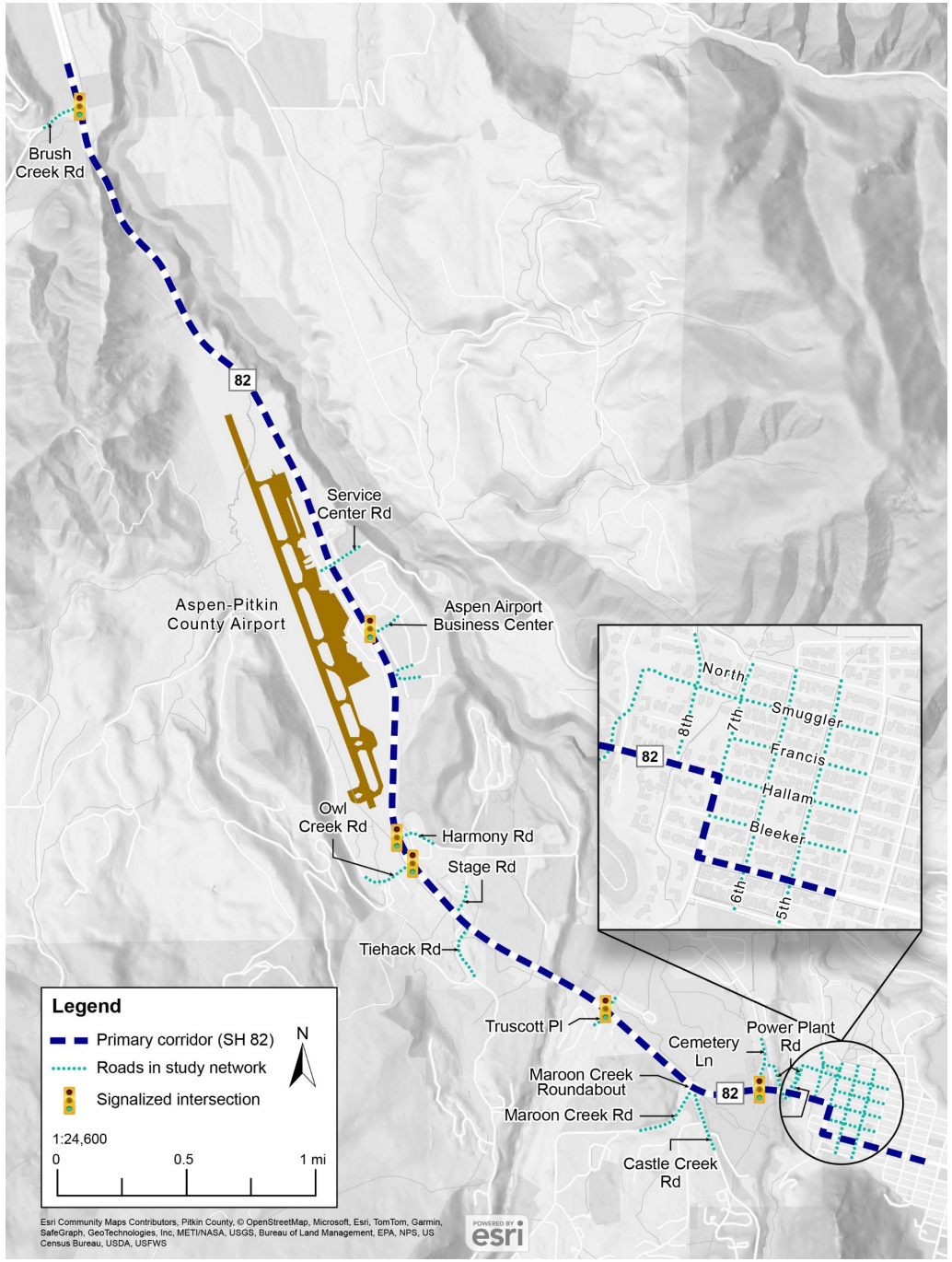
Traffic Modeling

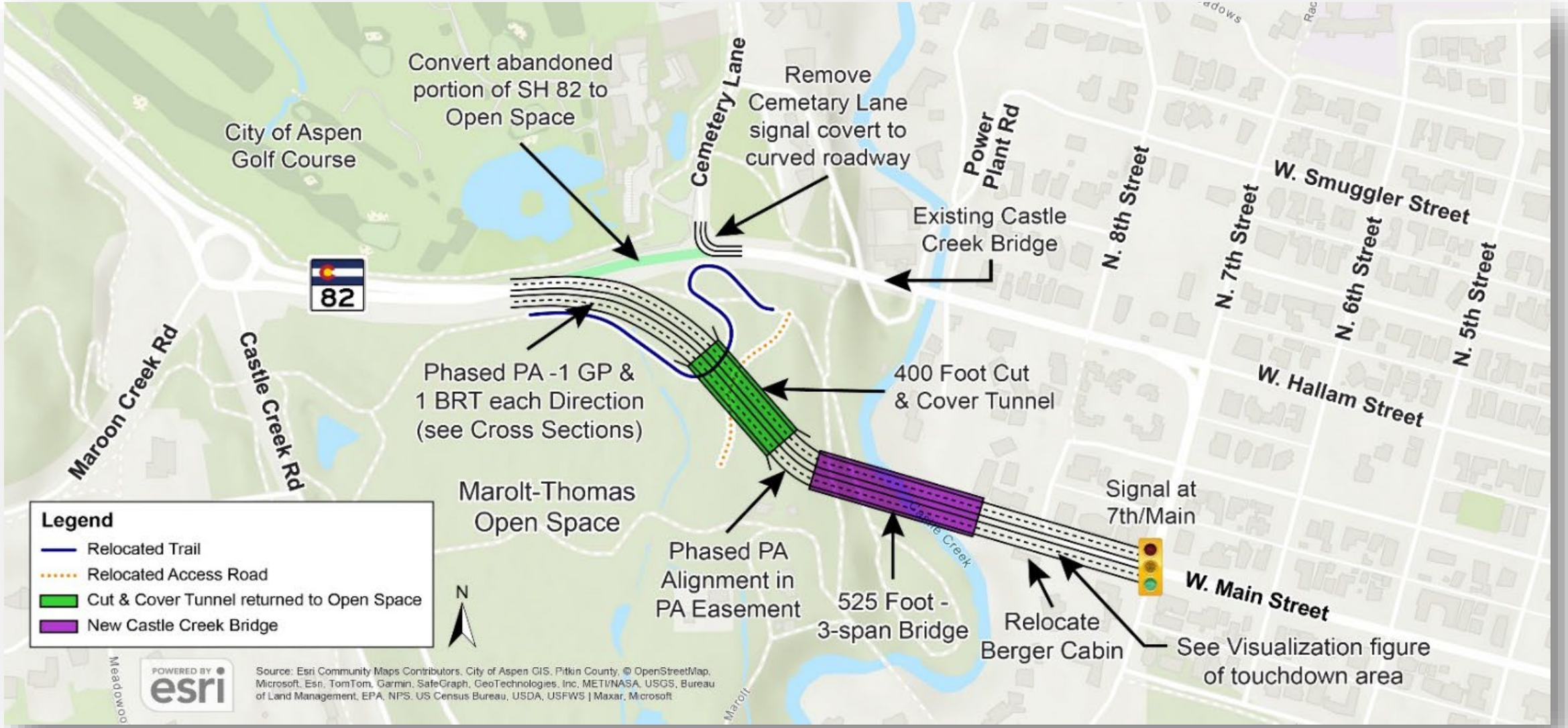
Traffic Modeling Background

- **Why:** Evaluate various Options' impact to general traffic and transit operations
- **Where:** Focused along State Highway 82 – Brush Creek Road to 5th Street
- **When:** Existing model for July 2024, with 0.75% annual traffic growth assumed through analysis year 2050.



