

State Highway 82 Entrance to Aspen
Summary of EIS Alternatives Screening Process

History of the EIS

The National Environmental Policy Act (NEPA) process for the State Highway 82 (SH 82) Entrance to Aspen project began in January 1994. A draft environmental impact statement (DEIS) was released for public review and comment in August of 1995. The DEIS evaluated three alternatives between Buttermilk and Maroon Creek Road and seven alternatives between Maroon Creek Road and the intersection of 7th and Main Street. As a result of public/agency comments on the DEIS, CDOT expanded the analysis to include new alternatives and extend the project limits to Rubey Park. The supplemental draft EIS (SDEIS) evaluated 3 additional alternatives between Pitkin County airport and Rubey Park. The SDEIS was released in July of 1996. In August of 1997 the final EIS was released. The Record of Decision and identification of the Preferred Alternative (PA) was released in August of 1998.

The Screening Process

CDOT used a screening process to develop and determine which alternatives would receive a detailed evaluation in the DEIS. The screening process used progressively more demanding criteria through a series of three screening levels. At each screening level, options that did not meet their respective criteria for that screening level were eliminated from further evaluation (ROD pages 13-19). Attachment 1 is Figure 3 from the ROD, which shows the screening analysis and results.

The screening levels included a **reality check**, a **fatal flaw screening**, and a **comparative evaluation**. The reality check was qualitative and eliminated options that were clearly unrealistic, inappropriate, or unreasonable. In general, the options screened out at this level were either discontinuous to the project corridor, cost prohibitive, aesthetically obtrusive, unproven in service (no real-world data on operation, cost, or impact), or disruptive to the existing development in the corridor. The potential option types that are eliminated at this level have no realistic chance of being implemented because of physical constraints, funding, technology limitations, or impacts on private properties.

The fatal flaw screening eliminated options that did not meet one or more of the community established project objectives (10 objectives were identified). The fatal flaw screening eliminated options that clearly did not meet the project objectives. Although the options eliminated at this level may have seemed conceivable, they did not solve the transportation problems and concerns identified for the Entrance to Aspen corridor and/or they did not meet the project's purpose and need.

The comparative evaluation eliminated alternatives that were not logical when compared to other alternatives. This level eliminated options that, although they may have met the objectives of the project, were not logical when compared to other available options. Transportation options evaluated at this comparative screening level underwent analysis of key environmental parameters and issues (cost, safety, open space/4(f) issues, and community acceptability). At this level four general option categories were

combined to form potential alternatives that allowed for comparative analysis. Following the screening process, the options that remained were combined to create the transportation alternatives evaluated in the EIS. That is, a specific alignment was combined with a specific profile and laneage to develop cost estimates and amount of right-of-way acquisition for comparative purposes.

CDOT then analyzed alignment and profile alternatives to determine the environmental impacts and associated mitigation within the corridor. The modal alternatives were critical to determining both the air quality impacts (at the time, PM₁₀) in the Aspen area and their ability to meet the objective of limiting 2015 traffic volumes to levels at or below those in 1993. This information was also used to identify other environmental impacts and to help develop a compensatory mitigation plan.

Components of the Preferred Alternative, as described below, are identified in ***bold italics***.

Reality Check and Fatal Flaw Screening

CDOT developed options for alignment, laneage, profile, and travel mode and evaluated them at each level (reality check, fatal flaw, and comparative). Options that passed the reality check and fatal flaw screens were combined to form alternatives for comparative screening. Options were each analyzed and screened as described below.

Alignments

Seven different alignment options were considered. A description of each option follows, along with screening results.

- Denver & Rio Grande Western Railroad (D&RGW) Right of Way: This route followed the old D&RGW railroad ROW. The ROW segment that was evaluated follows the Rio Grande Trail to about Rio Grande Park. It was screened out at the reality check level due to impacts to adjacent developments.
- Alignments West of Maroon Creek Road other than the existing alignment: This refers to possible alignment solutions up valley from Maroon Creek Road, except for existing SH 82. These alignments were screened out at the reality check level due to impacts to adjacent developments (open space).
- Old Midland Railroad: This alignment followed the Old Midland Railroad ROW along Shadow Mountain. It was eliminated at the fatal flaw level, as the alignment would require extensive disruption to existing developments along Shadow Mountain and within the Aspen downtown area. In addition, the Midland alignment was eliminated because of financial constraints and the impacts to adjacent developments.
- Existing alignment (see attachment 2): This alignment follows the alignment of current highway 82 between Maroon Creek Road and the intersection of 7th and Main Street including the “S curves.” This alternative was eliminated at the comparative screening level based on community acceptability and safety issues. As compared to other alignments, the safety of State Highway 82

was not significantly improved because of the existing “S curves.” The existing alignment also does not address the need for an alternative emergency access route in and out of Aspen.

- Direct Connection: This alignment leaves the existing SH 82 platform just above the Maroon Creek intersection, crosses the Marolt-Thomas property, and connects directly to 7th and Main Street. It was an alternative previously proposed by CDOT and was commonly referred to as the “straight shot.” It allows for higher design speeds as curvature is minimized. This alignment was eliminated at the comparative screening level due to impacts to open space and lack of community support.
- Combination (see attachment 3): This couplet alignment was a combination of the existing and either the direct or modified direct options. Westbound traffic would use the existing alignment, while eastbound traffic used either the direct or modified direct alignment. The combination alignment was screened out at the comparative level as it would have created significant operational problems for Cemetery Lane traffic wanting to head east on Hwy 82. It also created operational problems splitting traffic at 7th and Main Street.
- Modified Direct (see attachment 4): This alignment was a variation on the direct alignment; it followed existing SH 82 to a point approximately halfway between Maroon Creek Road and Cemetery Lane. The alignment then turned southeast to curve across the Marolt-Thomas property, and finally turned east to cross Castle Creek to connect with the intersection at 7th and Main Street. ***This alignment passed all screens and was selected as a component of the Preferred Alternative (PA).***

Laneage

Five different options for laneage were considered. A description of each option follows, along with that option’s screening results.

- 2 Highway Lanes: This laneage option was screened out at the fatal flaw level as it did not meet the capacity requirements for future traffic demand. The two-lane option on the existing alignment also did not meet the emergency access objective and did not provide for future transit options and upgrades that are part of Aspen community plan.
- 3 Highway Lanes: Because peak hour traffic distribution of the highway is approximately 50/50, a reversible lane would not provide the needed future traffic capacity (transit and private vehicles) for both directions of SH 82. This laneage option also did not meet the phasing objective and was unacceptable to the community because of the large number of signs required to safely implement and regulate the reversible lane. It was screened out at the fatal flaw level.
- 2 Highway Lanes plus 1 dedicated vehicle and/or transit lane: This laneage option was eliminated at the fatal flaw level for the same reasons the three-lane highway option was eliminated.
- 4 Highway Lanes: This laneage option did not provide the incentive for transit or carpool use that is essential to control traffic growth on SH 82. Four lanes of unrestricted traffic were not consistent with community-based planning goals. This option was screened out at the fatal flaw level.

- 2 Highway Lanes plus 2 dedicated vehicle and/or transit lanes: This option passed the fatal flaw screen. When evaluated at the comparative level screen, it best met the project objectives. ***This laneage passed all screens and is a component of the PA.***

Profile

This option refers to the opportunities for developing the vertical profile of the roadway. Four options were considered.

- Elevated: This option referred to an elevated roadway structure profile, such as a bridge viaduct. This option was screened out at the reality check level as unrealistic due to unacceptable visual impacts.
- Tunnel: This option referred to tunnel profiles (i.e., below natural ground elevation) greater than 700 feet long. This option was screened out at the reality check level as unrealistic due to unacceptable cost and construction impacts (such as staging tunneling equipment, haul and disposal of muck).
- Cut and Cover: This option referred to a shorter tunnel (less than 300 feet) and could be considered a land bridge. It allowed for the roadway profile to drop below the existing landscape. It would be constructed by first regrading the area (the “cut”), then constructing the concrete tunnel box in that area (the “cover”), and finally backfilling the box to match the landform. This feature, combined with the restoration of abandoned SH 82 below Cemetery Lane, allows a continuously connected open space from the Aspen golf course to the Marolt-Thomas open space. ***This option passed all screens and is a component of the PA.***
- At-grade: This option referred to the roadway following the existing landscape to the extent possible. ***This option, along with the cut and cover tunnel, passed all screens and is a component of the PA.***

Travel Mode

This option includes the various travel modes considered for the ETA. Nine travel modes were analyzed.

- Unproven Technology: This option refers to transit systems under research and development (at the time). It was screened out at the reality check level, as one of the criteria required modal options to be in revenue service to pass the reality check screen.
- Personal Rapid Transit: This option refers to a public transit mode using small, automated vehicles operating on a network of dedicated guideways. This option was screened out at the reality check level, as one of the criteria required modal options to be in revenue service to pass the reality check screen.
- Commuter Rail: This mode refers to a heavy rail system (not LRT) and requires a fixed guideway system and a separate right of way. Because of commuter rail’s inability to operate efficiently in mixed flow traffic conditions this mode option did not meet the capacity objective. It was screened out at the fatal flaw level.
- Wire Rope Systems: Wire rope propelled systems are like gondolas and chairlift systems, requiring overhead cables and poles supports. Please note that after the ROD, wire rope systems using the

drive under the passenger cabin have been developed (for example the Doppelmayr Cable Car). The capacity and trips that can be served by this technology are limited. This mode was screened out at the fatal flaw level because it was not acceptable as an in-town transit system visually, operationally, or financially.

- Guided Busways: The mechanically guided bus system evaluated in the EIS operates in a U-shaped concrete track that guides the bus without help from the driver. The driver controls the speed and deceleration of the bus. This option was evaluated in more detail in earlier Aspen to Snowmass transportation projects. From a comparative evaluation the mechanically guided busway was a relatively high-cost option versus the self-propelled bus and electric trolley technologies. This option was screened out at the comparative screening level based on the project objectives and key issues (cost, maintenance, and community acceptability) in comparison to other options. Since the ROD, new applications for guided buses have been developed using optical markings in the roadway and radar guidance. The new applications for guided buses involving optical markings will not work in winter conditions.
- HOV: This refers to a managed lane that allows high-occupancy vehicles (HOVs) either/or during all day or peak-hour. HOVs are self-propelled vehicles having a minimum of two or more passengers including the driver in the vehicle. This option passed the comparative screen.
- Self-propelled Buses: Two general types of self-propelled buses were considered (diesel, natural gas, now also electric). Self-propelled buses can be run in mixed traffic or in a separate managed lane. ***This option passed the comparative screen and is a component of the PA. It comprises the initial phase transit system.***
- Electric Trolley Buses: Electric trolley buses are essentially the same vehicles self-propelled buses, but they are propelled by an electric motor and obtain power from two overhead electric wires. Electric trolley buses are rubber tired and operate in mixed flow conditions. The major limitation of such vehicles is a reliance on the overhead wires for propulsion. The system requires electrification of the entire area. This option passed the comparative screen. It was not evaluated in detail, as the visual impacts of overhead wires was not acceptable. It is not included as a component of the PA.
- Light Rail Transit (LRT): LRT is a mode that runs on standard gauge rail. LRT can operate in a lane next to general traffic or even in the same lane (e.g., RTD in downtown Denver). LRT operates most efficiently in a separate, dedicated right-of-way. Power is provided by an overhead electric system in mixed flow conditions by either overhead electrical wires or a third electrified rail when they run in a separate right-of-way period. ***This option passed the comparative screen and is a component of the PA. It comprises the final phase transit system.***

Comparative Screening of Alternatives

From the four general options (alignments, laneage, profile, and travel mode), options that passed the reality check and fatal flaw screening were selected and combined to form potential alternatives for comparative analysis. That is, a specific alignment was combined with a specific profile and laneage to

develop cost estimates, open space impacts, and amount of right-of-way acquisition for comparative purposes in the EIS.

