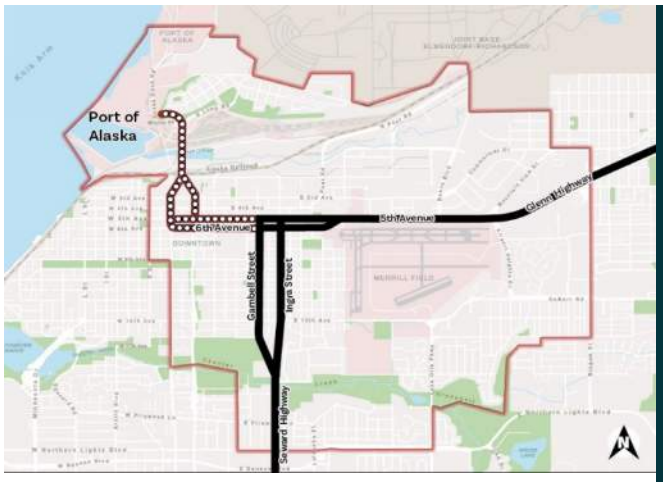

AMATS: Seward Highway to Glenn Highway Connection
Planning & Environmental Linkage Study
State Project No.: CFHWY00550
Federal Project No.: 0001653

Level 2 Screening and Recommendations Report

DRAFT

October 2025

This planning document may be adopted in a subsequent environmental review process in accordance with 23 USC 168 Integration of Planning and Environmental Review and 23 CFR 450 Planning Assistance and Standards.

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 USC 327 and a Memorandum of Understanding dated April 13, 2023, and executed by FHWA and DOT&PF.

Prepared for:

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Acronyms and Abbreviations

ADT	Average Daily Traffic
AMATS	Anchorage Metropolitan Area Transportation Solutions
DOT&PF	Alaska Department of Transportation and Public Facilities
FHWA	Federal Highway Administration
HOV	High Occupancy Vehicle
LOS	Level of Service
LTS	Level of Traffic Stress
MOA	Municipality of Anchorage
mph	miles per hour
MSB	Matanuska-Susitna Borough
MTP	Metropolitan Transportation Plan
N/A	not applicable
NHS	National Highway System
PEL	Planning and Environmental Linkages
POA	Don Young Port of Alaska
TIP	Transportation Improvement Program
UMED	University-Medical
USC	U.S. Code
VMT	vehicle miles traveled

Executive Summary

The Level 2 screening phase of the Seward Highway to Glenn Highway Planning and Environmental Linkages (PEL) Study evaluated five transportation alternatives to assess their performance across a range of criteria, including traffic, neighborhood impacts, freight mobility, environmental effects, and technical and economic criteria.

Summary of Alternatives Evaluated

Alternative 1: No Action maintains current conditions with no infrastructure changes. It avoids relocations and construction impacts but fails to address longstanding issues in the Fairview neighborhood, including poor pedestrian and vehicle safety, high traffic volumes, and neighborhood impacts from the current National Highway System (NHS) design. It offers no improvements to safety, livability, or mobility.

Alternative 2: 2050 Metropolitan Transportation Plan (MTP) is the adopted MTP for Anchorage. It introduces lane reductions with complete street design (bike and pedestrian improvements) on a number of streets within the study area and does not include a new regional connection for NHS traffic. While it reduces traffic volumes on Gambell and Ingra Streets, it diverts traffic to other corridors, increasing impacts in surrounding neighborhoods. Freight mobility and port access worsen in some directions, and overall performance ranks lowest among the Build alternatives.

Alternative 3: Transit Focus includes the 2050 MTP projects (except the lane reductions on 5th and 6th Avenues) but adds substantial increases in transit service and other features that improve non-single occupancy vehicle traffic. While it achieves the highest transit ridership among the Build options, it only slightly outperforms Alternative 2 in reducing traffic in Fairview. It also shifts more traffic to other corridors, thereby increasing neighborhood impacts elsewhere. Port-related benefits are mixed, and the primary port access route would require trucks to travel over five at-grade rail crossings, raising safety concerns and increasing freight travel times. Transit ridership gains are modest, limiting its effectiveness in supporting regional mobility, and are not sufficient to maintain the functionality of the NHS.

Alternative 4: Ingra Tunnel pairs lane reductions/complete streets with a new regional connection, improving traffic flow and reducing volumes on key Fairview corridors. It delivers balanced performance with improved port access, reduces traffic in Downtown and Fairview, and provides better internal mobility. However, it would require eight at-grade rail crossings to access the port and involves substantial construction and funding challenges. Despite these trade-offs, it aligns well with community goals for livability and connectivity.

Alternative 5: Fairview Bypass is the strongest performer across most metrics. It provides the greatest reductions in traffic volumes on Gambell and Ingra Streets, improves port travel times, and strengthens regional mobility. It introduces a new regional connection that effectively redistributes freight traffic, relieving pressure on Fairview and Downtown. While it involves the highest number of relocations and substantial construction impacts, its overall benefits to

neighborhood livability, freight efficiency, and regional connectivity and mobility make it the most comprehensive solution.

Recommendation

The evaluation in this report highlights a clear distinction between alternatives with and without a new regional connection. Alternatives 2 and 3 offer modest improvements but shift traffic impacts to other neighborhoods and fall short in supporting regional mobility. In contrast, Alternatives 4 and 5 pair road diets with new connections that relieve pressure on Fairview and maintain regional travel functionality.

Alternative 5 consistently ranks highest, offering the most substantive reductions in neighborhood traffic, best port access, and strongest regional connectivity. While it presents challenges related to displacement and environmental impacts, its overall performance makes it the recommended alternative for further consideration and refinement in the next phase of the study.

1 Introduction

The purpose of this report is twofold: (1) to describe the results of the Level 2 screening analysis that was used in the Seward-Glenn Connection Planning and Environmental Linkages (PEL) Study, and (2) to present draft study recommendations. The Level 2 screening process provides information on how the alternatives forwarded from the Level 1 screening compare against the project's purpose and need, environmental impacts, and costs.

Alternatives Development and Screening Process Overview

The alternatives development and screening process included several key steps: developing alternatives, conducting an Initial (Level 1) Fatal Flaw Screening, refining alternatives through engineering analysis, and performing a Level 2 Screening, the results of which are presented in this report. Figure 1 depicts the alternatives development process.

The Level 1 screening eliminated alternatives with fatal flaws and/or with environmental or community impacts so severe that they outweighed potential benefits. Commenters also suggested that new names should be considered to better convey the main theme of each alternative. Table **1** identifies the alternatives advanced from Level 1 to Level 2 (along with the new naming convention). For detailed information on the Level 1 screening results see the Seward-Glenn PEL Alternative Refinement & Initial Screening Report.

Table 1. Alternatives Advanced to Level 2

Previous Name	New Name
No Action	Alternative 1 No Action
MTP	Alternative 2 2050 MTP
MTP+	Alternative 3 Transit Focus
Parkway Alternative AB	Alternative 4 Ingra Tunnel
Parkway Alternative C	Alternative 5 Fairview Bypass

Note: MTP = Metropolitan Transportation Plan

The Level 2 screening evaluated these remaining alternatives in greater detail based on their ability to meet the purpose and need, environmental impacts, cost, and technical feasibility. This process resulted in the identification of recommendations. Table 2 lists the Level 2 screening criteria. For additional information about the screening criteria, please see the December 2024 Revised Recommended Alternative Selection Criteria Memo on the PEL Study website.

Figure 1. Alternatives Development Process

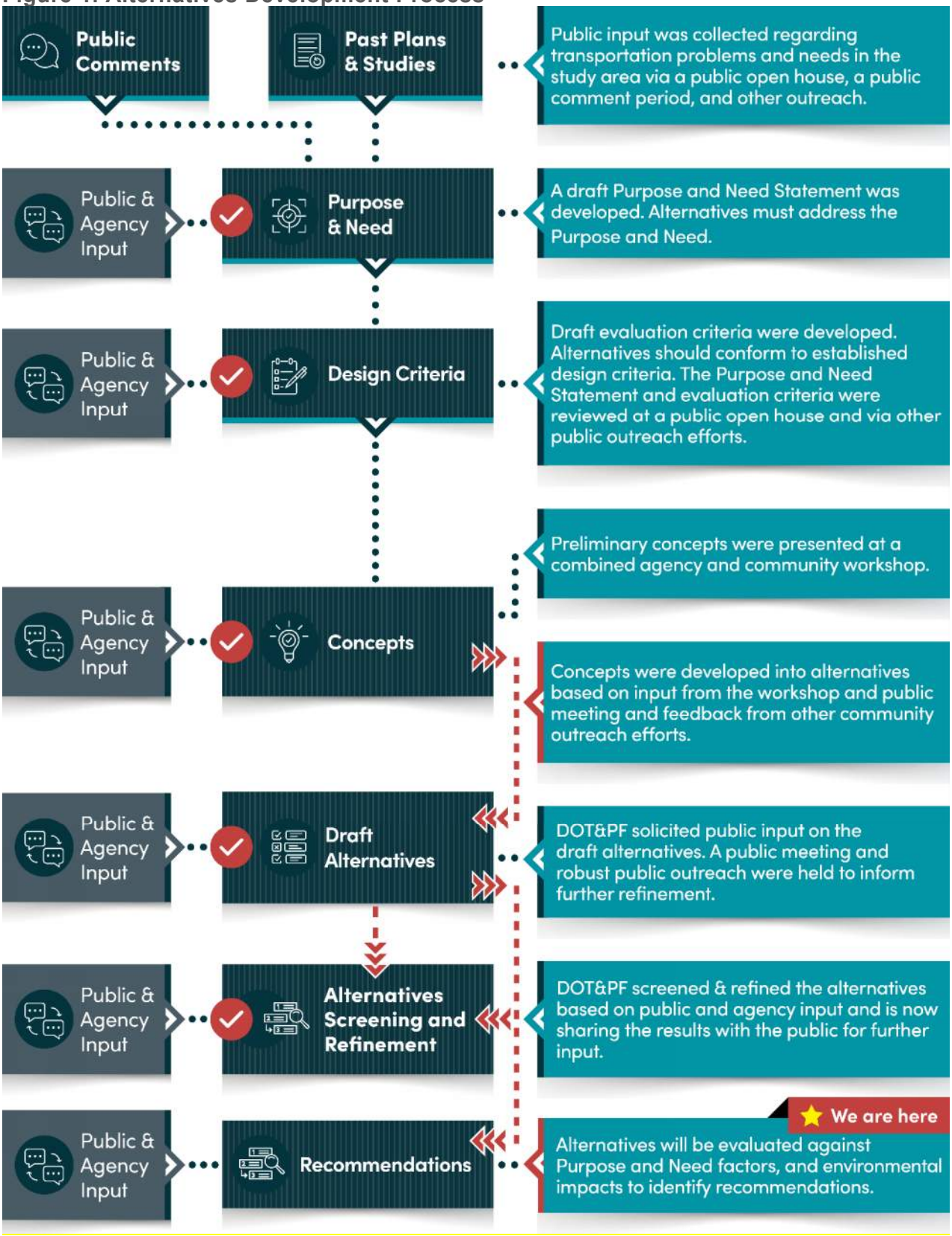


Table 2 Level 2 Screening Criteria

Safety
- Number of crashes with the Build Condition compared to the No Action Condition
- Number of conflict points (intersections) between vehicles and non-motorized users per mile of non-motorized infrastructure
- Number of vehicle conflict points with the Build Condition compared to the No Build Condition

Nonmotorized Mobility and Accessibility
- Pedestrian Level of Traffic Stress
- Bicycle Level of Traffic Stress

Port Mobility and Accessibility
- Peak period freight travel time
- Number of at-grade rail crossings

Vehicle Mobility and Accessibility
- Miles of roadway within study area that have a peak period Level of Service of D or better
- Peak period delay

Livability
- Consistency with adopted plans
- Reduction in study area vehicle miles traveled
- Right-of-way acreage of various land uses
- Number of dwelling units
- Numbers of businesses, including from low-income or minority areas
- Acres of roadway pavement fronting existing residential development
- Acres of greenspace provided
- Miles of new bikeway
- Miles of upgraded sidewalk/trail
- Change in truck traffic at 5th Avenue, Merrill Field, and Seward Highway/20th Avenue

Environmental Impacts
- Land use
- Social impacts
- Relocation impacts
- Economic impacts
- Joint development
- Impacts on pedestrians and bicyclists
- Air quality impacts
- Noise impacts
- Water quality impacts
- Permits
- Wetland impacts
- Water body modifications and wildlife impacts
- Floodplain impacts
- Historic and archaeological preservation
- Hazardous waste sites
- Visual impact
- Energy
- Construction impacts
- Relationship of local short-term uses versus long-term productivity
- Irreversible and irretrievable commitment of resources

Technical Feasibility
- Reasonableness of constructability considering available technology
- Presence of construction, operation, or maintenance constraints that cannot be overcome

Economic Feasibility
- Preliminary cost to construct alternative
- Preliminary cost to maintain alternative

Engineering Refinement

The PEL Study team conducted additional engineering and refinement of the alternatives that passed the Level 1 screening. The revisions were based on public comments and attempted to: (1) reduce costs; (2) avoid or reduce impacts on environmental resources; and (3) reflect additional focused outreach with People Mover, the freight community, Merrill Field, the Fairview Reconnecting Communities Grant team, and the public at the Anchorage and Matanuska-Susitna Borough (MSB) Transportation Fairs. Changes to the alternatives are summarized in the next section. To support alternatives screening, revised footprints were developed for alternatives involving roadway construction to calculate right-of-way and environmental impacts (see Appendix A). These updated alternatives were also used to generate traffic metrics. Modeling results are found in Appendix B.

2 Level 2 Alternatives

This section presents the alternatives that were advanced into the Level 2 screening, including a description of engineering refinements. Each alternative, except for Alternative 1, includes a number of potential improvements that could work together as a subarea plan to try to solve the problems identified in the PEL's Purpose and Need Statement. For full details, see the Purpose and Need Statement technical report available on the project website.

Alternative 1: No Action

This alternative is required by the National Environmental Policy Act and serves as a baseline for comparison with action alternatives. It tests what happens if no improvements are made to the National Highway System (NHS) connections between the Glenn Highway, Seward Highway, and Don Young Port of Alaska (POA). This alternative assumes that all of the Metropolitan Transportation Plan (MTP) 2050 projects are implemented **except** for any improvements to the NHS between the Glenn Highway, Seward Highway, and POA.

Regional Connection. No new or improved regional connection would be made to the NHS between the Seward and Glenn Highways. NHS traffic would continue to be routed on 5th and 6th Avenues and Gambell and Ingra Streets.

Gambell and Ingra Streets. No changes would be made to Gambell and Ingra Streets, which would remain an eight-lane couplet (four lanes north and four lanes south).

Hyder Pedestrian Boulevard/Fairview Greenway. The No Action Alternative assumes no planned projects would occur on 5th and 6th Avenues and Gambell and Ingra Streets. All other projects in the adopted 2050 MTP are assumed to occur, including the Hyder Pedestrian Boulevard/Fairview Greenway. See Alternative 2 for a description.

Fifth and Sixth Avenues. No changes would be made to 5th and 6th Avenues, which would remain three lanes in each direction east of Gambell Street.

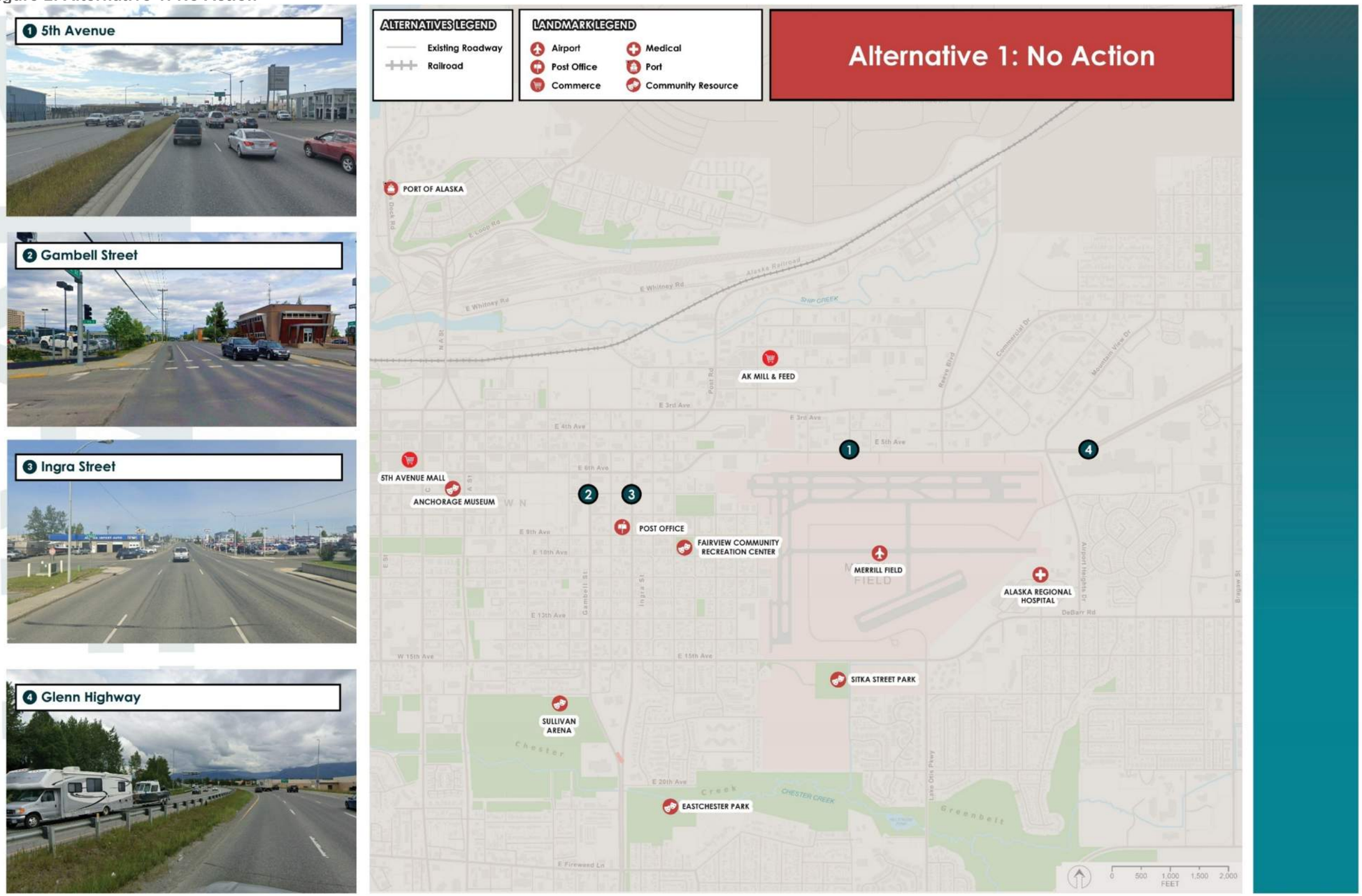
15th Avenue Improvements. The No Action Alternative only assumes no planned projects would occur on 5th and 6th Avenues and Gambell and Ingra Streets. All other projects in the adopted 2050 MTP are assumed to occur, including those along 15th Avenue. The 2050 MTP has a number of proposed improvements along 15th Avenue, which it describes as follows:

- 15th Avenue (LaTouche and Orca Streets): Construct a non-motorized overcrossing (Project #NMO006; $10 million)
- 15th Avenue (L Street to Gambell Street): Rehabilitate to a two-lane roadway with protected bike lanes; reduced speed; raised medians; and single lane roundabouts at K, E, and Cordova Streets; remove telephone poles, and add street lighting and crosswalk (Project #CPS006; $11 million)
- 15th Avenue Complete Street & North-South Crossing (Karluk Street to Orca Street): Reconstruct to remove a lane of traffic and add speed reduction, protected bike lanes, and pedestrian under/overpass crossings where possible (Project #CPS006; $5.4 million)

Port Connection. No new connection would be made between the POA and highway network. Port traffic would continue to use 5th and 6th Avenues and Ingra and Gambell Streets through Fairview and Downtown to access the A/C Bridge and port from the Seward and Glenn Highways.

Figure 2 depicts the No Action Alternative.

Figure 2. Alternative 1: No Action



Alternative 2: 2050 MTP

This alternative consists of all the improvements adopted in the Anchorage Metropolitan Area Transportation Solutions (AMATS) 2050 MTP – **with no changes** from the adopted plan.

Regional Connections. No new regional connection would be made for NHS traffic between the Seward and Glenn Highways. NHS traffic between the highways would continue to be routed on 5th and 6th Avenues and Gambell and Ingra Streets.

Gambell and Ingra Streets. Gambell and Ingra Streets would be reduced by one lane in each direction to create a six-lane couplet (three lanes north and three lanes south) (see Figure 3). The Ingra and Gambell Street improvements are described in the 2050 MTP as follows:

- Ingra Street (3rd Avenue to 15th Avenue): Rehabilitate Ingra Street to a three-lane boulevard and include separated non-motorized facilities (Project # CPS118; $37.5 million)
- Gambell Street (3rd Avenue to 15th Avenue): Rehabilitate Gambell Street to a three-lane boulevard and include separated non-motorized facilities (Project # CPS092; $37.5 million)

Figure 3. Gambell and Ingra Concept from the 2050 MTP

The 2050 MTP would remove one lane on Gambell and Ingra Streets to create a six-lane couplet, adding non-motorized improvements in the additional space provided. The AMATS Non-motorized Plan calls for a priority pedestrian corridor and bikeway on both Gambell and Ingra Streets. The graphic shows one possible configuration that fits within the existing 60-foot right-of-way on Gambell and Ingra Streets.

Hyder Pedestrian Boulevard/Fairview Greenway. The 2050 MTP includes phase 1 of a Fairview greenway and "woonerf" on Hyder Street (note that the plan does not identify additional phases beyond phase 1). In Fairview, a greenway trail is proposed to connect from Chester Creek Trail to Hyder Street, which is proposed to be transformed into a "woonerf," or "living street" that accommodates all users—drivers, cyclists, and pedestrians—in a shared space. The 2050 MTP describes these projects as follows:

- Fairview Greenway Phase I: Construct a separated pathway along the eastern side of Ingra Street from 20th Avenue to a point approximately 200 feet south of 15th Avenue,

where it enters an enhanced bike/pedestrian tunnel under Ingra Street. On the western side of Ingra, the pathway travels in a northwesterly direction to an enhanced tunnel under 15th Avenue and terminates at the surface of an improved Hyder Street (Project #NMO182; $11 million).

- Hyder Pedestrian Boulevard (15th Avenue to 5th Avenue): Convert into a pedestrian boulevard that encourages multimodal transportation and blends pedestrian and vehicle space ("woonerf" techniques) (Project #NMO220; $1.38 million).

Fifth and Sixth Avenues. Under Alternative 2, 5th and 6th Avenues would be reduced by one lane in each direction to create a four-lane arterial street from Reeve Boulevard on the east through Downtown to the west. In the space provided by the reduced lanes, non-motorized improvements would be made (see Figure 4). These projects are described in the 2050 MTP as follows:

- 5th and 6th Avenue Complete Streets (I Street to Reeve Boulevard): Remove a lane of traffic, slow speeds, add protected bike lanes, and upgrade pedestrian infrastructure; consider adding green scaping and urban tree planting (Project # CPS026; $55.8 million)

Figure 4. 5th Avenue Concept for the 2050 MTP Alternative

This graphic shows one possible cross section along 5th Avenue that fits within the 100-foot right-of-way.

15th Avenue Improvements. The 2050 MTP has a number of proposed improvements along 15th Avenue, which it describes as follows:

- 15th Avenue (LaTouche and Orca Streets): Construct a non-motorized overcrossing (Project #NMO006; $10 million)
- 15th Avenue (L Street to Gambell Street): Rehabilitate to a two-lane roadway with protected bike lanes; reduced speed; raised medians; and single-lane roundabouts at K, E, and Cordova Streets; remove telephone poles, and add street lighting and crosswalk (Project #CPS006; $11 million)
- 15th Avenue Complete Street and North-South Crossing (Karluk Street to Orca Street): Reconstruct to remove a lane of traffic and add speed reduction, protected bike lanes, and pedestrian under/overpass crossings where possible (Project #CPS006; $5.4 million)

Port Connection. No new regional connection would be made between the POA and highway network. Port traffic would continue to use 5th and 6th Avenues and Ingra and Gambell Streets through Fairview and Downtown to access the A/C Bridge and port from the Seward and Glenn Highways.

If none of the recommendations from this PEL Study move forward, the 2050 MTP as adopted would constitute the totality of the improvements on the NHS within the study area. See the 2050 MTP on AMATS website for details on the projects in the adopted plan.

Figure 5 depicts Alternative 2.

Figure 5. Alternative 2: 2050 MTP

Alternative 3: Transit Focus (Formerly MTP+)

Alternative 3 was created in response to public comments that suggested solving the problems identified in the purpose and need without making any new regional roadway connection but instead by enhancing the adopted 2050 MTP with robust transit-system improvements. A draft of this alternative was shared at the public meeting in December 2024, and the PEL Study team made refinements through coordination with People Mover to create the transit elements described below.

Regional Connections. This alternative starts with most of the adopted road and transit improvements in the 2050 MTP plus additional transit improvements described below. No new regional roadway connections would be made between the Seward and Glenn Highways, and NHS traffic would continue to be routed on 5th and 6th Avenues and Gambell and Ingra Streets. The transit enhancements include the following:

- Convert one lane in each direction on the Glenn Highway between Artillery Road and Ingra/Gambell Streets to High Occupancy Vehicle (HOV) lanes to promote carpooling and give buses priority to move through the corridor more efficiently. Note that this improvement to promote bus priority precludes taking two lanes off 5th and 6th Avenues between Gambell Street and Reeve Boulevard as called for in the 2050 MTP. This requires restriping the lanes, installing signage, and monitoring/enforcement.
- Maintain existing service between the MSB and Downtown Anchorage but increase frequency to every 30 minutes on weekdays (4:30 a.m. to 8:00 p.m.) and weekends (6:00 a.m. to 8:00 p.m.). Approximately eight additional buses would be needed to operate this service. Additional drivers would also be needed.
- Create a new route between the MSB and Ted Stevens Anchorage International Airport via the University-Medical (UMED) District and Midtown with the same frequency as the Downtown service. This route would create the need for 11 additional buses. Additional drivers would also be needed.
- Upgrade Route 92 transit service from Eagle River to Downtown and Midtown. Substantially increasing the frequency of this route requires an additional 13 buses and additional drivers. The Chugiak, Birchwood, and Eagle River park and ride facilities would also be improved.
- Introduce new express transit service from the Dimond Center to Downtown and Midtown via C Street. This route would require 4 additional buses and additional drivers.
- Establish new transit service connecting Downtown, Midtown, and UMED via Ingra and Gambell Streets and 36th Avenue with transit signal priority. This service would be a rapid transit service with 10-minute headways during the day. This service would require 11 additional buses as well as additional drivers. It would also require queue jump lanes and the installation of transit signal priority equipment on traffic signals along the route. In addition, there would be additional costs associated with the branding of the buses, routes, and bus stop amenities.
- Develop microtransit in East Eagle River, Eagle River, and Chugiak-Eagle River microtransit zones.
- Eliminate transit fares systemwide.

- Double the capacity of the rideshare program within the project corridor.
- Provide additional non-motorized and transit amenities.
- Increase support for remote activities such as telework, telemedicine, and e-learning.
- Create incentives to increase land development density to match or exceed targets in the 2040 Land Use Plan.

Gambell and Ingra Streets. This alternative varies from the 2050 MTP. It includes reducing the number of travel lanes on Gambell and Ingra Streets by two and reconstructing them as follows. Gambell Street would become a two-way street, with one lane north and one lane south and a 30-mile-per-hour (mph) speed limit. The area where the lanes are removed would be repurposed for sidewalks, parking, biking, or landscaping. Various non-motorized improvements, parking, and/or landscaping configurations are possible while still staying within the 60-foot right-of-way along Gambell Street (see Figure 6). Travel lanes on Ingra Street would also be reduced by two, and it would be reconstructed as a three-lane, 30-mph, two-way street (one lane north and one lane south) with a center, two-way, left-turn lane. Similar to Gambell Street, the area where the lanes would be removed would be repurposed for turning vehicles, sidewalks, parking, or landscaping. Various non-motorized improvements, parking, and/or landscaping configurations are possible while still staying within the 60-foot right-of-way along Ingra Street (see Figure 7).

Figure 6. Mainstreet Concept on Gambell Street

This graphic depicts one possible cross section for a Gambell Main Street. The AMATS Non-motorized Plan calls for a priority pedestrian corridor and bikeway on both Gambell and Ingra Streets.

Figure 7. Three-Lane Concept on Ingra Street

This graphic shows one potential cross section of Ingra Street looking north. The AMATS Non-motorized Plan calls for a priority pedestrian corridor and bikeway on both Gambell and Ingra Streets.

Hyder Pedestrian Boulevard/Fairview Greenway. Both the Fairview Greenway Trail from the 2050 MTP (Project #NMO182) and Hyder Pedestrian Boulevard or "woonerf" (Project #NMO220) are incorporated into this alternative. The Fairview Greenway Trail from the 2050 MTP (Project #NMO182) would be enhanced by extending it northward to create a continuous trail connection between the Ship Creek and Chester Creek Trails. This new non-motorized route would create a loop trail connecting through West Anchorage (Fairview Greenway/ Hyder Pedestrian Boulevard to Ship Creek Trail to Anchorage Coastal Trail to Chester Creek Trail).

Fifth and Sixth Avenues. As mentioned above, this alternative would convert one lane in each direction on the Glenn Highway between Artillery Road and Ingra and Gambell Streets to HOV lanes to promote carpooling and bus priority. This would preclude the 2050 MTP Complete Street project on 5th and 6th Avenues (Project # CPS026); 5th and 6th Avenues would remain six lanes (three each direction: two general purpose lanes and one HOV lane).

15th Avenue Improvements. The following projects from the 2050 MTP would be included and would not be affected by any regional connections. It is assumed they would be developed as described in the 2050 MTP:

- 15th Avenue (LaTouche and Orca Streets): Construct a non-motorized overcrossing (Project #NMO006; $10 million)
- 15th Avenue (L Street to Gambell Street): Rehabilitate to a two-lane roadway with protected bike lanes; reduced speed; raised medians; and single-lane roundabouts at K, E, and Cordova Streets; remove telephone poles, and add street lighting and crosswalk (Project #CPS006; $11 million)
- 15th Avenue Complete Street and North-South Crossing (Karluk Street to Orca Street): Reconstruct to remove a lane of traffic and add speed reduction, protected bike lanes, and pedestrian under/overpass crossings where possible (Project #CPS006; $5.4 million)

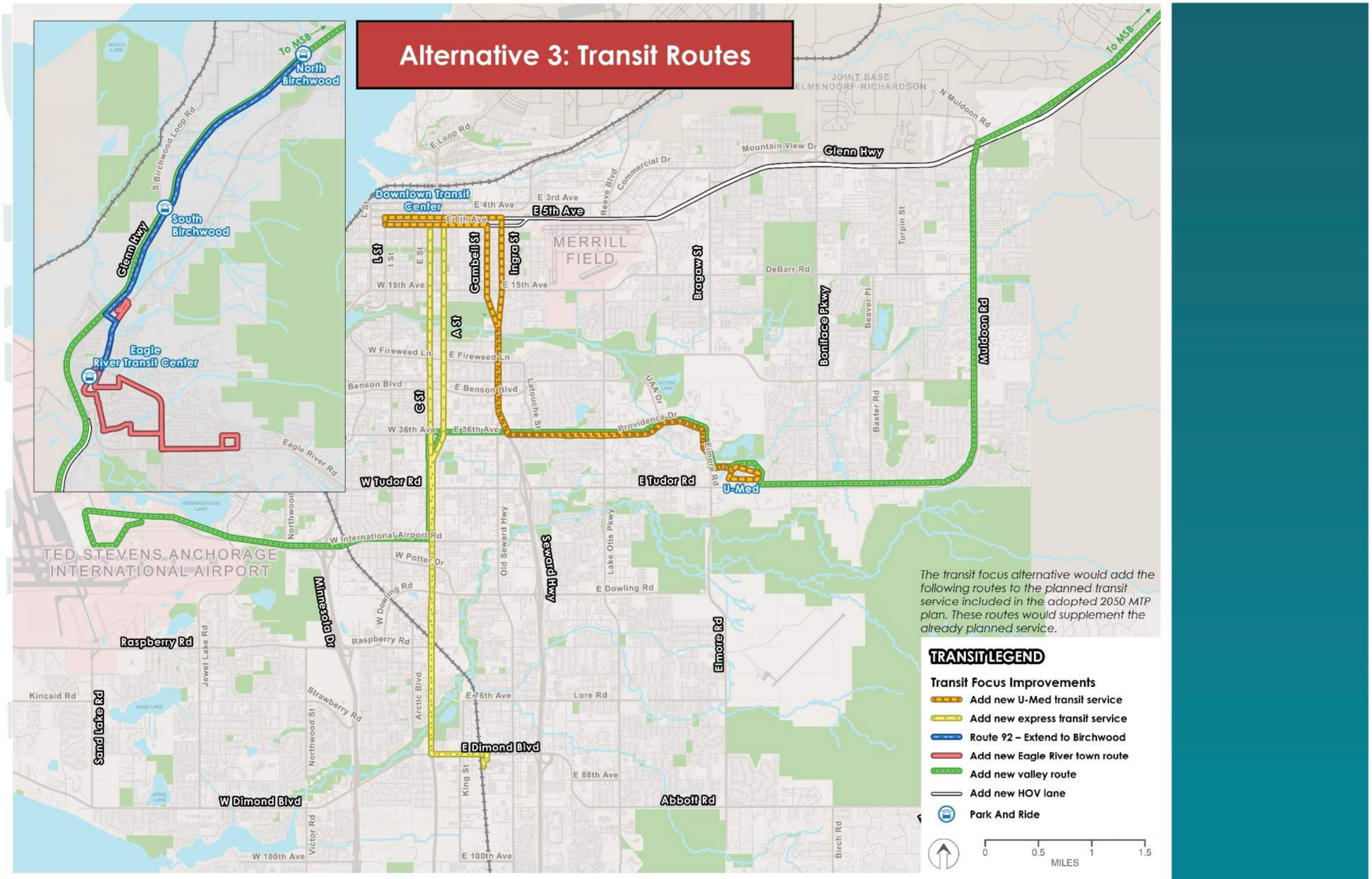
Port Connection. An improved port connection would extend Ingra and Gambell Streets northward on a bridge over the rail yard and Ship Creek/Ship Creek Trail to connect into Whitney Road. From there, trucks would access the POA via Whitney and Ocean Dock Roads[1]. Port traffic would continue to use 5th and 6th Avenues and Ingra and Gambell Streets through Fairview to access the new bridge to the POA from the Seward and Glenn Highways.

Figure 8 depicts a graphical plan view of Alternative 3, and Figure 9 shows transit routes added to the planned transit system from the 2050 MTP.

[1] The Alaska Department of Transportation and Public Facilities (DOT&PF) examined three potential alignments for the extension of Gambell and Ingra Streets northward over the Ship Creek bluff into the Ship Creek area. The connection to Whitney Road was identified as the leading alternative. For more information, see the Gambell-Ingra Extension Study Appendix C.

Figure 8. Alternative 3: Transit Focus

Figure 9. Alternative 3 Transit Route Additions



Alternative 4. Ingra Tunnel (Formerly Parkway AB)

This alternative includes all of the road and transit improvements in the 2050 MTP alternative but enhances the MTP with new or refined roadway improvements. This alternative is a refinement of the Parkway AB alternative, which was advanced from Level 1 Screening.

Regional Connection. A four-lane arterial connection/parkway is proposed. Starting from the south, a series of roundabouts are proposed along an extension of 16th Avenue. These connections would help to slow speeds, creating a transition between the Seward Highway and Gambell and Ingra Streets, and would improve connectivity to the Sullivan Arena and Mulcahy Sports Complex as well as and A and C Streets farther west. Northbound regional traffic would enter a tunnel south of 15th Avenue traversing underneath Ingra Street between 15th and 4th Avenues. The tunnel under Ingra Street would allow surface streets, utilities, and buildings to remain in place. Tunnel configuration is envisioned as a stacked tunnel (with opposing travel directions above and below each other). The Ingra Street tunnel would be constructed by using a special boring machine, rather than an open-cut trench, so as to be less disruptive to adjacent and overlying land uses, structures, and utilities. Transporting specific forms of hazardous materials in a tunnel would be a safety risk, so some freight would be prohibited from using the tunnel and would continue to use roadways permitted for such transport.

Upon exiting the tunnel, northbound travelers would enter a roundabout at 3rd Avenue/Post Road (previously there was an interchange proposed at this location). From there, the route would turn eastward, but instead of traversing below the bluff along 3rd Avenue (as previously envisioned in the Parkway AB alternative), the route would be on 3rd Avenue, which would be reconstructed as a four-lane parkway with bike lanes and pathways (see Figure 10). The route would then travel eastward along 3rd Avenue and through roundabouts at 3rd Avenue/Reeve Boulevard and Commercial Drive/Industrial Way (previously, this connection at the eastern end of the alignment to the Glenn Highway was proposed to be a tunnel).

Figure 10. Reconstructed 3rd Avenue as a Regional Parkway

This graphic shows one potential cross section of the parkway proposed for a reconstructed 3rd Avenue. Various non-motorized improvements and/or landscaping configurations are possible while still staying within the proposed 125-foot right-of-way.

Gambell and Ingra Streets. Gambell and Ingra Streets would be reconstructed the same as in Alternative 3, with two travel lanes removed on each street. Gambell Street would become a two-way street with one lane in each direction and a 30-mph speed limit. Ingra Street would also

become a two-way street with one lane in each direction and a center two-way, left-turn lane, also at 30 mph. In both cases, the space from the removed lanes would be repurposed for sidewalks, parking, biking, turning vehicles, or landscaping. Various configurations of non-motorized improvements and landscaping would be possible within the existing 60-foot right-of-way on both streets. Figure 6 and Figure 7 depict potential cross sections for Gambell and Ingra Streets, respectively.

Hyder Pedestrian Boulevard/Fairview Greenway. Both the Fairview Greenway Trail from the 2050 MTP (Project #NMO182) and Hyder Pedestrian Boulevard or "Woonerf" (Project #NMO220) are incorporated into this alternative. The Fairview Greenway Trail from the 2050 MTP (Project #NMO182) would be enhanced by extending it northward to create a continuous connection between the Ship Creek and Chester Creek Trails. This new non-motorized route would create a loop trail connecting through West Anchorage (Fairview Greenway/Hyder Pedestrian Boulevard to Ship Creek Trail to Anchorage Coastal Trail to Chester Creek Trail).

Fifth and Sixth Avenues. Similar to the 2050 MTP, this alternative would implement the lane reductions/complete streets project on 5th and 6th Avenues. The area where the lanes would be removed would be repurposed for turning vehicles, sidewalks, parking, or landscaping. Various non-motorized improvements, parking, and/or landscaping configurations are possible while still staying within the 100-foot right-of-way along 5th Avenue. This alternative would include the portion starting at Gambell Street but would extend it to Airport Heights Drive instead of ending at Reeve Boulevard as included in the 2050 MTP. See Figure 4 for a cross-section drawing of one potential configuration of a 5th Avenue complete street.

15th Avenue Improvements. The following projects from the 2050 MTP would be included and would not be affected by any regional connections. It is assumed they would be developed as described in the 2050 MTP:

- 15th Avenue (LaTouche and Orca Streets): Construct a non-motorized overcrossing (Project #NMO006; $10 million)
- 15th Avenue (L Street to Gambell Street): Rehabilitate to a two-lane roadway with protected bike lanes; reduced speed; raised medians; and single-lane roundabouts at K, E, and Cordova Streets; remove telephone poles, and add street lighting and crosswalk (Project #CPS006; $11 million)
- 15th Avenue Complete Street and North-South Crossing (Karluk Street to Orca Street): Reconstruct to remove a lane of traffic and add speed reduction, protected bike lanes, and pedestrian under/overpass crossings where possible (Project #CPS006; $5.4 million)

Port Access. Access to the POA in this alternative is proposed to be via the roundabout at 3rd Avenue/Post Road. Port traffic would connect to the POA via Post, Whitney, and Ocean Dock Roads (no improvements are proposed on these roads). From the 3rd Avenue/Post Road roundabout, trucks could travel in either direction on the new regional connection to get to the Seward or Glenn Highway.

Figure 11 depicts a plan view of Alternative 4, and a conceptual design drawing can be found in Appendix B.

