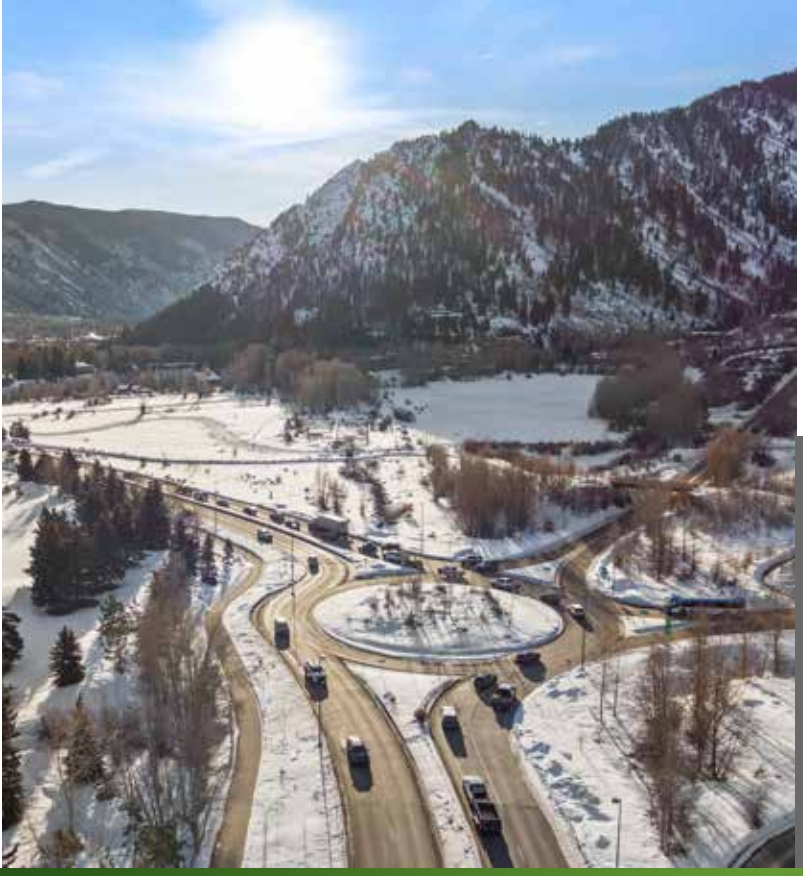
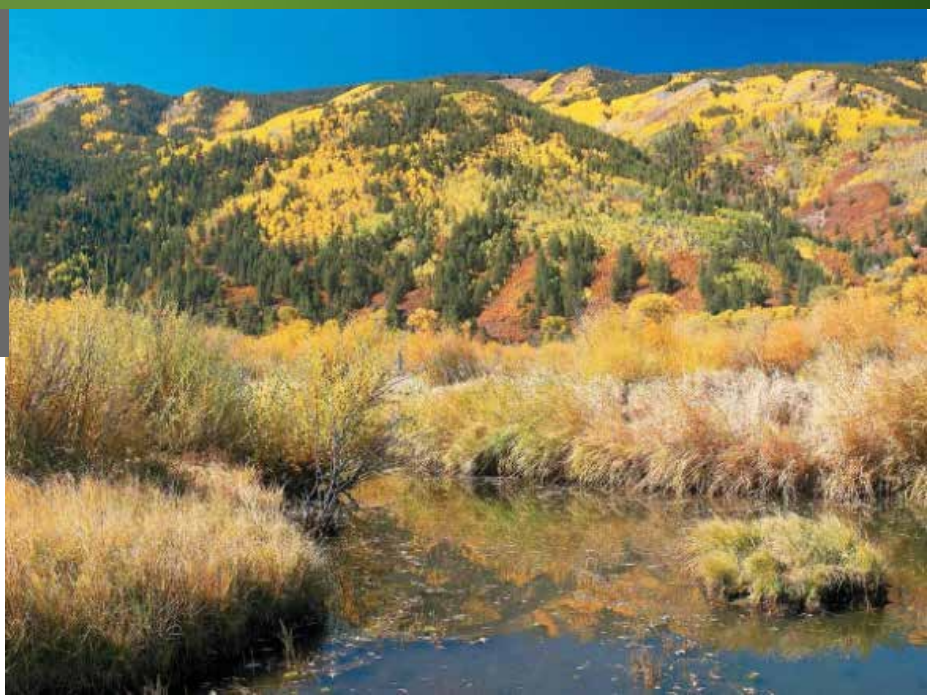