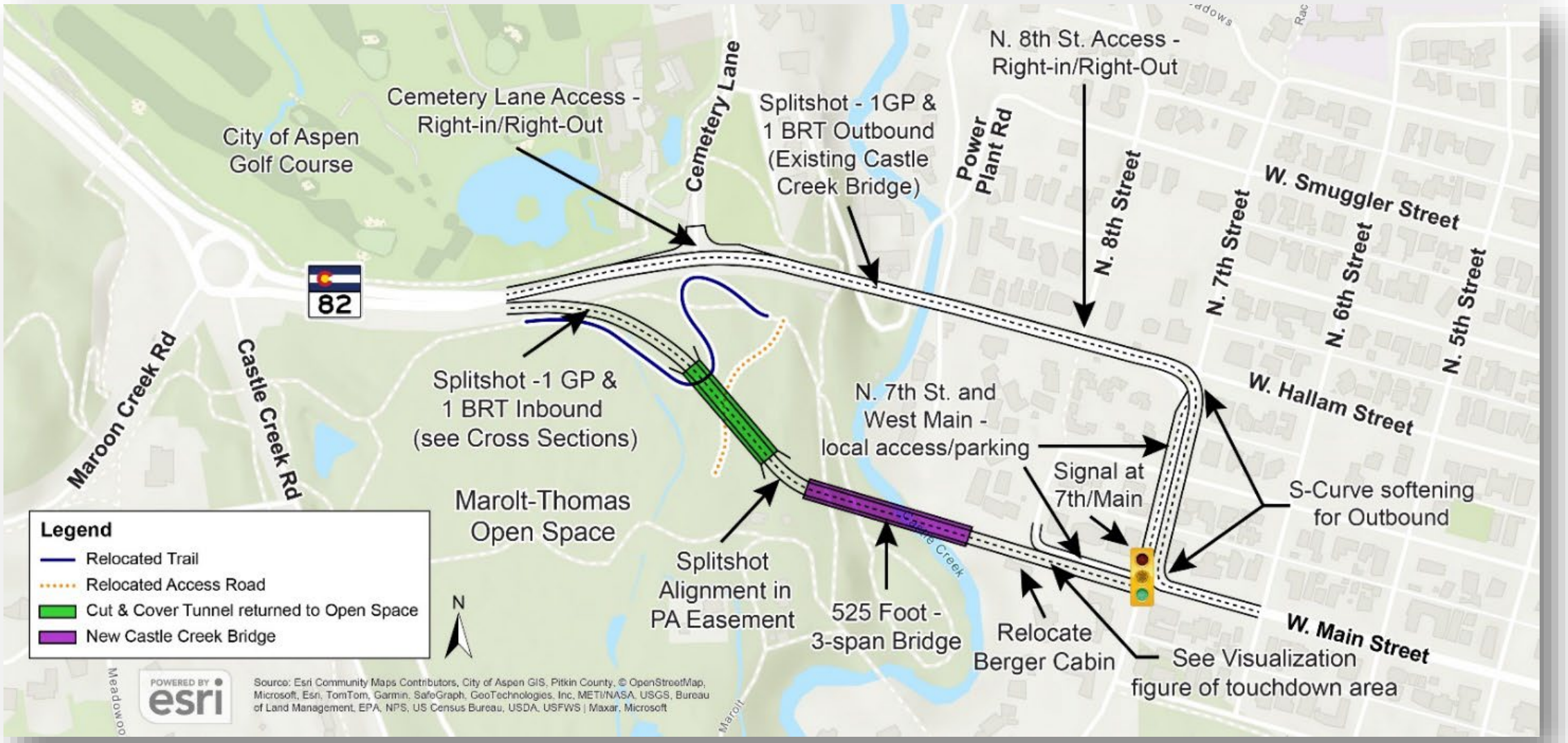
Traffic Modeling

- Phased Preferred Alternative (PA)