Figure 11. Alternative 4: Ingra Tunnel

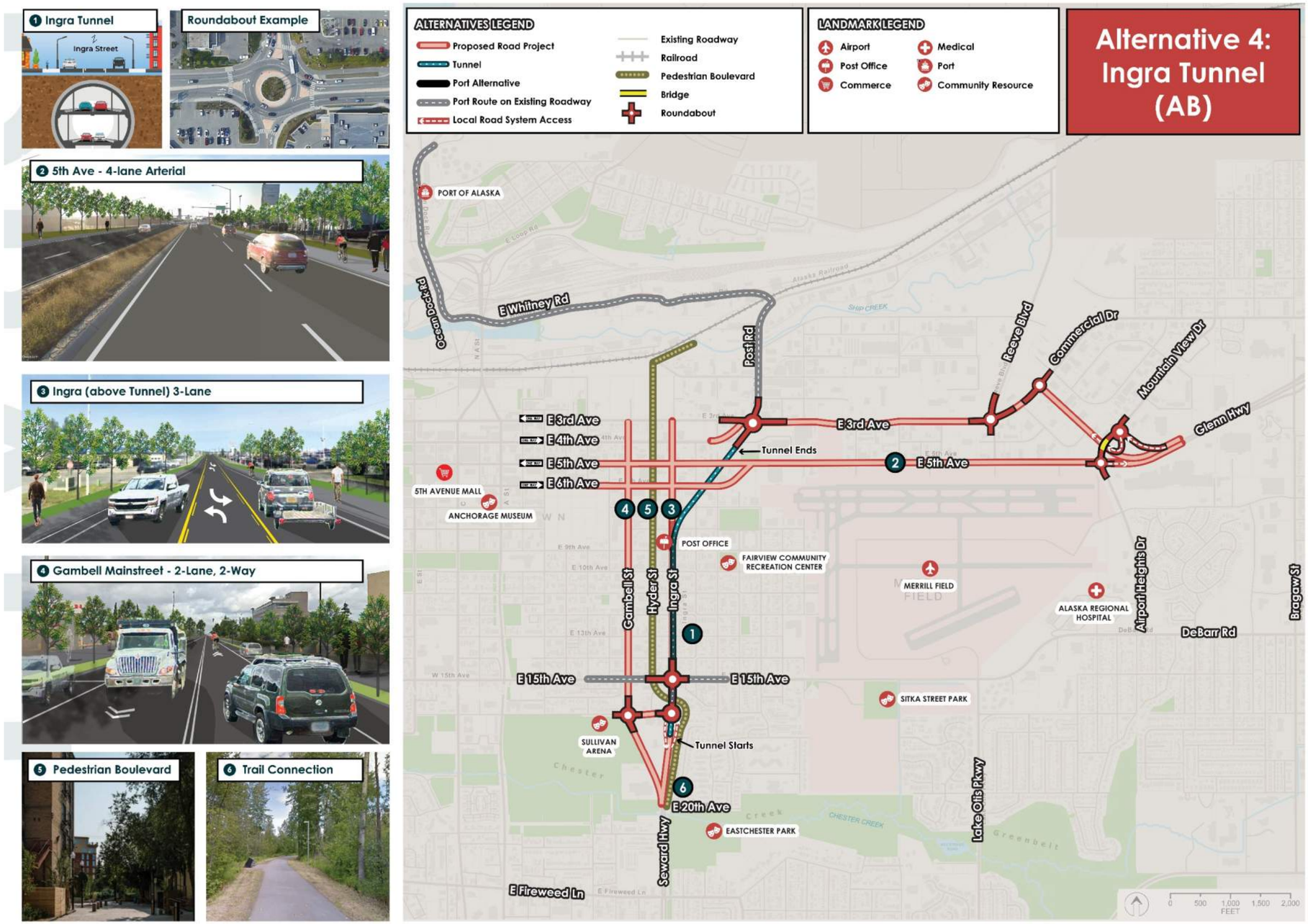
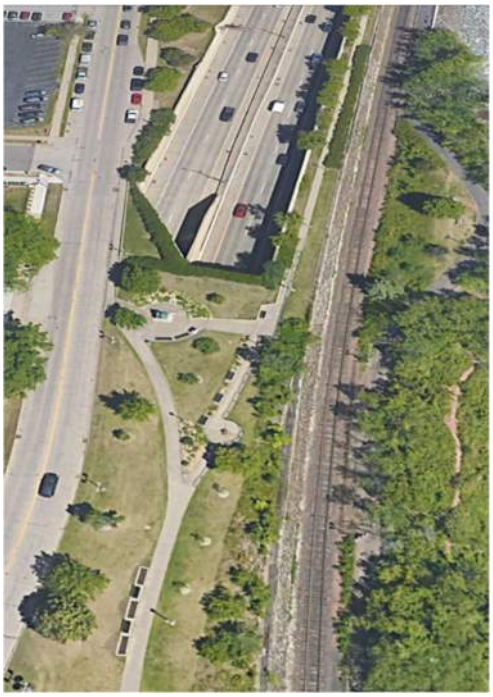


Figure 12. Example Cut-and-Cover Park in Duluth, Minnesota



This image depicts the concept proposed for crossings of Karluk and Medfra Streets. The extra-wide bridges would allow for a separated trail and landscaping and shield the surface users from the traffic below.

Alternative 5. Fairview Bypass (Formerly Parkway C)

The Fairview Bypass is based on a refinement of Parkway Alternative C that was advanced from Level 1 screening.

Regional Connection. A four-lane arterial connection/ parkway is proposed. Starting from the south, a series of roundabouts are proposed along an extension of 16th Avenue. These connections would slow speeds, creating a transition between the Seward Highway and Gambell and Ingra Streets. These changes would also improve connectivity to the Sullivan Arena and Mulcahy Sports Complex as well as A and C Streets farther west.

Figure 13. Proposed Bridge - Example is Island Crest Way over I-90, Seattle, Washington.

This image depicts the concept proposed for crossings of Karluk and Medfra Streets. The extra-wide bridges would allow for a separated trail and landscaping and shield the surface users from the traffic below.

From there, the route would traverse northward, following an alignment on Ingra Street. In the previous Parkway C design, the route turned eastward in a tunnel under 15th Avenue. Because of the expense of bored tunnel construction, the route is now proposed to be in a depressed section of roadway cut along 15th Avenue. Over the top of the depressed section, bridges and parks would be built to maintain neighborhood connectivity between the northern and southern sides of the depressed section

One westbound and one eastbound lane of 15th Avenue would be relocated north and south of the depressed roadway section, respectively. Those lanes would connect to the Fairview Bypass route via ramps just east of

Orca Street. Only one lane in each direction is proposed for the relocated 15th Avenue (in keeping with a lane reduction for 15th Avenue called for in the 2050 MTP).

Starting east of Orca Street, the alternative would include a new four-lane parkway traversing south and east of Merrill Field to the Glenn Highway. This alternative would connect to Lake Otis Parkway, Penland Parkway, and 5th Avenue using roundabouts (see Figure 14).

Gambell and Ingra Streets. Gambell and Ingra Streets would be reconstructed the same as in Alternatives 3 and 4, with two travel lanes removed on each street. Gambell Street would become a two-way street with one lane in each direction and a 30-mph speed limit. Ingra Street would also become a two-way street with one lane in each direction and a center two-way, left-turn lane, also at 30 mph. In both cases, the space from the removed lanes would be repurposed for sidewalks, parking, biking, turning vehicles, or landscaping. Various configurations of non-motorized improvements and landscaping would be possible within the existing 60-foot right-of-way on both streets. Figure 6 and Figure 7 depict this alternative's potential streetscape changes to Gambell and Ingra Streets, respectively.

Figure 14. Potential Parkway South and East of Merrill Field

This graphic shows one potential cross section of the Fairview Bypass, which is proposed as a parkway. Various non-motorized improvements and/or landscaping configurations are possible while still staying within the proposed 125-foot right-of-way south and east of Merrill Field.

Hyder Pedestrian Boulevard/Fairview Greenway. Both the Fairview Greenway Trail from the 2050 MTP (Project #NMO182) and Hyder Pedestrian Boulevard or "Woonerf" (Project #NMO220) would be incorporated into this alternative. The Fairview Greenway Trail from the 2050 MTP (Project #NMO182) would be enhanced by extending it northward to create a continuous trail connection between the Ship Creek and Chester Creek Trails. This new non-motorized route would create a loop trail connecting through West Anchorage (Fairview Greenway/Hyder Pedestrian Boulevard to Ship Creek Trail to Anchorage Coastal Trail to Chester Creek Trail).

Fifth and Sixth Avenues. This alternative would implement the same lane reductions/complete street project on 5th and 6th Avenues as Alternatives 2 and 4. The area where the two lanes would be removed would be repurposed for turning vehicles, sidewalks, parking, or landscaping. Various non-motorized improvements, parking, and/or landscaping configurations are possible while still staying within the 100-foot right-of-way along Ingra Street. This alternative includes the portion starting at Gambell Street but would extend it to Airport Heights Drive instead of

ending at Reeve Boulevard as included in the 2050 MTP. See Figure 4 for a cross-section drawing of one potential configuration on 5th Avenue.

Port Connection. The connection to the POA is proposed to start at a roundabout on the Glenn Highway, traversing northwestward under Mountain View Drive, continuing in a depressed section under Commercial Drive, where it would continue to a roundabout with Reeve Boulevard and Viking Drive. The route traverses Viking Drive and turns northward to cross Ship Creek, Post Road, and the Alaska Railroad on a bridge. From there, the route traverses the northern side of the rail yard to a roundabout intersection with East Loop Road, which leads to the existing ramp connections to the port. This new port connection would have sidewalks on both sides of the road, which would provide improved pedestrian access to the Ship Creek Trail from both the Government Hill and Mountainview neighborhoods.

Figure 15 depicts Alternative 5, and a conceptual design drawing can be found in Appendix B.

Figure 15. Alternative 5: Fairview Bypass

3 Level 2 Screening

The Level 2 screening evaluated the alternatives that were carried forward from Level 1 screening in greater detail based on their ability to meet the purpose and need, environmental impacts, cost, and technical feasibility.

Travel-Related Metrics

Safety

Safety is a key focus of this study and one of the corridor needs. The Seward-Glenn Highway corridor accommodates both regional and local travel, making vehicle and pedestrian safety a critical consideration. To assess how each alternative may impact safety, crash estimates were used to evaluate potential improvements.

Crash Reduction Potential

Safety is a central focus of this corridor study, given the mix of regional and local travel along the Seward-Glenn Highway corridor. To evaluate how each alternative may improve safety, crash estimates were generated to compare expected crash frequency under Build conditions versus the No Action Alternative. Reducing crashes, especially in high-volume areas, supports the study's goal of enhancing overall system safety but especially on the NHS connection between the Seward and Glenn Highways.

Conflict Point Implications

Conflict points are locations where vehicles may interact with pedestrians, bicyclists, or other vehicles. These interactions, particularly at intersections, can lead to crashes. Alternatives that reduce conflict points, especially those involving non-motorized users, are expected to improve safety and reduce crash potential throughout the corridor.

The number of conflict points between vehicles and pedestrians is highest under the No Action Alternative (1,280), indicating the greatest crash risk. All Build alternatives reduce the number of conflict points, with Alternative 5 (Fairview Bypass) performing best by lowering them to 1,007. Alternative 2 (2050 MTP), Alternative 3 (Transit Focus), and Alternative 4 (Ingra Tunnel) also reduce conflict points but to a lesser degree, ranging between 1,068 and 1,112. Since more conflict points translate to greater exposure and higher crash risk, the Build alternatives all represent safety improvements compared to doing nothing, with Alternative 5 offering the largest reduction. Table 3 presents the safety screening results for Alternatives 1 through 5 (note, Table 3 through Table 10 are included before the Level 2 Screening Results Summary).

Non-Motorized Mobility and Access

To evaluate how each alternative supports non-motorized travel, the screening process included criteria related to pedestrian and bicycle mobility and accessibility. These criteria focus on Level of Traffic Stress (LTS) for both pedestrians and bicyclists, which measures the comfort and safety of walking or biking along and across the corridor. LTS is calculated using factors such as

the number of lanes, posted speed limits, roadway functional classification, and the presence and quality of dedicated non-motorized infrastructure. Lower LTS values indicate a more comfortable and accessible environment for walking and biking, aligning with the purpose and need and the Municipality of Anchorage's (MOA's) goals for livability and multimodal connectivity. This analysis is focused on Ingra Street, Gambell Street, 3rd Avenue, 5th and 6th Avenues, and 15th Avenue and uses the highest Annual Average Daily Traffic on the road segment. Table 3 shows the LTS results.

All Build alternatives improve pedestrian and bicycle LTS compared to the No Action Alternative, but to varying degrees. Alternative 5 (Fairview Bypass) performs best overall, reducing LTS to the lowest across nearly all corridors, particularly on 15th Avenue and Gambell and Ingra Streets. Alternatives 3 (Transit Focus) and 4 (Ingra Tunnel) rank next, both achieving major reductions on the north-south streets. Alternative 4 is the only option that reconstructs 3rd Avenue, which explains why it is the sole alternative showing any improvement there. Alternative 2 (2050 MTP) provides some reductions but is less effective, ranking behind the others. Alternative 1 (No Action) maintains high LTS throughout, offering no improvement for non-motorized mobility and access.

Taken together, the evaluation shows that all Build alternatives improve conditions for non-motorized users compared to No Action Alternative by both reducing pedestrian-vehicle conflict points and lowering pedestrian and bicycle LTS. While each alternative offers some benefits, Alternative 5 (Fairview Bypass) consistently performs best overall, providing the greatest reduction in crash risk as well as the lowest LTS for walking and biking. Alternatives 3 (Transit Focus) and 4 (Ingra Tunnel) also deliver meaningful improvements, particularly along the major north–south corridors, while Alternative 2 (2050 MTP) shows more modest gains. In contrast, the No Action Alternative maintains the highest risk and least supportive conditions for non-motorized mobility.

Port Mobility and Accessibility

To assess how well each alternative supports freight access and goods movement to and from the POA, the screening process included measures focused on port mobility and accessibility. These include peak-period freight travel time and the number of at-grade rail crossings. Freight travel time evaluates how efficiently trucks can move between the POA and Seward and Glenn Highways under each alternative, using travel demand modeling to estimate changes. The number of at-grade rail crossings is measured along the proposed truck route serving the POA evaluated as part of each alternative, as these crossings can pose safety risks and contribute to travel delays. Together, these measures reflect the reliability, safety, and efficiency of freight access to the POA—critical factors in supporting economic activity at the regional and statewide level. These measures are also important because freight haulers prioritize travel time, and shorter travel times are more likely to be used by freight haulers. Alternatives that increase the number of at-grade rail crossings would be less likely to attract truck trips because most commercial vehicles are required to stop at railroad crossings, and they present greater safety implications. Table 3 presents the results.

When comparing POA travel times to the No Action Alternative, Alternative 2 (2050 MTP) generally maintains similar travel times to and from the POA; however, two of the trips measured do perform slightly worse, earning it lower rankings on the key segments measured. Alternative 3 (Transit Focus) shows modest improvements between the Seward Highway and the POA but performs worse than the No Action Alternative in others, particularly from the POA to the highway corridors, resulting in the lowest rankings for those segments. Alternative 4 (Ingra Tunnel) offers some improvement, especially for travel to the POA, but still underperforms in the reverse direction. In contrast, Alternative 5 (Fairview Bypass) consistently outperforms the No Action Alternative, delivering the best travel times across nearly all port routes and earning top rankings, making it the strongest option for freight mobility. This advantage is reinforced by POA traffic volumes; Alternative 5 shows strong usage of the new regional connection (1,508 vehicles), while also reducing traffic on key corridors such as Post Road and the A/C Viaduct, suggesting a redistribution of freight flows away from Downtown and Fairview.

Alternative 3 also introduces a new connection with even higher volumes (2,478 vehicles), but its overall performance is mixed. In terms of at-grade rail crossings, the No Action Alternative and Alternatives 2 (2050 MTP) and 5 (Fairview Bypass) each maintain a single crossing, indicating no change and earning them the highest ranking for this criterion. Alternative 3 (Transit Focus), however, introduces five at-grade crossings, and Alternative 4 (Ingra Tunnel) increases that number to eight, both of which are considered worse than the No Action Alternative, which is why they received lower rankings. This suggests that Alternatives 3 and 4 may pose greater safety and mobility concerns related to rail interactions, while Alternatives 2 and 5 do as well as the No Action Alternative (which uses the A/C Bridge). Table 4 provides POA-related traffic volumes.

Vehicle Mobility and Accessibility

To evaluate how each alternative supports efficient vehicle travel, the screening includes measures related to vehicle mobility and accessibility. These include: the number of roadway miles operating at Level of Service (LOS) D or better during peak periods; the number of miles not operating at an acceptable level (LOS E or F); and the total peak-period delay. LOS reflects traffic congestion levels, with LOS D generally considered an acceptable threshold for urban corridors. Peak-period delay captures the additional travel time experienced due to congestion. Both measures rely on outputs from the travel demand model. Together, they provide insight into how well each alternative maintains acceptable travel through the study area. Table 3 presents the results.

Alternative 5 (Fairview Bypass) introduces a new regional connection between the Seward and Glenn Highways, which substantially increases traffic volumes within the study area. While this enhances regional connectivity and access, it also leads to higher vehicle delay (805 daily hours and 80 peak hours) and more segments operating at lower LOS (LOS E or F), making it the lowest-ranked alternative for delay. In contrast, Alternatives 2 (2050 MTP) and 3 (Transit Focus) do not include a regional connection, which causes traffic to bypass the constrained study area. As a result, they show relatively better delay and LOS metrics, though these improvements reflect traffic avoidance rather than actual congestion relief. Alternative 4 (Ingra Tunnel) offers a

more balanced outcome, with the best daily delay reduction (482 hours) and improved LOS, without significantly increasing traffic volumes, making it a strong performer in terms of internal mobility and efficiency.

Across the evaluated transportation alternatives, Alternative 5 (Fairview Bypass) emerges as the strongest option for improving freight mobility and reducing traffic through the Fairview neighborhood, though it comes with trade-offs. It consistently delivers the best POA travel times and highest regional connection usage, while significantly reducing traffic volumes on Gambell and Ingra Streets and 5th Avenue, which are key corridors targeted for relief. However, its enhanced connectivity also draws more vehicles into the study area, resulting in higher delay and congestion. Alternatives 2 (2050 MTP) and 3 (Transit Focus) show better internal delay and LOS metrics, but largely because traffic avoids the constrained area due to the absence of regional connections. Alternative 4 (Ingra Tunnel) offers a balanced performance, with strong delay reduction and meaningful traffic relief in Fairview. In terms of safety, Alternatives 2 and 5 maintain the existing number of at-grade rail crossings, while Alternatives 3 and 4 introduce new crossings that may increase conflict points. Overall, the alternatives reflect different priorities for regional mobility, neighborhood impact, and internal study area efficiency, requiring careful consideration of trade-offs to meet project goals.

Livability

Recently adopted community plans and input received from the public envision improving neighborhood redevelopment, community cohesion, and quality of life in Fairview. A key to improving livability is to implement the projects and improvements in adopted plans**.** Planned improvements and policies in adopted plans are intended to realize the vision established for the city's future. The construction and operation of transportation facilities can have positive and negative effects on the ability for that vision to be created. Table 5 summarizes each alternative's effects with respect to relevant plans.

Table 6 presents a comparison of transportation alternatives based on their potential impacts on neighborhood livability. Each alternative is evaluated using a range of metrics that reflect both physical changes to the built environment and broader community effects. These include changes in vehicle miles traveled (VMT) within the study area; right-of-way acquisition needs; and the number of residential and business relocations, highlighting those occurring within low-income or minority communities. Additional indicators consider the extent of roadway pavement adjacent to residential areas, the amount of greenspace that each alternative would provide (essentially a measure of the amount of space available for landscaping/buffers that enhance the streetscape), improvements to non-motorized infrastructure, and anticipated changes in truck traffic in Fairview and potential traffic diversion into other neighborhoods. Together, these metrics help assess how each alternative may influence quality of life, community cohesion, and access to non-motorized transportation options.

While Alternatives 2 (2050 MTP) through 5 (Fairview Bypass) are generally consistent with adopted transportation plans, only Alternatives 3 (Transit Focus), 4 (Ingra Tunnel), and 5 go beyond baseline consistency to deliver improvements that align more closely with the community's vision. Alternative 2 would remove one lane from both Gambell and Ingra Streets,

creating a six-lane couplet, down from the current eight lanes, but still falling short of the desired "main street" character desired. Pedestrians would still need to cross six lanes of traffic, with only modest safety and livability changes. In contrast, Alternatives 3, 4, and 5 transform Gambell and Ingra Streets into two-way, two-lane streets, slower speeds, and enhanced pedestrian infrastructure, creating a safer and more vibrant streetscape. These alternatives also extend complete street improvements from Reeve Boulevard to Airport Heights Drive, incorporating multiple planned projects and improving connectivity. Notably, Alternatives 3, 4, and 5 also include a northern extension of the Fairview Greenway to Ship Creek Trail, forming a circular regional trail loop via Chester Creek and the Coastal Trail. While Alternative 3 has a conflict with the 5th Avenue lane reduction project adopted in the 2050 MTP to create space for HOV lanes, Alternatives 3, 4, and 5 still provide substantial added benefits that exceed the scope of the adopted plans and better reflect community priorities for multimodal access, safety, and neighborhood livability.

Overall, the differences among the alternatives are relatively small when viewed against total study area and regional VMT levels. Alternatives 2 (2050 MTP) and 3 (Transit Focus) slightly reduce VMT, with Alternative 3 offering the greatest (though still modest) reductions, suggesting a better alignment with travel demand management and sustainability goals. In contrast, Alternatives 4 (Ingra Tunnel) and 5 (Fairview Bypass) increase VMT, with Alternative 5 showing the largest increases, which supports vehicle mobility but at the cost of higher overall traffic volumes. The choice between them ultimately reflects whether the priority is reducing driving demand (Alternatives 2 and 3) or maintaining NHS function and driver convenience (Alternatives 4 and 5).

Compared to the No Action Alternative, the Build alternatives result in both increases and decreases in traffic volumes that reflect how each option redistributes travel patterns. Where traffic volumes increase, the alternatives are diverting vehicles onto those corridors, which may heighten traffic-related impacts on surrounding neighborhoods, including safety concerns, and noise and air quality effects. Where traffic volumes decrease, the alternatives are pulling vehicles off those routes, reducing traffic-related impacts and providing corresponding benefits for nearby residents. The magnitude of change matters; larger increases or reductions in traffic volumes translate into greater impacts or benefits. In general, Alternatives 2 (2050 MTP) and 3 (Transit Focus) show increases in diverted traffic, suggesting adverse neighborhood effects outside of Fairview. Alternative 4 (Ingra Tunnel) creates a mix of increases and reductions depending on the corridor. Alternative 5 (Fairview Bypass) produces the most substantial reductions across many locations, suggesting the greatest potential for neighborhood benefits. Table 7 and Table 8 present the traffic diversion data at key locations.

A central goal of the project is to reduce traffic on Gambell and Ingra Streets, which all of the Build alternatives achieve to some degree. However, the evaluation also shows that Alternatives 2 (2050 MTP) and 3 (Transit Focus) accomplish these reductions while, at the same time, diverting more traffic to other corridors. These diversions result in the greatest increases elsewhere within the study area, creating new traffic-related impacts for surrounding neighborhoods. In contrast, Alternatives 4 (Ingra Tunnel) and 5 (Fairview Bypass) reduce volumes on Gambell and Ingra Streets while generally limiting increases to other locations. Alternative 5, in particular, provides the most significant reductions on Gambell and Ingra

Streets without large offsets in other corridors, aligning most closely with the project goal of reducing impacts in the Fairview neighborhood without shifting those impacts onto other streets.

Environmental Impacts

The Level 2 screening criterion "Environmental Impacts" presented in the December 2024 *Revised Recommended Alternative Selection Criteria Memorandum* includes a measure of impacts on the human and natural environment. These measures are presented in terms of the potentially significant impact categories listed in the Federal Highway Administration's (FHWA's) *Technical Advisory (T 6640.8A): Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987). Certain categories from that guidance that are not applicable to the study area, and are not discussed further: farmland impacts, wild and scenic rivers, coastal barriers, and coastal zone impacts

The No Action Alternative maintains existing conditions without introducing new infrastructure or environmental disturbances. Its primary advantage is the absence of relocations, construction impacts, or resource commitments. However, it fails to address critical issues in the Fairview neighborhood, including poor pedestrian safety, persistent air and noise pollution, and limited mobility options. Community cohesion remains low due to the continued presence of regional traffic bisecting the area. This alternative offers no improvements to livability, accessibility, or environmental quality, making it the least responsive to long-standing community concerns.

Alternative 2 (2050 MTP) introduces moderate improvements to pedestrian and bicycle infrastructure, enhances public safety, and supports redevelopment opportunities along key corridors. It maintains zero relocations and has minimal environmental impacts, making it a low-impact option. However, Fairview remains bisected by regional, NHS traffic, and congestion may shift air quality and noise impacts to other neighborhoods. While it aligns with adopted plans and improves multimodal connectivity, the benefits are incremental and do not fully resolve the core livability and environmental challenges facing Fairview.

Alternative 3 (Transit Focus) emphasizes transit accessibility, offering benefits for mobility-hindered populations and improving multimodal infrastructure. It results in one commercial relocation and supports redevelopment and joint development opportunities. Public safety and community cohesion are moderately improved through traffic calming and complete street designs. However, regional traffic still bisects Fairview, and environmental improvements are modest. Overall, it offers meaningful social benefits with limited environmental trade-offs, but because the transit improvements do not generate meaningful ridership, regional, NHS function is an issue.

Alternative 4 (Ingra Tunnel) provides substantial improvements to Fairview by removing regional traffic via a tunnel, significantly enhancing air quality, noise levels, public safety, and community cohesion. It supports multimodal infrastructure and redevelopment, with four commercial relocations. However, it involves a major construction effort, particularly from tunneling and intersection work, and raises environmental concerns related to subsurface disruption. While it demands considerable resources, the long-term benefits to livability and environmental quality make it a strong candidate for transformative change.

Alternative 5 (Fairview Bypass) is the most transformative alternative, removing substantial amounts of regional traffic from Fairview and maximizing improvements in livability, safety, and multimodal connectivity. It supports redevelopment and long-term environmental benefits within the neighborhood. However, it comes with the highest displacement—20 residential and 2 commercial relocations—and substantial construction impacts. Environmental concerns include potential effects to water quality and poor subsurface conditions through the former landfill near Merrill Field. Despite its complexity and potential disruptions, this alternative offers the most comprehensive solution to Fairview's long-standing transportation and environmental challenges.

Table 9 presents additional details on each alternative's effects with respect to the environmental impact criteria.

Technical and Economic Feasibility

To assess the practicality of implementing each alternative, the screening process includes criteria related to technical and economic feasibility. Technical feasibility considers whether an alternative can be reasonably constructed, operated, and maintained using available technologies and within known constraints. This includes evaluating constructability challenges and identifying barriers that could limit long-term operability or require complex construction methods. Economic feasibility focuses on the preliminary costs to construct and maintain each alternative. These cost estimates help determine whether the investment is appropriate relative to the expected benefits and whether funding is likely to be attainable.

Table 10 evaluates each alternative's feasibility from both technical and economic perspectives.

Table 3. Level 2 Travel-Related Screening Data

Criterion	Alternative 1 No Action	Alternative 2 2050 MTP	Rank	Alternative 3 Transit Focus	Rank	Alternative 4 Ingra Tunnel	Rank	Alternative 5 Fairview Bypass	Rank
Predicted Number of Crashes (2050) North of Tudor – all major roads	1,220	1,216 Improved from No Action	3	1,262 Worse than No Action	4	1,208 Improved from No Action	2	1,168 Improved from No Action	1
Predicted Number of Crashes (2050): Gambell, Ingra, 5th, 6th	117	102 Improved from No Action	4	71 Improved from No Action	3	57 Improved from No Action	2	52 Improved from No Action	1
Number of Conflict Points Between Vehicles and Pedestrians	1280 Conflict Points	1,068 Conflict Points Improved from No Action	2	1,104 Conflict Points Improved from No Action	3	1,112 Conflict Points Improved from No Action	4	1,007 Conflict Points Improved from No Action	1
Non-motorized Mobility and Access: Pedestrian LTS | Bicycle LTS	—	—	—	—	—	—	—	—	—
• Ingra Street	4 | 4	3 | 4 Improved from No Action	4	2 | 1 Improved from No Action	1	2 | 1 Improved from No Action	1	2 | 1 Improved from No Action	1
• Gambell Street	4 | 4	3 | 4 Improved from No Action	4	2 | 1 Improved from No Action	1	2 | 1 Improved from No Action	1	2 | 1 Improved from No Action	1
• 5th/6th Avenue	4 | 4	3 | 4 Improved from No Action	1	4 | 4 Same as No Action	4	3 | 4 Improved from No Action	1	3 | 4 Improved from No Action	1
• 15th Avenue	3 | 4	2 | 3 Improved from No Action	2	2 | 3 Improved from No Action	2	2 | 4 Improved from No Action	4	1 | 2 Improved from No Action	1
• 3rd Avenue	– | 4	4 | 4 Same as No Action	2	4 | 4 Same as No Action	2	3 | 2 Improved from No Action	1	4 | 4 Same as No Action	2
Port Mobility and Accessibility: Peak Period Freight Travel Time	—	—	—	—	—	—	—	—	—
• Glenn Highway/Airport Heights to POA (shortest path)	9.4 Minutes	9.4 Minutes Same as No Action	2	9.5 Minutes Worse than No Action	3	9.0 Minutes Improved from No Action	1	9.0 Minutes Improved from No Action	1
• POA to Glenn Highway/Airport Heights (shortest path)	8.2 Minutes	8.2 Minutes Same as No Action	1	8.7 Minutes Worse than No Action	4	8.2 Minutes Same as No Action	1	8.2 Minutes Same as No Action	1
• Seward Highway/20th Avenue to POA (shortest path)	7.7 Minutes	7.9 Minutes Worse than No Action	4	7.5 Minutes Improved from No Action	2	7.5 Minutes Improved from No Action	2	6.8 Minutes Improved from No Action	1
• POA to Seward Highway/20th Avenue (shortest path)	7.5 Minutes	7.7 Minutes Worse than No Action	2	8.3 Minutes Worse than No Action	4	7.7 Minutes Worse than No Action	2	6.0 Minutes Improved from No Action	1
Number of At-grade Rail Crossings	1	1 Same as No Action	1	5 Worse than No Action	3	8 Worse than No Action	4	1 Same as No Action	1
Study Area Miles of Roadway with a Peak Period LOS of D or Better	33.6 Miles	33.5 Miles Worse than No Action	4	36.7 Miles Improved from No Action	4	36.9 Miles Improved from No Action	2	38.1 Miles Improved from No Action	1
Miles of Roadway with a Peak Period LOS of E or F	0.7 Mile	0.9 Mile Worse than No Action	1	1.1 Miles Worse than No Action	2	1.3 Miles Worse than No Action	3	2.2 Miles Worse than No Action	4
2050 Study Area Vehicle Hours of Delay (Peak Hour)	48 hours	55 hours Worse than No Action	3	48 hours Same as No Action	1	49 hours Worse than No Action	2	80 hours Worse than No Action	4
2050 Study Area Vehicle Hours of Delay (Daily)	499 hours	583 hours Worse than No Action	3	583 hours Worse than No Action	2	482 hours Improved from No Action	1	805 hours Worse than No Action	4
2050 Regionwide Vehicle Hours of Delay (Daily)	5,160	5,320 Worse than No Action	2	7,300 Worse than No Action	4	5,180 Improved from No Action	1	5,620 Worse than No Action	3
2050 Study Area Vehicle Hours of Travel (Peak Hour)	1,503	1,490 Improved from No Action	2	1,436 Improved from No Action	1	1,498 Improved from No Action	3	1,498 Improved from No Action	3
2050 Study Area Vehicle Hours of Travel (Daily)	18,400	18,300 Improved from No Action	3	17,700 Improved from No Action	1	18,200 Improved from No Action	2	18,400 Same as No Action	4
2050 Regionwide Vehicle Hours of Travel (Daily)	190,600	190,800	3	191,900	4	190,300	2	189,700	1

Criterion	Alternative 1 No Action	Alternative 2 2050 MTP	Rank	Alternative 3 Transit Focus	Rank	Alternative 4 Ingra Tunnel	Rank	Alternative 5 Fairview Bypass	Rank
Transit Boardings (Daily)	13,730	13,740 Improved from No Action	2	14,707 Improved from No Action	1	13,723 Worse than No Action	3	13,595 Worse than No Action	4
Average Daily Traffic (2050)	—	—	—	—	—	—	—	—	—
• Seward Highway & 20th Avenue	121,500	89,900	—	75,900	—	52,800	—	84,700	—
• Gambell/Ingra & 13th Avenue (Total)	54,500	31,400 Improved from No Action	4	13,555 Improved from No Action	2	26,700 Improved from No Action	3	16,000 Improved from No Action. Reduces Fairview traffic most	1
• 5th Avenue along Merrill Field	62,900	52,700 Improved from No Action	4	44,453 Improved from No Action	3	38,700 Improved from No Action	2	28,100 Improved from No Action Reduces Fairview traffic most	1
• Glenn Highway & Airport Heights	70,700	69,000	—	68,900	—	67,100	—	94,500	—
• Regional Connection (Midway) How much traffic does the alternative attract?	N/A (No new regional connection)	N/A (no new regional connection)	4	N/A (no new regional connection but has improved transit) Attracts 985 new boardings per day	3	25,000 ADT Second most attractive to traffic	2	77,700 ADT Most attractive to traffic	1

Motes: ADT = Average Daily Traffic; N/A = not applicable

Legend	
	Metric is the same as the No Action or was not ranked
	Better than No Action
	Worse than No Action

Table 4. Port Traffic

Location	Alternative 1 No Action	Alternative 2 2050 MTP		Rank	Alternative 3 Transit Focus		Rank	Alternative 4 Ingra Tunnel		Rank	Alternative 5 Fairview Bypass		Rank
	Daily Truck Volume	Daily Truck Volume	Difference from No Action		Daily Truck Volume	Difference from No Action		Daily Truck Volume	Difference from No Action		Daily Truck Volume	Difference from No Action	
A/C Viaduct (Downtown Impact)	4,810	4,850	40	4	4,806	-4	3	4,290	-520	1	4,780	-30	2
Post Road North of 3rd Avenue (North Fairview Impact)	11,710	11,890	180	4	8,838	-3,052[a]	1	10,590	-1,120	3	9,740	-1,970	2
New Connection	N/A	N/A	N/A	—	2,478	N/A	—	N/A	N/A	—	1,508	N/A	—

Note: N/A = not applicable

[a] Alternative 3 had the greatest reduction coming into Fairview along Post Road, but essentially shifted a good portion of that traffic to the extension of Gambell and Ingra Streets.

Legend	
	Metric is the same as the No Action or was not ranked
	Better than No Action
	Worse than No Action

Table 5. Consistency with Adopted Plans

Planned Improvement	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
2050 MTP					
5th & 6th Avenue Complete Streets (I Street to Reeve Boulevard) – Remove a lane of traffic, slow speeds, add protected bike lanes, and upgrade pedestrian infrastructure; consider adding greenscaping and urban tree planting (Project #CPS026)	No changes would occur under the No Action	This project is in the 2050 MTP.	To improve transit speed and reliability, an HOV lane would be constructed, leaving no room for the complete street elements in the segment.	This project is part of this alternative from Gambell Street to Airport Heights Drive.	This project is part of this alternative from Gambell Street to Airport Heights Drive.
Ingra Street (3rd Avenue to 15th Avenue) – Rehabilitate Ingra Street to a 3-lane boulevard and include separated non-motorized facilities (Project #CPS118)	No changes would occur under the No Action	This project is in the 2050 MTP. Removes 1 lane for non-motorized/ streetscape improvements. Creates 6-lane couplet with Gambell Street.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.
Gambell Street (3rd Avenue to 15th Avenue) – Rehabilitate to a 3-lane boulevard and include separated non-motorized facilities. (Project #CPS092)	No changes would occur under the No Action	This project is in the 2050 MTP. Removes 1 lane for non-motorized/ streetscape improvements. Creates 6-lane couplet with Ingra Street.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.
Gambell and Ingra Streets (East 16th Avenue to East 3rd Avenue) – Construct pedestrian infrastructure (Project #NMO193)	Inconsistent. No changes would occur under the No Action	This project is in the 2050 MTP. Removes 1 lane for non-motorized/ streetscape improvements. Creates 6-lane couplet with Ingra Street.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.	Removes 2 lanes for non-motorized/ streetscape improvements. Creates 2-way, 2-lane street with center turn lane.
10th Avenue (Gambell/Ingra Streets) – Install non-motorized crossing infrastructure at the intersections (Project #NMO001)	Inconsistent. No changes would occur under the No Action	This project is in the 2050 MTP. Pedestrians cross 3 lanes of 1-way traffic on both Gambell and Ingra Streets.	This project is part of this alternative from Gambell Street to Airport Heights Drive. Pedestrians cross 2 lanes of 2-way traffic.	This project is part of this alternative from Gambell Street to Airport Heights Drive. Pedestrians cross 2 lanes of 2-way traffic.	This project is part of this alternative from Gambell Street to Airport Heights Drive. Pedestrians cross 2 lanes of 2-way traffic.
Fairview Greenway Phase 1 (Project #NMO182)	This project is not affected by this alternative	Phase 1 of the greenway is in the 2050 MTP	This project is incorporated into the alternative. The greenway trail would be extended from Chester Creek to Ship Creek.	This project is incorporated into the alternative. The greenway trail would be extended from Chester Creek to Ship Creek.	This project is incorporated into the alternative. The greenway trail would be extended from Chester Creek to Ship Creek.
15th Avenue Complete Street & North-South Crossing (Karluk Street to Orca Street) – Reconstruct to remove a lane of traffic and add speed reduction, protected bike lanes, and pedestrian under/overpass crossings where possible (Project #CPS008)	This project is not affected by this alternative	This project is in the 2050 MTP.	This project is not affected by this alternative.	This project is not affected by this alternative.	This alternative reduces 15th Avenue to 1 lane in each direction but uses much of the current streetscape/buffer for the regional connection and adds cut-and-cover parks.
Hyder Pedestrian Boulevard (15th Avenue to 5th Avenue) – Convert into a pedestrian boulevard that encourages multimodal transportation and blends pedestrian and vehicle space ("woonerf" techniques) (Project #NMO220)	This project is not affected by this alternative	This project is in the 2050 MTP.	This project is incorporated into the alternative. A greenway trail would be extended from Chester Creek to Ship Creek as part of the woonerf.	This project is incorporated into the alternative. A greenway trail would be extended from Chester Creek to Ship Creek as part of the woonerf.	This project is incorporated into the alternative. A greenway trail would be extended from Chester Creek to Ship Creek as part of the woonerf.
15th Avenue at Sitka Street Intersection – Construct non-motorized crossing infrastructure (Project #NMO007)	This project is not affected by this alternative	This project is in the 2050 MTP.	This project is not affected by this alternative	This project is not affected by this alternative	This project is incorporated into the alternative.

Planned Improvement	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Anchorage Land Use Plan Map					
Ingra Street Greenway Supportive Development Corridor	No changes would occur under the No Action	Consistent (although the corridor is now proposed to occur on Hyder Street)	Consistent (although the corridor is now proposed to occur on Hyder Street)	Consistent (although the corridor is now proposed to occur on Hyder Street)	Consistent (although the corridor is now proposed to occur on Hyder Street)
15th Avenue Transit Supportive Development Corridor	This project is not affected by this alternative	A study is planned in the MTP; however, no transit supportive capital investment is identified in the MTP.	This project is not affected by this alternative	This project is not affected by this alternative	This alternative would construct bus supporting infrastructure and improved non-motorized access between Ingra Street and Lake Otis Parkway
Gambell Main Street Corridor	No changes would occur under the No Action	A 3-lane couplet pair is in the adopted 2050 MTP. Does not meet the vision the neighborhood has for a main street.	A 2-lane, 2-way main street is incorporated into the alternative and is consistent with the neighborhood vision.	A 2-lane, 2-way main street is incorporated into the alternative and is consistent with the neighborhood vision.	A 2-lane, 2-way main street is incorporated into the alternative and is consistent with the neighborhood vision.
AMATS Non-motorized Plan					
Gambell Street Separated Bikeway: East 15th Avenue to East 3rd Avenue (Project #43)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.
Gambell Street Priority Pedestrian Corridor: East 16th Avenue to East 3rd Avenue (Project #49)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.
Ingra Street Separated Bikeway: East 6th Avenue to East 3rd Avenue (Project #162)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.
Ingra Street Separated Bikeway: East 6th Avenue to East 3rd Avenue (Project #163)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.
Ingra Street Priority Pedestrian Corridor: East 15th Avenue to East 5th Avenue (Project #51)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.	This project is incorporated into the alternative.
East 3rd Avenue Priority Pedestrian Corridor: Gambell Street to C Street (Project #4)	This project is not affected by this alternative	This project is not affected by this alternative	This project is not affected by this alternative.	This project is incorporated into the alternative.	This project is not affected by this alternative
East 3rd Avenue Priority Pedestrian Corridor: Post Road to Gambell Street (Project #41)	This project is not affected by this alternative	This project is not affected by this alternative	This project is not affected by this alternative.	This project is incorporated into the alternative.	This project is not affected by this alternative
East 4th Avenue Priority Pedestrian Corridor: East 3rd Avenue to L Street (Project #6)	This project is not affected by this alternative	This project is not affected by this alternative	This project is not affected by this alternative.	This project is partially incorporated into the alternative.	This project is not affected by this alternative
East 5th Avenue Priority Pedestrian Corridor: Reeve Boulevard to L Street (Project #5)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project conflicts with this alternative because of the HOV lane.	This project is incorporated into the alternative and extends the corridor to Airport Heights.	This project is incorporated into the alternative and extends the corridor to Airport Heights.
East 5th Avenue Separated Bikeway: Karluk Street to M Street (Project #36)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project conflicts with this alternative because of the HOV lane.	This project is incorporated into the alternative.	This project is incorporated into the alternative.
East 6th Avenue Priority Pedestrian Corridor: Reeve Boulevard to L Street (Project #5)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project conflicts with this alternative because of the HOV lane.	This project is incorporated into the alternative.	This project is incorporated into the alternative.

Planned Improvement	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
East 6th Avenue Separated Bikeway: Karluk Street to L Street (Project #40)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project conflicts with this alternative because of the HOV lane.	This project is incorporated into the alternative and extends the corridor to Airport Heights.	This project is incorporated into the alternative and extends the corridor to Airport Heights.
East 5th Avenue Separated Bikeway: Karluk Street to Mountainview Drive (Project #37)	No changes would occur under the No Action	This project is incorporated into the alternative.	This project conflicts with this alternative because of the HOV lane.	This project is incorporated into the alternative and extends the corridor to Airport Heights.	This project is incorporated into the alternative and extends the corridor to Airport Heights.
East 15th Avenue Separated Bikeway: Ingra Street to Merrill Field Drive (Project #10)	This project is not affected by this alternative	This project is not affected by this alternative.	This project is not affected by this alternative.	This project is not affected by this alternative.	This project is incorporated into the alternative.