CO 82
ENTRANCE TO ASPEN PROJECT

# Development of the Preferred Alternative

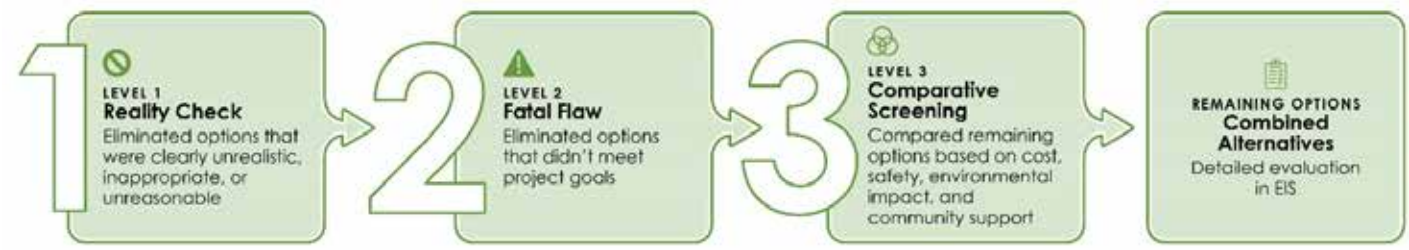
**CO 82 Entrance to Aspen Project – Aspen, Colorado**



CITY OF ASPEN

# 1. How was the Entrance to Aspen (ETA) Preferred Alternative (PA) developed?

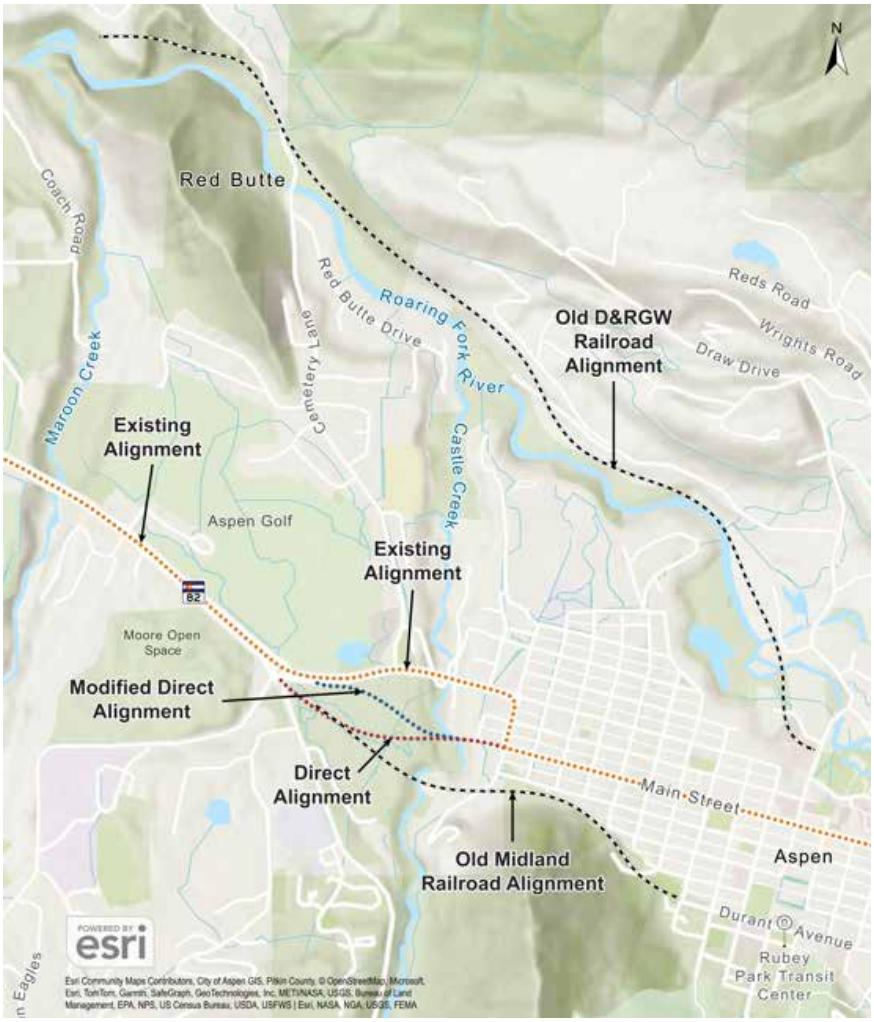
Numerous roadway alignments, lane configurations, vertical profiles, and travel modes were considered in a three-step screening process. Each of the options remaining after the screening process were combined into complete alternatives and evaluated in detail in an Environmental Impact Statement (EIS) as part of the National Environmental Policy Act (NEPA) process.