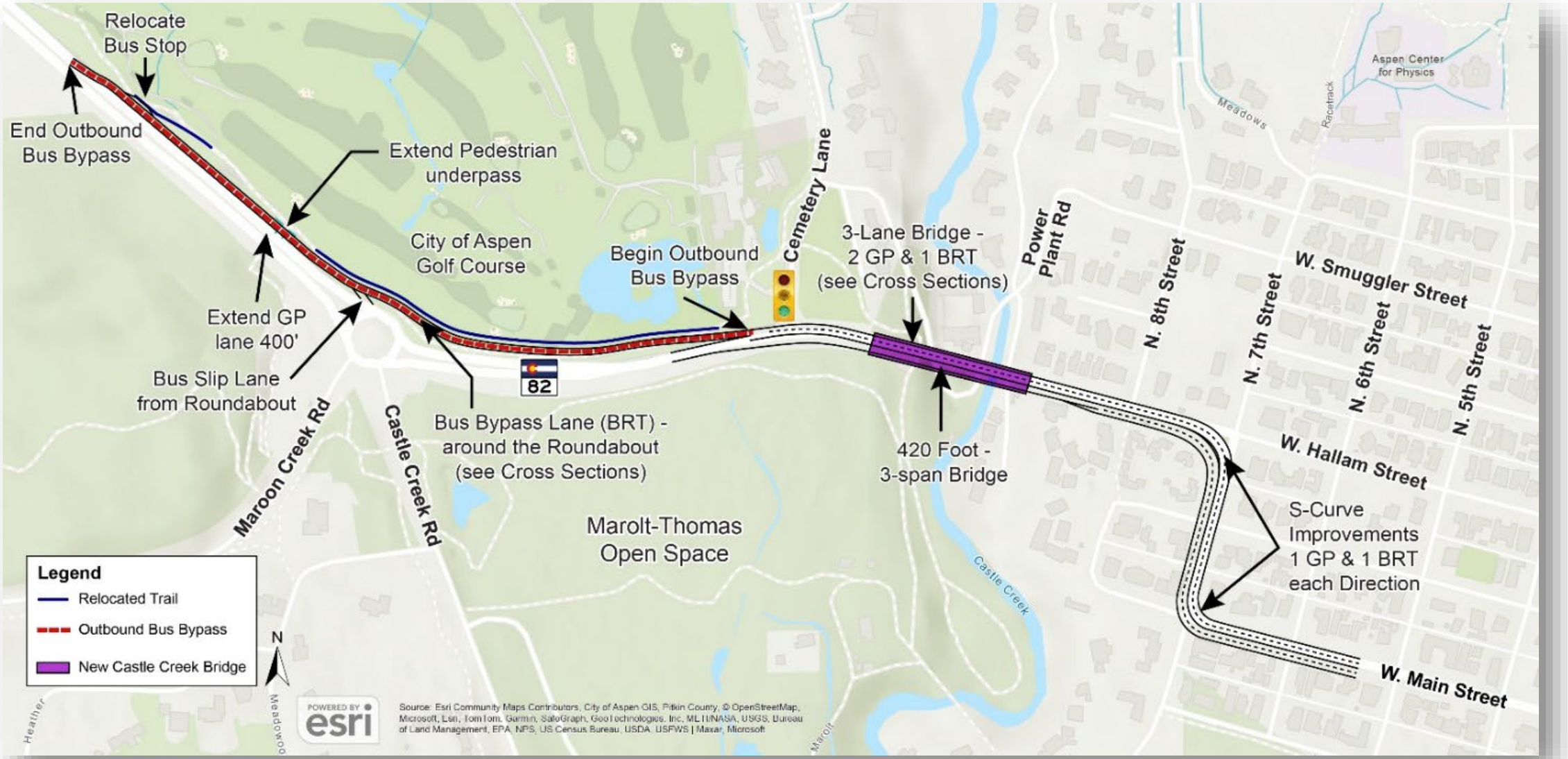
Traffic Modeling

- Splitshot



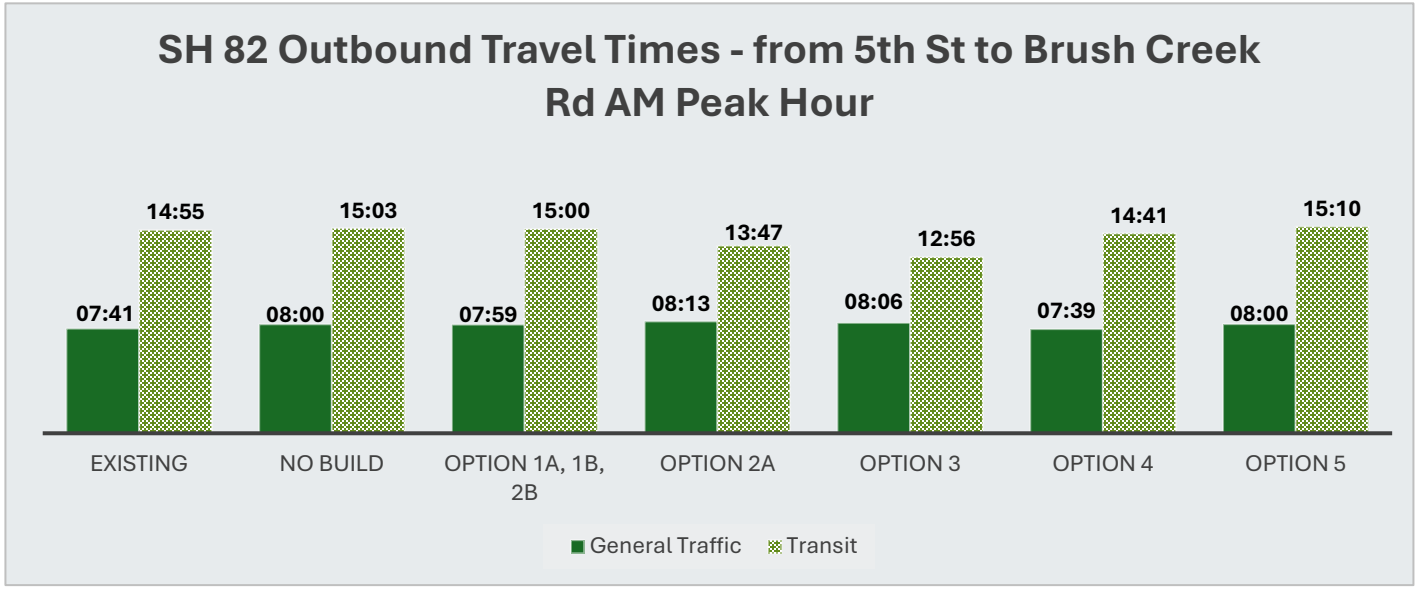
Traffic Modeling

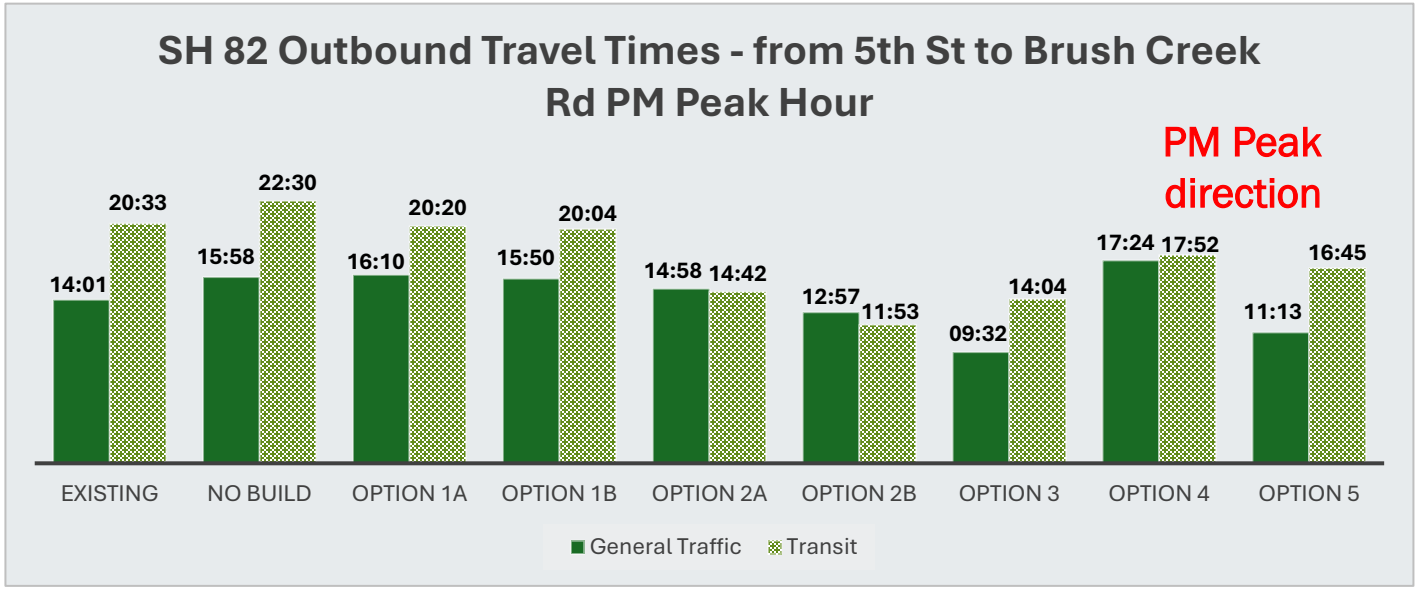
