APPENDIX 9:

Level 1 Screening Results and Memo

Technical Memorandum

Level 1 Screening Results

To:	Marie Heidemann, Project Manager, Alaska Department of Transportation and Public Facilities
From:	Steve Noble PE, Project Manager, DOWL
Date:	Wednesday, April 27, 2023
Project:	Juneau Douglas North Crossing PEL Study Project Numbers: SFHWY00299/0003259

Purpose of the Technical Memorandum

This technical memorandum provides the results of the Level 1 Screening to support the identification of alternatives to advance to detailed alternative development for the Juneau Douglas North Crossing PEL Study (Project Numbers: SFHWY00299/0003259).

The alternative screening process provides critical information about how well an alternative satisfies a proposed project's purpose and if it will meet the transportation needs of its users. This is known as a purpose and need (P&N) statement. If an alternative does not meet the project's P&N, it will be eliminated. Also, the screening process will evaluate the extent to which an alternative:

- Satisfies adopted planning documents
- Is technically implementable and constructible from an engineering perspective
- Is financially feasible
- Is reasonable under the National Environmental Policy Act (NEPA)
- Is practicable under the Clean Water Act
- Is prudent and feasible under Section 4(f) of the Department of Transportation Act of 1966

The alternative screening process is designed to accommodate the development of new alternatives throughout the PEL process. It will be applied to all alternatives to give confidence all alternatives are evaluated consistently.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by DOT&PF pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 13, 2023 and executed by FHWA and DOT&PF.

Alternative Screening Process

The alternative screening process is a framework to help determine how well each alternative meets the P&N and the additional goals. NEPA requires that a reasonable range of alternatives is considered and reviewed objectively and that the selection process and alternatives eliminated be well documented. This screening process will help meet these documentation requirements, including the possible elimination of alternatives from further consideration during the PEL process. Reasonable alternatives will be evaluated during future project development under NEPA.

Under NEPA, reasonable alternatives are those that are technically and economically feasible and which meet the P&N for the project. The screening process compares the advantages and disadvantages of reasonable alternatives for advancement through stages of development into more refined alternatives and, ultimately, the recommended alternative(s).

An iterative, stepped alternative selection process is planned for this PEL Study, as set out in the Recommended Alternative Selection Criteria Technical Memorandum, dated February 17, 2023. This memorandum documents Step 4 of the alternatives development and screening process, which is:

4. **Apply Level 1 Screening.** Two-step screening of the preliminary alternatives based on the P&N, additional goals, and other considerations. Alternatives that do not pass Level 1 Screening will not advance for further alternative development or evaluation. Alternatives remaining after the Level 1 Screening will be considered "detailed alternatives".

Preliminary Alternatives – Level 1 Screening Results

This section presents the results of Level 1 Screening. The nine preliminary alternatives and the "No Build" alternative for a Juneau Douglas North Crossing were subjected to some preliminary engineering analysis to affirm their feasibility, support a high-level environmental screening, and enable the application of the Level 1 Screening criteria.

Level 1 Step 1: Purpose and Need

Step 1 of the Level 1 Screening process evaluates whether the preliminary alternatives meet the purpose and need of the project. The evaluation considered the alternatives against criteria that reflect the project's P&N (refer to Table 1 for the evaluation summary). Further detail relating to the evaluation of each alternative, including the rationale and justification for each evaluation, is included in the Appendix. Two alternatives were identified as not meeting the P&N, and therefore were not carried forward to Step 2 of the Level 1 Screening.

Table 1: Level 1 Step 1 – Purpose and Need Screening

Purpose and Need: Criteria	No Build	Mendenhall Peninsula	North Airport	West Sunny Point Area	Sunny Point Area	Vanderbilt	Twin Lakes	Salmon Creek	Eagle Creek	Downtown
Provide alternate access and transportation infrastructure resilience	N	Y	Y	Y	Y	Y	Y	Y	N	N
Improve transportation for non-motorized users	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reduce transportation-related energy consumption	N	Y	Y	Y	Y	Y	Y	Y	Y	N
Decrease traffic pressure on Douglas Island Bridge and its intersections	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Improve emergency response times	N	Y	Y	Y	Y	Y	Y	Y	Y	N
Improve access to critical healthcare and emergency services	N	Y	Y	Y	Y	Y	Y	Y	N	N
Improve access to workplaces and critical resources	N	Y	Y	Y	Y	Y	Y	Y	N	N

The seven alternatives that passed Step 1 of Level 1 Screening, and therefore were determined to meet the P&N, were:

1. Mendenhall Peninsula
2. North Airport
3. West Sunny Point Area
4. Sunny Point Area
5. Vanderbilt
6. Twin Lakes
7. Salmon Creek

Level 1 alternative screening results are detailed starting on page 8 of this memorandum. For alternatives that do not meet P&N, the reasons are summarized below and detailed in the Appendix:

- **Eagle Creek:** This alternative provides alternate access between Juneau and Douglas Island but does not improve transportation infrastructure resilience as a single route closure along Egan Drive or Glacier Highway caused by vehicle collisions, fallen trees or power lines, landslides or avalanches would cut off access between Juneau and the Mendenhall Valley, disrupting access to this crossing location. Because this location is near the existing Douglas Island Bridge, the utility of a second crossing to create secondary access in the event of a single route closure between Juneau and Mendenhall Valley is limited such that it is not meaningful to meet the P&N for infrastructure resilience. This location is also unlikely to improve access to workplaces and critical resources during a single route closure because of its location near the existing crossing.
- **Downtown:** This alternative does not meet the P&N criteria for the reasons detailed for the Eagle Creek alternative. In addition, emergency response times and transportation-related energy consumption will not be improved as the alternative is located next to the existing Douglas Island bridge.

Based on Step 1 of Level 1 Screening, these alternatives should not advance to further screening or evaluation and should be removed from further analysis in the PEL Study.

Level 1 Step 2: Additional Goals and Topic-Based Criteria

During Step 2 of Level 1 Screening the preliminary alternatives that passed Step 1 were screened against criteria based on the additional goals and specific topic-based criteria. Table 2 summarizes the additional goals, and Table 3 summarizes screening criteria relating to the natural environment, social, housing, economic, safety, constructability, cost, and public support.

Additional Goals Screening

The additional goals screening uses three levels to evaluate potential impact: Low, Medium, and High. For criteria considering traffic capacity, “High” indicates potential for significant improvement, “Medium” is the potential for some improvement, and “Low” indicates no discernible improvement. For enhancing the public health and safety of travelers and communities that transportation facilities traverse and serve, and maintaining the visual, cultural, and scenic identity of Juneau and Douglas Island, “High” indicates significant likelihood, “Medium” indicates some likelihood, and “Low” indicates no discernible likelihood. For the criteria assessing potential impacts to the environment and residential areas, the assessments are relative to each other; “High” indicates the potential to avoid impacts, “medium” indicates the potential to avoid some impacts, and “Low” indicates the alternative is not likely to avoid impacts. For ease of understanding the criteria, positive results are coded green, moderate results are coded yellow, and negative results are coded pink.

Refer to the Appendix for further detail on the criteria levels and the rationale and justification for the screening recommended.

Table 2: Level 1 Step 2 – Additional Goals Screening

Additional Goals: Criteria	No Build	Mendenhall Peninsula	North Airport	West Sunny Point Area	Sunny Point Area	Vanderbilt	Twin Lakes	Salmon Creek
Improve connection to North and West Douglas Island by creating additional capacity to support the future development of affordable housing and economic development opportunities	L	H	H	H	H	H	H	H
Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	L	H	H	H	H	H	H	H
Avoid, minimize, and mitigate impacts on the environment	H	L	L	L	L	L	L	M
Avoid, minimize, and mitigate impacts on residential areas	H	M	M	M	M	M	M	M
Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	H	L	M	M	M	M	H	H

All alternatives that moved from Step 1 into Step 2 have a high likelihood to improve the connection to north and west Douglas Island by creating additional transportation infrastructure capacity for all modes. Improved access creates the potential to assist with the future development of affordable housing and economic development opportunities, and to enhance and protect the health and safety of travelers and the communities that transportation facilities traverse and serve. All the build alternatives have the potential to result in environmental impacts, which are detailed further in the topic-based screening.

Topic Based Screening

The topic-based screening sets out resource categories and evaluates the potential for impacts to occur. For criteria considering the natural environment, social, housing, economic, safety, and constructability, alternatives are evaluated using “Yes” or “No” criteria, where “Yes” indicates that an impact is possible, and “No” indicates that an impact is unlikely. For some criteria, “Yes” indicates consistency, and “No” indicates inconsistency. For criteria considering cost and public support, “High”, “Medium”, and “Low” criteria were used. The delineation between these levels is subjective and based on professional judgment. For ease of understanding the criteria, positive results are coded green, moderate results are coded yellow, and negative results are coded pink. Note that for Level 1 Screening only a cursory review of environmental information has occurred and therefore any level of impact, regardless of magnitude, is screened as “Yes”.

Table 3: Level 1 Step 2 – Topic-Based Screening

Topic Area	Topic-Based: Criteria	No Build	Mendenhall Peninsula	North Airport	West Sunny Point Area	Sunny Point Area	Vanderbilt	Twin Lakes	Salmon Creek
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	N	Y	Y	Y	Y	Y	Y	Y
	Hydrologic connectivity impacted	N	Y	Y	Y	Y	Y	Y	Y
	Migratory bird habitat impacted	N	Y	Y	Y	Y	Y	Y	Y
	Wildlife, fish, essential fish, or T&E habitats impacted	N	Y	Y	Y	Y	Y	Y	Y
	Contaminated sites directly affected	N	N	N	N	N	N	N	N
	Impervious surfaces added	N	Y	Y	Y	Y	Y	Y	Y
	Protected (conserved lands, refuge) lands directly affected	N	N	Y	Y	Y	Y	Y	N
	Use of Section 4(f)/6(f) protected lands	N	Y	Y	Y	Y	Y	Y	Y
Social	Within 100 ft of an EJ community, a school, or a community gathering space	N	N	N	N	N	N	N	N
	A neighborhood is divided or otherwise disrupted	N	Y	N	Y	Y	N	N	N
	Consistent with plans, policies, and development code	Y	Y	Y	Y	Y	Y	Y	Y
Housing	Residential land uses directly affected	N	Y	Y	Y	Y	Y	Y	Y
	Within 100 ft of residential properties	N	Y	Y	Y	Y	Y	Y	Y
	Potential to improve access to developable land	N	Y	Y	Y	Y	Y	Y	Y
Economic	Commercial uses directly affected	N	Y	Y	N	N	N	Y	Y
	Within 100 ft of commercial uses	N	Y	Y	N	N	N	Y	Y
	Potential to improve access to developable land	N	Y	Y	Y	Y	Y	Y	Y

Topic Area	Topic-Based: Criteria	No Build	Mendenhall Peninsula	North Airport	West Sunny Point Area	Sunny Point Area	Vanderbilt	Twin Lakes	Salmon Creek
Safety	Improve safety for all users	N	Y	Y	Y	Y	Y	Y	Y
Construct-ability	A crossing can be built in this location based on construction knowledge and experience in planning and design	N/A	Y	N	Y	Y	Y	Y	Y
Cost	Estimated construction cost	N/A	H	H	H	H	M	L	L
	Estimated maintenance cost/effort	N/A	H	H	H	H	M	L	L
Public Support	Level of public support	H	H	H	H	H	H	M	M

Further and more detailed evaluation and analysis are needed for the Mendenhall Peninsula, North Airport, West Sunny Point Area, Sunny Point Area, Vanderbilt, and Twin Lakes alternatives, owing to their potential impacts associated with the Mendenhall Wetlands State Game Refuge, which is a Section 4(f) resource. Further analysis is also needed for the Mendenhall Peninsula and Salmon Creek alternatives, which have the potential to impact other potential Section 4(f) resources. If alternatives are not able to meet the *de minimis*[1] impact standard under Section 4(f), then the alternatives must be evaluated to consider whether there are any reasonable or feasible alternatives that avoid the Section 4(f) property and that the project includes all possible planning to minimize harm to the Section 4(f) property. Section 4(f) analysis would occur during a future NEPA process if a project moves into design. It will not be known if an alternative is able to meet the *de minimis* impact standard until a project is in NEPA review and the Section 106 consultation is completed.

