MATANUSKA-SUSITNA BOROUGH
PLANNING COMMISSION AGENDA

Edna DeVries, Mayor

PLANNING COMMISSION
Doug Glenn, District 1 – Vice Chair
Richard Allen, District 2
C. J. Koan, District 3 – Chair
Michael Collins, District 4
Linn McCabe, District 5
Wilfred Fernandez, District 6
Curt Scoggin, District 7

Michael Brown, Borough Manager

PLANNING & LAND USE DEPARTMENT
Alex Strawn, Planning & Land Use Director
Jason Ortiz, Planning & Land Use Deputy Director
Vacant, Development Services Manager
Fred Wagner, Platting Officer
Lacie Olivieri, Planning Clerk

Assembly Chambers of the
Dorothy Swanda Jones Building
350 E. Dahlia Avenue, Palmer

March 3, 2025
REGULAR MEETING
6:00 p.m.

Ways to participate in the meeting:

IN PERSON: You will have 3 minutes to state your oral comment.

IN WRITING: You can submit written comments to the Planning Commission Clerk at msb.planning.commission@matsugov.us.

Written comments are due at noon on the Friday prior to the meeting.

TELEPHONIC TESTIMONY:

- Dial 1-855-290-3803; you will hear "joining conference" when you are admitted to the meeting.
- You will be automatically muted and able to listen to the meeting.
- When the Chair announces audience participation or a public hearing you would like to speak to, press *3; you will hear, "Your hand has been raised."
- When it is your turn to testify, you will hear, "Your line has been unmuted."
- State your name for the record, spell your last name, and provide your testimony.

OBSERVE: observe the meeting via the live stream video at:

- https://www.facebook.com/MatSuBorough
- Matanuska-Susitna Borough - YouTube

I. CALL TO ORDER, ROLL CALL, AND DETERMINATION OF QUORUM

II. APPROVAL OF AGENDA

III. PLEDGE OF ALLEGIANCE

IV. CONSENT AGENDA

A. MINUTES
Regular Meeting Minutes: February 3, 2025

B. INTRODUCTION FOR PUBLIC HEARING: QUASI-JUDICIAL MATTERS

Resolution 25-01 A Conditional Use Permit In Accordance With MSB 17.67 - Tall Structures Including Telecommunications Facilities, Wind Energy Conversion Systems, And Other Tall Structures, To Construct A 155-Foot-Tall Lattice Telecommunications Tower At 4075 S. Lindsey Circle, Tax ID# 17N03E30A012. (Applicant: Sierra Larson, For New Horizons Telecom, Inc.; Staff: Rick Benedict, Current Planner)

Resolution 25-02 A Conditional Use Permit In Accordance With MSB 17.30 - Conditional Use Permit For Earth Materials Extraction Activities To Extract Approximately 1,028,000 Cubic Yards Of Gravel Over 10 Years Located At 4120 E. Brenda Avenue (Tax ID#1341000T001) And 4101 E. Fairview Loop (Tax ID#1341000T002) Within The Harold Gershmel Subdivision. (Applicant: Paul Minnick, For Big Dipper Construction Inc.; Staff: Rick Benedict, Current Planner)

C. INTRODUCTION FOR PUBLIC HEARING: LEGISLATIVE MATTERS

Resolution 25-03 A Resolution Of The Matanuska-Susitna Borough Planning Commission Supporting Assembly Adoption Of The Matanuska-Susitna Borough Safe Streets For All Comprehensive Safety Action Plan (Staff: Jamie Taylor, Civil Engineer)

V. COMMITTEE REPORTS

VI. AGENCY/STAFF REPORTS

VII. LAND USE CLASSIFICATIONS

VIII. AUDIENCE PARTICIPATION (*Three minutes per person, for items not scheduled for public hearing*)

IX. PUBLIC HEARING: QUASI-JUDICIAL MATTERS
Commission members may not receive or engage in ex-parte contact with the applicant, other parties interested in the application, or members of the public concerning the application or issues presented in the application.

X. PUBLIC HEARING: LEGISLATIVE MATTERS

XI. CORRESPONDENCE & INFORMATION

A. BOAA Decision; PC Resolution 24-08 – Shoreline Cannabis

XII. UNFINISHED BUSINESS

XIII. NEW BUSINESS

XIV. COMMISSION BUSINESS

A. Upcoming Planning Commission Agenda Items

XV. DIRECTOR AND COMMISSIONER COMMENTS

XVI. ADJOURNMENT (*Mandatory Midnight*)

Disabled persons needing reasonable accommodation in order to participate at a Planning Commission Meeting should contact the Borough ADA Coordinator at 861-8432 at least one week in advance of the meeting.

MINUTES

February 3, 2025

(Pages 4-7)

MATANUSKA-SUSITNA BOROUGH

Edna DeVries, Mayor

PLANNING COMMISSION
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Assembly Chambers of the
Dorothy Swanda Jones Building
350 E. Dahlia Avenue, Palmer

PLANNING COMMISSION MEETING MINUTES February 3, 2025

I. CALL TO ORDER, ROLL CALL, AND DETERMINATION OF QUORUM

The Matanuska-Susitna Borough Planning Commission's regular meeting was held on February 3, 2025, at the Matanuska-Susitna Borough Assembly Chambers, 350 E. Dahlia Avenue, Palmer, Alaska. Chair CJ Koan called the meeting to order at 6:00 p.m.

Present: 6 – Commissioner Doug Glenn
Commissioner C.J. Koan
Commissioner Michael Collins
Commissioner Linn McCabe
Commissioner Wilfred Fernandez
Commissioner Richard Allen

Absent/Excused: 1 – Commissioner Curt Scoggin

Staff Present: 4 – Mr. Jason Ortiz, Planning and Land Use Department Director
Ms. Lacie Olivieri, Planning Department Admin
Ms. Peggy Horton, Current Planner
Ms. Shannon Bodolay, Assistant Borough Attorney
Mr. Tom Adams, Public Works Director

II. APPROVAL OF AGENDA

Chair Koan inquired if there were any changes to the agenda.

Commissioner McCabe moved to amend the agenda to add an introduction of the new Commissioner under new business. The motion was seconded by Commissioner Doug Glenn.

GENERAL CONSENT: The agenda was approved as amended without objection.

III. PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was led by Commissioner McCabe.

IV. CONSENT AGENDA

A. MINUTES: Regular Meeting Minutes - January 20, 2025

B. INTRODUCTION FOR PUBLIC HEARING QUASI-JUDICIAL MATTERS
(There were no introductions for public hearing quasi-judicial matters.)

C. INTRODUCTION FOR PUBLIC HEARING LEGISLATIVE MATTERS
(There were no introductions for public hearing legislative matters.)

GENERAL CONSENT: The Consent Agenda was approved without objection.

V. COMMITTEE REPORTS
(There were no committee reports.)

VI. AGENCY/STAFF REPORTS
(There were no Agency/Staff Reports)

VII. LAND USE CLASSIFICATIONS
(There were no land use classifications.)

VIII. AUDIENCE PARTICIPATION (Three minutes per person.)

There being no persons to be heard Audience Participation was closed without objection.

IX. PUBLIC HEARING QUASI-JUDICIAL MATTERS

Resolution 24-31 A Conditional Use Permit In Accordance With MSB 17.30 — Conditional Use Permit For Earth Material Extraction Activities, For The Extraction Of Approximately 7,500,000 Cubic Yards Of Earth Material From An Extraction Site Of 153 Acres Within Three Parcels Totaling 235 Acres On 7955 E. Bogard Road, 3182 N. Trunk Road, 7801 E. Glade Court, Tax ID#S 18N01E27A002, 18N01E27D001, 18N01E27D002. (Applicant: Dan Steiner, P.E. For Central Gravel Products; Staff: Peggy Horton, Current Planner)

Chair Koan read the resolution title into the record.

Chair Koan read the ex-parte memo asking questions of the Planning Commissioners.

Staff, Ms. Peggy Horton, presented her staff report.

Commissioner Allen inquired about the times of trucking in coordination with school buses.

Ms. Peggy Horton stated that she would like to allow the applicant to address that question.

Chair Koan invited the applicant to present information.

Chair Koan inquired if commissioners had any questions for the applicant.

Commissioner Allen inquired about the times of trucking in coordination with school buses.

The owner of Central Gravel addressed the Commissioners question.

Chair Koan opened the public hearing.

The following persons spoke in regard to Planning Commission Resolution 24-31: Greg Sindt, Dave Cruz, Dave Cordie, Joel Stefanski, Neil Nardini, Verdie Bowen, William Munro, Jacob Brown, Rod Hanson - North Lakes Community Council, Craig Nelson, Carter Debach, Morgan Baker, Justin Short, Angie Lenard, Phil Markwardt, Daren Markwardt, Rudy Poglitsh, Spencer Audie, Jim Klauder, Tessa Reimer, Patrick Morin, Ashlee Carlson, Justin Metcalf, Tyler Marye, Mike Rolston

There being no one else to be heard, Chair Koan closed the public hearing, and the discussion moved to the Planning Commission.

Chair Koan invited staff and the applicant to respond to the public comments.

The applicant addressed concerns about wetlands.

Chair Koan invited Tom Adams, Public Works Director, to answer questions about the Engstrom Trunk road connector.

MOTION: Commissioner Glenn moved to approve Planning Commission Resolution 24-31. The motion was seconded by Commissioner McCabe.

Discussion ensued

VOTE: The main motion passed without objection.

X. PUBLIC HEARING LEGISLATIVE MATTERS

(There were no introductions for public hearing legislative matters.)

XI. CORRESPONDENCE AND INFORMATION

(Correspondence and information were presented and no comments were noted)

XII. UNFINISHED BUSINESS

(There was no unfinished business.)

XIII. NEW BUSINESS

Chair Koan welcomed Commissioner Collins. Commissioner Collins introduced himself.

DRAFT

XIV. COMMISSION BUSINESS

A. Upcoming Planning Commission Agenda Items (*Staff: Alex Strawn*)
(Commission Business was presented, and no comments were noted.)

XV. DIRECTOR AND COMMISSIONER COMMENTS

Commissioner Allen: Productive meeting today.

Commissioner Fernandez: No Comments.

Commissioner Glenn: Glad these guys got their permit and can move forward.

Commissioner McCabe: A lot of our experiences here are not nearly as fun or positive as what we experienced today. Thank you for having a stand-up business and doing a good job for the valley.

Commissioner Collins: The Community support for a small business like Central gravel and the impeccable record of the last 10 years dealing with federal agencies is amazing and what was testified earlier was unheard of so I continue to commend you on those efforts. And to the public that had concerns and came here to attend and comment it is very important as well for transparency. Thank you for your time and efforts. We appreciate it.

Commissioner Koan: Excellent meeting. I think the public was served well today.

Jason Ortiz: Welcome, Commissioner Collins. I hope you enjoyed the video of the drone footage. We will trim it up next time, and hopefully, the footage will give you a better view and perspective of the site. Kudos to the Current Planning staff for the footage. Keep in mind that this is a Quasi-judicial matter, and there is still an appeal period. Please refrain from discussing this until the appeal period is over.

XVI. ADJOURNMENT

The regular meeting adjourned at 8:00 p.m

C J KOAN
Planning Commission Chair

ATTEST:

LACIE OLIVIERI
Planning Commission Clerk

Minutes approved: _____

DRAFT

INTRODUCTION FOR PUBLIC HEARING

QUASI-JUDICIAL

Resolution No. 25-01

A Conditional Use Permit In Accordance With MSB 17.67 - Tall Structures Including Telecommunications Facilities, Wind Energy Conversion Systems, And Other Tall Structures, To Construct A 155-Foot-Tall Lattice Telecommunications Tower At 4075 S. Lindsey Circle, Tax ID# 17N03E30A012. (Apllicant: Sierra Larson, For New Horizons Telecom, INC.; Staff: Rick Benedict, Current Planner)

NEW HORIZONS
Building Tomorrow's Infrastructure Today



US-AK-5280 GULL LAKE COMMUNICATION TOWER CONDITIONAL USE PERMIT APPLICATION

November 18, 2024 (resubmittal)

Prepared For
Matanuska-Susitna Borough

Structure Owner
Vertical Bridge Development, LLC

Authorized Agent
New Horizons Telecom, Inc.

Rcvd by MSB Nov 19, 2024

Project Narrative

This application seeks a Conditional Use Permit (CUP) in accordance with Matanuska-Susitna Borough (MSB) 17.67 Tall Structures for the construction of a communications tower to enhance wireless service in the area. The construction of this tower will allow the anchor tenant, Verizon Wireless, to fill a significant gap in coverage with the primary objective of enhancing public safety and well-being through improved cell service and wireless broadband. The proposed tower, a 155' self-support tower with a 10' lightning rod for a maximum height of 165', will serve a large area, including residential and public areas widely recreated by tourists and locals alike.

Site Selection:
Before proposing the construction of a new tower to support Verizon's service, New Horizons initially investigated colocation options. No existing tower structures in the area would provide the desired coverage outcomes, and a search began for a suitable new tower location, ultimately resulting in a ground lease agreement between Vertical Bridge and the property owner.

The chosen site, located at 4075 Lindsey Avenue, has been carefully considered for its ability to meet technical requirements, coverage needs, and compatibility with the surrounding residential landscape. Alternative sites were evaluated, and the selected location was deemed suitable, allowing optimal coverage while minimizing visual impact.

Zoning Compliance:
The installation of this tower requires a Conditional Use Permit (CUP) because the proposed height is above the MSB-defined threshold of 125 feet. The site is in an unzoned, general-use area. The proposed tower aligns with the community's goals, particularly in addressing the crucial need for improved cellular service to the area, which will enhance public safety and support recreational activities. The selected location of the tower site on the parcel allows it to meet setbacks required in the MSB code, such as equipment compound distance from property lines (17.55) and minimum setback distance equal to the height of the tower (17.67.090.A.2).

Please note: Setbacks have been revised and/or added to the drawings in Attachment B to reflect measurements to all property lines (north, east, south, west) and are measured from the outer perimeter of the tower base. Additional dimensions have also been added to show setback distances from shed/outbuilding and prior housing structures on the property.

Regarding the decision to not utilize breakpoint technology in the tower's design at this site: Breakpoint technology is typically incorporated in tower designs to limit structural failure to a predetermined point, minimizing the risk of harm to surrounding properties. However, for this specific site:

- *The primary use of the public right-of-way (ROW) along S. Lindsey Circle is recreational (ATVs) rather than high-volume vehicular or pedestrian traffic. This reduces the likelihood of harm to the public even in an unlikely tower failure event.*
- *While the certified site plan indicates residential structures near the eastern side of the proposed tower location, the nearest structure is dilapidated, uninhabited, and has not been in use for several years. Therefore, no immediate safety concern exists for residential occupants.*
- *Although full setback requirements are not completely met due to the inclusion of portions of the public ROW in the fall zone, the current design closely adheres to*

Rcvd by MSB Nov 19, 2024

standards, and the risk is mitigated by the low likelihood of tower failure and the limited activity in the surrounding area.

Height and Design:
The proposed tower will have a maximum height of 165 ft., consisting of a 155 ft. self-support lattice tower and a 10' lightning rod. The tower's height of 155 feet is required to meet service coverage objectives. The structure color will be natural grey/steel color and the non-reflective/matte finish will avoid unnecessary attention and will blend in with the area's natural surroundings. In addition, the open lattice structure of the tower allows the tower to visually "disappear" against the backdrop of trees, mountains or open sky. The open structure reduces the perception of bulk and mass, in an attempt to make it less visually obtrusive.

The location has been chosen to minimize its prominence in the landscape, sited away from major view corridors. The area surrounding the base of the tower compound will include keeping natural vegetation that is consistent with the surrounding area, softening the appearance of the tower base and ground equipment from the road, allowing it to blend seamlessly into the environment.

The site, consisting of a 100 ft. x 100 ft. leased area with a 75 ft. x 75 ft. secure fenced compound, will be offset from the driveway to visually screen the site from the public right-of-way as much as possible. The leased area includes a ~50x40' parking and turnaround area in accordance with parking requirements noted in MSB 17.67.0900(B)(1). This can be seen on the attached Zoning Drawings with Certified Site Plan. A driveway permit from the Mat-Su Borough will be obtained in accordance with MSB 11.12 Driveway Standards for development of the tower site driveway prior to construction.

A sign/placard will be placed on the outside of the fence per Vertical Bridge standard practice which will also address MSB 17.67.090(C)(a)(b)(c) for sign requirements. The placard includes owner/operator contact and emergency information, site name and number, as well as the FCC Tower ID as applicable. There is no requirement for a high-voltage sign/warning associated with this tower.

Included with this application in Attachment C are the current PE stamped Tower and Foundation Design Drawings providing certification of the structural integrity of the tower structure and its foundation. The foundation design provided allows for (2) options for construction: a pad and pier concrete foundation design, or a pile driven foundation.

Environmental Impact:
The tower is expected to have little to no effects on the local environment. Vegetation clearing will be minimized to the extent possible and will stay within the Vertical Bridge lease area and access driveway. A vegetative buffer will remain inside the lease area surrounding the equipment compound.

<u>Please note</u>: Additional details requested from the MSB asked to identify any public parks, recognized trails, water bodies from which the tower may be visible. New Horizons conducted a high-level viewshed analysis using desktop tools to determine potential view impacts from popular recreational areas. The locations of trails and recreational areas identified is based on those included Matanuska-Susitna Borough's Recreational Trails Plan (August 2016 version). The viewshed analysis focuses on locations within a 2.5-mile radius from the site because generally towers become less noticeable beyond 2-3 miles in flatter terrain. However, visibility may be amplified if the viewer is located at a higher elevation than the

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tower. Locations with higher elevation of 200'-300' above mean sea level (AMSL) such as the Butte Summit and Burnt Butte may see the most visual impact compared to other locations included on the map in Attachment H. While the best way to minimize visual impact would be to not install lighting on the tower, given that there are potential aircraft safety concerns in the near vicinity of the site, the tower is proposed to be lit.

Public Benefit:
The proposed communications tower will significantly benefit the public by ensuring reliable communication to increase public safety, emergency response, and overall community well-being. Improved cell service can facilitate real-time and efficient coordination and connections while also supporting economic development and tourism and providing a platform for community engagement and sharing of information.

Community Engagement:
Outreach efforts have occurred to engage with the local community regarding the proposed project. Public concerns are considered, and adjustments to the project have or will be made to accommodate community feedback where feasible. A summary of community engagement to date has been compiled into a Citizen Participation Report submitted alongside this application. *Please note:* No additional public comments have been received since the initial citizen participation report was compiled.

Technical Specifications:
While initially supporting the anchor tenant, Verizon Wireless, the tower will have at least two additional colocation spaces for other carriers who may need to provide service to the area. The structure will support state-of-the-art technology, providing robust and reliable cellular coverage. Radiofrequency (RF) emissions will be within regulatory limits, ensuring the safety of nearby residents. The estimated Verizon service coverage area is provided in the attachments.

Please note: The tower is designed to meet or exceed the applicable structural standards set by the TIA-222 (Telecommunications Industry Association) and local building codes. This ensures the tower can withstand high winds, seismic activity, and other environmental forces common to the area.

Regulatory Compliance:
The project complies with relevant federal, state, and local regulations, including those set forth by The Federal Communications Commission (FCC). An FAA Obstruction Evaluation Study (No. 2023-AAL-377-OE) is complete and has determined that the proposed tower is no hazard to air navigation. This study also indicates that the FAA does not require the tower to have aircraft hazard lighting.