Legend	
	Project is not affected by the alternative
	Project is consistent with the Alternative
	Project is enhanced by the Alternative
	Project has consistency issues

Table 6. Livability Screening Data

	Alternative 1. No Action	Alternative 2. 2050 MTP	Rank	Alternative 3. Transit Focus	Rank	Alternative 4. Ingra Tunnel	Rank	Alternative 5. Fairview Bypass	Rank
Change in VMT compared to the No Action Alternative in 2050	—	—	—	—	—	—	—	—	—
• PM Peak hour VMT (Study Area)	40,600	39,900	—	38,500	—	41,500	—	43,200	—
○ Difference from No Action	N/A	-700 (1.7%) Better than No Action	2	-2,100 (5%) Better than No Action	1	900 (2%) Worse than No Action	3	2,600 (6%) Worse than No Action	4
• Daily VMT (Regionwide)	7,875,300	7,867,000	—	7,811,400	—	7,878,400	—	7,900,800	—
○ Difference from No Action	N/A	-8,300 (0.1%) Better than No Action	2	-63,900 (0.8%) Better than No Action	1	3,100 (0.03%) Worse than No Action	3	25,500(0.3%) Worse than No Action	4
Right-of-way acreage of various land uses	—	—	—	—	—	—	—	—	—
• Residential	0	0	—	0.4	—	0	—	0.5	—
• Commercial	0	0	—	0	—	0.35	—	>0.1	—
• Industrial	0	0	—	0	—	5.3	—	>0.1	—
• Park	0	0	—	0	—	0	—	1.3	—
• Other	0	0	—	5.9	—	0.8	—	23.8	—
Right-of-Way (acres) to be acquired	0	0	1	Mainline 0 POA Access 6.3	2	Mainline 6.4 POA Access 0	3	Mainline 25.6 POA Access 16.4	4
Dwelling units (#) to be relocated	0	0	1	0	1	0	1	20	4
Business relocations (#)	0	0	1	1	1	4	3	2	4
Relocations (Business & Residential) from low-income/ minority area (#)	0	0	1	0 residential 1 business	2	0 residential 4 business	4	0 residential 2 business	3
Acres of roadway pavement fronting residential development	8.7	7.3 Better than No Action	2	7.6 Better than No Action	4	7.4 Better than No Action	3	7.2 Better than No Action	1
Acres of greenspace[a]	3.7	8.1 Better than No Action	4	9.4 Better than No Action	3	14.7 Better than No Action	2	15.7 Better than No Action	1
Linear miles of new/upgraded non-motorized infrastructure	14.2	19.0 Better than No Action	3	15.0 Better than No Action	4	22.6 Better than No Action	2	23.6 Better than No Action	1
Truck traffic (both directions)	—	—	—	—	—	—	—	—	—
• Seward Highway & 20th Avenue[b]	164	130	—	99	—	170	—	134	—
• Gambell & Ingra Streets at 13th Avenue	169	128 Better than No Action	4	93 Better than No Action	3	85 Better than No Action	2	55 Better than No Action	1
• 5th Avenue along Merrill Field	43	21 Better than No Action	1	33 Better than No Action	2	60 Worse than No Action	4	39 Worse than No Action	3
• Glenn Highway & Airport Heights Drive[b]	65	65	—	58	—	103	—	61	—

Notes: N/A = not applicable

[a] Acres of greenspace. This metric measures the amount of area available for buffers, planting strips, etc. given the available right-of-way and proposed cross-section (excludes port connections).

[b] Truck traffic on the highway is appropriate.

Legend	
	Metric is the same as the No Action or was not ranked
	Better than No Action
	Worse than No Action

Table 7. Livability Screening Data: 2050 Average Daily Traffic at Select Locations

Location	Alternative 1 No Action	Alternative 2 2050 MTP	Rank	Alternative 3 Transit Focus	Rank	Alternative 4 Ingra Tunnel	Rank	Alternative 5 Fairview Bypass	Rank
Boniface Parkway south of Glenn Highway	22,800	24,300	3	25,400	4	22,400	2	17,500	1
Boniface Parkway south of Debarr Road	33,200	34,200	3	35,600	4	32,600	2	25,900	1
Bragaw Street south of Glenn Highway	23,600	24,400	2	28,000	3	28,300	4	16,700	1
Bragaw Street south of Penland Parkway	20,400	21,300	2	36,100	4	25,100	3	11,700	1
Bragaw Street south of Debarr Road	35,000	36,200	2	39,200	4	38,000	3	25,100	1
Airport Heights Drive south of Penland Parkway	28,100	32,700	3	36,100	4	24,300	2	21,700	1
Lake Otis Parkway south of Debarr Road	20,200	22,300	3	22,500	4	15,400	1	21,500	2
East 15th Avenue west of Lake Otis Parkway	12,700	15,700	1	19,100	2	20,200	3	77,700*	4
Northern Lights Boulevard west of Bragaw Street	46,400	47,300	2	50,800	4	49,200	3	34,000	1
Northern Lights Boulevard west of Lake Otis Parkway	25,800	24,100	3	26,800	4	20,800	2	20,300	1
A Street north of East 15th Avenue	28,600	34,800	3	35,800	4	29,700	2	26,100	1
C Street north of East 15th Avenue	16,300	23,100	3	25,600	4	21,100	2	20,700	1
East 5th Avenue west of C Street	18,000	17,200	4	17,000	3	13,900	1	15,000	2
East 6th Avenue west of C Street	8,800	7,900	2	8,100	3	8,100	4	7,600	1
East 3rd Avenue west of Reeve Boulevard	14,300	17,500	3	15,300	2	37,700*	4	12,200	1
East 5th Avenue along Merrill Field	62,900	52,700	4	46,000	3	38,700	2	28,100	1
Gambell Street north of 13th Avenue	28,700	15,100	4	4,700	1	8,900	3	7,900	2
Ingra Street north of 13th Avenue	25,800	16,300	3	13,600	2	17,800	4	8,100	1
Karluk Street north of 15th Avenue	1,500	1,900	4	1,800	3	300	1	900	2
Total Rank (lower is better)	**—**	**—**	**55**	**—**	**63**	**—**	**49**	**—**	**23**

* This link is on the new regional parkway connection

Legend	
	Better (Lower Volume) than No Action
	Worse (Higer Volume) than No Action

For additional information on traffic see the Traffic Modeling Report in Appendix B

Table 8. Livability Screening Data: 2050 Traffic Diversion Difference from the No Action

Location	1. No Action	2. 2050 MTP	Rank	3. Transit Focus	Rank	4. Ingra Tunnel	Rank	5. Fairview Bypass	Rank
Boniface Parkway South of Glenn Highway	22,800	1,400 (+6.1%)	3	2,600 (+11.4%)	4	-500 (-2.2%)	2	-5,300 (-23.2%)	1
Boniface Parkway South of Debarr Road	33,200	1,000 (+3.0%)	3	2,400 (+7.2%)	4	-600 (-1.8%)	2	-7,200 (-21.7%)	1
Bragaw Street South of Glenn Highway	23,600	800 (+3.4%)	2	4,200 (+17.8%)	3	4,600 (+19.5%)	4	-7,000 (-29.7%)	1
Bragaw Street South of Penland Parkway	20,400	900 (+4.4%)	2	4,200 (+20.6%)	3	4,700 (+23.0%)	4	-8,700 (-42.6%)	1
Bragaw Street South of Debarr Road	35,000	1,100 (+3.1%)	3	4,200 (+12.0%)	4	3,000 (+8.6%)	2	-10,000 (-28.6%)	1
Airport Heights Drive South of Penland Parkway	28,100	4,600 (+16.4%)	3	8,000 (+28.5%)	4	-3,900 (-13.9%)	2	-6,400 (-22.8%)	1
Lake Otis Parkway South of Debarr Road	20,200	2,000 (+9.9%)	3	2,200 (+10.9%)	4	-4,800 (-23.8%)	1	1300 (+6.4%)	2
15th Avenue West of Lake Otis Parkway	12,700	3,000 (+23.6%)	1	6,500 (+51.2%)	2	7,500 (+59.1%)	3	65,000 (+512%)[a]	4
Northern Lights Boulevard West of Bragaw Street	46,400	900 (+1.9%)	2	4,300 (+9.3%)	4	2800 (+6.0%)	3	-12,500 (-26.9%)	1
Northern Lights Boulevard West of Lake Otis Parkway	25,800	-1,700 (-6.6%)	3	1,000 (+3.9%)	4	-5,000 (-19.4%)	2	-5,500 (-21.3%)	1
A Street North of 15th Avenue	28,600	6,200 (+21.7%)	3	7,200 (+25.2%)	4	1,100 (+3.8%)	2	-2,500 (-8.7%)	1
C Street North of 15th Avenue	16,300	6,900 (+42.3%)	3	9,300 (+57.1%)	4	4,900 (+30.1%)	2	4,400 (+27.0%)	1
5th Avenue West of C Street	18,000	-800 (-4.4%)	4	-1,000 (-5.6%)	3	-41,00 (-22.8%)	1	-3,000 (-16.7%)	2
6th Avenue West of C Street	8,800	-900 (-10.2%)	2	-600 (-6.8%)	4	-700 (-8.0%)	3	-1,200 (-13.6%)	1
3rd Avenue West of Reeve Boulevard	14,300	3,200 (+22.4%)	3	1,000 (+7.0%)	2	23,400 (+163.6%)[a]	4	-2,100 (-14.7%)	1
5th Avenue at Merrill Field	62,900	-10,100 (-16.1%)	4	-27,600 (-43.9%)	2	-24,200 (-38.5%)	3	-34,800 (-55.3%)	1
Gambell Street North of 13th Avenue	28,700	-13,700 (-47.7%)	4	-24,000 (-83.6%)	1	-19,800 (-69.0%)	3	-20,800 (-72.5%)	2
Ingra North of 13th Avenue	25,800	-9,400 (-36.4%)	3	-12,200 (-47.3%)	2	-8,000 (-31.0%)	4	-17,700 (-68.6%)	1
Karluk North of 15th Avenue	1,500	400 (+26.7%)	4	300 (+20.0%)	3	-1,200 (-80.0%)	1	-600 (-40.0%)	2
Total Rank (lower is better)	—	—	**56**	—	**62**	—	**49**	—	**23**

[a] This link is on the new regional parkway connection.

Legend		
Light Red	Increase > 0% and ≤ 10%	
Medium Red	Increase > 10% and ≤ 20%	
Dark Red	Increase > 20%	
Light Green	Decrease > 0% and ≤ 10%	
Medium Green	Decrease > 10% and ≤ 20%	
Dark Green	Decrease > 20%	

For additional information on traffic, see the Traffic Modeling Report in Appendix B

Table 9. Environmental Impacts

Category	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Land Use: See also Table 5	No impacts	Consistent with adopted land use plans. No substantial, foreseeable, induced development expected.	Consistent with adopted land use plans. No substantial, foreseeable, induced development expected.	Consistent with adopted land use plans. Additional TIP projects would need to be approved to fully implement this alternative. No substantial, foreseeable, induced development expected.	Consistent with adopted land use plans. Additional TIP projects would need to be approved to fully implement this alternative. No substantial, foreseeable, induced development expected.
Social: • Community Cohesion • Travel patterns and accessibility (See also Table 3) • Changes to community buildings • Public safety • Effects on special groups	• Fairview continues to be bisected by regional highway traffic: 8-lane Gambell/Ingra Street couplet • No change to community buildings • No benefit to public safety; high pedestrian-vehicle crash intersections persist • No benefit; historically disadvantaged and low-income neighborhood continues to be impacted by highway traffic	• Fairview continues to be bisected by regional highway traffic: 6-lane Gambell/Ingra Street couplet; Gambell and Ingra Streets are “complete streets,” improving community cohesion • Likely diversion of regional traffic through other neighborhoods as Gambell/Ingra Street couplet congestion increases; increases non-motorized travel options • No impacts on community buildings • Moderate public safety improvements by slowing traffic, improving pedestrian/bike facilities • Moderate benefit to Fairview from slowing traffic and removing couplet, implementing Gambell Main Street vision	• Fairview continues to be bisected by regional highway traffic: 6-lane Gambell/Ingra Street couplet; Gambell and Ingra Streets are “complete streets,” improving community cohesion • Likely diversion of regional traffic through other neighborhoods as Gambell/Ingra Street couplet congestion increases; increases non-motorized travel options, greatly increases transit options, increases mobility for mobility-hindered travelers by availability of more transit options • No impacts to community buildings • Moderate public safety improvements by slowing traffic, improving pedestrian/bike facilities • Moderate benefit to Fairview from slowing traffic and removing couplet, implementing Gambell Main Street vision; and elderly, handicapped, nondrivers, transit-dependent benefit from increasing transit options	• Removes regional traffic currently bisecting Fairview, improving community cohesion; Gambell and Ingra Streets are “complete streets,” improving community cohesion • Increases non-motorized travel options • No impacts on community buildings • Substantial public safety benefit by reducing regional traffic in neighborhood • Substantial benefit to Fairview from removing regional traffic from neighborhood streets, slowing traffic and removing couplet, implementing Gambell Main Street vision	• Removes regional traffic currently bisecting Fairview, increasing community cohesion; Gambell and Ingra Streets are “complete streets,” improving community cohesion • Increases non-motorized travel options • New roadway would be constructed next to Alaska Regional Hospital, causing associated proximity impacts • Substantial public safety benefit by reducing regional vehicle traffic in Fairview and other neighborhoods • Substantial benefit to Fairview from removing regional traffic from neighborhood streets, lowering traffic and removing couplet, implementing Gambell Main Street vision
Right-of-way: • Residential relocations • Commercial relocations • Total relocations • See also Table 6	• 0 Residential relocations • 0 Commercial relocations • 0 Total	• 0 Residential relocations • 0 Commercial relocations • 0 Total	• 0 Residential relocations • 1 Commercial relocations • 0 Total	• 0 Residential relocations • 4 Commercial relocations • 4 Total	• 20 Residential relocations • 2 Commercial relocations • 22 Total

Category	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Economic: • Business impacts • Redevelopment opportunities	• No business impacts • No redevelopment opportunities	• Increasing on-street parking and reducing speeds may increase customers • Converting Hyder Street to non-motorized design could make it an attractive corridor for retail and residential redevelopment	• Increasing on-street parking and reducing speeds may increase customers. Gambell Main Street design could promote visitation to businesses • Converting Hyder Street to non-motorized design could make it an attractive corridor for commercial and residential redevelopment	• Removing regional traffic from Ingra and Gambell Streets may have an adverse effect on businesses, as fewer potential customers drive by businesses. Alternatively, business may benefit from slower travel speeds and less traffic on Gambell and Ingra Streets, leading to a more pleasant shopping experience • Converting Hyder Street to non-motorized design could make it an attractive corridor for commercial and residential redevelopment	• Removing regional traffic from Ingra and Gambell Streets may have an adverse effect on businesses, as fewer potential customers drive by businesses. Alternatively, business may benefit from slower travel speeds and less traffic on Gambell and Ingra Streets, leading to a more pleasant shopping experience • Converting Hyder Street to non-motorized design could make it an attractive corridor for commercial and residential redevelopment
Joint Development	No improvements would be made	Opportunity for joint development of mixed-use development along Gambell and Hyder Streets	Opportunity for joint development of improved transit facilities and mixed-use development along Gambell Main Street and Hyder Street	Opportunity for joint development of mixed-use development along Gambell Main Street and Hyder Street	Opportunity for joint development of mixed-use development along Gambell Main Street and Hyder Street
Transportation: • Considerations related to pedestrian and bicyclists • Miles of new/upgraded sidewalks • Miles of new/upgraded bikeways • Note the No Action Alternative presents existing conditions for comparison; no improvements would occur	• No new or upgraded bike lanes would occur with the No Action Alternative • 2.2 miles of bikeway • 12 miles of sidewalk • 14.2 miles total of non-motorized facilities	• 7.0 miles of bikeway • 12.0 miles of sidewalk • 19.0 miles total of non-motorized improvements	• 3.8 miles of bikeway • 11.2 miles of sidewalk • 15.0 miles total of non-motorized improvements	• 9.9 miles of bikeway • 12.6 miles of sidewalk • 22.6 miles total of non-motorized improvements	• 9.3 miles of bikeway • 14.3 miles of sidewalk • 23.6 miles total of non-motorized improvements
Air Quality	Air quality impacts of regional traffic continue to be focused in Fairview	Air quality impacts of regional traffic continue to be focused in Fairview. However, congestion on 5th Avenue likely to divert some traffic (and associated air quality impacts) to other neighborhoods.	Air quality impacts of regional traffic continue to be focused in Fairview. However, congestion on 5th Avenue likely to divert some traffic (and associated air quality impacts) to other neighborhoods. Marginal reduction in traffic emissions due to increased transit use.	Air quality impacts of regional traffic reduced in Fairview as traffic is diverted through the tunnel. Traffic signals are eliminated for much of this traffic, reducing idling time and the associated emissions. Traffic pulled from other locations may improve air quality in those locations.	Air quality impacts of regional traffic will be mostly reduced in Fairview as traffic is diverted on the bypass. Traffic signals would be eliminated for much of this traffic, reducing idling time and the associated emissions. Traffic pulled from other locations may improve air quality in those locations.
Noise	Noise impacts of regional traffic continue to be focused in Fairview	Noise impacts of regional traffic continue to be focused in Fairview. However, congestion on 5th Avenue likely to divert some traffic (and associated noise impacts to other neighborhoods).	Noise impacts of regional traffic continue to be focused in Fairview. However, congestion on 5th Avenue likely to divert some traffic (and associated noise impacts to other neighborhoods).	Noise impacts reduced in Fairview due to less traffic on Gambell and Ingra Streets. Ingra Tunnel would eliminate most noise from regional traffic in Fairview.	Noise impacts reduced in Fairview due to less traffic on Gambell and Ingra Streets. Regional traffic noise increase anticipated near Penland Parkway area, Alaska Regional Hospital, and Eastridge and South Fairview along 15th Avenue.

Category	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Water Quality Impacts	No impacts	No impacts	No impacts	Minor impacts from increase in impervious surface area, which can be mitigated through best management practices. Groundwater impacts potentially substantial from tunnel work.	Minor impacts from increase in impervious surface area, which can be mitigated through best management practices. Work adjacent to Merrill Field former landfill site will require additional water quality protection considerations, as well as construction of a new bridge over Ship Creek.
Wetlands	No impacts	No impacts	No impacts	The wetlands on the northeastern quadrant of Mountainview Drive and the Glenn Highway would be impacted.	The wetlands on the northeastern quadrant of Mountain View Drive and the Glenn Highway would be impacted. Potential minor impacts to wetlands areas adjacent to 15th Avenue and Ship Creek.
Water Body Modifications and Wildlife Impacts	No impacts	No impacts	No impacts	No impacts	Potential impacts to aquatic resources adjacent to Merril Field and 15th Avenue (the North Fork of Chester Creek is in a culvert along the alignment) and Ship Creek.
Floodplain Impacts	No impacts	None	None	None	Construction of new bridge over Ship Creek may be within the regulated floodway and subject to local floodplain permitting requirements.
Cultural Resources and Historic Properties	No impacts	Work adjacent to historic sites likely. No direct effects are anticipated. No anticipated adverse effects from this type of work.	Work adjacent to historic sites likely. No direct effects are anticipated. No anticipated adverse effects from this type of work.	Work adjacent to historic sites likely. Archeological investigations may be required for areas of ground disturbing work. Additional historic resource investigations will be necessary to quantify impacts.	Work adjacent to historic sites likely. Archeological investigations may be required for areas of ground disturbing work. Because this alternative has the most relocations, it has the highest potential to affect historic properties. Additional historic resource investigations will be necessary to quantify impacts.
Hazardous Waste	No impacts	Work adjacent to several “open” status contaminated sites on Gambell and Ingra Streets, and 5th Avenue.	Work adjacent to several “open” status contaminated sites on Gambell and Ingra Streets, and 5th Avenue.	Work adjacent to several “open” status contaminated sites on Gambell and Ingra Streets, and 5th Avenue. Tunneling activities will require additional contaminated sites investigations.	Work adjacent to several “open” status contaminated sites on 15th Avenue and Ingra Street. Trenching activities in South Fairview will require additional contaminated sites investigations. Work adjacent to Merril Field former landfill site will require additional contaminated sites investigations and may require clean up prior to construction.

Category	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Visual	No impacts	Minor visual impacts associated with reduction of vehicle travel lanes on 5th and 6th Avenues, and Ingra Street. Substantial change in visual appearance of Hyder Street as it is converted to a greenway/woonerf. This change is anticipated to have a positive impact.	Minor visual impacts associated with reduction of vehicle travel lanes on 5th and 6th Avenues, and Ingra Street. Substantial change to Gambell Street as it is rebuilt into a “main street.” Substantial change in visual appearance of Hyder Street as it is converted to a greenway. These changes are anticipated to have a positive impact.	Minor visual impacts associated with reduction of vehicle travel lanes on 5th and 6th Avenues, and Ingra Street, as well as reduction of regional traffic on surface streets. Substantial change to Gambell Street as it rebuilt into a “main street.” Substantial change in visual appearance of Hyder Street as it is converted to a greenway. Minor visual impacts at the tunnel portals from increased paved area and ramps.	Minor visual impacts associated with reduction of vehicle travel lanes on 5th and 6th Avenues, and Ingra Street, as well as removal of regional traffic from Fairview. Substantial change to Gambell Street as it rebuilt into a “main street.” Substantial change in visual appearance of Hyder Street as it is converted to a greenway. Substantial visual impacts to Alaska Regional Hospital viewers northward from new roadway adjacent to hospital.
Energy	No impacts	No impacts	Minor reduction in fuel use as more transit options may lead to fewer single-occupancy vehicles being used. However, this may be offset by substantial increase in bus service.	Minor reduction in fuel use as stopping is reduced for regional traffic. These reductions may be offset by higher VMT.	Minor reduction in fuel use as stopping is reduced for regional traffic and distance traveled is slightly reduced to/from Midtown. These reductions may be offset by higher VMT.
Recreation and Section 4(f)	No impacts	No known use of parks or historic sites at this time. Temporary occupancy or reduction of access to trails may be required during construction of pathway extensions.	No known use of parks or historic sites at this time. Temporary occupancy or reduction of access to trails may be required during construction of pathway extensions.	No known use of parks or historic sites at this time. Temporary occupancy or reduction of access to trails may be required during construction of pathway extensions.	No known use of parks or historic sites at this time. Temporary occupancy or reduction of access to trails may be required during construction of pathway extension and Ship Creek Bridge construction.
Subsurface Conditions/Geology	No impacts	No impacts	No impacts	Impacts from tunnel to subsurface conditions. Further geological investigations are recommended.	Impacts from trenching to subsurface conditions along 15th Avenue. Further geological investigations are recommended.
Permits	None	No natural resource permits expected.	No natural resource permits expected.	Wetland permit required at the northeastern quadrant of Mountain View Drive and Glenn Highway.	Construction over Ship Creek for the new port access bridge would require permits from Alaska Department of Fish and Game. A bridge permit from the U.S. Coast Guard may be required. An MOA floodplain permit is required. Wetland permit required at the northeastern quadrant of Mountain View Drive and Glenn Highway.

Category	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Construction Impacts	No impacts	Traffic related impacts during the reconstruction needed to reduce lanes on 5th and 6th Avenues and Gambell and Ingra Streets. Minor, localized impacts from the Fairview construction of the Greenway/Hyder Pedestrian Boulevard.	Traffic related during the reconstruction needed to reduce lanes on 5th and 6th Avenues and Gambell and Ingra Streets. Minor, localized impacts from the Fairview construction of the Greenway/Hyder Pedestrian Boulevard. Traffic related impacts associated with the HOV project.	Substantial, long-duration impacts from the construction of Ingra Tunnel, especially near the portals and on/off ramps. Substantial construction impacts from new intersection construction at Airport Heights. Traffic related during the reconstruction needed to reduce lanes on 5th and 6th Avenues and Gambell and Ingra Streets. Minor, localized impacts from the Fairview construction of the Greenway/Hyder Pedestrian Boulevard.	Substantial, moderate duration impacts from the construction of the Fairview Bypass trenching, including the local bridge and on/off ramps. Substantial construction impacts from new roadway construction near Merril Field and the hospital, as well as intersection construction at Airport Heights Drive and at Lake Otis Boulevard. Substantial construction impacts from POA access construction and new bridge over Ship Creek. Traffic related during the reconstruction needed to reduce lanes on 5th and 6th Avenues and Gambell and Ingra Streets. Minor, localized impacts from the Fairview construction of the Greenway/Hyder Pedestrian Boulevard.
Relationship of Local Short-Term Uses versus Long-Term Productivity	No impacts	No impacts	No impacts	Minor amounts of land would be converted to transportation uses; this land is currently mostly developed or has been affected by past development. The action would not alter the long-term productivity of the area's natural resources.	Minor amounts of land would be converted to transportation uses; this land is currently mostly developed or has been affected by past development. The action would not alter the long-term productivity of the area's natural resources.
Irreversible and Irretrievable Commitment of Resources	No impacts	Minor amounts of materials are required to reconstruct the roadways to reconfigure travel lanes. Minor amounts of asphalt and cement may be required to implement the Hyder Greenway.	Minor amounts of materials are required to reconstruct the roadways to reconfigure travel lanes. Minor amounts of asphalt and cement may be required to implement the Hyder Greenway.	Substantial quantities of roadway construction materials will be required to implement this alternative.	Substantial quantities of roadway construction materials will be required to implement this alternative.

Note: TIP = Transportation Improvement Program

Table 10. Technical and Economic Evaluation

	Alternative 1 No Action	Alternative 2 2050 MTP	Alternative 3 Transit Focus	Alternative 4 Ingra Tunnel	Alternative 5 Fairview Bypass
Reasonableness of constructability	No construction would occur.	Construction methods are well understood by Alaska-based contractors.	Construction methods are well understood by Alaska-based contractors.	Challenging tunnel boring construction. Would likely require expertise from outside Alaska. Presents construction risk.	Most construction methods are well understood by Alaska-based contractors. Construction through the former landfill presents the greatest construction challenge.
Presence of construction, operation, or maintenance constraints that cannot be overcome	None	None	None	None identified at this planning level. There is geotechnical risk that would require additional investigation during design. Challenging maintenance costs due to ventilation, fire suppression, etc. These maintenance challenges are similar to those experienced in the Whittier Tunnel.	Cut-and-cover parks need to be carefully planned to maintain air quality.
Preliminary Cost Estimates (Millions) (2025 Dollars)[2]					
PEL Regional Seward-Glenn Highway Connection	N/A	N/A	N/A	$371,055,000	$217,853,000
PEL Gambell and Ingra Main Streets	N/A	N/A	$29,800,000	$29,800,000	$29,800,000
Extend Hyder Pedestrian Boulevard/ Fairview Greenway to Ship Creek	N/A	N/A	$7,418,000	$7,418,000	$7,418,000
PEL Transit Routes (HOV Lane & Transit Capital)	N/A	N/A	$ 91,650,000	N/A	N/A
PEL Improved Port Connection	N/A	N/A	$45,900,000	$0	$54,903,000
Extend 5th Avenue Complete Street (Reeve Boulevard-Airport Heights)	N/A	N/A	N/A	$7,100,000	$7,100,000
PEL Capital Cost Subtotal	N/A	N/A	$174,468,000	$415,373,000	$359,104,000
PEL Operations & Maintenance Cost per Year	N/A	N/A	$24,100,000	$122,000 + $2,500,000 (Tunnel)	$169,000
PEL Projects: 20-Year O and M Lifecycle	N/A	N/A	$573.300,000[a]	$78,338,000	$30,000,000
Cost Estimate (From 2050 MTP)					
2050 MTP: Gambell and Ingra 6-Lane Couplet	N/A	$75,000,000	N/A	N/A	N/A
2050 MTP: Hyder Pedestrian Boulevard/Fairview Greenway.	N/A	$12,380,000	$12,380,000	$12,380,000	$12,380,000
2050 MTP: 5th and 6th Avenues	N/A	$55,800,000	$27,900,000[c]	$55,800,000	$55,800,000
2050 MTP: 15th Avenue Improvements	$26,400,000[b]	$26,400,000	$26,40,000	$26,400,000	N/A
2050 MTP Subtotal	$26,400,000	$169,580,000	$66,680,000	$169,580,000	$68,180,000
Subarea Grand Total	$26,400,000	$169,580,000	$241,148,000	$584,953,000	$427,284,000

Notes: N/A = not applicable

[a] Assumes buses are replaced every 10 years.

[b] The **15th Avenue project is in the MTP and is assumed to occur under the No Action.**

[c] Only the segment from L Street to Gambell Street would be construction in Alternative 3. From Gambell Street westward, the street becomes an HOV lane, and those costs are accounted for above as part of the PEL alternatives.

[2] Additional details on PEL cost estimates for alternatives 3, 4, and 5 can be found in Appendix D.

Level 2 Screening Results Summary

Alternative 1: No Action

The No Action Alternative preserves existing conditions, avoiding relocations, construction impacts, or new environmental disturbances. While this makes it the least disruptive option, it also fails to address long-standing issues in the Fairview neighborhood related to the purpose and need. Regional traffic continues to bisect the area, contributing to poor pedestrian safety, persistent air and noise pollution, and limited mobility options. No improvements are made to infrastructure, livability, or accessibility. Traffic volumes remain unchanged, meaning no relief is provided to impacted corridors or neighborhoods. As a result, this alternative is the least responsive to community concerns and the project purpose and need.

Alternative 2: 2050 MTP

Alternative 2 introduces lane reductions on key corridors and modest improvements to pedestrian and bicycle infrastructure, with no relocations and minimal environmental impacts. However, it lacks a new regional connection, meaning NHS traffic continues to be focused on Gambell and Ingra Streets through Fairview, and the constriction from the planned complete street projects (with no regional connection) causes regional traffic to avoid the constrained study area and to shift other parts of the city. This results in increased traffic volumes in other neighborhoods, causing neighborhood impacts such as noise, safety concerns, and air quality degradation within those areas. POA-related traffic has no new connection, meaning POA traffic continues to use Gambell and Ingra Streets. Port travel times worsen in some directions compared to the No Action Alternative. While it reduces traffic on Gambell and Ingra Streets and 5th Avenue, the magnitude of change is relatively small, and several metrics perform worse than the No Action Alternative. The six-lane couplet does not meet Fairview's vision for Gambell and Ingra Streets, and the transformation of the neighborhood would not substantially develop. Overall, Alternative 2 ranks lowest among the Build options and does not deliver meaningful improvements to pedestrian safety or neighborhood livability compared to other alternatives.

Recommendations from Alternative 2

- Lane reduction/complete street improvements on 5th and 6th Avenues are not recommended unless a place for the regional, NHS traffic is developed first. Such a reduction causes substantial traffic diversion.
- One lane reduction on each of Gambell and Ingra Streets to create a six-lane couplet is recommended as an interim solution. Such a streetscape, however, does not create the transformation envisioned by the Fairview neighborhood or MOA comprehensive plan, and safety, livability, and community cohesion benefits do not meet the project purpose and need.

Alternative 3: Transit Focus

Alternative 3 performs slightly better than Alternative 2 but still ranks low overall. It applies similar lane reductions on 5th Avenue but reduces Gambell and Ingra Streets by two lanes, creating slower two-way streets, without adding a regional connection but coupled with

substantial transit improvement to test if the transit services can take the place of a regional connection in maintaining regional mobility. Note that to maximize ridership, HOV lanes were added to 5th Avenue and the Glenn Highway, meaning this alternative lacks the space for the complete street project along 5th Avenue and is therefore not consistent with the adopted 2050 MTP.

While it achieves the highest transit ridership among the Build alternatives and reduces traffic on Gambell and Ingra Streets and 5th Avenue, modeling shows only marginal increases in ridership (977 boardings per day more than the No Action Alternative), limiting its effectiveness in offsetting the constrained roadway capacity. Findings from the model results suggest the reductions within the study area primarily result from traffic avoiding the constricted roadway network, not from a robust shift in transit ridership. The result is substantial traffic displacement to other corridors, which increases impacts in surrounding neighborhoods. POA-related traffic effects are mixed; Post Road volumes drop, but traffic into Downtown and North Fairview increases due to the new Gambell and Ingra Street extension. The Gambell and Ingra Street extension is not recommended as its new connection directs POA traffic directly into Gambell and Ingra Streets, which is not in keeping with the vision for those corridors. It also requires five new at-grade rail crossings, limiting the effectiveness and safety associated with the route. While it supports multimodal access, the marginal transit results and increased neighborhood impacts limit its overall effectiveness. Overall, Alternative 3 ranks lowest among the Build options, does not deliver meaningful improvements to pedestrian safety or neighborhood livability in Fairview, and worsens those factors for other neighborhoods compared to other alternatives.

Recommendations from Alternative 3

As mentioned above, this alternative tested a robust expansion of the People Mover transit system with the project's traffic model used to forecast ridership. One potential new route stood out: the UMED Transit Service (a potential new transit route connecting Downtown, Midtown, and the UMED District via Ingra and Gambell Streets and 36th Avenue with transit signal priority). This route showed considerable promise, garnering 1,338 boardings or 9.1 percent of the overall boardings systemwide, just behind existing routes 10 – Northern Lights (11.9 percent), 20 – Mountainview (11.5 percent), and 25 – Tudor (10.8 percent).

Alternative 4: Ingra Tunnel

Alternative 4 offers a more balanced performance and ranks in the middle of the alternatives. It pairs lane reductions with a new regional connection, helping reconfigured complete streets function more effectively and reducing traffic volumes on Gambell and Ingra Streets and 5th Avenue. POA-related traffic into Downtown and Post Road declines, easing pressure on Fairview and surrounding areas. It maintains or slightly improves POA travel times. However, the designated port route includes eight at-grade rail crossings, raising safety concerns and limiting the effectiveness of the port connection. Environmental concerns from tunneling include subsurface disruption and hazardous waste risks due to tunneling, and that it requires very challenging technical construction techniques. It comes with a high price tag for relatively low forecast use compared to Alternative 5. Despite these trade-offs, Alternative 4 delivers

meaningful neighborhood benefits and improved internal mobility, making it a candidate for transformative change. However, because of the relatively low demand (one-third as much as Alternative 5) and a considerably higher capital cost for the regional connection (over $150 million more than Alternative 5). Additionally, there would be prohibitions for trucks carrying any hazardous material, severely limiting the usefulness of the route for trucks. Finally, because of the long tunnel, Alternative 4 could not be phased in over time, which raised concerns about the financial feasibility of constructing the alternative all at once. For these reasons, Alternative 4 was not recommended.

Alternative 5: Fairview Bypass

Alternative 5 is the top-performing alternative, earning the most top rankings across measures evaluated. It combines lane reductions with a new regional connection that attracts traffic to the highway system and bypass, producing the greatest reductions in traffic volumes on Gambell and Ingra Streets and 5th Avenue. POA traffic volumes are reduced into Downtown, and a portion of freight traffic shifts directly to the new connection, relieving pressure on Fairview. It delivers the best POA travel times and the strongest regional mobility benefits. However, it comes with the highest number of displacements (20 residential and 2 commercial relocations); construction challenges; and environmental concerns near Merrill Field, including water quality and subsurface risks. Transit boardings decline slightly, and systemwide delay increases. Despite these trade-offs, Alternative 5 offers the most comprehensive solution to Fairview's transportation and environmental challenges.

Overall Summary and Recommendation

The evaluation reveals a clear distinction between alternatives with and without a new regional connection. Alternatives 2 (2050 MTP) and 3 (Transit Focus) reduce traffic volumes in Fairview but shift traffic-related impacts to other neighborhoods, and transit enhancements in Alternative 3 yield limited ridership gains. In contrast, Alternatives 4 (Ingra Tunnel) and 5 (Fairview Bypass) pair road diets with new regional connections that draw traffic to the highway system, relieve pressure on Fairview and Downtown (and other neighborhoods), and allow reconfigured streets to function more effectively. Between these, Alternative 5 consistently ranks highest, offering the greatest reductions in neighborhood traffic, best POA travel times, and strongest regional mobility. While it involves higher delay and environmental disruption, its overall balance of benefits makes it the most promising option for further consideration.

More specifically, Alternative 5 is recommended for the following reasons:

- Reduces traffic the most on Gambell and Ingra Streets (including truck traffic), in turn providing the best opportunity to benefit the Fairview neighborhood by: (1) improving community cohesion, (2) allowing Gambell and Ingra Street complete street improvements to function safely and efficiently, (3) allowing area land uses to redevelop in accord with local plans, and (4) reducing traffic-related impacts such as air quality and noise the most.
- Forecast to attract the most trips, which means it is the most useful for getting travelers where they want to go (this finding is reinforced by the travel time metrics). That also means it results in the lowest amount of diverted traffic to other neighborhoods. In fact,

rather than diverting traffic from the current Seward-Glenn Highway connecting roads to other locations, Alternative 5 tends to reduce traffic to large areas of North Anchorage, improving traffic flows within those areas and reducing associated traffic impacts such as noise and air quality.
- Results in the smallest amount of roadway fronting residential properties, has the greatest number of miles of non-motorized infrastructure, and has the most acres of greenspace associated with roadside buffers/streetscaping.
- Minimizes neighborhood impacts, traversing along Merrill Field and mitigating impacts to South Fairview with a depressed roadway section that uses extra-wide bridges and a cut-and-cover park (both enhanced with landscaping and trail connections) to maintain community cohesion.

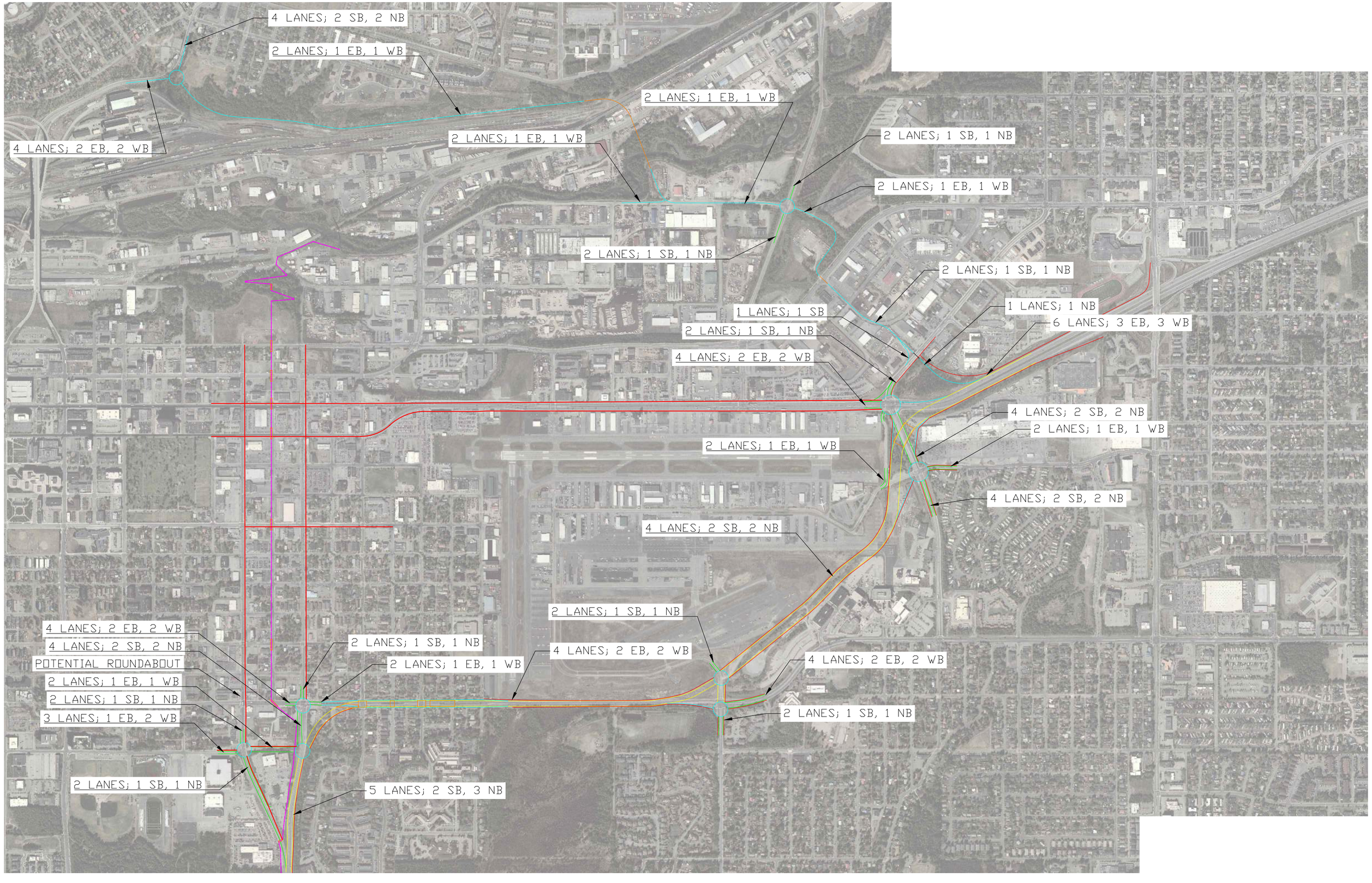
Downsides

- Alternative 5's regional connection is cheaper than Alternative 4 (Ingra Tunnel) and attracts three times the vehicles.
- The attractiveness of the route means trips are attracted to the study area, raising VMT.
- The route traverses in proximity to Eastridge Condominiums, Alaska Regional Hospital, and Penland Park Mobile Homes with the potential to create noise impacts, which should be explored during the environmental process.
- The route traverses a portion of the former landfill along Merrill Field, creating engineering challenges and the likelihood of needing to mitigate potential hazardous materials.

Recommendation: Proceed with Alternative 5 (Fairview Bypass) as the recommended subarea alternative, with further refinement to mitigate displacement and environmental impacts.