Impacts on residential properties are possible with all the build alternatives, which need to be further evaluated to determine the extent of potential impacts. The Mendenhall Peninsula, North Airport, Salmon Creek, and Twin Lakes alternatives additionally potentially impact commercial properties.

The Mendenhall Peninsula, North Airport, and Sunny Point Area alternatives likely have the highest construction and maintenance costs, owing to the length of structures and associated infrastructure needed to construct these alternatives. The Salmon Creek and Twin Lakes alternatives likely have the lowest construction costs as the crossing length is the shortest. Planning-level cost estimates will be prepared as part of detailed alternative development for alternatives moving beyond Level 1 Screening.

[1] For publicly owned parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not have a net adverse impact to the activities, features, or attributes of the Section 4(f) property after mitigation is applied. https://www.environment.fhwa.dot.gov/env_topics/4f_tutorial/overview.aspx?b=e#b

Level 1 Alternative Screening Results

Mendenhall Peninsula – ADVANCE TO DETAILED ALTERNATIVE DEVELOPMENT

The Mendenhall Peninsula alternative (Figure 1) begins at approximately Milepost (MP) 8.75 of North Douglas Highway, crosses Fritz Cove, and then lands on the Mendenhall Peninsula and travels along the ridgeline for approximately four miles north before terminating at approximately MP11 of Glacier Highway.

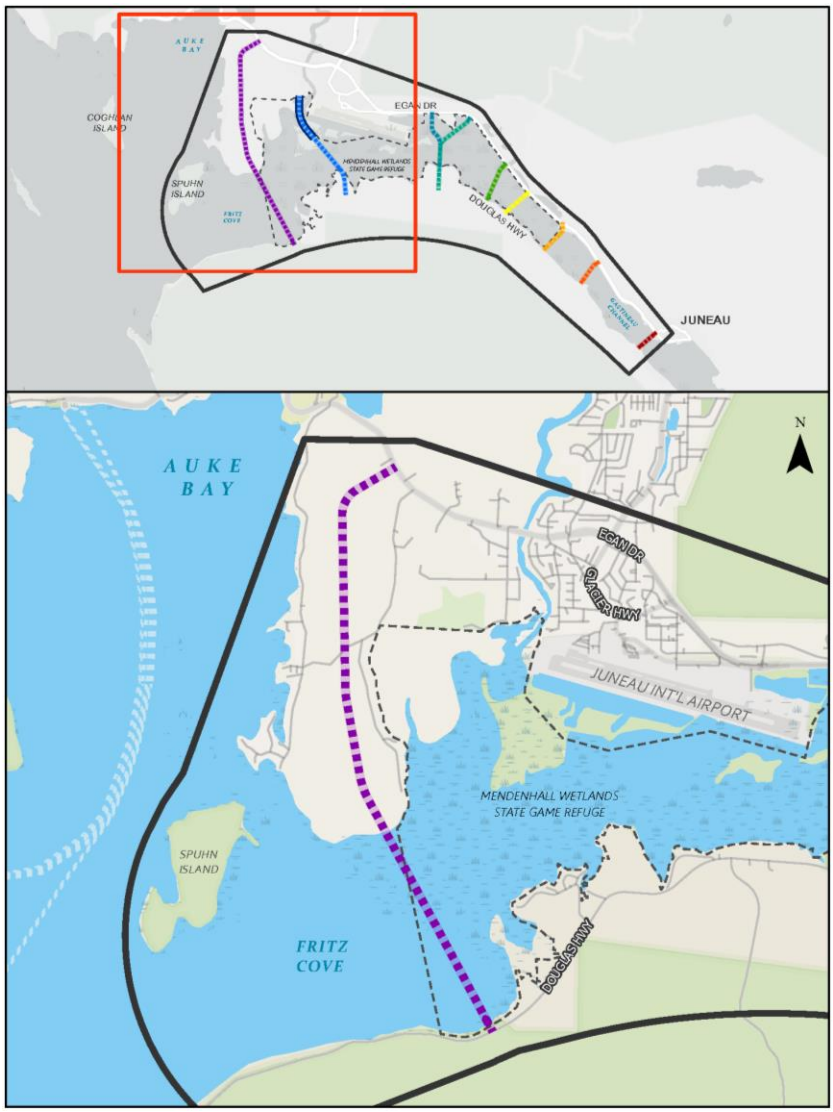

Figure 1: Mendenhall Peninsula Alternative

Due to the length and location of this corridor, there are numerous road alignment variations relative to the vertical terrain on Mendenhall Peninsula. However, those variations will have relatively minor impacts on the overall project costs since the project length would not change significantly.

Although this alternative meets the P&N and is considered feasible, it may or may not be considered reasonable for the following reasons:

- Significant earthworks will be required (cuts/fills exceeding 60 feet in height) to achieve a design standard for the profile grade of six percent. This has the potential for adverse impacts on residential roads and neighborhoods, and adverse visual impacts associated with the construction of a road at the top or, or part-way up a ridge.
- Under the likely best fit of the road alignment that matches the terrain of the peninsula, the bridge would need to be at least 100 feet high (in the best-case scenario) as would be required to meet clearance requirements, depth of the structural section, and the most likely profile grades of the highway. Although this is feasible from an engineering standpoint, additional analysis is needed to determine if it is reasonable.
- The resulting structure would be nearly double the length of the next longest structure being evaluated, significantly increasing cost.

The potential **advantages** of this alternative include:

- This alternative would be the closest crossing for traffic coming from Auke Bay.
- It is farthest away from the existing crossing and provides the most direct access to the undeveloped portion of the island.
- It would be an appealing corridor for traffic that would result from potential future development on west Douglas Island.
- It would route additional traffic from potential future developments away from the existing north Douglas Island residential areas.
- This alternative would be appealing for some travelers to access recreational areas.

The potential **disadvantages** of this alternative include:

- The above-mentioned concerns regarding constructability.
- From a traffic standpoint, most of the existing traffic that uses Douglas Highway and the existing Douglas Island Bridge would not reroute to this corridor.
- This alternative will potentially impact approach paths to Juneau airport, and potentially impact facilities on land owned by the Federal Aviation Administration located along the ridgeline of Mendenhall Peninsula.
- It crosses the Mendenhall Wetlands State Game Refuge, a Section 4(f) resource.
- Further analysis is needed to determine the potential for impacts on residential areas. Based on Level 1 Screening, the alternative will not avoid impacts on residential areas. There is however the potential

to minimize or mitigate impacts depending on the design and location of the proposed crossing and associated infrastructure.

- Based on Level 1 Screening, the alternative will not avoid impacts on the visual, cultural, and scenic identity of Juneau and Douglas Island. This alternative is unlikely to meet the additional goal to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island and would not be consistent with CBJ's Comprehensive Plan because it would impact a protected viewshed (Guidelines and Considerations for Subarea 8, page 191f, CBJ Comprehensive Plan 2013).
- Based on Level 1 Screening, this alternative will not avoid environmental impacts. There is however the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Potential natural resource impacts include:
  - Waterbody, wetland, riparian, or special flood hazard areas impacts
  - Hydrologic connectivity impacts
  - Migratory bird habitat impacts
  - Wildlife, fish, essential fish habitat, or threatened and endangered (T&E) species impacts
  - Impervious surfaces added
  - Protected (conserved lands, refuge) lands directly affected
  - Direct impacts to Section 4(f) / 6(f) protected lands

North Airport – RECOMMEND NOT ADVANCING

The North Airport alternative (Figure 2) begins at approximately MP 7.5 of North Douglas Highway, crosses the Mendenhall Wetlands State Game Refuge, and lands on the marshy peninsula south of the Juneau airport before transitioning to a tunnel under the golf course. It then daylights and it connects to approximately MP 10.4 of Glacier Highway. A variation of this alternative could use Industrial Boulevard which would need to be upgraded to arterial roadway standards.

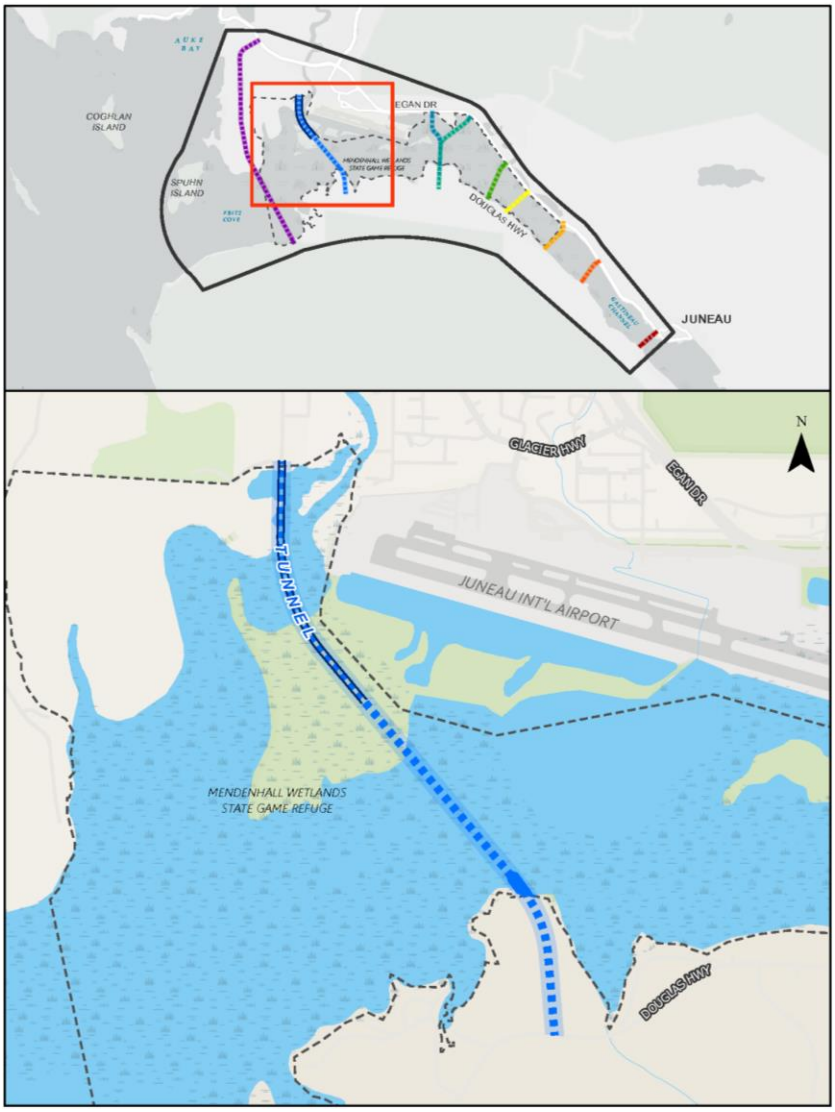

Figure 2: North Airport Alternative Alignment

Although this meets the P&N, it is potentially "fatally flawed" from a constructability perspective. This is because the alternative is considered feasible but not reasonable for the following reasons:

- Potential for geotechnical challenges:
  - Isostatic rebound is occurring in the Mendenhall Wetlands at a rate as high as half an inch annually. The changing ground level is highly likely to affect a tunnel because of ongoing movement, which will create long-term maintenance issues and potentially generate safety concerns associated with material deterioration.
  - The soil conditions anticipated in the crossing location area may be susceptible to liquefaction in a seismic event. An event causing liquefaction has the potential to be catastrophic for a tunnel.
- Construction costs and maintenance costs for a tunnel far exceed that of bridge structures and causeways.
- Surface alternatives on this alignment will likely impact Juneau airport approach operations.