<u>Please note:</u> while the FAA (regulation authority) does not require this tower to be lit, Vertical Bridge has elected to add lighting to the tower due to considerations of a nearby heli-pad used recreationally and for tourism purposes. Given this heli-pad does not appear to be registered through the FAA, the FAA review did not take this into account. In addition, the projects decision to install lighting also considers the recreational nature of the area and proximity to the Butte Airport which is located approximately .95 miles from the site "as the bird flies", as well as the Knik River which is used as a major aircraft recreational corridor. We are not aware of any other airports within a 3-mile radius of the proposed site. Every attempt will be made to install shielded or directional lighting as necessary to reduce light pollution and preserve the natural nightscape.



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Maintenance and Decommissioning Plans:
A plan for regular maintenance and inspection of the tower and associated equipment is in place. Additionally, clear procedures for decommissioning and site restoration are in place should it become necessary.

Legal and Financial Considerations:
Necessary legal agreements and easements have or will be secured, and the applicant is committed to covering all costs associated with construction, maintenance, and potential removal of the tower. The lease agreement, which includes a 30-foot access and utility easement required and described on the site plan/drawings has already been obtained during the site acquisition process.

In conclusion, the proposed communications tower aligns with the community's goals and addresses a critical need for improved cellular coverage, particularly in areas of high recreational activity. **The following pages address specific requirements in the Matanuska-Susitna Borough code for Tall Structures.**

We appreciate your consideration of this application and look forward to the opportunity to discuss any further requirements or address any concerns. Thank you for your time and attention to this matter.

17.67.070 GENERAL APPLICATION REQUIREMENTS FOR ADMINISTRATIVE AND CONDITIONAL USE PERMITS.

(A) An application for a conditional use or administrative permit to construct a new tall structure may be initiated by a property owner or the owner's authorized agent and shall include:
(1) completed application form provided by the department and signed by the property owner or authorized agent;
(2) design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect;
(3) fee in the amount designated in MSB 17.99;
(4) citizen participation report in accordance with MSB 17.67.050(B);
(5) a certified site plan;
(6) copy of a determination of no hazard to air navigation from the Federal Aviation Administration; and
(7) if breakpoint technology is intended to be utilized, a written statement specifying the height at which the engineered structural weakness will be located.
(Ord. 15-016, § 2 (part), 2015)

Vertical Bridge Statement of Compliance:
This Conditional Use application for Tall Structures provides the required documentation outlined in items (1) through (6) above. The tower does not intend to utilize breakpoint technology outlined in item (7), therefore no written statement is provided.

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17.67.080 STANDARDS FOR APPROVAL OF NEW TALL STRUCTURES.
(A) A permit for a new tall structure may only be approved if it meets the requirements of this section in addition to any other applicable standards required by this chapter.
(B) In granting or denying a permit, the commission or director shall make findings on whether the applicant has demonstrated that:
(1) To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized;
(2) Visibility of the tall structure from public parks, trails recognized within adopted borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available;
(3) The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the borough's regional aviation system plan or by the Alaska State Aviation System Plan; and
(4) Granting the permit will not be harmful to the public health, safety, convenience, and welfare.
(Ord. 15-016, § 2 (part), 2015)

Vertical Bridge Statement of Compliance:
The proposed development for the communications tower aligns with the standards outlined in MSB 17.67.080 for the approval of new tall structures. If there are any specific questions or further information required, please let us know for prompt clarification.

1. The location of the tall structure has been chosen to minimize negative effects on the visual and scenic resources of surrounding properties to the extent technically feasible and potentially available.
2. Visibility of the tall structure from public parks, trails recognized within adopted borough plans, and water bodies has been minimized to the extent technically feasible and potentially available.
3. The tall structure will not interfere with the approaches to any existing airport or airfield identified in the borough's regional aviation system plan or by the Alaska State Aviation System Plan.
4. Granting the permit for the proposed communications tower will not be harmful to the public health, safety, convenience, and welfare. The tower will comply with local, state and federal regulations.

17.67.090 OPERATION STANDARDS FOR NEW TALL STRUCTURES.
(A) The following setback requirements shall apply to all new telecommunications towers regulated under this chapter:
(1) The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.
(2) Minimum setback for the tower base shall be a distance equal to the height of the tower.



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(a) The commission, or director if it is an administrative permit, may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare of adjacent property owners.

(3) Setbacks shall be determined from the dimensions of the entire lot, even though the tower may be located on lease areas within the lot.

(B) For all tall structures regulated under this chapter, adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way, to enable emergency vehicle access.

(1) No more than two spaces per provider shall be required.

(C) The following requirements apply to all new and existing telecommunication towers and wind energy conversion systems regulated under this chapter:

(1) The following signage shall be visibly posted at the equipment compound:

(a) Informational signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission, as well as the party responsible for the operation and maintenance of the facility;

(b) If more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER"; and

(c) a 24-hour emergency contact number.

(2) A fence or wall not less than six feet in height with a secured gate shall be maintained around the base of the tower.

(Ord. 15-016, § 2 (part), 2015)

Vertical Bridge Statement of Compliance:

The proposed development for the communications tower has diligently addressed and met all relevant requirements outlined in MSB 17.67.090, including tower height and design specifications, setbacks meeting or exceeding MSB 17.55 standards, adherence to FAA (AC 70/7460-1) regulations documented in 2023-AAL-377-OE, community outreach documented in the Citizen Participation Report, and the inclusion of certified site plans, zoning, and tower design drawings.

If there are any specific questions or clarifications needed regarding how each requirement has been satisfied, please let us know.

Signatures:

Vertical Bridge Acting Agent

Sierra Larson

Sierra Larson, Project Manager, New Horizons Telecom, Inc.

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Attachment A:
Matanuska-Susitna Borough
Application for Tall Structures



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MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822 • Fax (907) 861-8158
Email: permitcenter@matsugov.us

APPLICATION FOR A TALL STRUCTURE – MSB 17.67

Carefully read instructions and applicable borough code. Fill out forms completely. Attach information as needed. Incomplete applications will not be processed.

Application fee must be attached:
✓ **$1,500** for **Conditional Use Permit** - > 125 feet in height
_____ **$ 500** for **Administrative Permit** – 85' to 125' in height
_____ **$ 100** for **Network Improvement Permit** – In accordance with MSB 17.67.110.

*Prior to the public hearing, the applicant must also pay the mailing and advertising fees associated with the application. Applicants will be provided with a statement of advertising and mailing charges. Payment must be made **prior** to the application presentation before the Borough Planning Commission or Planning Director decision.*

Subject Property Township: 17N, Range: 3E, Section: 30, Meridian Seward
MSB Tax Account # 117N03E30A012 PARCEL ID 26807
SUBDIVISION: _____ BLOCK(S): _____, LOT(S): A12
STREET ADDRESS: 4075 S. Lindsey Circle
(US Survey, Aliquot Part, Lat. /Long. etc) 61° 32' 11.926" N, 148° 58' 44.364" W

Ownership A *written authorization by the owner must be attached for an agent or contact person, if the owner is using one for the application.* Is authorization attached? (o) **Yes** o **No** o **N/A**

Name of Property Owner
Jeff Cotterman
Address: 13818 E Hay Wagon Way
Phne: Hm _____ Fax _____
Wk _____ Cell 907-602-9573
E-mail butteboy@gmail.com

Name of Agent/ Contact for application
Sierra Larson, New Horizons Telecom
Address: 901 Cope Industrial Way, Palmer, AK 99645
Phne: Hm _____ Fax _____
Wk 907-761-6054 Cell 907-223-7803
E-mail slarson@nhtiusa.com

Special Land Use District *(if applicable)*: N/A

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Pre-Application Requirements for New Tall Structures that Require a Conditional Use Permit	
Prior to applying for a conditional use permit for a new tall structure, the applicant shall hold at least one community meeting.	
1. The meeting shall be held at the nearest facility where community council meetings are regularly scheduled. If the facility is not available, the nearest available public facility that is capable of seating a minimum of 20 people shall be utilized.	
2. The meeting shall be held at least 15 calendar days after mailing of the notification.	
3. The meeting shall not start prior to 5:00 p.m. and no later than 7:00 p.m.	
4. Notification of the meeting shall, at a minimum, include the following: • Legal description and map of the general parcel, or parcels, within the coverage area under consideration for the telecommunication facility. • Description of the proposed development including height, design, lighting, potential access to the site and proposed service. • Date, time, and location of the informational meeting. • Contact name, telephone number, and address of applicant. • Comment form created by the borough that has a comment submittal deadline and provides options for submitting comments.	
5. At a minimum, the notification area for the meeting shall include the following: • Property owners within one-half mile of the parcels under consideration for the proposed tall structure. • The nearest community council and any community council whose boundary is within 1200 feet of the parcels under consideration for the tall structure.	
A written report summarizing the results of the community meeting shall be prepared that includes the following information:	**Attached**
1. Dates and locations of all meetings where citizens were invited to discuss the potential applicant's proposal.	✓
2. Content, dates mailed, and numbers of mailings, including letters, meeting notices, newsletters and other publications.	✓
3. Sign-in sheet(s) used at the meeting, that includes places for names, address, phone numbers and other contact information such as e-mail addresses.	✓
4. A list of residents, property owners, and interested parties who have requested in writing that they keep informed of the proposed development through notices, newsletters, or other written materials.	✓
5. The number of people who attended meetings.	✓
6. Copies of written comments received at the meeting.	✓
7. A certificate of mailing identifying all who were notified of the meeting.	✓
8. A written summary that addresses the following: • The substance of the public's written concerns, issues, and problems. • How the applicant has addressed, or intends to address, concerns, issues and problems expressed during the process. • Concerns issues, and problems the applicant has not addressed or does not intend to address and why.	✓

Rcvd by MSB Nov 19, 2024

General application requirements for Administrative and Conditional Use Permits	**Attached**
1. Design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect.	✓
2. Citizen participation report *(if applying for a Conditional Use Permit)*	✓
3. Certified site plan *(As defined in MSB 17.125.010)*	✓
4. Copy of a determination of no hazard to air navigation from the Federal Aviation Administration.	✓
5. If breakpoint technology is intended to be utilized, a written statement specifying the height at which the engineered structural weakness will be located.	✓

In order to grant a Conditional Use Permit or Administrative Permit the Planning Commission or Planning Director must find that each of the following criteria has been met. Explain the following in detail:	**Attached**
1. To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized.	✓
2. Visibility of the tall structure from public parks, trails recognized within adopted MSB plans, and waterbodies has been minimized to the extent that is technically feasible and potentially available.	✓
3. The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the MSB Regional Aviation System Plan or by the Alaska State Aviation System Plan.	✓
4. That granting the permit will not be harmful to the public health, safety, convenience, and welfare.	✓

Application requirements for a Network Improvement Permit	**Attached**
1. A description of the proposed modifications to the telecommunication tower, including a description of the height, type, and lighting of the new or modified structure and the existing structure.	
2. A certified site *(as defined in MSB 17.125.010)* for purposes of setback verification.	
3. Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect.	

In order to grant a Network Improvement Permit the Planning Director must find that each of the following criteria has been met. Explain the following in detail.	**Attached**
1. The proposed development conforms to setback requirements of MSB 17.55.	
2. The telecommunication tower being extended was lawfully constructed at the time of application for a Network Improvement Permit.	
3. The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit height of the structure.	

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Operation Standards for New Tall Structures – Conditional Use Permit, Administrative Permit, and Network Improvement Permit	**Attached**
1. The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55	✓
2. Setbacks shall be determined from the dimensions of the entire lot, even though the tower may be located on lease areas within the lot.	✓
3. Adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way to enable emergency vehicle access. No more than two spaces per provider shall be required.	✓
4. Information signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission, as well as the party responsible for the operation and maintenance of the facility shall be visibly posted at the equipment compound.	✓
5. If more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER".	N/A
6. A 24-hour emergency contact number shall be visibly posted at the equipment compound.	✓
7. A fence or wall not less than six (6) feet in height with a secured gate shall be maintained around the base of the tower.	✓

Additional Standards for Wind Energy Conversion Systems (WECS) – In addition to the operations standards for new tall structures, the following standards shall apply to WECS	**Attached**
1. WECS shall be equipped with an automatic overspeed control device designed to protect the system form sustaining structural failure such as splintered or thrown blades and the overturning or breaking of towers due to an uncontrolled condition brought on by high winds.	
2. WECS shall have a manually operable method that assures the WECS can be brought to a safe condition in high winds. Acceptable methods include mechanical or hydraulic brakes or tailvane deflection systems which turn the rotor out of the wind.	

OWNER'S STATEMENT: I am owner of the following property:

MSB Tax parcel ID #(s) 26807 and,
I hereby apply for approval conditional use permit on that property as described in this application.

I understand all activity must be conducted in compliance with all applicable standards of MSB 17.67 and with all other applicable borough, state or federal laws.

I understand that other rules such as local, state and federal regulations, covenants, plat notes, and deed restrictions may be applicable and other permits or authorization may be required. I understand that the borough may also impose conditions and safeguards designed to protect the public's health, safety and welfare and ensure the compatibility of the use with other adjacent uses.

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I understand that it is my responsibility to identify and comply with all applicable rules and conditions, covenants, plat notes, and deed restrictions, including changes that may occur in such requirements.

I understand that this permit and zoning status may transfer to subsequent owners of this land and that it is my responsibility to disclose the requirements of this status to the buyer when I sell the land.

I understand that changes from the approved conditional use permit may require further authorization by the Borough Planning Commission. I understand that failure to provide applicable documentation of compliance with approved requirements, or violation of such requirements will nullify legal status, and may result in penalties.

I grant permission for borough staff members to enter onto the property as needed to process this application and monitor compliance. Such access will at a minimum, be allowed when the activity is occurring and, with prior notice, at other times necessary to monitor compliance.

The information submitted in this application is accurate and complete to the best of my knowledge.

Signature: Property Owner	Jeff Cotterman Printed Name	11/9/2024 Date
Signature: Agent	Sierra Larson Printed Name	1/9/2024 Date

Re-submittal date w/ additional information provided: 11/18/2024

MSB USE ONLY

Date application submitted:

Date application determined complete: _____

Rcvd by MSB Nov 19, 2024

MAT -SU BOROUGH

Other Permits Master (/kmm/Lists/OtherPermitsMaster)

Permit ID	4075 S. Lindsey Circle CUP
Date Created	1/10/2024 11:01 AM
Customer Name	New Horizons Telecom/Vertical Bridge
Customer Id	
Order Number	
Order Placed On	
Order Total	$1,500.00
ConfirmationNumber	
PermitCreatedDate	
Payment Status	Paid
PermitStatus	
PermitAmount	$1,500.00
Order Item Id	
PermitObjectID	
Ordered Product Details	
Customer Phone	907-761-6054
Facility Name (Optional)	Gull Lake Communications Tower

Content Type: Other Permits
Version: 3.0
Created at 1/10/2024 11:01 AM by Sierra Larson (/kmm/_layouts/15/listform.aspx?PageType=4&ListId={47131ed3-ca79-485a-807e-26d5f921a524}&ID=36014)
Last modified at 1/10/2024 11:30 AM by System Account (/kmm/_layouts/15/listform.aspx?PageType=4&ListId={47131ed3-ca79-485a-807e-26d5f921a524}&ID=1073741823)

Close

Attachment B:
Zoning Drawings

Rcvd by MSB Nov 19, 2024

vertical bridge

US-AK-5280

PRELIMINARY CONSTRUCTION DRAWINGS GULL LAKE

4075 S LINDSEY CIRCLE
PALMER, AK 99645

61° 32' 11.926" N, 148° 58' 44.366" W

(FAA 1A CERTIFICATE)

PROJECT SUMMARY

CONSTRUCT NEW 75'x75' TOWER COMPOUND CENTERED WITHIN A 100'x100' LEASE AREA WITH A 155' SELF-SUPPORT TOWER AT CENTER OF COMPOUND.

PROJECT INFORMATION

SITE OWNER:	VERTICAL BRIDGE
OWNER SITE NAME:	GULL LAKE
OWNER SITE NUMBER:	US-AK-5280
TOWER HEIGHT:	155 FT
OVERALL HEIGHT:	165 FT
FCC TOWER ID:	TBD
PARCEL OWNER:	JEFF COTTERMAN
TAX PARCEL ID #:	26807
LEGAL DESCRIPTION:	LOT A12, E1/2 SW1/4 SW1/4 NE1/4 AND SE1/4 NW1/4 SW1/4 NE1/4 OF SEC 30, T17N, R3E, S.M., AK

CONTACT INFORMATION

SITE ACQUISITION & ENGINEERING:
NEW HORIZONS TELECOM, INC
901 COPE INDUSTRIAL WAY
PALMER, AK 99645
(907) 761-6000
LICENSE # AECC610

CIVIL
JENNIFER C MORIGEAU, PE
(907) 761-6052
JMORIGEAU@NHTIUSA.COM

ELECTRICAL
PATRICK T GOODYEAR, PE
(907) 761-6070
PGOODYEAR@NHTIUSA.COM

PROJECT MANAGER
SIERRA G LARSON
(907) 761-6054
SLARSON@NHTIUSA.COM

TOWER OWNER:
THE TOWERS, LLC
750 PARK OF COMMERCE DR
SUITE 200
BOCA RATON, FL 33487

REGIONAL OPERATIONS MANAGER
SKIP SONGER
(907) 717-8284
SSONGER@VERTICALBRIDGE.COM

PROJECT MANAGER
PAUL DANNEBERG
(206) 375-3798
PAUL.DANNEBERG@VERTICALBRIDGE.COM

VICINITY MAP



DRIVING DIRECTIONS

FROM ANCHORAGE TAKE THE GLENN HWY (AK-1) TOWARDS PALMER/WASILLA (34 MI FROM MP 0, WEST END OF MERRILL FIELD)
TAKE THE AK-1 E (GLENN HIGHWAY) EXIT TOWARD PALMER/GLENNALLEN (1.0 MI)
CONTINUE ONTO AK-1 N (GLENN HIGHWAY) (6.7 MI)
TURN RIGHT ONTO E ARCTIC AVE (1.2 MI)
CONTINUE ONTO N OLD GLENN HWY (5.3 MI)
TURN LEFT ONTO S GEORGE PLUMLEY RD (1.3 MI)
TURN RIGHT ONTO S CAUDILL RD (0.5 MI)
TURN LEFT ONTO WALLING RD (0.5 MI)
TURN LEFT ONTO S LINDSEY CIR (0.2 MI)
SITE ON RIGHT

CODE INFORMATION

JURISDICTION:	MATANUSKA-SUSITNA BOROUGH*
ZONING CLASSIFICATION:	NONE
FEMA FLOOD ZONE:	ZONE X (AREA OF MINIMAL FLOOD HAZARD)
APPLICABLE CODES:	2021 IBC W/ AK ADOPTED AMENDMENTS 2020 NEC W/ AK ADOPTED AMENDMENTS
CONSTRUCTION:	V-B
OCCUPANCY:	U