Appendix A: Conceptual Design Drawings


2 LANES; 1 SB, 1 NB
2 LANES; 2 WB
2 LANES; 2 EB
4 LANES; 2 EB, 2 WB
4 LANES; 2 SB, 2 NB
2 LANES; 1 SB, 1 NB
2 LANES; 1 SB, 1 NB
4 LANES; 2 SB, 2 NB
4 LANES; 2 SB, 2 NB
4 LANES; 2 SB, 2 NB
4 LANES; 2 EB, 2 WB
4 LANES; 2 SB, 2 NB
4 LANES; 2 SB, 2 NB
2 LANES; 1 SB, 1 NB
6 LANES; 3 EB, 3 WB
4 LANES; 2 EB, 2 WB
2 LANES; 1 SB, 1 NB
4 LANES; 2 EB, 2 WB
POTENTIAL ROUNDABOUT
2 LANES; 1 EB, 1 WB
4 LANES; 2 SB, 2 NB
4 LANES; 2 SB, 2 NB IN TUNNEL
2 LANES; 1 SB, 1 NB OVER TOP
3 LANES; 1 EB, 2 WB
2 LANES; 1 SB, 1 NB
5 LANES; 2 SB, 3 NB


4 LANES; 2 SB, 2 NB
2 LANES; 1 EB, 1 WB
4 LANES; 2 EB, 2 WB
2 LANES; 1 EB, 1 WB
2 LANES; 1 EB, 1 WB
2 LANES; 1 SB, 1 NB
2 LANES; 1 SB, 1 NB
2 LANES; 1 EB, 1 WB
1 LANES; 1 SB
2 LANES; 1 SB, 1 NB
1 LANES; 1 NB
6 LANES; 3 EB, 3 WB
4 LANES; 2 EB, 2 WB
4 LANES; 2 SB, 2 NB
2 LANES; 1 EB, 1 WB
2 LANES; 1 EB, 1 WB
4 LANES; 2 SB, 2 NB
4 LANES; 2 SB, 2 NB
2 LANES; 1 SB, 1 NB
4 LANES; 2 EB, 2 WB
4 LANES; 2 EB, 2 WB
2 LANES; 1 SB, 1 NB
4 LANES; 2 SB, 2 NB
POTENTIAL ROUNDABOUT
2 LANES; 1 EB, 1 WB
2 LANES; 1 SB, 1 NB
3 LANES; 1 EB, 2 WB
2 LANES; 1 SB, 1 NB
5 LANES; 2 SB, 3 NB

Appendix B: Traffic Modeling Technical Report

AMATS: Seward Highway to Glenn Highway Connection Planning & Environmental Linkage Study

State Project No.: CFHWY00550
Federal Project No.: 0001653

Final Travel Demand Modeling Report

v3 September 9, 2025

This planning document may be adopted in a subsequent environmental review process in accordance with 23 USC 168 Integration of Planning and Environmental Review and 23 CFR 450 Planning Assistance and Standards.

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 November 3, 2017, and executed by FHWA and DOT&PF.

Prepared for:

Alaska Department of Transportation and Public Facilities

Prepared by:

RSG
1515 SW 5th Avenue, Suite 1030
Portland, OR 97201

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1.0 Background

This report documents the 2050 travel forecasting performed to support the *Seward Highway to Glenn Highway Planning and Environmental Linkages Study* (SG PEL or "the study"). The study team used the SG PEL travel model, described in the accompanying *Draft Travel Demand Modeling Report* (October 10, 2022) to perform these forecasts. The forecasts analyze the likely future transportation system performance in five hypothetical future scenarios at study area and regionwide scales. The potential future scenarios appear in *Table 1*. Reference maps and detailed descriptions of the alternatives appear in other reports from the study. The data documented in this report serves as one piece—but not the only piece--of information for the study team, stakeholders, and decision-makers as they form a final recommendation for the future of the Seward-Glenn corridor.

TABLE 1: 2050 SG PEL ALTERNATIVES

Alternative 1. No Action
Alternative 2. 2050 MTP
Alternative 3. Transit Focus
Alternative 4. Ingra Tunnel
Alternative 5. Fairview Bypass

The model analysis covers the SP PEL defined study area, shown in the first figure below. It is important to note that the model also includes the entire Anchorage and MatSu areas so that it internalizes all the travel that would use the Seward and Glenn highways. The second figure illustrates the entire modeled geography, with the Study Area also called out.

The first report describes how the model was built, calibrated, and validated. It includes citations for the data sources used to calibrate and validate the model plus some descriptions and references to other documents describing the model's internal functionality. This report focuses on the model output for the SG PEL alternatives analysis and offers some neutral interpretation of the real-world meaning of this data. This report is not intended as a value judgement or endorsement of any particular alternative; it is intended purely as decision-support information. Note that due to minor adjustments made during alternatives analysis to ensure consistent findings across the scenarios, the No Action outputs in this report differ slightly from those in the first report. These small differences do not affect the overall findings.

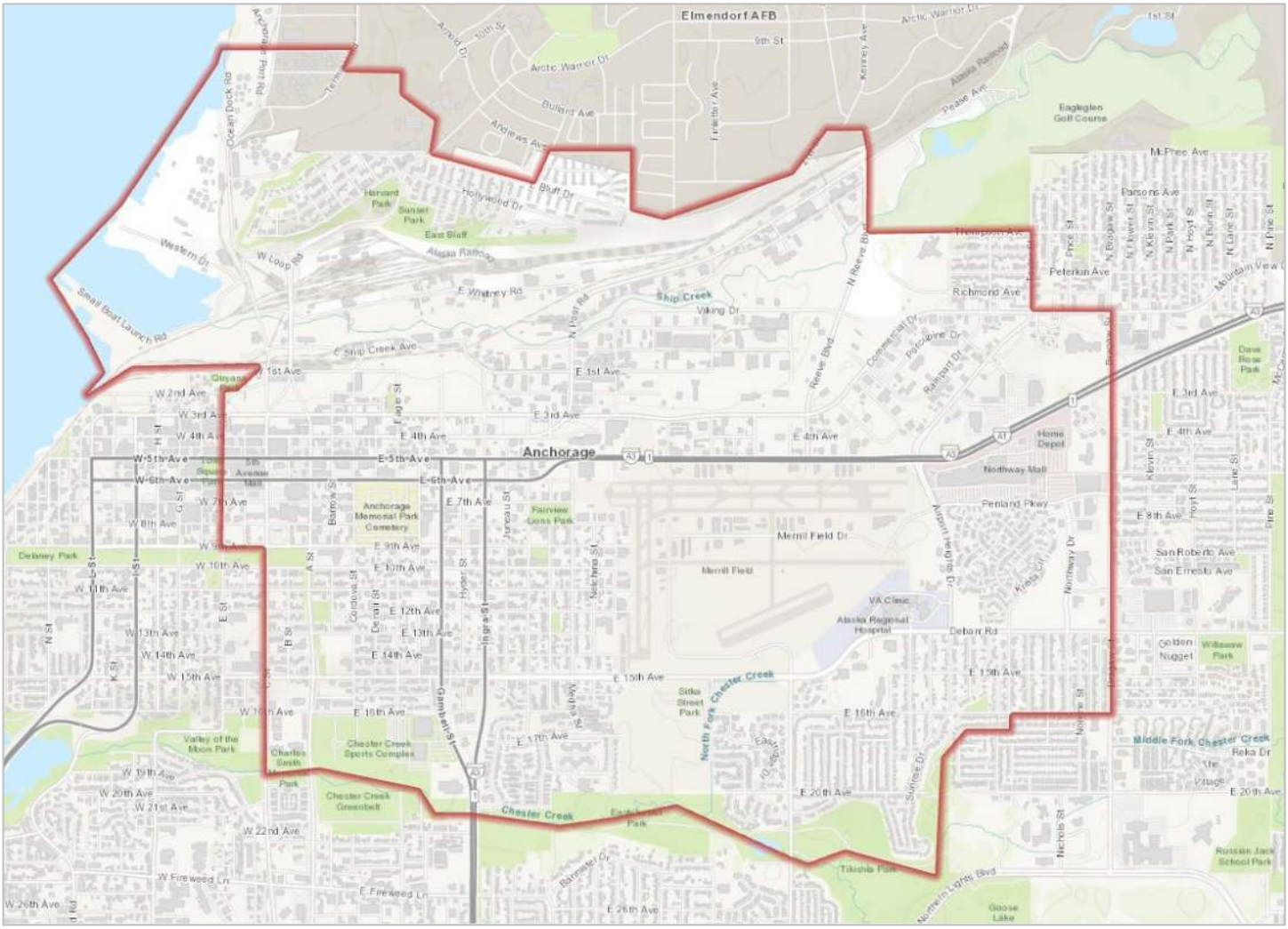


FIGURE 1: STUDY AREA REFERENCE MAP

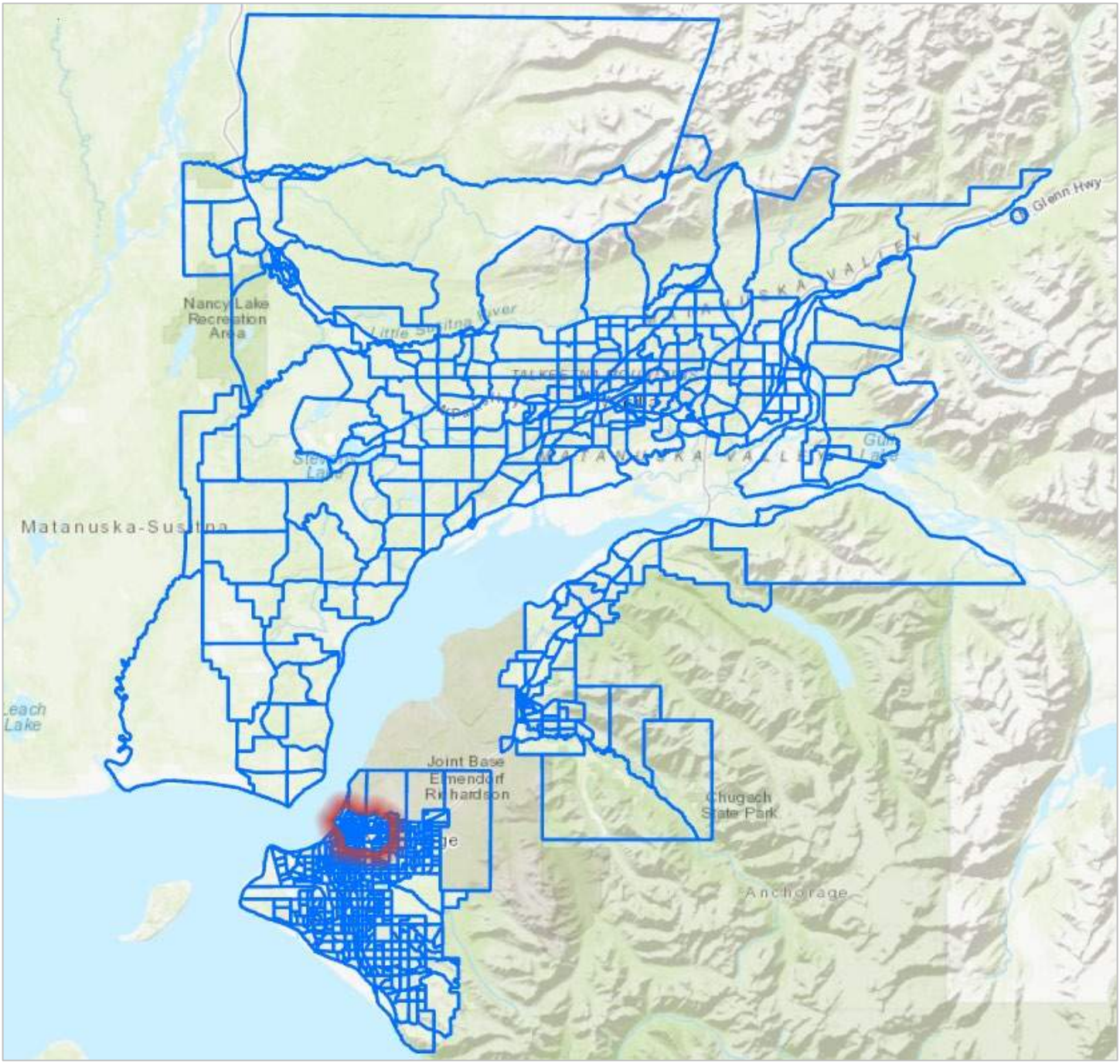


FIGURE 2: SG PEL TRAVEL MODEL GEOGRAPHY (STUDY AREA IN RED)

2.0 2050 Action Alternatives Forecast Findings and Data

At the beginning of the SG PEL the study team worked with stakeholders to specify what data would be useful to extract from the forecast modeling. The chosen data includes summary, location-specific, and route-specific statistics plus maps of total daily estimated roadway vehicle volumes and daily vehicle diversion. The latter is defined as the number of additional or reduced numbers of vehicles estimated in 2050 relative to the 2050 No Action alternative on each road segment. This section provides the data tables while the maps appear in the Appendix. The following section of this report offers interpretation and discussion of the forecast findings. A final section briefly discusses the strengths and limitations of the forecast model for transparency and to provide context for interpreting these findings.

2.1 Study Area and Regionwide Travel and Speed Summaries

Vehicle Miles Traveled (VMT) is the estimate of all miles every modeled vehicle travels in the forecast. The findings show two time periods: all day or "daily" and the PM peak hour (5pm to 6pm). Vehicle Hours Traveled (VHT) is the cumulative amount of elapsed time spent traveling by all those vehicles. Vehicle Hours of Delay (VHD) is the difference between the duration the model estimates vehicle travel *will* take and the duration that travel *would have taken* if made at the posted speed limit. VHD should thus be interpreted *very* cautiously since it is a relative, not an absolute, measure—for example, the model considers time spent traveling at 34mph in a 35mph zone to be "delayed." The model also assumes that vehicles will not exceed the speed limit. Average speed is the simple average of all vehicle miles traveled across the total time spent traveling.

TABLE 2: FORECAST 2050 STUDY AREA DAILY VMT, VHT, AND VHD

	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Daily VMT	497,700	490,000	472,900	506,000	534,000
Daily VHT	18,400	18,300	17,700	18,200	18,400
Daily VHD	499	583	561	482	805

TABLE 3: FORECAST 2050 STUDY AREA PM PEAK HOUR VMT, VHT, AND VHD

	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
PM Peak Hour VMT	40,600	39,900	38,500	41,500	43,200
PM Peak Hour VHT	1,503	1,490	1,436	1,498	1,498
PM Peak Hour VHD	48	55	48	49	80

TABLE 4: FORECAST 2050 DAILY REGIONWIDE VMT, VHT, AND VHD

	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Daily VMT	7,875,300	7,867,000	7,811,400	7,878,400	7,900,800
Daily VHT	190,600	190,800	191,900	190,300	189,700
Daily VHD	5,200	5,200	7,300	5,200	5,700

TABLE 5: FORECAST 2050 DAILY REGIONWIDE AND STUDY AREA AVERAGE ROADWAY SPEED (MPH)

	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Regionwide Average Road Speed	41.3	41.2	40.7	41.4	41.6
Study Area Average Road Speed	27.0	26.8	26.7	27.8	29.1

2.2 Study Area Level of Service (LOS) and Travel Time Estimates

Level-of-Service (LOS) is a performance letter grade in the range A to F assigned to roadway segments by the model. The model bases its LOS findings on a mathematical quantity called the volume-to-capacity ratio (V/C). The model labels road segments with V/C greater than 0.90 as LOS E or F. As with delay, LOS should be interpreted with care since the model uses general capacity numbers by road type rather than an engineering-based approach to establishing capacity. The model reports LOS by centerline mile (not lane-mile) in the form of total centerline miles

of roadway performing at the grade level. Centerline miles are the total linear distance of roadway traveled regardless of the number of lanes. LOS findings are best used for comparison purposes and not as a reflection of what users would experience in the way of congestion.

Travel time is the model's estimate of the time in minutes it would take a vehicle to traverse either a specified route through the road network or the best possible point to point travel time any traveler would experience regardless of the route taken (also known as the "shortest path" travel time). The former is useful for examining how each alternative would affect travel time on exactly the same path while the latter shows how alternatives may open up new paths at faster (or slower) speeds from point A to point B. The travel times are useful for comparison purposes but again, given the abstractions in a regional demand model, not necessarily what a traveler would experience in the real world. Note that the travel time by specified route table has some blank cells for the alternatives that did not create a new roadway. A reference map showing all the travel time routes appears below; note that there is considerable overlap between many of the routes.

TABLE 6: FORECAST 2050 PM PEAK HOUR STUDY AREA CENTERLINE MILES BY LEVEL OF SERVICE

LOS Category	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
D or Better: <=0.9	33.60	33.50	33.30	36.90	38.10
E or Worse: >0.9	0.70	0.90	1.10	1.30	2.20
Total	34.30	34.40	34.40	38.20	40.30

TABLE 7: FORECAST 2050 PM PEAK PERIOD TRAVEL TIME BY SPECIFIED ROUTE (MIN.)

Travel Time Corridor	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Study Area: NB	6.5	6.7	6.8	6.9	7.2
Study Area: SB	7.4	7.6	8.2	11.0	7.6
Gambell: 5th - 15th	1.9	2.0	2.6	2.1	2.0
Ingra: 15th - 6th	1.5	1.7	1.8	1.5	1.7
5th/Glenn: Bragaw – E St (WB)	6.2	6.3	6.4	6.6	6.1
6th/Glenn: E St- Bragaw (EB)	6.2	6.3	6.3	6.0	6.2
Port Connection to Glenn: EB	8.0	8.1	8.1	7.8	8.0
Port Connection to Glenn: WB	7.1	7.1	7.2	7.4	6.9
Port-Seward: SB	6.5	6.7	7.3	6.8	6.9
Port-Seward: NB	6.1	6.2	6.4	6.7	6.6
S-G Regional Connection: NB	N/A	N/A	N/A	6.1	5.5
S-G Regional Connection: SB	N/A	N/A	N/A	6.1	5.0
	Not Applicable in the No Action, 2050 MTP, and Transit Focus scenarios because no new regional facility is included				

FIGURE 3: REFERENCE MAP FOR SPECIFIED ROUTE TRAVEL TIMES

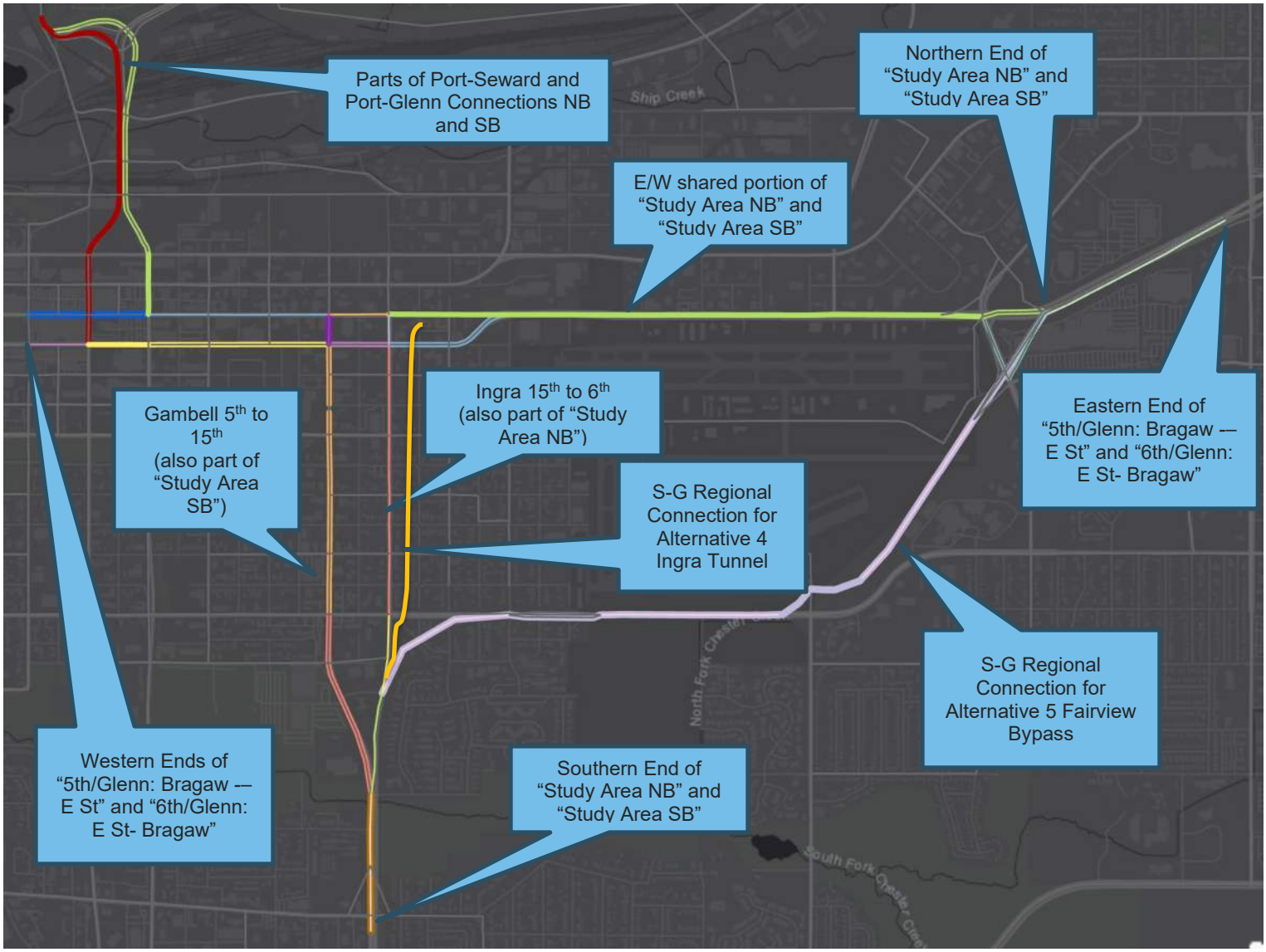


TABLE 8: FORECAST 2050 PM PEAK PERIOD TRAVEL TIME BY SHORTEST PATH (MIN.)

Origin-Destination	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Glenn@Airport Heights to Port	9.4	9.4	9.5	9.0	9.0
Port to Glenn@Airport Heights	8.2	8.2	8.7	8.2	8.2
Seward@20th to Port	7.7	7.9	7.5	7.5	6.8
Port to Seward@20th	7.5	7.7	8.3	7.7	6.0

2.3 Truck Volumes and Diversion Estimates at Selected Locations

Forecasted truck volumes at the same locations across all the alternatives illustrate how attractive (or not) heavy trucks would find those road segments across the various alternatives.

TABLE 9: FORECAST 2050 PM PEAK HOUR HEAVY TRUCK VOLUMES AT SELECTED LOCATIONS

Origin-Destination	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Truck volume @ Seward Highway/20th NB	164	130	99	170	134
Truck volume @ Glenn Highway PTR	65	65	58	103	61
Truck Volume 5th Ave @ Merrill Field EB	43	21	33	60	39
Truck Volume @ Gambell plus Ingra N of 13th	169	128	93	85	55

Total daily vehicle diversion relative to the No Action forecast volumes at selected locations (common across all alternatives) helps paint a similar picture for all vehicles.

TABLE 10: FORECAST 2050 DAILY VEHICLE DIVERSION RELATIVE TO THE NO ACTION AT SELECTED LOCATIONS

Location	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Boniface Parkway South of Glenn Highway	N/A	1,447	2,586	(456)	(5,311)
Boniface Parkway South of Debarr	N/A	1,049	2,394	(574)	(7,250)
Bragaw South of Glenn Highway	N/A	812	4,212	4,640	(6,970)
Bragaw south of Penland Parkway	N/A	879	4,164	4,658	(8,733)
Bragaw South of Debarr	N/A	1,124	4,162	2,982	(9,976)
Airport Hts Drive South of Penland Parkway	N/A	4,566	7,962	(3,853)	(6,394)
Lake Otis South of Debarr	N/A	2,025	2,230	(4,824)	1,268
15th West of Lake Otis Parkway	N/A	3,025	6,482	7,534	2,112
Northern Lights Boulevard West of Bragaw	N/A	869	4,345	2,785	(12,455)
Northern Lights Blvd. West of Lake Otis Parkway	N/A	(1,661)	995	(4,990)	(5,484)
A Street North of 15th	N/A	6,235	7,235	1,105	(2,458)
C Street North of 15th	N/A	6,886	9,328	4,852	4,436
5th Ave. West of C Street	N/A	(770)	(994)	(4,095)	(3,002)
6th Ave. West of C Street	N/A	(916)	(618)	(665)	(1,157)
3rd Ave. West of Reeve Blvd.	N/A	3,164	1,007	23,434	(2,133)
5th Ave. at Merrill Field	N/A	(10,138)	(27,563)	(24,205)	(34,802)
Gambell North of 13th	N/A	(13,660)	(24,018)	(19,803)	(20,827)
Ingra North of 13th	N/A	(9,449)	(12,226)	(7,977)	(17,702)
Karluk North of 15th	N/A	362	279	(1,198)	(610)

2.4 Transit and Mode Share Findings

Forecasts of mode share show travelers' choice of mode in response to the various alternatives. Mode share is region-wide by its nature and many trips through the study area originate or terminate outside it.

Since the region's vehicle mode share is large (typically for small and medium US cities), calling out performance measures specific to transit is helpful. These include the total number of region-wide daily boardings and the total number of daily linked trips made by transit. A linked trip is one point-to-point journey by transit regardless of the number of transit routes traversed to make the trip; in other words, a person-trip using transit. A boarding is an occurrence of a traveler getting on a transit vehicle. Linked trips are less than boardings because some riders transfer to one or more added routes to complete their journeys. The "carpool" mode includes all private passenger vehicles the model estimates would carry two or more passengers.

TABLE 11: FORECAST 2050 DAILY REGION-WIDE MODE SHARE

Mode	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Drive Alone	45.21	45.21	45.11	45.21	45.21
Carpool	42.63	42.63	42.68	42.63	42.64
Walk and Bike	9.77	9.77	9.77	9.77	9.76
Transit	0.70	0.70	0.74	0.70	0.69
School Bus	1.69	1.69	1.69	1.69	1.69
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

TABLE 12: FORECAST 2050 DAILY MODEL-WIDE TRANSIT PERFORMANCE

	1. No Action	2. 2050 MTP	3. Transit Focus	4. Ingra Tunnel	5. Fairview Bypass
Boardings	13,730	13,740	14,707	13,723	13,595
Linked Trips (Person Trips)	11,644	11,653	12,410	11,640	11,568

3.0 Forecast Findings Discussion

3.1 Roadway Performance

GLENN-TO-SEWARD CONNECTION

In terms of vehicle mobility and throughput, Alternative 4-Ingra Tunnel provides the shortest point to point travel times along its tunnel route between the existing termini of the divided highway sections of the Glenn and Seward Highways. Alternative 5-Fairview Bypass would place second in this criterion. Conversely, Alternative 3-Transit Focus would be worst performing. This can be seen in *Figure 4* and *Figure 5* below—the "Alternative Alignments" for Alternative 5 provides the lowest travel times by Specific Route[1] with Alternative 4 second best, versus the "Study Area" alignment travel times for Alternatives 1, 2, and 3. In addition, the Port-related Shortest Path travel times also show Alternative 5 as the best option with Alternative 3 being the worst. The Study Area Average Speed from

[1] The "Specific Route" statistics are based on taking *exactly the same path* through the system regardless of the alternative where the "Shortest Path" statistics are for the best possible travel time *regardless of path taken*. This is why there are "Alternative Alignment" statistics only for Alternatives 4 and 5 in the "Specific Route" tables and figures.

Alternative 4 is also second best of all alternatives, with Alternative 5 ranking highest on that metric, as shown in *Table 5* above.

Alternative 5-Fairview Bypass merits extra discussion in the context of vehicle mobility. As evidenced both by its Daily Volume map and its Study Area VMT (*Table 3* above), the Bypass would be a sufficiently attractive route for movements to and from points northeast (e.g., Chugiak and Eagle River) from and to points southwest (e.g., the airport and Midtown) that it would draw very high vehicle demand. Even in a congested state (see the Study Area VHD in *Table 3* above as an indicator) the Bypass would provide such attractive travel times that it would be the route of first choice for many travelers. By comparison, Alternative 4-Ingra Tunnel provides good travel times but does so by maintaining current paths (i.e., the Tunnel alignment closely follows Ingra and thus requires traveling a similar distance). In other words, the Tunnel, by following the current Ingra-Gambell alignment, preserves the same general network topology as Alternatives 1 through 3 but with a faster traversal of the path (because of the reduction in traffic signals and side street/driveway friction) experienced on Ingra-Gambell in the No Action alternative. Conversely, the Fairview Bypass would provide a *completely new connection never before seen in the region* with a *shorter point-to-point distance* for trips making the diagonal movement from Midtown to/from the northeast.

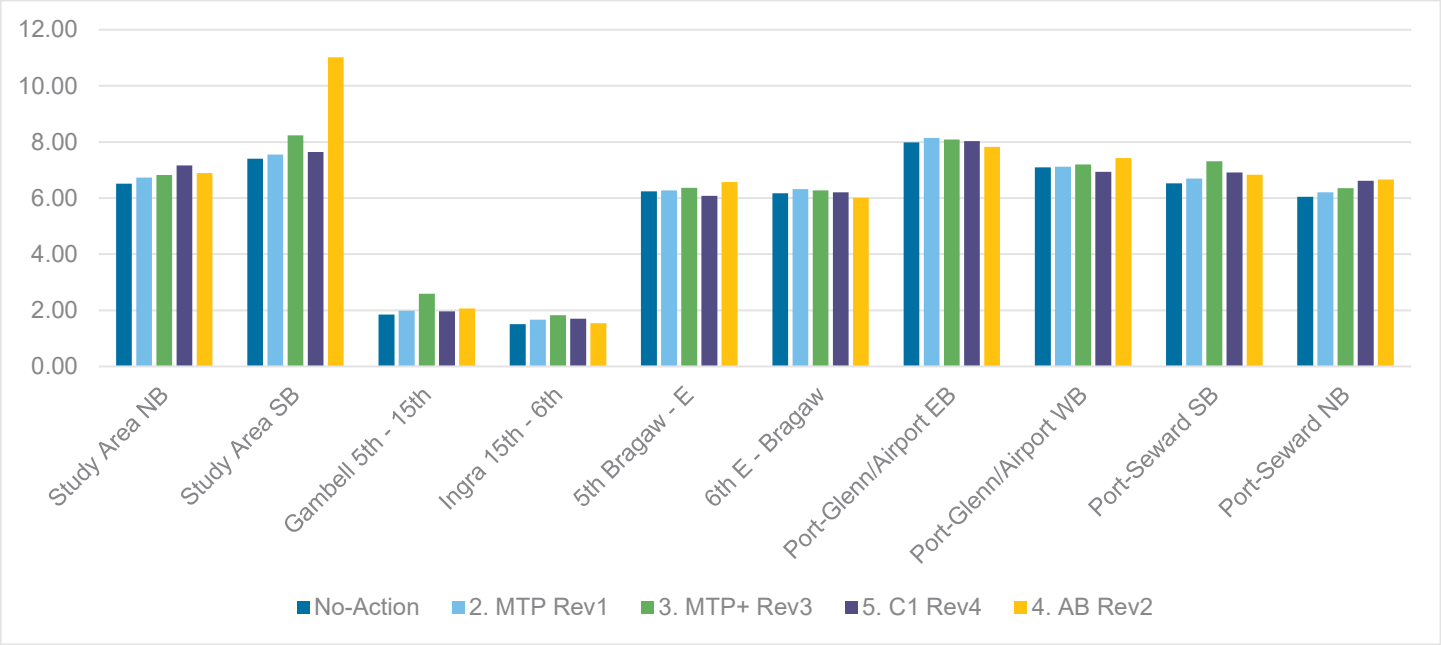


FIGURE 4: FORECAST 2050 TRAVEL TIMES (MIN.) BY SPECIFIC ROUTE

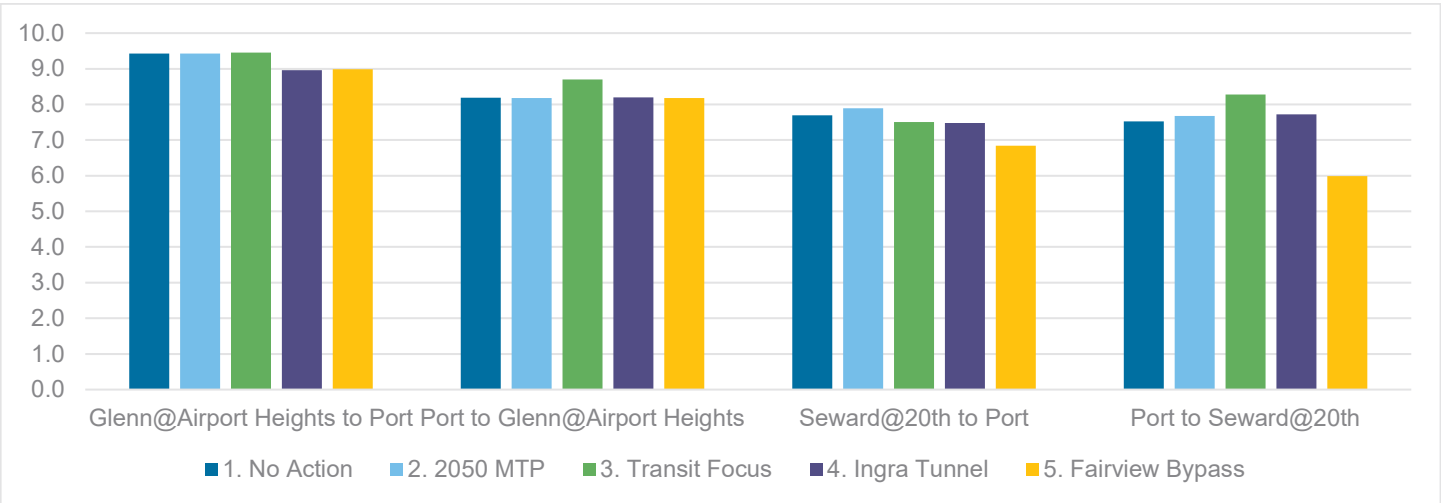


FIGURE 5: PORT-FOCUSED POINT-TO-POINT TRAVEL TIMES BY SHORTEST PATH

Road Performance

Within the Study Area, Alternative 4—Ingra Tunnel also performs well for vehicle mobility. It enables somewhat more vehicle travel (VMT) than the No Action at somewhat higher average speeds. By those measures Alternative 5-Fairview Bypass performs very well too, but its highest VMT (signaling that it enables more vehicle travel) and highest average speed are partly due to its significant effects on regional travel as described above. By contrast, Alternative 3-Transit Focus provides the least vehicle mobility (i.e., lowest VMT and lowest average Study Area road speeds) but with some compensation in the form of higher transit accessibility and mobility (see the *Transit and Active Mode Performance* section below). While the Transit Focus alternative removes roadway capacity from the Ingra-Gambell couplet—indeed, it deliberately lowers capacity by a large increment--it is important to note that it *adds* new HOV lane capacity on the Glenn Highway along Merrill field all the way to Eagle River, providing a net increase in *total* road capacity compared to other build alternatives. This helps to tamp down delay on the freeway system by providing high-occupancy vehicles their own lanes and relieving congestion on the Glenn Highway for other vehicles.

Indeed, the delay statistics in the tables above require careful parsing and explanation because of the very different nature of the alternatives under analysis. The maps below illustrate a subarea from the Ingra/Gambell couplet east to Bragaw for (top) the Transit Focus Alternative and (bottom) the Fairview Bypass alternative. They represent the 2050 forecast roadway volume/capacity ratio (V/C). This quantity is the total amount of hourly demand in number of vehicles divided by the total design hourly capacity of each road segment. Both maps use exactly the same symbology, except that the upper limit of V/C in the highest bin is greater for the Fairview Bypass. In summary, these V/C maps provide a key indicator of where delay occurs in the forecast roadway system.

This example—the same phenomenon applies to the Ingra Tunnel forecast—illustrates the points made above about both the attractiveness of the Bypass options and the average Study Area road speeds plus travel time statistics being better indicators of system performance than delay. As the maps show, Transit Focus spreads delay widely through the system (more links with higher V/C, the highest regionwide delay as shown in *Table 4*) while the Bypass puts all its highest V/C on the bypass segments themselves while lowering V/C in other places. Note that in the Study Area, Daily and PM peak hour delay are higher in the MTP and Transit Focus alternatives *than the No Action* because there is less total roadway capacity and because the extra Transit Focus transit service does not take away enough roadway demand to lower congestion (see **transit** section below). Conversely, while the Fairview Bypass and Ingra Tunnel options appear to increase delay, they do so only in the narrow sense that speeds on the Bypass and Tunnel roads themselves would be lower than posted for a great number of vehicles. Rather, they *increase* vehicle speeds and *lower* roadway travel times overall. In summary, the high delay in the Bypass and Tunnel alternatives relative to other alternatives is a sign of their ability to increase vehicle mobility and lower travel times—*the model is forecasting that travelers are willing to move at lower-than-posted speeds and thus encounter "delay" because their overall trip time will be shorter.*

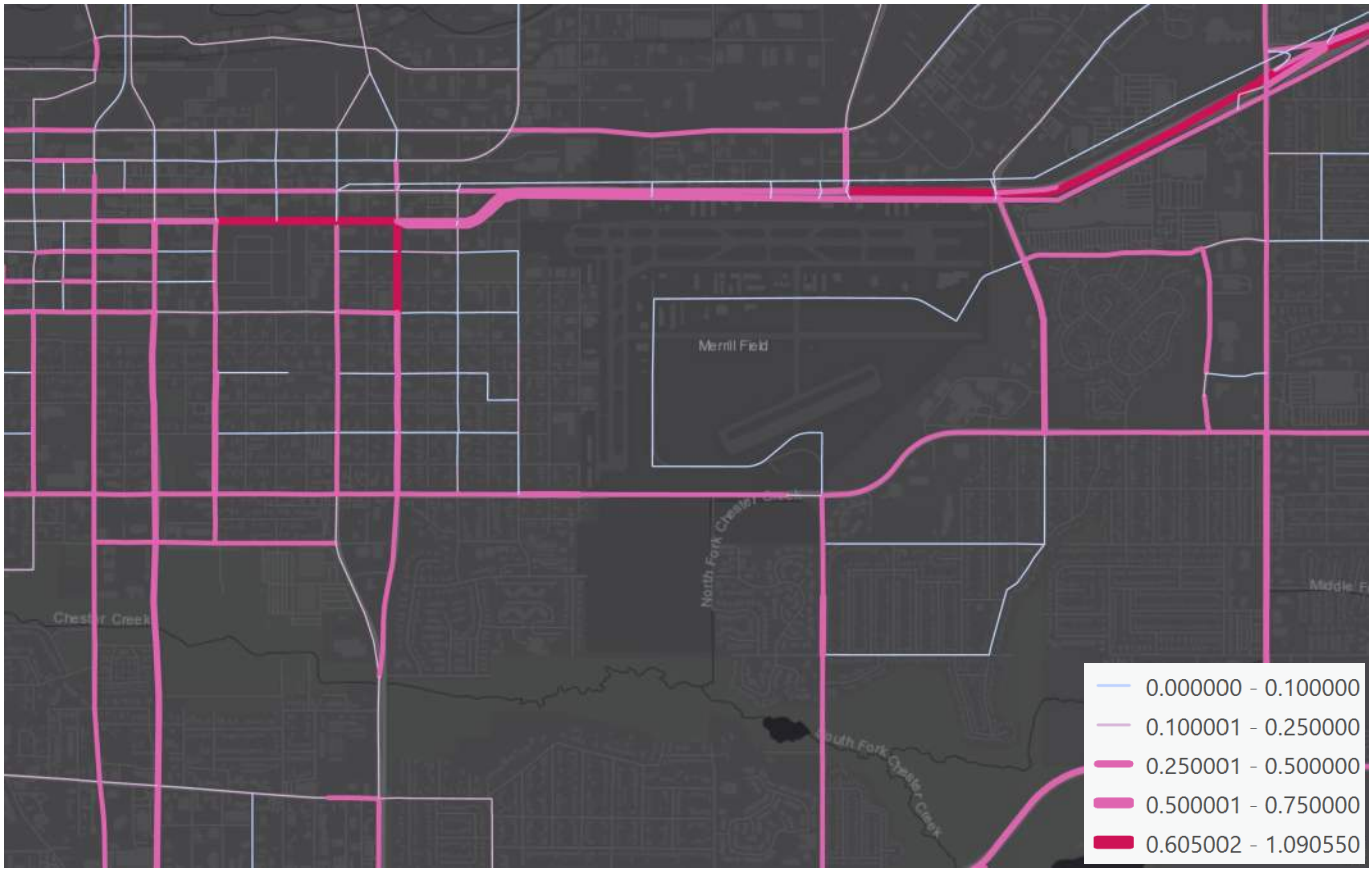


FIGURE 6: FORECAST 2050 ALTERNATIVE 3-TRANSIT FOCUS ROADWAY VOLUME/CAPACITY RATIO

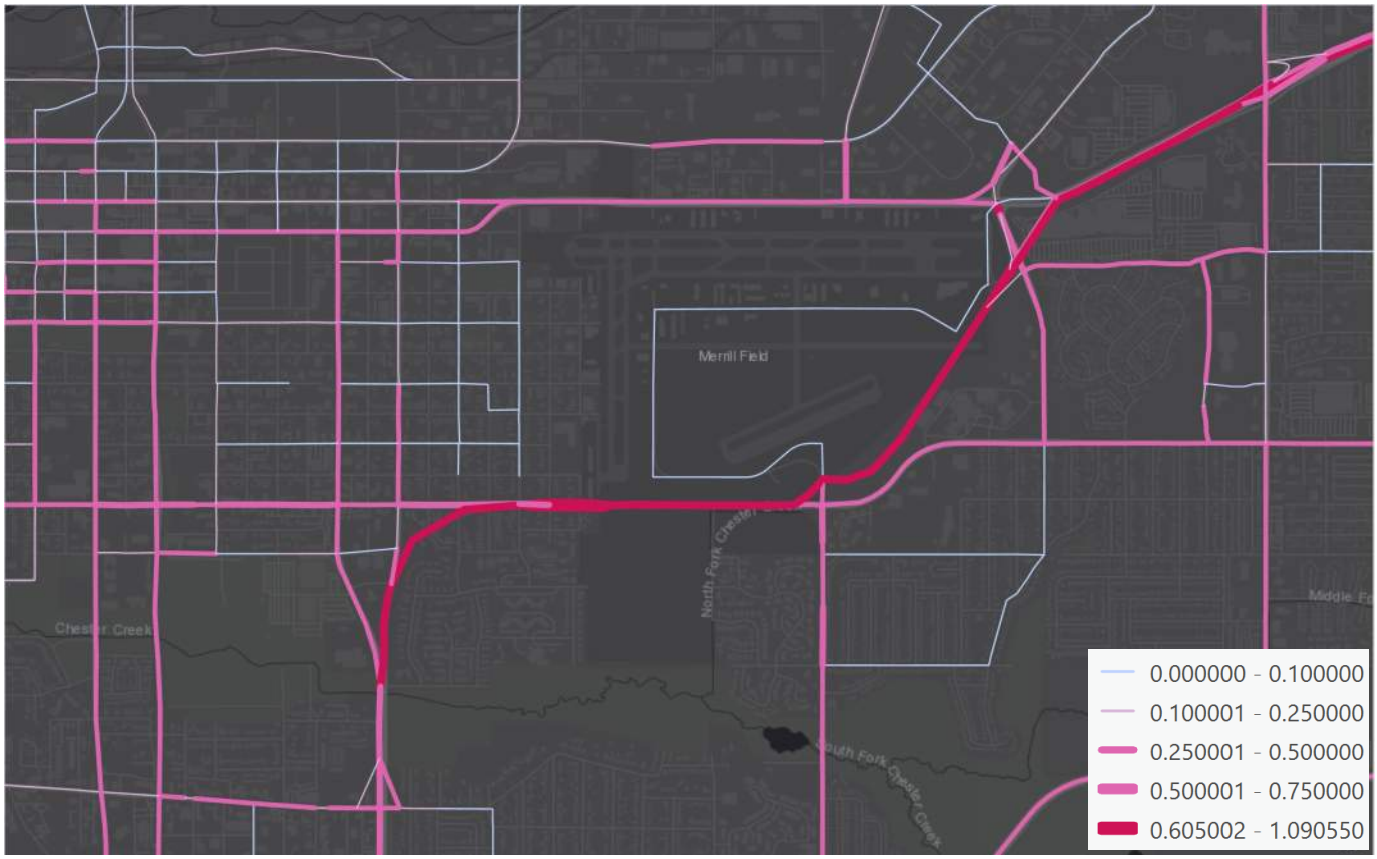


FIGURE 7: FORECAST 2050 ALTERNATIVE 5-FAIRVIEW BYPASS ROADWAY VOLUME/CAPACITY RATIO

Neighborhood Impacts

The daily diversion[2] maps in the Appendix provide a useful means of assessing small area impacts due to different levels of vehicle traffic forecast for 2050. The potential shifts in vehicle traffic in light of the various alternatives vary by area across the alternatives.