Alignment and profile alternatives were then studied to determine the environmental impacts and associated mitigation within the corridor. The modal options were also evaluated, as the different modes resulted in widely varying impacts to air quality and the project's ability to meet the objective of limiting 2015 traffic volumes to levels at or below those in 1993.

The comparative screening analysis eliminated the following three alternatives (comprised of specific alignment, profile, and laneage combinations):

- Existing (see attachment 2): The existing alignment between Maroon Creek Road and the intersection of 7th and Main Street was screened out based on safety and community acceptability issues as compared to other alignment options. Any widening on this alignment would impact multiple adjacent properties (including historic properties identified as section 4 (f) resources). The safety of SH 82 would not be significantly improved with this alternative because of the existing S curves compared to alignments across the Marolt-Thomas property. The S curves were expected to have a much higher accident rate even with improvements to the roadway. The existing alignment also did not address the need for an alternative emergency access route in and out of Aspen. In a public survey of alignment options (September 1994 public open house), the existing alignment was chosen as the least favorable in comparison to other alignments.
- Direct Connection: The cost and safety issues of the direct alignment were like those of the Modified Direct alignment. Both alignments had impacts on the Marolt-Thomas property. The Direct Connection alignment bisected the Marolt-Thomas property and impacted several key open space areas (at the time of the DEIS, these areas were used as a community garden and parasailing landing site). These areas were not affected by the Modified Direct alignment (described below). Additionally, the Direct Connection alignment did not have the community support of the Modified Direct alignment. A survey conducted in fall 1994 indicated the most desired alignment between the two was the Modified Direct alignment. Because of the greater impacts to open space as compared to the Modified Direct alignment and the lack of community support, the Direct Connection alignment was not carried ahead into a full evaluation.
- Combination (Existing plus Direct/Modified Direct, see attachment 3): The couplet, or one way pair, and the split alignment, or two-way pair, were both defined as a combination of the existing alignment and either of the Direct Connection or Modified Direct alignments. Traffic flow in the couplet was one-way to the West on the existing alignment and then the opposite direction on the alignments that cross the Marolt-Thomas property. This is also called the "split shot". The couplet would create significant operational problems for Cemetery Lane traffic wanting to head east (up valley) on SH 82. This traffic must first travel west (down-valley) on SH 82 and accomplish a U-turn were the two roadways come together (at the time of the EIS, the MCR roundabout was not contemplated). This alignment was not carried into further evaluation. The split alignment or two-way pair was like the geometry of the couplet but the traffic on both existing and Marolt-

Thomas alignments flows in both directions, and it created significant operational problems where the Modified Direct or Direct alignment and the existing alignment separate at the intersection of 7th and Main Street and come back together again at the intersection of Maroon Creek Road and SH 82. This alignment was not carried ahead.

Details of Comparative Alternatives

This section of the document is intended to explain the details of the alternatives carried ahead for comparative screening. It describes the different alternatives based on their project area (Buttermilk Ski area to Maroon Creek Road (area 1) and Maroon Creek Road to 7th and Main Street (area 2)). This section also explains the nomenclature and numbering used to identify alternatives.

The alternatives evaluated in the EIS were developed from reasonable combinations of the alignment, laneage, and the profile options that passed the screening process and/or provided a useful baseline for comparing alternatives. Additional alternatives that did not pass the screening process were also evaluated due to community interest and/or at the request of the Aspen City Council. Some of the alternatives also considered a separate transit envelope within the designated right-of-way. The existing alignment for Maroon Creek Road to 7th and Main Street was also carried into the evaluation for comparison purposes even though it did not pass the screening analysis due to 4(f) impacts. This alignment consisted of two highway lanes and two dedicated transit lanes at-grade.

The only alignment and laneage option to pass the screening process was the two general highway lanes plus two dedicated vehicle / transit lanes (managed lanes) across the Marolt-Thomas property. The two profile options carried into the EIS for evaluation were the at-grade and the cut and cover. Both options received public support and were financially feasible. The alternatives were evaluated for two areas, characterized by different roadway cross-sections *Buttermilk Ski Area to Maroon Creek Rd and Maroon Creek Rd to 7th and Main Street*. Because the modes and technologies for the dedicated vehicle/ transit lanes were generally not dependent upon the alignment lineage and profile options, the modes and technologies were treated as a separate subset of the alternatives. The technology selected was assumed to be the same for the Buttermilk Ski Area to Maroon Creek Rd section and the Maroon Creek Road to 7th and Main Street section.

Area 1: Buttermilk Ski Area to Maroon Creek Rd

This area analyzed three alternatives (see attachment 5) as determined by the screening process.

- Alternative 1, No Action Alternative: Although the No Action alternative did not meet project objectives, it was carried ahead through the EIS evaluation process as a comparison alternative as required by federal guidelines. It was used as a benchmark to compare the magnitude of the environmental effects of the various build alternatives. It could become the recommended and preferred alternative if no other alternative is selected. That was not the case for this project.
- Alternative 2, Existing Alignment: This alternative followed the existing alignment between Buttermilk Ski Area and Maroon Creek Rd.

- Alternative 3, Existing Alignment with a separate transit envelope: This alternative was identical to Alternative 2 except a transit envelope was provided. ***This option was selected as a component of the PA.***

Area 2: Maroon Creek Road to 7th and Main Street

The alternatives evaluated in this section consist of three general alignments, the existing alignment, the Modified Direct alignment, and the Combination alignment. In addition, the modified direct alignment was combined with two profile options, at grade and with cut and cover, and evaluated with and without a separate transit envelope

- Alternative A, No Action Alternative (see attachment 6): This alternative consisted of minor short-term traffic and maintenance improvements on SH 82. The existing roadway would remain as-is.
- Alternative B, Existing Alignment (see attachment 6): The existing alignment for Maroon Creek Rd to the intersection of 7th and Main Street did not pass the screening analysis; however, it was carried ahead for comparative purposes. This alternative provides two general highway lanes and two dedicated vehicle and/or transit lanes. LRT was excluded as an option because at reasonable operating speeds, the minimum curvature required of the track created significant right-of-way acquisition and structure takes. Beginning at Maroon Creek Road, this alternative followed the existing alignment to Cemetery Lane. East of Cemetery Lane the new alignment shifted south of the existing center line and crosses Castle Creek. The existing Castle Creek bridge would be used for westbound traffic and would be widened to the south to accommodate the eastbound traffic. This alternative continued to follow existing SH 82 around the S curves to 7th and Main Street.
- Alternative C, Modified Direct alignment at grade (see attachment 6): The alignment followed Hwy 82 from Maroon Creek to about milepost 39.9 where the alignment curves southeast into the Marolt-Thomas property. A gradual S curve to the east brought the alignment just south of the existing Castle Creek bridge. The vertical profiles of the highway began to drop just below the existing ground level. This alternative provided two general highway lanes and two dedicated vehicle and or transit lanes for all technologies passing the screening process. It did not provide a separate transit envelope, as the transit envelope was included within the highway platform, which was to avoid impacts and narrow the right-of-way.
- Alternative D, Modified Direct alignment at-grade with separate transit envelope (see attachment 6): This alternative provided two general highway lanes and two dedicated vehicle and/or transit lanes for all technologies passing the screening process. This alternative was identical to Alternative C, except that a transit separate transit envelope was provided in addition to the two dedicated vehicle and/or transit lanes.
- Alternative E, Modified Direct alignment with cut and cover tunnel (see attachment 6): Alternative E was similar to Alternative C in laneage and alignment, but it provided a cut and cover profile near Castle Creek. A separate transit envelope is not included in this alternative.

The cut and cover tunnel was proposed to be approximately at milepost 40.1 and continue for about 300 feet. After passing through the cut and cover tunnel (or land bridge), the alignment angled to the north and continued across Castle Creek on a new bridge structure to join the alignment to the intersection at 7th and Main Street.

- Alternative F, Modified Direct alignment, with a cut and cover segment, and with separate transit envelope (see attachment 6): Alternative F was like Alternative E except that a separate transit envelope was provided in addition to the two dedicated vehicle and or transit lanes. The separate transit envelope required widening the cut and cover section and required additional right-of-way. ***This option was selected as a component of the PA.***
- Alternative G, Two Improved Lanes on Existing Alignment and Transitway on the Modified direct alignment (see attachment 7): This alternative was a combination of two improved highway lanes on the existing alignment and a two-lane transitway across the Marolt-Thomas property. The transitway could be a fixed guideway or busway depending on the mode. This alternative did not pass the screening process unless it was combined with an aggressive TM program and a significant increase in transit use. It was included for evaluation in the EIS at the request of the Aspen City Council. The transitway followed the Modified Direct alignment to create two separate alignments for the SH 82 transportation corridor. The transitway alignment continued across a new Castle Creek bridge to join the general lanes at the west leg of the intersection of 7th and Main Street. The width of the transitway was dependent on the technology used for the dedicated lanes. Several in-city intersections would have needed to be modified to control access to SH 82 (Main Street) in the more urban area.
- Alternative H (see attachment 8): After the release of the DEIS, the Aspen City Council presented a new alternative, Alternative H for comparative evaluation. Alternative H and phased Alternative H (see attachment 9) consisted of a couplet alignment ("split shot"). This resulted in a combination of alternatives that were evaluated at the comparative level in the SDEIS. The alignment of Alternative H and Phased Alternative H were later eliminated because of the greater section 4(f) resource impacts (specifically on the Marolt-Thomas property). In addition, the couplet alignment (Alternative H) was originally screened out of consideration in the comparative screening evaluation.

Identification of the Preferred Alternative

The combination of the options that passed comparative screening and became the Preferred Alternative included the variation of the Modified Direct Alternative (evaluated in the SDEIS) and of the Preferred Alternative described in the FEIS (introducing a narrow median which allowed for a phased transit approach). See Attachment 10. The PA includes a 2-lane parkway (each direction) that follows SH 82 from Buttermilk Ski Area to mile post 39.9, (see attachment 11) where it shifts to the southeast of the SH 82 alignment and crosses the Marolt-Thomas property. It goes through a cut and cover tunnel (land bridge), crosses Castle Creek on a new bridge and connects to 7th and Main Street. The alignment follows Main Street (see attachment 12). The lane configuration across the Marolt-Thomas property is a general-purpose lane and a dedicated transit lane in each direction. The dedicated transit lane is

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designed for an initial transit phase of self-propelled buses. A future phase of a single-track LRT system, running in a separate dedicated, transitway to the south of SH 82 is also part of the PA. An incremental Transportation Management (TM) program is included in the PA to help achieve the city and community goal of keeping traffic at 1993 levels (see attachment 13).