West Sunny Point Area – ADVANCE TO DETAILED ALTERNATIVE DEVELOPMENT

The West Sunny Point Area alternative (Figure 3) begins at approximately MP 6 of North Douglas Highway, crosses the Mendenhall Wetlands State Game Refuge, and terminates at an at-grade intersection with Egan Drive at approximately MP 7.3. This alternative is a variation of the Sunny Point Area alternative that avoids Southeast Alaska Land Trust conservation property and has been adapted to provide space for future approaches and approach equipment at Juneau airport.

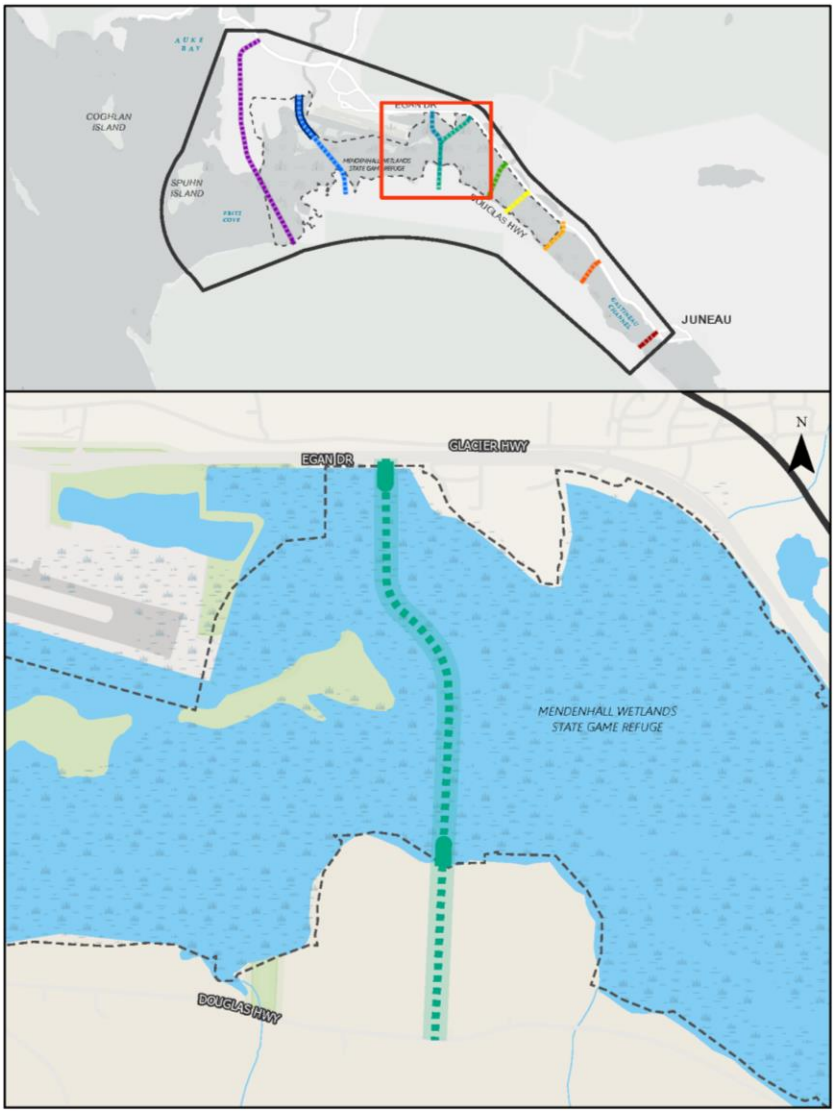

Figure 3: West Sunny Point Area Alternative Alignment

The potential **advantages** of this alternative include:

- Avoiding Southeast Alaska Land Trust conservation property located adjacent to Sunny Point.
- Reducing travel times for the largest number of users when compared to the other reasonable alternatives evaluated.
- High potential to improve the connection to North and West Douglas Island by creating additional transportation capacity for all travel modes based on the location of the alternative.
- Potential to enhance public health and safety by reducing traffic in locations where delay is currently experienced, particularly around the existing Douglas Island Bridge. It will also add a separated multi-use pathway and tie into existing active transportation infrastructure on both sides of the crossing. It will further provide resiliency in the transportation network by creating an additional crossing.

The potential **disadvantages** of this alternative include:

- It crosses the Mendenhall Wetlands State Game Refuge, a Section 4(f) resource.
- It adds an at-grade and potentially signalized intersection at its northern terminus on Egan Drive.
- Further analysis is needed to determine the potential for impacts on residential areas. Based on Level 1 Screening, the alternative will not avoid impacts on residential areas. There is however the potential to minimize or mitigate impacts depending on the design and location of the proposed crossing and associated infrastructure.
- Further analysis is needed to determine the potential impacts on the visual, cultural, and scenic identity of Juneau and Douglas Island. Based on Level 1 Screening, the alternative will not avoid impacts, but there is the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Based on Level 1 Screening, this alternative will not avoid environmental impacts. There is however the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Potential natural resource impacts include:
  - Waterbody, wetland, riparian, or special flood hazard areas impacts
  - Hydrologic connectivity impacts
  - Migratory bird habitat impacts
  - Wildlife, fish, essential fish habitat, or threatened and endangered (T&E) species impacts
  - Impervious surfaces added
  - Protected (conserved lands, refuge) lands directly affected
  - Direct impacts to Section 4(f) / 6(f) protected lands

Sunny Point Area – ADVANCE TO DETAILED ALTERNATIVE DEVELOPMENT

The Sunny Point Area alternative (Figure 4), would begin at ~MP 6 of North Douglas Highway, cross the Mendenhall Wetlands State Game Refuge and intersect with Egan Drive at the partially constructed Sunny Point Interchange.

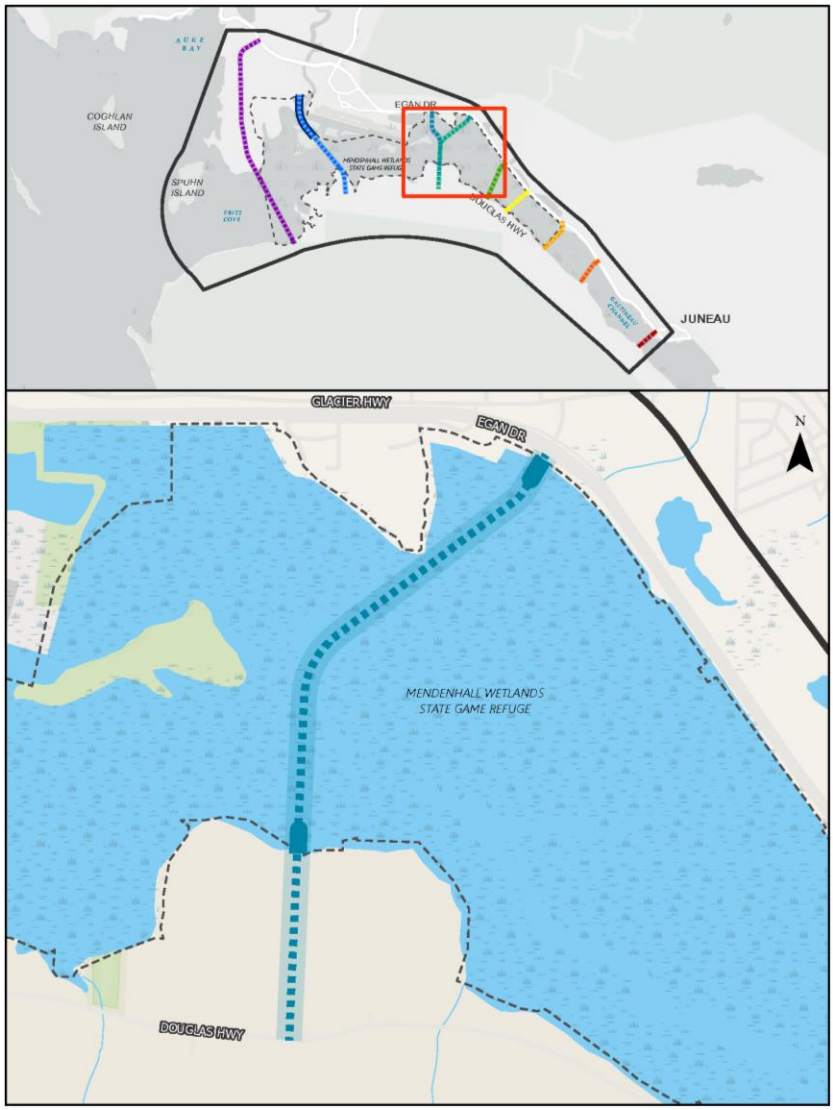

Figure 4: Sunny Point Area Alternative Alignment

The potential **advantages** of this alternative include:

- The south side of the alignment can be designed to use property owned by the City and Borough of Juneau, potentially reducing impacts on private property.
- The Douglas Island terminus can use a peninsula, which will reduce the bridge structure length and potentially associated construction and maintenance costs.
- It can terminate at Egan Drive and use the Sunny Point interchange, which is an efficient and logical tie-in point for traffic operations.
- Potential to improve the connection to North and West Douglas Island by creating additional transportation capacity in a location that is between centers of population in downtown Juneau and the Mendenhall Valley.
- Potential to enhance public health and safety by reducing traffic in locations where delay is currently experienced, particularly around the existing Douglas Island Bridge. It will also add a separated multi-use pathway and tie into existing active transportation infrastructure on both sides of the crossing. It will further provide resiliency in the transportation network by creating an additional crossing.

The potential **disadvantages** of this alternative include:

- It crosses the Mendenhall Wetlands State Game Refuge.
- An alignment that meets design standards for horizontal curves will likely impact Southeast Alaska Land Trust conservation property.
- It encroaches into a traditional and popular duck hunting area.
- Further analysis is needed to determine the potential for impacts on residential areas. Based on Level 1 Screening, the alternative will not avoid impacts on residential areas. There is however the potential to minimize or mitigate impacts depending on the design and location of the proposed crossing and associated infrastructure.
- Further analysis is needed to determine the potential impacts on the visual, cultural, and scenic identity of Juneau and Douglas Island. Based on Level 1 Screening, the alternative will not avoid impacts, but there is the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Based on Level 1 Screening, this alternative will not avoid environmental impacts. There is however the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Potential natural resource impacts include:
  - Waterbody, wetland, riparian, or flood hazard areas
  - Hydrologic connectivity
  - Migratory bird habitat
  - Wildlife, fish, essential fish habitat, or T&E species impacts
  - Impervious surfaces added
  - Protected (conserved lands, refuge) lands directly affected
  - Direct impacts to Section 4(f) / 6(f) protected lands

Vanderbilt – ADVANCE TO DETAILED ALTERNATIVE DEVELOPMENT

The Vanderbilt alternative (Figure 5) begins at approximately MP 5 of North Douglas Highway, crosses the Mendenhall Wetlands State Game Refuge, and intersects Egan Drive at the Vanderbilt Hill Road intersection (~MP 5.3). The Vanderbilt Road intersection is an at-grade and signal-controlled intersection.