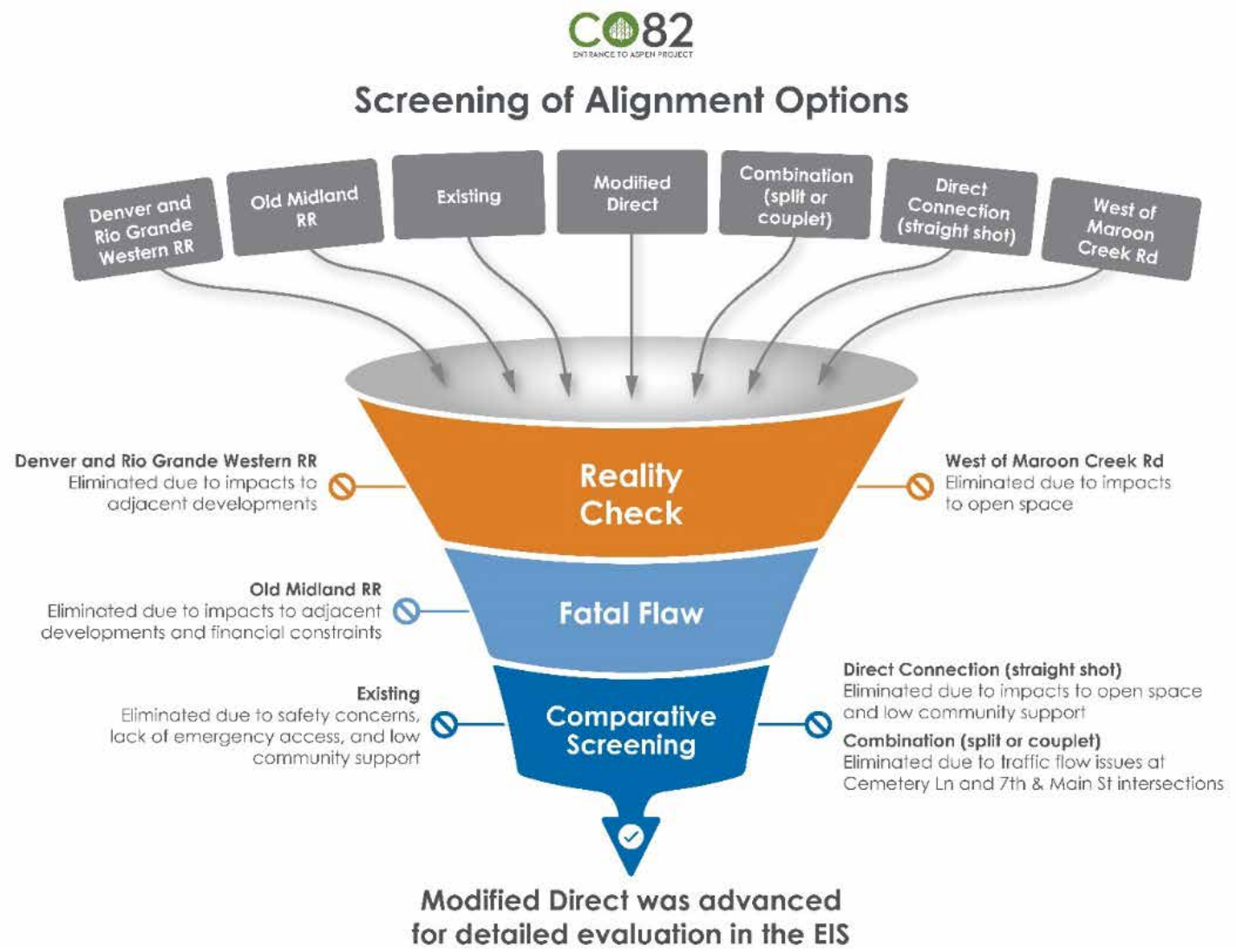



## 1.1.1 Roadway Alignment Options

Several alignment options were considered in addition to the existing CO 82 alignment.