All alternatives shift traffic away from the Ingra-Gambell couplet, but the MTP and Transit Focus alternatives do so without the bypass options present in Alternatives 4 and 5. For the MTP and Transit Focus cases some of the shift occurs east of the couplet but since those local streets already have traffic calming measures, the bulk of their shift occurs elsewhere. The A/C streets couplet carries a good part of the shift in both Alternatives 2 and 3, with north/south options to the east such as Lake Otis Parkway and Muldoon carrying some of the load. As would be expected given their design configurations, the Transit Focus alternative has larger and more distant diversion impacts, for example higher volumes on longer stretches of Lake Otis Parkway, Bragaw, and Northern Lights.

By contrast, both the Ingra Tunnel and Fairview Bypass options lighten the load on Ingra and Gambell by design but also draw traffic *out* of Downtown and other locations in east Anchorage by offering shorter travel times. The Fairview Bypass alternative does push some traffic over to A and C to access downtown and the port (the Bypass pushes the most diversion of all alternatives to 3rd) and pushes some movements to the north/south axis along Bragaw and, to a slight extent, Muldoon. The game changing nature of the Fairview Bypass is again evident in the fact that it draws some traffic away from A/C and downtown *and* draws some traffic off of Muldoon and Boniface relative to the No Action.

In the small area between Gambell and Merrill field, the Transit Focus alternative would create the largest vehicle impacts as measured by higher diversions on several local blocks, although these effects are small in absolute terms (600 to 1,200 diverted vehicles), dampened by the traffic calming measures, and balanced to some extent by local trips that shift back and forth between local streets in response to the alternatives' design configuration outside the neighborhood (in other words, exactly how local residents would have to travel to access longer haul routes such as the Bypass, the Tunnel, the A/C couplet, etc.). The shift to smaller local streets is a function of less capacity on the arterials as drivers attempt to find alternate paths despite the constrictions of more local streets. The high regionwide aggregate delay in the Transit Focus relative to other alternatives is another indication of this phenomenon; for example, the Transit Focus alternative diverts more vehicles to Downtown than the other alternatives.

3.2 Transit and Active Mode Performance

As shown in the figures below, the transit service investments in the Transit Focus investments have a noticeable effect on transit mode share and transit system utilization. Those new and enhanced services produce a 7.1% increase in 2050 daily system boardings given a 6.6% increase in transit linked trips (equivalent to person-trips) relative to the No Action. In other words, this forecasts about 770 daily person-trips shifting to transit out of cars in 2050, based on a total daily person-trip count of about 1.672 million. The Transit Focus alternative includes a 5.7% increase in service-miles to affect this shift. This shift is reasonable given prior local analysis (e.g., for the AMATS *2050 MTP*) and real-world experience in other parts of the US, given that there was no assumed change in future land use patterns between alternative 3 and the no action (note that all alternatives are running future land use scenarios based on the adopted Anchorage Land Use Plan Map). This shift could be increased if denser land usage (both for residents and jobs) could be achieved beyond what is in Anchorage's adopted plans.

[2] Defined as the total change in vehicles on a given road segment in the mapped alternative relative to the 2050 No Action alternative.

TABLE 13: FORECAST 2050 REGIONWIDE DAILY TRANSIT BOARDINGS AND LINKED TRIPS

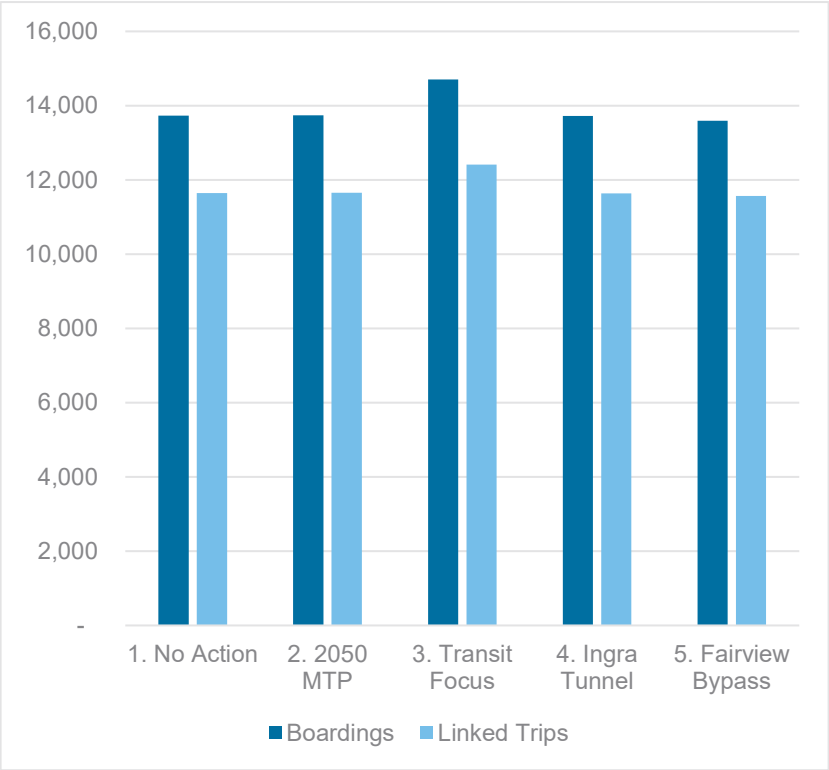
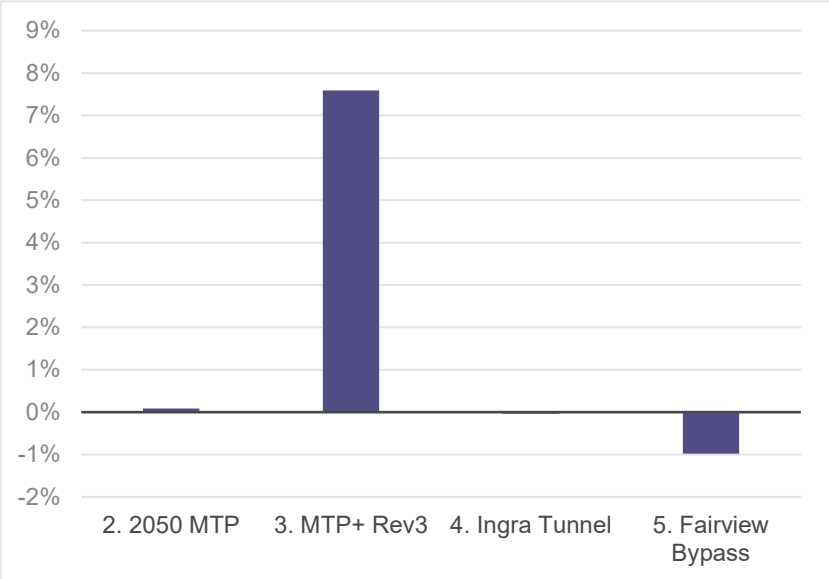


TABLE 14: FORECAST 2050 REGIONWIDE DAILY TRANSIT BOARDINGS--% DIFFERENCE FROM NO ACTION



The Transit Focus alternative also contains significant investments in “Complete Streets” solutions such as added bicycle infrastructure, amenities that increase walkability in the Downtown, etc. This bears some discussion since the SG PEL travel model—like most similar models—is less sensitive to factors that promote walk and bicycle mode share than to factors that affect transit share. It would be reasonable to assume that the Transit Focus alternative bike and walk mode shares would be slightly higher than the model’s forecast, with the personal vehicle modes slightly lower. However, it is unlikely that this increased active mode share would substantially alter the overall findings.

3.3 Transit Route Productivity in Alternative 3—Transit Focus

To support potential recommendations the study may make about transit options, the team rank-ordered the share of total daily boardings estimated by route for Alternative 3. The shares were used because the model's route-level transit forecasts are less accurate than its daily aggregate transit forecast. Routes highlighted gray (all with numbers in the three hundreds) are new routes analyzed in Alternative 3. The forecast finds that the UMED Rapid Transit route would likely be very productive whereas the Dimond-Downtown and Eagle River routes would be on par with other longer-haul services such as Valley Mover. The model forecasts that the MSB to Ted Stevens Airport run would be roughly as productive as other specialty shuttle services. As mentioned above, though, it could be reasonable to assert that the Airport route would attract somewhat higher boardings than the model suggests, since these large-scale models can underpredict long-distance transit usage.

TABLE 15: ALTERNATIVE 3--TRANSIT FOCUS TRANSIT ROUTE FORECAST SHARE OF 2050 DAILY BOARDINGS IN DESCENDING ORDER

Route	3. Transit Focus
Route 10 - Northern Lights	11.9%
Route 20 - Mountain View	11.5%
Route 25 - Tudor	10.8%
Route 304/305 - UMED Rapid Transit	9.1%
Route 30 - Debarr	7.0%
Route 96 - Dimond-Muldoon	6.2%
Route 40 - Airport	5.2%
Route 35 - Arctic	5.1%
Route 92 - Eagle River	5.0%
Route 85 - City Hall-Dimond	4.8%
Route 95 - Airport-Muldoon	4.8%
Route 55 - Lake Otis	4.4%
Route 65 - Jewel Lake	4.2%
ValleyTransit	1.6%
Route 302 - Eagle River Route	1.4%
Route 303 - Dimond to Downtown	1.4%
Route 11 - Fairview	1.1%
Route 31 - Northeast	1.0%
Route 91 - Huffman	0.9%
Route 31 - Northeast	0.8%
Route 21 - Mountain View Shuttle	0.6%
Rout 301 - MSB to TSAIA	0.6%
Route 41 - Gov't Hill Loop	0.6%
Gray shaded routes are new in Alternative 3--Transit Focus	
Total	**100.0%**

4.0 How to Interpret these Findings

Readers of this report should bear in mind the strengths and limitations of the SG PEL travel demand model. As described in the *Draft Travel Demand Modeling Report* (October 10, 2022), the model is a regional-scale demand model customized for the corridor study. It estimates road and transit travel using aggregate treatments for demand (the number and pattern of trips) and aggregate treatments of travelers' vehicle and transit route choices through the future transportation system. Its aggregate and geographically comprehensive nature allow it to reasonably quickly estimate all the travel that affects the Study Area which makes it ideal for *comparing* different alternatives' road volumes and transit boardings. However, the aggregate treatment of demand and route choice means that the model is not as precise and accurate at an individual level road segment or transit route level as a microsimulation model would be. In other words, the model is best used to assess the *relative difference* in volumes *rather than point-level volumes on specific road segments*.

4.1 Roadway Estimates

The aggregate nature of the model's vehicle route choice methods also means that the model estimates *demand* for route choices but does not constrain that demand to the real-world capacity of the roads in question. The model does adjust the travel time downward the more vehicles it loads onto a route to represent congestion, but it does not explicitly account for "gridlock" or queue buildup at intersections. The model does balance the relative attractiveness of competing routes but the fact that it places a certain amount of demand on that route does not mean that those roads are performing at free-flow speeds or are uncongested. This is relevant to the Fairview Bypass alternative—the model estimates that travelers will find that Bypass to be very attractive relative to other routes, but further analysis should be done on any chosen alternative to refine the design in more precise terms. Such future work could employ microsimulation modeling techniques that explicitly account for queue buildup and thus provide more precise small-scale forecasts for refining the alternatives' design.

4.2 Transit Estimates

Readers should also note that the forecasting team post-processed the daily line-level transit boardings for this analysis in two ways:

- Valley Mover observed 2018/2019 base year boardings replaced the line-level Valley Mover estimated boardings and thus increased the total forecast 2050 daily regional total boardings (by 238 boardings).
- The team re-balanced the model-estimated line-level daily boardings for Routes 11, 30, 35, and 303 using observed base year proportional shares for Routes 11, 30, and 35 and an asserted portion of boardings that 303 would attract in the future year. The rebalancing was controlled to the overall model forecast regionwide total boardings. In other words, the balancing only shifted trips between routes and did not increase the total daily forecast boardings.

The transit rebalancing is made necessary and justified by the fact that the model's aggregate treatment of transit route choice tends to load most forecast boardings onto one particular route in cases where routes have significant overlap (this is a common tendency of regional-scale models). The team calibrated and validated the SG PEL model transit elements to base year regionwide total boardings, since for a roadway study the key question is how many travelers are driving versus using transit, so its *total* estimate of transit usage is robust. However, in this case the rebalanced routes all traverse similar portions of downtown Anchorage and the model was loading boardings disproportionately onto relatively few routes. Since observed behavior shows that the overlapping routes share these riders, it is appropriate to rebalance the forecast to those observed proportions.

Adding the Valley Mover boardings (238 daily) to the total daily boardings is necessary because the model tends to underestimate boardings on long haul commuter service. This is typical in aggregate demand models for long haul transit service where the drive alternative is faster and the competing transit trip is very long. Since observed data shows that people do indeed use Valley Mover and the route has little overlap with other routes, this adjustment as an *addition* to total model-estimated boardings is justifiable.

Appendix: Daily Volume and Daily Diversion Maps

This appendix contains the following maps.

Alternative 1 – No Action – Daily Volume

Alternative 2 – 2050 MTP – Daily Volume

Alternative 2 – 2050 MTP – Daily Diversion

Alternative 3 – Transit Focus – Daily Volume

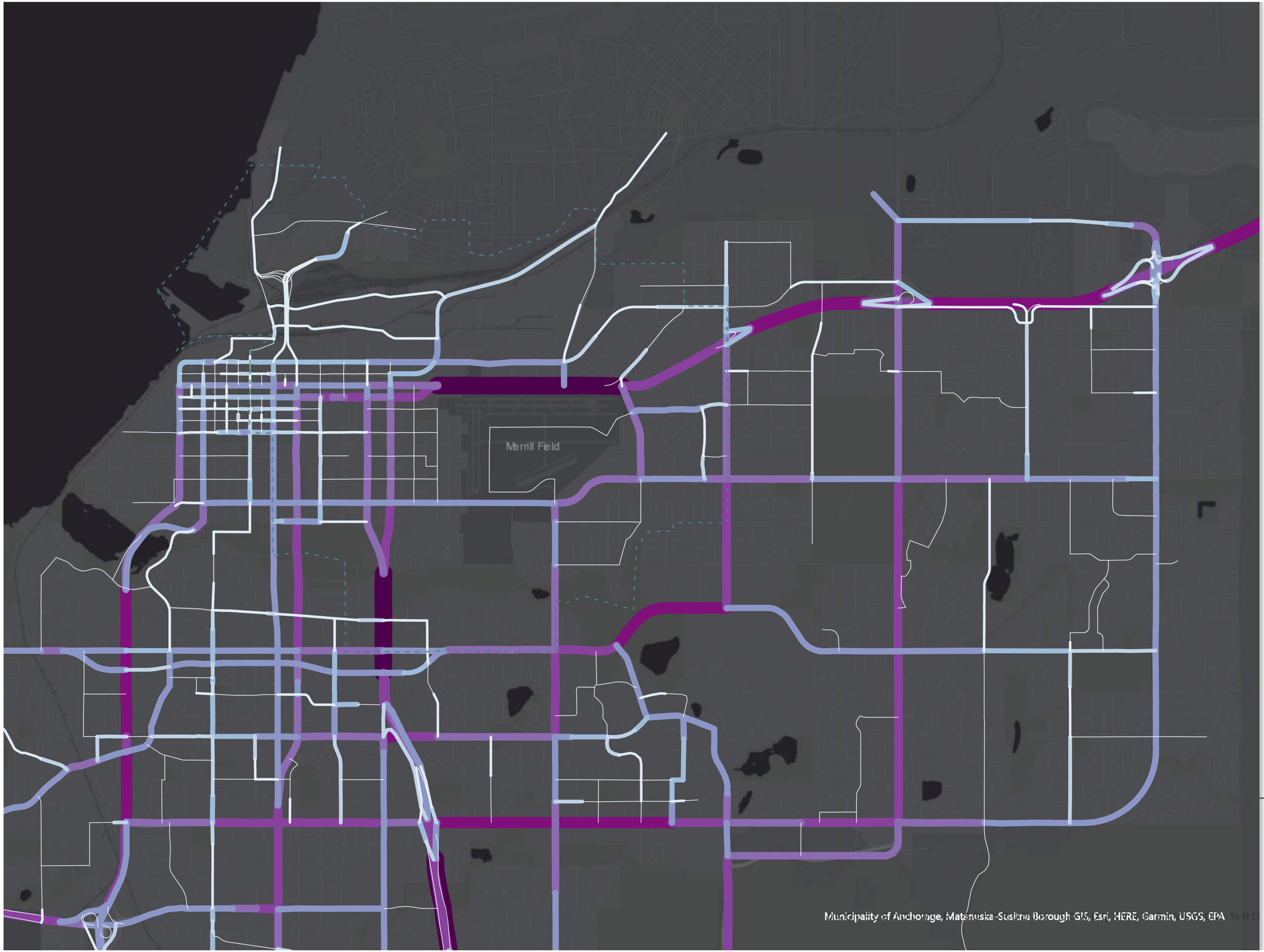
Alternative 3 – Transit Focus – Daily Diversion

Alternative 4 – Ingra Tunnel – Daily Volume

Alternative 4 – Ingra Tunnel – Daily Diversion

Alternative 5 – Fairview Bypass – Daily Volume

Alternative 5 – Fairview Bypass – Daily Diversion



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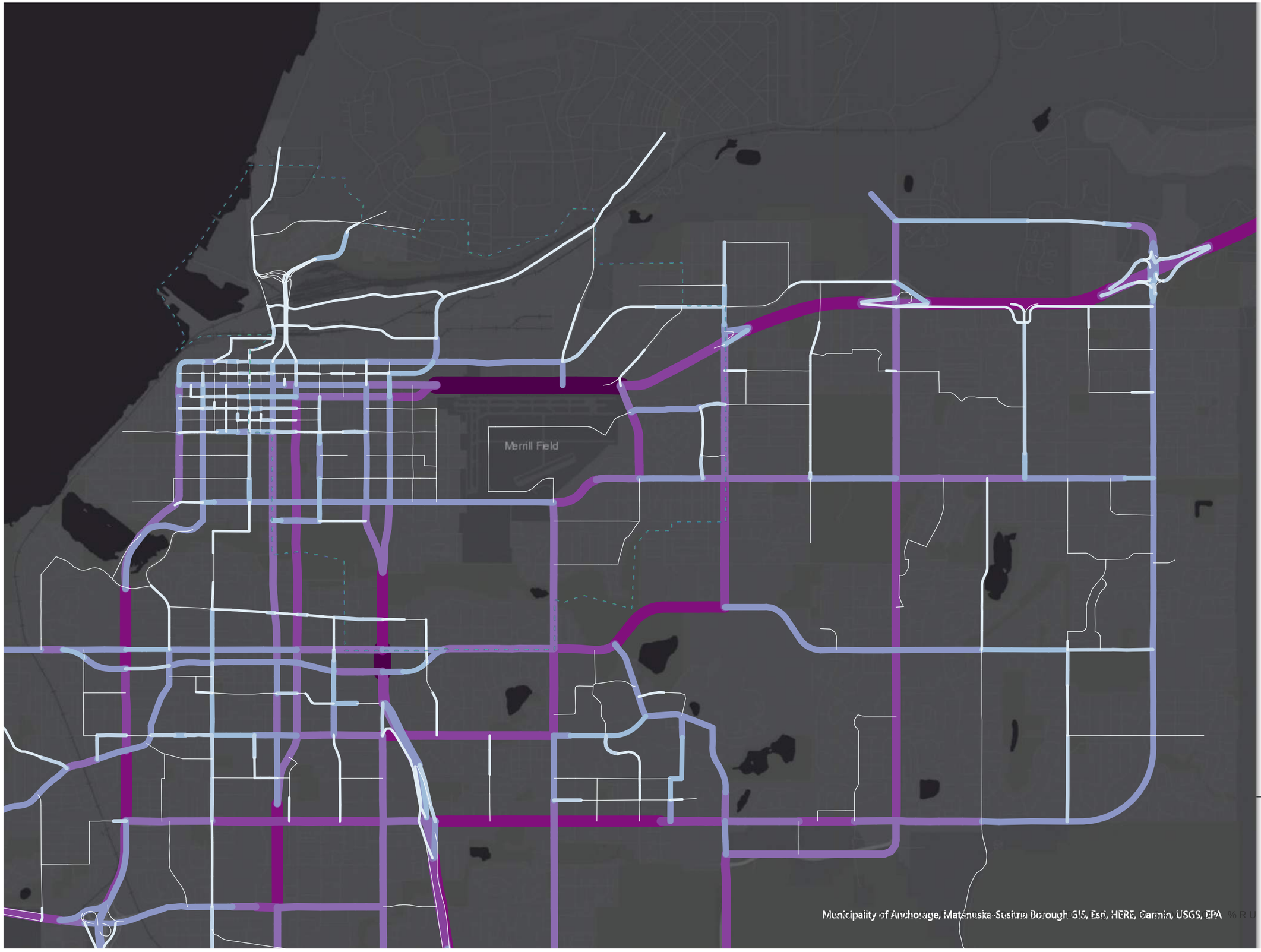

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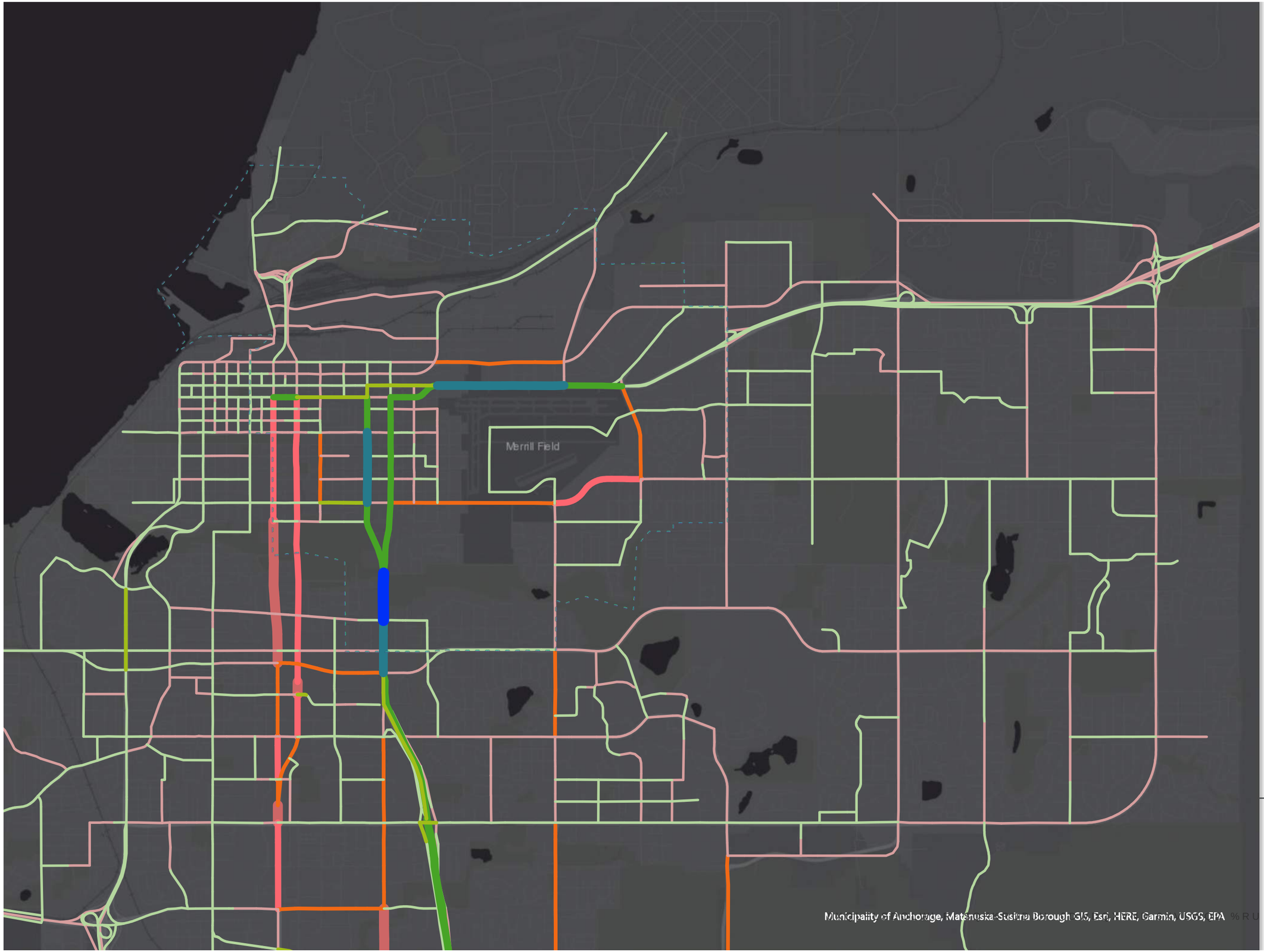

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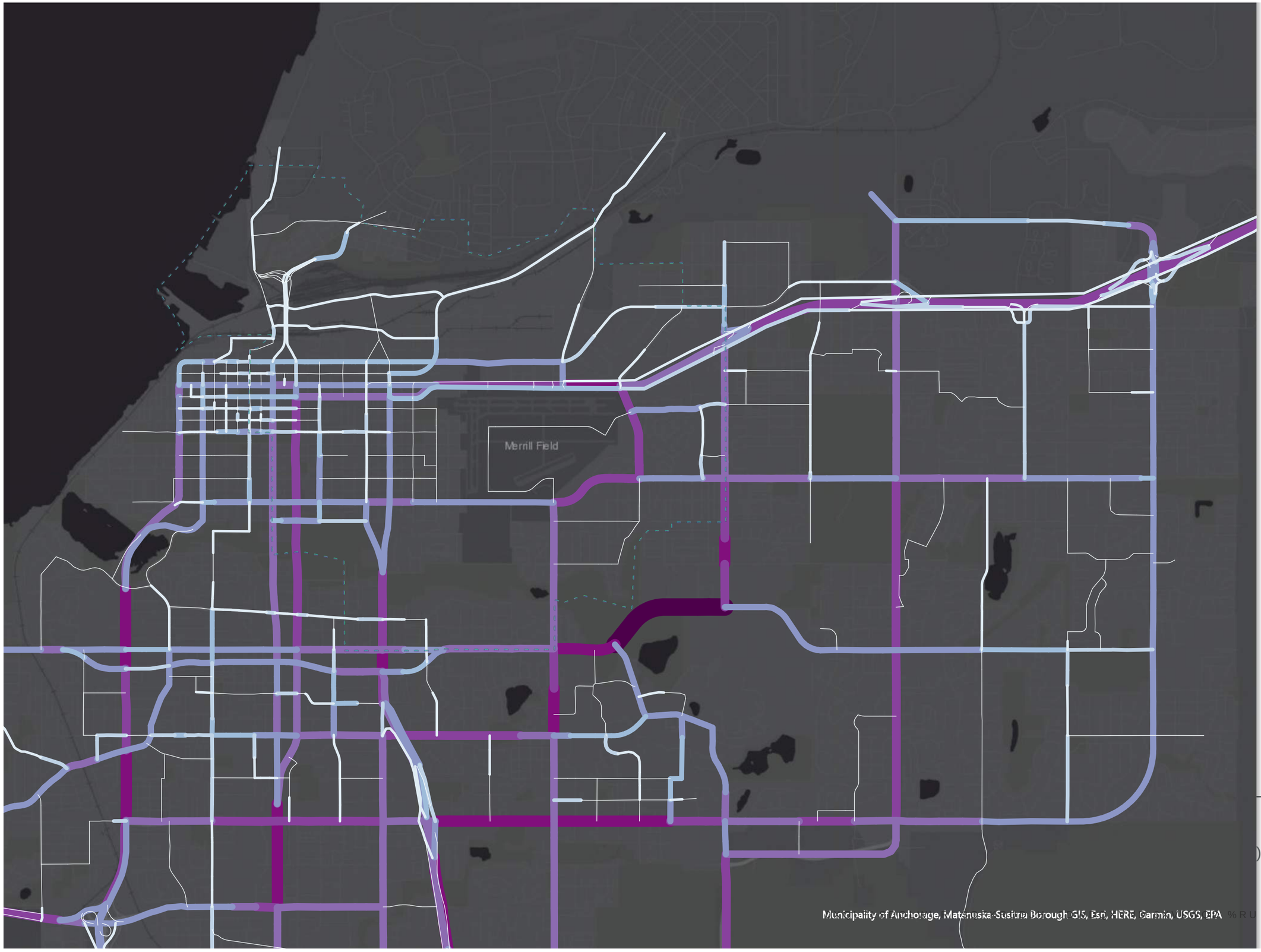

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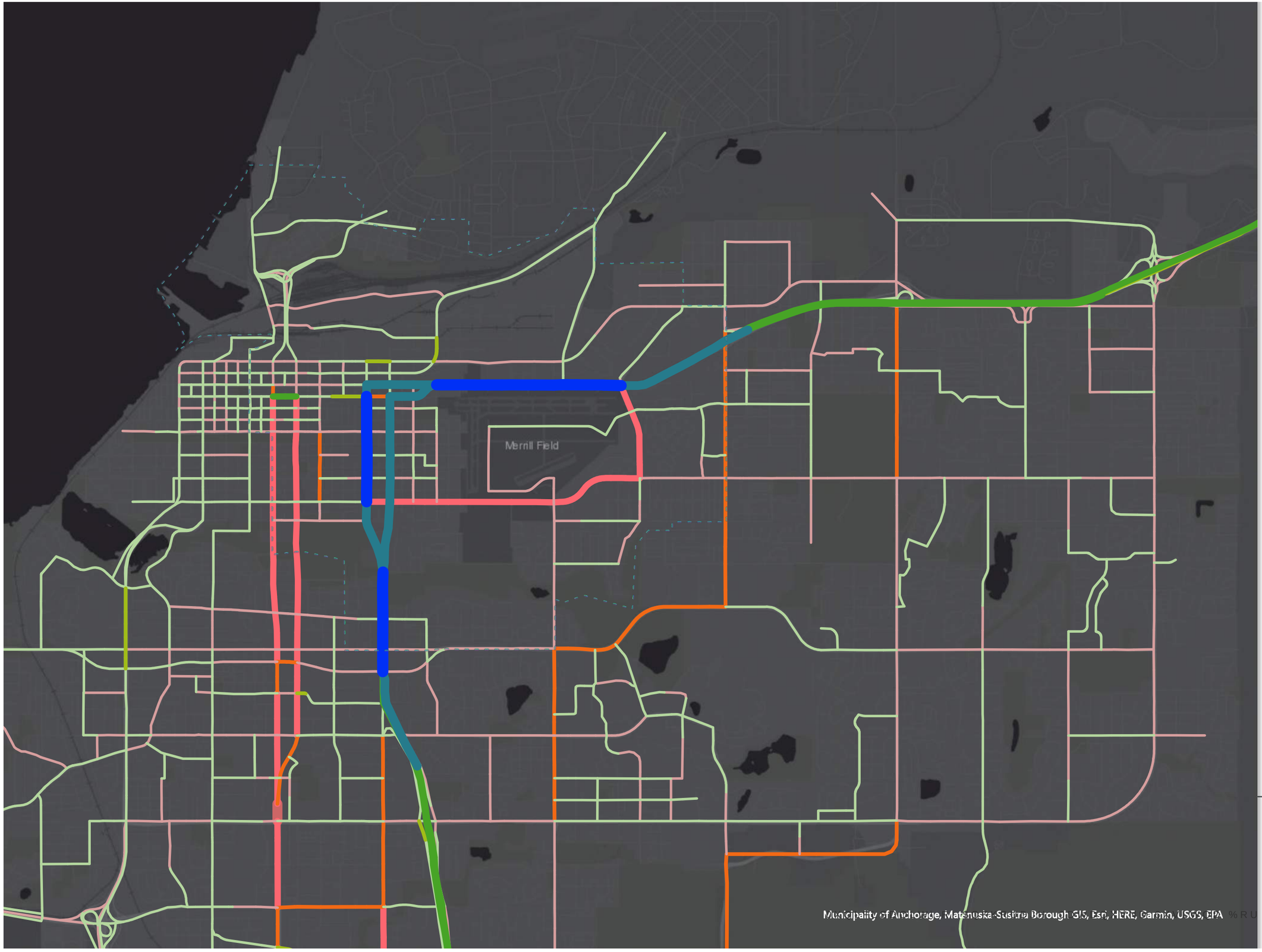

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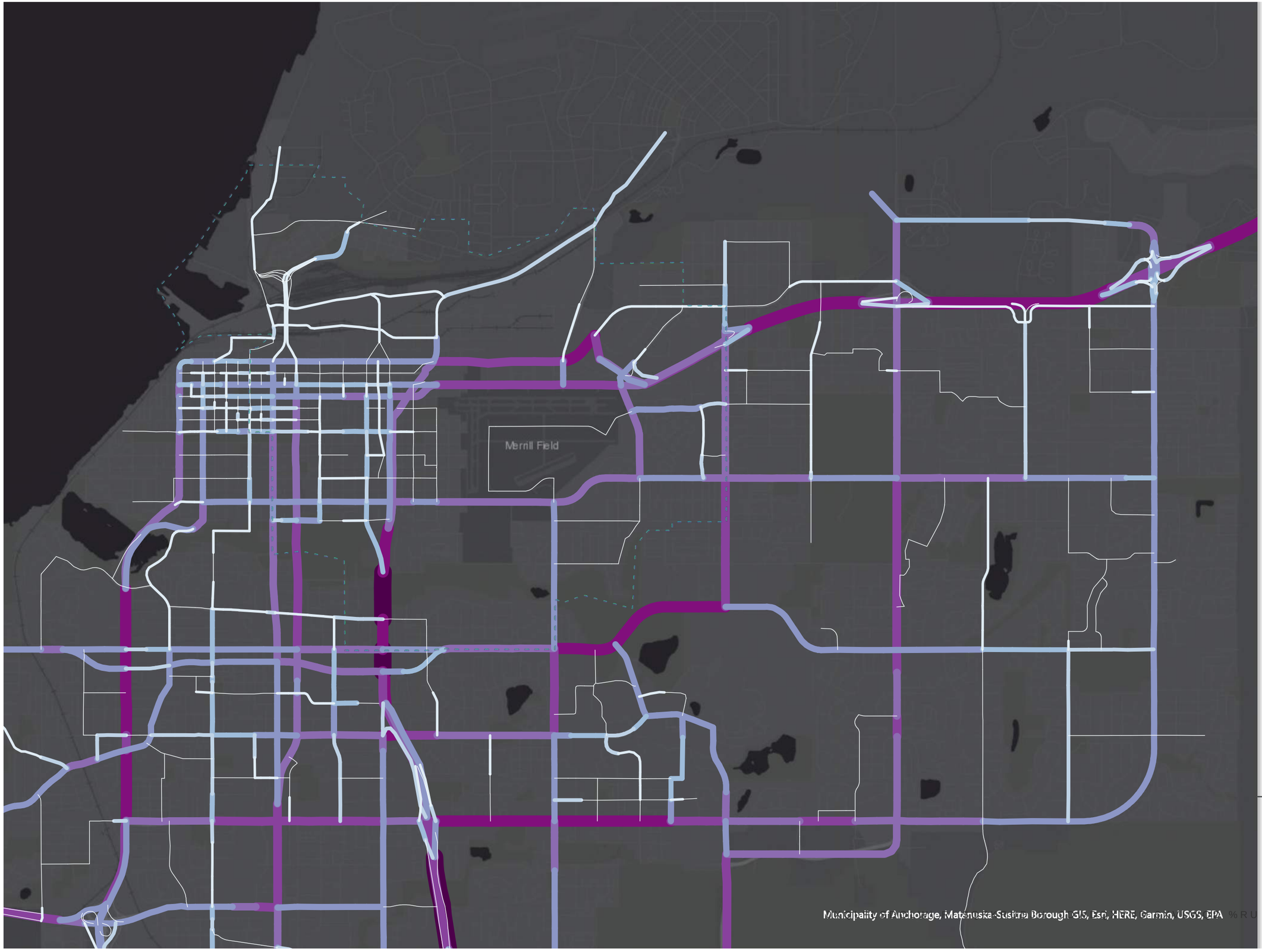

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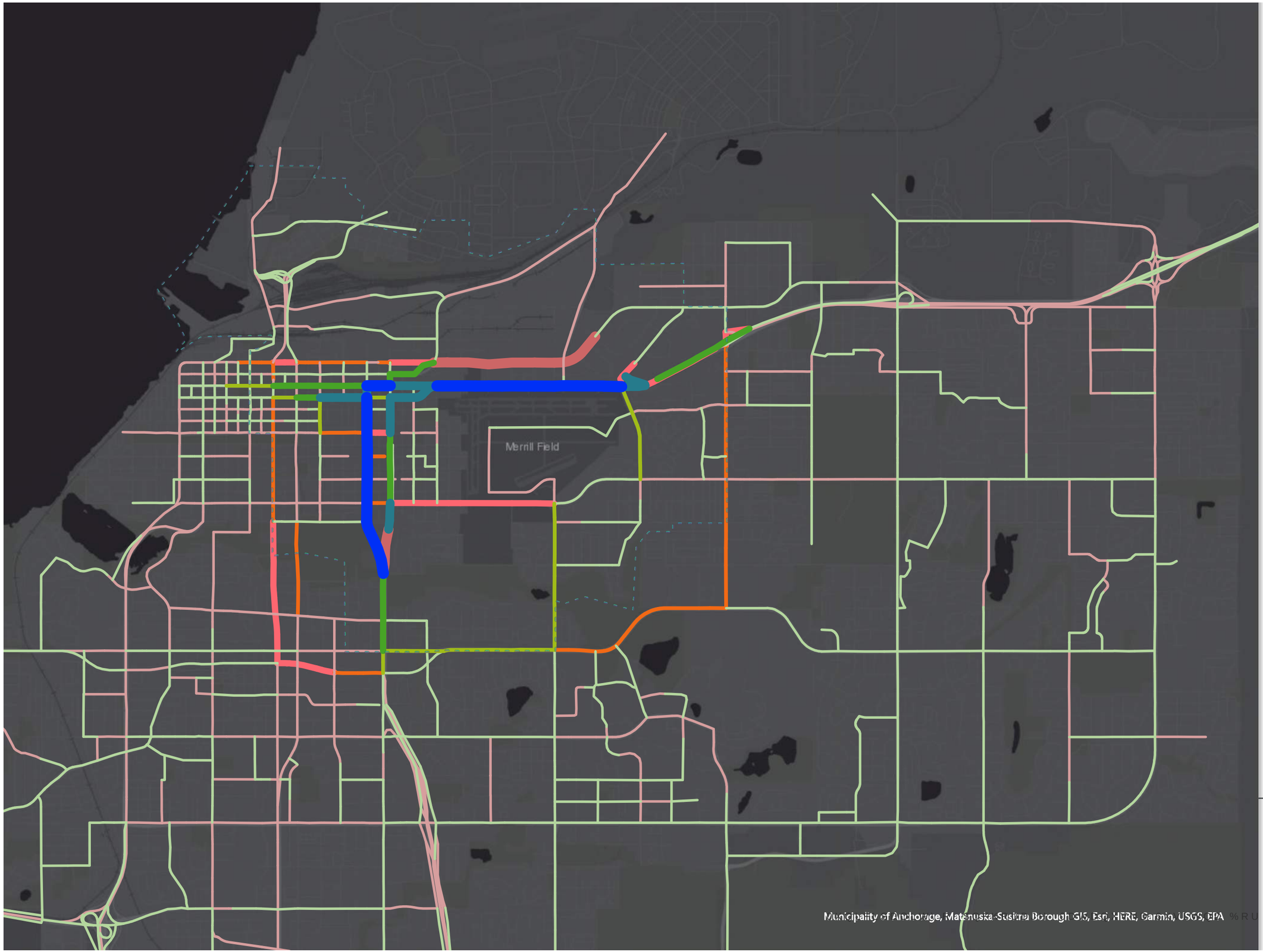

