



INTERCHANGE WORKSHOP SUMMARY

Workshop Time and Location:

Tuesday, April 30, 2024, 9:00 a.m. – 12:00 p.m.

DOWL Chugach Conference Room, 5015 Business Park Boulevard, Suite 4000, Anchorage, Alaska

Workshop Purpose:

Create an understanding of the project, consider near-term interchange configuration improvements, understand relative order of magnitude implementation issues, and obtain input on the technical evaluation and decision making.

Introduction:

Kelly Kilpatrick, DOWL Project Manager, started the Glenn Highway and Hiland Road Interchange workshop with a welcome and introductions of the project team and attendees. After sharing a safety minute on building emergency evacuation routes, she turned the presentation over to Galen Jones, Department of Transportation & Public Facilities (DOT&PF) Project Manager, to give an overview of the project purpose, objectives, and a status of the project funding.

Project Team:

Galen Jones, Project Manager	Department of Transportation & Public Facilities
Kelly Kilpatrick, Project Manager Sam Tyler, Project Engineer Aaron Fletcher, Design Engineer Morgan McCammon, Public Involvement Jovie Garcia, Public Involvement Talli Vittetoe, Public Involvement	DOWL
Brian Ray, Interchange Expert	Sunrise Transportation Strategies
Jeanne Bowie, Traffic Engineer Lead Aiza Miguel, Traffic Engineer	Kinney Engineering
Ryan Redick, Utility Lead	RRR

Attendance: See attached sign-in sheet



Project Purpose & Objectives:

Galen Jones, DOT&PF Project Manager, provided a general project overview, highlighting traffic queueing during peak morning hours. On many occasions, the traffic queue in the westbound left turn lane for the southbound interchange entrance ramp backs up along Eagle River Loop Road beyond Briggs Bridge. The project's near-term solutions will include improvements to operations, capacity, and safety for non-motorized and motorized users. The project objectives are to enhance highway merging, mitigate queue issues, and maintain the existing bridge.

Project Funding:

Galen shared with the group that remaining 2022 General Obligation Bond funds obligated from the Glenn Highway Capacity Improvements and 2023 funds obligated under STIP Amendment #4 are being used to move the project through preliminary engineering efforts. The project still needs funds through final design and construction. Pending funding availability, the anticipated construction year is 2026.

Presentation Agenda:

- Workshop Goals
- Interchange Background
- Existing Conditions
- Environmental Permitting
- Near-Term Interchange Brainstorming
- Long-Term Interchange Brainstorming
- Next Steps

Interchange Background:

Brian Ray, Interchange Expert with Sunrise Transportation Strategies, provided an overview and history of the existing Glenn Highway and Hiland Road interchange, noting the interchange constructed in the 1970s was a connection from Hiland Road to the Glenn Highway. A study conducted in the 1980s and a supplemental study in the 1990s on Eagle River Loop Road established a new connection of Eagle River Road to the Glenn Highway as an alternative to Artillery Road. As part of the 1990s connection the existing bridge was widened to the north and included an additional lane and a pedestrian pathway. He summarized the existing interchange is much like it was when originally constructed, and it had never been intended to carry the traffic volume and truck composition it does today.



Existing Conditions:

Traffic

Jeanne Bowie, Traffic Engineer with Kinney Engineering, provided an overview of the existing traffic conditions. She noted because the Eagle River Loop Road effectively terminates at the Glenn Highway, the interchange has unique needs compared to other interchanges in Anchorage. She discussed insufficiencies in the traffic operation performance. She presented near-term solutions need to consider:

- Peak periods in the morning.
- Few injury crashes.
- Multimodal transportation's need to focus on safety and comfort.
- Truck volumes using this interchange as access to the landfill.

The existing forecast volumes show less than one percent growth annually to 2050.

Bridge

Kelly discussed the existing condition of the interchange bridge, noting the bridge's 75-year life span with approximately 25 years remaining. The bridge is in good condition but needs routine, preventative maintenance on the existing pavement, railings, concrete, and waterproof membrane. She shared the existing bridge's vertical clearance (16'2") does not meet current vertical clearance requirements (min 17"). Also of note, over the past five years over 800 oversize/overweight vehicles were permitted to use the interchange each year.

Kelly provided the history of the northbound ramp terminal intersection and the history of VFW/Hesterberg Road.