Reference Documents

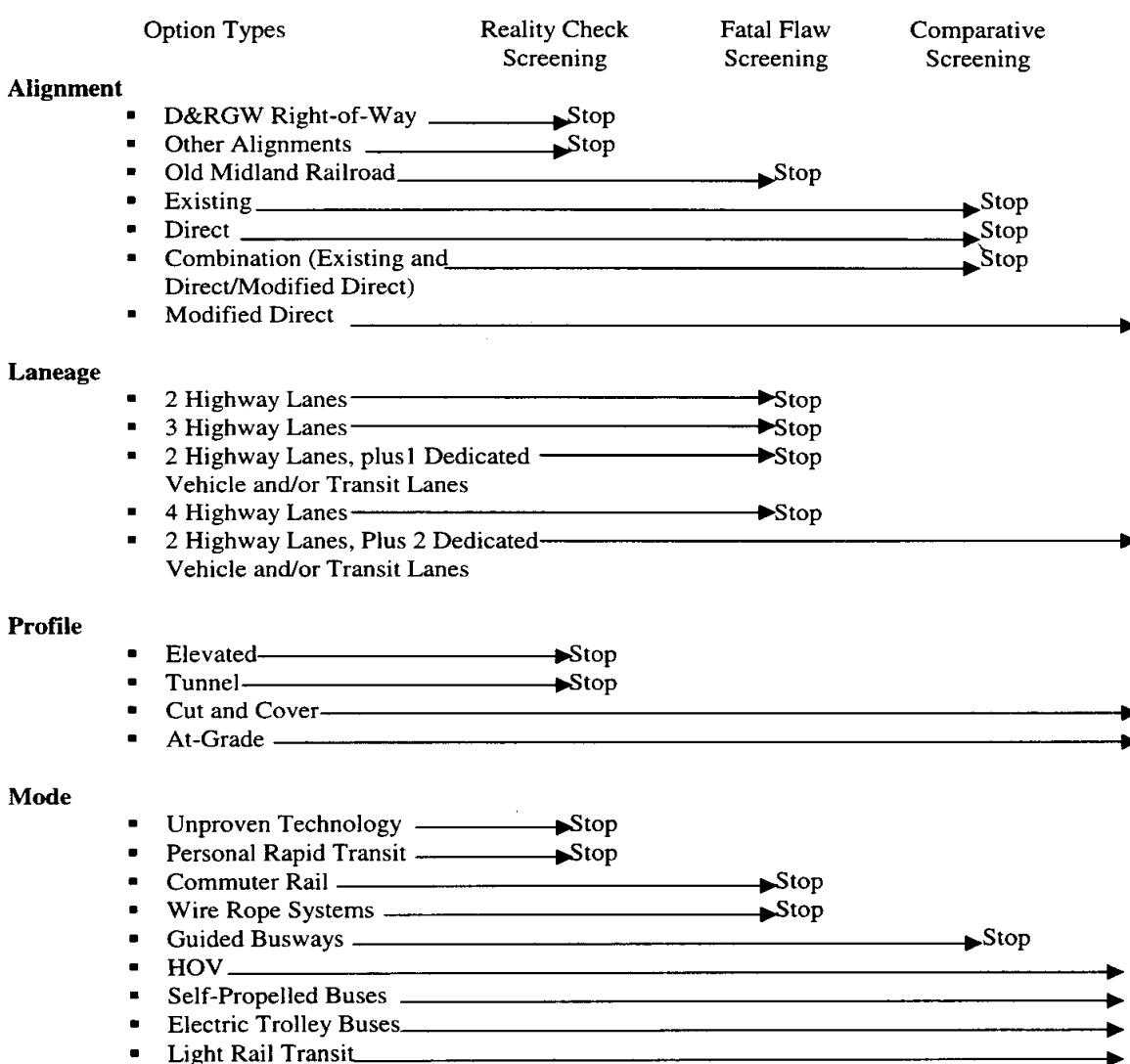
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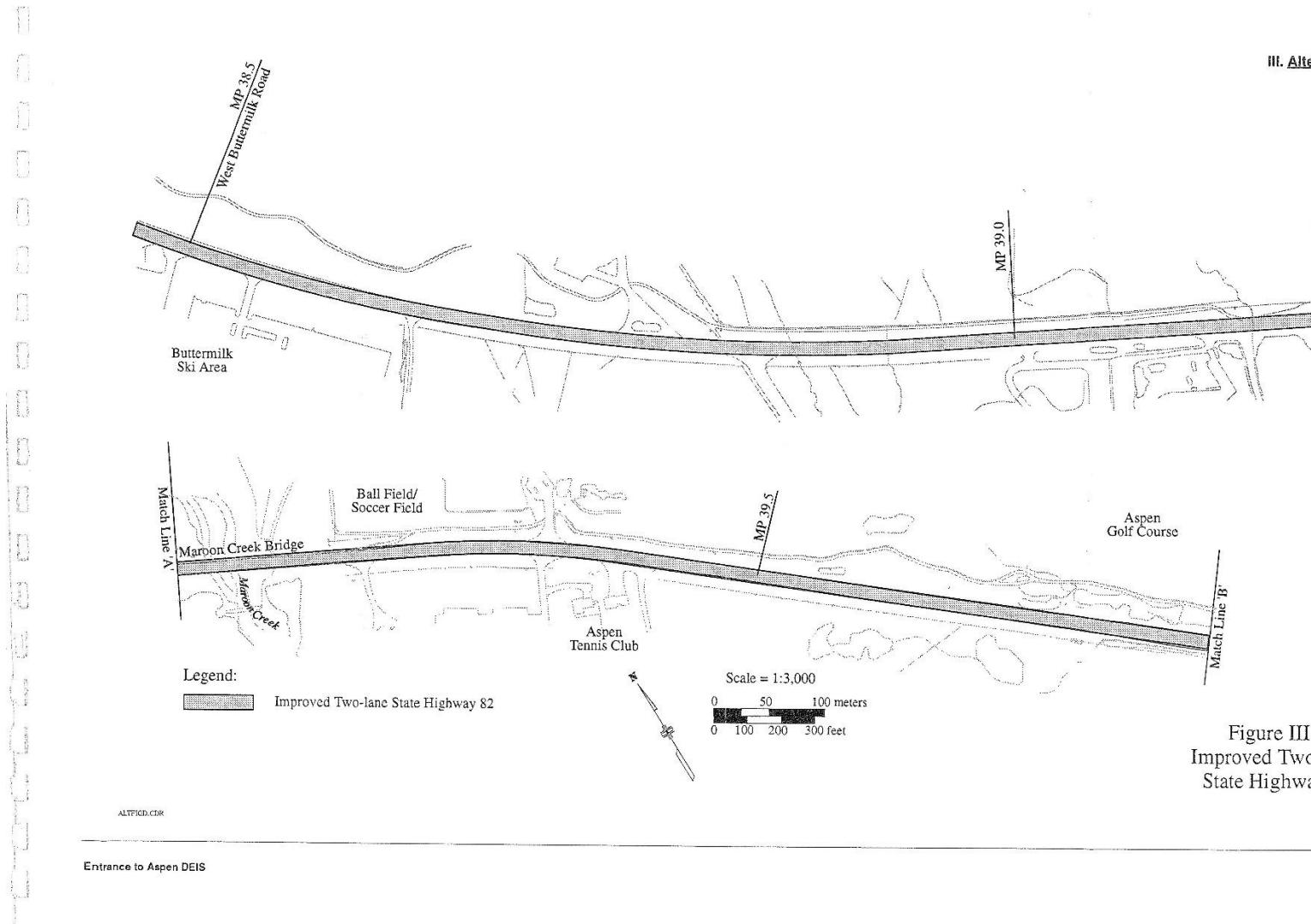
- State Highway 82 Entrance to Aspen Draft EIS (DEIS), August 1995
- State Highway 82 Entrance to Aspen Draft Supplemental Environmental Impact Statement/Section 4(f) Evaluation, July 1996
- State Highway 82 Entrance to Aspen Record of Decision (ROD), August 1998.

All attachments come from the above 3 documents.

Other documents that included a complete screening evaluation including the technical report to the DEIS entitled *State Highway 82 Entrance to Aspen Alternatives Screening Analysis* and the technical memorandum to the SDEIS entitled *Entrance to Aspen DSEIS Alternative Screening Report*.

Unfortunately, while these documents include more detailed information, they were not available for the development of this summary.

Figure 3
Screening Analysis

III. Alternatives

Attachment 2 (1 of 2)