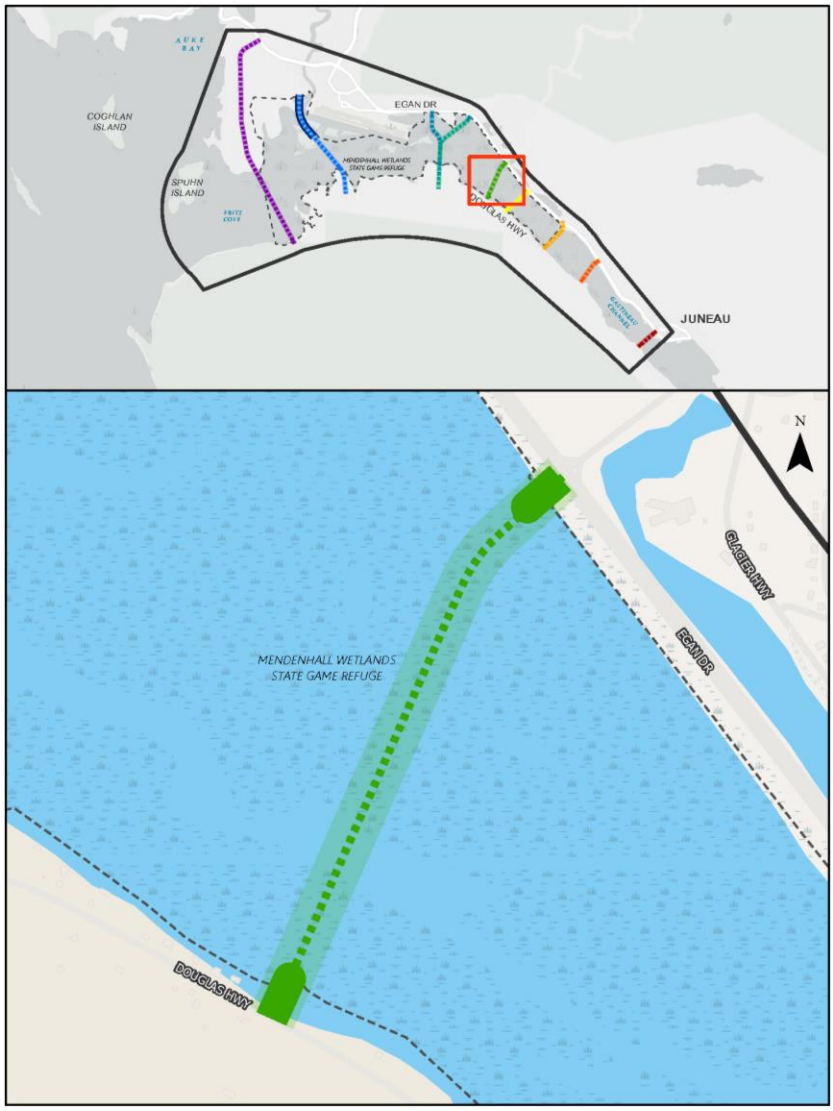

Figure 5: Vanderbilt Alternative Alignment

The potential **advantages** of this alternative include:

- It terminates at Egan Drive at an existing intersection. Further analysis is needed to consider changes to the intersection to accommodate changed traffic patterns and additional volumes associated with a second crossing.
- Its southern terminus uses land owned by the City and Borough of Juneau, which will help to minimize residential property impacts.
- Potential to improve the connection to North and West Douglas Island by creating additional transportation capacity in a location that is between centers of population in downtown Juneau and the Mendenhall Valley.
- Potential to enhance public health and safety by reducing traffic in locations where delay is currently experienced, particularly around the existing Douglas Island Bridge. It will also add a separated multi-use pathway and tie into existing active transportation infrastructure on both sides of the crossing. It will further provide resiliency in the transportation network by creating an additional crossing.

The potential **disadvantages** of this alternative include:

- It crosses the Mendenhall Wetlands State Game Refuge.
- Further analysis is needed to determine the potential for impacts on residential areas. Based on Level 1 Screening, the alternative will not avoid impacts on residential areas. There is however the potential to minimize or mitigate impacts depending on the design and location of the proposed crossing and associated infrastructure.
- Further analysis is needed to determine the potential impacts on the visual, cultural, and scenic identity of Juneau and Douglas Island. Based on Level 1 Screening, the alternative will not avoid impacts, but there is the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Based on Level 1 Screening, this alternative will not avoid environmental impacts. There is however the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Potential natural resource impacts include:
  - Waterbody, wetland, riparian, or flood hazard areas
  - Hydrologic connectivity
  - Migratory bird habitat
  - Wildlife, fish, essential fish habitat, or T&E species impacts
  - Impervious surfaces
  - Protected (conserved lands, refuge) lands
  - Direct impacts to Section 4(f) / 6(f) protected lands

Twin Lakes – ADVANCE TO DETAILED ALTERNATIVE DEVELOPMENT

The Twin Lakes alternative (Figure 6) begins at approximately MP 4.5 of North Douglas Highway, crosses the Mendenhall Wetlands State Game Refuge, and terminates at approximately MP 4.5 of Egan Drive. Details of an intersection are not yet developed.

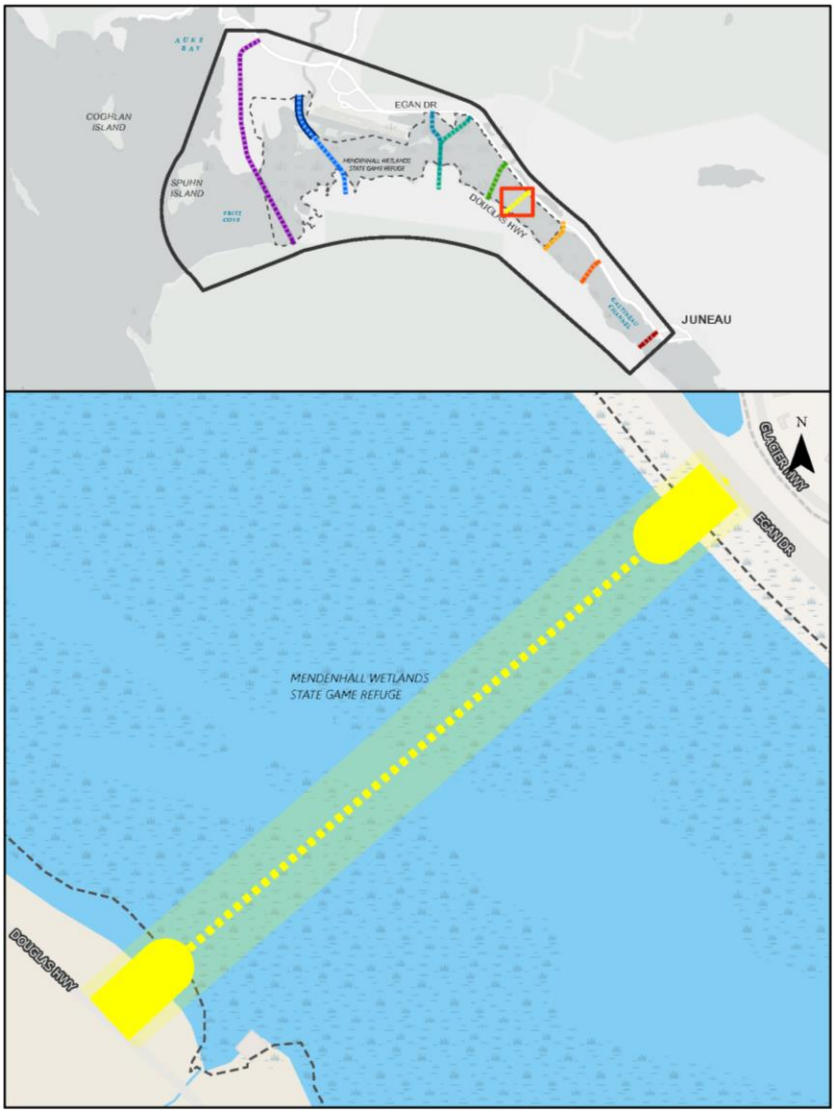

Figure 6: Twin Lakes Alternative Alignment

The potential **advantages** of this alternative include:

- It is one of the shorter crossing distances, which will potentially reduce the cost of constructing a crossing in this location.
- Potential to improve the connection to North and West Douglas Island by creating additional transportation capacity in a location that is between centers of population in downtown Juneau and the Mendenhall Valley.
- Potential to enhance public health and safety by reducing traffic in locations where delay is currently experienced, particularly around the existing Douglas Island Bridge. It will also add a separated multi-use pathway and tie into existing active transportation infrastructure on both sides of the crossing. It will further provide resiliency in the transportation network by creating an additional crossing.
- It will potentially have a lower impact on the visual, cultural, and scenic identity of Juneau and Douglas Island than other alternatives, based on the location of the proposed crossing. More detailed analysis is needed to support the evaluation of visual, cultural, and scenic impacts, however.

The potential **disadvantages** of this alternative include:

- It crosses the Mendenhall Wetlands State Game Refuge.
- The intersection with Egan Drive requires further analysis and design. An intersection with Egan Drive potentially increases delay and may decrease safety by requiring vehicles to slow or stop, and potentially interact with vehicles using traffic lanes moving in opposing directions.
- Further analysis is needed to determine the potential for impacts on residential areas on Douglas Island. Based on Level 1 Screening, the alternative will not avoid impacts on residential areas. There is however the potential to minimize or mitigate impacts depending on the design and location of the proposed crossing and associated infrastructure.
- Based on Level 1 Screening, this alternative will not avoid environmental impacts. There is however the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Potential natural resource impacts include:
  - Waterbody, wetland, riparian, or flood hazard areas
  - Hydrologic connectivity
  - Migratory bird habitat
  - Wildlife, fish, essential fish habitat, or T&E species impacts
  - Impervious surfaces added
  - Protected (conserved lands, refuge) lands affected
  - Direct impacts to Section 4(f) / 6(f) protected lands

Salmon Creek – ADVANCE TO DETAILED ALTERNATIVE DEVELOPMENT

The Salmon Creek alternative (Figure 7) begins at approximately MP 3.4 of North Douglas Highway, crosses the channel between Douglas Island and mainland Juneau and connects with Channel Drive near its intersection with Egan Drive (approximately MP 3.9).