Utilities, Right-of-Way, and Environmental

Kelly shared a map of the existing utilities and right-of-way (ROW), noting areas for potential high- and low-cost impacts. She added the project complies with the Alaska Historic Preservation Act (AHPA) of 1971 and Section 106 of the National Historic Preservation Act (NHPA) of 1966. Archaeological and historical surveys have been conducted and the Draft Section 106 findings letter will recommend no historic properties affected.

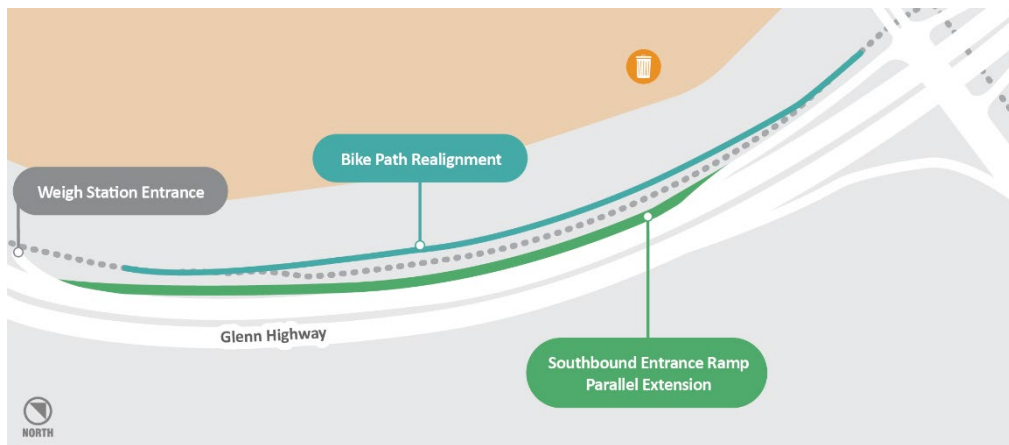
Near-Term Interchange Brainstorming:

Brian led a discussion on near-term interchange options, noting the existing bridge must be maintained and integrated into near-term solutions. Wherever possible, near-term project elements should be adaptable to potential long-term solutions. He emphasized some design elements must be packaged together. He then presented options for near-term project elements.



Modified Southbound Entrance Ramp Option

The southbound entrance ramp terminal would replace the existing tapered merge with a speed change lane extending to before exit to the weigh station exit ramp. This parallel extension provides a longer opportunity for traffic to gain speed and a longer distance to enter the Glenn Highway. This increases the entrance ramp capacity and reduces friction on the highway during merging. This would require realigning the existing bike path to create room for the speed change lane. If a southbound loop ramp was constructed, it would also require a speed change lane versus a tapered merge.



Double Left Turn Option

The southbound ramp terminal intersection would be modified to provide a double westbound to southbound left turn lane. After the left turn is completed, the two-lane ramp would merge to a single entrance lane. This single lane would become the southbound speed change lane. Construction impacts are relatively limited and would only improve traffic flow in conjunction with the added speed change lane.





VFW/Hesterberg Road

The VFW/Hesterberg Road option would remove the VFW Road connection from Eagle River Loop Road and realign the roadway to Wolf Den Drive. A new driveway would be constructed to the existing park and ride parking lot. There is a potential opportunity to expand the parking lot using existing ROW from the former roadway alignment. This option would maintain bicycle and pedestrian access from Eagle River Loop Road. Emergency vehicle access could also be maintained from Eagle River Loop Road.

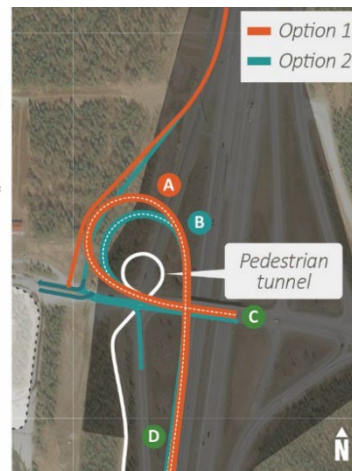


Loop Ramp Option

The southbound ramp terminal intersection would be modified to include a southbound loop ramp, which would provide a two-lane merge to a single entrance onto the highway. There are options for the radius of the loop ramp with larger radii having a greater footprint than smaller radii. A speed change lane (versus a merge) would be constructed for southbound entering traffic. A pedestrian tunnel would be included for pedestrian access to the south pathway. This option would require more construction impacts than the double left turn concept and would only improve traffic flow in conjunction with the added speed change lane.