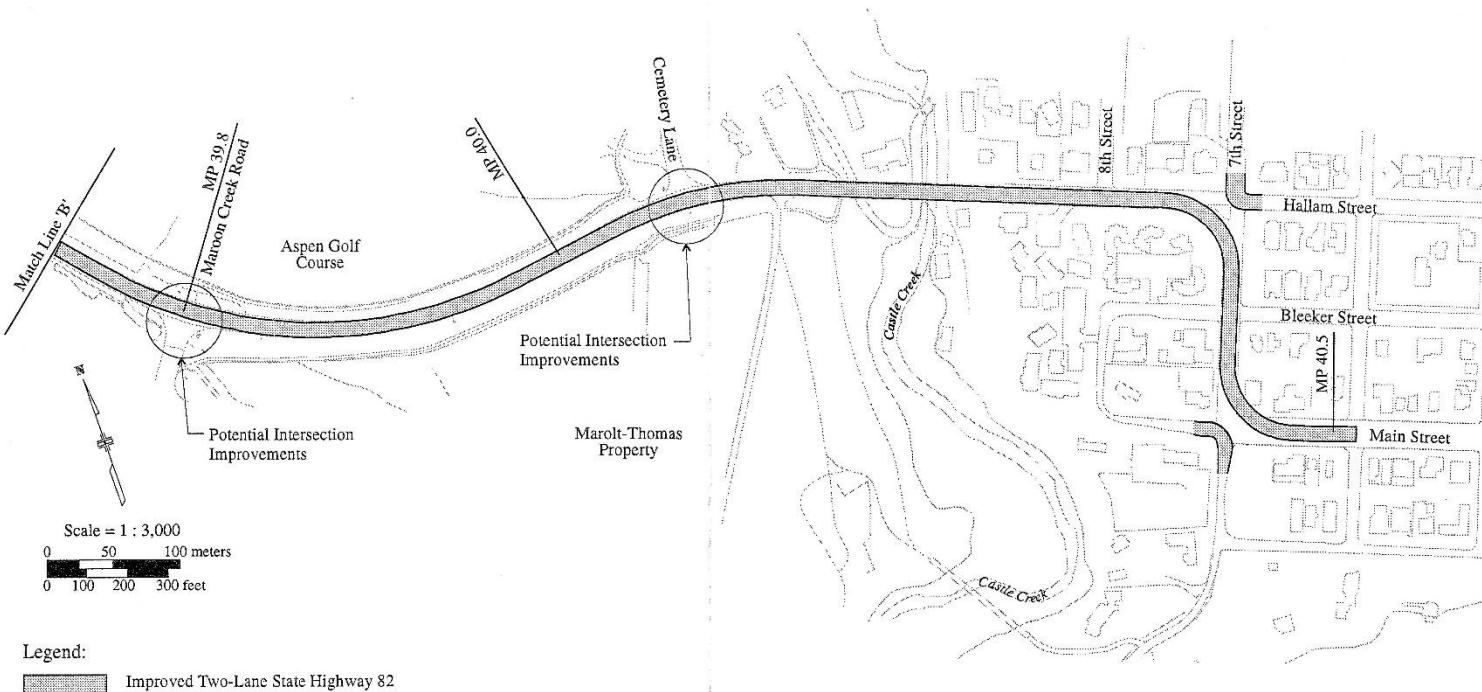
III. Alternatives

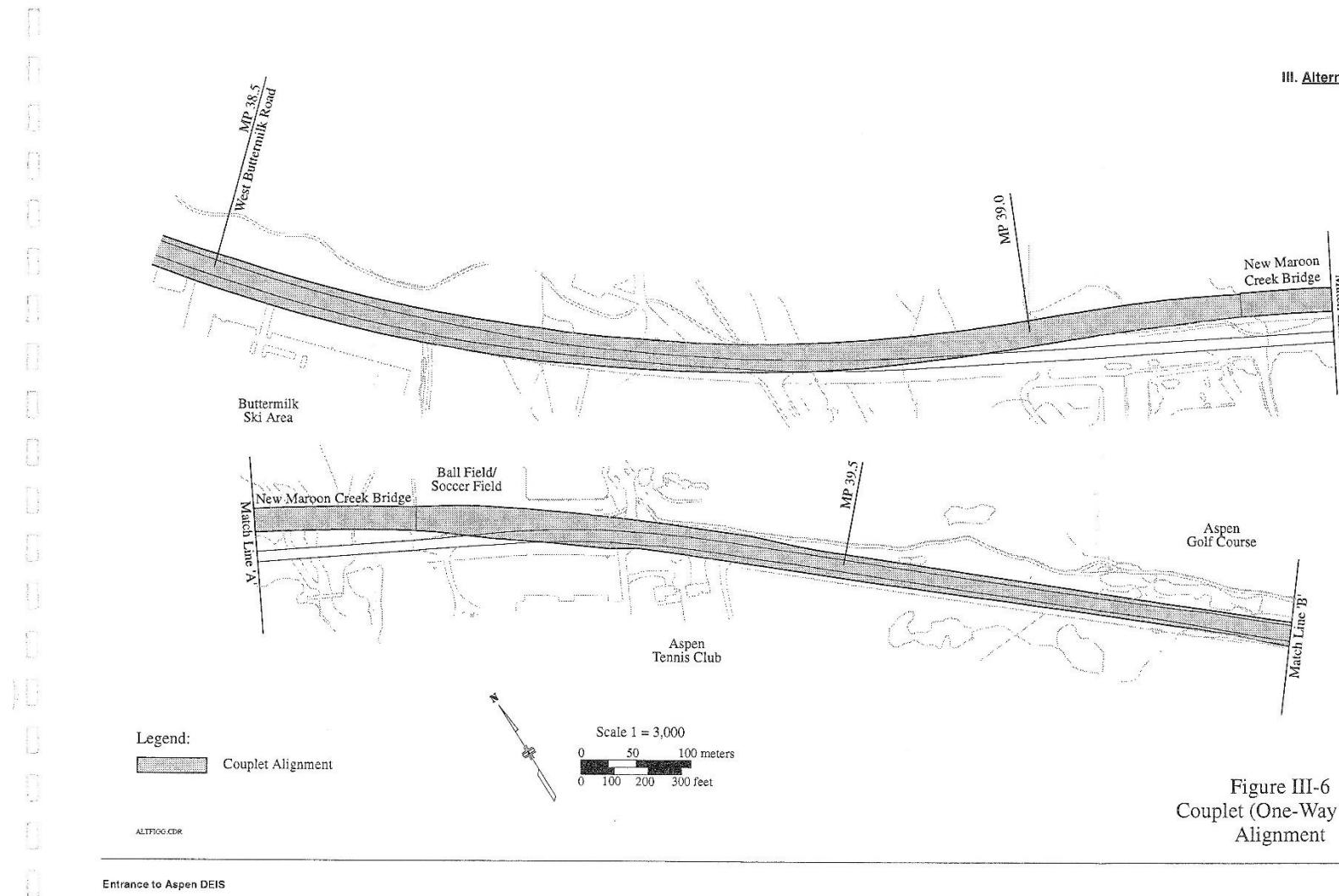
Figure III-4 (cont.)
Improved Two-Lane
State Highway 82

ALTFIGE.CDR

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Entrance to Aspen DEIS

Attachment 2 (2 of 2)

III. Alternatives

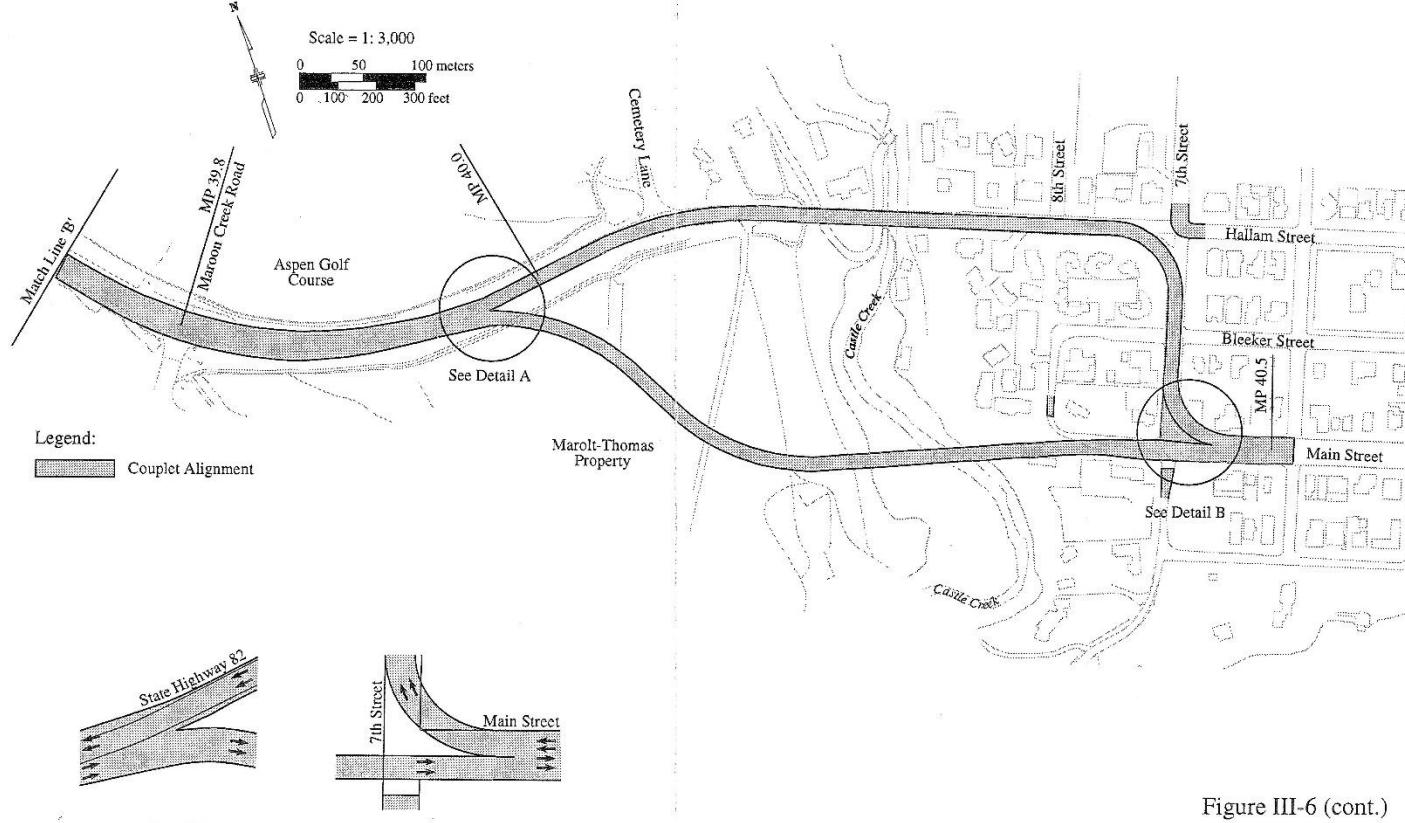
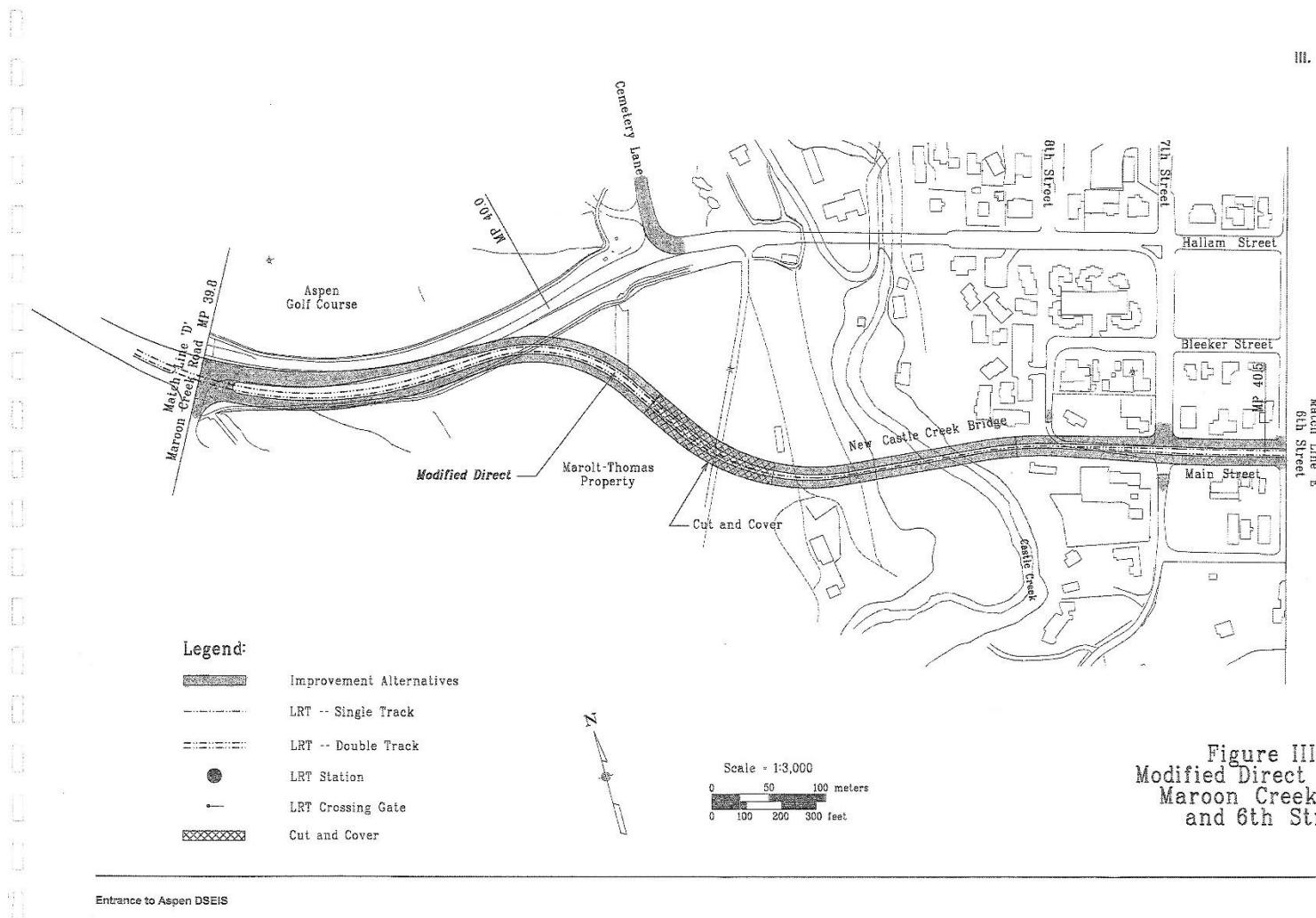
III. Alternatives