- 3-Lane Shifted Bridge (with Bus Bypass and S-Curve Improvements)



Travel Time Results - Outbound

- Existing Conditions (2024)
- No Build Conditions (2050)
- Phased Preferred Alternative (PA)
- Splitshot
- 3-Lane Bridge with Bus Bypass





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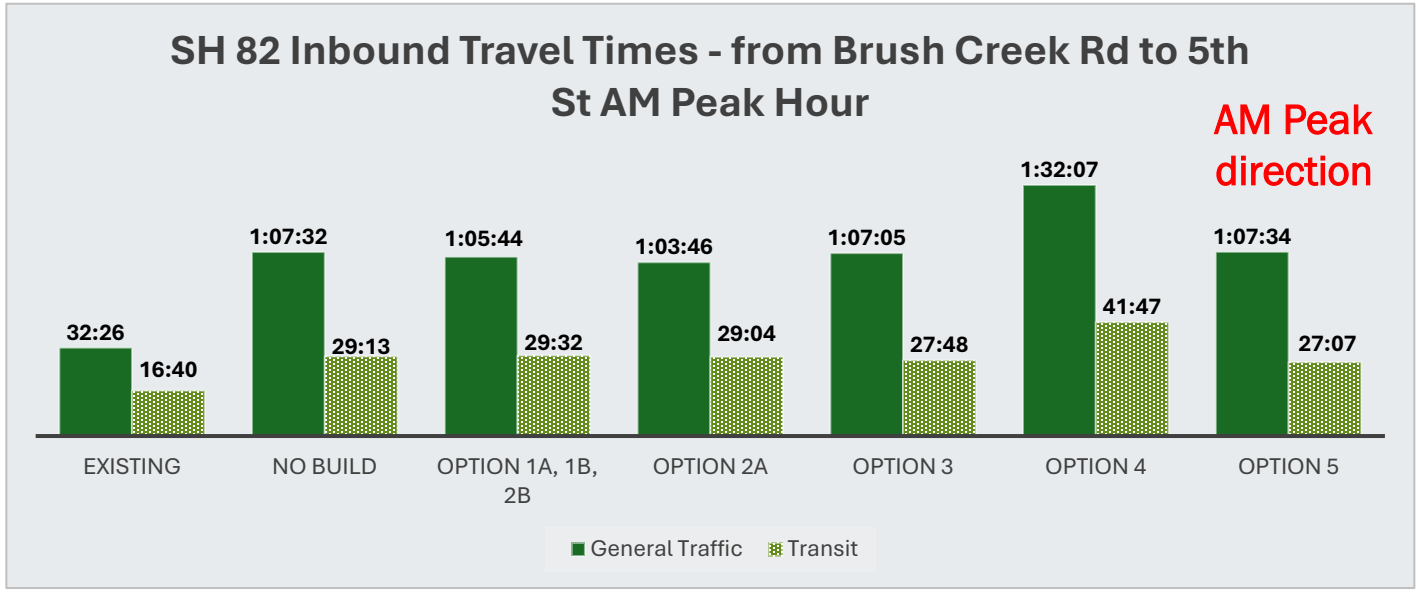