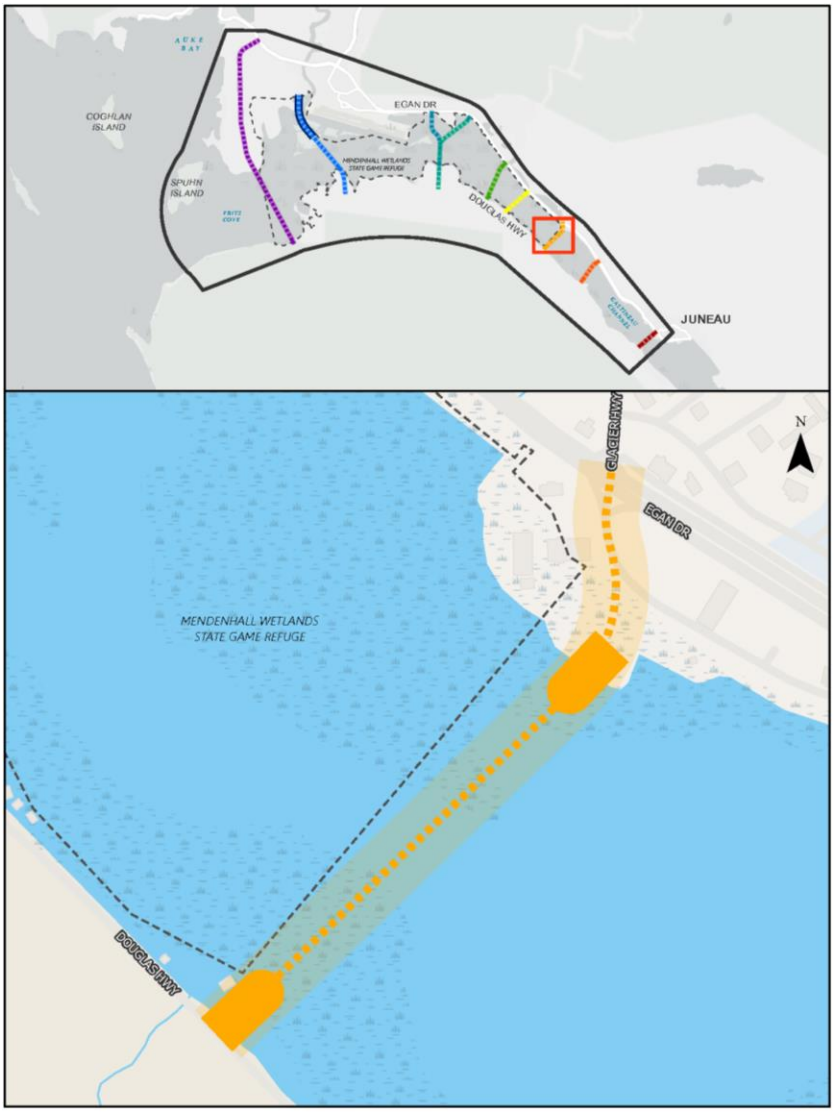

Figure 7: Salmon Creek Alternative Alignment

The potential **advantages** of this alternative include:

- The crossing is outside the Mendenhall Wetlands State Game Refuge.
- The Juneau side terminus is close to an existing intersection with Egan Drive. Further analysis is needed to consider changes to the intersection to accommodate changed traffic patterns and additional volumes associated with a second crossing.
- It is located close to Bartlett Regional Hospital, potentially decreasing emergency response times when compared to other alternatives.
- Potential to improve the connection to North and West Douglas Island by creating additional transportation capacity in a location that is between centers of population in downtown Juneau and the Mendenhall Valley. However, for this alternative the location closer to downtown Juneau will potentially have less benefits for the Mendenhall Valley.
- Potential to enhance public health and safety by reducing traffic in locations where delay is currently experienced, particularly around the existing Douglas Island Bridge. It will also add a separated multi-use pathway and tie into existing active transportation infrastructure on both sides of the crossing. It will further provide resiliency in the transportation network by creating an additional crossing.
- Based on Level 1 Screening this alternative will potentially have a lower impact on the visual, cultural, and scenic identity of Juneau and Douglas Island, based on the location of the proposed crossing away from popular hiking, hunting, fishing, and bird watching areas. More detailed analysis is needed to support the evaluation of visual, cultural, and scenic impacts, however.

The potential **disadvantages** of this alternative include:

- Based on the Level 1 Screening this alternative could potentially avoid Section 4(f) properties. However, further and more detailed analysis is needed to confirm whether Section 4(f) impacts are possible with this alternative.
- Further analysis is needed to determine the potential impacts on commercial properties and freight operations on the Juneau side of the proposed crossing.
- This alternative will potentially be challenging to construct owing to constraints with creating a Juneau-side terminus. Engineering challenges include:
  - The alternative will not be able to meet engineering design criteria with the current location close to Channel Drive and the Channel Drive/Egan Drive intersection.
  - For the bridge structure to meet current navigable clearances the approach to the bridge would not be able to meet the six percent maximum profile grade and leave an acceptable landing coming into the signal at the Channel Drive/Egan Drive intersection. This is a particular issue in Alaska winter conditions as it may be difficult to stop at the signal stop bar (or at a traffic queue) coming off the bridge at a steep grade on a curve.
  - The intersection and grade challenges would require part of the curve and superelevation to be constructed on the bridge which, while feasible, is not desirable.

- Based on Level 1 Screening, this alternative will not avoid environmental impacts. There is however the potential to minimize or mitigate impacts depending on the design, location, and features of the proposed crossing and associated infrastructure.
- Potential natural resource impacts include:
  - Waterbody, wetland, riparian, or flood hazard areas
  - Hydrologic connectivity
  - Migratory bird habitat
  - Wildlife, fish, essential fish habitat, or T&E species impacts
  - Impervious surfaces added

Eagle Creek— NOT ADVANCING

The Eagle Creek Alternative (Figure 8) starts at approximately MP2.4 of North Douglas Highway, crosses the channel between Douglas Island and mainland Juneau, and terminates at approximately MP 2.7 of Egan Drive.

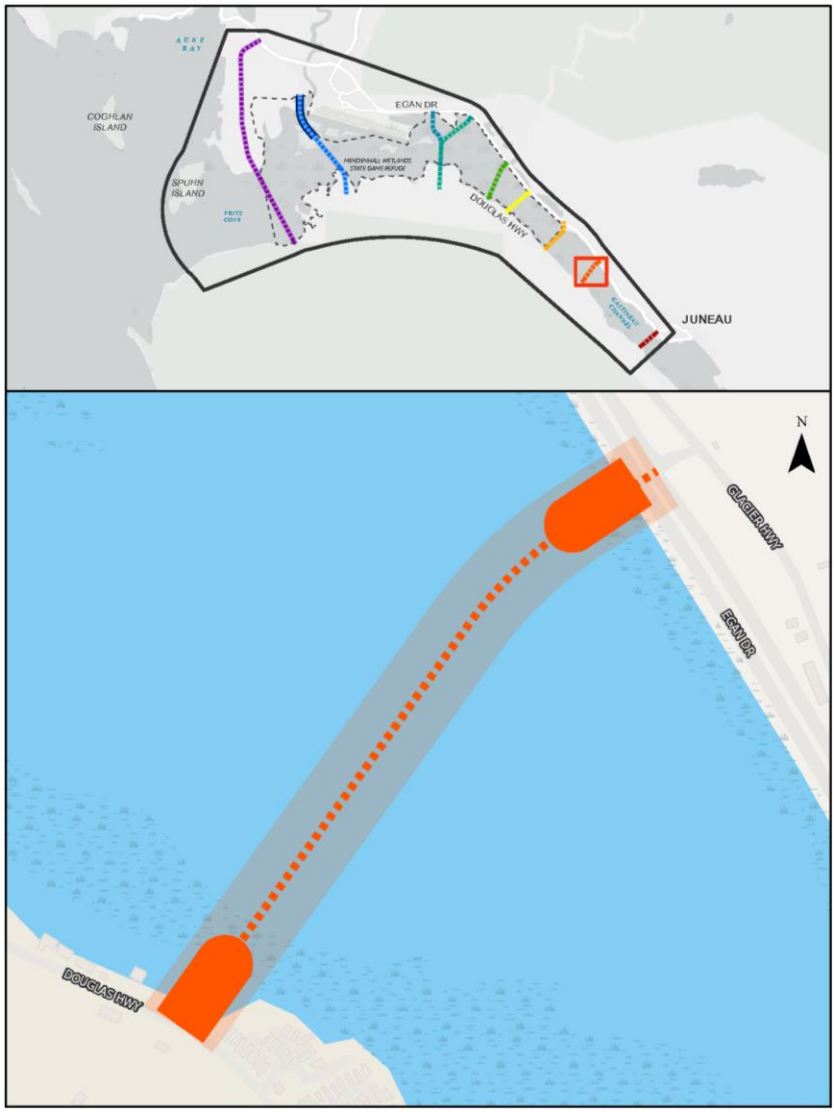

Figure 8: Eagle Creek Alternative Alignment

This alternative does not meet the P&N for the following reasons:

- Although it provides alternate access between Juneau and Douglas Island, it does not improve transportation infrastructure resilience as a single route closure along Egan Drive or Glacier Highway caused by vehicle collisions, fallen trees or power lines, landslides or avalanches would cut off access between Juneau and the Mendenhall Valley, disrupting access to this crossing location.
- Landslide hazard designation mapping completed by the City and Borough of Juneau has identified severe landslide hazard risk chutes that have a high probability of impacting access to this alternative and causing a single route closure on the Juneau side of the crossing.

As this alternative does not meet the P&N, it was not carried forward into Step 2 of Level 1 Screening.

Downtown — NOT ADVANCING

The Downtown alternative (Figure 9) provides for a bridge immediately to the northwest of, and directly adjacent to the existing bridge.

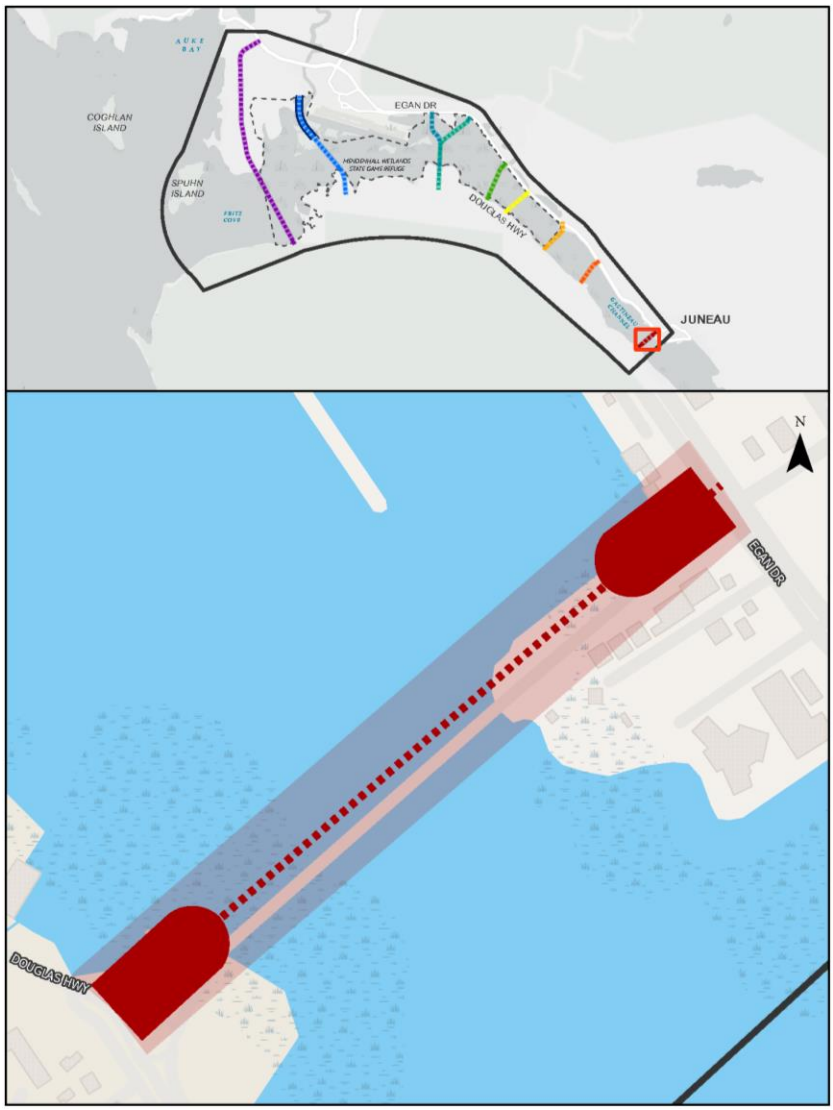

Figure 9: Downtown Alternative Alignment

This alternative does not meet the P&N for the following reasons:

- Although it provides alternate access between Juneau and Douglas Island, it does not improve transportation infrastructure resilience as a single route closure along Egan Drive or Glacier Highway caused by vehicle collisions, fallen trees or power lines, landslides or avalanches would cut off access between Juneau and the Mendenhall Valley, disrupting access to this crossing location.
- Landslide hazard designation mapping completed by the City and Borough of Juneau has identified severe landslide hazard risk chutes that have a high probability of impacting access to this alternative and causing a single route closure on the Juneau side of the crossing.
- It will not reduce travel times.
- It will not reduce emergency response times.