- A** R=160 feet (minimum desired)
- B** R=125 feet (minimum allowed)
- C** Overhead lane-use sign
- D** Single Lane Add to Glenn Hwy*

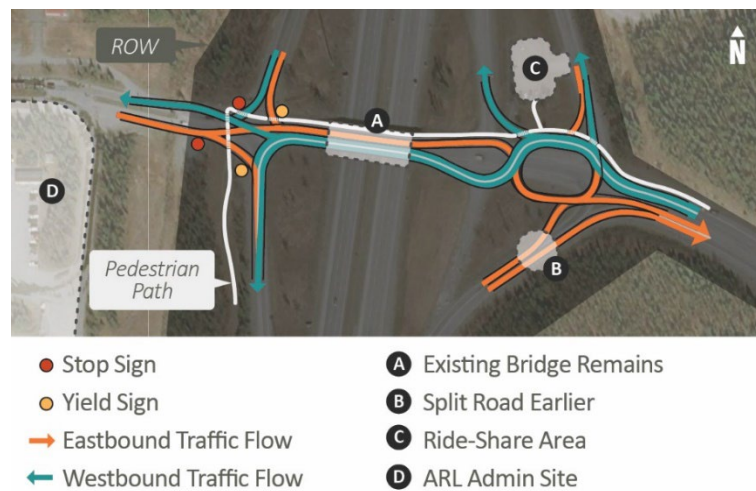
* Lanes drop off one at a time prior to the weigh station





Diverging Diamond Interchange

A diverging diamond interchange would be created by constructing a roundabout at the northbound ramp terminal intersection and VFW/Hesterberg Road. Westbound to southbound traffic would be contraflow and the left turning traffic would be unimpeded. Traffic volumes do not justify traffic signals at the southbound ramp terminal. The southbound ramp terminal intersection would need to be reconstructed with a cross over intersection. The overall configuration would focus on retaining the existing bridge and minimizing encroachment to the landfill entrance.



Northbound Ramp Terminal Intersection

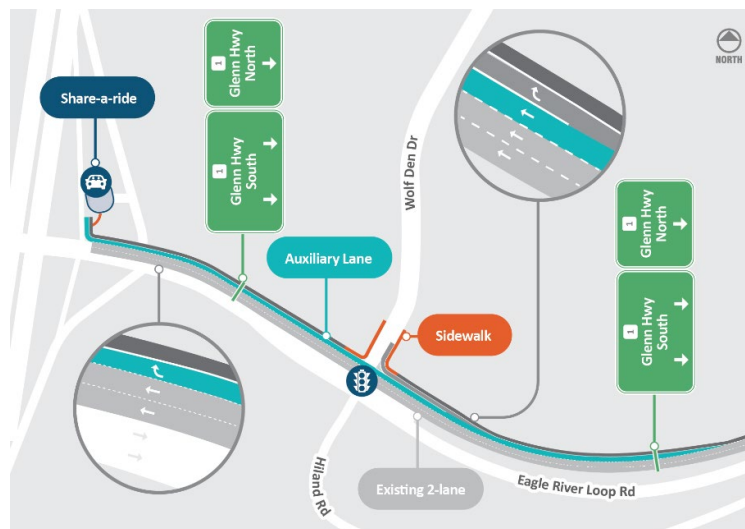
The northbound exit ramp would realign to the original design configuration to align the northbound exit and northbound entrance ramps. This reflects contemporary interchange design principles and reduced the risk of wrong way left-turn movements to the northbound ramp. This configuration operates most effectively in combination of relocating the VFW/Hesterberg Road intersection to Wolf Den Drive.





Wolf Den Drive Intersection

A Wolf Den Drive intersection would be modified by adding a westbound auxiliary lane along Eagle River Loop Road beginning east of the intersection and extending to the northbound ramp terminal intersection. The existing right turn lane would be converted to the auxiliary lane, and the existing right turn lane would be replaced adjacent to the auxiliary lane. Overhead sign bridges or side mounted signs would be added to guide drivers into the proper lanes based on their destination. This would improve lane utilization and traffic flow while reducing queuing; however, would result in an additional lane for pedestrians to cross.



Traffic Operations Strategy - Metering

The traffic operations strategy would provide gaps during morning peak flows by metering westbound traffic on Eagle River Loop Road. During peak periods the meter would alternately release traffic on each westbound lane. The metering would create breaks in the traffic platoon to support minor movements from the northbound and southbound ramps.