After three rounds of screening, only the Modified Direct alignment option was identified for detailed evaluation in the EIS.

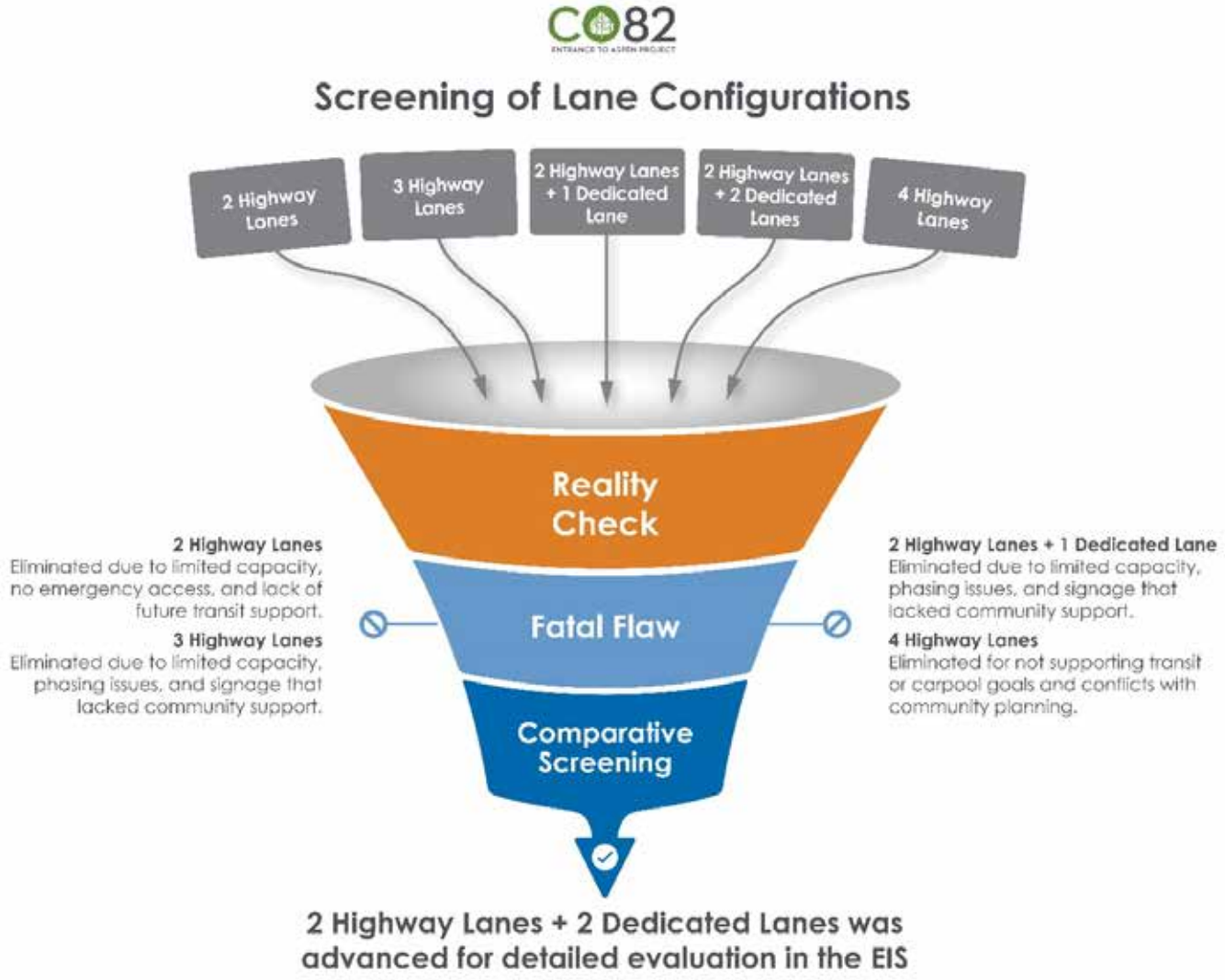



CO82
ENTRANCE TO ASPEN PROJECT
Screening of Alignment Options
Denver and Rio Grande Western RR
Old Midland RR
Existing
Modified Direct
Combination (split or couplet)
Direct Connection (straight shot)
West of Maroon Creek Rd
Reality Check
Denver and Rio Grande Western RR
Eliminated due to impacts to adjacent developments
West of Maroon Creek Rd
Eliminated due to impacts to open space
Fatal Flaw
Old Midland RR
Eliminated due to impacts to adjacent developments and financial constraints
Comparative Screening
Existing
Eliminated due to safety concerns, lack of emergency access, and low community support
Direct Connection (straight shot)
Eliminated due to impacts to open space and low community support
Combination (split or couplet)
Eliminated due to traffic flow issues at Cemetery Ln and 7th & Main St intersections
Modified Direct was advanced for detailed evaluation in the EIS

### 1.1.2 Lane Configuration Options

Five different lane configuration options were considered. After three rounds of screening, only the 2 Highway Lanes + 2 Dedicated Lanes option was identified for detailed evaluation in the EIS.

