

Brush Creek Park and Ride and Aspen Airport Trail Feasibility Study Summary

Summary of SGM Draft Report presented February 2022

May 2023

1) Introduction

a. Pitkin County Open Space & Trails (OST), the City of Aspen, and the Elected Officials Transportation Committee (EOTC) partnered to **study the feasibility of a trail connection** from the Brush Creek Park and Ride (BCPR) to the Aspen Airport Business Center (AABC).

b. What was studied:

i. Alignment Options

1. Multiple trail alignments were looked at to determine the best connection between the BCPR and the AABC. With the alignments considered, the primary goal was to **propose an ADA compliant hard surface trail with a width of 10 feet** that would safely and efficiently connect the two locations while reducing total elevation change.



Figure 3-1: Overall Site Map with Alignment Options 1 and 2

ii. Design

1. Multiple design options/alignments were reviewed in the study. Typical sections representing each alignment option were developed **to determine the feasibility and cost** (reference Appendix A). Multiple bridge locations were evaluated to determine the preferred alignment across the Roaring Fork River.

iii. Cost

1. Cost estimates were generated for alignment Options 1 and 2 (reference Table 5-1). Unit costs were created from each typical section per linear foot of trail/bridge and per square foot of wall. Costs incorporate building materials, infrastructure, earthwork,

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clearing and grubbing, traffic control, utility relocations, and erosion control.

Table 5-1: Trail Cost Estimate

Trail Segment/Difficulty	Option 1 Twin Bridges	Option 2 SH82 East Alignment
Least Difficult	\$846,000	\$1,151,000
More Difficult	\$203,000	\$545,000
Most Difficult	\$16,381,000	\$21,269,000
Total Construction Cost	\$17,430,000	\$22,965,000
Design and Construction Engineering	\$2,615,000- \$4,358,000	\$3,445,000- \$5,741,000
Total Project Cost	\$20,045,000- \$21,788,000	\$26,410,000- \$28,706,000

2) Key attribute of each option

a. Option 1

- i. This proposed alignment would bridge the Roaring Fork River at the southeast corner of the BCPR and continue east to connect with the existing Rio Grande Trail (RGT). It would follow the existing RGT south and then bridge back across the Roaring Fork River south of Owl Creek. The trail would continue south along the flat bench east of SH82 until it connects with the existing infrastructure at the AABC.
- ii. Twin Bridges Alignment is the preferred alignment option. This alignment **would require the construction of two major bridges** over the Roaring Fork River. However, **it requires the smallest length of new trail construction, best utilizes existing infrastructure, provides the best user experience, causes the least environmental impact, and requires the least agency coordination.** The elevation change between the Brush Creek Park & Ride and the Aspen Airport Business Center is relatively small. This option best aligns with Pitkin County Open Space & Trails mission to create purposeful multi-modal routes while preserving the region's character. The estimated construction cost of the trail and structures, based on 2025 construction, is \$17.3 million, estimated design and construction engineering cost is \$3.5 million.

b. Option 2

- i. The proposed alignment would exist the BCPR at the south end and follow a path generally parallel to and east of SH82. This alignment would use bridges, elevated platforms, and retaining walls along much of its length to cross the steep and rugged terrain. Eventually, it would reach the flat bench east of SH82 and follow that south until it connects with the existing infrastructure at the AABC.