As this alternative does not meet the P&N, it was not carried forward into Step 2 of Level 1 Screening.

No Build

The No Build alternative does not provide for any action. It does not generate impacts as it provides for no action. The No Build alternative does not meet the purpose and need but will be carried forward to the next stage of screening to provide a baseline against which to evaluate the other alternatives. The No Build Alternative will also be carried forward into any future NEPA processes.

APPENDIX

Screening Results

Level 1 Screening Results Overview

	Criteria						no build	Mendenhall Peninsula	North Airport	West Sunny Point Area	Sunny Point Area	Vanderbilt	Twin Lakes	Salmon Creek	Eagle Creek	Downtown
Step 1																
Purpose and Need	Provide alternate access and transportation infrastructure resilience	The alternative provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience		yes		no	no	yes	yes	yes	yes	yes	yes	yes	no	no
	Improve transportation for non-motorized users	The alternative includes improvements for non-motorized users		yes		no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study		yes		no	no	yes	yes	yes	yes	yes	yes	yes	yes	no
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative		yes		no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.		yes		no	no	yes	yes	yes	yes	yes	yes	yes	yes	no
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure		yes		no	no	yes	yes	yes	yes	yes	yes	yes	no	no
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure		yes		no	no	yes	yes	yes	yes	yes	yes	yes	no	no
Step 2															out	out
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities		**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	medium	low	low	high	high	high	high	high	high	high		
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve		**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	medium	low	low	high	high	high	high	high	high	high		
	Avoid, minimize, and mitigate impacts to the environment		**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	high	medium	low	high	low	low	low	low	low	low	medium		
	Avoid, minimize, and mitigate impacts to residential areas		**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	high	medium	low	high	medium	medium	medium	medium	medium	medium	medium		
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island		**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	medium	low	high	low	medium	medium	medium	medium	high	high		
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Mitigation, Permitting	Types of areas affected	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Hydrologic connectivity impacted		Connectivity affected	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Important migratory bird habitat impacted		Type of habitat affected	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Wildlife, fish, essential fish or T&E habitats impacted	Consultation	Type of habitat affected	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Contaminated sites directly affected	Permitting, Clean-up	Type of contaminants	no		yes	no	no	no	no	no	no	no	no		
	Impervious surfaces added			no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Protected (conserved lands, refuge) lands directly affected	Mitigation, Permitting	Types of areas affected	no		yes	no	no	yes	yes	yes	yes	yes	no		
	Use of Section 4(f) / 6(f) protected lands	Mitigation, Permitting	Types of resources affected	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
Social	Within 100 ft of an EJ community, a school, or a community gathering space		Distance to EJ community, school, or a community gathering space	no		yes	no	no	no	no	no	no	no	no		
	A neighborhood is divided or otherwise disrupted		Neighborhood name	no		yes	no	yes	no	yes	yes	no	no	no		
	Consistent with plan policies and development code		List plan / policies	yes		no	yes	yes	yes	yes	yes	yes	yes	yes		
Housing	Residential uses directly affected	Loss of propoerty, relocation	ROW needed	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Within 100 ft of residential properties	Noise / air / viewshed impact	Distance to residential properties	no		yes	no	yes	yes	yes	yes	yes	yes	yes		
	Potential to improve access to developable land	Opens land for development	Provides access	yes		no	no	yes	yes	yes	yes	yes	yes	yes		
Economic	Commercial uses directly affected	Relocation, commercial use access	ROW needed	no		yes	no	yes	yes	no	no	no	yes	yes		
	Within 100 ft of commercial uses	Noise / air impact	Distance to commercial uses	no		yes	no	yes	yes	no	no	no	yes	yes		
	Potential to improve access to developable land	Opens land for development	Provides access	yes		no	no	yes	yes	yes	yes	yes	yes	yes		
Safety	Improve safety for all users		Design and location	yes		no	no	yes	yes	yes	yes	yes	yes	yes		
Construct-ability	A crossing can be built in this location based on construction knowledge and experience in planning and design		Professional judgment	yes		no	n/a	yes	no	yes	yes	yes	yes	yes		
Cost	Estimated construction cost		Professional judgment on expected construction cost	low	medium	high	n/a	high	high	high	high	medium	low	low		
	Estimated maintenance cost/effort		Professional judgment on expected maintenance cost/effort	low	medium	high	n/a	high	high	high	high	medium	low	low		
Public Support	Level of public support	Comments received	Comments in support of an alternate crossing	high	medium	low	high	high	high	high	high	high	medium	medium		

No Build Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	no	No change - same route/distance, no alternate crossing
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	no	No change - same route/distance, no alternate crossing
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	no	No change - same route/distance, no alternate crossing
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	no	No change - same route/distance, no alternate crossing
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	no	No change - same route/distance, no alternate crossing
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	no	No change - same route/distance, no alternate crossing
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	no	No change - same route/distance, no alternate crossing
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	low	No improvement - same route/distance, no alternate crossing
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	low	No likelihood to enhance and protect the public health and safety - no alternate crossing, no changes to existing infrastructure
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	high	No impacts - no alternate crossing, no construction
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	high	No impacts - no alternate crossing, no construction
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	High likelihood - no alternate crossing
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	no	No impacts - no alternate crossing, no construction
	Hydrologic connectivity impacted	Connectivity affected	no	No impacts - no alternate crossing, no construction
	Important migratory bird habitat impacted	Type of habitat impacted	no	No impacts - no alternate crossing, no construction
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	no	No impacts - no alternate crossing, no construction
	Contaminated sites directly affected	Type of contaminants	no	No impacts - no alternate crossing, no construction
	Impervious surfaces added	Types of surfaces constructed	no	No impacts - no alternate crossing, no construction
	Protected (conserved lands, refuge) lands directly affected	Types of areas affected	no	No impacts - no alternate crossing, no construction
	Use of Section 4(f)/6(f) protected lands	Types of lands used	no	No impacts - no alternate crossing, no construction
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	No impacts - same route, no alternate crossing, no construction
	A neighborhood is divided or otherwise disrupted	Neighborhood name	no	No impacts to a neighborhood - same route, no alternate crossing, no construction
	Consistent with plan policies and development code	Local plan / policies	yes	No change - same route, no alternate crossing
Housing	Residential uses directly affected	ROW needed	no	No impacts to residential uses - same route, no alternate crossing, no construction
	Within 100 ft of residential properties	Distance to residential properties	no	No alternate crossing, no construction
	Potential to improve access to developable land	Provides access	no	No change in access to developable land - same route, no alternate crossing, no construction
Economic	Commercial uses directly affected	ROW needed	no	No ROW needed - no alternate crossing, no construction
	Within 100 ft of commercial uses	Distance to commercial uses	no	No alternate crossing, no construction
	Potential to improve access to developable land	Provides access	no	No change in access to developable land - same route, no alternate crossing, no construction
Safety	Improve safety for all users	Design and location	no	No improvement - same route/distance, no alternate crossing
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	n/a	No construction
Cost	Estimated construction cost	Professional judgment on expected construction cost	n/a	No cost - no alternate crossing, no construction
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	n/a	No cost - no alternate crossing, no future maintenance
Public Support	Level of public support	Comments in support of an alternate crossing	high	There is a high level of community support for this alternative based on the public comments received

Mendenhall Peninsula Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge. Based on the traffic study, this alternative would reduce travel times for mainly recreational uses, and would lead to reduced transportation related energy consumption.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the Mendenhall Peninsula crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay stations, and in some cases the Glacier Station, by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has the potential of a significant likelihood to enhance public health and safety by reducing traffic in locations where delay is currently experienced, adding a separated multi-use pathway and tying into existing active transportation infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	low	Based on the location, this alternative is not likely to avoid, but has potential to minimize or mitigate impacts to the environment depending on design, location, or other measures. While it could be located outside of the Mendenhall Wetlands State Game Refuge, it has a potential to impact other Section 4(f) properties, important migratory bird areas, wildlife habitats, and waterbodies. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to residential areas depending on design and location. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	low	Based on the location within a protected viewshed (Guidelines and Considerations for Subarea 8, page 191f, CBJ Comprehensive Plan 2013) and the size of the structure needed, this alternative has no discernable likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island. Additionally, this alternative is located in the vicinity of a popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative is likely to affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report.
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative may potentially affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report.
	Important migratory bird habitat impacted	Type of habitat impacted	yes	Based on the location, this alternative may potentially impact important migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report.
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative is likely to impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report.
	Contaminated sites directly affected	Type of contaminants	no	Based on available information, there are no known contaminated sites within the area of this alternative. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report.
	Impervious surfaces added	Surfaces constructed	yes	This alternative will add impervious surfaces (road surfaces, bridges, associated structures). The size of impervious surfaces and associated impacts will not be determined until a structure has been designed. Preliminary engineering will help to determine impervious surface areas.
	Protected (conserved lands, refuge) lands directly affected	Areas affected	no	Based on the location, this alternative is unlikely to directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, this alternative is likely to use Section 4(f)/6(f) protected lands. While it could be located outside of the Mendenhall Wetlands State Game Refuge, it has a potential to impact other Section 4(f) properties. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report.
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not likely to be within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report.
	A neighborhood is divided or otherwise disrupted	Neighborhood name	yes	Based on the location, this alternative has the potential to divide or otherwise disrupt the Fritz Cove neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report.
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative has the potential to directly affect residential uses by requiring additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Economic	Commercial uses directly affected	ROW needed	yes	This alternative has the potential to directly affect commercial uses by requiring additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	yes	Some ROW needed for this alternative could potentially be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Safety	Improve safety for all users	Design and location	yes	This alternative has the potential to improve safety for all users by providing separated multi-use path and tying into existing infrastructure. The alternative would decrease traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing potentially resulting in fewer conflicts.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	yes	Based on engineering judgement this might be a constructable alternative in this location, but it would not be reasonable based on the height and the length of the structure needed in this location.
Cost	Estimated construction cost	Professional judgment on expected construction cost	high	The estimated construction cost for this alternative would be high based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	high	The estimated maintenance cost for this alternative would be high based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	high	There is a high level of community support for this alternative based on the public comments received.