Figure III-6 (cont.)
Couplet (One-Way Pair)
Alignment

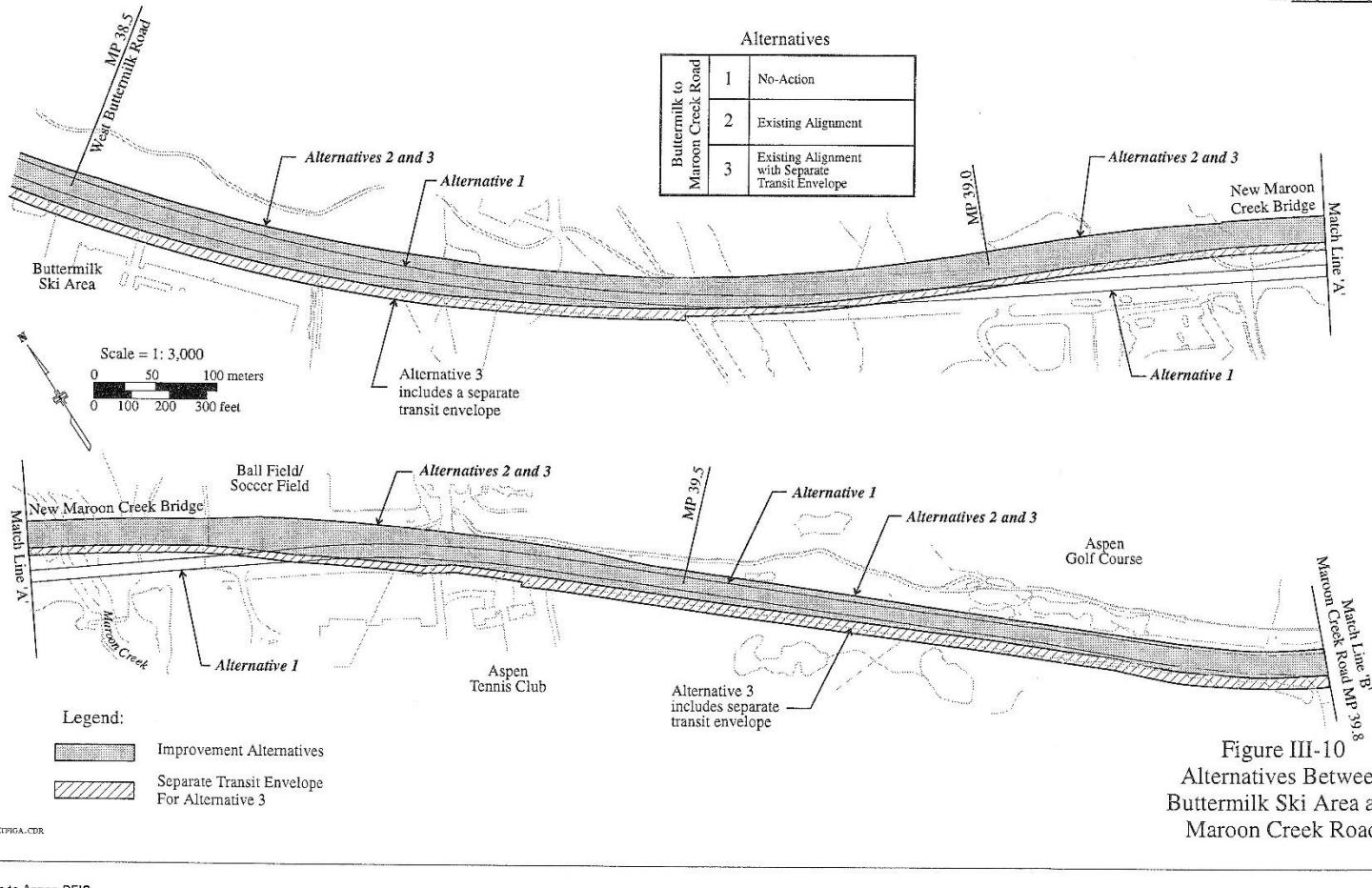
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III. Alternatives