- **2 Highway Lanes –** two general purpose travel lanes (one lane each direction).
- **3 Highway Lanes –** two general purpose travel lanes (one lane each direction) and a center general purpose travel lane that is reversable by time of day for the peak traffic flow direction.
- **2 Highway Lanes +1 Dedicated Lane –** two general purpose travel lanes (one in each direction) and center HOV or transit lane that is reversable by time of day for the peak traffic flow direction.
- **2 Highway Lanes + 2 Dedicated Lanes –** one general purpose travel lane and one dedicated lane (HOV or transit) in each direction.
- **4 Highway Lanes –** two general purpose lanes in each direction.



### 1.1.3 Vertical Roadway Profile Options

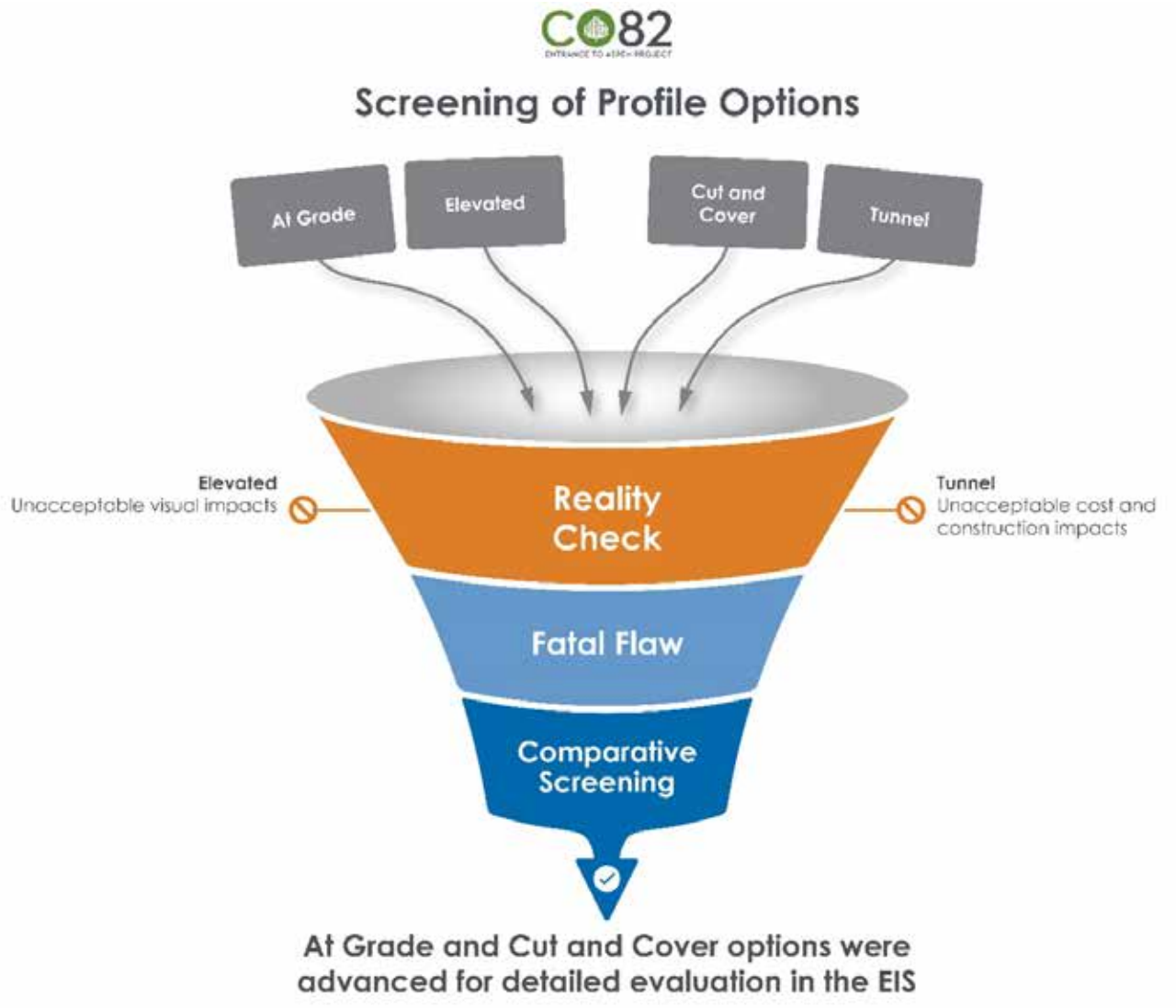
Four different vertical roadway profile options were considered. After three rounds of screening, two options were identified for detailed evaluation in the EIS; the at-grade and cut-and-cover options.