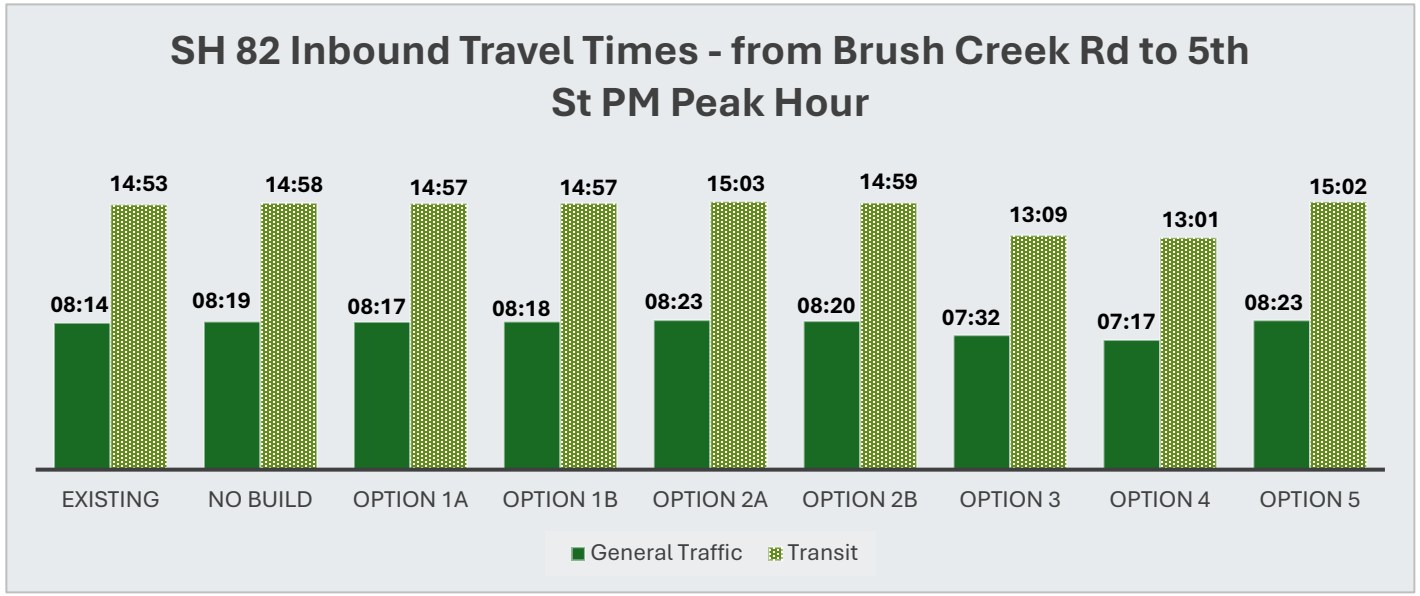

Scoring the Options

- Phased Preferred Alternative (PA)
- Splitshot
- 3-Lane Bridge with Bus Bypass

Criteria	Weight	Phased PA Score	Splitshot Score	3-Lane Bridge* Score
Benefit to corridor travel times	25%	5	1	4
Benefit to congestion	25%	3	1	3
Benefit to transit	50%	5	3.5	4.5
Overall Score	100%	**4.5**	**2.3**	**4.0**

- Scoring from 1-5
- Score of 3 operates similar to the No Build
- Score of 1-2 operates worse than the No Build
- Score of 4-5 operates better than the No Build

*with Bus Bypass and S Curve Improvements

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Differentiators

Alternative Differentiators

- Phased Preferred Alternative (PA)