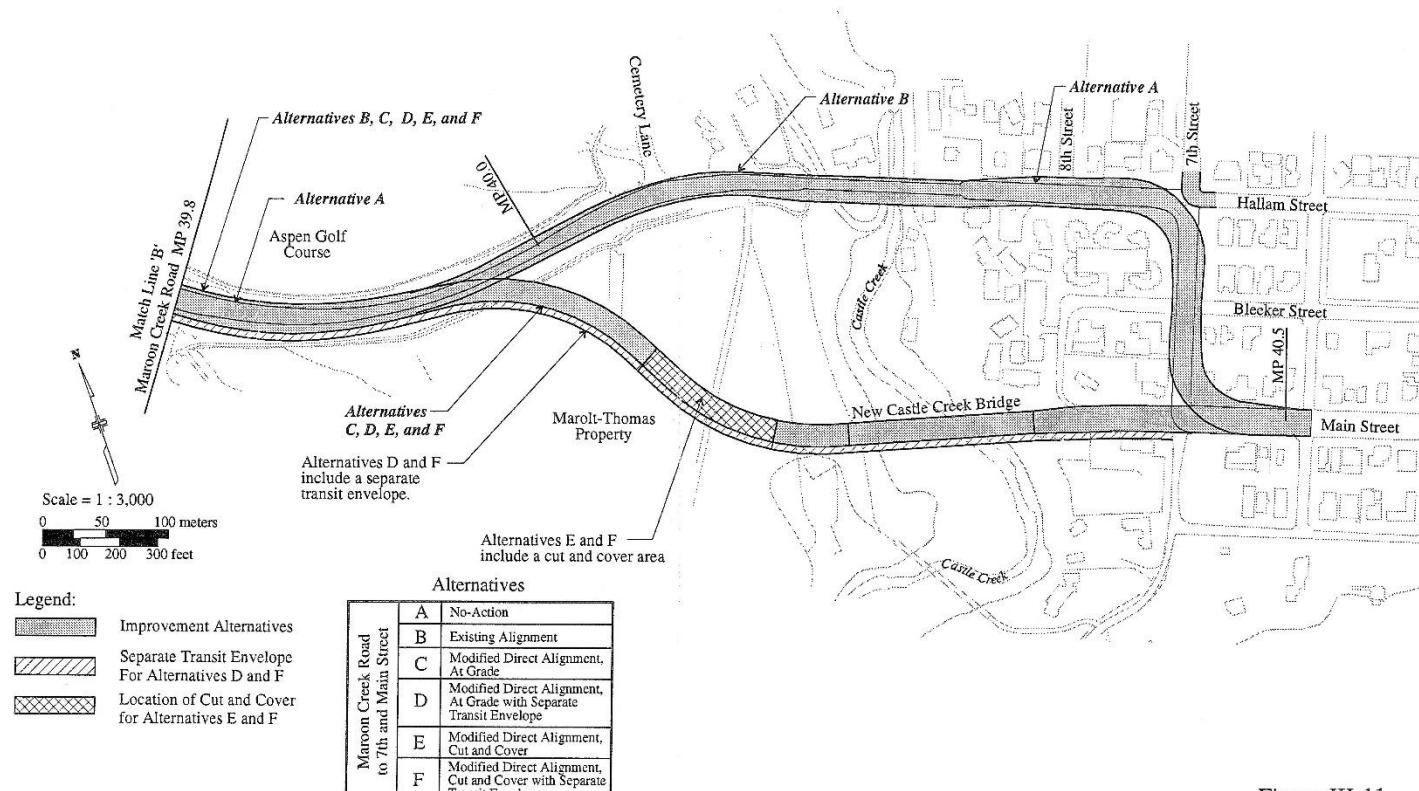
Entrance to Aspen DSEIS

III-15

Attachment 4

III. Alternatives

III. Alternatives

Figure III-11
Alternatives A-F

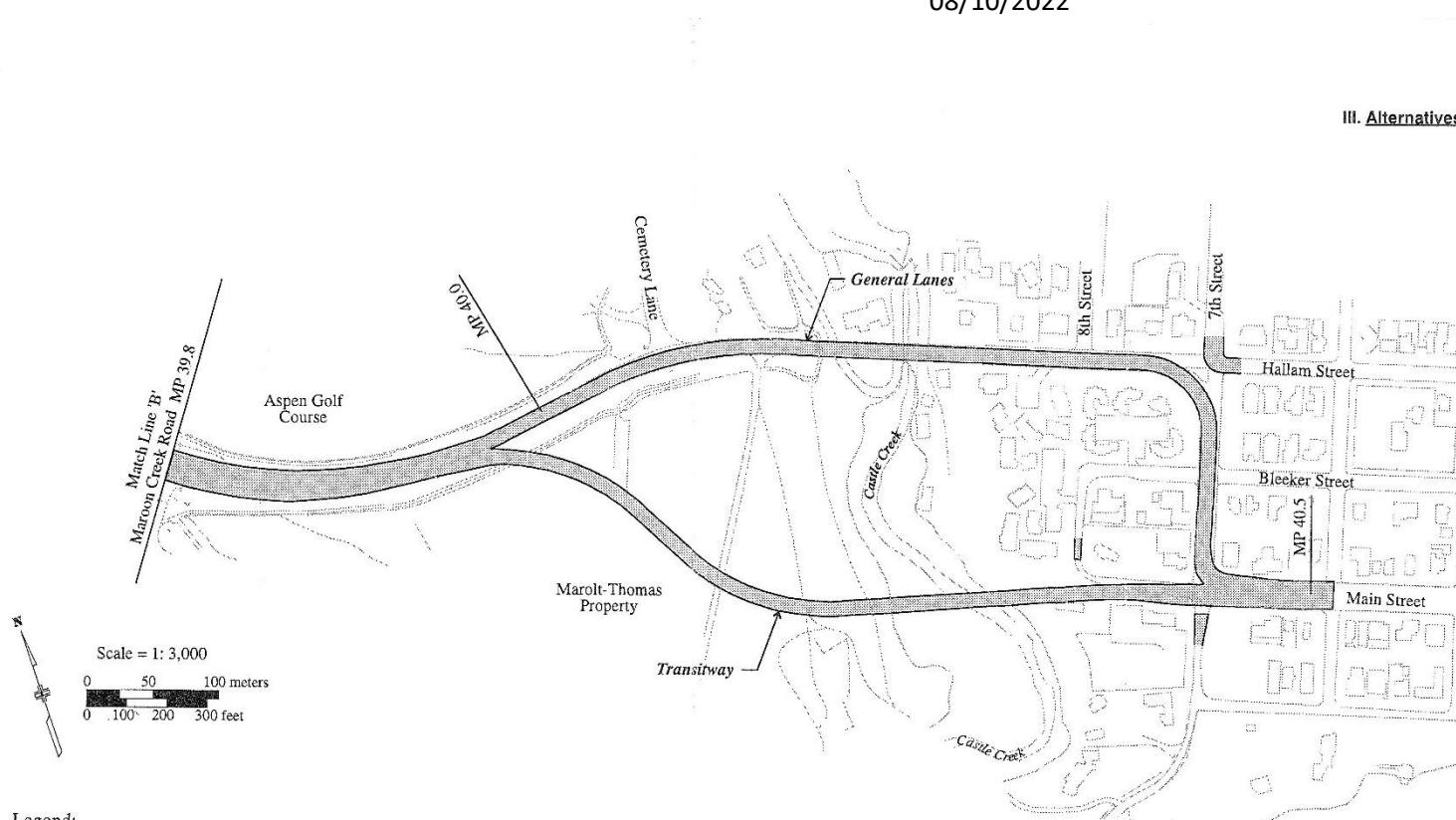
III. Alternatives

Figure III-12
Alternative G

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Entrance to Aspen DEIS

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Attachment 7

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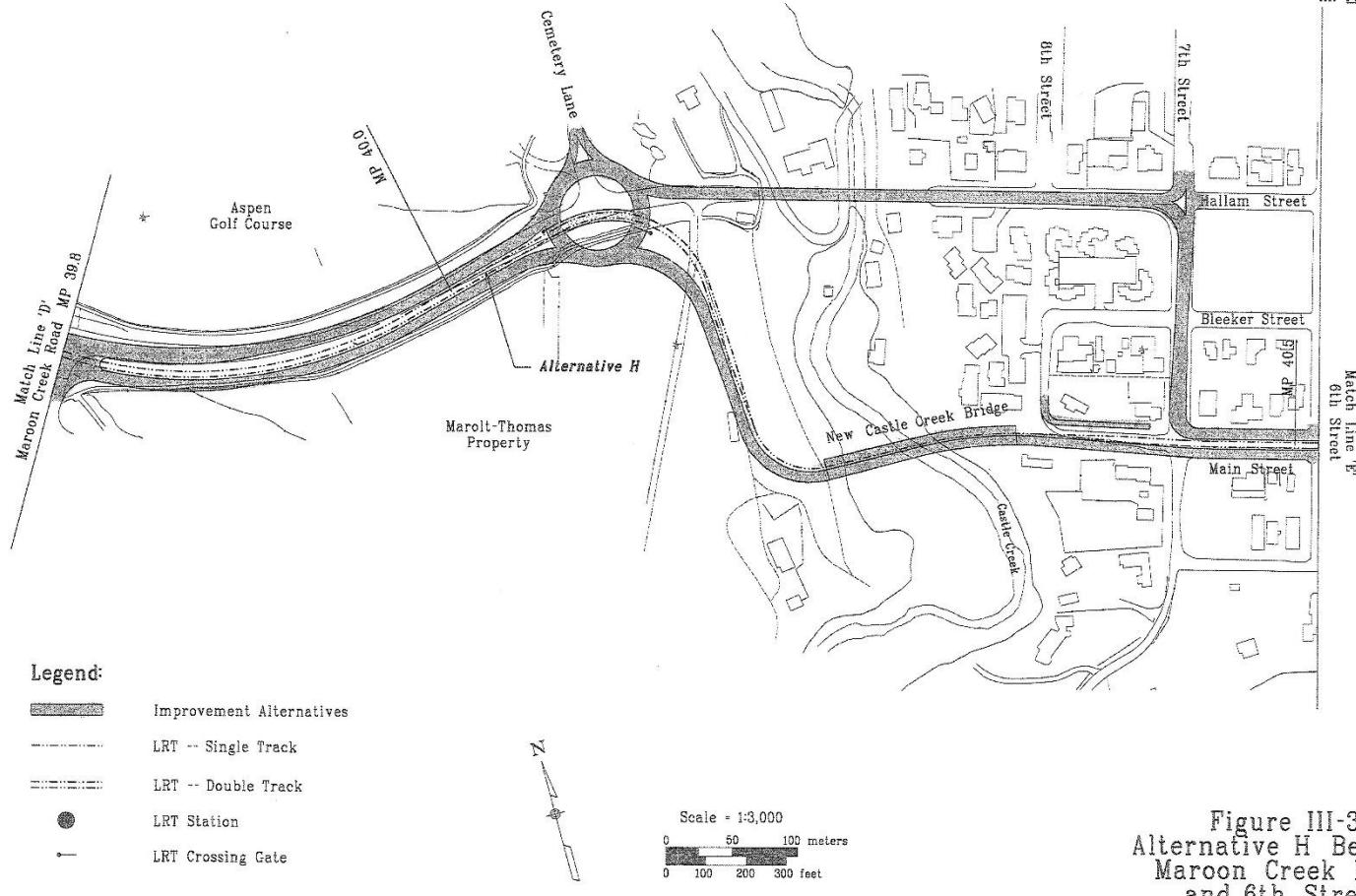
III. Alternatives

Figure III-3
Alternative H Between
Maroon Creek Road
and 6th Street

Entrance to Aspen DSEIS

III-11

Attachment 8

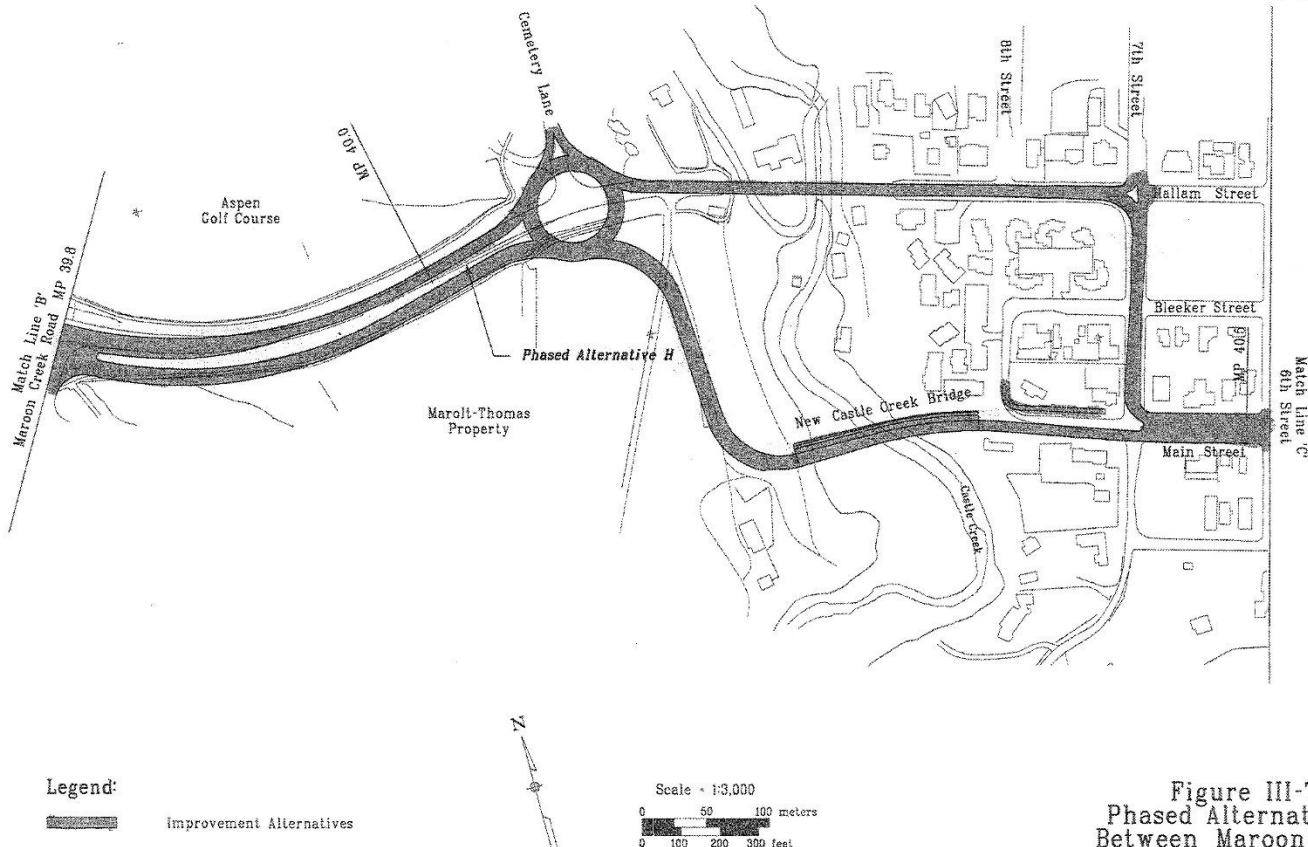
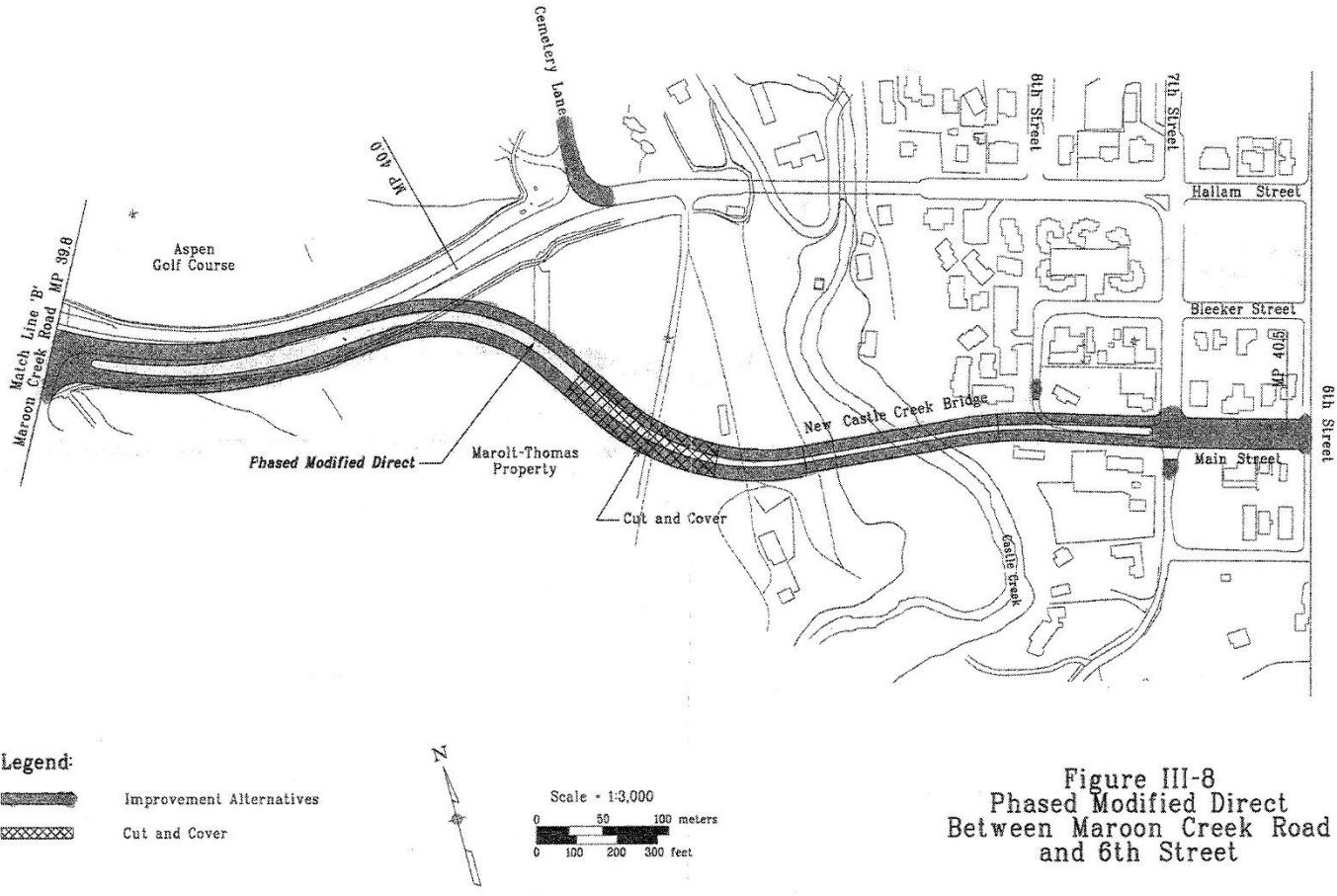
III. Alternatives