North Airport Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge. Based on the traffic study, this alternative would reduce travel times for mainly recreational uses, and would lead to reduced transportation related energy consumption.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the North Airport crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has a significant likelihood to enhance and protect the public health and safety by reducing traffic in congested areas, adding a separated multi-use path and tying into existing active transportation and pedestrian infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	low	Based on the location, this alternative is not likely to avoid, but has potential to minimize or mitigate impacts to the environment depending on design, location, or other measures. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but has the potential to minimize or mitigate impacts to residential areas. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	medium	Based on the location and on the design, this alternative could have a significant likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island, if it would be designed as a tunnel the whole way, or, if it would be designed to be partial tunnel and partial bridge, the alternative could be within a protected viewshed (CBJ Comprehensive Plan 2013) and have no discernible likelihood. Further analysis based on a design would be needed to determine potential impacts. Additionally, this alternative is located in the vicinity of a popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative would directly affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative could affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report
	Important migratory bird habitat impacted	Type of habitat impacted	yes	Based on the location, this alternative would impact important migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative would impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Contaminated sites directly affected	Type of contaminants	no	There are no known contaminated sites within the area of this alternative. It is unlikely that this alternative would impact contaminated sites. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report
	Impervious surfaces added	Surfaces constructed	yes	This alternative would add impervious surfaces. The size of impervious surfaces and associated impacts can not be determined until a structure has been designed. Preliminary engineering will enable an estimate.
	Protected (conserved lands, refuge) lands directly affected	Areas affected	yes	Based on the location, this alternative would directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, this alternative would use Section 4(f)/6(f) protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report
	A neighborhood is divided or otherwise disrupted	Neighborhood name	no	Based on the location, this alternative would not divide or otherwise disrupt a neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative would directly affect residential uses by needing additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Economic	Commercial uses directly affected	ROW needed	yes	This alternative would directly affect commercial uses by needing additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	yes	Some ROW likely required for this alternative could potentially be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Safety	Improve safety for all users	Design and location	yes	This alternative would improve safety for all users by providing separated multi-use path, tying into existing infrastructure, and decreasing traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	no	Based on engineering judgement this is not a constructable alternative in this location.
Cost	Estimated construction cost	Professional judgment on expected construction cost	high	The estimated construction cost for this alternative would be high based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	high	The estimated maintenance cost for this alternative would be high based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	high	There is a high level of community support for this alternative based on the public comments received.

West Sunny Point Area Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time and therefore the associated transportation related energy consumption to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the West Sunny Point crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has the potential of a significant likelihood to enhance public health and safety by reducing traffic in locations where delay is currently experienced, adding a separated multi-use pathway and tying into existing active transportation infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	low	Based on the location, this alternative is not likely to avoid, but has potential to minimize or mitigate impacts to the environment depending on design, location, or other measures. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to residential areas depending on design and location. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	medium	Based on the location, this alternative has the potential to have some likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island. It is located in the vicinity of a popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative is likely to affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative may potentially affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report
	Important migratory bird habitat impacted	Type of habitat impacted	yes	Based on the location, this alternative may potentially impact important migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative is likely to impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Contaminated sites directly affected	Type of contaminants	no	Based on available information, there are no known contaminated sites within the area of this alternative. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report
	Impervious surfaces added	Surfaces constructed	yes	This alternative will add impervious surfaces (road surfaces, bridges, associated structures). The size of impervious surfaces and associated impacts will not be determined until a structure has been designed. Preliminary engineering will help to determine impervious surface areas
	Protected (conserved lands, refuge) lands directly affected	Areas affected	yes	Based on the location, this alternative is likely to directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, this alternative is likely to use Section 4(f)/6(f) protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not likely to be within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report
	A neighborhood is divided or otherwise disrupted	Neighborhood name	yes	Based on the location, this alternative has the potential to divide or otherwise disrupt the Sunny Point neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative has the potential to directly affect residential uses by requiring additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Economic	Commercial uses directly affected	ROW needed	no	This alternative is not likely to directly affect commercial uses by requiring additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	no	It is unlikely that the alternative would be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Safety	Improve safety for all users	Design and location	yes	This alternative has the potential to improve safety for all users by providing separated multi-use path and tying into existing infrastructure. The alternative would decrease traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing potentially resulting in fewer conflicts.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	yes	Based on engineering judgement this is a constructable alternative in this location.
Cost	Estimated construction cost	Professional judgment on expected construction cost	high	The estimated construction cost for this alternative would be high based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	high	The estimated maintenance cost for this alternative would be high based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	high	There is a high level of community support for this alternative based on the public comments received.

Sunny Point Area Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time and therefore the associated transportation related energy consumption to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the Sunny Point Area crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has the potential of a significant likelihood to enhance public health and safety by reducing traffic in locations where delay is currently experienced, adding a separated multi-use pathway and tying into existing active transportation infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	low	Based on the location, this alternative is not likely to avoid, but has potential to minimize or mitigate impacts to the environment depending on design, location, or other measures. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to residential areas depending on design and location. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	medium	Based on the location, this alternative has the potential to have some likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island. It is located in the vicinity of a popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative is likely to affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative may potentially affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report
	Important migratory bird habitat impacted	Type of habitat impacted	yes	Based on the location, this alternative may potentially impact important migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative is likely to impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Contaminated sites directly affected	Type of contaminants	no	Based on available information, there are no known contaminated sites within the area of this alternative. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report
	Impervious surfaces added	Surfaces constructed	yes	This alternative will add impervious surfaces (road surfaces, bridges, associated structures). The size of impervious surfaces and associated impacts will not be determined until a structure has been designed. Preliminary engineering will help to determine impervious surface areas
	Protected (conserved lands, refuge) lands directly affected	Areas affected	yes	Based on the location, this alternative is likely to directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, this alternative is likely to use Section 4(f)/6(f) protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not likely to be within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report
	A neighborhood is divided or otherwise disrupted	Neighborhood name	yes	Based on the location, this alternative has the potential to divide or otherwise disrupt the Sunny Point neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative has the potential to directly affect residential uses by requiring additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Economic	Commercial uses directly affected	ROW needed	no	This alternative is not likely to directly affect commercial uses by requiring additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	no	It is unlikely that the alternative would be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Safety	Improve safety for all users	Design and location	yes	This alternative has the potential to improve safety for all users by providing separated multi-use path and tying into existing infrastructure. The alternative would decrease traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing potentially resulting in fewer conflicts.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	yes	Based on engineering judgement this is a constructable alternative in this location.
Cost	Estimated construction cost	Professional judgment on expected construction cost	high	The estimated construction cost for this alternative would be high based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	high	The estimated maintenance cost for this alternative would be high based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	high	There is a high level of community support for this alternative based on the public comments received.

Vanderbilt Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time and therefore the associated transportation related energy consumption to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the Vanderbilt crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has the potential of a significant likelihood to enhance public health and safety by reducing traffic in locations where delay is currently experienced, adding a separated multi-use pathway and tying into existing active transportation infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	low	Based on the location, this alternative is not likely to avoid, but has potential to minimize or mitigate impacts to the environment depending on design, location, or other measures. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to residential areas depending on design and location. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	medium	Based on the location, this alternative has the potential to have some likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island. This alternative is located further away from popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative is likely to affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative may potentially affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report
	Important migratory bird habitat impacted	Type of habitat impacted	yes	Based on the location, this alternative may potentially impact important migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative is likely to impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Contaminated sites directly affected	Type of contaminants	no	Based on available information, there are no known contaminated sites within the area of this alternative. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report
	Impervious surfaces added	Surfaces constructed	yes	This alternative will add impervious surfaces (road surfaces, bridges, associated structures). The size of impervious surfaces and associated impacts will not be determined until a structure has been designed. Preliminary engineering will help to determine impervious surface areas
	Protected (conserved lands, refuge) lands directly affected	Areas affected	yes	Based on the location, this alternative is likely to directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, this alternative is likely to use Section 4(f)/6(f) protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not likely to be within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report
	A neighborhood is divided or otherwise disrupted	Neighborhood name	no	Based on the location, this alternative is not likely to divide or otherwise disrupt a neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative has the potential to directly affect residential uses by requiring additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Economic	Commercial uses directly affected	ROW needed	no	This alternative is not likely to directly affect commercial uses by requiring additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	no	It is unlikely that the alternative would be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future.
Safety	Improve safety for all users	Design and location	yes	This alternative has the potential to improve safety for all users by providing separated multi-use path and tying into existing infrastructure. The alternative would decrease traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing potentially resulting in fewer conflicts.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	yes	Based on engineering judgement this is a constructable alternative in this location.
Cost	Estimated construction cost	Professional judgment on expected construction cost	medium	The estimated construction cost for this alternative would be medium based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	medium	The estimated maintenance cost for this alternative would be medium based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	high	There is a high level of community support for this alternative based on the public comments received.

Twin Lakes Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time and therefore the associated transportation related energy consumption to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the Twin Lakes crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has the potential of a significant likelihood to enhance public health and safety by reducing traffic in locations where delay is currently experienced, adding a separated multi-use pathway and tying into existing active transportation infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	low	Based on the location, this alternative is not likely to avoid, but has potential to minimize or mitigate impacts to the environment depending on design, location, or other measures. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to residential areas depending on design and location. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	Based on the location, this alternative has the potential to have some visual impacts but has a significant likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island. This alternative would require a shorter structure and is located away from popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative is likely to affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative may potentially affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report
	Important migratory bird habitat impacted	Type of habitat impacted	yes	Based on the location, this alternative may potentially impact important migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative is likely to impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Contaminated sites directly affected	Type of contaminants	no	Based on available information, there are no known contaminated sites within the area of this alternative. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report
	Impervious surfaces added	Surfaces constructed	yes	This alternative will add impervious surfaces (road surfaces, bridges, associated structures). The size of impervious surfaces and associated impacts will not be determined until a structure has been designed. Preliminary engineering will help to determine impervious surface areas
	Protected (conserved lands, refuge) lands directly affected	Areas affected	yes	Based on the location, this alternative is likely to directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, this alternative is likely to use Section 4(f)/6(f) protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report
	A neighborhood is divided or otherwise disrupted	Neighborhood name	no	Based on the location, this alternative would not divide or otherwise disrupt a neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative would directly affect residential uses by needing additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future. Compared to other alternatives, the shortened distance to developable land on West Douglas is less for travelers from the Valley.
Economic	Commercial uses directly affected	ROW needed	yes	This alternative has the potential to directly affect commercial uses by requiring additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	yes	Some ROW likely required for this alternative could potentially be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future. Compared to other alternatives, the shortened distance to developable land on West Douglas is less for travelers from the Valley.
Safety	Improve safety for all users	Design and location	yes	This alternative has the potential to improve safety for all users by providing separated multi-use path and tying into existing infrastructure. The alternative would decrease traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing potentially resulting in fewer conflicts.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	yes	Based on engineering judgement this is a constructable alternative in this location.
Cost	Estimated construction cost	Professional judgment on expected construction cost	low	The estimated construction cost for this alternative would be low based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	low	The estimated maintenance cost for this alternative would be low based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	medium	There is a medium level of community support for this alternative based on the public comments received.