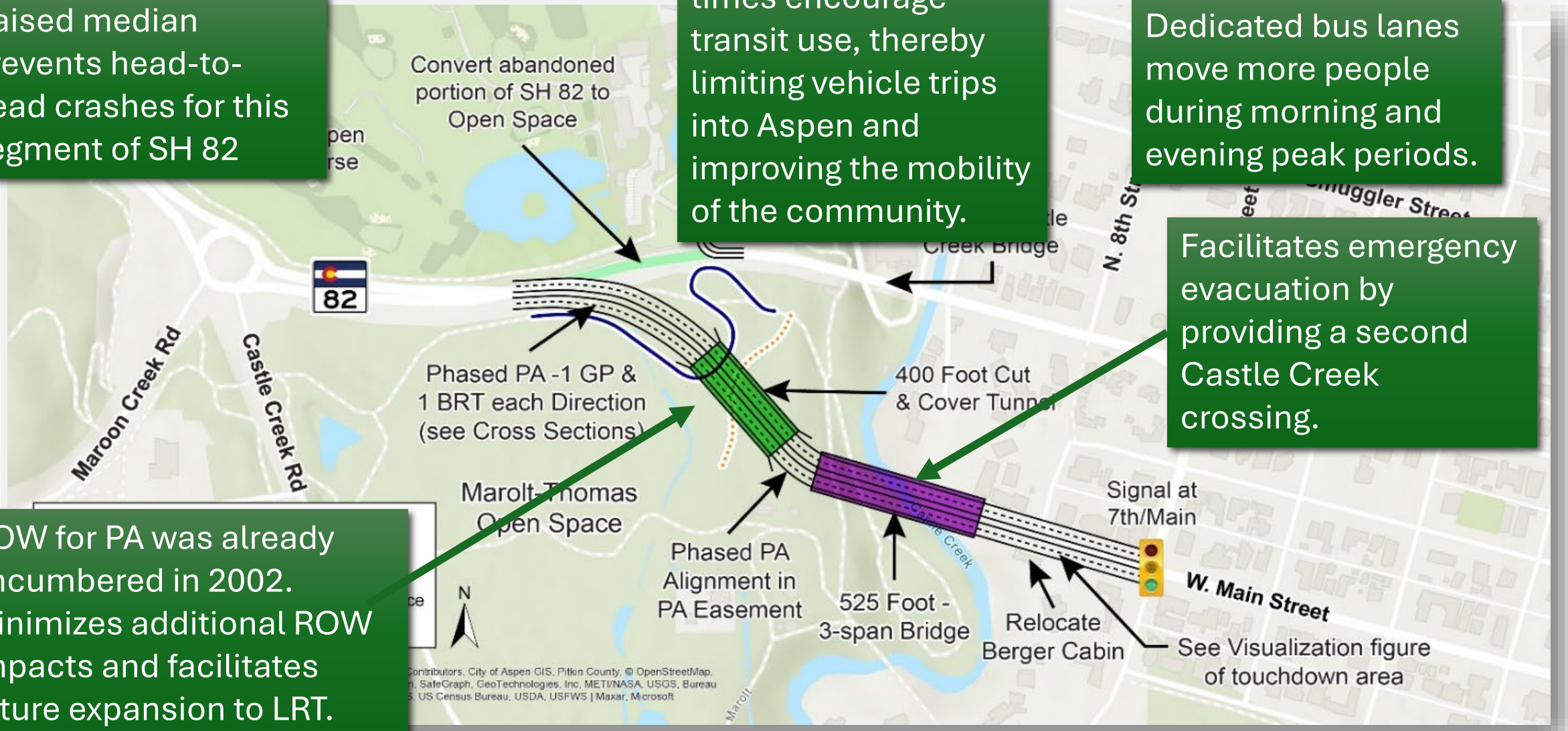
Raised median prevents head-to-head crashes for this segment of SH 82

Faster transit travel times encourage transit use, thereby limiting vehicle trips into Aspen and improving the mobility of the community.

Dedicated bus lanes move more people during morning and evening peak periods.