Figure III-7
Phased Alternative H
Between Maroon Creek
Road and 6th Street

Entrance to Aspen DSEIS

III-15

Attachment 9

III. Alternatives

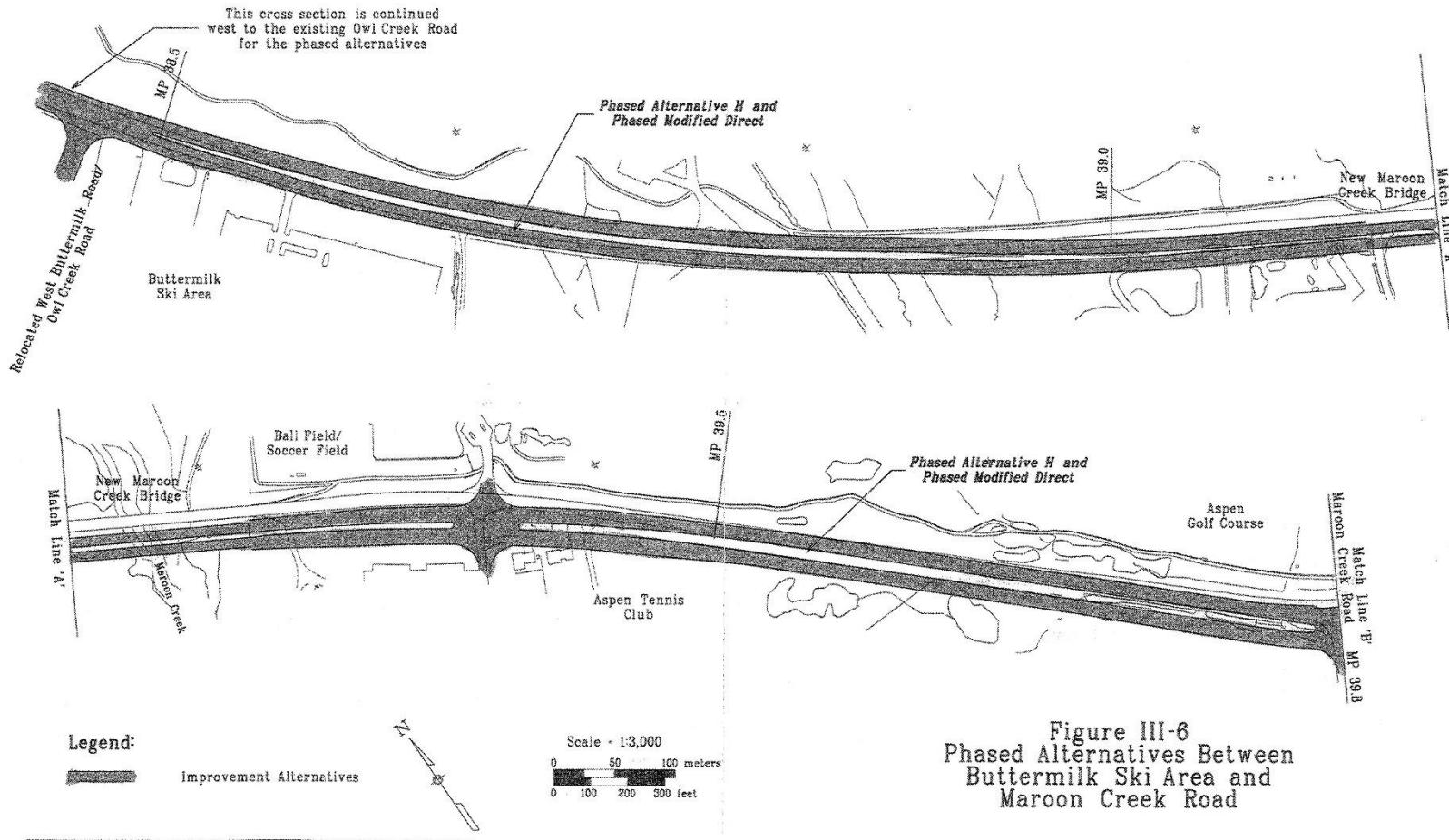
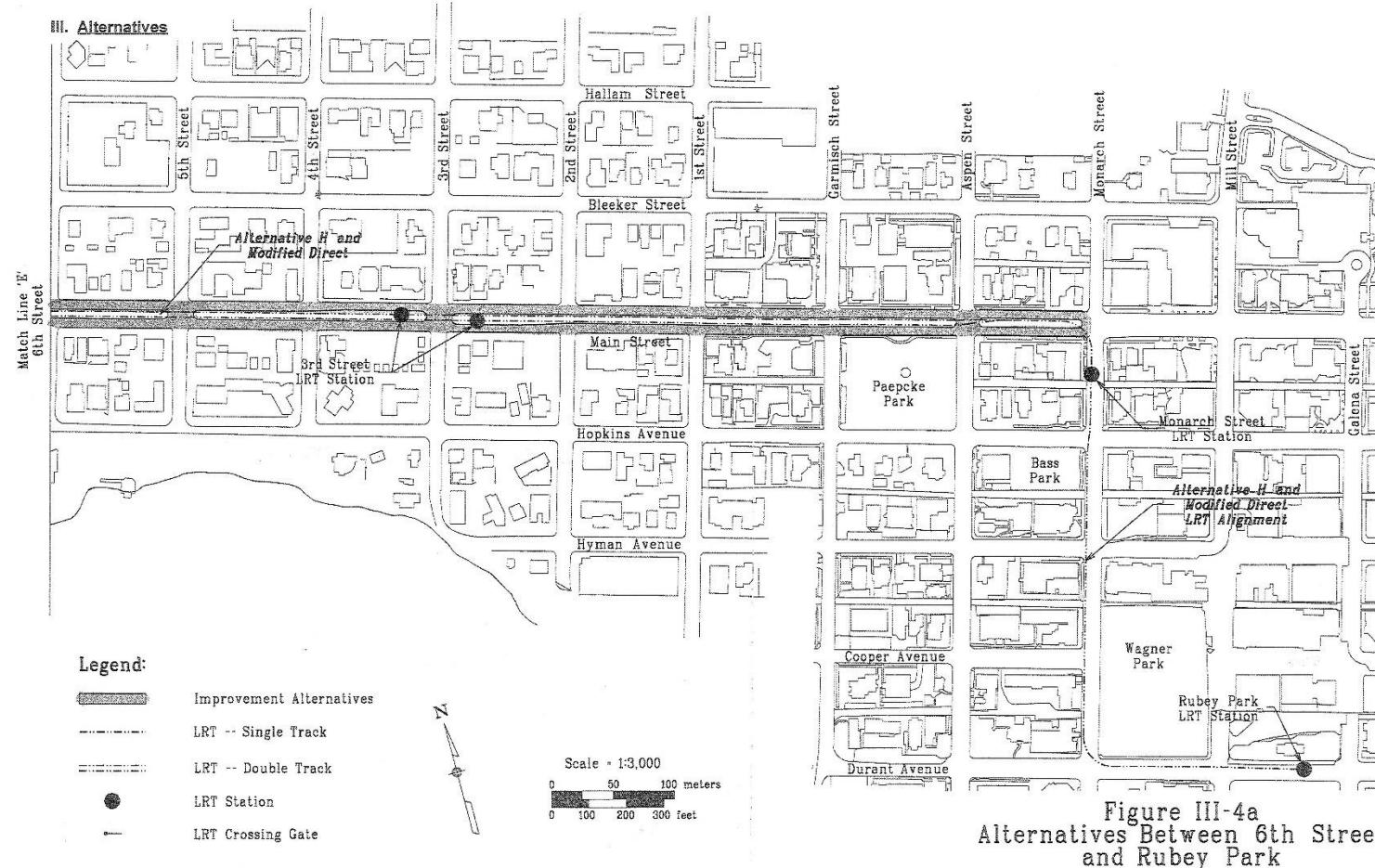
III. Alternatives

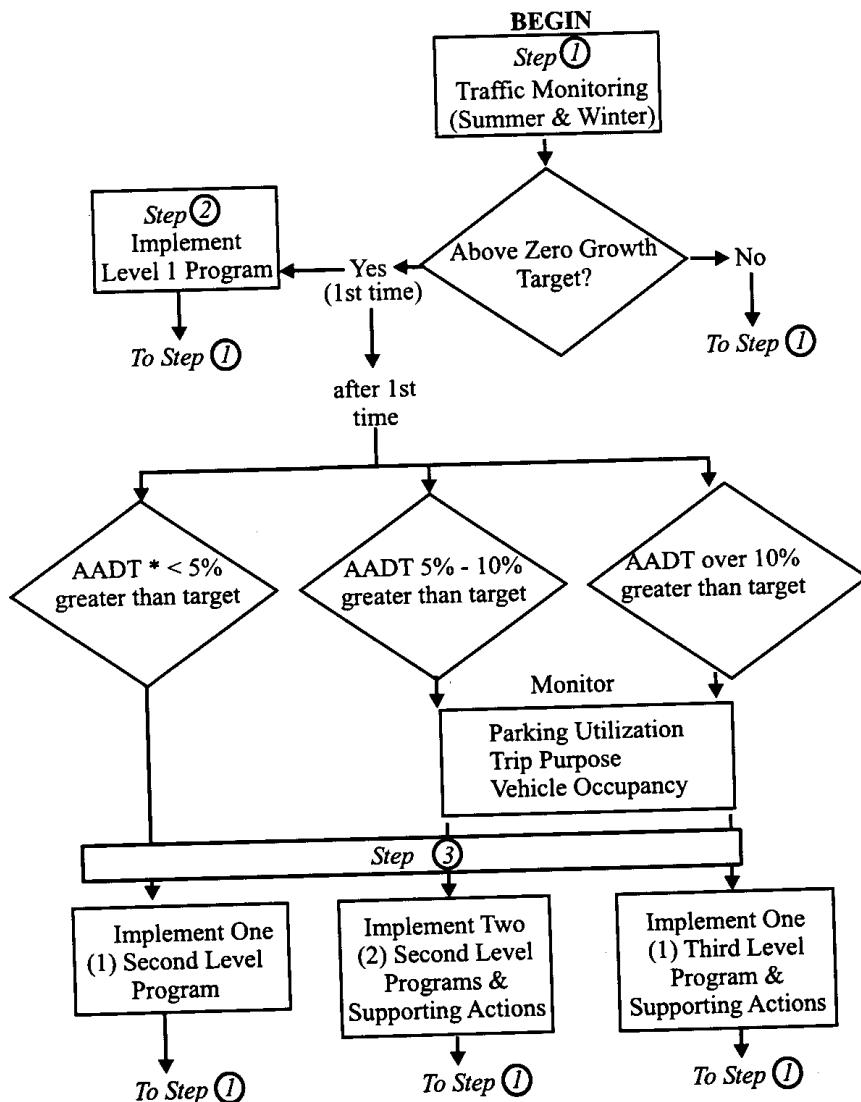
Figure III-6
Phased Alternatives Between
Buttermilk Ski Area and
Maroon Creek Road

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Record of Decision
State Highway 82 Entrance to Aspen

Figure 2
Incremental TM Program
Monitoring and Implementation



* AADT - Average Annual Daily Traffic

fig_2.cdr

Questions for SH 82 Entrance to Aspen Record of Decision (ROD) from City of Aspen (COA)**August 10, 2022**

1. Can any portions of the ROD be left out.... like LRT?

Yes, the Final EIS and ROD documented impacts of the Preferred Alternative (and other alternatives). If the proponent chooses to implement a portion of the Proposed Action and the impacts are fewer, there is no issue under NEPA. Additionally, the ROD is phased, so the platform can be constructed and used with a bus transit phase, no light rail transit (LRT). The LRT is a “future” phase. The “future” phase may also include an advanced transit system (autonomous buses for example, see UVMS).