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- c. Option 3
 - i. This proposed alignment would exit at the BCPR at the south end and gradually descend to a relatively flat area on the west bank of the Roaring Fork River. The alignment would follow the bank to the south. The trail would gradually ascend back up to the approximate elevation of SH82. It would continue along the flat bench of south Owl Creek and east of SH82 until it connects with the existing infrastructure at the AABC.
 - ii. River Alignment was dismissed due to the environmental impacts, the disturbance the trail would cause to one of the most remote sections of the Roaring Fork River and the significant elevation change along the alignment (approximately 175 feet). To maintain ADA grade requirements, switchbacks were required which increase the total length of trail. Since it was dismissed early on, a preliminary alignment, profile, and cost were not presented in this report.
- 3) Reasons for the trail not aligning with HWY82
 - i. SH82 East Alignment has major challenges. The Shale Bluffs area is extremely steep, rugged, and prone to landslides. This alignment alternative would require a significant length of bridge, elevated trail structure, and retaining wall. The user experience would be reduced due to its proximity to State Highway 82, it would have significant maintenance challenges due to the terrain and would require significant approval and coordination with CDOT to build. The estimated construction cost of the trail and structures, based on 2025 construction, is \$22.9 million, estimated design and construction engineering cost is \$4.6 million.
- 4) Twin Bridges preferred alignment
 - a. Highlights
 - i. The steel deck arch is the preferred bridge alternative. This is the most aesthetic, efficient, and constructible. The preferred alignment will be the lowest maintenance of the alternatives considered.
 - b. Possible alignment options with the trail alignments
 - i. An evaluation matrix (reference Table 5-2) was created to evaluate each alternative alignment based on a set of criteria, including cost, maintenance, user experience, complexity of construction, and environmental impacts.

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Table 5-2: Options Evaluation Matrix

Comparison Item	Option 1 Twin Bridges Alignment	Option 2 SH82 East Alignment
Cost		
Total Cost (2025 Construction Only)	Construction: \$17.3 Million Design & Const. Engineering: \$3.5 Million	Construction: \$22.9 Million Design & Const. Engineering: \$4.6 Million
ROW or Easements Needed	Special Use Permit needed from CDOT and Easement needed from Aspen Consolidated Sanitation and Snowmass Water and Sanitation	Special Use Permit needed from CDOT and extensive approvals and coordination required
Maintenance		
Structure Maintenance	Moderate maintenance concerns due to preferred bridge type selected	Significant due to large amount of structure, structure types required, proximity to snow plowing and traffic, and rockfall hazard
Trail Maintenance	Minimal maintenance concerns (large portion of trail overlaps with existing RGT)	Higher maintenance concerns due to difficulty of trail access along Highway 82 corridor. Longer additional trail length.
User Experience		
Safety	No concerns	Potential for debris and snow throw from Highway 82 to impact trail
Recreational Users	A good connection between W/J, RGT, BCPR and AABC utilizing existing trail	Not an ideal location for recreational users due to proximity to Highway 82
Commuters	A good connection between W/J Ranch, RGT, Park and Ride and AABC utilizing existing trail BCPR to AABC trail length = 2.65 miles	A more direct route to and from AABC BCPR to AABC trail length = 2.28 miles
General Public / Vehicle Traffic	View of bridges would be limited since majority of structure is below deck, structure would blend into gorge.	Construction would have impacts to Highway 82, Trail location proximity to highway could be distraction to drivers
Aesthetics	Bridges spanning Roaring Fork River provide new perspectives of valley, Bridges would blend into natural environment	Trail bridges separate from existing Highway 82 bridges and different structure type. New trail piers to match existing vehicle bridge pier locations.
Constructability		
Construction / Equipment Access	Large crane operations and work platforms needed to construct long span bridges	Significant crane operations needed to construct long and mid span bridges and structures, extensive coordination and approval with CDOT
Existing Trail Impacts	Temporary RGT closures required to deliver materials for bridge construction and detour needed at AABC Bridge east abutment	No impacts
Roadway Impacts	Minimal impacts to Highway 82 and McLain Flats Road to reach bridge construction site	Significant impacts due to closures necessary to build structures adjacent to Highway 82
Utility Impacts	Potential impacts to overhead electric lines during bridge construction	No impacts
Environmental Impacts		
Wildlife Habitat Impacts	Negligible impacts	Negligible impacts
Wetland Impacts	No impacts	Potential impacts at Owl Creek
Geological Hazards	No impacts	Construction on unstable Shale Bluffs area