*THIS PROJECT ADHERES TO MSB CODE INCLUDING ALL ZONING, LAND USE, AND BUILDING REGULATIONS

DRAWING INDEX

SHEET #	TITLE	REV #
T1.0	TITLE SHEET	0
G1.0	GENERAL NOTES	0
G1.1	GRADING & EXCAVATING NOTES	0
C1.0	AREA PLAN	0
C1.1	PERMITTING SITE PLAN	0
C1.2	SITE PLAN	0
C1.3	GRADING PLAN	0
C1.4	TYPICAL SECTIONS & TRENCHING DETAILS	0
C2.0	TOWER ELEVATION	0
C3.0	H-FRAME DETAILS	0
C4.0	FENCE DETAILS 01	0
C4.1	FENCE DETAILS 02	0
E0.1	ELECTRICAL SITE PLAN & ONE-LINE	0
E1.0	SITE GROUNDING PLAN	0
E1.1	H-FRAME & METER BASE GROUNDING DETAILS & METER SPECIFICATIONS	0
E1.2	TOWER GROUNDING & PANEL SCHEDULE	0
E1.3	GROUNDING DETAILS	
E1.4	AIC CALCULATIONS	0

ATTACHED REFERENCE DRAWINGS

DESCRIPTION**

EXISTING CONDITIONS SURVEY (1 SHEET)
TOWER FOUNDATION DESIGN (2 SHEETS)

**SEE G1.0 FOR ADDITIONAL DOCUMENT DETAILS

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vertical bridge

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REV	DESCRIPTION	DATE
A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE CONSTRUCTION DRAWINGS GULL LAKE

DWN: JAA	DSN: JCM	APP: JCM	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

TITLE SHEET

T1.0

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 POR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\T1.0 TITLE SHEET.DWG | PLOT DATE: 241220

Recieved by Current Planner 12/20/2024

REFERENCE DOCUMENTS:

1. SURVEY: EXISTING SITE CONDITIONS SURVEY FOR US-AK-5280 GULL LAKE TOWER BY EDGE SURVEY AND DESIGN, LLC, STAMPED 10/5/23 (PROJECT # 23-203)
2. GEOTECH: GEOTECHNICAL INVESTIGATION REPORT FOR GULL LAKE BY DELTA OAKS GROUP, REV 0, STAMPED 01/31/24 (PROJECT # GE024-20636-08)
3. TOWER DESIGN: TOWER STRUCTURAL ANALYSIS FOR A653 – GULL LAKE BY B+T GROUP, STAMPED 12/28/23
4. FOUNDATION DESIGN: FOUNDATION CONSTRUCTION DRAWINGS FOR GULL LAKE BY ANDREW ADAMS, PE CONSULTING ENGINEER, REV 0, STAMPED 9/3/24 (PROJECT # 240901A)
5. RFDS: VERIZON RFDS FOR GULL LAKE, BY JEFF CULLEY, DATED 09/14/23, TITLED "RFDS_GULL_LAKE_14092023"

GENERAL NOTES:

1. ALL WORK TO COMPLY WITH APPLICABLE CODES AND STANDARDS ADOPTED BY THE LOCAL GOVERNING AGENCY.
2. ALL GIVEN AZIMUTHS AND DEPICTED ORIENTATIONS REFERENCE TRUE NORTH.
3. DRAWINGS ARE BASED ON REFERENCE DOCUMENTS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND LOCATIONS AND REPORT ANY DISCREPANCIES PRIOR TO PRECEDING WITH WORK.
4. ANY REPLACEMENT OR SUBSTITUTION OF MATERIALS SHALL BE APPROVED BY THE EOR PRIOR TO PROCEEDING WITH WORK.
5. TOWER FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH REFERENCED TOWER FOUNDATION DRAWINGS.
6. TOWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURER PROVIDED TOWER ERECTION DRAWINGS AND REFERENCED TOWER STRUCTURAL ANALYSIS.
7. EQUIPMENT, MOUNTS AND CABLES TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. CONTRACTOR TO PROPERLY SECURE CABLE RUNS TO MEET OR EXCEED INDUSTRY STANDARDS AND MANUFACTURER'S DATA.
9. CONTRACTOR TO MINIMIZE DISTURBANCE AND PROTECT EXISTING IMPROVEMENTS AND STRUCTURES SURROUNDING THE SITE. ANY DAMAGE TO BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
10. UNDERGROUND UTILITY ROUTING SHOWN IS BASED ON FINAL POWER AND FIBER UCR, SUBJECT TO CHANGE PENDING UTILITY LOCATES.
11. CONTRACTOR TO COORDINATE UTILITY LOCATES AND IDENTIFY POTENTIAL CONFLICTS PRIOR TO CONSTRUCTION.
12. ALL UTILITY ROUTING TO MEET APPLICABLE UTILITY PROVIDER STANDARDS, NESC, AND ANY APPLICABLE CODES AND STANDARDS ADOPTED BY THE LOCAL GOVERNING AGENCY.

CONCRETE NOTES:

1. CONCRETE SHALL OBTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI (F'c = 4,500 PSI). THE MIX SHALL CONTAIN A MINIMUM OF 6 SACKS CEMENT PER CUBIC YARD OF CONCRETE.
2. CEMENT SHALL CONFORM TO ASTM C150 TYPE I OR II.
3. AGGREGATE SHALL CONFORM TO ASTM C33. MAXIMUM AGGREGATE SIZE SHALL BE 3/4 INCH.
4. SLUMP SHALL BE BETWEEN 3 – 5 INCHES.
5. ADMIXTURE SHALL BE PROVIDED AS REQUIRED TO PROVIDE 4.5% – 7.5% AIR ENTRAINMENT WITH A MAXIMUM WATER/CEMENT RATIO OF 0.45.
6. CONCRETE SHALL BE KEPT FROM FREEZING FOR THE FIRST SEVEN DAYS AFTER PLACING. SURFACES TO RECEIVE CONCRETE SHALL BE NOT LESS THAN 40° F. THE TEMPERATURE OF THE CONCRETE WHEN PLACED SHALL NOT BE LESS THAN 50° F OR GREATER THAN 80° F.

CONCRETE ANCHORAGE:

1. ALL CONCRETE ANCHOR RODS TO BE GALVANIZED ASTM F1554 GRADE 36 OR EQUAL.
2. INSTALL ANCHORS PER MANUFACTURER'S INSTRUCTIONS.

REINFORCING STEEL:

1. ALL REINFORCING BARS SHALL BE DEFORMED AND CONFORM TO ASTM A615, GRADE 60.
2. ALL BOTTOM MAT REINFORCING BARS SHALL BE ACCURATELY PLACED AND SUPPORTED BY GALVANIZED METAL CHAIRS OR CONCRETE BLOCKS (WOODEN STAKES SHALL NOT BE USED).
3. MINIMUM CONCRETE COVER FOR REBAR WHERE CONCRETE IS PLACED IN DIRECT CONTACT WITH SOIL IS 3 INCHES CLEAR, FOR ALL OTHER FORMED SURFACES IS 1.5 INCHES.
4. ALL REBAR SPLICES SHALL BE LAPPED 48 BAR DIAMETERS.

STRUCTURAL MATERIALS:

1. STRUT CHANNEL SHALL BE UNISTRUT P1000-HG OR EQUIVALENT, WITH 3/8"ø HARDWARE (UNO). CAPS SHALL BE PLACED ON ALL EXPOSED FREE ENDS.
2. STEEL MATERIAL SPECIFICATIONS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

MEMBER TYPE	ASTM SPECIFICATION
CHANNELS & ANGLES	A36
BASE PLATES	A36
W-SHAPES	A992
PIPES	A53 GR. B
THREADED ROD	A36
ANCHOR RODS	F1554 GR. 36
NON-STRUCTURAL BOLTS	A307
STRUCTURAL BOLTS	F3125 GR. A325
U-BOLTS	SAE J429 GR-2

3. ALL EXTERIOR STEEL MEMBERS AND HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 RESPECTIVELY (UNO).
4. FOR GALVANIZED MEMBERS, ANY EXPOSED METAL FROM WELDING, CUTTING, DRILLING OR GENERAL DAMAGE SHALL BE TOUCHED UP WITH 95% ZINC RICH GALVANIZING PAINT (ZRC GALVILITE OR EQUIVALENT) IN ACCORDANCE WITH ASTM A780.
5. ALL BOLTED CONNECTIONS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION, UNLESS NOTED OTHERWISE.

ABBREVIATIONS

ABP	ABOVE BASE PLATE
AGL	ABOVE GROUND LEVEL
APPROX	APPROXIMATELY
AZ	AZIMUTH
BLDG	BUILDING
CL	CENTERLINE
DIA	DIAMETER
(E)	EXISTING
EA	EACH
EOR	ENGINEER OF RECORD
(F)	FUTURE
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IN	INCH
INT	INTERIOR
LBS	POUNDS
MAX	MAXIMUM
MIN	MINIMUM
(N)	NEW
N/A	NOT APPLICABLE
NFS	NON-FROST SUSCEPTIBLE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
QTY	QUANTITY
RAD	RADIATION CENTER
REF	REFERENCE
REQ	REQUIRED
ROW	RIGHT-OF-WAY
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W/	WITH
W/O	WITHOUT

ENTITY ABBREVIATIONS

MEA	MATANUSKA ELECTRIC ASSOCIATION
VB	VERTICAL BRIDGE
VZW	VERIZON

GENERAL LEGEND:

—— UF ——	UNDERGROUND FIBER (N)
—— UF ——	UNDERGROUND FIBER (E)
—— UP ——	UNDERGROUND POWER (N)
—— UP ——	UNDERGROUND POWER (E)
—— ELEC ——	UNDERGROUND ELECTRIC (E)
—— COM ——	UNDERGROUND COMMUNICATION (E)
—— GAS ——	UNDERGROUND GAS (E)
—— UC ——	UNDERGROUND CONDUIT (N)

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PRELIMINARY

REV	DESCRIPTION	DATE
A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

DWN: JAA	DSN: JCM	APP: JCM	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

GENERAL NOTES

G1.0

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 POR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\G1.0 GENERAL NOTES.DWG | PLOT DATE: 241220

Recieved by Current Planner 12/20/2024

EROSION & SEDIMENT CONTROL:

1. THIS SITE DOES NOT REQUIRE A STORM WATER POLLUTION PREVENTION PLAN.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY NEED FOR, AND IMPLEMENT BEST MANAGEMENT PRACTICES (BMPs) FOR, EROSION AND SEDIMENT CONTROL MEASURES THROUGH ALL STAGES OF CONSTRUCTION.
3. EROSION CONTROL DEVICES, WHERE NECESSARY, SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS.
4. BEST MANAGEMENT PRACTICES SHALL BE USED AS REQUIRED TO MINIMIZE SEDIMENT LEAVING THE SITE.
5. CONTRACTOR SHALL REMOVE ALL EROSION & SEDIMENT CONTROL MEASURES AFTER COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER.

EARTHWORK MATERIAL SPECIFICATIONS:

1. AGGREGATE AND GEOTEXTILE SEPARATION FABRIC REFERENCED IN THIS CONSTRUCTION DRAWINGS PACKAGE SHALL ADHERE TO ADOT&PF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2020 EDITION.

GENERAL EXCAVATION AND GRADING:

1. CONTRACTOR SHALL CALL 811 ALASKA DIG LINE FOR UTILITY LOCATES. LOCATE ALL UTILITIES PRIOR TO EXCAVATION.
2. ALL TRENCH EXCAVATION SHALL BE SHORED OR SLOPED AS REQUIRED BY OSHA REGULATIONS FOR CONSTRUCTION.
3. REMOVE VEGETATION, TOPSOIL, DEBRIS, UNSATISFACTORY SOILS AND DELETERIOUS MATERIAL FROM GROUND SURFACE PRIOR TO PLACING FILL.
4. WHERE OVER EXCAVATION IS REQUIRED, FILL WITH ADDITIONAL SUBBASE MATERIAL AS SPECIFIED ON THE APPLICABLE CROSS SECTION.
5. PROOF ROLL SUBBASE PRIOR TO PLACING FILL.
6. ALL FILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 9 INCHES LOOSE DEPTH. EACH LAYER SHALL BE COMPACTED TO A DRY DENSITY NOT LESS THAN 95% OF MAXIMUM DRY DENSITY MODIFIED PROCTOR AS DETERMINED BY ASTM D 1557.
7. FINISHED GRADE SHALL ALLOW WATER TO FLOW IN THE GENERAL DIRECTION AS INDICATED ON THE GRADING PLAN AND SHALL NOT CREATE DEPRESSED AREAS PRONE TO PONDING ONSITE OR IN SURROUNDING AREAS.
8. USE SWALES AND/OR DRAINAGE DITCHES FOR PROPER WATER RUNOFF AS NEEDED.
9. PROTECT GRAVEL SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING OR OTHER SUITABLE MATERIALS DESIGNED TO SPREAD EQUIPMENT LOADS. REPAIR DAMAGE TO GRAVEL SURFACING OR SUBGRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTOR'S OPERATIONS. DAMAGED GRAVEL SURFACING SHALL BE RESTORED TO MATCH THE ADJACENT UNDAMAGED GRAVEL SURFACING AND SHALL BE OF THE SAME THICKNESS.
10. CONTRACTOR SHALL RESTORE ANY DISTURBED AREAS OUTSIDE OF THE GRAVEL ACCESS AND COMPOUND AREAS TO MATCH THE EXISTING SURFACE AND/OR VEGETATION OF SURROUNDING AREAS. THIS MAY INCLUDE BUT IS NOT LIMITED TO GRADING, TOPSOIL, AND SEEDING.
11. ALL CUT AND FILL SLOPES SHALL BE MAXIMUM 2 HORIZONTAL TO 1 VERTICAL UNLESS NOTED OTHERWISE.

COMPOUND GRADING:

1. COMPOUND SLOPE NOT TO EXCEED 5%.
2. SUB-GRADE SHALL BE COMPACTED BY SHEEPS FOOT VIBRATOR OR RUMMBER TIRED ROLLERS WEIGHING AT LEAST EIGHT TONS.
3. FINISHED GRADE SHALL BE COMPACTED BY SMOOTH DRUM VIBRATOR ROLLERS WEIGHT AT LEAST EIGHT TONS.

ACCESS DRIVEWAY:

1. DRIVEWAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MATANUSKA-SUSITNA BOROUGH (MSB) DRIVEWAY STANDARDS AND AN APPROVED DRIVEWAY PERMIT.
2. CULVERT (IF REQUIRED) DIAMETER AND LENGTH SHALL BE AS DEFINED BY THE MSB DRIVEWAY PERMIT.

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vertical bridge

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REV	DESCRIPTION	DATE
A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE
CONSTRUCTION
DRAWINGS
GULL LAKE

DWN: JAA	DSN: JCM	APP: JCM	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

GRADING & EXCAVATING NOTES

G1.1

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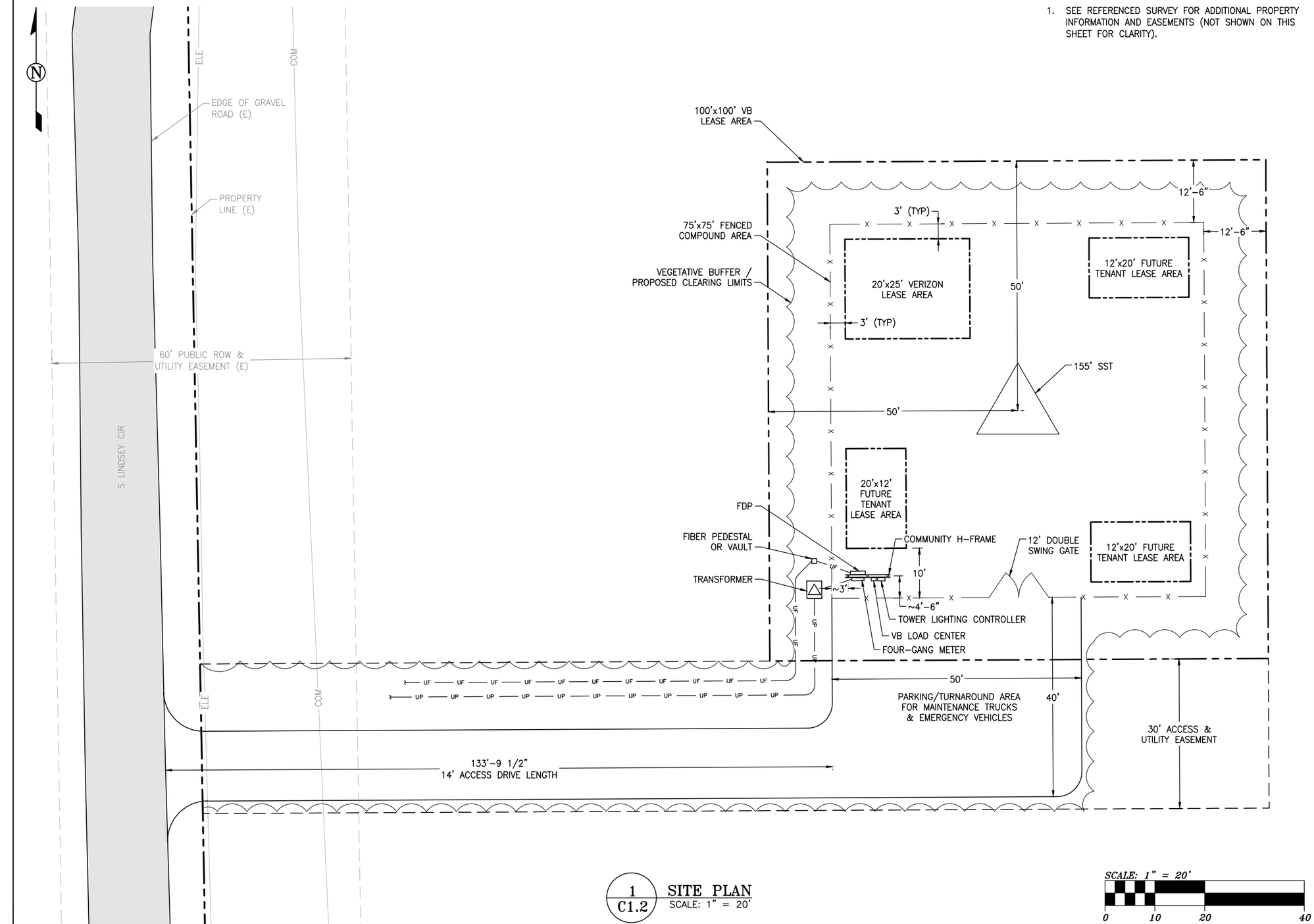
Recieved by Current Planner 12/20/2024

NOTES:

1. SEE REFERENCED SURVEY FOR ADDITIONAL PROPERTY INFORMATION AND EASEMENTS (NOT SHOWN ON THIS SHEET FOR CLARITY).



1 / C1.2 SITE PLAN
SCALE: 1" = 20'

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

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SITE PLAN

C1.2

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 POR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\C1.2 SITE PLAN.DWG | PLOT DATE: 24220