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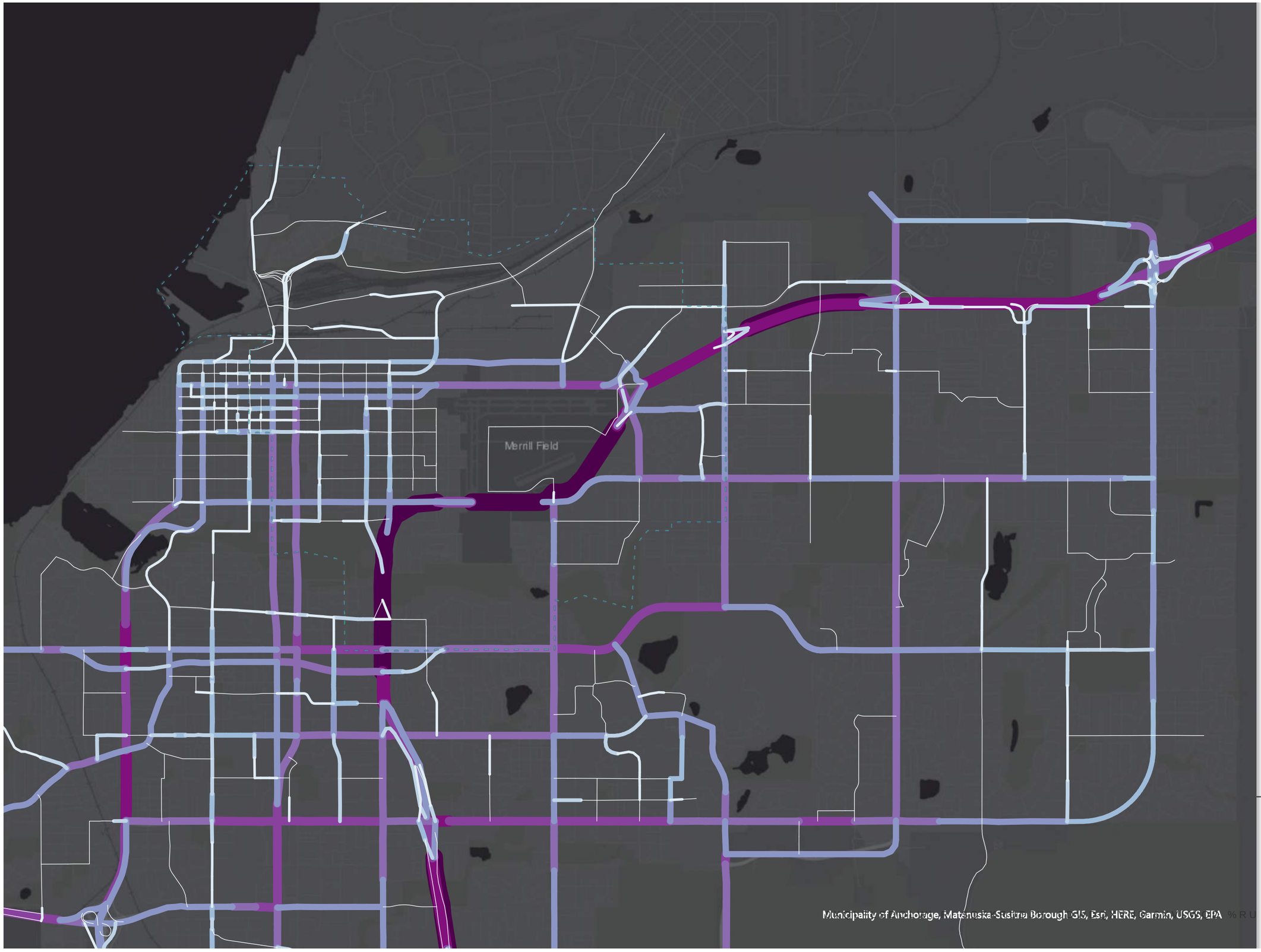

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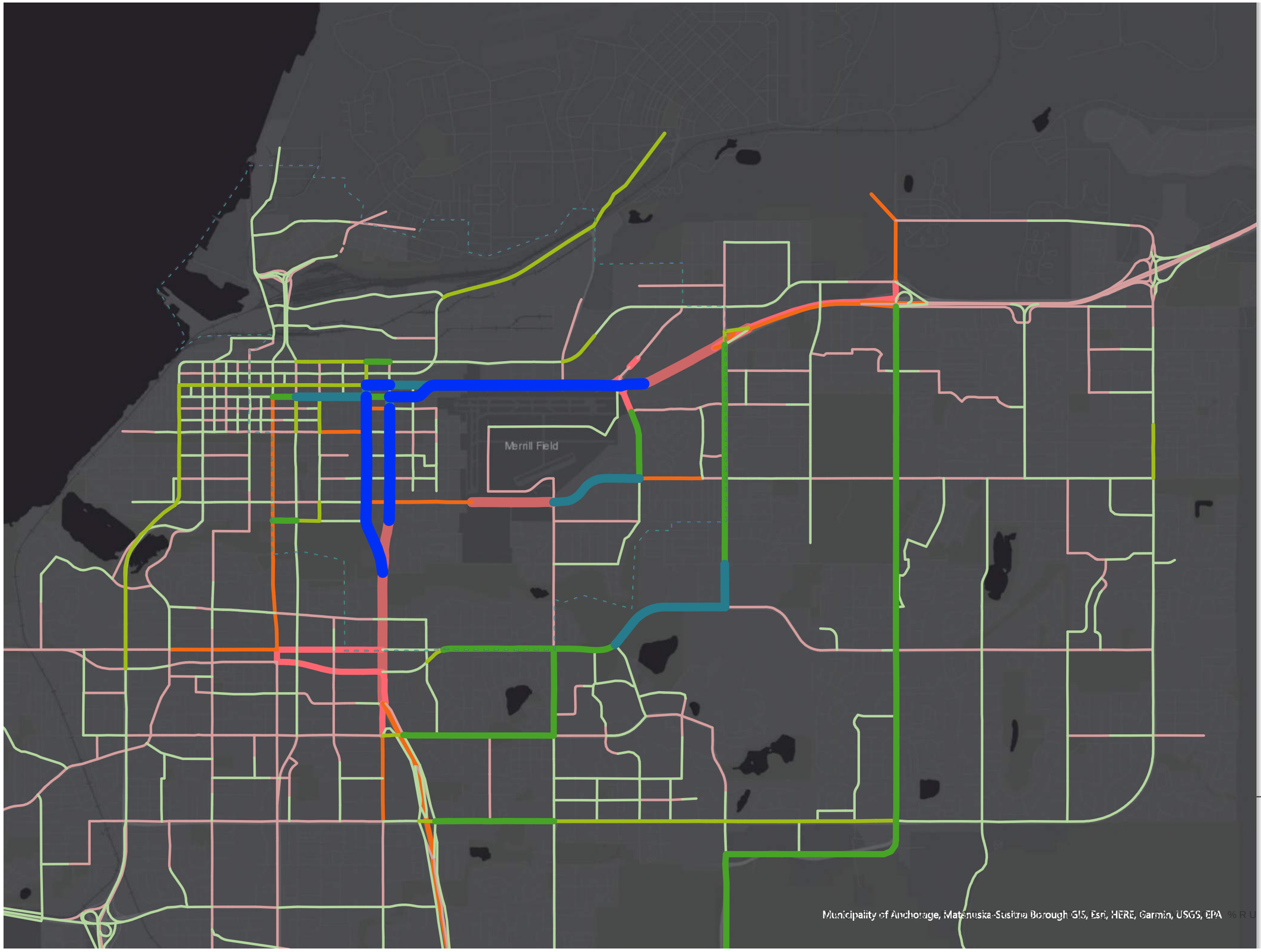

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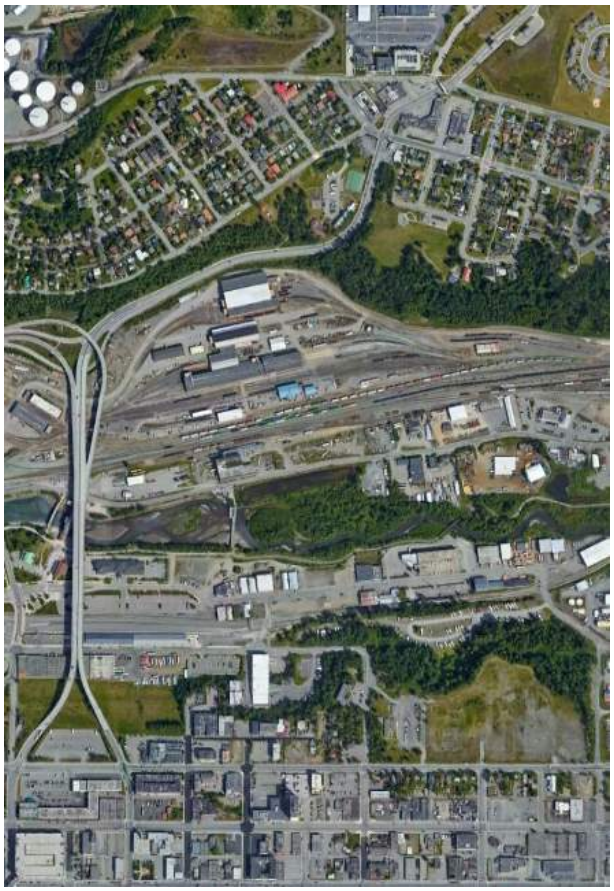
Appendix C: Gambell-Ingra Extension Study



AMATS: Ingra-Gambell Couplet Extension
DOT&PF Project No.: CFHWY00296
Federal Project No.: 0001598

Ingra-Gambell Couplet Extension Technical Memo

August 2025

DRAFT

This planning document may be adopted in a subsequent environmental review process in accordance with 23 USC 168 Integration of Planning and Environmental Review.

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 USC 327 and a Memorandum of Understanding dated November 3, 2017, and executed by FHWA and DOT&PF.

Prepared for:

Alaska Department of Transportation and Public Facilities

Prepared by:

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Table of Contents

1. Introduction

The Alaska Department of Transportation and Public Facilities (DOT&PF), in partnership with the Federal Highway Administration (FHWA), is proposing to identify alternatives that would extend the Ingra-Gambell Couplet in Anchorage to Ship Creek Avenue or Whitney Road. This technical memorandum evaluates three port access extensions from the Ingra-Gambell corridor to the Port of Alaska. The project will evaluate alternatives that improve circulation between the NHS system and the Port of Anchorage while also reducing congestion, enhancing safety, and improving freight mobility in Anchorage.

Do-nothing and the following preliminary alternatives were advanced to a 15% design level to evaluate geometric feasibility, constructability, multimodal integration, and development of planning level estimates:

- **Whitney Road Option – Ingra-Gambell Couplet Extension to Whitney Road**
- **Ship Creek Avenue Option – Ingra-Gambell Couplet Extension to Ship Creek Avenue**
- **First Avenue Option – Ingra-Gambell Couplet Extension to First Avenue Option**

The evaluation incorporates findings from prior engineering studies, stakeholder input, and freight planning data. Each alternative was analyzed for impacts to right-of-way, utilities, structural requirements, and traffic operations.

1.1 Summary of Prior Studies

This evaluation of alternatives draws on a broad library of planning and technical documents previously developed and public input and needs as identified as part of the Seward Highway to Glenn Highway PEL Study. Table 1 below includes a summary of studies that have been performed for this area since 2000. These resources provide the foundation for evaluating the Ingra-Gambell Couplet Extension alternatives and help ensure consistency with established planning goals, engineering standards, and community priorities.

Table 1: Summary of Existing Data and Prior Reports

Study	Description	Recommendation For Further Study
Ship Creek Multi-Modal Transportation Plan (MOA, 2000)	A long-range multi-modal transportation plan for the Ship Creek area, aimed at supporting economic redevelopment by improving access for trucks, pedestrians, bicycles, rail, and vehicles.	Supports the PEL objectives by enhancing connectivity between the port, Ship Creek, and downtown. Aligns with the Ingra/Gambell extension concepts. Identifies freight bottlenecks and modal conflicts.
Ship creek Framework Plan, Anchorage Economic	An urban design vision for transforming Ship Creek into a mixed-	Partially meets PEL purpose and need. Supports non-motorized

Development Corporation, Feb 2014	use, pedestrian-friendly waterfront district. Recommend trail networks, public spaces, and a relocation of Whitney Road to improve circulation.	and land-use goals. Realignment of Whitney Road and improved Ingra/Gambell access align with PEL alternatives. Lacks modal performance data but supports environmental and community values.
Anchorage Freight Mobility Study, AMATS, June 2017	Region-wide freight plan identifying multimodal bottlenecks, freight flows, infrastructure gaps, and prioritization strategies.	Provides valuable regional freight context. Aligns well with the PEL's focus on freight movement, particularly in the Port and Ingra/Gambell corridor. Complements, but does not replace, corridor-specific design analysis.

Other studies prior to 2000 include:

- AMATS Major Corridors Study, MOA, 1982
- Ship Creek Waterfront Land Use Plan, MOA, Aug 1991

These studies along with the data and input collected through Seward Glenn PEL community, agencies, and stakeholder outreach have informed the evaluation framework for this memorandum, guiding the identification of feasible alternatives and supporting alignment with community and freight mobility objectives. They also provide important context for integrating the Gambell-Ingra alternatives into the broader Seward–Glenn PEL framework.

1.2 Future Development Coordination

Several outstanding projects are located between 3rd Avenue and the Port of Alaska. Two of those projects are directly located in the route of evaluated alternatives.

The Knik Arm Crossing Project alternatives would extend Ingra-Gambell to tie into Government Hill and then continue along the bluff above the Port of Alaska. This project utilizes the same initial route as all three proposed alternatives for the Ingra-Gambell Extension. Both projects can be constructed without being in conflict as the Ingra-Gambell routes drop in elevation and shift to the east. This allows for the Knik Arm Crossing Project to continue at a higher elevation and go directly north without conflicts between structures and vehicle clearance.

There is proposed development for the Denali View RV Resort on the lot adjacent to 3rd Ave. on the north side. The project is meant to have a 10-15 year design life and include a few permanent structures. The temporary portions of the development would conflict with the Gambell section of the extension, but permanent structures could be avoided by the extension.

2. Project Description

This memorandum focuses on evaluating northbound extensions of Ingra and Gambell Streets toward the Port of Alaska. These extensions are analyzed for their compatibility with both the broader Seward–Glenn PEL corridor alternatives and the operational requirements of the port.

Each extension was assessed for its feasibility and integration potential with existing roadways, other corridor concepts, particularly in relation to connection geometry, freight routing, and traffic redistribution. The goal is to identify which alignment best supports freight access, minimizes impacts to surrounding infrastructure, and complements future regional mobility improvements. The evaluation criteria included:

- Geometric feasibility
- Accommodation of freight vehicles (including double-trailer combinations)
- Integration with Seward-Glenn corridor concepts
- Port connectivity
- Environmental footprint
- Impacts to existing traffic networks
- ARRC and Freight considerations

These categories reflect both design-based and operational considerations, and they allow for a consistent evaluation across all three alignment options.

3. Methodology

The evaluation of the Gambell-Ingra Port Access alternatives was designed to align with the Seward–Glenn PEL study and to comply with applicable federal, state, and municipal planning and design standards. The process began with a review of previous engineering studies, traffic forecasts, travel demand models, and public input to identify the corridor's needs, constraints, and operational priorities. Figure 1 shows the new extension from Ingra and Gambell Roads and the use of existing roads to reach the Port of Anchorage.

Each alternative was assessed for its geometric and operational feasibility, impacts to traffic performance, constructability challenges, environmental implications, right-of-way requirements, and compatibility with regional freight and transit operations.

Each alternative was developed using design standards appropriate to the agency responsible:

- State-owned roadway segments followed Alaska Department of Transportation and Public Facilities (DOT&PF) standards.
- Municipally owned roadway segments adhered to the Municipality of Anchorage (MOA) Design Criteria Manual (DCM).
- Pedestrian and bicycle infrastructure followed MOA DCM guidelines.
- Bus infrastructure considerations, such as stop location and design, were based on roadway classification and transit guidance from MOA.

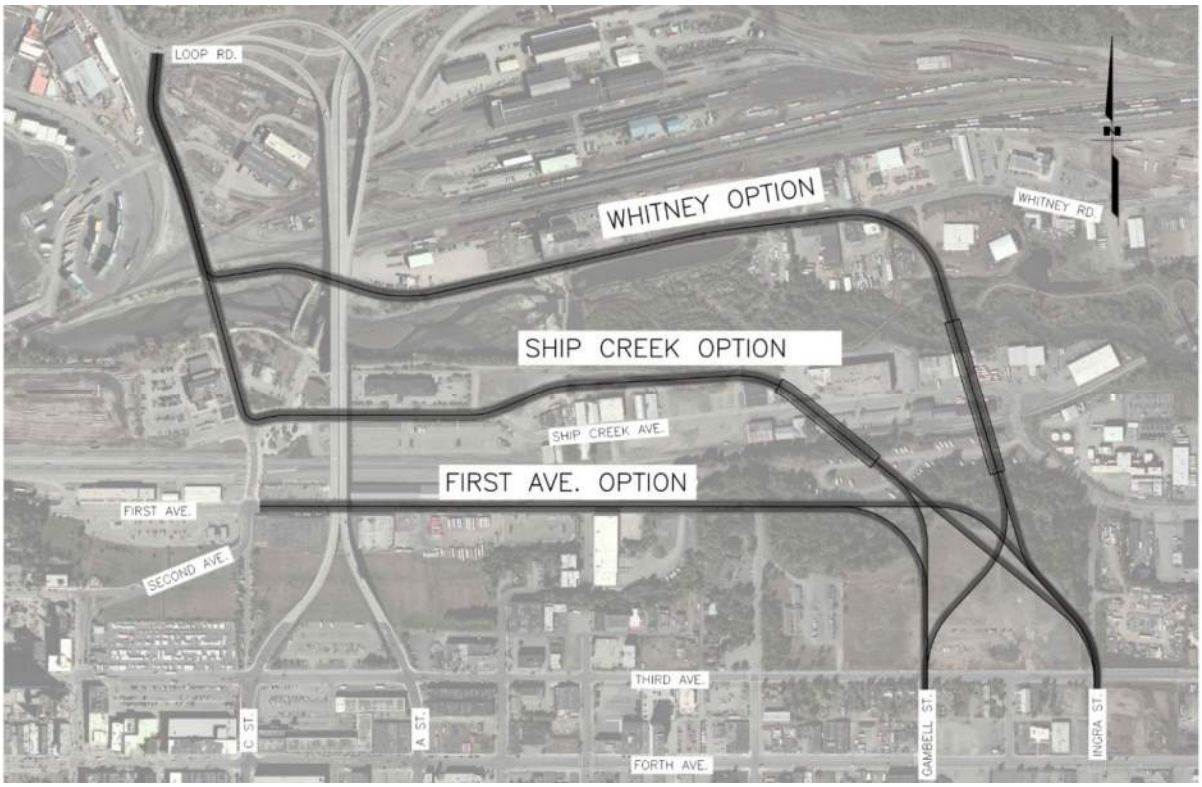

Figure 1: Ingra and Gambell Couplet Extension Preliminary Alternatives

Stakeholder coordination was a key element of the process. Input was collected from freight stakeholders, municipal agencies, the Alaska Railroad Corporation (ARRC), and Anchorage Metropolitan Area Transportation Solutions (AMATS). Freight Workshop discussions and public meetings helped shape evaluation priorities, especially regarding truck access, double-trailer operations, rail conflicts, and multimodal connectivity.

Each extension was advanced to a 15% design level to support consistent comparative analysis. Preliminary concept drawings, plan and profile, are provided in Appendix A.

3.1 Ingra-Gambell Couplet Extension to Whitney Road

The Whitney Road extension alternative would extend the Ingra-Gambell corridor northward across Ship Creek and the Alaska Railroad Corporation (ARRC) corridor to connect with Whitney Road. Figure 2 shows the Whitney Road proposed extension and existing roads to reach the Port. Planning efforts focused on identifying appropriate tie-in locations for a bridge that would span both the waterway and active rail tracks while meeting the vertical clearance requirements established by the railroad. Conceptual profiles and typical sections were developed to analyze the grade transitions necessary for vehicles, particularly long combination vehicles, to enter and exit Whitney Road.

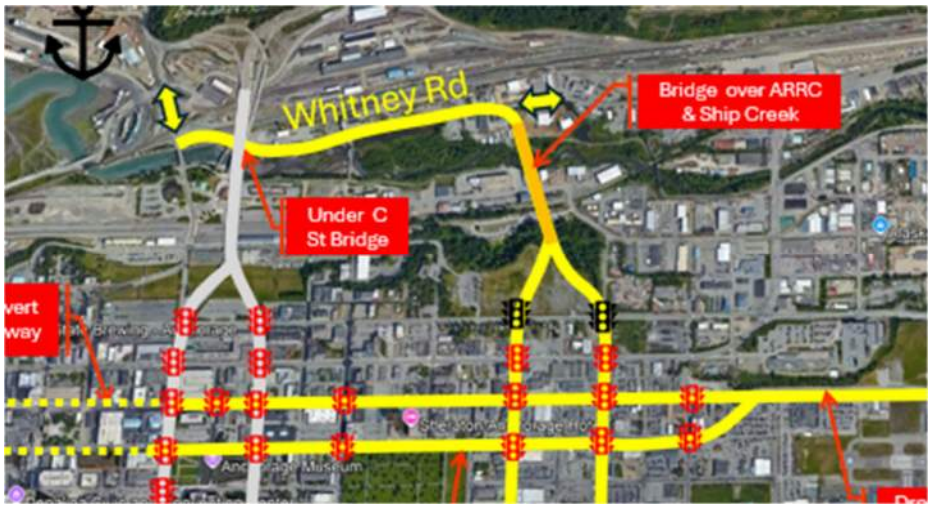

Figure 2: Whitney Road Option

Additional review examined the existing right-of-way and land use conditions along Whitney Road to evaluate the feasibility of future widening or improvements. The corridor layout was coordinated with potential upgrades to Ocean Dock Road and its intersection with Loop Road to support anticipated freight and port traffic growth. Preliminary plan and profile sheets were prepared to identify logical phasing opportunities and to evaluate utility constraints, constructability challenges, and multimodal considerations for trail and sidewalk facilities.

3.2 Ingra-Gambell Couplet Extension to Ship Creek Ave

This Ship Creek Ave. alternative, as shown in Figure 3, proposes a bridge extension from the Ingra-Gambell corridor northward, crossing two ARRC rail lines and Ship Creek, and connecting to Ship Creek Avenue. The design concept includes a new bridge structure that meets the vertical clearance requirements for the rail corridor.

Figure 3: Ship Creek Avenue Option

The route would continue north along Ship Creek Avenue. Ship Creek Ave. would likely require upgrades to support projected freight traffic volumes. Design development included evaluation of bridge height, structural transitions, and roadway grade adjustments necessary to maintain acceptable slopes for large

freight vehicles. Constraints such as adjacent industrial land uses, limited right-of-way, and narrow street widths influenced the typical section and dictated more compact cross-sectional design elements.

The concept was assessed for its ability to accommodate truck maneuverability, address multimodal connectivity, and minimize disruptions to surrounding industrial properties while maintaining compatibility with long-term freight access goals.

3.3 Ingra-Gambell Couplet Extension to First Avenue

The First Ave. alternative, as shown in Figure 4, extends the Ingra-Gambell corridor northward, transitioning to Eagle Street before connecting with First Avenue. Preliminary engineering identified significant geometric challenges, including steep vertical grades, tight turning radii, and limited right-of-way availability.

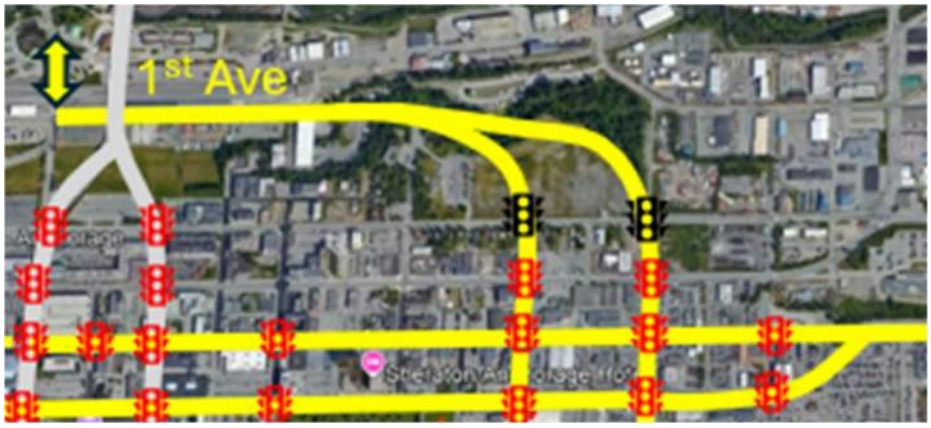

Figure 4: First Avenue Option

The conceptual design required the use of maximum allowable slopes and minimal curve radii, pushing the limits of geometric feasibility. These constraints raise concerns about operational safety and vehicle performance, particularly for heavy freight vehicles and double-trailer combinations.

4. Design Elements

4.1 Preliminary Design Criteria

The design elements presented in this section are based on preliminary engineering concepts developed to the 15% level. These criteria provide a consistent basis for comparing the three Ingra-Gambell Couplet Extension alternatives and reflect standard guidance from DOT&PF. The intent is to balance feasibility, performance, and regulatory compliance during early-stage evaluation. Further refinement will be required as the project advances, and some alternatives may ultimately require design exceptions due to geometric constraints, infrastructure conflicts, or environmental limitations.

Figure 5 shows who has maintenance and ownership responsibility for the roads in the vicinity of the project area. The alternatives identified in this study would be owned by the DOT&PF, therefore the governing Design Criteria, as identified in Tabel 2, was based on the Highway Preconstruction Guidance unless otherwise noted.

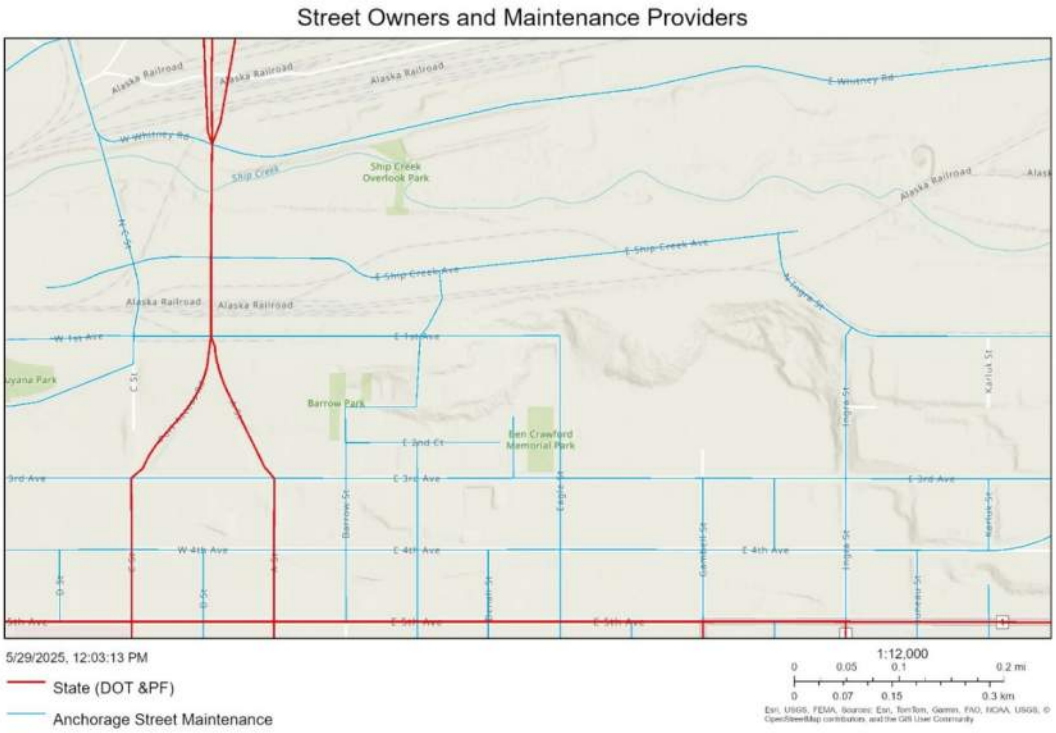

Figure 5 Area Ownership

Design Classification and required Improvements per the MOA Design Criteria Manual (DCM) should be considered for inclusion in the final project. The project area is classified as an urban street under AMC 21.85.020D. Required improvements include:

- Paved street surface
- Curb and gutter
- Sidewalks
- Walkways
- Trails
- Streetlights
- Traffic control devices
- Street signs
- Landscaping
- Storm drain

Table 2: Design Criteria Applied to Preliminary Concepts

DESIGN CRITERIA	SOURCE	STANDARD	PROPOSED
Classification	2018 GB Section 1.4.3.4.3	Urban Collector Street	Urban Collector Street
Design Speed	2018 GB Section 5.3.1.1	30 MPH	30 MPH
Posted Speed	2018 GB Section 5.3.1.1	30 MPH	30 MPH

Number of Lanes	2018 GB Section 5.3.2.2	2 Lanes	2 lanes
Lane Width	2018 GB Section 5.3.2.1	11-12 ft	11 ft
Shoulder Width	2018 GB Section 4.4.2	2-12 ft N/A	5 ft
Curb	2018 GB Section 5.3.2.5	Required	Required
Buffer	AKPCM Section 1210.4.3	10 ft between edge of traveled way and edge of pathway	7 ft
Pedestrian Facilities	AKPCM Table 1210-1	8’ shared use	NB side 8’ width Back of Curb
Parking	2018 GB Section 5.3.2.3	8’ one or both sides	Prohibited
Bicycle Facilities	AKPCM Table 1210-1	8’ shared use	8’ shared use on NB side
Grades	2018 GB Section 5.3.1.5	Max Grade 8.0%	4.0% Maximum
Cross Slope	2018 GB Section 5.3.1.6	1.5-2%	2%
Vertical Curvature (min) K (crest)	2018 GB Table 3-35	29.0	29.0
Vertical Curvature (min) K (Sag)	2018 GB Table 3-37	49.0	49.0
Stopping Sight Distance (SDD), min	2018 GB Table 3-2	260 ft	260 ft
Horizontal Curve Radius, min	2018 GB Table 3-8	371 ft	371 ft
Superelevation Rate, e, max	2018 GB Section 3.3.3.2	4-6%	4%

Design flexibility and performance were assessed by comparing minimum and desirable design standards, and by evaluating the selected 30 mph design speed in relation to the functional classification of a minor arterial. A future traffic and safety analysis, including a speed study, will be required to validate these assumptions under actual conditions.

Some localized constraints may require reduced design speeds or design exceptions. Currently, the width of the cross-section is one of the most significant limitations. The proposed section meets minimum width requirements but may require exceptions for sidewalk or buffer standards. If such exceptions are not granted additional ROW may need to be acquired.

Additionally, the maximum allowable street grade was reduced from the standard 6% to 4% specifically to improve safety and reliability for freight traffic, particularly for long combination vehicles operating in the corridor.

4.2 Typical Section

The proposed typical section, as shown in Figure 6, is designed to meet the minimum required standards in order to minimize the overall project footprint. This approach was chosen to reduce impacts in areas where right-of-way (ROW) acquisition could be costly or disruptive, particularly in developed urban segments. Expanding the roadway cross-section to accommodate additional lanes significantly increases the roadway width, which in turn intensifies the need for additional ROW and potential displacement of existing uses.

Figure 6: Typical Section

The current typical section includes two travel lanes, curb and gutter, sidewalk on one side, and limited buffer spacing. It reflects a balance between accommodating multimodal needs and maintaining a compact footprint.

While the layout meets minimum criteria, further evaluation is recommended to determine whether more desirable elements—such as a median, wider shoulders, or enhanced pedestrian buffers—can be incorporated without incurring prohibitive costs. These enhancements could provide long-term operational and safety benefits, especially for freight movements and non-motorized users.

Continued coordination with stakeholders and further design development will be necessary to refine the typical section and determine whether additional features are justified or feasible within the project's constraints.

4.3 Railroad Track Crossings

Both the Ship Creek Avenue and Whitney Road alternatives require construction of new overpasses to span existing Alaska Railroad Corporation (ARRC) tracks. These structures must meet established vertical clearance requirements to ensure safe and compliant rail operations. Preliminary design reviews indicate that sufficient clearance can be achieved without major complications, making these options technically feasible from a structural and regulatory standpoint.

In addition to the proposed new overpasses, all alternatives may require updates to the existing railroad crossings along Ocean Dock Road to meet current safety and operational standards. A Railroad Crossing Checklist will need to be performed as part of the project to make this determination. Although the general alignment of Ocean Dock Road will remain unchanged, modernization of these crossings is necessary to support long-term rail and freight coordination. Required upgrades will focus on safety improvements, signalization, and surface treatments rather than realignment. New crossings will require the preparation of a Diagnostic Team Study.

The railroad alignment itself will not be impacted by the proposed improvements. Instead, the focus will remain on enhancing the safety, reliability, and efficiency of interactions between roadways and rail infrastructure in and around the port access routes.

4.4 Potential Utility Conflicts

Shared Utility Considerations (All Alternatives): A parcel north of 3rd Avenue, between Ingra and Gambell Streets, contains private storm drain infrastructure, as identified on the municipal stormwater asset map. The condition and function of these facilities are unknown, but they may be remnants from when the Alaska Native Medical Center previously occupied the site. These features could require further investigation or coordination during design.

Whitney Road Alternative: This alignment will require a bridge structure that impacts several overhead utilities, particularly near the approach to the overpass. At the tie-in with Whitney Road, overhead power lines run near the roadway and will likely require relocation to accommodate the expanded cross-section. Underground utilities along this corridor appear to be limited, and no major obstacles are anticipated. The stormwater asset map identifies a few catch basins and culverts that would need to be replaced but are not expected to significantly impact constructability.

Ship Creek Avenue Alternative: The proposed bridge will also require relocation of multiple overhead utility lines. While the elevated structure avoids most underground utility corridors, Ship Creek Avenue itself includes some buried infrastructure where the road returns to existing grade. These utilities may be impacted during construction but are unlikely to impose major constraints, especially in areas where only surface-level modifications are needed.

First Avenue Alternative: The alignment along Eagle Street and First Avenue is more utility intensive. Both overhead and underground utilities are present along Eagle Street and would be directly impacted by proposed grading, which includes significant cut and fill. These systems would likely need to be relocated. First Avenue does not have overhead utilities, but it does include a municipal storm drain line that parallels

the road. Since the profile along this segment closely follows existing grade, impacts are expected to be moderate, though adjustments may be required if the roadway section widens.

4.5 Access control

Certain alignment options present challenges related to access control and intersection geometry. In several locations, proposed connections to existing roads occur along horizontal curves or steep grades. While these configurations can meet minimum design standards, they are considered suboptimal from both a safety and operational perspective.

Such conditions may limit sight distance, complicate turning movements—particularly for freight vehicles—and increase the potential for vehicle conflicts. These issues are especially critical for long combination vehicles, which require larger turning radii and longer stopping distances.

To ensure safe and efficient operations, these challenges will need to be addressed through careful design, strategic intersection placement, and, where appropriate, mitigation measures such as signage, signal control, or geometric modifications. Ongoing coordination with municipal agencies and freight stakeholders will be essential to define acceptable access strategies for each alignment.

As part of final design, driveway access may be relocated or consolidated to conform with profile tie in locations. Access control to ARRC facilities will be used where new pedestrian facilities are being proposed.

4.6 Project Development Schedule

The proposed project development timeline reflects anticipated phasing for design, environmental review, right-of-way acquisition, utility coordination, and construction. While preliminary, these milestones are intended to guide planning and stakeholder coordination as the project advances:

- Design — Jan 2026- July 2029
    - Roadway design — Jan 2026- July 2029
    - Bridge design — July 2026- July 2029
- NEPA processes — Jan 2026- Dec 2026
- ROW acquisition — July 2027-July 2029
- Utility relocation agreements — July 2027-July 2029
- Certification — Aug 2029
- Bid, Award, Construction — Sept 2029-Oct 2032

4.7 Constructability

Constructability varies significantly among the three alignment alternatives, primarily due to existing topography, adjacent development, and the extent of required infrastructure modifications.

The Ship Creek Avenue and Whitney Road alternatives offer relatively favorable constructability conditions. Both alignments allow for construction to occur while maintaining traffic access to key areas, minimizing disruption to port operations and surrounding industrial uses. These routes also provide staging flexibility, especially where elevated structures can be constructed independently of at-grade connections.

In contrast, the First Avenue alternative presents significant constructability challenges. This alignment would require extensive roadway reconstruction, including major grading and utility work along Eagle Street. The constrained right-of-way and urban context could necessitate full closures or long-term detours during construction, creating substantial impacts to traffic circulation and local businesses. These limitations would likely extend construction duration and increase overall project complexity.

4.8 Work Zone Traffic Control

Effective work zone traffic control will be essential to minimizing disruptions during construction and maintaining safe operations for all users. The proposed improvements affect multiple travel modes, including freight, passenger vehicles, transit, bicycles, and pedestrians. Special attention must be given to staging, detour planning, and coordination with affected agencies and stakeholders.

Key stakeholders include freight operators, the Alaska Railroad Corporation (ARRC), the Municipality of Anchorage, AMATS, and public transit providers. Continued coordination will be necessary to ensure that construction schedules align with freight delivery windows, rail operations, and local traffic demands.

While many segments of the proposed alignments can be constructed with limited impact to existing routes, temporary closures and detours will be unavoidable, particularly where bridge construction or full-depth roadway reconstruction is required. Alternate routes are available for all options; however, detours for freight traffic may cause delays and moderately impact operations at the Port. These impacts must be carefully managed through phased construction, clear communication, and mitigation strategies tailored to freight, transit, and non-motorized travel.

Pedestrian and cyclist safety will require dedicated planning, especially in areas where sidewalk closures or shared travel lanes may occur. Transit service may also be temporarily affected by roadway or stop closures and should be coordinated with local agencies well in advance.

4.9 Cost Estimate

The cost estimates for each alignment alternative are preliminary and intended for conceptual comparison only. They are based on assumptions developed at the 15% design level and do not yet incorporate detailed survey data, utility verification, or geotechnical analysis.

Importantly, right-of-way (ROW) costs have not been evaluated at this stage. Due to the conceptual nature of the alignments, additional study is needed to determine property impacts, potential acquisitions, and related compensation requirements. These factors could significantly influence the overall project cost as the design advances.

Future updates to these estimates will reflect refined engineering, environmental review findings, ROW needs, and stakeholder coordination. Final costs may also be influenced by inflation, material pricing, labor availability, and construction phasing.

- Whitney Road Option: $45.9 Million
- Ship Creek Option: $58.2 Million
- First Avenue Option: $38.9 Million

4.10 Freight Considerations for Each Alternative

Freight connectivity is a central consideration in evaluating the Ingra-Gambell Couplet Extension alternatives. According to (alaskatrafficdata.drakewell.com) the Ocean Dock Ramp data recorder approximately 43.5% of the 2040 daily vehicles are heavy truck traffic or approximately 890 trucks are using Ocean Dock Road to access Port facilities. At the New Seward and 20th Ave. data recorder approximately 6% of the 46,000 daily vehicles are truck traffic, which indicates there are approximately 2,800 truck trips per day occurring on Ingra and Gambell. This is the expected volume that would use the Ingra – Gambell extension. Each alignment presents unique challenges and benefits with respect to accommodating heavy vehicles, minimizing delays, and improving safety near the Port of Alaska. Presentations were made to the AMATS Freights Advisory Committee, Alaska Trucking Association, and a workshop was held with representatives of several trucking companies to share the preliminary alternatives and obtain their input regarding the feasibility, pro's, con's, and their likelihood of altering their existing travel patterns.

4.10.1 Connection to Whitney Road

The Whitney Road option is strongly favored by freight stakeholders, as documented during the Alaska Freight Workshop. This route bypasses the existing narrow bridge and provides a more direct connection to the Port. Its proximity to key freight destinations and potential for grade-separated rail crossings make it operationally advantageous. However, Whitney Road is currently a narrow corridor that would require significant upgrades to support large truck volumes. Constructing an overpass near the port could help alleviate these risks by avoiding multiple at-grade rail crossings, where current track spacing forces hazmat vehicles into regulatory non-compliance due to insufficient stopping distances between tracks.

4.10.2 Connection to Ship Creek Avenue

The Ship Creek Avenue option offers similar benefits to the Whitney option in terms of eliminating at-grade rail conflicts. The overall grade is slightly more favorable, and industrial access is generally manageable, though tighter than ideal for larger trucks. However, congestion along Ocean Dock Road and near the existing bridge remains a concern, particularly during peak freight traffic periods. These constraints may limit long-term reliability without further mitigation.

4.10.3 First Avenue Freight Route Extension

This option introduces several freight-related drawbacks. The combination of steep vertical grades, reduced lane width, and tight turning radii creates operational limitations for double-trailer trucks and other long combination vehicles. Additionally, the route offers no grade separation at rail crossings, increasing the risk of delays and safety incidents. Turning movements at Ingra Street and 5th Avenue may be especially difficult to accommodate due to ROW or sidewalk constraints. As a result, this alternative is considered the least favorable for reliable freight access.

4.10.4 Issues With Railroad Facilities and Double Tractor-Trailer Crossing

A recurring operational issue for all surface-based routes involves the number and spacing of rail crossings near the port. Freight regulations require vehicles, especially those carrying hazardous materials or using double trailers, to stop at each crossing. When crossings are closely spaced, this can result in trucks partially straddling tracks while stopped, creating serious safety hazards and compounding delays. Grade

separation or signal coordination improvements will be essential to resolve these bottlenecks and ensure uninterrupted, compliant access for freight vehicles.

5. Evaluation

Each of the three Ingra-Gambell Couplet Extension alternatives were evaluated using a consistent framework designed to assess their overall feasibility, operational performance, and compatibility with regional goals for freight mobility, safety, and multimodal connectivity. Table 3 summarizes the results of the qualitative comparison. The evaluation process drew from engineering analysis, stakeholder input, and planning-level assumptions developed during the 15% design phase.