Salmon Creek Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	yes	The alternative provides an alternate access and improves the transportation infrastructure resilience by providing a secondary crossing to Douglas Island.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time and therefore the associated transportation related energy consumption to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the Salmon Creek crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	yes	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge or another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement	high	Based on the location, this alternative has the potential to significantly improve the connection to North and West Douglas Island by creating additional traffic capacity.
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	This alternative has the potential of a significant likelihood to enhance public health and safety by reducing traffic in locations where delay is currently experienced, adding a separated multi-use pathway and tying into existing active transportation infrastructure. It would provide resiliency in the transportation network by creating an additional crossing.
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to the environment depending on design, location, or other measures. It would be located outside of the Mendenhall Wetlands State Game Refuge and does not impact conservation lands. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts	medium	Based on the location, this alternative would not avoid, but could potentially minimize or mitigate impacts to residential areas depending on design and location. Further analysis is needed to determine potential impacts. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood	high	Based on the location, this alternative has the potential to have some visual impacts but has a significant likelihood to maintain the visual, cultural, and scenic identity of Juneau and Douglas Island. This alternative would require a shorter structure and is located away from popular hiking, hunting, fishing, and bird watching area.
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted	yes	Based on the location, this alternative would directly affect waterbody, wetland, riparian, and flood hazard areas. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Figure 12: Floodplains within the Study Area, page 70, and Figure 14: Wetlands in the Study Area, page 78, Environmental Setting Report
	Hydrologic connectivity impacted	Connectivity affected	yes	Based on the location, this alternative could affect hydrologic connectivity. For reference: Figure 11: Hydrology and Water Quality within the Study Area, page 66, Environmental Setting Report
	Important migratory bird habitat impacted	Type of habitat impacted	yes	This location is outside an area identified in mapping as being important migratory bird habitat. However, unless there is a distinct difference between what is inside the refuge boundary and what is immediately adjacent it is not possible to state that Salmon Creek is not migratory bird habitat. For reference: Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted	yes	Based on the location, this alternative would impact wildlife, fish, essential fish or T&E habitats. For reference: Figure 15: Essential Fish Habitat Within Study Area, page 85, Figure 16: Anadromous Fish Habitat Within Study Area, page 87, Figure 17: Habitat Area for Upland Species within Study Area, page 89, and Figure 18: Other Species Habitat Within Study Area, page 93, Environmental Setting Report
	Contaminated sites directly affected	Type of contaminants	no	There are no known contaminated sites within the area of this alternative. It is unlikely that this alternative would impact contaminated sites. For reference: Figure 22: Regulated Hazardous Sites and Non-regulated Waste Sites within Study Area, page 115, Environmental Setting Report
	Impervious surfaces added	Surfaces constructed	yes	This alternative would add impervious surfaces. The size of impervious surfaces and associated impacts can not be determined until a structure has been designed. Preliminary engineering will enable an estimate.
	Protected (conserved lands, refuge) lands directly affected	Areas affected	no	Based on the location, this alternative is unlikely to directly affect protected lands. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
	Use of Section 4(f)/6(f) protected lands	Types of lands used	yes	Based on the location, Section 4(f)/6(f) protected lands could be affected. Further analysis is needed to determine potential impacts. For reference: Figure 9: Section 4(f) and 6(f) Properties within Study Area, page 53, Environmental Setting Report
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space	no	Based on the location, this alternative is not within 100ft of an EJ community, a school, or a community gathering space. For reference: Figure 4: Social Groups: Demographic Map, page 14, Environmental Setting Report
	A neighborhood is divided or otherwise disrupted	Neighborhood name	no	Based on the location, this alternative would not divide or otherwise disrupt a neighborhood. For reference: Figure 7: Land Ownership, page 53, Environmental Setting Report
	Consistent with plan policies and development code	Local plan / policies	yes	This alternative is consistent with the land use designations in the current CBJ Comprehensive Plan. For reference: Figure 5: Comprehensive Plan Designation within Study Area, page 24, Environmental Setting Report
Housing	Residential uses directly affected	ROW needed	yes	This alternative would directly affect residential uses by needing additional ROW within an area with private land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of residential properties	Distance to residential properties	yes	Some ROW likely required for this alternative could potentially be within 100ft of residential properties. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future. Compared to other alternatives, the shortened distance to developable land on West Douglas is lesser for travelers from the Valley.
Economic	Commercial uses directly affected	ROW needed	yes	This alternative has the potential to directly affect commercial uses by requiring additional ROW within an area with commercial land ownership. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Within 100 ft of commercial uses	Distance to commercial uses	yes	Some ROW likely required for this alternative could potentially be within 100ft of commercial uses. Exact locations and amount of ROW are not yet determined. For reference: Figure 7: Land Ownership, page 53, and Figure 6: Zoning Designation within Study Area, page 28, Environmental Setting Report
	Potential to improve access to developable land	Provides access	yes	Based on the location, this alternative has potential to improve access to developable land by shortening the distance between some populated areas and areas with the potential to be developed in the future. Compared to other alternatives, the shortened distance to developable land on West Douglas is less for travelers from the Valley.
Safety	Improve safety for all users	Design and location	yes	This alternative has the potential to improve safety for all users by providing separated multi-use path and tying into existing infrastructure. The alternative would decrease traffic pressure on the Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing potentially resulting in fewer conflicts.
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment	yes	Based on engineering judgement an alternative in this location is constructable, but would potentially be difficult because of design constraints if navigability would have to be maintained.
Cost	Estimated construction cost	Professional judgment on expected construction cost	low	The estimated construction cost for this alternative would be low based on the location and the length of the crossing.
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort	low	The estimated maintenance cost for this alternative would be low based on the location and the length of the crossing.
Public Support	Level of public support	Comments in support of an alternate crossing	medium	There is a medium level of community support for this alternative based on the public comments received.

Eagle Creek Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	no	The alternative would provide an alternate access, but would not likely improve transportation infrastructure resilience. Based on its location, a single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches, could cut off access to critical resources.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	yes	Overall travel time and therefore the associated transportation related energy consumption to travel between Douglas Island and Juneau mainland is reduced because some trips would experience shorter travel times when using this proposed bridge.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative would decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing. Some traffic would switch to the proposed bridge, which would reduce demand for the Douglas Island Bridge and the intersections to either side of the bridge.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	yes	When emergencies require response from an out of district station or multiple stations simultaneously, the Eagle Creek crossing would allow a more timely response to Douglas Island from the Lynn Canal, Auke Bay, and Glacier stations by shortening the distance needed to travel to a crossing to Douglas Island.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	no	Based on the location, the alternative would provide alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge, but not during another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	no	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge, but not during another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				**alternative did not move into Step 2**
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement		
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood		
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts		
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts		
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood		
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted		
	Hydrologic connectivity impacted	Connectivity affected		
	Important migratory bird habitat impacted	Type of habitat impacted		
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted		
	Contaminated sites directly affected	Type of contaminants		
	Impervious surfaces added	Surfaces constructed		
	Protected (conserved lands, refuge) lands directly affected	Areas affected		
	Use of Section 4(f)/6(f) protected lands	Types of lands used		
Social	Within 100 ft of an EJ community, a school, or a community gathering space	Distance to EJ community, school, or a community gathering space		
	A neighborhood is divided or otherwise disrupted	Neighborhood name		
	Consistent with plan policies and development code	Local plan / policies		
Housing	Residential uses directly affected	ROW needed		
	Within 100 ft of residential properties	Distance to residential properties		
	Potential to improve access to developable land	Provides access		
Economic	Commercial uses directly affected	ROW needed		
	Within 100 ft of commercial uses	Distance to commercial uses		
	Potential to improve access to developable land	Provides access		
Safety	Improve safety for all users	Design and location		
Constructability	A crossing can be built in this location based on construction knowledge and experience in planning and design	Professional judgment		
Cost	Estimated construction cost	Professional judgment on expected construction cost		
	Estimated maintenance cost/effort	Professional judgment on expected maintenance cost/effort		
Public Support	Level of public support	Comments in support of an alternate crossing		

Downtown Alternative

Criteria			Answer	Comment/Rationale/Justification
Step 1				
Purpose and Need	Provide alternate access and transportation infrastructure resilience	Provides alternate access between Juneau and Douglas Island and improves the transportation infrastructure resilience	no	The alternative would provide an alternate access, but would not likely improve transportation infrastructure resilience. Based on its location, a single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches, could cut off access to critical resources.
	Improve transportation for non-motorized users	Includes improvements for non-motorized users	yes	The alternative improves transportation for non-motorized users by providing an alternate crossing with an added separated multi-use path that ties into existing infrastructure.
	Reduce transportation related energy consumption	Reduces travel times based on O/D Study	no	Based on the traffic study, this alternative would not reduce travel times and would not lead to reduced transportation related energy consumption, because all trips would experience the same travel time as now.
	Decrease traffic pressure on Douglas Island Bridge and its intersections	Improves LOS during AM and PM peaks at existing bridge and alternative	yes	The alternative has potential to decrease traffic pressure on the existing Douglas Island Bridge and its intersections by dividing the traffic between the existing bridge and the alternate crossing.
	Improve emergency response times	Reduces estimated travel time for CCFR stations traveling to Douglas Island for emergency response.	no	Emergency response times would not be improved because an additional crossing would not exist to shorten the travel distance for emergency responders on the Juneau side to access the Douglas side.
	Improve access to critical healthcare and emergency services	Provides access during bridge or another single route closure	no	Based on the location, the alternative would provide alternate access and improves access to critical healthcare and emergency services during the closure of the existing bridge, but not during another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
	Improve access to workplaces and critical resources	Provides access during bridge or another single route closure	no	Based on the location, the alternative provides an alternate access and improves access to workplaces and critical resources during the closure of the existing bridge, but not during another single route closure including road closures on Egan and Glacier Highway caused by accidents, fallen trees or power lines, landslides or avalanches.
Step 2				**alternative did not move into Step 2**
Additional Goals	Improve connection to North and West Douglas Island by creating additional traffic capacity to support the future development of affordable housing and economic development opportunities	**High**: significant improvement **Medium**: some improvement **Low**: no discernible improvement		
	Enhance and protect the public health and safety of travelers and the communities that transportation facilities traverse and serve	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood		
	Avoid, minimize, and mitigate impacts to the environment	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts		
	Avoid, minimize, and mitigate impacts to residential areas	**High**: potential to avoid impacts **Medium**: potential to minimize or mitigate impacts **Low**: not likely to avoid, minimize or mitigate impacts		
	Maintain the visual, cultural, and scenic identity of Juneau and Douglas Island	**High**: significant likelihood **Medium**: some likelihood **Low**: no discernible likelihood		
Natural Environment	Waterbody, wetland, riparian, or flood hazard areas impacted	Types of areas impacted		
	Hydrologic connectivity impacted	Connectivity affected		
	Important migratory bird habitat impacted	Type of habitat impacted		
	Wildlife, fish, essential fish or T&E habitats impacted	Type of habitat impacted		
	Contaminated sites directly affected	Type of contaminants		
	Impervious surfaces added	Surfaces constructed		
	Protected (conserved lands, refuge) lands directly affected	Areas affected		
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Public Support	Level of public support	Comments in support of an alternate crossing		