Comparative Assessment:

Following the presentation and discussion on the near-term interchange options, Brian shared how some options must be grouped together to be effective, while other treatments could potentially be stand alone. He shared conceptual level base cost estimates. He provided a comparative assessment of the no build, double left, loop ramp, and diverging diamond options. Each of the options addresses the project needs while having various tradeoffs and implementation consideration such as cost and footprint.

Long-Term Interchange Brainstorming:

Brian provided an overview of long-term interchange solutions, highlighting system versus service interchanges, roundabout versus ramp terminal intersections, high-capacity diamonds, and single loop cloverleaf. He shared what potential future interchanges could address future needs and be compatible with the near-term options. Because of the unique location of Eagle River Loop Road terminating at the Glenn Highway, many traditional interchange forms applicable at more traditional locations, where the cross street continues as part of the roadway network, are not appropriate at this specific location. However, at least three viable long-range options could be considered in the future when the interchange will be completely reconstructed. Those potential long-term options included a tight diamond, displaced left turn, and Par Clo (single Loop) interchanges. Brian shared a comparative assessment of how well the near-term interchange options would be compatible with potential long-term interchange reconstruction options.

Workshop Participant Comments:

Non-motorized transportation:

- Include non-motorized counts in the existing conditions.
- Improve inconsistent bicycle and pedestrian facilities.
- Improve winter maintenance for bicycle and pedestrian facilities.
- Enhancing the Park-n-Ride and transit opportunities for regional bicycle connectivity.

Public transportation:

- On VFW Road, one bus stop serves both northbound and southbound traffic.
- Maintain access to the Park-n-Ride off VFW Road.



Right-of-way:

- Coordinate early with Joint Base Elmendorf-Richardson (JBER) and Municipality of Anchorage (MOA) Landfill to acquire ROW. Changing JBER land ownership would require an Act of Congress
- Research land ownership and land use further than publicly available information located on MOA Geographic Information System (GIS).
- Questions on tribal land ownership.
- Concerns about potential impacts to Alaska Mental Health Trust Authority lands.

Potential impacts to underground electric transmission lines:

- Verify size and location of transmission lines and supporting equipment.

Previous and current plans and studies:

- Questions about canceled area Planning and Environmental Linkages (PEL) study.
- Anchorage Metropolitan Area Transportation Solutions (AMATS) does not have this project programed in the Transportation Improvement Program (TIP).

Anchorage School District (ASD):

- School start times will change next year. High schools will start at 8:30 a.m. instead of 7:30 a.m., which could increase pressure on the interchange during the morning peak hours.
- Concerns about impacts to Eagle River High School traffic with the concept to realign VFW to Wolf Den Drive.
- Concerns near-term concepts would push the traffic pinch-point further down the Glenn Highway.

Commercial vehicle considerations:

- Weigh station usage, particularly during peak morning traffic times.
- Over-height vehicle usage.
- Concerns with safety of proposed near-term concepts.
- Concerns with driver patterns, especially Alaska drivers' reluctance to embrace merging.

Traffic control:

- Signalize intersections.
- Coordinate traffic signals to meter or platoon traffic on Eagle River Loop Road.



- Consider a roundabout on the west side of the interchange to improve traffic flow.
- Concerns adding additional traffic lanes is contra to current practice.
- Concerns removing VFW Road direct access to Eagle River Loop Road would cause inefficiencies for emergency medical services.

Project Team Actions:

- Continue to involve DOT&PF ROW early in the process.
- Discuss improvement opportunities with MOA Public Transit.
- Coordinate with ASD Student Transportation and Eagle River High School.
- Model near-term concepts to measure improvements to traffic queueing, capacity, and safety.
- Project team is aware of Eklutna and Alaska Mental Health Trust Authority lands in the project area.
- Coordinate with AMATS to align priorities.
- Create graphics showing existing transit and non-motorized transportation facilities.

Closing Remarks:

Kelly closed the meeting by sharing what to expect over the next year, including public outreach, traffic capacity and safety analysis, concepts evaluation, Context Sensitive Solutions (CSS) process, and Open House No. 1. She thanked attendees for their helpful feedback and participation during the workshop.

Project Team Action Items:

- Post the Interchange Workshop Materials and Summary to the project website.
- Edit project graphics and presentation materials to correct errors:
 - Slide 33: Remove the stop line from the Southbound Ramp Terminal Intersection graphic.
 - Slide 34: Remove the AMATS call out from the VFW/Hesterberg Road graphic.
- Send out a follow up survey to workshop attendee list.



Glenn Highway & Hiland Road

Interchange Improvements

Interchange Workshop

Tuesday, April 30, 2024

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