The criteria used in the evaluation included:

- Geometric design feasibility
- Traffic operations and network performance
- Right-of-way requirements and adjacent property impacts
- Railroad crossing conflicts and clearance feasibility
- Freight movement efficiency, including accommodation of double-trailer and hazmat vehicles
- Multimodal access, including pedestrian, bicycle, and transit considerations
- Constructability and potential for phasing
- Integration with the Seward–Glenn PEL corridor alternatives
- Cost

The options were not scored or ranked numerically but were instead evaluated qualitatively to understand their strengths, weaknesses, and trade-offs. Particular emphasis was placed on long-term freight reliability and operational resilience, as well as the ability to maintain safe and efficient movement through a constrained urban industrial environment.

All three options present opportunities and challenges. While some alignments offer more direct port access or fewer rail conflicts, others face physical constraints such as steep grades, tight turning geometry, or limited ROW availability. The following subsections summarize the comparative performance of each alignment and their relative ability to meet project goals and stakeholder expectations.

Table 3: Alternative Qualitative Comparison

	Whitney Rd. Option	**Ship Creek Ave. Option**	**First Ave. Option**
ROW impacts	4 Full 4 Partial	8 Full 4 Partial	4 Full 12 Partial
Multimodal Ped / bike considerations. Connectivity to existing sidewalks, pathways, & trails	Improved Access	Improved Access	Improvement to existing access
Water / wetland impacts / floodplain	Construction near Ship Creak	Construction near Ship Creak	None
Hazardous sites	2 Ground Water Plumes	2 Ground Water Plumes	2 Ground Water Plumes
Visual impacts – elevated structures vs on grade	Elevated Structure	Elevated Structure	At grade

Geometric - Construction impacts / constructability / phasing	New construction phased to not impact traffic	New construction phased to not impact traffic	Major construction impacts on existing road
Compatibility with on-going / current development / land use plans / roadway	Knik Arm Crossing Project, Denali View RV Resort	Knik Arm Crossing Project, Denali View RV Resort	Knik Arm Crossing Project, Denali View RV Resort
Freight – grades, curves, routing	Most direct route with most design flexibility	Direct route with design flexibility	Constrained design based on freight design parameters, limited traffic routing
Cost	$45.9 M	$58.2 M	$38.9 M
Bridges / length	675	525	N/A
Intersections impacted	5	6	5
ARRC facility crossings: new crossings vs existing	4 Proposed at grade 8 Existing at grade Reduction of 4 crossings	4 Proposed at grade 8 Existing at grade Reduction of 4 crossings	8 Proposed at grade 8 Existing at grade Reduction of 0 crossings

5.1 Ingra – Gambell Couplet Extension to Whitney Road

The Whitney Road alternative is the most favorable option based on technical performance, operational flexibility, and long-term freight reliability. It provides a direct, grade-separated connection to the Port of Alaska and strongly aligns with the regional freight and mobility goals identified in the Seward–Glenn PEL study.

Geometric Design Feasibility: The alignment accommodates acceptable turning radii and vertical profiles for long combination vehicles. The roadway could be widened to four-lanes in the future if traffic demand increased. The corridor geometry could accommodate a four-lane section with minimal design exceptions, aided by the availability of undeveloped parcels and buffer zones near Ship Creek.

Traffic Operations: Network performance is significantly improved by providing a dedicated, efficient access point to the port. This reduces freight traffic on congested local roads and supports improved circulation throughout the surrounding network.

Right-of-Way Requirements and Property Impacts: This alternative may affect a relatively large number of parcels, especially near the overpass and along Whitney Road. There is design flexibility to adjust the alignment to avoid certain properties if acquisition costs or impacts are too high.

Railroad Conflicts and Clearance Feasibility: This alternative eliminates at-grade rail crossings by incorporating a bridge over the ARRC tracks and Ship Creek. The overpass design meets ARRC vertical clearance standards, improving operational safety and reducing delays due to rail activity.

Freight Movement Efficiency: The Whitney Road connection is the most reliable for heavy freight, including double trailers and hazmat vehicles. It avoids closely spaced at-grade rail crossings, which can force longer vehicles to stop across tracks, creating regulatory and safety challenges. Stakeholders in the Alaska Freight Workshop also identified this route as the preferred alternative.

Multimodal Access and Safety: The corridor has strong potential to accommodate separated pedestrian and bicycle facilities. Sidewalks, trails, and buffers can be included without compromising freight operations or exceeding feasible ROW limits, supporting long-term multimodal goals.

Constructability and Phasing: This alignment is highly constructible. The overpass and roadway segments can be built in phases while maintaining access to the port and surrounding industrial areas. Construction staging would be relatively straightforward compared to the more constrained alternatives.

Integration with Seward–Glenn Corridor Planning: The alignment integrates well with Seward–Glenn corridor alternatives, offering flexibility for connections to other mobility improvements under consideration. It enhances freight access while maintaining consistency with broader transportation and land use planning goals.

Integration with Future possible Developments: The alignment avoids conflicts with the Knik Arm Crossing Project as it does not cross the northbound or southbound alignments while all roads are still at grade. There would be impacts to the Denali View RV Resort temporary facilities, but the permanent structures could be avoided.

Overall: The Whitney Road alternative offers the best balance of design feasibility, operational performance, and long-term benefit. It addresses critical freight mobility issues, minimizes risk, and supports multimodal integration. It is recommended for advancement into final design.

5.2 Ingra – Gambell Couplet Extension to Ship Creek Avenue

The Ship Creek Avenue alternative presents a viable option that resolves some key freight mobility issues and offers grade separation over ARRC rail lines. While not as favorable as the Whitney Road alternative, it remains a functional alignment with fewer geometric challenges than the First Avenue option.

Geometric Design Feasibility: This alignment generally meets design standards, with manageable grades and turning geometry. However, the constrained width of Ship Creek Avenue limits the ability to expand or add separated multimodal facilities without additional ROW.

Traffic Operations: The connection improves northbound access to the port but retains some circulation constraints at Ocean Dock Road and nearby intersections. Localized congestion may persist during peak freight periods.

Right-of-Way Requirements and Property Impacts: Property impacts are moderate and concentrated along Ship Creek Avenue, where commercial and industrial uses may be affected. Acquisitions will be required, particularly near the bridge tie-in and areas where the new roadway transitions to existing grade.

Railroad Conflicts and Clearance Feasibility: The proposed bridge eliminates two at-grade ARRC crossings, significantly improving safety and reducing delays. Vertical clearance requirements can be met without substantial design complications.

Freight Movement Efficiency: The alignment supports freight operations by removing rail crossing delays and offering a direct route into the port. However, turning geometry and curbside constraints may require design refinement to fully accommodate double-trailer movements in the industrial zone.

Multimodal Access and Safety: There is potential to include sidewalks and bicycle facilities, but ROW limitations and tight corridors may restrict design flexibility. Multimodal elements may be narrower or require phased implementation.

Constructability and Phasing: The elevated bridge section and connection to Ship Creek Avenue are feasible from a construction standpoint, but phasing may be more complex than the Whitney alignment due to tighter work zones and limited staging space.

Integration with Seward–Glenn Corridor Planning: This alignment can be integrated into the broader Seward–Glenn PEL network, but its indirect routing and localized constraints make it slightly less adaptable than the Whitney alternative.

Integration with Future possible Developments: The alignment would have some tight vertical geometry to avoid impacting the southbound direction as it drops toward Ship Creek. This would pose a design challenge but dis still constructable with a Knik Arm Crossing. There would be impacts to the Denali View RV Resort temporary facilities, and some impacts to permanent facilities currently along the Gambell alignment.

Overall: The Ship Creek Avenue option is a technically viable alternative that addresses key freight and safety challenges through grade separation. While it has more geometric and ROW constraints than the Whitney alignment, it remains a feasible secondary option and should be retained for continued evaluation.

5.3 Ingra – Gambell Couplet Extension to First Avenue

The First Avenue alternative was evaluated to explore the feasibility of extending the Gambell–Ingra corridor north via Eagle Street to First Avenue. While the route provides a direct path into downtown, it introduces significant limitations that affect its viability especially for freight operations.

Geometric Design Feasibility: This alignment pushes geometric limits, requiring sustained 4% grades and tight turning radii. These conditions exceed ideal design thresholds and would likely require multiple design exceptions, particularly for freight vehicles.

Traffic Operations: The route would introduce circulation constraints due to narrow rights-of-way and limited intersection capacity. Operational performance would be reduced, with restricted turning movements and likely congestion at key junctions.

Right-of-Way Requirements and Property Impacts: Extensive grading, combined with a dense commercial setting, results in high ROW impacts. Significant cut and fill would likely affect multiple adjacent properties with limited room for alignment shifts or mitigation.

Railroad Conflicts and Clearance Feasibility: The route does not eliminate any at-grade rail crossings. Freight traffic would continue to experience multiple stop-and-go requirements, increasing the risk of rail-vehicle conflicts and operational delays.

Freight Movement Efficiency: This alternative is poorly suited for freight. Tight turning geometry, steep grades, and narrow lanes reduce the ability of double-trailer and hazmat trucks to navigate the corridor safely or efficiently.

Multimodal Access and Safety: Limited ROW and steep slopes leave little room for dedicated pedestrian or bicycle infrastructure. Opportunities for multimodal improvements are minimal, and safety would be compromised for non-motorized users.

Constructability and Phasing: The urban setting, steep terrain, and utility density make this the most complex and disruptive option to construct. Full closures and long detours would likely be required, with minimal opportunity for phased delivery.

Integration with Seward–Glenn Corridor Planning: While it provides a downtown connection, the alignment does not meaningfully support Seward–Glenn freight goals and lacks compatibility with broader mobility improvements under study.

Integration with Future possible Developments: The alignment would have some tight vertical geometry to avoid impacting the southbound direction as it drops toward First Avenue. This would pose a design challenge but is still constructable with a Knik Arm Crossing. There would be impacts to the Denali View RV Resort temporary facilities, and some impacts to permanent facilities currently along the Gambell alignment.

Overall: The First Avenue alternative presents substantial challenges with limited benefit. It performs poorly across nearly all evaluation criteria and is not recommended for further consideration.

6. Recommendations

Based on the comparative evaluation of the three Gambell–Ingra Port Access alternatives, the Whitney Road extension is recommended for advancement into final design and integration into the Seward–Glenn PEL study. This alignment offers the strongest overall performance in terms of freight mobility, geometric feasibility, and long-term operational reliability. Its ability to support grade-separated rail crossings, accommodate double-trailer and hazmat freight, and minimize impacts to developed properties positions it as the most effective and resilient option.

The **Ship Creek Avenue alignment** is considered a viable secondary alternative. While it resolves key rail conflict issues and maintains acceptable freight access, it introduces greater geometric and right-of-way constraints than the Whitney option. Due to these limitations, it is not preferred but should be retained for further evaluation if conditions change or if constraints arise during the refinement of the Whitney alignment.

The **First Avenue alignment** is **not recommended** for further consideration. It faces major challenges related to steep grades, turning geometry, railroad conflicts, and limited right-of-way. These factors significantly reduce its suitability for freight traffic and raise serious concerns about constructability, multimodal access, and long-term safety. Advancing this option would require major design exceptions and would not meet the project's purpose and need.

Moving forward, additional refinement is recommended for the preferred and backup alternatives. This includes:

- Coordination with ARRC to finalize bridge alignment parameters.
- Further evaluation of right-of-way impacts based on the 15% design footprint

- Review of the proposed typical section to determine whether adjustments are needed, including discussions with stakeholders to ensure it aligns with the project's purpose and need

These refinements will support design advancement, environmental documentation, stakeholder engagement, and funding strategy development for the preferred port access route.

7. References

Area Wide Plans

- MTP 2050 Metropolitan Transportation Plan
- Anchorage Bicycle Plan
- Areawide Trails Plan

Planning and Technical Reports

- Ship Creek Multi-Modal Transportation Plan (2000)
- Ship creek Framework Plan, Anchorage Economic Development Corporation, (2014)
- Anchorage Freight Mobility Study, AMATS, (2017)
- AMATS Major Corrdiors Study, MOA, (1982)
- Ship Creek Waterfront Land Use Plan, MOA, (1991)
- AMATS: Ingra Gambell Couplet Extension Reconnaissance Study, DOT&PF,
- SG PEL Purpose and Need (2023)
- SG PEL Recommended Alternatives Selection Criteria Memo (2024)
- Traffic Forecast Memorandum (2022)
- System Performance Memo (2023)
- Travel Demand Modeling Report (2022)
- Origin-Destination Study (2022)
- SG PEL Alternatives Report (2025)
- Draft Screening Report (2024)
- Public Meeting #4 Summary (2024)
- 2024 Pedestrian Reports

Design Manuals and Standards

- MOA Design Criteria Manual (DCM)
- MOA Safe Routes to School Manual
- DOT&PF Alaska Highway Preconstruction Manual (HPCM)
- AASHTO Policy on Geometric Design of Highways and Streets (2011)
- AASHTO Guide for the Development of Bicycle Facilities (2012)
- Americans with Disabilities Act (ADA) Standards for Accessible Design (2006, 2010)
- FHWA Lighting Handbook (2012)
- NACTO Urban Street Design Guide (2013)
- USDOT Small Town and Rural Multimodal Networks Guide
- FHWA Recreational Trails Program Equestrian Design Guidebook

Appendix A

Preliminary Design

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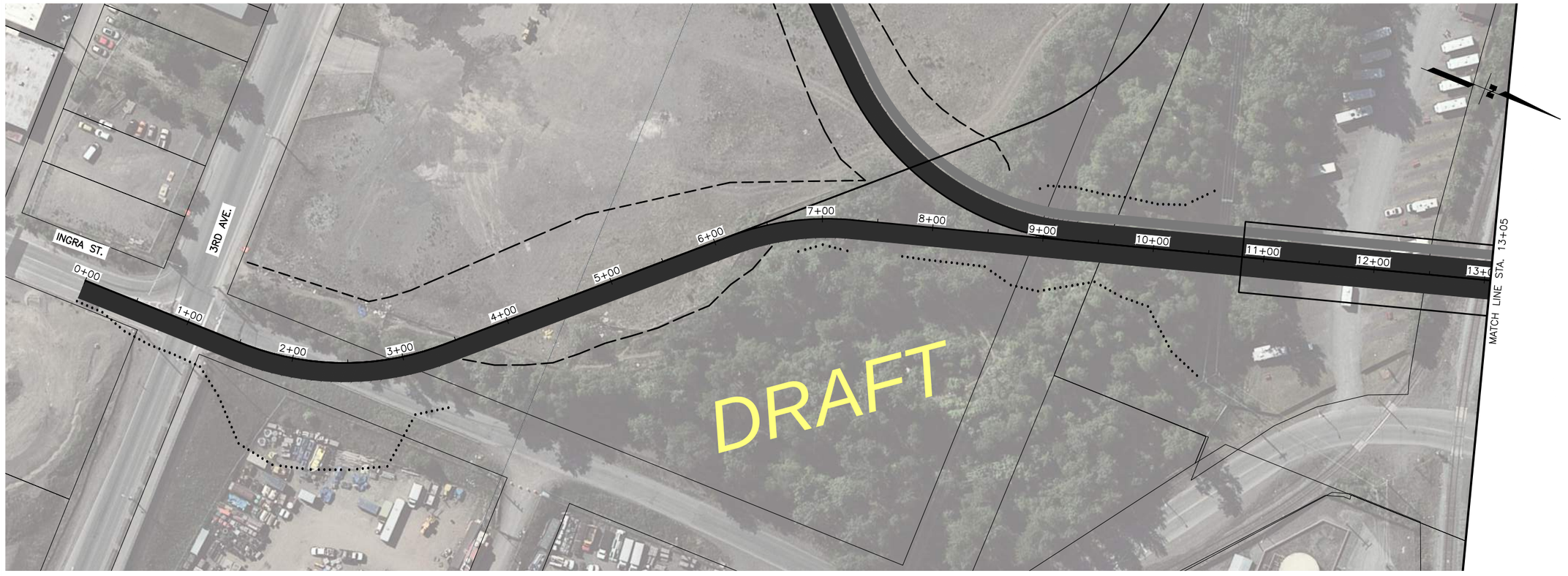

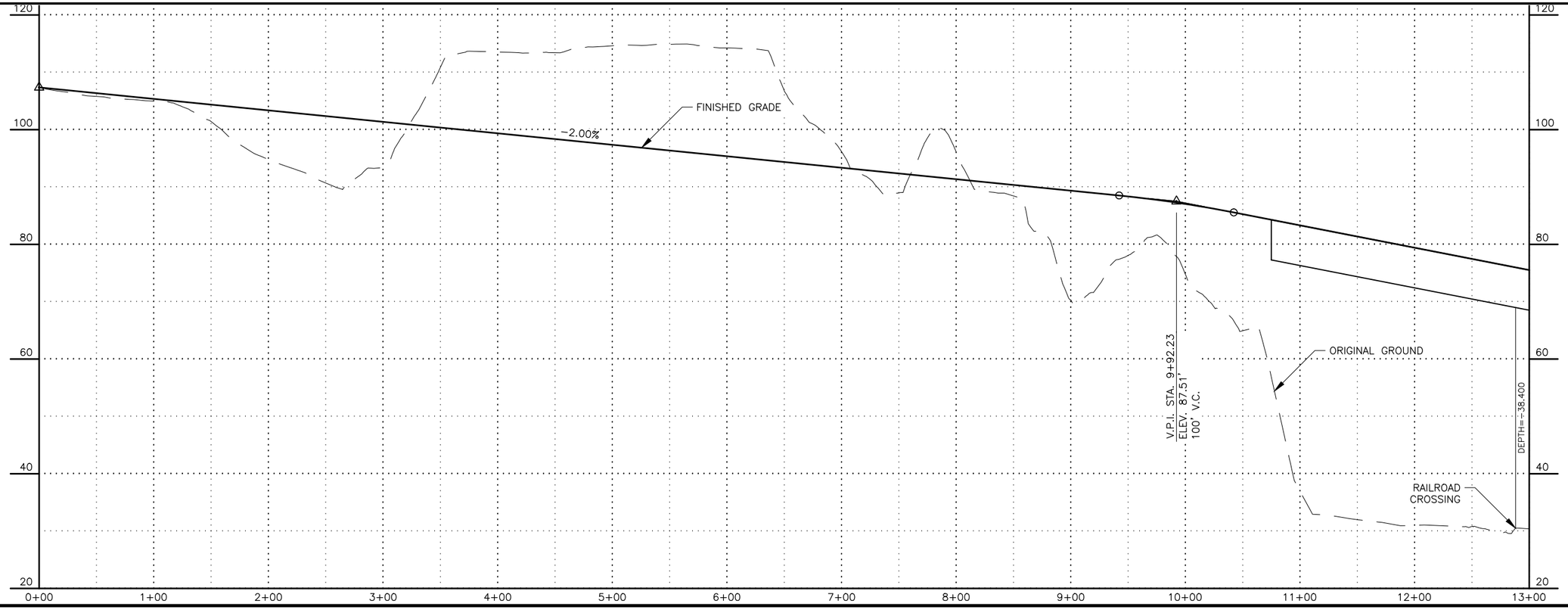

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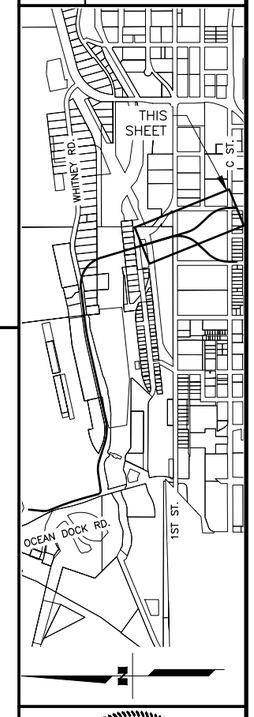

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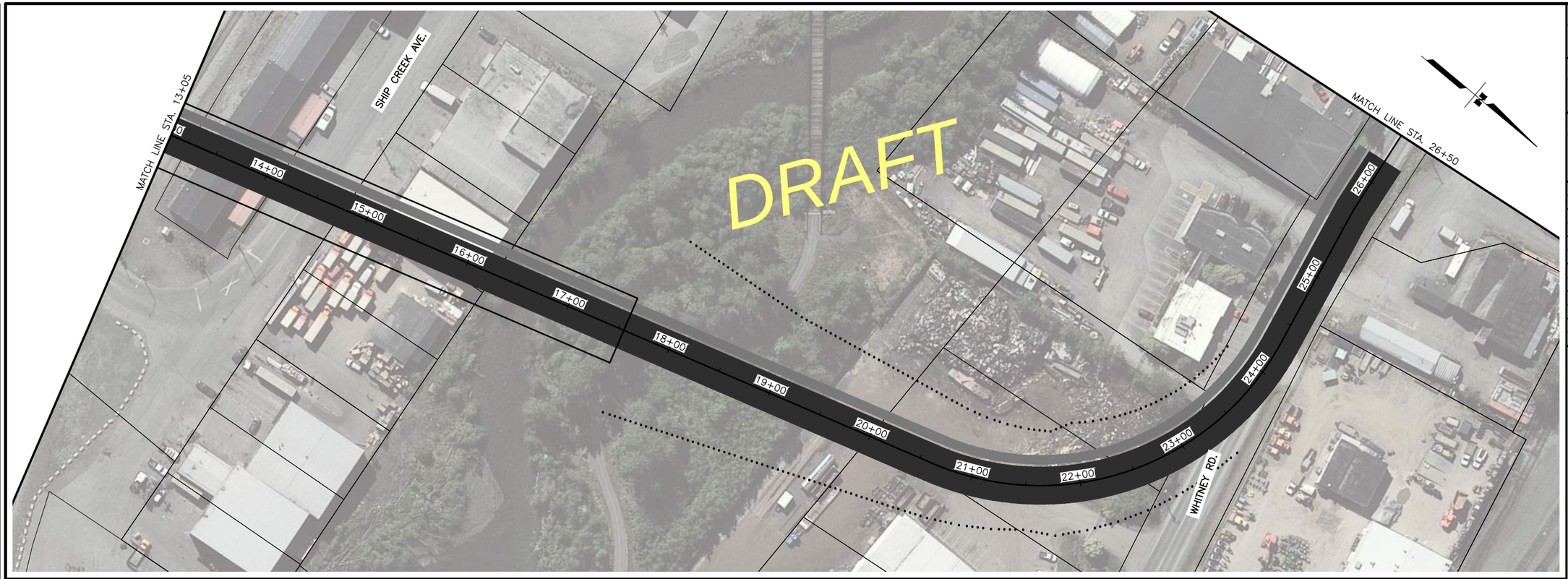

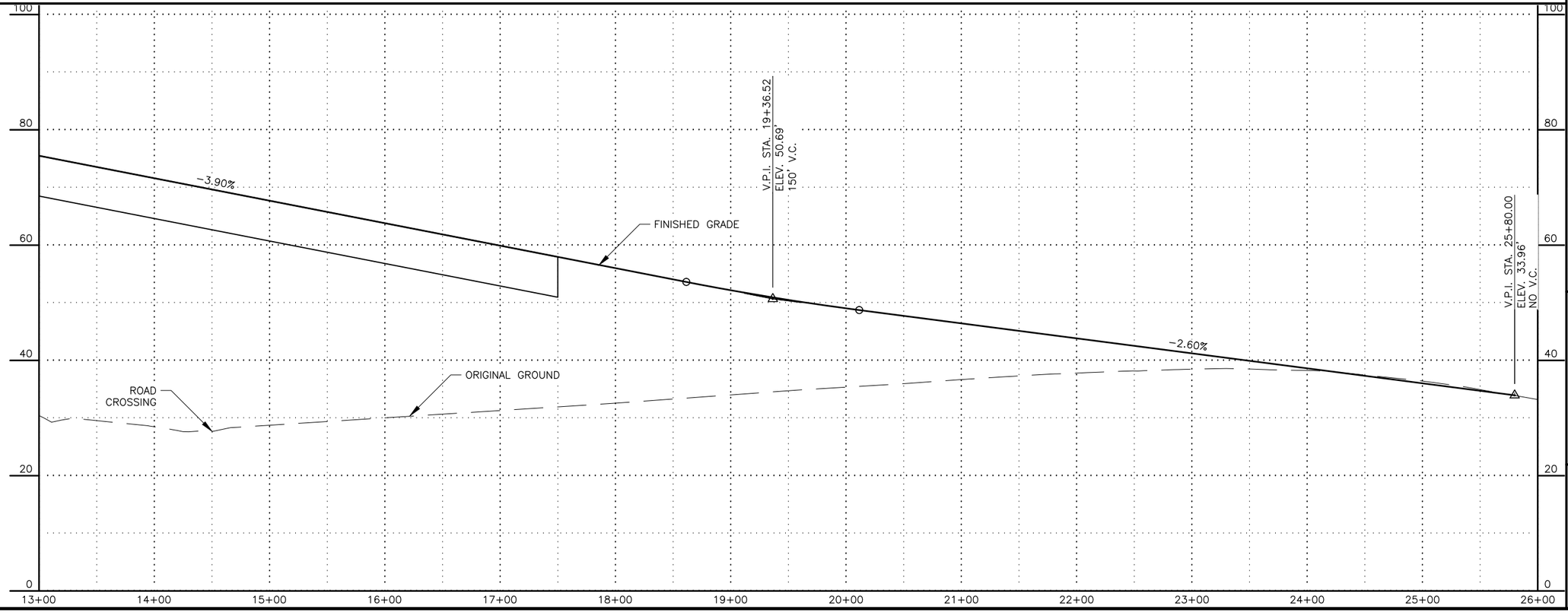

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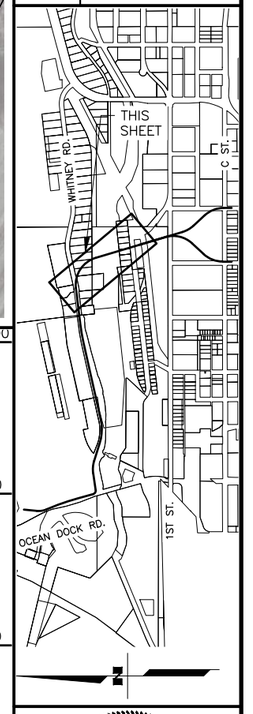

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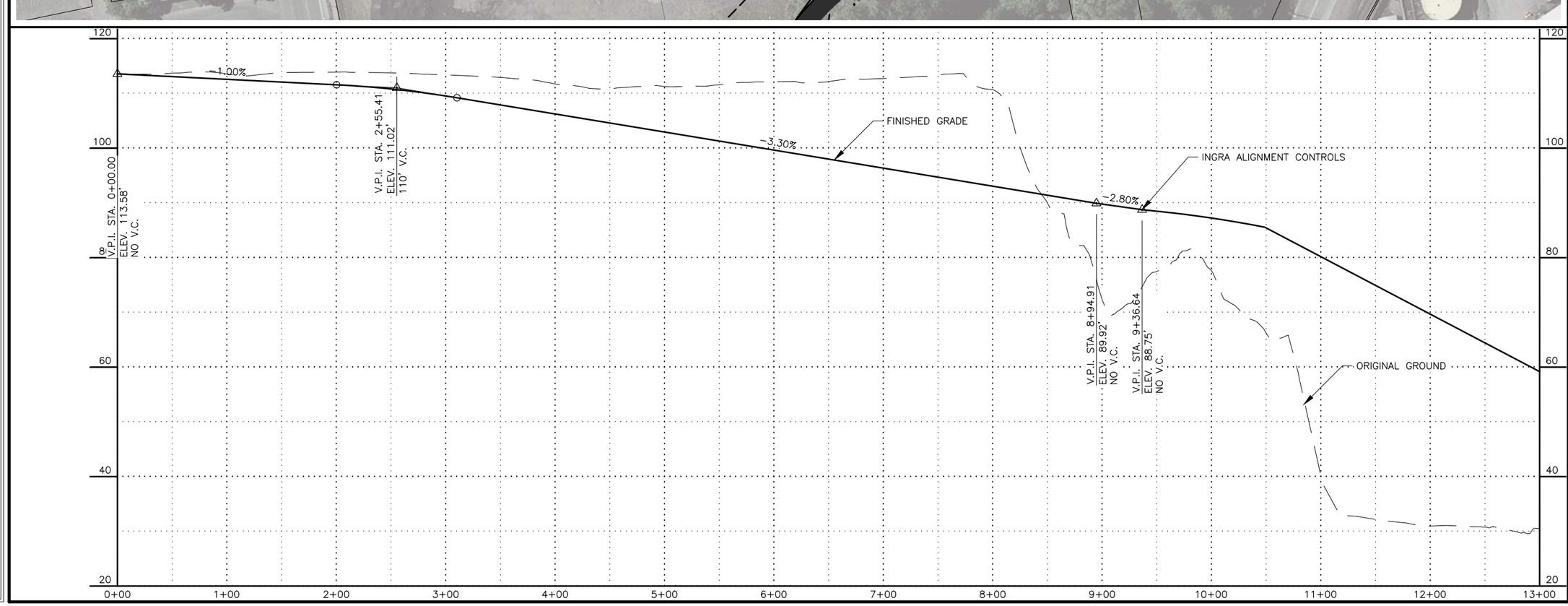

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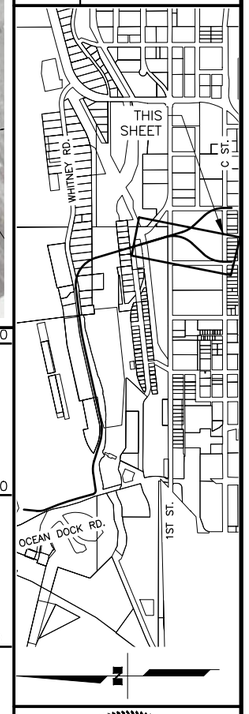

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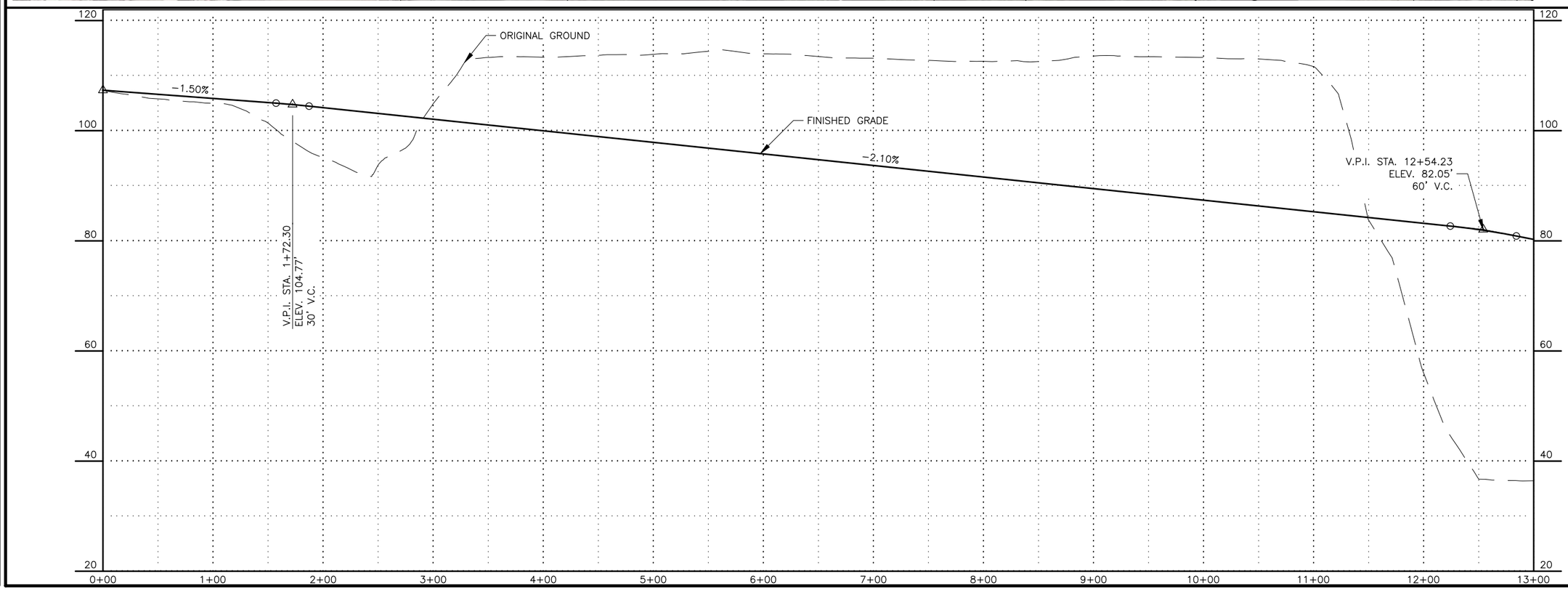

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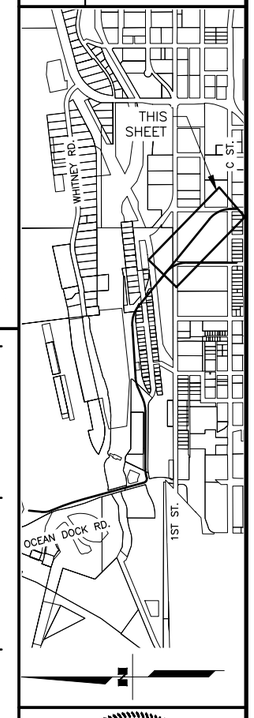

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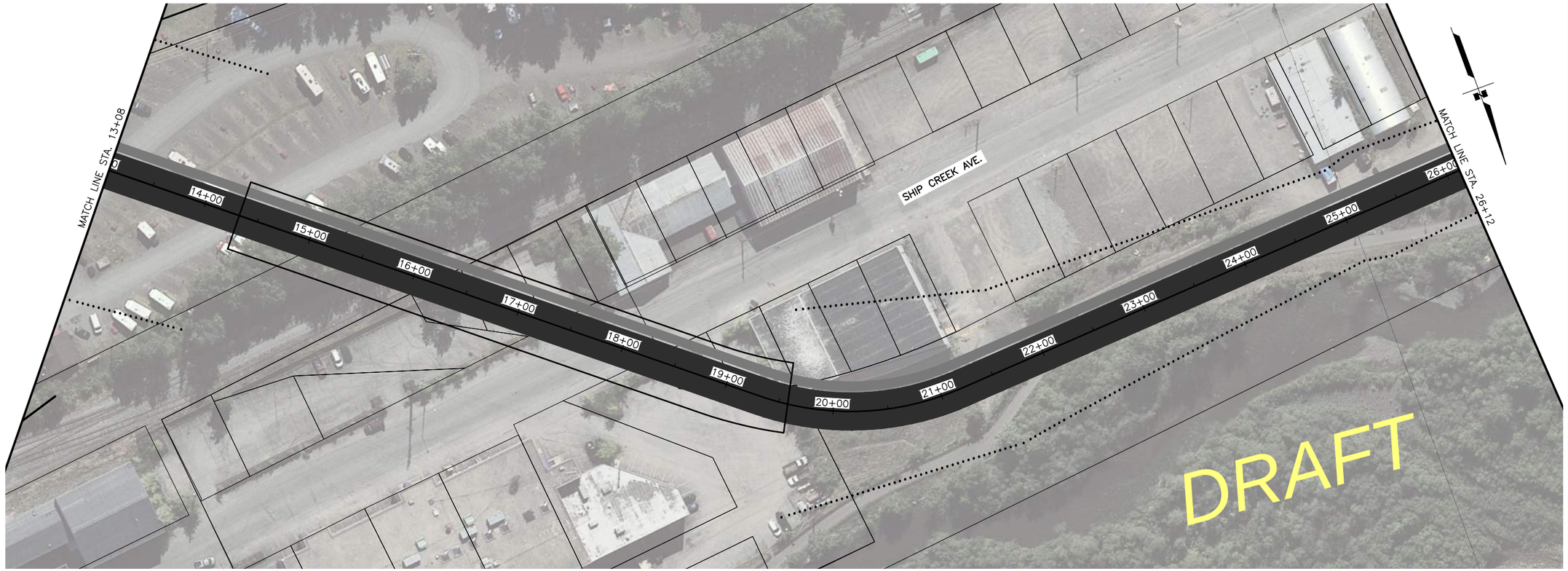

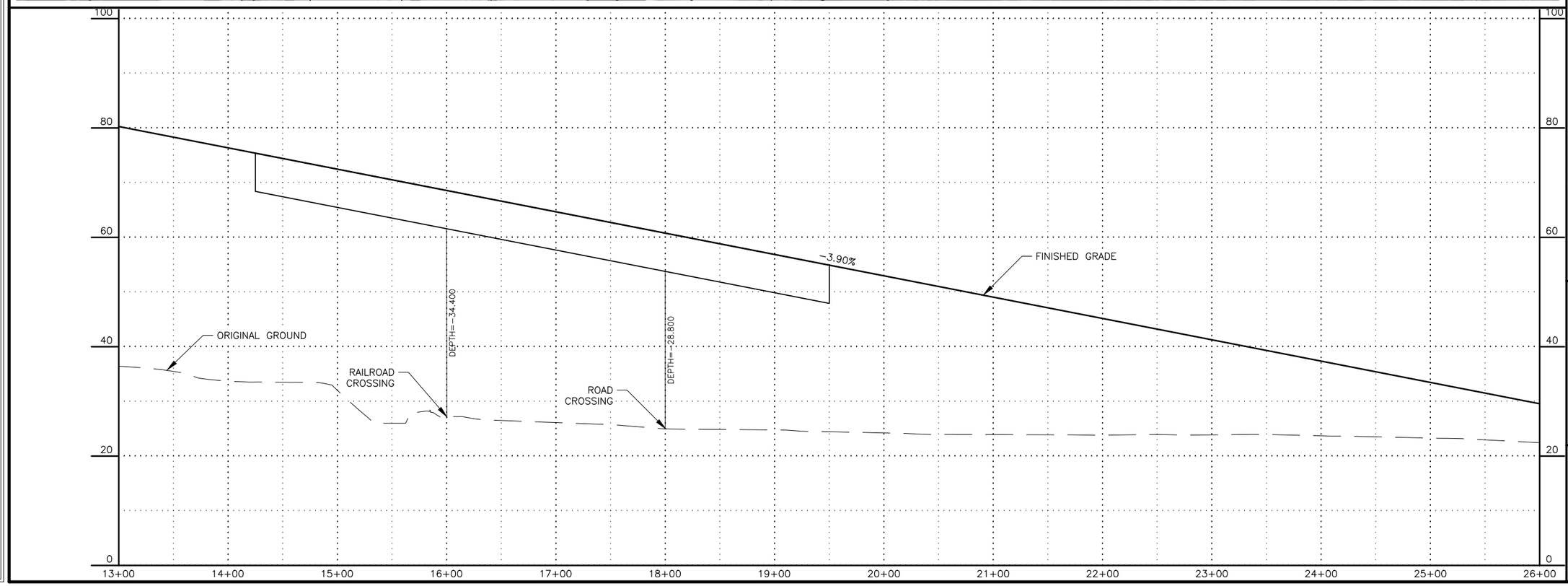

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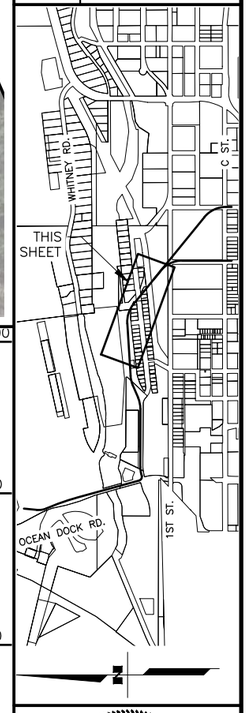

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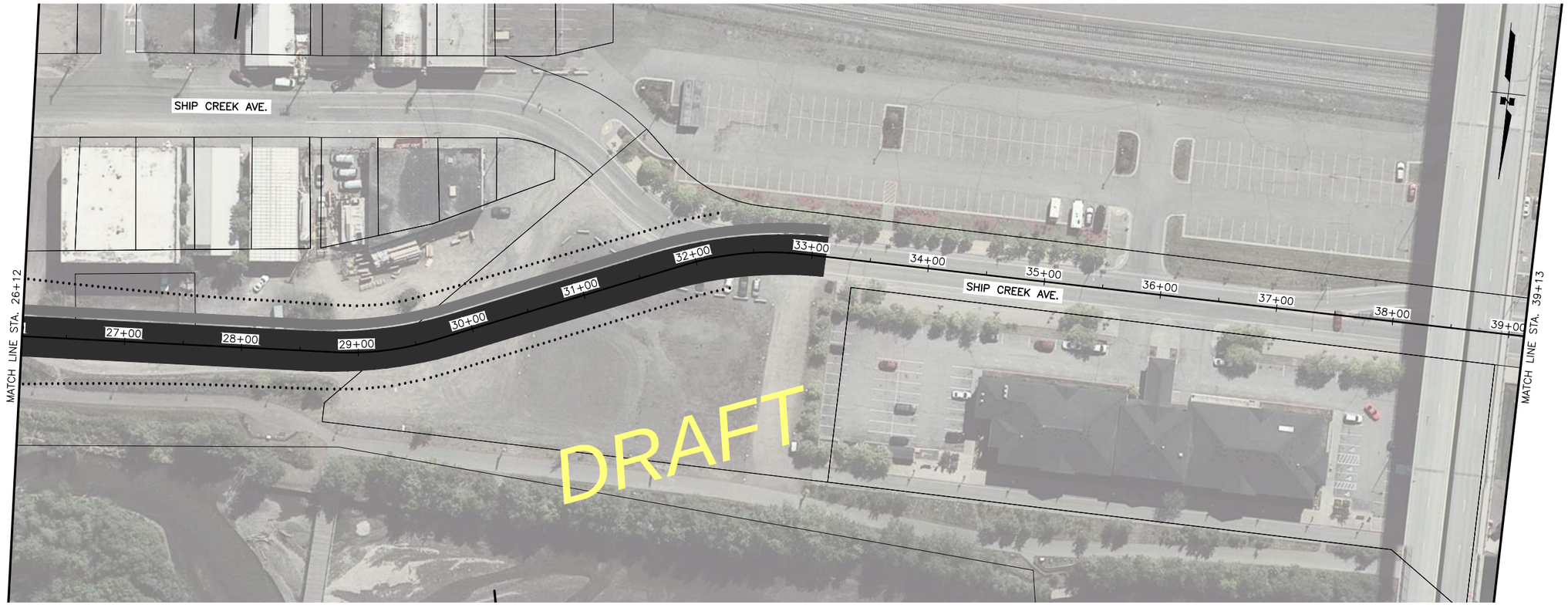