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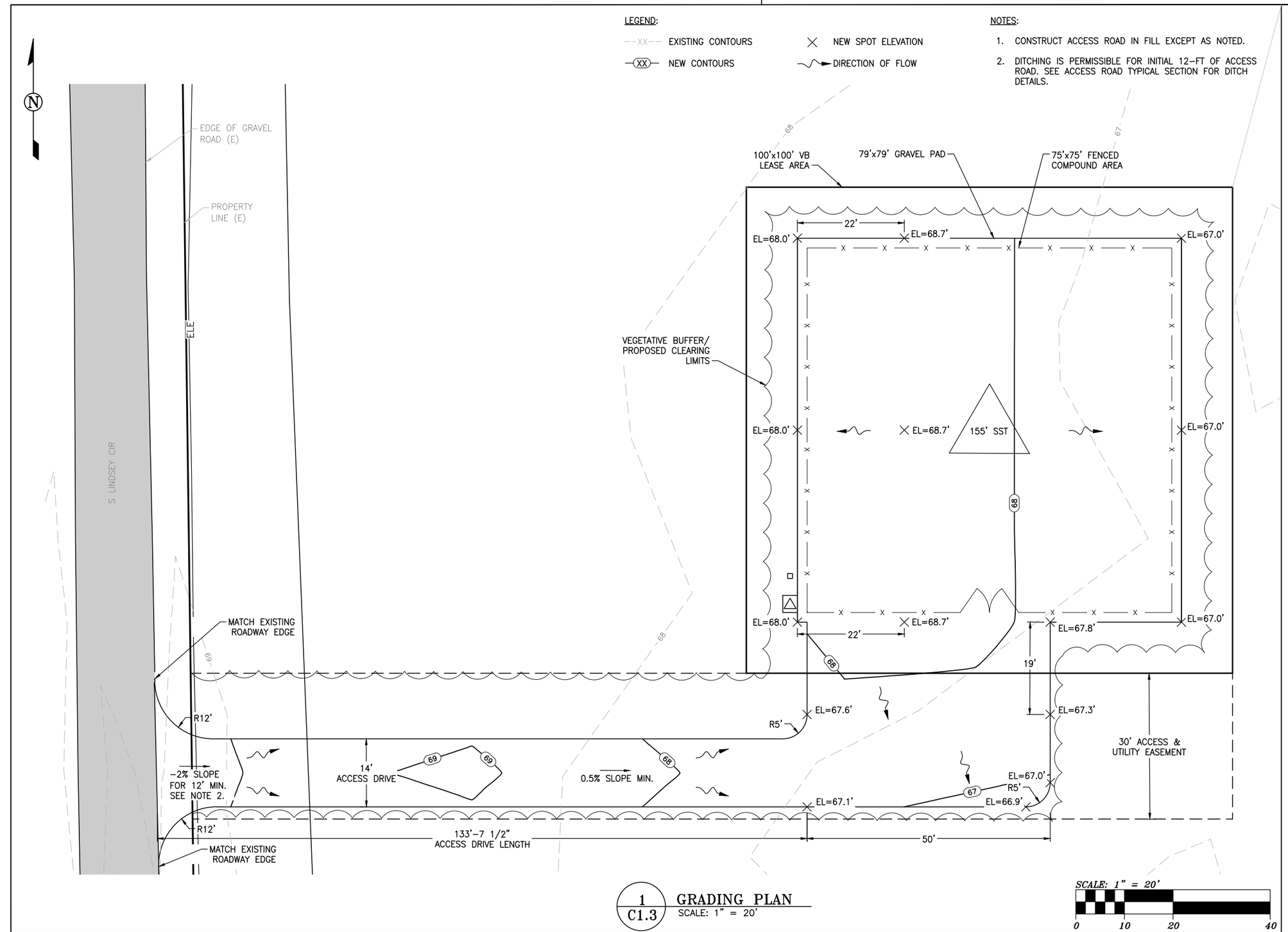

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A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE CONSTRUCTION DRAWINGS GULL LAKE

DWN: JAA	DSN: JCM	APP: JCM	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

GRADING PLAN

C1.3

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 FOR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\C1.3 GRADING PLAN_RECOVER.DWG | PLOT DATE: 241220

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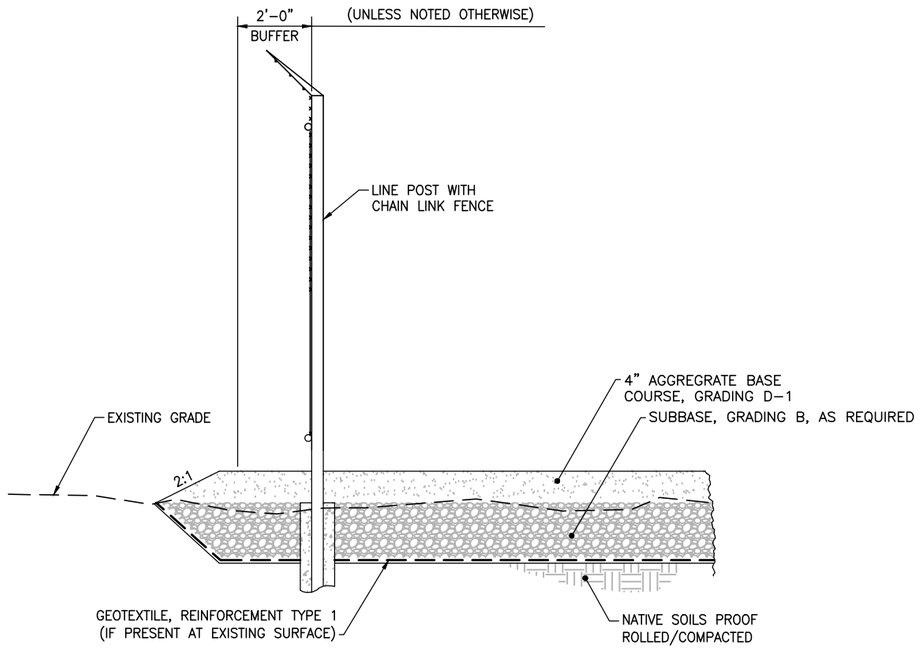
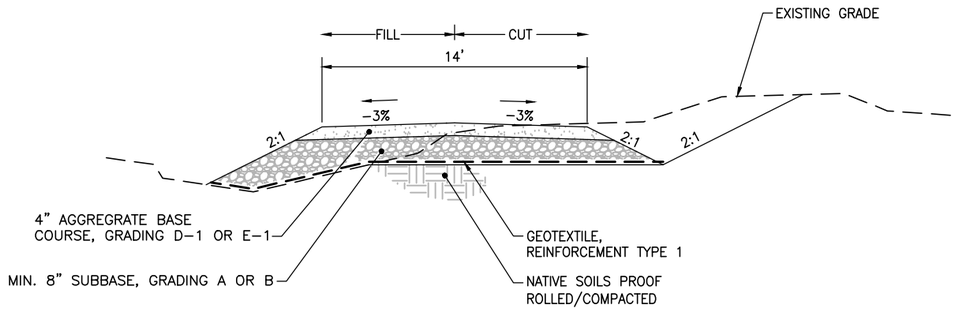
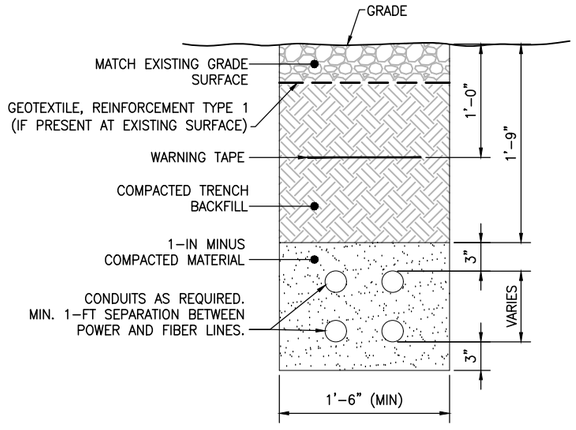


1 / C1.4 SITE COMPOUND SURFACING DETAIL
SCALE: NTS

NOTE:
ACCESS ROAD TO BE CONSTRUCTED IN FILL EXCEPT AS NOTED IN THE PLANS.



2 / C1.4 ACCESS ROAD TYPICAL SECTION
SCALE: NTS



3 / C1.4 ELECTRICAL/UTILITY COMMUNICATION TRENCH SECTION
SCALE: NTS

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

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TYPICAL SECTIONS & TRENCHING DETAILS

C1.4

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 POR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\C1.4 TYPICAL SECTIONS & TRENCHING DETAILS.DWG | PLOT DATE: 241220

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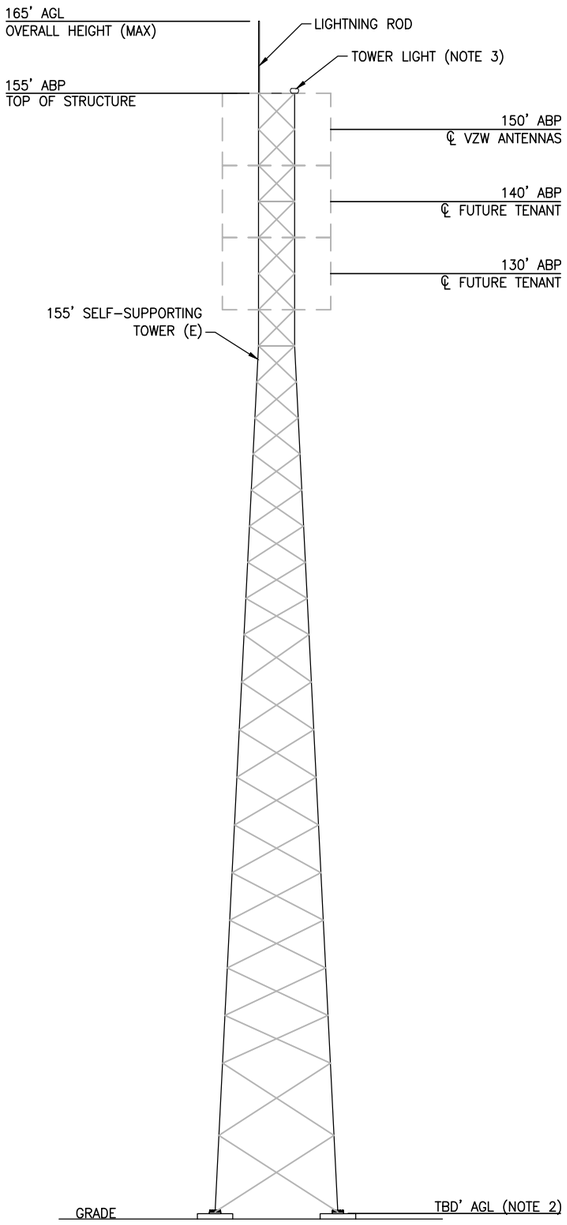

A C2.0 TOWER ELEVATION
SCALE: 1" = 20'

NOTES:

1. ELEVATIONS SHOWN ARE ABOVE BASE PLATE (ABP) AND ABOVE GROUND LEVEL (AGL).
2. HEIGHT AGL OF TOWER BASE PLATE PENDING SELECTION OF TOWER FOUNDATION TYPE.
   PILE = 2'-3 1/2",
   PAD AND PIER = ~6"
3. TOWER LIGHTING IS NOT REQUIRED PER FAA STUDY 2023-AAL-377-OE; HOWEVER, WILL BE ADDED BASED ON COMMUNITY CONCERNS REGARDING HEAVY AVIATION TRAFFIC IN THE AREA.
4. SEE REFERENCE DOCUMENTS LISTED ON G1.0 FOR REFERENCED TOWER AND FOUNDATION DESIGNS.

SCALE: 1" = 20'
0 10 20 40

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VERTICAL BRIDGE
CONSTRUCTION
DRAWINGS
GULL LAKE

DWN: JAA	DSN: JCM	APP: JCM	REV
JOB #: 23-0057-20	DATE: 230720		A

TOWER
ELEVATION

C2.0

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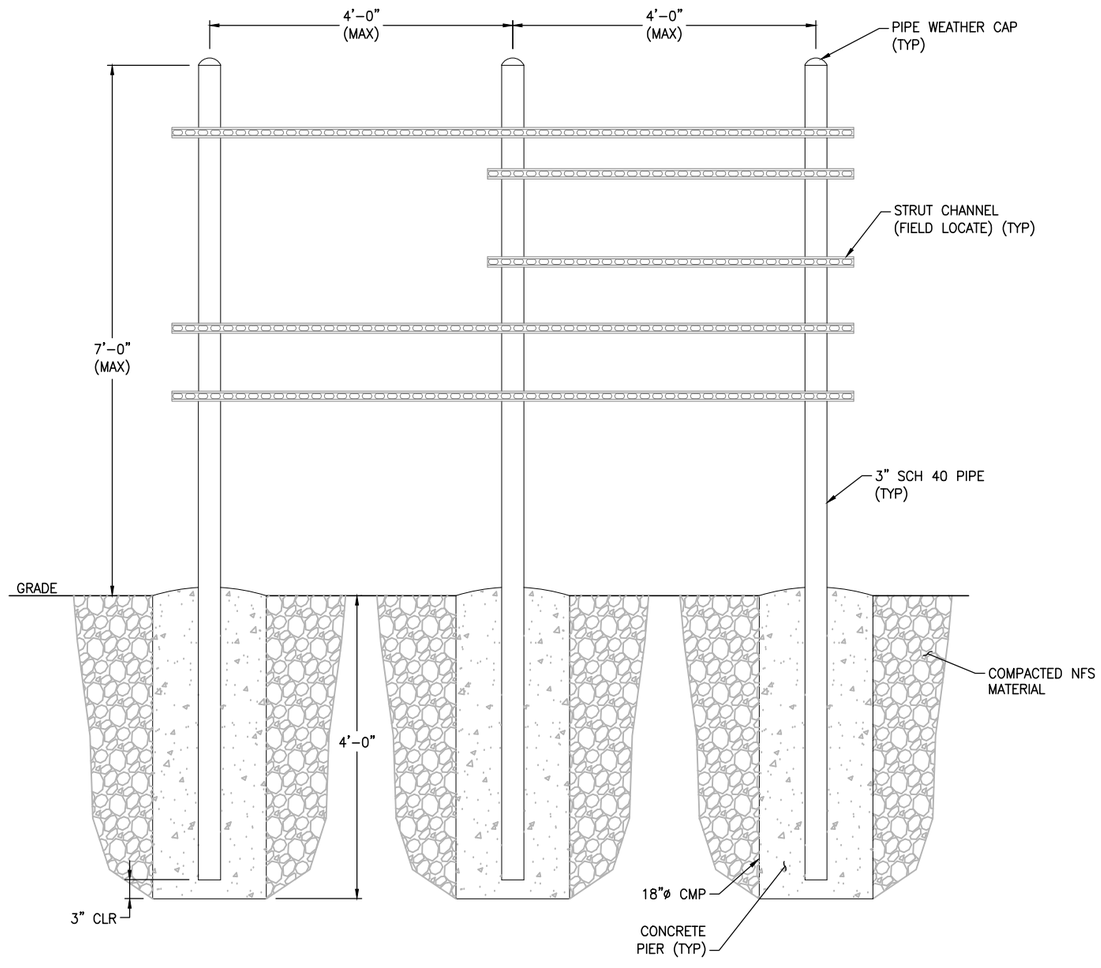
NOTE:

1. SEE ELECTRICAL DRAWINGS FOR EQUIPMENT INSTALLATION.
2. SEE G1.0 FOR MATERIAL SPECIFICATIONS AND EARTHWORK NOTES.



1 / C3.0 H-FRAME DETAIL
SCALE: NONE

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

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H-FRAME DETAIL

C3.0

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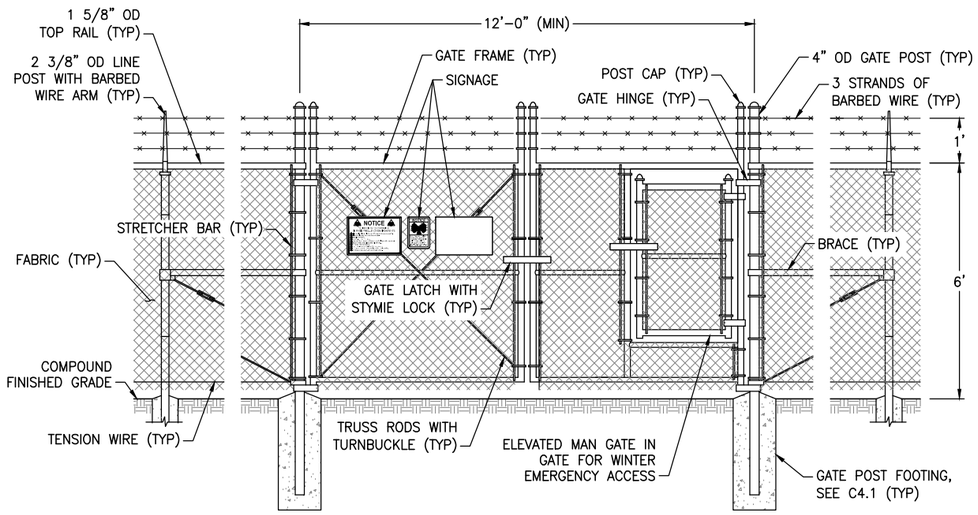
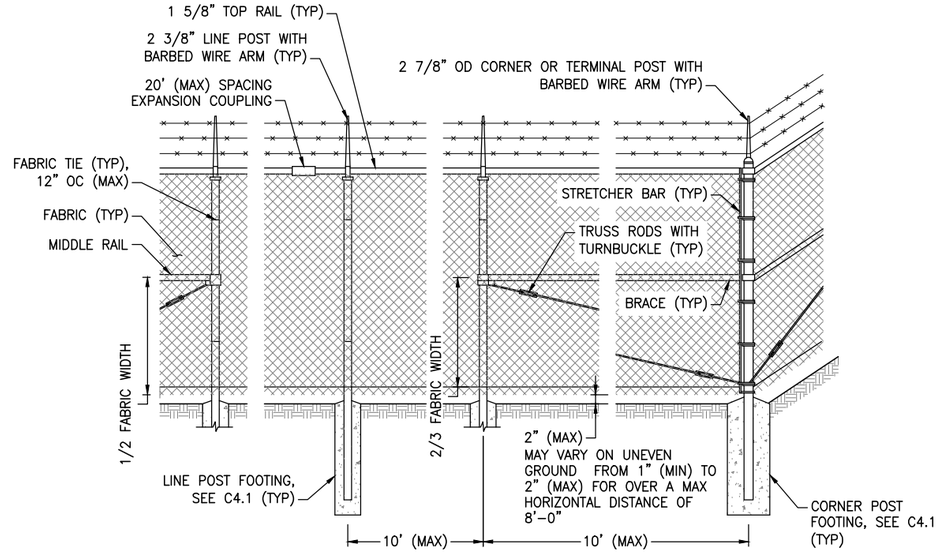
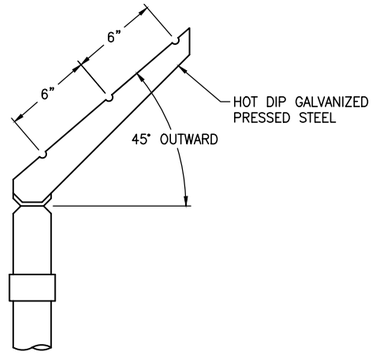