2. How much flexibility is there described in the ROD?

There is very little flexibility in the overall platform width, structure delineation, and the Transportation Demand Management (TDM) program. Flexibility exists with what can be done with the managed lane (bus lane) component within the platform, and resolution of parking issues. The uses and details of the managed lane from Buttermilk to Aspen are documented in the State Highway 82 Bus Lanes Operation Study, October 2008.

3. Do we need any additional studies or new FEIS?

Because of the amount of time that has passed since the ROD was approved (longer than three years), CDOT will need to consult with FHWA to determine whether the ROD remains valid. This will likely trigger the need for a re-evaluation

(https://www.environment.fhwa.dot.gov/legislation/nepa/Reevaluation_guidance_08142019.aspx). CDOT Form 1399 is a six-page template for a focused re-evaluation. CDOT will review at Environmental Programs Branch (EPB) level and FHWA review and concurrence will be required (https://www.codot.gov/programs/environmental/nepa-program/nepa-manual/04-chapter-4_v6_3-6-20.pdf).

4. What has changed within the corridor since the last assessment?

The existing condition has changed since the initial analysis was conducted in the FEIS, including such items air quality, daily VMT, right-of-way ownership, and other transportation resources, including parking demand and supply. It is possible that other physical and biological resources have also changed, and the historic built environment has likely increased in scale (i.e., buildings/facilities constructed 50 years or longer ago).

5. Are there portions of the PA that are no longer relevant or no longer apply?

The Preferred Alternative has not necessarily changed, but the existing conditions and impacts analyzed to certain resources has likely changed. For example, the airport studies and parking studies are dated and may not be relevant. Also, the Final EIS did not contemplate the RFTA BRT, which should have positive impacts on parking by reducing demand.

6. Is the design feasible in geometry for emergency services or is the ROD improving these services?

The ROD design (PA) facilitates emergency response with the development of a widened 4-lane platform, additional bridge over Castle creek, and elimination of the S curves. These attributes of the PA provide tremendous additional capacity in case of an emergency. Emergency access is objective # 8 in the 10 project objectives called out in the ROD.

7. What are the updated implications of doing a new EIS?

The project has been analyzed under NEPA with FHWA as the lead federal agency. As indicated in the response to question 3, unless there are changes that warrant additional analysis, there is no need to conduct additional analysis. If a re-evaluation determines that the changes would result in significant new impacts that were not previously analyzed, the FHWA (and CDOT) would require a Supplemental EIS. This would also require new analysis under Section 4(f) and a new ROD for the SEIS. Attachment A demonstrates this relationship with graphics.

8. Has a feasibility study been done or what do you estimate this would cost?

The most recent feasibility study was done for the EOTC in 2017, called the Upper Valley Mobility Study (UVMS). This study cost about \$500k. It evaluated the feasibility of a rail system from Brush Creek to Rubey Park, a dedicated bus lane from the Brush Creek Park and Ride to connect at the airport, and advanced bus options.

9. Could a trackless tram be implemented as part of the PA as an alternative to LRT?

An autonomous bus was studied as part of the UVMS. From our research, a trackless tram may not pass a screening analysis as there appear to be no systems in revenue service in similar conditions (winter weather, steep mountain grades).

10. Can other transit modes other than bus or LRT be implemented as part of the PA?

Yes, it is possible to implement other transit modes if they can use the platform described in the PA and can be supported with proper supporting studies, NEPA considerations, and can pass the screening analysis.

11. How does LRT/roadway work with the Moore Open space (this feels vague in the description)?

At this time, all work has been completed in the former Moore Open Space parcel to support the existing transit system. This includes the bus facilities at the up-valley side of the Maroon Creek Roundabout. The UVMS includes details on a future light rail stop at Maroon Creek and at grade and grade separated crossing options at the Roundabout. See response to question 12.

12. What does the transit connection to Maroon Creek and Castle Creek look like? How does LRT fit into this?

For an overview of concept designs, see UVMS page 21, figure 5.2 (PDF page 209 of 488). Details are included on PDF page 481 of 488.

13. Can bus lanes be utilized without changing the ROD?

Yes, the bus lanes are a phase of the PA. This does require COA Council approval.

14. Can the multi-modal parking facilities at Buttermilk and Airport be relocated or removed in the PA?

It appears some of this multi-modal parking has already been constructed at Buttermilk and the airport; however, it was not constructed to the full extent of what was analyzed in the EIS. If this is not sufficient, and additional parking is required, the proposed parking could be relocated but would constitute a change in the PA and would require additional site-specific analysis under NEPA. As with the response to question 1, the parking could be constructed as part of a later phase, but it seems likely the agencies would want to see it done in conjunction with the remainder of the ETA project.

15. Are parking spaces at Buttermilk and the Airport still needed?

Studies at these locations are dated, but these locations still represent good opportunities for managing supply. Due to the duration of time that has passed since the ROD, we believe that it would be beneficial to conduct another traffic/parking study to support discussions with CDOT and FHWA about completing this project.

16. What is the appropriate level of involvement (in your opinion) for EOTC and the other jurisdictions?

- Investigate financing options.
- Before ETA will be considered on the State's Transportation Improvement plan, CDOT will want to know that there is consensus from COA Council and subsequently EOTC. This consensus could be in the form of a resolution supporting PA and BRT.

17. What is the process for engaging CDOT or any federal entities?

The ETA is a CDOT project on state highway. CDOT is considered the owner of the project, even though it will be constructed on a permanent easement across the Marolt property. CDOT can be engaged both through CDOT Region 3 contacts (Glenwood Springs Program Engineer and Resident Engineer, Grand Junction Regional Director) and the Intermountain Transportation Planning Region (IMTPR). Generally, contacts to federal entities such as FHWA should be through CDOT. It is not encouraged to contact federal agencies directly. As indicated previously, CDOT will need to consult with FHWA before determining next steps and both will be involved in the re-evaluation and subsequent NEPA, if necessary. CDOT will be responsible for monitoring

construction and ensuring that appropriate mitigation is implemented for the project (see ROD pages 30-37).

18. How has public input been used in the past? What would you change for more success?

There have been impressive changes in public engagement over the past few years. There are lots of opportunities to connect with the public (web-based, virtual, e-blasts, community-based organizations, etc.). With increased focus on low-income and minority populations, including those who live down valley but work in Aspen, it is likely that CDOT will want to reengage the public on this project. If additional NEPA is required, then there will be multiple opportunities for public involvement, including scoping and review of draft and final documents. If no additional NEPA is required, CDOT may run a PR campaign to educate the public on the project.

19. What is the risk involved with opening up the ROD federally?

As mentioned previously, this is likely not required and definitely not the first next step. However, if there is a decision to change the Preferred Alternative, there are multiple risks, including those related to highway expansion. For example, the SH 82 corridor is currently in full compliance with all air quality regulation as the PM-10 issues have been mitigated. Without the PM-10 non-attainment requirement, an unrestricted 4-lane highway can become a viable alternative at the ETA and possibly all the way to Basalt.

20. Can we institute outbound Bus/HOV lanes in the managed lane? Peak hour or 24-hour?

The SH 82 managed lane from Basalt to Buttermilk is restricted to buses and HOVs during peak hours (6 AM-9 AM up-valley, 3 PM-6 PM down-valley) and is already in the configuration described. This was cleared in the SH 82 Basalt to Buttermilk EIS.

The SH 82 managed lane segment (both up-valley and down-valley) from Buttermilk to 7th and Main Street is only cleared as a 24-hour dedicated bus lane. To institute the Bus/HOV in this segment, FHWA/CDOT would require a reevaluation, and that could open the study to other alternatives.

21. What is the estimated life of the old Castle Creek Bridge?

Work has been done by CDOT to maintain the service life of the Castle Creek bridge. The ROD Appendix A, MOU, page 9 of 12, includes details on the existing Castle Creek bridge and responsibilities of each entity. CDOT has certain maintenance requirements before and after the PA is completed. CDOT must maintain a sufficiency rating of 50 or above.

The question of remaining life can be best answered by a complete structural evaluation of the bridge.

22. Can the old bridge be repaired or does it need to be replaced?

As mentioned above, the bridge has been repaired by CDOT many times. It is likely that at some point in time a full replacement will be necessary if repairs can't bring the bridge sufficiency rating to fifty or above.

23. Knowing the finite life of the bridge when do we need to start the process for the new bridge? Can this be broken down into steps? For example, which items need to be done and by when?

A structural evaluation of the bridge is the starting point for this effort. That evaluation will determine if replacement is required or if repairs can be executed to increase the service life of the bridge. It is my understanding that the existing bridge cannot be widened.

24. When were the 10 project objectives selected by the Aspen Community? Was this early in the NEPA process (1994 or so)?

The objectives were developed early in the process in the time frame described

The Aspen community was an important participant in the development of the objectives. More on the development of the objectives, from Page I-3 of the August 1995 Draft EIS-

"The objectives were developed based on known problems and concerns related to the State Highway 82 transportation system and corresponding issues raised by the Aspen area community. Consensus on the objectives was developed from the affected agencies, elected officials and staff of area governments, concerned members of the public through a series of individual meetings (community focus groups, open house exhibitions, community leadership workshops) and a technical advisory committee (TAC) consisting of various local governments and state and federal agency staff."

Questions that came up during the April 18th, 2022 Council meeting:

- What is a land bridge vs. a cut and cover tunnel?

The difference is in the length. The cut and cover tunnel is 400" long, and would require certain fire-life safety systems. The land bridge is less than 300' long, does not require any extra facilities. The construction technique is the same for either option. The Land bridge option fits the landform very well to connect to the new open space over realigned SH82.

Go to <https://www.cityofaspen.com/DocumentCenter/View/406/Preferred-Alternative-PDF?bidId=> for more info.

- How does a project get onto the State Transportation Improvement Plan (STIP)?

Starting with the Intermountain Transportation Planning Region (TPR), the project would be included in their plan. Then the Statewide Transportation Advisory Committee (STAC) would agree to that plan and include the project in the STIP. The STIP would then be approved by the State Transportation Commission for budgeting and implementation.

- How is trackless tram categorized by the state?

At this time the trackless tram has not been proposed for any transit use in Colorado. This is likely because this system requires specialized pavement markings which are not visible on a snow-covered roadway. The system has not been categorized by the state.

- What alternatives have been screened out and why? Including the reversible 3rd lane on the existing Castle Creek Bridge.

Please see the ROD, Pages 11-25 Section III, Alternatives Considered for a complete discussion on this. Suggest COA review this section and develop questions about specific alternatives. The reversible 3-lane was screened-out because peak hour distribution of traffic is about 50/50. It does not meet traffic capacity, and it does not meet the phasing objective (see ROD page 14 of 37).

- What were the forecasts for valley growth and where are we with those factors?

As far as I can recall, the EIS did not include valley wide growth factors. There was an assumption early on that traffic would grow at least 2% per year if unconstrained.

The potential re-evaluation would look at social and economic changes and that would be required to develop growth projections.

- The airport is cited as a multi modal facility. What does that mean?

A multi-modal transportation facility is a location where travel modes connect. In the case of an airport, air travel modes connect with surface transportation modes to create a multi-modal facility. At the time of the ROD, the federal government was placing an emphasis on multi-modal connections.

Attachment A

EIS Decision Process for Changes to the Preferred Alternative