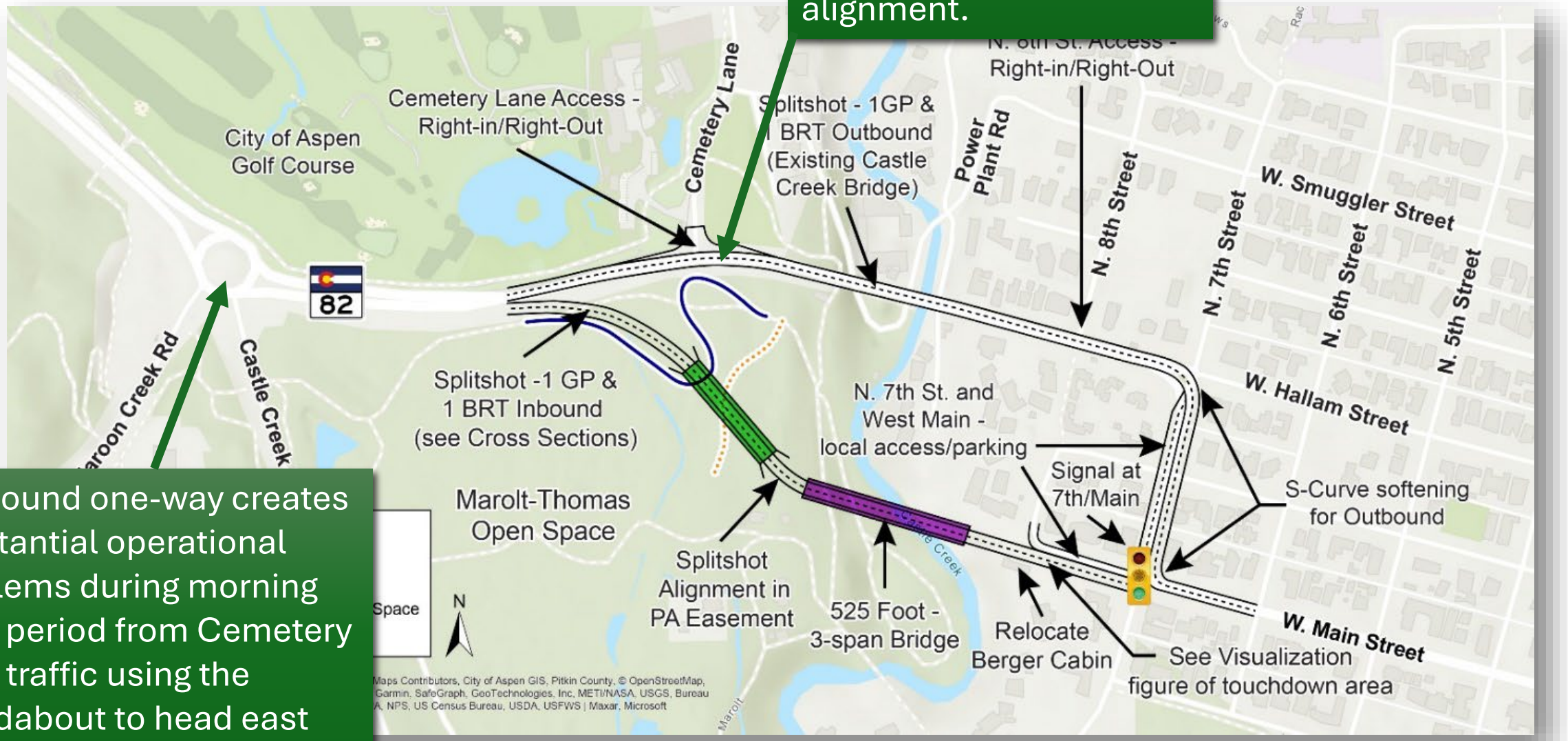
Facilitates emergency evacuation by providing a second Castle Creek crossing.

ROW for PA was already encumbered in 2002. Minimizes additional ROW impacts and facilitates future expansion to LRT.



Alternative Differentiators

- Splitshot



Alternative Differentiators

- 3-lane Shifted Bridge (with Bus Bypass and S-Curve Improvements)

Alternatives Evaluation Criteria

- Provides capacity for forecasted person trips (year 2050)
- Limits vehicle trips into Aspen
- Provides more accessible transportation that increases the mobility of the community
- Allows for future transit options and upgrades
- Provides system redundancy for emergency access
- Addresses known safety issues on SH 82 and S-Curve
- Provides safe access at all intersections for all movements
- Provides safety improvements for cyclists and pedestrians
- Property/ROW
- Historic resources
- Recreation resources

Alternative Footprint and Sensitivity Analysis: Criteria

Criteria	Phased PA	Splitshot	3-lane Shifted
Provides capacity for forecasted person trips (year 2050)	Good	Fair	Fair
Limits vehicle trips into Aspen	Good	Fair	Poor
Provides more accessible transportation that increases the mobility of the community	Good	Fair	Fair
Allows for future transit options and upgrades	Good	Good	Fair
Provides system redundancy for emergency access	Good	Good	Poor
Addresses known safety issues on SH 82 and S-Curve	Good	Good	Fair
Provides safe access at all intersections for all movements	Good	Good	Fair
Provides safety improvements for cyclists and pedestrians	Fair	Good	Fair
Property/ROW*	Good	Good	Fair
Historic resources*	Fair	Fair	Good
Recreation resources*	Fair	Fair	Fair

*Minimizes and mitigates adverse community and environmental impacts

August 12th – Work Session

- Bridge Sidewalk Removal
- Right-Of-Way Needs for 3-Lane Bridge Options
- S-Curve Refinement
- Traffic Modeling (cont'd.)
- Economic Impact Analysis
- Funding and Financial Assessment
- Follow-up from August 5th Meeting
- Next Steps/Council Direction
- Questions?

Questions?