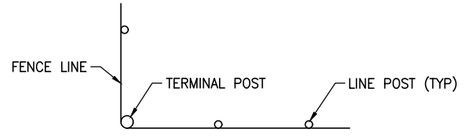
1 C4.0 **VEHICLE GATE ARRANGEMENT**
SCALE: DO NOT SCALE



2 C4.0 **POST/CORNER POST ARRANGEMENT**
SCALE: DO NOT SCALE



3 C4.0 **BARBED WIRE ARM OF LINE POST**
SCALE: DO NOT SCALE



4 C4.0 **INSTALLATION AT CORNERS**
SCALE: DO NOT SCALE

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

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FENCE DETAILS 01

C4.0

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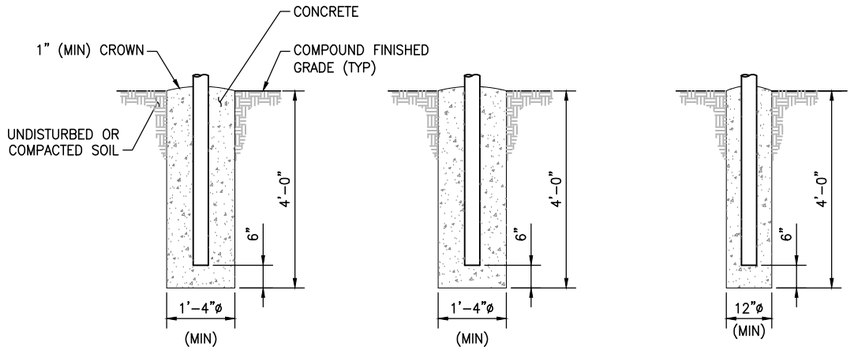
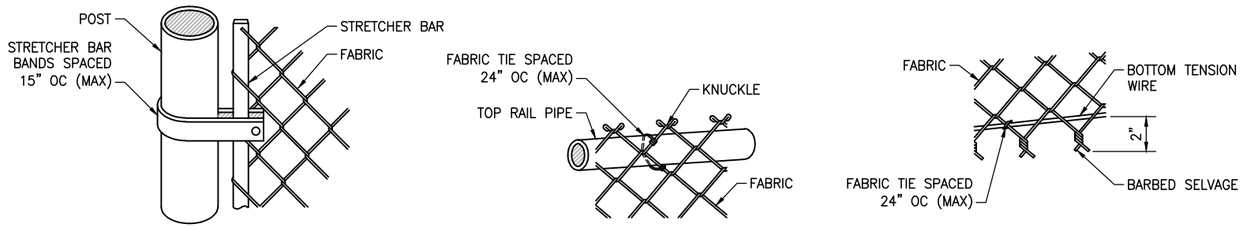


1 / C4.1 **FENCE POST FOOTINGS**
SCALE: NONE



2 / C4.1 **FABRIC/BAR CONNECTIONS**
SCALE: NONE

NOTES:

1. ZINC COATING – THE WEIGHT OF THE COATING SHALL NOT BE LESS THAN 1.2 OUNCES PER SQUARE FOOT OF ACTUAL SURFACE COVERED. ALL FERROUS METALS USED AS PART OF THE FENCE INSTALLATION SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL. ALL SCREWS, BOLTS, LOCK WASHERS, NUTS, ETC. SHALL BE HOT DIP GALVANIZED OR MADE OF STAINLESS STEEL.
2. FABRIC – STANDARD INDUSTRIAL GRADE #9 GAUGE WITH 2 INCH MESH ZINC COATED CHAIN LINK WITH A BREAKING STRENGTH OF NOT LESS THAN 1290 POUNDS SHALL BE USED. THE FABRIC SHALL BE ZINC COATED BY THE HOT DIP PROCESS AFTER FABRICATION.
3. METAL POSTS – METAL POSTS (LINE, CORNER, TERMINAL, GATE POSTS, MIDDLE RAILS, BRACES AND TOP RAIL) SHALL BE HOT DIP GALVANIZED SCHEDULE 40 STEEL PIPE, ASTM F1083, REGULAR GRADE (30,000 PSI YIELD) WITH AN OUTSIDE DIAMETER AS INDICATED ON THIS DRAWING. A POST TOP FITTING OF GALVANIZED STEEL WILL BE INSTALLED TO EXCLUDE MOISTURE.
4. POST CAPS – ALL POST CAPS TO USE THE BARBED WIRE OUTRIGGER BRACKET AND SHALL BE ATTACHED TO THE POST WITH TAMPER RESISTANT SCREWS, BRADS, OR BOLTS.
5. TOP RAIL – A MINIMUM OF ONE COUPLING IN EACH STRAIGHT RUN OF TOP RAIL, SHALL HAVE A HEAVY SPRING INSERTED WITHIN THE COUPLING TO TAKE UP EXPANSION AND CONTRACTION OF THE TOP RAIL. THE TOP RAIL SHALL BE FASTENED TO TERMINAL POSTS WITH PRESSED STEEL CONNECTIONS.
6. MIDDLE RAIL – THE MIDDLE RAIL SHALL BE OF THE SAME MATERIAL AS THE TOP RAIL AND INSTALLED WITH HOT DIP GALVANIZED FITTINGS ATTACHED TO THE POSTS.
7. BRACE RAIL – BRACE RAIL MATERIAL SHALL BE OF THE MATERIAL AS THE TOP RAIL AND LOCATED 2/3 OF THE DISTANCE UP FROM THE BOTTOM OF THE FABRIC. BRACE RAILS SHALL BE SECURELY FASTENED TO POSTS BY SUITABLE PRESSED STEEL CONNECTIONS.
8. TRUSS RODS – SHALL BE 3/8" ROUND GALVANIZED STEEL RODS WITH GALVANIZED TURNBUCKLES. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.
9. TENSION WIRE – THE TENSION WIRE SHALL BE OF #7 GAUGE HOT DIP GALVANIZED SPRING TENSION WIRE WITH A BREAKING STRENGTH OF NOT LESS THAN 1900 POUNDS. THIS WIRE SHALL BE KEPT TAUT WITH GALVANIZED TURNBUCKLES AND ATTACHED TO POSTS WITH GALVANIZED HARDWARE OR CABLE CLAMPS.
10. FABRIC TIES – THE FABRIC TIES SHALL BE ALUMINUM WIRE. NOT LESS THAN #9 GAGE.
11. STRETCHER BARS – THE STRETCHER BARS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 5/16" X 3/4" AND NOT LESS THAN 2" SHORTER THAN THE FABRIC. STRETCHER BAR BANDS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 5/16" X 1 1/2" WITH 5/16" DIAMETER GALVANIZED CARRIAGE BOLT.
12. BARBED WIRE – BARBED WIRE OF GALVANIZED STEEL (OR ALUMINUM) CONSISTING OF 12 1/2 GAUGE WIRE WITH 4-POINT BARBS OF 14 GAUGE WIRE SPACED 5 INCHES APART.
13. GATE FRAMES SHALL BE CONSTRUCTED OF 2 7/8 INCH OUTSIDE DIAMETER HEAVY DUTY GALVANIZED STEEL PIPE. THE GATES SHALL BE ASSEMBLED USING CORNER FITTINGS OF HEAVY PRESSED STEEL OR MALLEABLE CASTINGS OR MAY BE WELDED IF THE ENTIRE GATE FRAME IS HOT DIP GALVANIZED AFTER THE WELDING. ALL GATES SHALL BE EQUIPPED WITH HEAVY DUTY GALVANIZED STEEL TYPE HINGES WITH LARGE BEARING SURFACES OF ADEQUATE STRENGTH TO SUPPORT THE GATE. THE HINGES SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. GATES WILL PROVIDE A FULL RANGE OF MOTION AND BE EASILY OPENED AND CLOSED BY ONE PERSON. GATE LATCH SHALL BE CARGO PROTECTORS, INC. MODEL FL-100. LATCH SHALL BE EQUIPPED TO RECEIVE A PADLOCK.
14. PROVIDE RADIO FREQUENCY WARNING SIGNAGE ON ALL GATES.
15. PROVIDE VERTICAL BRIDGE SITE ID SIGN ON MAIN GATE.
16. NUTS ON ALL BOLTS SHALL BE TOWARD THE INTERIOR OF THE COMPOUND.

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS GULL LAKE

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JOB #: 23-0057-20	DATE: 24xxxx		A

FENCE DETAILS 02

C4.1

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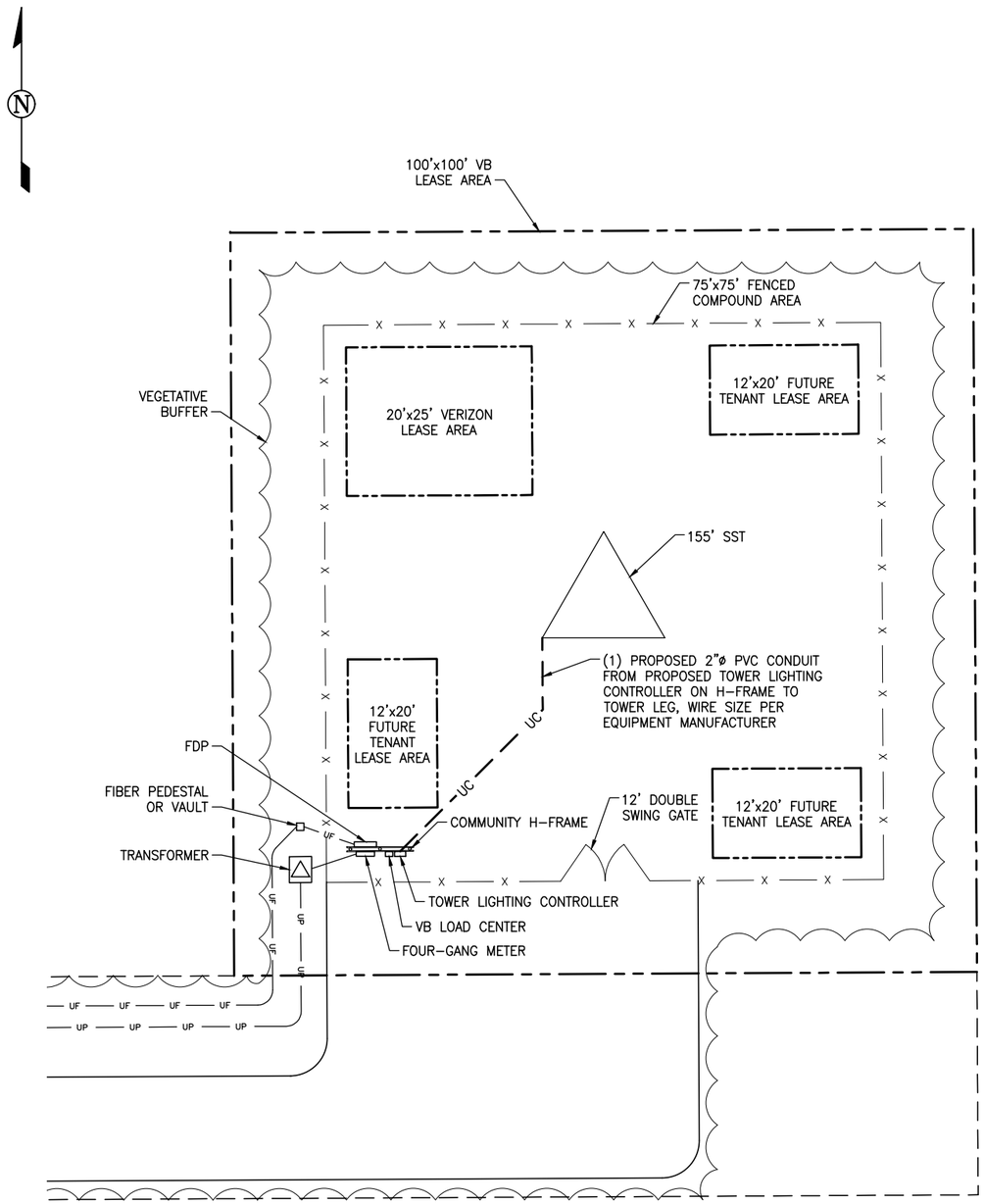
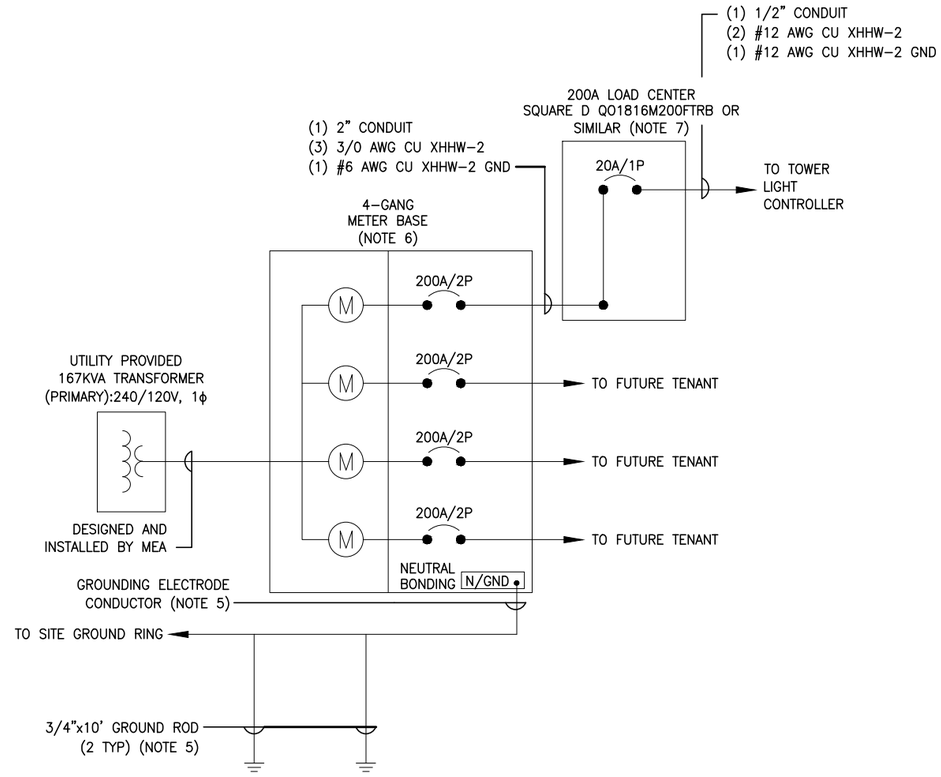


1 E0.1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'

NOTES:

1. ALL WORK WILL COMPLY WITH CURRENTLY ADOPTED VERSIONS OF THE NATIONAL ELECTRIC CODE (NEC) AND THE NATIONAL ELECTRIC SAFETY CODE (NESC) APPLICABLE TO THE LOCATION OF THE WORK.
2. REFERENCE MEA DOCUMENT SERVICE GUIDE 2020 EDITION.
3. COORDINATE SELECTION OF METER BASE WITH MATANUSKA ELECTRIC ASSOCIATION.
4. ALL MATERIALS SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
5. SEE E1.0 & E1.1 FOR FURTHER GROUNDING DETAILS AND GROUNDING ELECTRODE CONDUCTOR SIZE.
6. SEE E1.1 FOR METER SPECIFICATIONS.
7. SEE 2/E1.2 FOR PANEL SCHEDULE.



2 E0.1 AC ONE-LINE DIAGRAM
SCALE: NTS

SCALE: 1" = 20'
0 10 20 40

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VERTICAL BRIDGE
CONSTRUCTION
DRAWINGS
GULL LAKE

DWN: JAA	DSN: ECO	APP: PTG	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

ELECTRICAL
SITE PLAN &
ONE-LINE

E0.1

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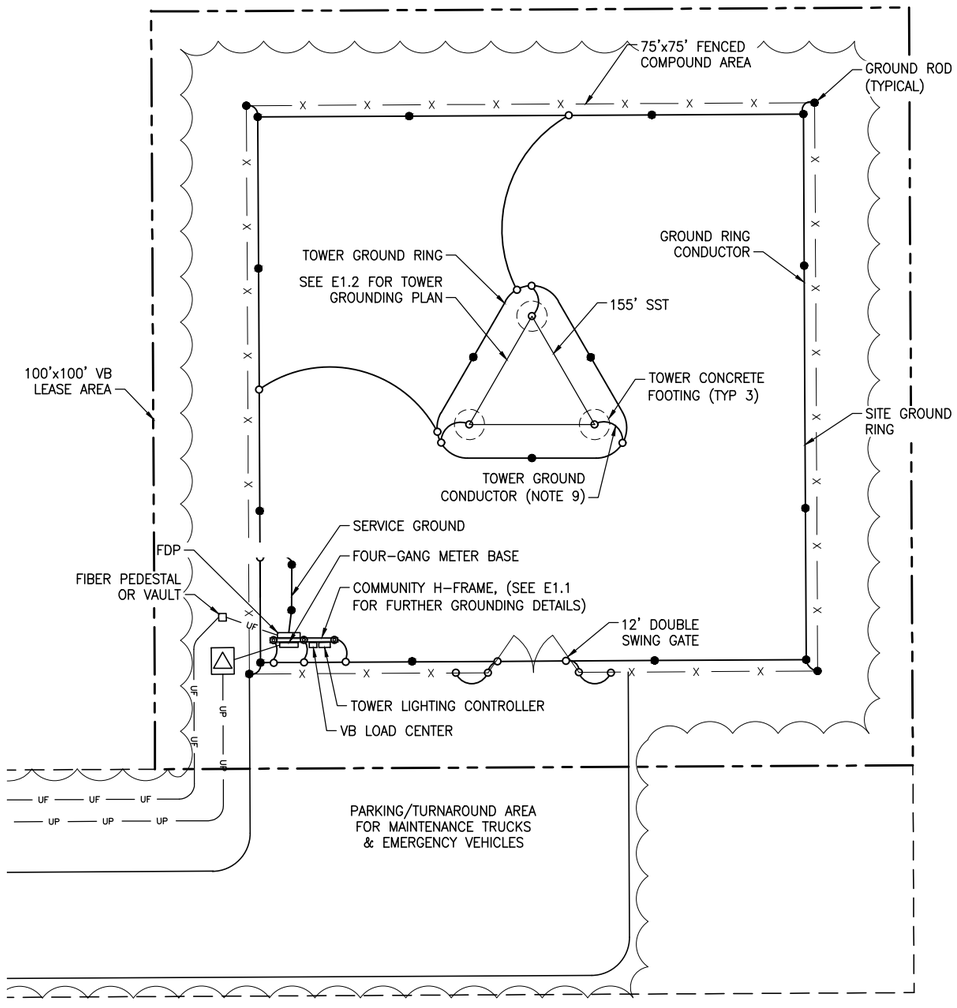

1 / E1.0 SITE GROUNDING PLAN
SCALE: 1" = 20'

NOTES:

1. ALL WORK WILL COMPLY WITH CURRENTLY ADOPTED VERSIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL ELECTRICAL SAFETY CODE (NESC) APPLICABLE TO THE LOCATION OF THE WORK.
2. ALL MATERIALS SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR.
3. ALL CONDUCTORS TO BE #2 AWG SOLID BARE TINNED COPPER (SBTC) UNLESS OTHERWISE NOTED.
4. ALL BELOW GRADE BONDS TO BE EXOTHERMIC WELDS. ABOVE GRADE BONDS TO BE COMPRESSION LUG CONNECTION OR EXOTHERMIC WELDS.
5. GROUND RINGS TO BE BURIED A MINIMUM OF 30IN BELOW GRADE. EXOTHERMICALLY WELD GROUND RING TO GROUND RODS.
6. GROUND RODS TO BE MINIMUM 3/4IN x 10FT COPPER CLAD AND TO BE DRIVEN VERTICALLY 30IN BELOW FINAL GRADE.
7. GROUND RING GROUND RODS TO BE SPACED A MINIMUM OF 20FT APART.
8. ALL EXPOSED GROUNDING CONDUCTORS BETWEEN GRADE AND 6FT ABOVE GRADE TO BE PROTECTED FROM DAMAGE WITH NON-METALLIC LIQUID TIGHT.
9. CONNECT THE MONOPOLE/TOWER GROUND CONDUCTORS TO MONOPOLE/TOWER BY EXOTHERMIC WELD. MONOPOLE/TOWER GROUND CONDUCTORS WILL BE #2/0 AWG STRANDED BARE TINNED COPPER.
10. ALL METAL FENCE POSTS TO BE ELECTRICALLY CONNECTED VIA EXOTHERMIC WELD TO SITE GROUND RING.
11. ATTACH GROUNDING JUMPERS BETWEEN GATES AND CHAIN LINK FENCE.