**At Grade –** generally follows existing ground-line.

**Elevated –** uses an elevated structure (viaduct) for either vehicle traffic or transit.

**Cut and Cover** – generally follows existing ground line except the vertical profile is lowered so the highway travels through a short tunnel (400 – 700 feet) to minimize impacts to recreation facilities.

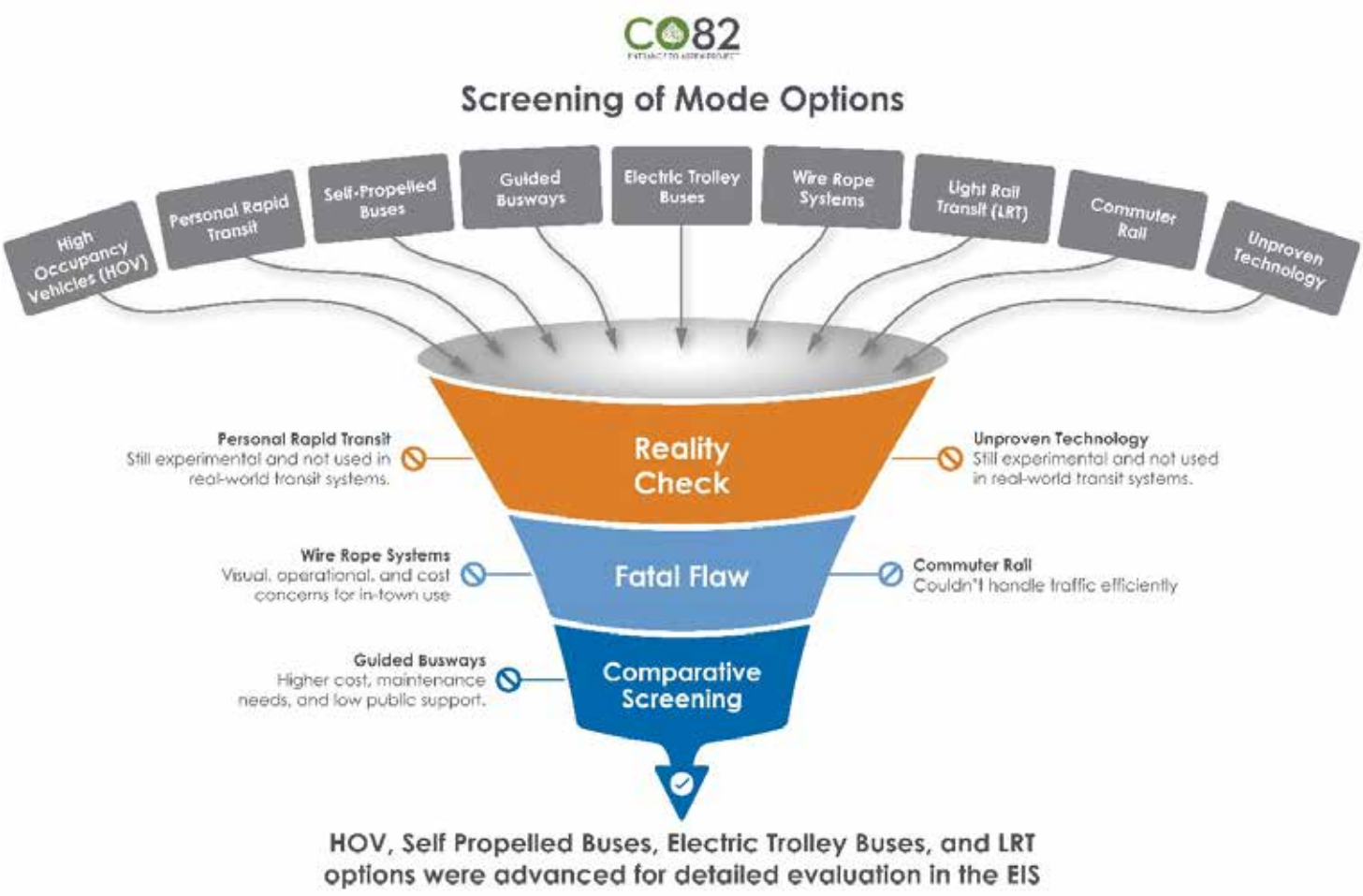
**Tunnel** – Use a tunnel to put additional lanes under the existing highway alignment or put all lanes under ground to avoid impacts to recreation facilities.