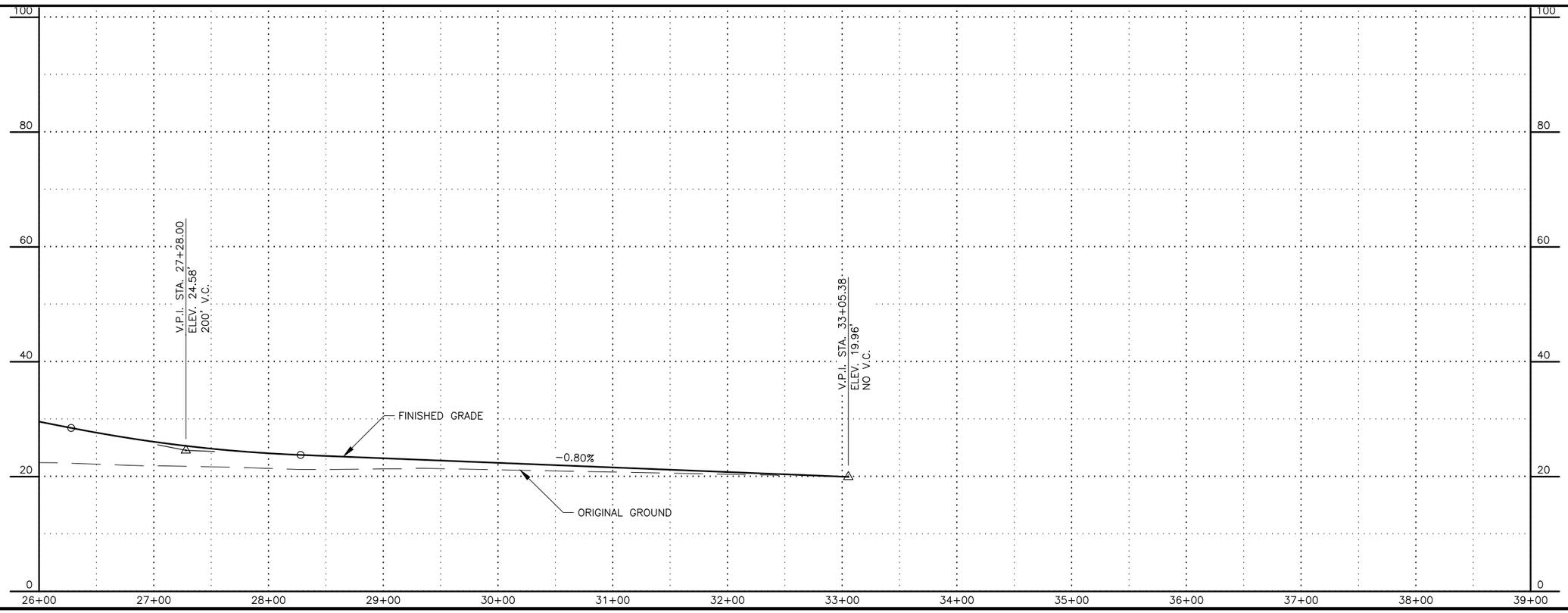

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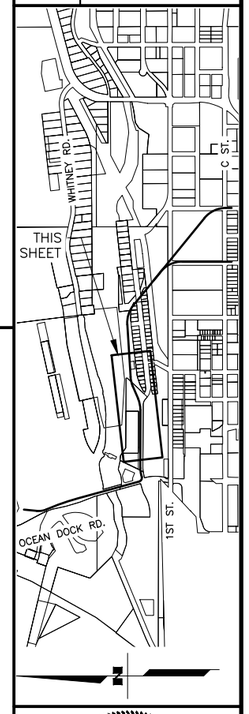

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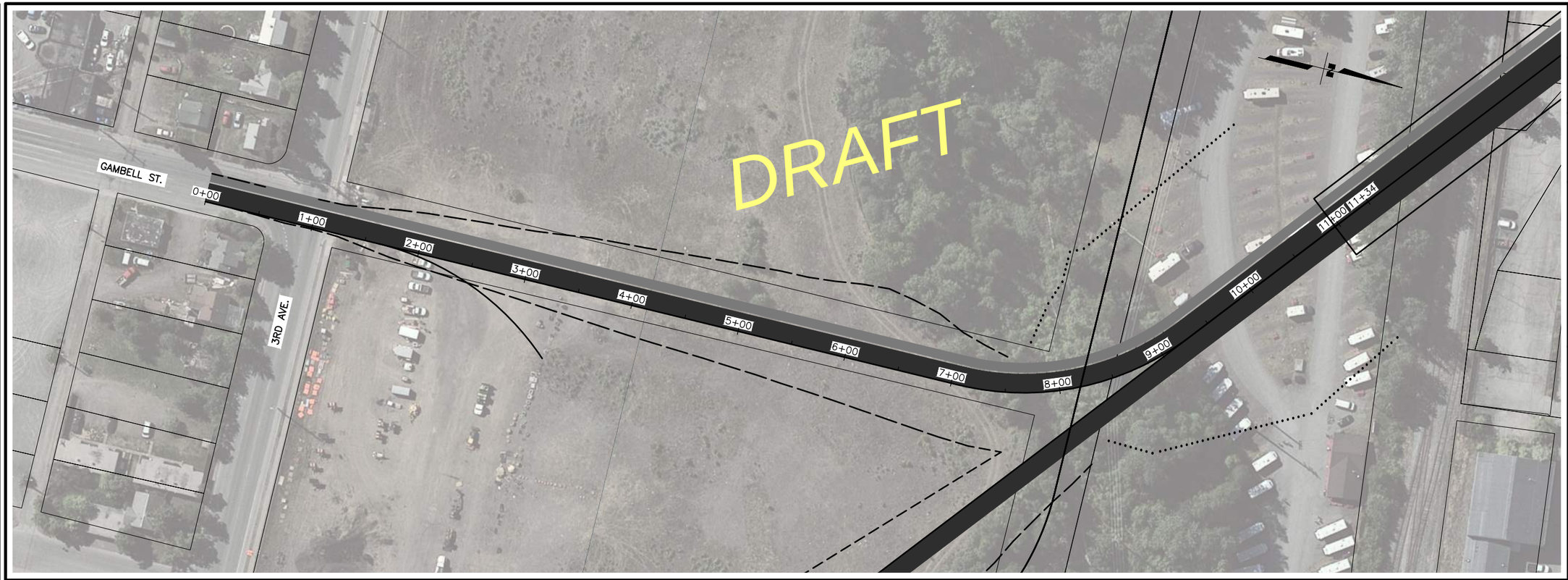

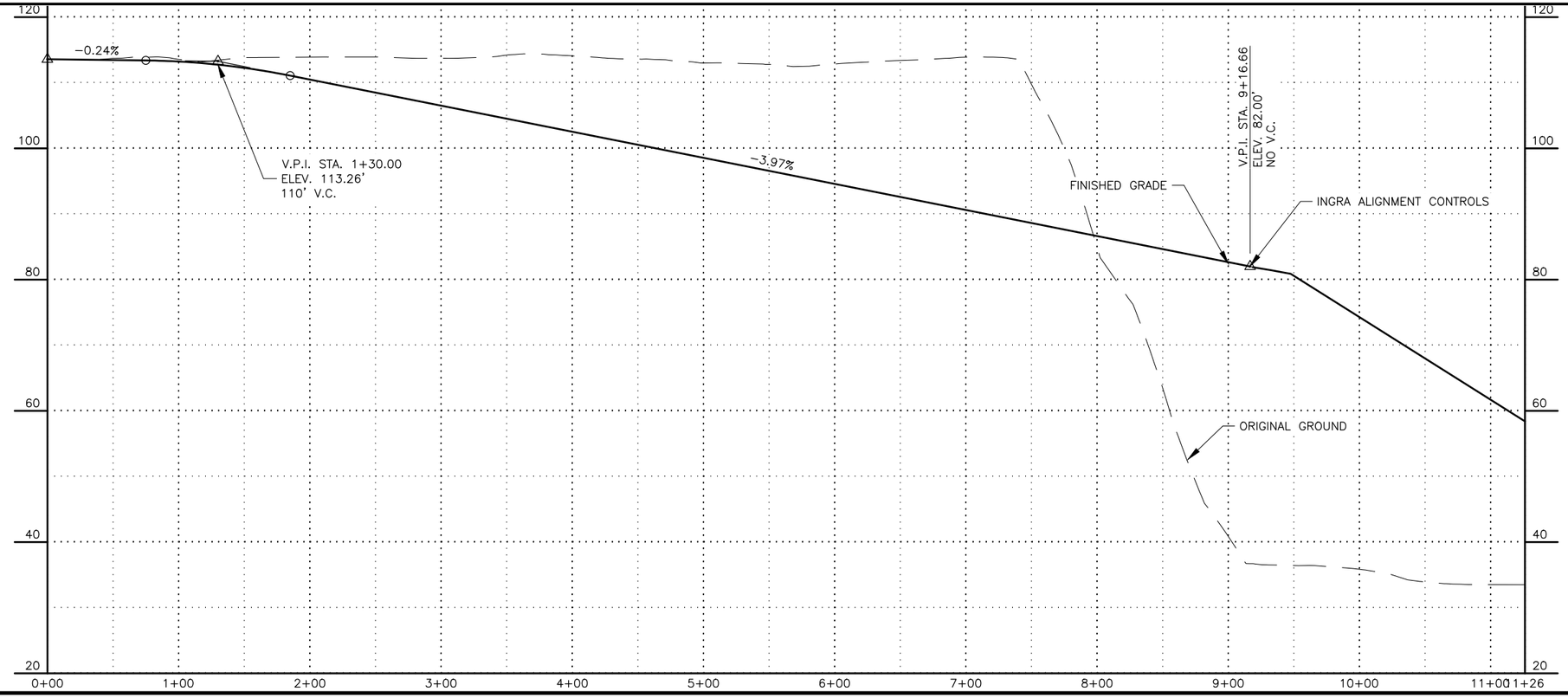

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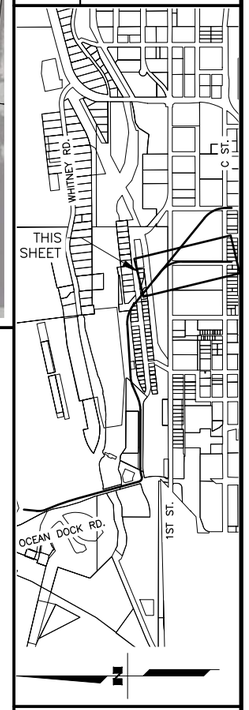

STATE OF ALASKA
FXXX
REVIEW
PROJECT ENGINEER
PROFESSIONAL ENGINEER

STATE OF ALASKA DOT&PF
4111 AVIATION AVENUE
ANCHORAGE, AK 99502
(907) 269-0590

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

TITLE
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TITLE

GAMBELL–INGRA PORT ACCESS SHIP CREEK OPTION

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE

DATE 8/27/2025 TIME 2:22 PM

DRAWING LOCATION
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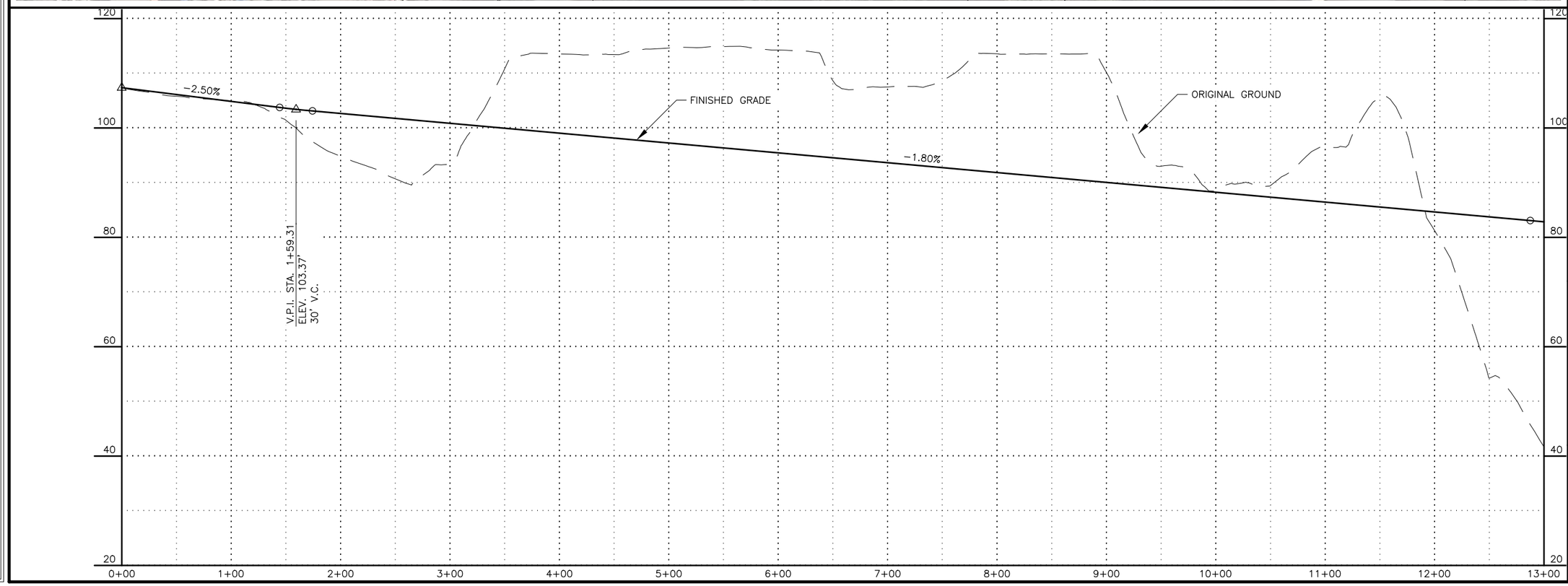
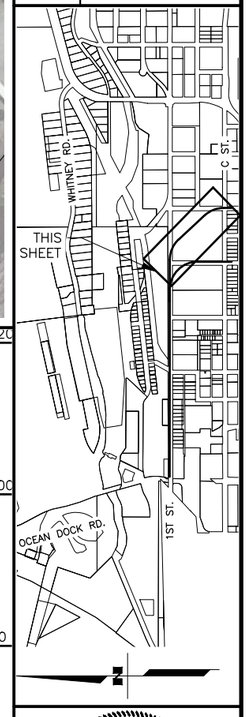


SHEET NO.	TOTAL SHEETS
FC1	FXX
STATE	YEAR
ALASKA	20XX

PROJECT DESIGNATION
XXXXXXX/
XXXXXXXXXX

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
XXXXX
PROJECT ENGINEER
REVIEW
PROFESSIONAL ENGINEER

STATE OF ALASKA DOT&PF
4111 AVIATION AVENUE
ANCHORAGE, AK 99502
(907) 269-0590

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

TITLE
TITLE
TITLE
GAMBELL–INGRA PORT ACCESS FIRST AVE OPTION

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE

DATE 8/27/2025 TIME 2:22 PM

DRAWING LOCATION
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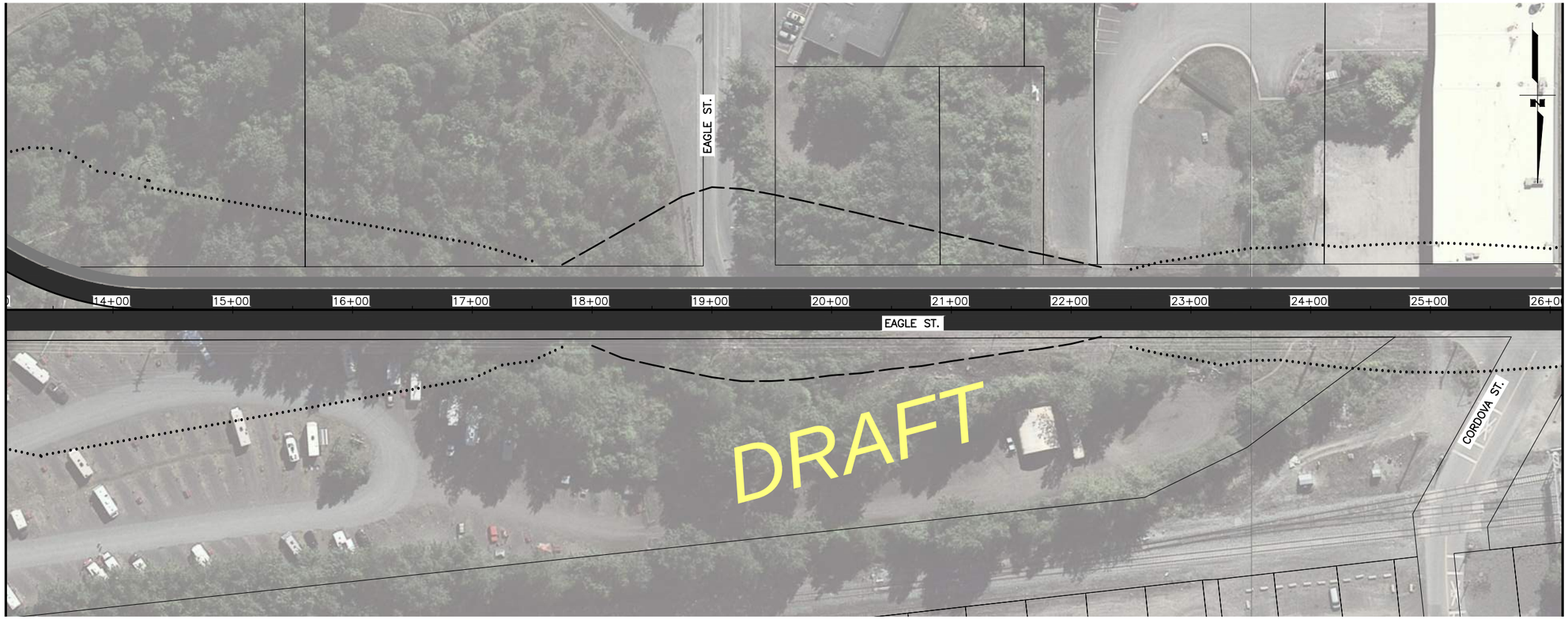
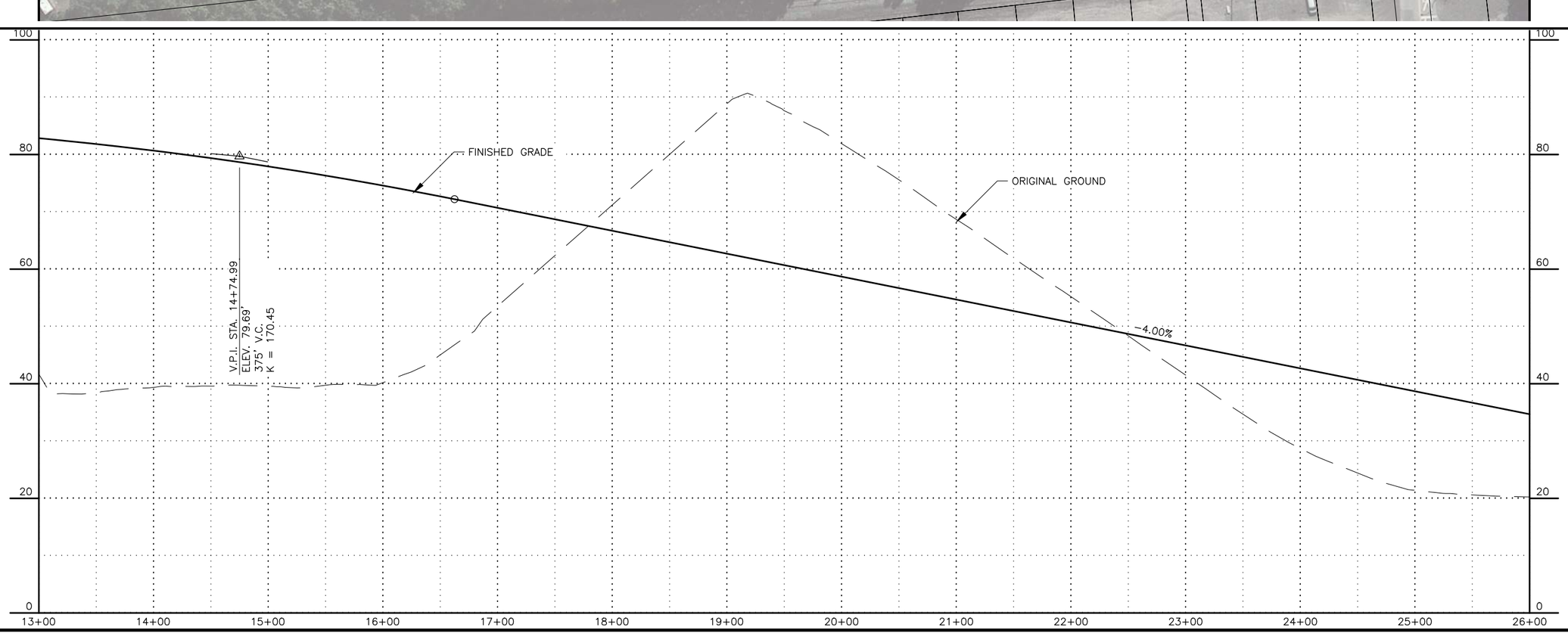
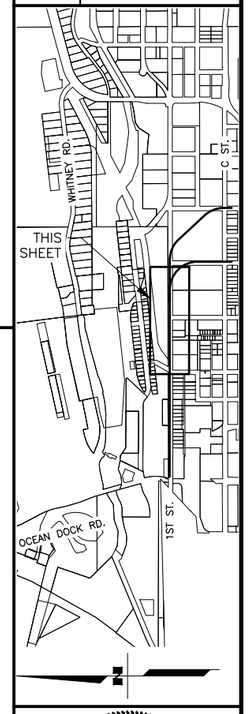




SHEET NO.	TOTAL SHEETS
FC2	FXX
STATE	YEAR
ALASKA	20XX

PROJECT DESIGNATION
XXXXXXX/
XXXXXXXXXX

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
PROJECT ENGINEER
PROFESSIONAL ENGINEER
FXXX REVIEW

STATE OF ALASKA DOT&PF
4111 AVIATION AVENUE
ANCHORAGE, AK 99502
(907) 269-0590

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

TITLE
TITLE
TITLE

GAMBELL–INGRA PORT ACCESS FIRST AVE OPTION

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE

DATE 8/27/2025 TIME 2:22 PM

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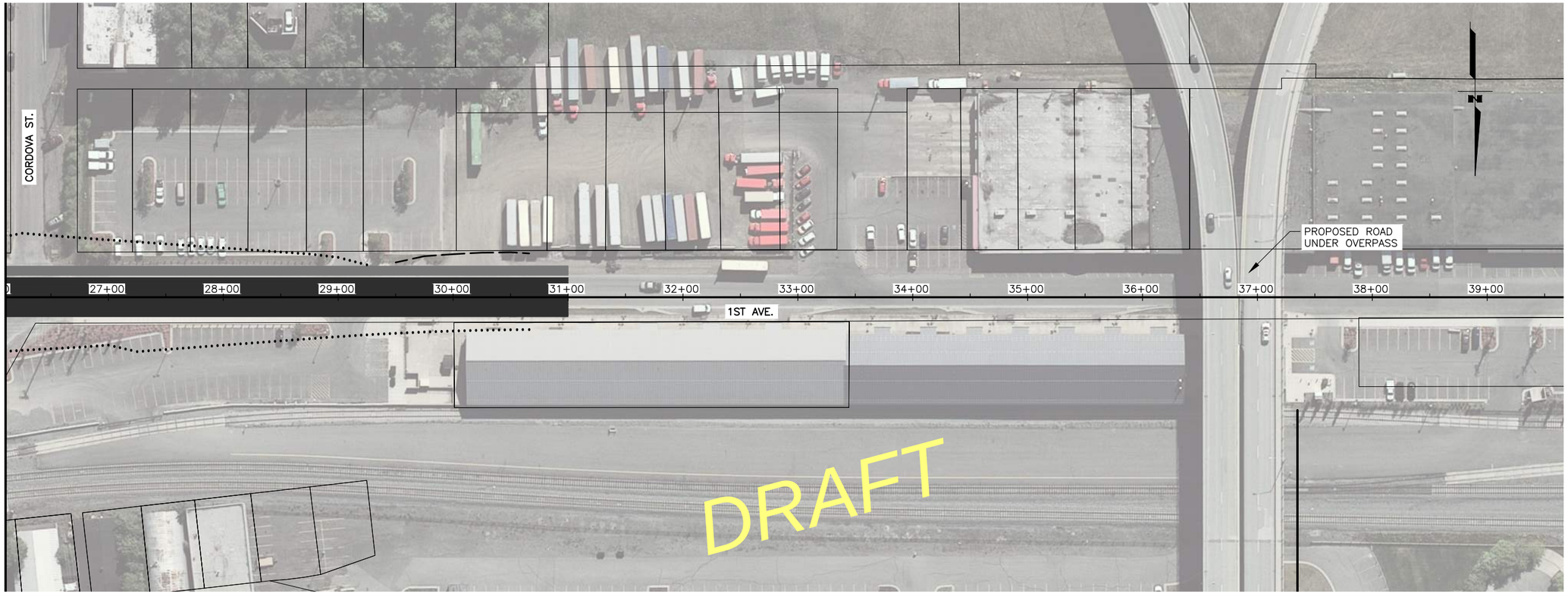

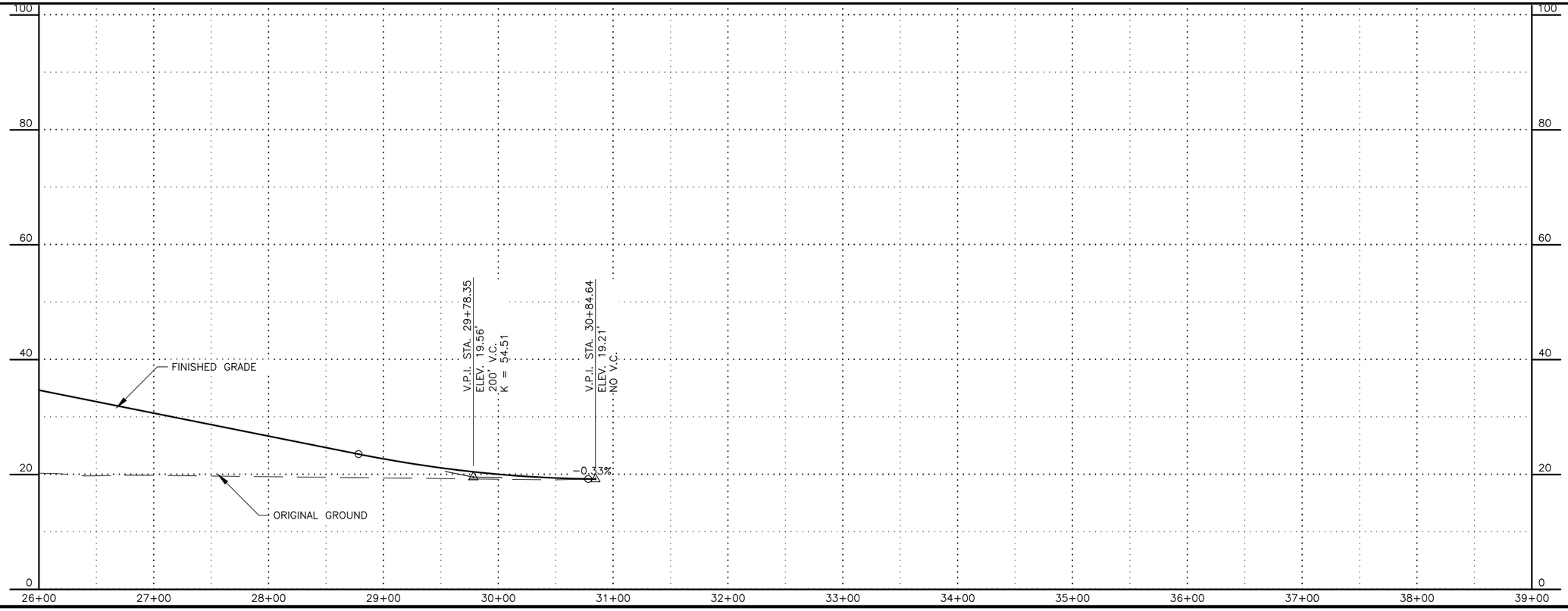

SHEET NO.	TOTAL SHEETS
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STATE	YEAR
ALASKA	20XX

PROJECT DESIGNATION

XXXXXXX/
XXXXXXXXXX

NO.	REVISION
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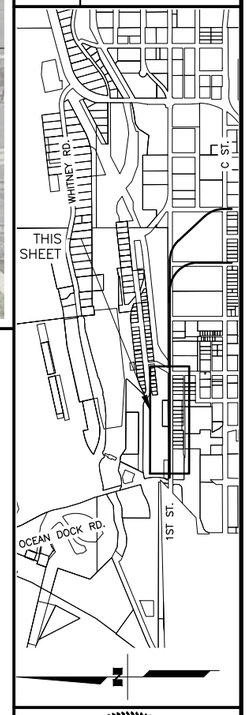

STATE OF ALASKA
PROJECT ENGINEER
XXXXX
REVIEW
PROFESSIONAL ENGINEER

STATE OF ALASKA DOT&PF
4111 AVIATION AVENUE
ANCHORAGE, AK 99502
(907) 269-0590

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

TITLE
TITLE
TITLE

GAMBELL-INGRA PORT ACCESS FIRST AVE OPTION

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE

DATE TIME
8/27/2025 2:22 PM

DRAWING LOCATION
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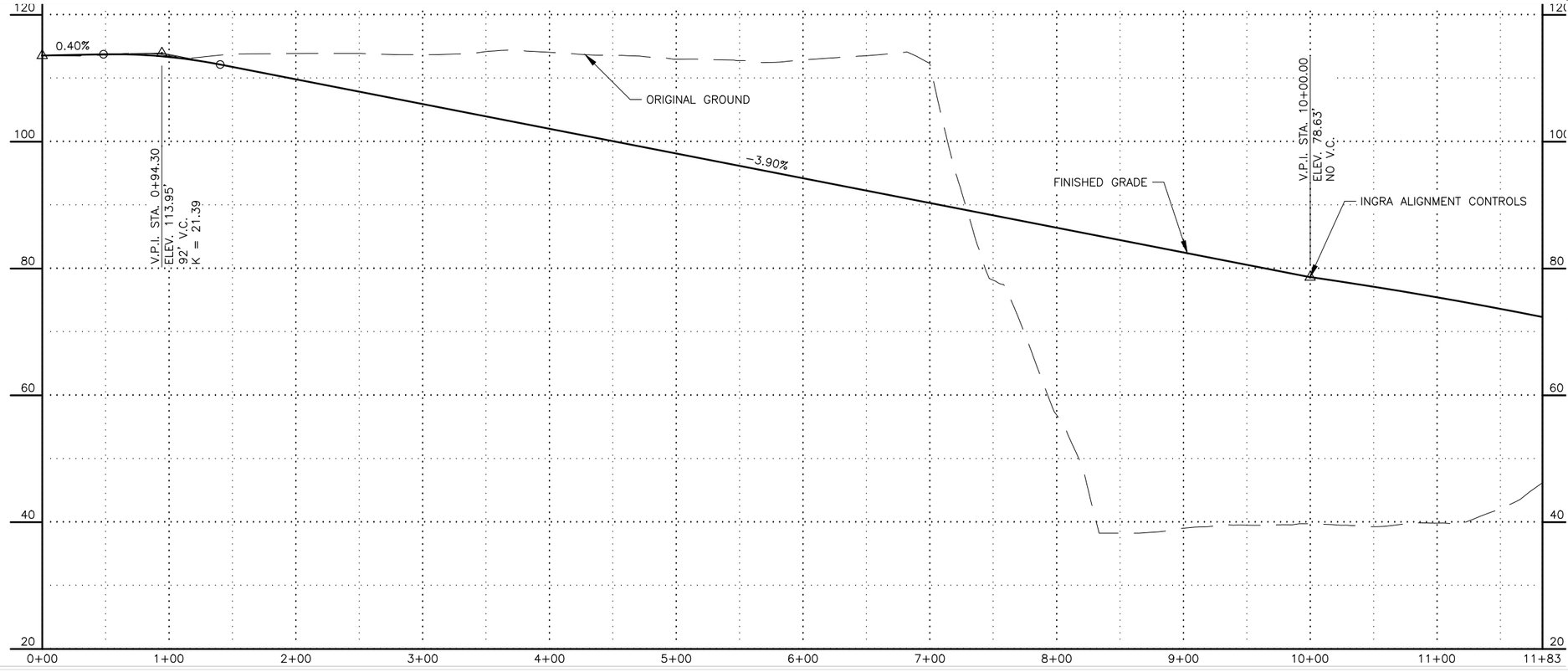

SHEET NO.	TOTAL SHEETS
FC4	FXX
STATE	YEAR
ALASKA	20XX

PROJECT DESIGNATION

XXXXXX/
XXXXXXXXX

NO.	REVISION
DATE	
NO.	REVISION
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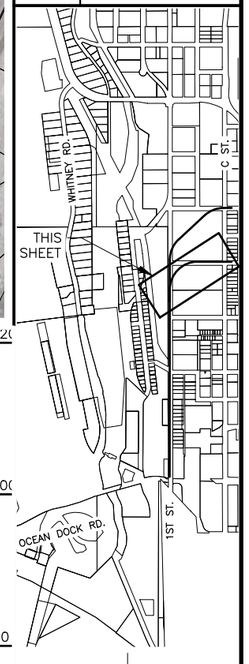

STATE OF ALASKA
XXXXX
REVIEW
PROJECT MANAGER
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DOT&PF
4111 AVIATION AVENUE
ANCHORAGE, AK 99502
(907) 269-0590

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

TITLE
TITLE
TITLE

GAMBELL–INGRA PORT ACCESS FIRST AVE OPTION

Appendix D: Cost Estimates

Ingra Tunnel Alternative Construction Costs

Items	Total Costs	Percent assumed	
HMA	$ 3,583,000.00		9%
Base	$ 1,280,000.00		3%
Subbase	$ 6,805,000.00		18%
Curb	$ 495,000.00		1%
Sidewalk	$ 2,803,000.00		7%
Excavation	$ 4,495,000.00		12%
Bridges	$ 7,007,000.00		18%
Wall	$ 5,893,000.00		15%
Binder	$ 2,442,000.00		6%
Sign/Stripe	$ 760,000.00		2%
Lighting	$ 3,150,000.00		8%
Subtotal	$ 38,713,000.00		
Landscaping	$ 388,000.00	1%	
Drainage	$ 1,936,000.00	5%	
Erosion	$ 1,162,000.00	3%	
Survey	$ 1,162,000.00	3%	
Traffic Control	$ 2,710,000.00	7%	
Closeout/As-Builts	$ 388,000.00	1%	
Mobilization	$ 3,872,000.00	10%	
Contingency	$ 5,807,000.00	15%	
Construction sub	$ 56,138,000.00		
Construction Admin	$ 5,614,000.00	10%	
Environmental	$ 2,807,000.00	5%	
Design	$ 5,614,000.00	10%	
Project Subtotal	$ 70,173,000.00		
Utilities	$ 2,807,000.00	4%	
ROW	$ 6,000,000.00		
ICAP	$ 3,769,000.00	5.37%	
Roundabouts	$ 28,000,000.00		
Roadway Grand Total	$ 110,749,000.00		
Tunnel Cost	$ 260,306,000.00		235%
Port Route	$ -		0%
Roadway + Tunnel	$ 371,055,000.00		
Roadway + Tunnel + Port	**$ 371,055,000.00**		

Ingra Tunnel Alternative New Maintenance Costs

Item	Cost per Year	Percent assumed
Main Line	$ 78,000.00	
Bridge	$ 4,000.00	
Tunnel	$ -	
Roundabout	$ 40,000.00	
Total	**$ 122,000.00**	

Notes:

Assumes no signalized intersections.

Tunnel cost is a class 5 estimate (+- 50%)

Tunnel cost includes roadbed and excavation for the bored portion

Port route is all on existing, no additional work anticipated

Roundabout cost from inscribed diameter of 180'

Maintenance just includes new maintenance costs

Wall quantities are prelimiary

Fairview Bypass Construction Costs

Items	Total Costs	Percent assumed	
HMA	$ 4,046,000.00		5%
Base	$ 1,730,000.00		2%
SubBase	$ 7,575,000.00		10%
Curb	$ 583,000.00		1%
Sidewalk	$ 2,988,000.00		4%
Excavation	$ 6,420,000.00		9%
Bridges	$ 30,555,000.00		41%
Wall	$ 13,989,000.00		19%
Binder	$ 2,939,000.00		4%
Sign/Stripe	$ 761,000.00		1%
Lighting	$ 3,096,000.00		4%
Subtotal	$ 74,682,000.00		
Landscaping	$ 747,000.00	1%	
Drainage	$ 3,735,000.00	5%	
Errosion	$ 2,241,000.00	3%	
Survey	$ 2,241,000.00	3%	
Traffic Control	$ 5,228,000.00	7%	
Closeout/As-Builts	$ 747,000.00	1%	
Mobilization	$ 7,469,000.00	10%	
Contingency	$ 11,203,000.00	15%	
Construction sub	$ 108,293,000.00		
Construction Admin	$ 10,830,000.00	10%	
Environmental	$ 5,415,000.00	5%	
Design	$ 10,830,000.00	10%	
Project Subtotal	$ 135,368,000.00		
Utilites	$ 5,415,000.00	4%	
ROW	$ 16,500,000.00		
ICAP	$ 7,270,000.00	5.37%	
Roundabouts	$ 24,500,000.00		
Roadway Grand Total	$ 189,053,000.00		
Cut and Cover (C&C)	$ 28,800,000.00		15%
Port Route	$ 54,903,000.00		29%
Roadway + C&C	$ 217,853,000.00		
Roadway + C&C + Port	**$ 272,756,000.00**		

$ 256,256,000.00

Fairview Bypass Alternative New Maintenance Costs

Item	Cost per Year	Percent assumed
Main Line	$ 78,000.00	
Bridge	$ 41,000.00	
C&C	$ -	
Roundabout	$ 50,000.00	
Total	**$ 169,000.00**	

Notes:

Assumes no signalized intersections.

Roundabout cost from incribed diameter of 180'

C&C compared in urban areas

C&C in northen environment

C&C with utiltiy relocactions

C&C considering logistics of Alaska constructability

C&C with average trench depth 22'

C&C assumed over entire length

C&C ventilation required for lengths over 300'

Maintenance just includes new maintenance costs

Wall quantities are prelimiary

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Wall quantities are prelimiary

Fairview Bypass Construction Costs

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Bridges	$ 30,555,000.00		41%
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$ 256,256,000.00

Fairview Bypass Alternative New Maintenance Costs

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Bridge	$ 41,000.00	
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Roundabout	$ 50,000.00	
Total	**$ 169,000.00**	

Notes:

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Roundabout cost from incribed diameter of 180'

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C&C with utiltiy relocactions

C&C considering logistics of Alaska constructability

C&C with average trench depth 22'

C&C assumed over entire length

C&C ventilation required for lengths over 300'

Maintenance just includes new maintenance costs

Wall quantities are prelimiary

Transit Focus Alternative Capital Cost Estimate

	Capital Cost			Operating Cost		
Items	**Unit**	**Cost**	**Total**	Unit	Cost	**Total**
Transit Service	2	$ 21,750,000.00	$ 43,500,000.00	1	$ 11,372,288.72	**$ 11,372,288.72**
Rapid Transit Branding Upgrade	1	$ 1,000,000.00	$ 1,000,000.00	1	$ 50,000.00	**$ 50,000.00**
Transit Signal Priority	1	$ 312,400.00	$ 312,400.00	1	$ 36,380.00	**$ 36,380.00**
Bus Shelters	15	$ 20,000.00	$ 300,000.00	0	0	**$ -**
Park and Rides			$ -			
Chugiak	50	$ 8,200.00	$ 410,000.00	50	$ 100.00	**$ 5,000.00**
Birchwood	50	$ 8,200.00	$ 410,000.00	50	$ 100.00	**$ 5,000.00**
Eagle River	100	$ 8,200.00	$ 820,000.00	100	$ 100.00	**$ 10,000.00**
Additional Vanpools/Rideshare			$ -	8	$ 420.00	**$ 3,360.00**
Microtransit			$ -			
East Eagle River	1	$ 500,000.00	$ 500,000.00	1	$ 2,500,000.00	**$ 2,500,000.00**
Eagle River	1	$ 500,000.00	$ 500,000.00	1	$ 2,500,000.00	**$ 2,500,000.00**
Chugiak Eagle River	1	$ 500,000.00	$ 500,000.00	1	$ 2,500,000.00	**$ 2,500,000.00**
Southeast Anchorage	0	$ 500,000.00	$ -	0	$ 2,500,000.00	**$ -**
HOV Lane	1	$ 3,400,000.00	$ 3,400,000.00	1		**$ -**
No transit Fares			$ -	1	$ 3,000,000.00	**$ 3,000,000.00**
Additional Non-Motorized and Transit Am	20	$ 1,000,000.00	$ 20,000,000.00	1	$ 100,000.00	**$ 100,000.00**
Trip reduction activities			$ -	1	$ 1,000,000.00	**$ 1,000,000.00**
Density Incentives	20	$ 1,000,000.00	$ 20,000,000.00	1	$ 1,000,000.00	**$ 1,000,000.00**
Regional Trail			$ -			**$ -**
Gambell Main Street			**$ -**			
Total			$ 91,652,400.00		Total	$ 24,082,028.72

Notes:

Regional Trail and Gambell Main Street costs are included elsewhere

Trip reduction activities in operating costs

No transit fares in operating costs

Assumes 1 replacement set of buses at the 10 year mark