LEGEND:

- ● 3/4"x10' COPPER CLAD GROUND ROD EXOTHERMICALLY WELDED TO GROUND RING
- ○ EXOTHERMIC WELD OR COMPRESSION LUG (NOTE 4)

SCALE: 1" = 20'
0 10 20 40

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

DWN: JAA	DSN: ECO	APP: PTG	REV
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SITE GROUNDING PLAN

E1.0

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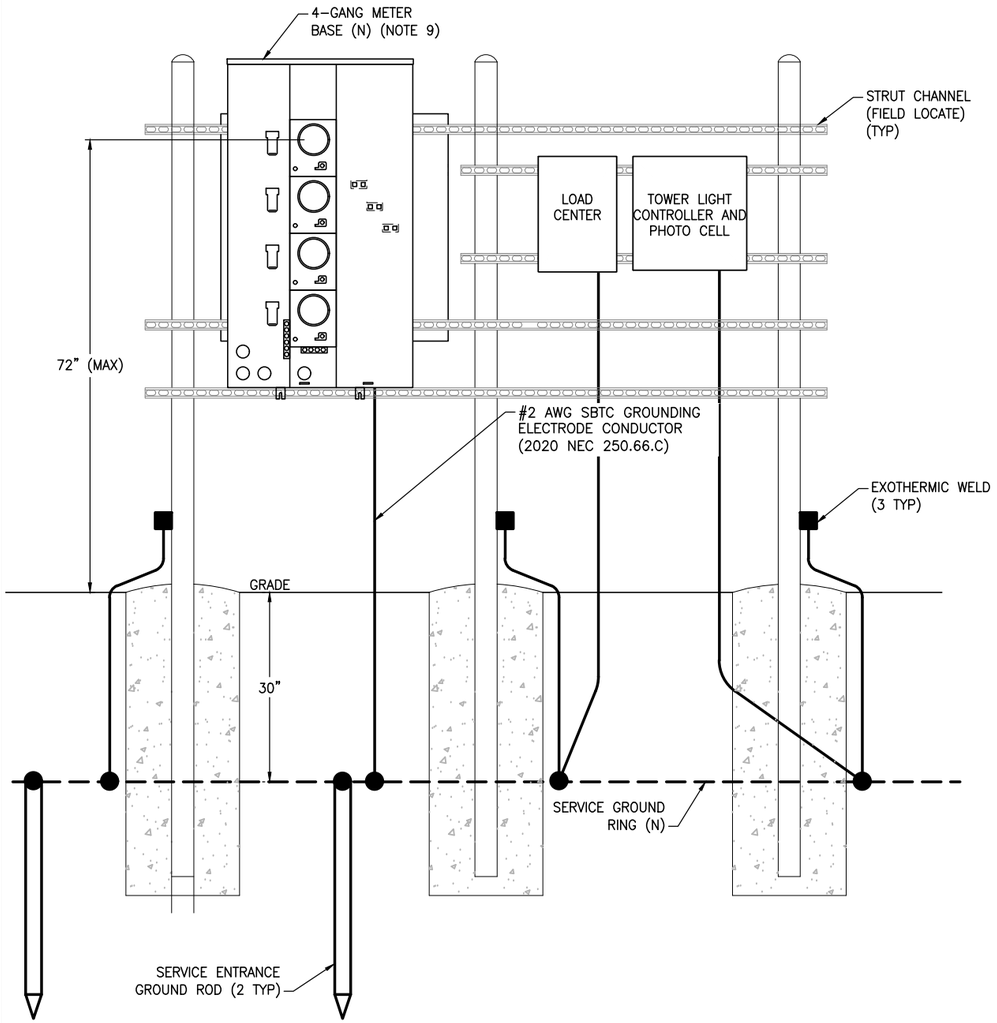
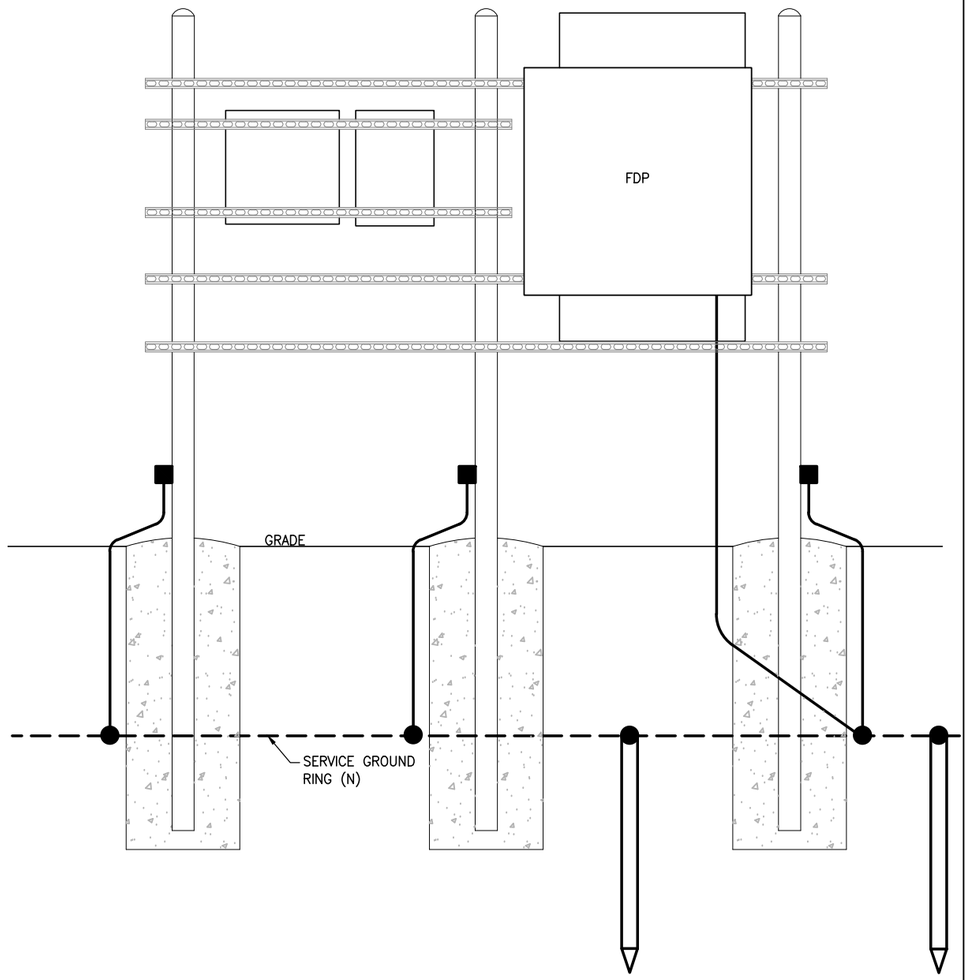
NOTES:

1. ALL WORK WILL COMPLY WITH CURRENTLY ADOPTED VERSIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL ELECTRICAL SAFETY CODE (NESC) APPLICABLE TO THE LOCATION OF THE WORK.
2. REFERENCE MEA DOCUMENT SERVICE GUIDE 2020 EDITION.
3. ALL MATERIALS SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR.
4. ALL GROUND RING CONDUCTORS AND GROUNDING ELECTRODE CONDUCTOR TO BE #2 AWG SOLID BARE TINNED COPPER (SBTC) .
5. ALL BELOW GRADE BONDS TO BE EXOTHERMIC WELDS. ABOVE GRADE BONDS TO BE COMPRESSION LUG CONNECTION OR EXOTHERMIC WELDS.
6. GROUND RING TO BE BURIED A MINIMUM OF 30IN BELOW GRADE. EXOTHERMICALLY WELD GROUND RING TO GROUND RODS.
7. ALL EXPOSED GROUNDING CONDUCTORS BETWEEN GRADE AND 6FT ABOVE GRADE TO BE PROTECTED FROM DAMAGE WITH NON-METALLIC LIQUID TIGHT.
8. GROUND RODS NEAREST TO SERVICE EQUIPMENT SHALL BE SPACED A MINIMUM OF THE SUM OF THE LENGTHS OF THE GROUND RODS (IEEE STD 142-1991, TABLE 9) AND LEFT EXPOSED FOR UTILITY INSPECTION (NEC 250.53).
9. PROVIDE METER BASE THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS: 120/240V, 1ϕ, 800A BUS RATING, 4X200A RING STYLE METER SOCKETS, WITH A NEMA 3R RATED ENCLOSURE.
10. CONNECT METER BASE NEUTRAL DIRECTLY TO GROUND RING.
11. GROUND H-FRAME MOUNTED METAL ENCLOSURES TO GROUND RING ACCORDING TO EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
12. ALL GROUND CONDUCTORS BETWEEN H-FRAME ENCLOSURE/ EQUIPMENT AND THE GROUND RING TO BE #2 AWG BARE COPPER.



1 / E1.1 H-FRAME DETAIL (FRONT)
SCALE: NONE



2 / E1.1 H-FRAME DETAIL (BACK)
SCALE: NONE

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PRELIMINARY

REV	DESCRIPTION	DATE
A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE
CONSTRUCTION
DRAWINGS
GULL LAKE

DWN: JAA	DSN: ECO	APP: PTG	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

H-FRAME & METER BASE GROUNDING DETAILS & METER SPECIFICATIONS
E1.1

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 FOR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\E1.1 H-FRAME GROUNDING DETAIL_RECOVER.DWG | PLOT DATE: 241220

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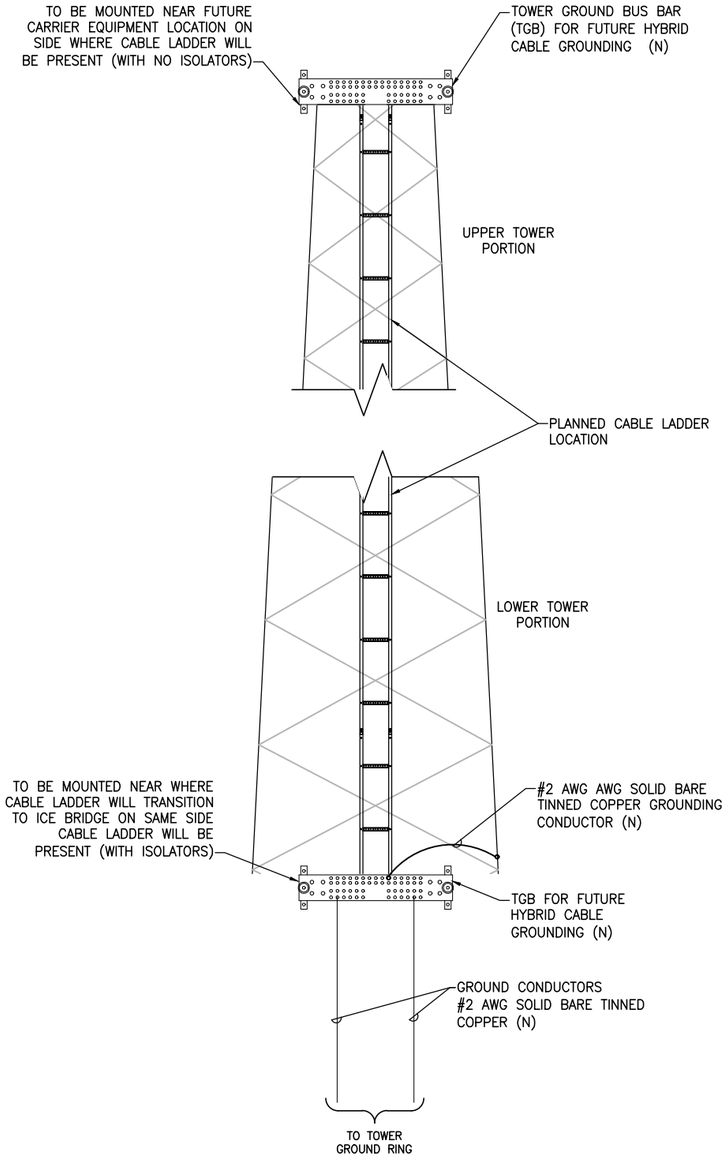

1 E1.2 TOWER GROUNDING DETAILS
SCALE: NTS

NOTES:

1. GROUND BARS TO BE MOUNTED DIRECTLY TO THE TOWER.
2. NEW GROUND BARS TO BE PROVIDED PER VERTICAL BRIDGE STANDARDS.
3. ALL BELOW GRADE BONDS TO BE EXOTHERMIC WELDS. ABOVE GRADE BONDS TO BE COMPRESSION LUG CONNECTION OR EXOTHERMIC WELDS.

LEGEND:

o EXOTHERMIC WELD OR COMPRESSION LUG (NOTE 3)

PANEL:	VERTICAL BRIDGE LOAD CENTER
LOCATION:	SITE COMMUNITY H-FRAME
TYPE:	QO1816M200FTRB OR SIMILAR
FEEDER SIZE:	(1) 2" CONDUIT (3) 3/0 AWG CU XHHW-2 (1) #6 AWG CU XHHW-2 GND
BUS RATING:	200 Amps
SHORT CIRCUIT RATING:	22 kA
CONFIGURATION:	1Ø, 240/120V, 3W, 60 Hz
FED FROM:	200A Meter Main

kVA per Leg

LOAD DESCRIPTION	LOAD TYPE	KVA	LF	BKR	CKT		L1	L2	CKT		BKR	LF	KVA	LOAD TYPE	LOAD DESCRIPTION
TOWER LIGHT	CONTINUOUS	1.54	1.25	20A/1P	1	L1	1.93		L1	2					
			1.00		3	L2		0.00	L2	4					
			1.00		5	L1	0.00		L1	6					
			1.00		7	L2		0.00	L2	8					
			1.00		9	L1	0.00		L1	10					
			1.00		11	L2		0.00	L2	12					
			1.00		13	L1	0.00		L1	14					
			1.00		15	L2		0.00	L2	16					

KVA PER LINE:	**1.93**	**0.00**
TOTAL CONNECTED LOAD (KVA):	**1.93**	
AMPS PER LINE:	**16.0**	**0.0**
TOTAL AMPS:	**8.0**	
NEUTRAL AMPS:	**16.0**	

2 E2.0 VERTICAL BRIDGE LOAD CENTER PANEL SCHEDULE
SCALE: NTS

NEW HORIZONS

vertical bridge

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A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

DWN: JAA	DSN: ECO	APP: PTG	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

TOWER GROUNDING & PANEL SCHEDULE
E1.2

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 POR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\E1.2 TOWER GROUNDING.DWG | PLOT DATE: 241219

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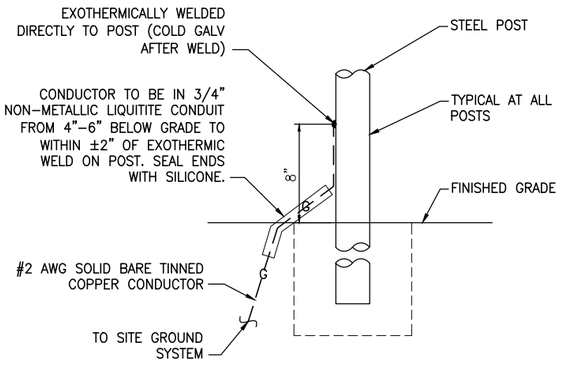
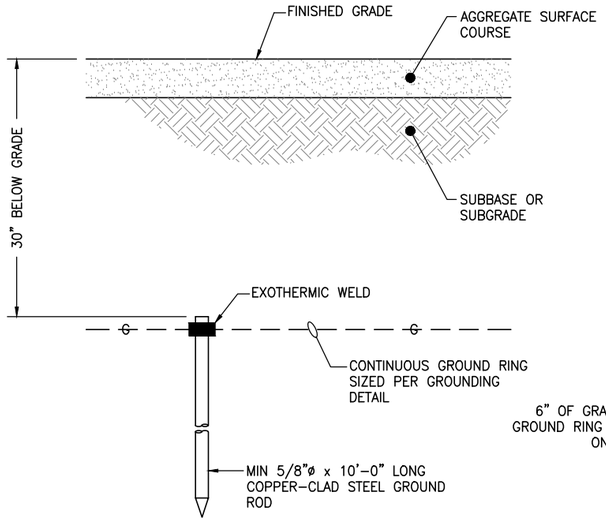
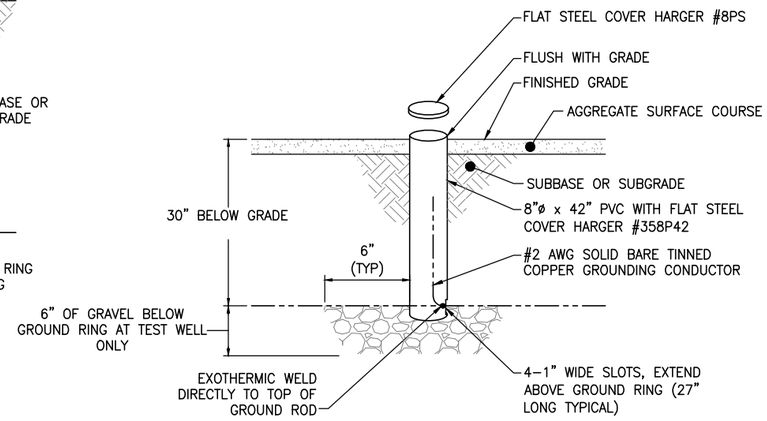


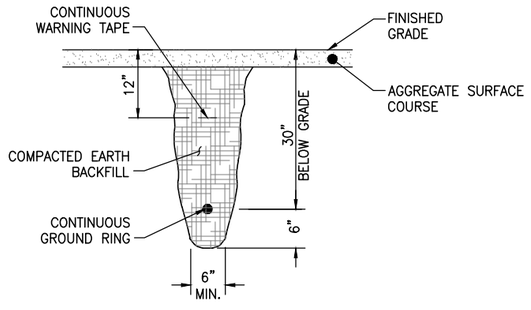
1 E1.3 POST GROUNDING DETAIL
SCALE: NONE