### 1.1.4 Mode Options

Numerous mode options were considered. After three rounds of screening, four options were identified for detailed evaluation in the EIS; high -occupancy vehicles (HOV), self-propelled buses, electric trolley buses, and light rail transit (LRT).

- **HOV –** Vehicles with multiple passengers (e.g., carpools) using dedicated lanes.
- **Personal Rapid Transit** – Small automated vehicles operating on a network of guideways.
- **Self-Propelled Buses** – Buses that operate independently on roadways without overhead wires or tracks.
- **Guided Busways –** Buses that operate on dedicated lanes or tracks with guidance technology.
- **Electric Trolley Buses –** Electric buses powered by overhead catenary.
- **Wire Rope Systems –** Gondolas or aerial tramways using overhead cables.
- **LRT –** Fixed guideway transit system using electrically powered rail vehicles on roadway or dedicated tracks.
- **Commuter Rail –** Rail system using larger train cars pulled by locomotives to transport people between suburbs and cities.
- **Unproven Technology** – Transit systems that have not yet been tested or implemented in real-world conditions.



## 1.2 EIS Alternatives Evaluation

Alignment, lane configuration, vertical profile, and mode options advanced for detailed evaluation in the EIS are listed as follows.

| Alignments | Lane Configurations | Vertical Profiles | Modes |
|---|---|---|---|
| 1. Modified Direct<br>2. Existing*<br>3. Combination** | 1. 2 Highway Lanes + 2 Dedicated Lanes | 1. At Grade<br>2. Cut and Cover | 1. HOV<br>2. Self-Propelled Buses<br>3. Electric Trolley Buses<br>4. LRT |

* The existing alignment did not pass comparative screening but was evaluated in the EIS for comparative purposes.
** The combination alignment did not pass comparative screening but was evaluated in the EIS at the request of Aspen City Council.

### 1.2.1 Alternatives Evaluated in the EIS

The alignment, lane configuration, and vertical profile options were combined to create seven alternatives for detailed evaluation in the EIS. Alternative F was selected as the Preferred Alternative with LRT service that can be developed initially as exclusive bus lanes if local support or funding for LRT are not available.

| Alternatives | Alignment | Lane Configuration | Vertical Profile | Mode |
|---|---|---|---|---|
| Alternative B | Existing | 2 Highway Lanes + 2 Dedicated Lanes | At Grade | All modes considered |
| Alternative C | Modified Direct | 2 Highway Lanes + 2 Dedicated Lanes | At Grade | All modes considered |
| Alternative D | Modified Direct | 2 Highway Lanes + 2 Dedicated Lanes in Separate Transit Envelope | At Grade | All modes considered |
| Alternative E | Modified Direct | 2 Highway Lanes + 2 Dedicated Lanes | At Grade with Cut and Cover through Marolt Open Space | All modes considered |
| Alternative F | Modified Direct | 2 Highway Lanes + 2 Dedicated Lanes in Separate Transit Envelope | At Grade with Cut and Cover through Marolt Open Space | All modes considered |
| Alternative G | Combination (Split Alignment) | 2 Highway Lanes on Existing Alignment + 2 Transit Lanes on Modified Direct Alignment | At Grade | All modes except for HOV |
| Alternative H | Combination (Couplet Alignment) | Outbound Traffic on Existing Alignment and Inbound traffic on Shifted Modified Direct Alignment from Cemetery Lane. 1 Highway Lane and 1 Dedicated Lane in Each Direction. | At Grade | Self-Propelled Bus or LRT |