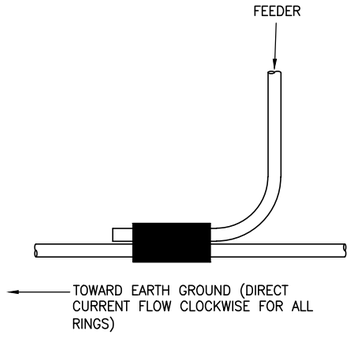
2 E1.3 GROUND ROD DETAIL
SCALE: NONE



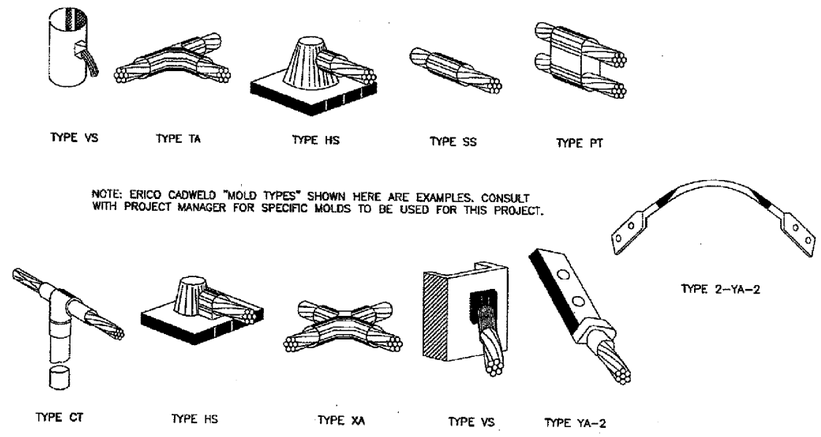
3 E1.3 GROUND TEST WELL DETAIL
SCALE: NONE



4 E1.3 TRENCH DETAIL FOR GROUND RING
SCALE: NONE



5 E1.3 GROUND CONDUCTOR CONNECTION
SCALE: NONE



6 E1.3 EXOTHERMIC WELD DETAILS
SCALE: NONE

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vertical bridge

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VERTICAL BRIDGE CONSTRUCTION DRAWINGS
GULL LAKE

DWN: JAA	DSN: ECO	APP: PTG	REV
JOB #: 23-0057-20	DATE: 24xxxx		A

GROUNDING DETAILS

E1.3

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Recieved by Current Planner 12/20/2024

NOTES:

1. IF UTILITY TRANSFORMER NAMEPLATE CAPACITY IS IN EXCESS OF 167kVA, IF TRANSFORMER IMPEDANCE IS LESS THAN 2.5%, OR SERVICE CONDUCTORS ARE LARGER THAN 350 KCMIL, OR SERVICE CONDUCTOR LENGTH IS SHORTER THAN 18 FEET, PLEASE CONTACT ENGINEER TO RECALCULATE AVAILABLE FAULT CURRENT MAXIMUMS.
2. METER/MAINS SHALL BE MARKED WITH AVAILABLE FAULT CURRENT PER NEC 110.24 (A). MARKING ON METER/MAIN SHALL BE A DURABLE PLACARD STATING: "MAXIMUM AVAILABLE FAULT CURRENT IS 39.1kA, CALCULATED ON 12/13/2024".
3. CALCULATED AVAILABLE FAULT CURRENT AT METER/ MAIN IS 39.1kA.
4. CALCULATED AVAILABLE FAULT CURRENT AT VERTICAL BRIDGE LOAD CENTER IS 34.3kA.

Available Fault Current At Service Transformer				
Line to Line Voltage	E_{L-L}	=	240V	
Transformer Power Rating	S	=	167.0kVA	
Transformer Impedance	%Z	=	2.50%	
Full Load Amps	$I_{F.L.A.}$	=	696A	$I_{F.L.A.} = kVA \times 1000 \div E_{L-L}$
Transformer Multiplier	Multiplier	=	44.4	Multiplier = 100 ÷ (%Z x 0.9) for XFMR > 25KVA
Available Short Circuit Current (L-L)	I_{L-L}	=	34.0kA	I_{L-L}= Multiplier × $I_{F.L.A}$ x 1.1
Available Short Circuit Current (L-N)	I_{L-N}	=	51.0kA	I_{L-N}=1.5 x I_{L-L}

Available Fault Current At Meter/Main				
Line to Line Voltage (L-L)	E_{L-L}	=	240V	
Line to Neutral Voltage (L-N)	E_{L-N}	=	120V	
Conductor Material		=	AL	Copper, CU, or Aluminum, AL
Conductor Size		=	350 kcmil	AWG or kcmil
Conduit Type		=	Direct Bury or Nonmetallic	
Conductors Constant	C	=	16813	350 kcmil AL Direct Bury or in Nonmetallic conduit
Number of Conductors Per Phase	n	=	3	3 runs
Length of Conductors	L	=	18ft	Approximate
"f" Factor (L-L)	f_{L-L}	=	0.101	$f_{L-L} = 2 \times L \times I_{F.C.(L-L)} \div C \div n \div E_{L-L}$
"f" Factor (L-N)	f_{L-N}	=	0.304	$f_{L-N} = 2 \times L \times I_{F.C.(L-N)} \div C \div n \div E_{L-N}$
Short Circuit Multiplier (L-L)	M_{L-L}	=	0.908	$M_{L-L} = 1 \div (1 + f_{L-L})$
Short Circuit Multiplier (L-N)	M_{L-N}	=	0.767	$M_{L-N} = 1 \div (1 + f_{L-N})$
Available Fault Current At Meter/Main (L-L)	I_{L-L}	=	30.9kA	$I_{L-L} = M_{L-L} \times I_{F.C.(L-L)}$
Available Fault Current At Meter/Main (L-N)	I_{L-N}	=	39.1kA	$I_{L-N} = M_{L-N} \times I_{F.C.(L-N)}$

Available Fault Current At VB Load Center				
Line to Line Voltage (L-L)	E_{L-L}	=	240V	
Line to Neutral Voltage (L-N)	E_{L-N}	=	120V	
Conductor Material		=	CU	Copper, CU, or Aluminum, AL
Conductor Size		=	# 3/0 AWG	AWG or kcmil
Conduit Type		=	Direct Bury or Nonmetallic	
Conductors Constant	C	=	13923	# 3/0 AWG CU Direct Bury or in Nonmetallic conduit
Number of Conductors Per Phase	n	=	1	1 Run
Length of Conductors	L	=	3ft	Approximate
"f" Factor (L-L)	f_{L-L}	=	0.06	$f_{L-L} = 2 \times L \times I_{F.C.(L-L)} \div C \div n \div E_{L-L}$
"f" Factor (L-N)	f_{L-N}	=	0.14	$f_{L-N} = 2 \times L \times I_{F.C.(L-N)} \div C \div n \div E_{L-N}$
Short Circuit Multiplier (L-L)	M_{L-L}	=	0.947	$M_{L-L} = 1 \div (1 + f_{L-L})$
Short Circuit Multiplier (L-N)	M_{L-N}	=	0.877	$M_{L-N} = 1 \div (1 + f_{L-N})$
Available Fault Current At VzW Load Center (L-L)	I_{L-L}	=	29.3kA	$I_{L-L} = M_{L-L} \times I_{F.C.(L-L)}$
Available Fault Current At VzW Load Center (L-N)	I_{L-N}	=	34.3kA	$I_{L-N} = M_{L-N} \times I_{F.C.(L-N)}$

1 / E1.4 VB AIC CALCULATIONS
SCALE: NTS

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vertical bridge

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PRELIMINARY

REV	DESCRIPTION	DATE
A	INTERNAL REVIEW	24xxxx

VERTICAL BRIDGE
CONSTRUCTION
DRAWINGS
GULL LAKE

DWN: JAA	DSN:	APP:	REV
JOB #: 23-0057-20	DATE: 230720		A

AIC
CALCULATIONS

E1.4

FILE: X:\23 JOBS\23-0057-20 VB - GULL LAKE US-AK-5280 POR\05-ENGR\CAD\03 - CONSTRUCTION DRAWINGS\E1.4 AIC CALCULATIONS.DWG | PLOT DATE: 241213

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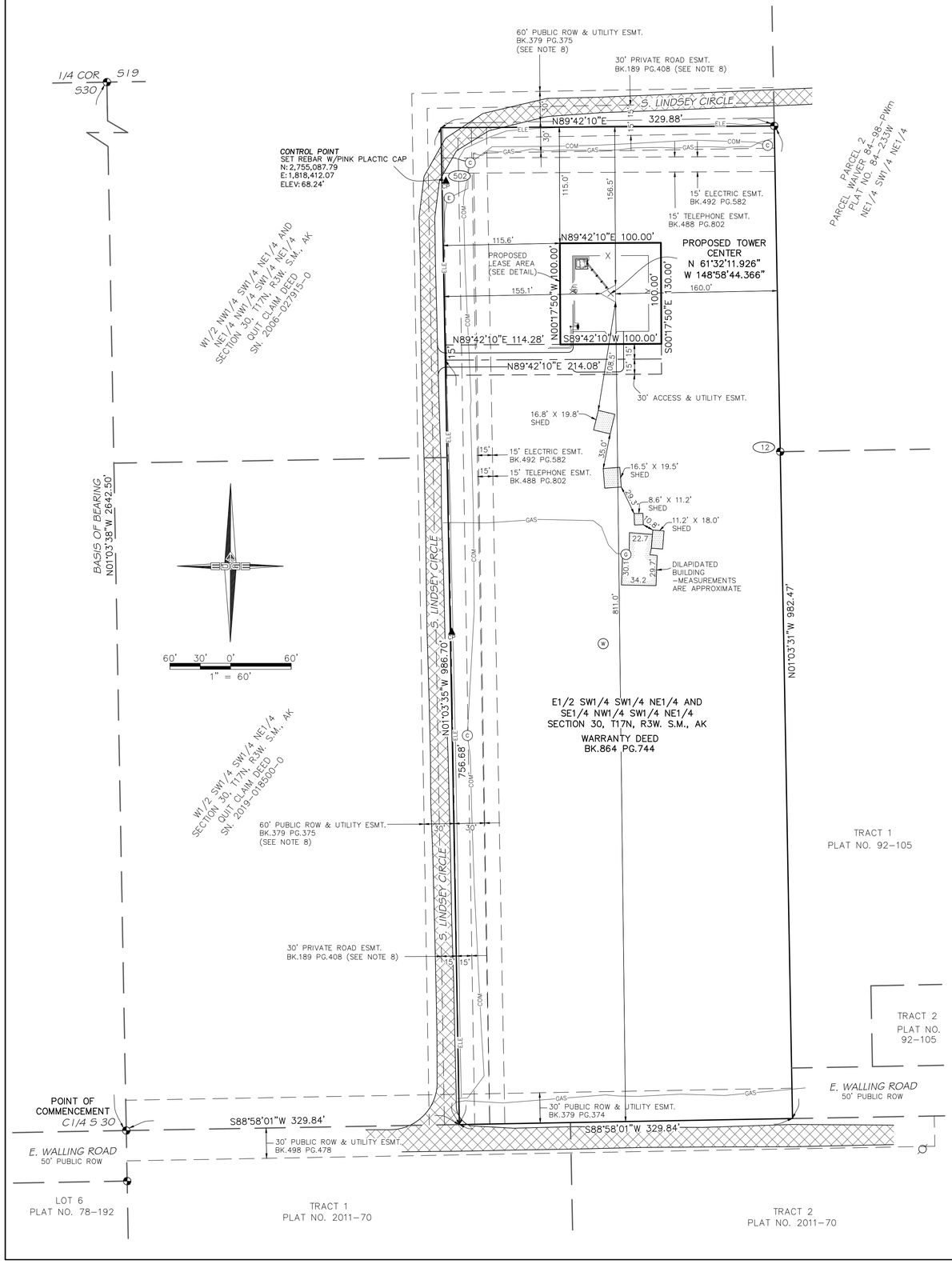
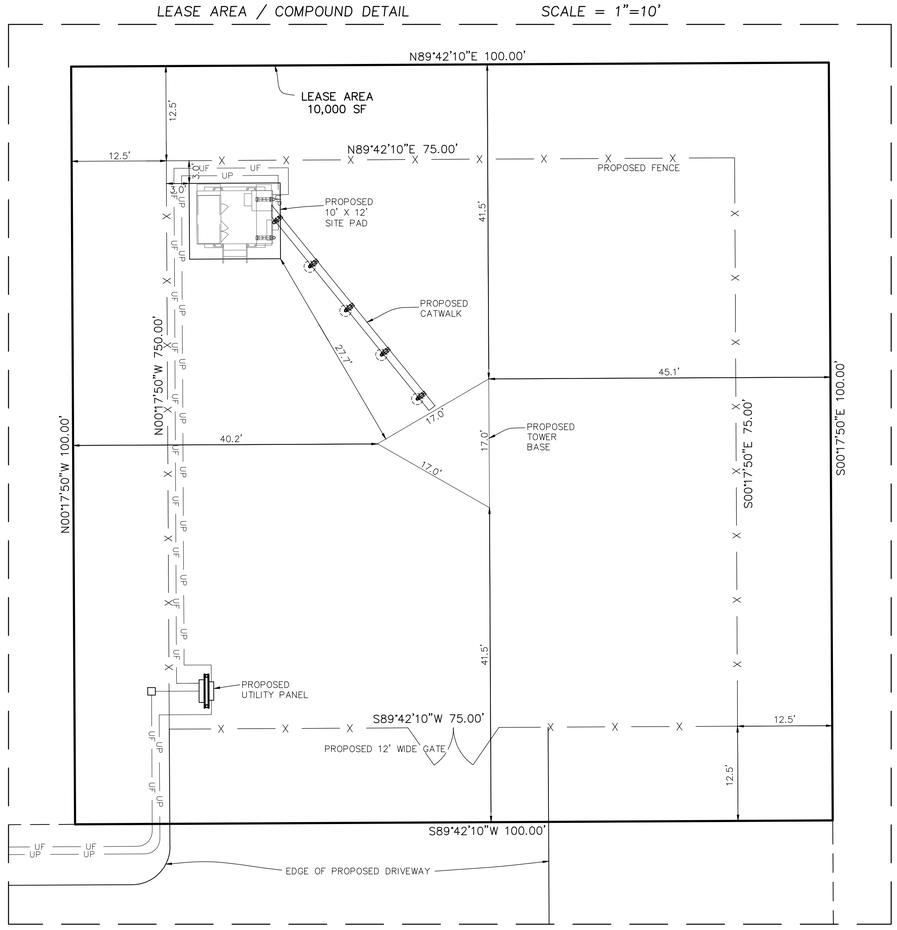
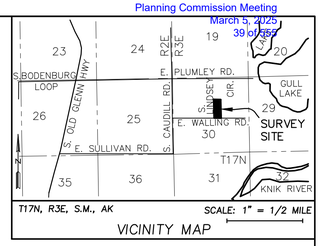






LEGEND

- FOUND MONUMENT AS NOTED
- SURVEY CONTROL POINT
- UTILITY POLE
- (C) MISC. COMMUNICATION PEDESTAL
- (W) WELL
- (E) ELECTRIC VAULT
- (G) GAS METER
- (###) POINT NUMBER
- ROW RIGHT-OF-WAY
- ESMT. EASEMENT
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- EDGE OF ROAD
- GAS UNDERGROUND GAS
- ELE UNDERGROUND ELECTRIC
- COM UNDERGROUND COMMUNICATION
- BUILDING
- 100' CONTOUR LINE
- LEASE BOUNDARY
- PROPOSED EASEMENT

NOTES

1. THIS DRAWING IS BASED ON A FIELD SURVEY PERFORMED BY EDGE SURVEY & DESIGN, LLC ON AUGUST 28, 2023 AND PREPARED FOR THE TOWERS LLC.
2. ELEVATIONS SHOWN HEREON ARE NAVD88 ORTHOMETRIC HEIGHTS, GEOID 12B AS DETERMINED BY A NGS OPUS SOLUTION.
3. THE BASIS OF BEARINGS FOR IS ALASKA STATE PLANE COORDINATE SYSTEM, ZONE 4 AS MEASURED BETWEEN THE TWO FOUND MONUMENTS ON THE CENTER SECTION LINE OF SECTION 30, T17N, R3E, S.M., AK AND HAVING A BEARING OF N01°03'38"W.
4. SITE NUMBER: US-AK-5280
   SITE NAME: GULL LAKE
   SITE ADDRESS: 4075 LINDSEY CIRCLE, BUTTE, AK 99645
5. LEASE AREA IS UNDISTURBED NATURAL TERRAIN WITH 1' UNDULATIONS COVERED WITH MATURE; SPRUCE, BIRCH AND COTTONWOOD TREES.
6. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, THIS PROPERTY IS IN ZONE X, AN AREA THAT IS OUTSIDE THE 0.2% CHANCE FLOODPLAN; FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 02170C8190F BEARING AN EFFECTIVE DATE OF MARCH 17, 2011 WAS USED TO DETERMINE THE FLOOD ZONE. EXACT DESIGNATION CAN ONLY BE DETERMINED BY AN ELEVATION CERTIFICATE.
7. THE CENTERLINE OF THE 60' ROAD & UTILITY EASEMENT PER BK.378 PG.375 AND 30' PRIVATE ROAD EASEMENT PER BK.189 PG.408 ARE NOT CENTERED ON NORTH & WEST LINE OF THE SUBJECT PARCEL. THE EXISTING ROAD FALLS ENTIRELY WITHIN SAID EASEMENTS AS SHOWN HEREON.
8. AT THE TIME OF THE SURVEY, NO VISIBLE ENCROACHMENTS WERE EVIDENT ONTO OR BEYOND THE LEASE AREA OR ANY VB EASEMENTS.
9. ACCESS AND UTILITY EASEMENTS GO TO S. LINDSEY CIRCLE, A RECORDED PUBLIC RIGHT-OF-WAY EASEMENT.
10. ALL LEASE AREA AND EASEMENTS ARE WITHIN THE PARENT PARCEL.
11. IT IS RECOMMENDED THAT THE CONTRACTOR CALLS 811 PRIOR TO CONSTRUCTION.

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THIS DRAWING REPRESENTS THE PROPOSED LOCATION AND DIMENSIONS OF THE STRUCTURE(S) SHOWN HEREON AND IS INTENDED FOR THE SOLE PURPOSE OF OBTAINING A BUILDING PERMIT. OTHER INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY OF THE SITE AND/OR OTHER PROPOSED IMPROVEMENTS FROM A CIVIL SITE PLAN FOR THE SUBJECT PROPERTY. THE SURVEYOR MAKES NO GUARANTEES THAT THIS INFORMATION INCLUDES ALL IMPROVEMENTS, INCLUDING UTILITIES, EITHER EXISTING OR ABANDONED ON THE SUBJECT PROPERTY.

MARK A. AIMONETTI
AKPLS 13022

05/14/2024
DATE

STATE OF ALASKA
49TH
Mark A. Aimonetti
No. 13022 - S
05/14/2024
REGISTERED PROFESSIONAL LAND SURVEYOR

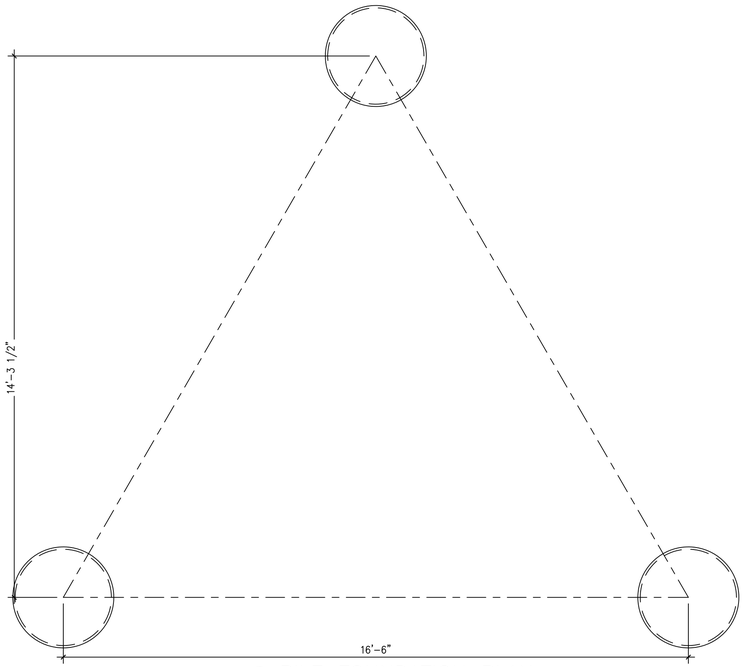
vertical bridge

CERTIFIED CARBON NEUTRAL COMPANY
CarbonNeutral.com

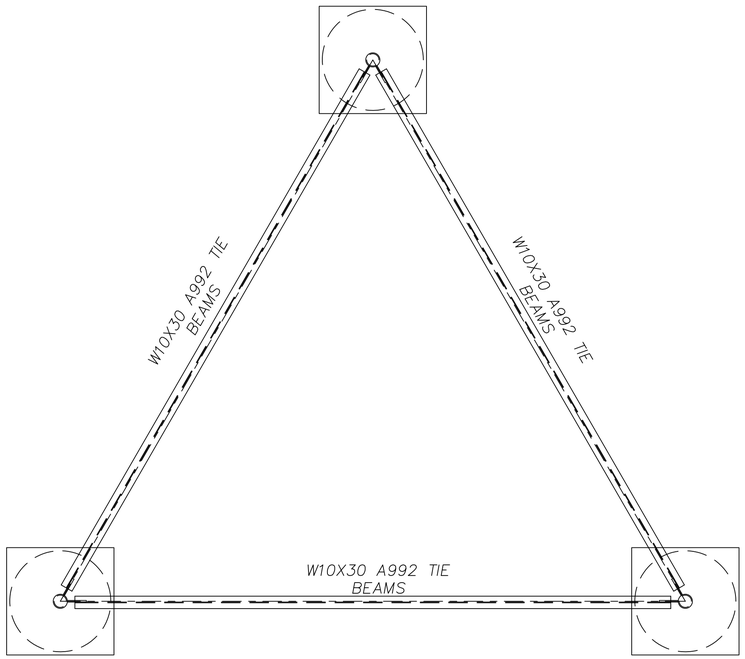
EDGE
SURVEY AND DESIGN, LLC
8000 KING STREET ANCHORAGE, AK 99518
Phone (907) 344-5990 Fax (907) 344-7794
ACEL # 1392 WWW.EDGESURVEY.NET

PLOT PLAN
US-AK-5280 GULL LAKE TOWER
4075 LINDSEY CIRCLE, BUTTE, ALASKA
SE1/4 SW1/4 SW1/4 NE1/4 AND
SE1/4 NW1/4 SW1/4 NE1/4
SECTION 30, T17N, R3W. S.M., AK
PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT

DRAWN BY: SH/VB	DATE: 05/14/2024	PROJECT NO: 23-203
CHECKED BY: MA	SCALE: 1" = 60'	SHEET: 1 OF 1



1 S1 PILE FOUNDATION PLAN
SCALE: 1/2":1'



2 S1 FOUNDATION FRAME
SCALE: 1/2":1'

1.0 GENERAL LOADING

BUILDING CODES:
INTERNATIONAL BUILDING CODE 2021
TIA-222-H
AMERICAN INSTITUTE OF STEEL CONSTRUCTION, 13TH EDITION
DESIGN LEG REACTIONS
MAX LEG SHEAR: 31 KIPS
MAX LEG UPLIFT: 346 KIPS
MAX COMPRESSION: 396 KIPS

2.0 GENERAL CONDITIONS

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND SECTIONS AND REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO THE FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORTS THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
THE PROJECT SPECIFICATIONS SHALL BE CONSIDERED AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE SPECIFICATIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REQUIREMENTS AND PUBLIC AGENCIES SAFETY ORDINANCES.
DESIGN BASED ON B+T GROUP, DESIGN A653 – GULL LAKE, DATED 12/28/23.
SOIL REPORT BASED ON DELTA OAKS GROUP PROJECT GE024-20636-08, DATED 1/31/2024.

3.0 STEEL

MONOPOLE FOUNDATION PILE SHALL BE 32" DIA X 3/4" WALL ASTM A252 GR 3, 50 KSI YIELD MIN.

ALL STRUCTURAL STEEL SHALL BE ASTM A992 GR B, 50 KSI U.N.O..

SPECIAL INSPECTION BY QUALIFIED REPRESENTATIVE IS REQUIRED.

ALL WELDING SHALL BE PERFORMED BY AWS D1.1 QUALIFIED WELDERS USING QUALIFIED PROCEDURES.

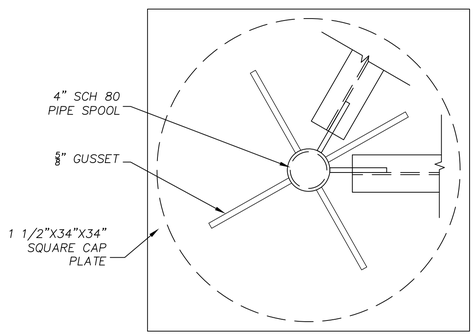
ALL STRUCTURAL STEEL FOR THE TOWER FOUNDATION SHALL BE PROTECTED WITH A THREE PART COATING SYSTEM APPLIED AFTER FABRICATION AS FOLLOWS:
–SHOP PREPARATION: CLEAN ALL SURFACES ACCORDING TO SSPC-10 NEAR WHITE BALST-CLEANING. SURFACES SHALE HAVE A 2 TO 3 MIL SURFACE PROFILE WITH SHARP PATTERN,
– SHOP PRIMER: 2-4 MIL COAT OF DEVOE CATHA-COAT 302H.
– SHOP PAINT: TWO 4-8 MIL COATES DEVOE BAR-RUST 235.
– TOP COAT: 2-3 MIL COAT DEVOE DEVTHANE 389.
– FIELD PAINT EXPOSED PILE, WELDS, TOUCH UP AND REPAIRS AS REQUIRED.

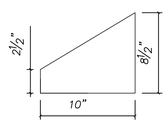
4.0 PILE DRIVING

48 HOUR PRIOR NOTICE REQUIRED FOR PILE HAMMER TYPE APPROVAL BY THE ENGINEER OF RECORD.

THE PILE HAMMER SHALL HAVE A MINIMUM RATING OF 40,000 FT-LBS. IF PILE ENCOUNTERS REFUSAL PRIOR TO ACHIEVING MINIMUM DEPTH, CONTACT THE ENGINEER OR RECORD.

PILE TOLERANCE SHALL NOT EXCEED ½" PER 10 FEET VERTICAL AND +/- 3" HORIZONTAL.





A S1 PILE CAP
SCALE: 1 1/2":1'

5.0 SITE PREPARATION

SITE GRADING SHALL BE DESIGNED TO ROUTE SURFACE WATER AROUND AND AWAY FROM THE TOWER BASE.

6.0 INSPECTIONS

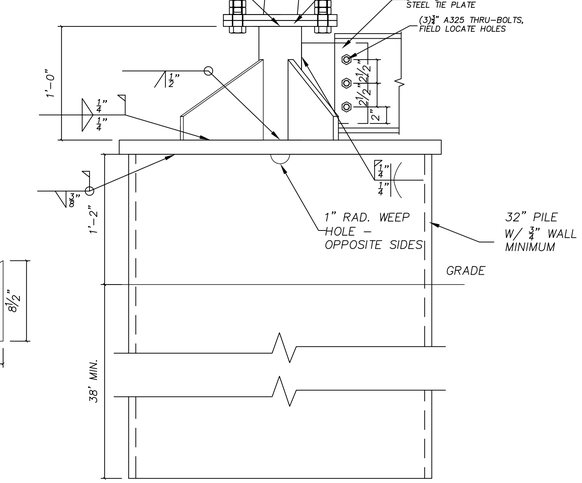
THE CONTRACTOR IS RESPONSIBLE FOR ALL SPECIAL INSPECTIONS AND FIELD REPORTS. SUBMIT TO THE ENGINEER OF RECORD FOR APPROVAL.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	FREQUENCY	INSPECTION
INSPECTION OF STEEL TYPE AND GRADE.	PERIODIC	INSPECT PRIOR TO FABRICATION
INSPECTION OF WELDS < 3/8"	PERIODIC	PER IBC 1704 AND D1.1
INSPECTION OF WELDS > 3/8"	CONTINUOUS	PER IBC 1704 AND D1.1
BOLTED CONNECTIONS	PERIODIC	PER IBC 1704

REQUIRED VERIFICATION AND INSPECTION OF DRIVEN DEEP FOUNDATION ELEMENTS

VERIFICATION AND INSPECTION	FREQUENCY	INSPECTION
VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	ONE TIME	INSPECTED PRIOR TO INSTALLATION
OBSERVE DRIVING OPERATIONS AND MAINTAIN ENGINEER COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	CONTINUOUS	PROVIDE LOGS TO OF RECORD



B S1 PILE CONNECTIONS
SCALE: 1 1/2":1'

FOR CONSTRUCTION

verticalbridge
750 Park of Commerce Drive,
Boca Raton, FL 33487
(561) 948-6367

ANDREW P. ADAMS, PE
CONSULTING ENGINEER
PO BOX 876303
WASILLA, AK 99687
CONTACT: 907-947-9303

STATE OF ALASKA 49 TH
Andrew P. Adams
No. SE13603
REGISTERED PROFESSIONAL ENGINEER
9/3/2024

SITE NAME -
GULL LAKE
US-AK-5280

4075 S LINDSEY CIRCLE
PALMER, ALASKA 99645
LAT: 61° 32' 11.926" N
LONG: 148° 58' 44.364" W

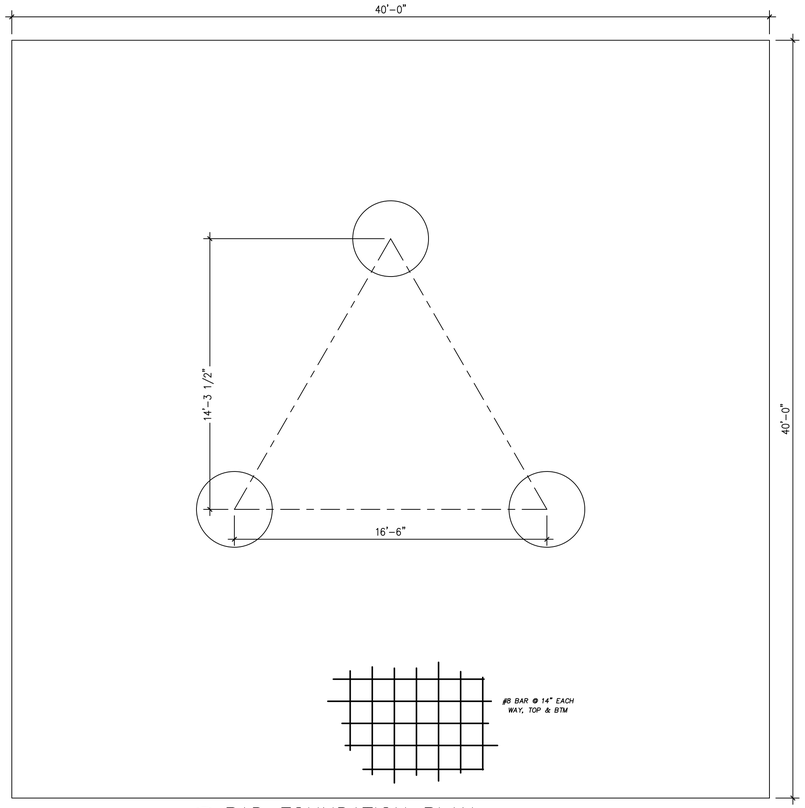
REVISION SCHEDULE		
REV	DATE	ISSUED FOR
A	9/2/24	REVIEW
0	9/3/24	CONSTRUCTION

PERMIT NUMBER: TBD
PROJECT NUMBER: 240901A
DATE ISSUED: 9/2/2024
DRAWN BY: AA | CHECKED BY: PD
SHEET TITLE
PILING FOUNDATION

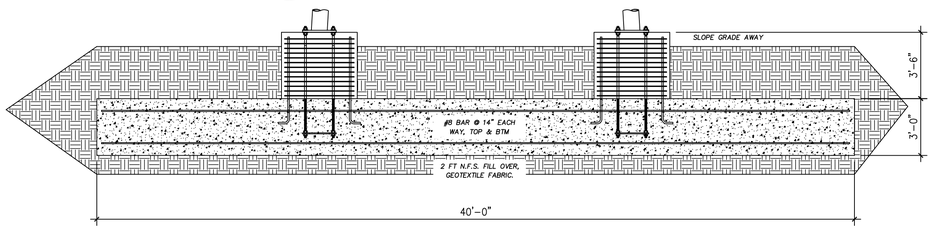
SHEET NO. S1 | REVISION A

PLOT DATE: 9/3/2024
THIS DRAWING IS PLOTTED FOR ANSI-D (22x34)

Recieved by Current Planner 12/20/2024



1 S2 PAD FOUNDATION PLAN
SCALE: 1/4":1'



2 S2 FOUNDATION SECTION
SCALE: 3/8":1'

1.0 GENERAL LOADING

BUILDING CODES:
INTERNATIONAL BUILDING CODE 2021
TIA-222-H
AMERICAN INSTITUTE OF STEEL CONSTRUCTION 13TH ED.
DESIGN LEG REACTIONS
MAX LEG SHEAR: 31 KIPS
MAX LEG UPLIFT: 346 KIPS
MAX COMPRESSION: 396 KIPS

2.0 GENERAL CONDITIONS

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND SECTIONS AND REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO THE FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORTS THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
THE PROJECT SPECIFICATIONS SHALL BE CONSIDERED AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE SPECIFICATIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REQUIREMENTS AND PUBLIC AGENCIES SAFETY ORDINANCES.

3.0 STEEL

ALL REBAR TO BE GRADE 60.

4.0 CONCRETE

STRUCTURAL CONCRETE SHALL COMPLY WITH AMERICAN CONCRETE INSTITUTE (ACI) CODES 318 AND 530, LATEST EDITION

CONCRETE SHALL HAVE 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
AGGREGATE: ASTM C33, 3/4" MAX
CEMENT: ASTM C150, TYPE I OR II
WATER: CLEAR, POTABLE
AIR ENTRAINMENT: ASTM C260, 3% – 6%

CONCRETE TO HAVE 3" COVER WHEN EXPOSED TO EARTH, AND 2" COVER ELSEWHERE.

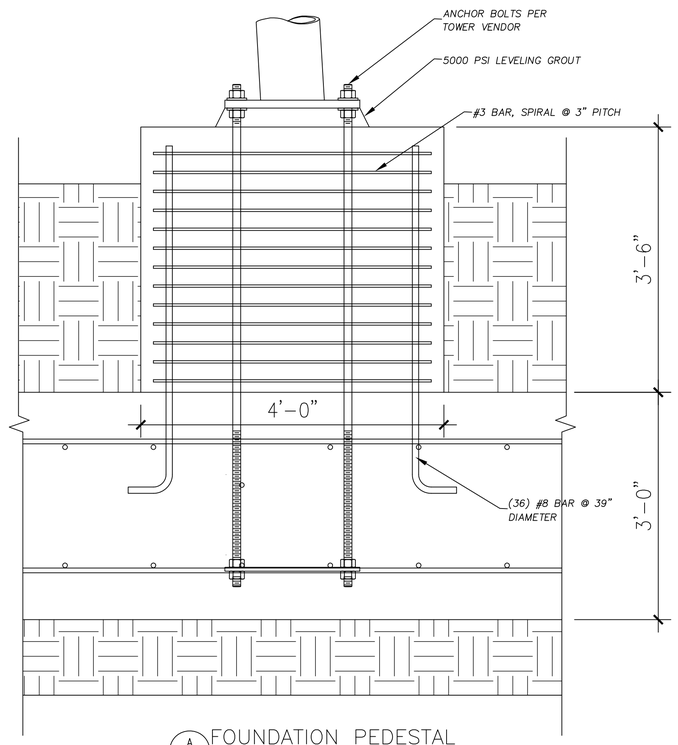
5.0 SAFETY

CONTRACTOR TO PROVIDE BRACING AND STABILIZATION PLAN FOR CONSTRUCTION.
ALL UTILITIES SHOULD BE LOCATED PRIOR TO CONSTRUCTION IF EXCAVATION IS REQUIRED. CALL-BEFORE-YOU DIG 811.
NECESSARY FALL PROTECTION EQUIPMENT IS REQUIRED DURING MODIFICATION OPERATIONS.

6.0 SITE PREPARATION

RECOMMEND EXCAVATION TO A DEPTH SUFFICIENT TO PLACE 2 FEET OF COMPACTED STRUCTURAL FILL BENEATH THE FOUNDATION. EXCAVATION WILL BE NEAR 8 FEET IN DEPTH. ANTICIPATE SANDY SOILS WITH TRACES OF SILT WILL BE PRESENT IN THE BASE OF THE EXCAVATION. INSTALL A GEOTEXTILE SEPARATOR. THE BASE OF THE EXCAVATION AFTER SUBGRADE PREPARATION TO SEPARATE THE GRAVEL FILL FROM THE UNDERLYING SOIL, AND TO LIMIT THE POTENTIAL FOR FINES TO MIGRATE UP INTO THE NON-FROST SUSCEPTIBLE (NFS) FILL. THE SEPARATOR FABRIC WILL ALSO IMPROVE FOUNDATION PERFORMANCE AS THE UNDERLYING COMPRESSIBLE SOILS CONSOLIDATE.

THE LIMITS OF EXCAVATION SHOULD INCLUDE THE ENTIRE FOUNDATION FOOTPRINT AND EXTEND LATERALLY AT LEAST 4 FEET BEYOND THE OUTSIDE EDGES OF THE FOUNDATION.



A S2 FOUNDATION PEDESTAL
SCALE: 1":1'

FOR CONSTRUCTION

vertical bridge
750 Park of Commerce Drive,
Boca Raton, FL 33487
(561) 948-6367

ANDREW P. ADAMS, PE
CONSULTING ENGINEER
PO BOX 876303
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STATE OF ALASKA
49 TH
Andrew P. Adams
No. SE13603
REGISTERED PROFESSIONAL ENGINEER
9/3/2024

SITE NAME - GULL LAKE
US-AK-5280

4075 S LINDSEY CIRCLE
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LAT: 61° 32' 11.926" N
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REVISION SCHEDULE		
REV	DATE	ISSUED FOR
A	9/2/24	REVIEW
0	9/3/24	CONSTRUCTION

PERMIT NUMBER: TBD
PROJECT NUMBER: 240901A
DATE ISSUED: 9/2/2024
DRAWN BY: AA | CHECKED BY: PD

SHEET TITLE
PAD FOUNDATION

SHEET NO. S2 | REVISION A

PLOT DATE: 9/3/2024
THIS DRAWING IS PLOTTED FOR ANSI-D (22x34)

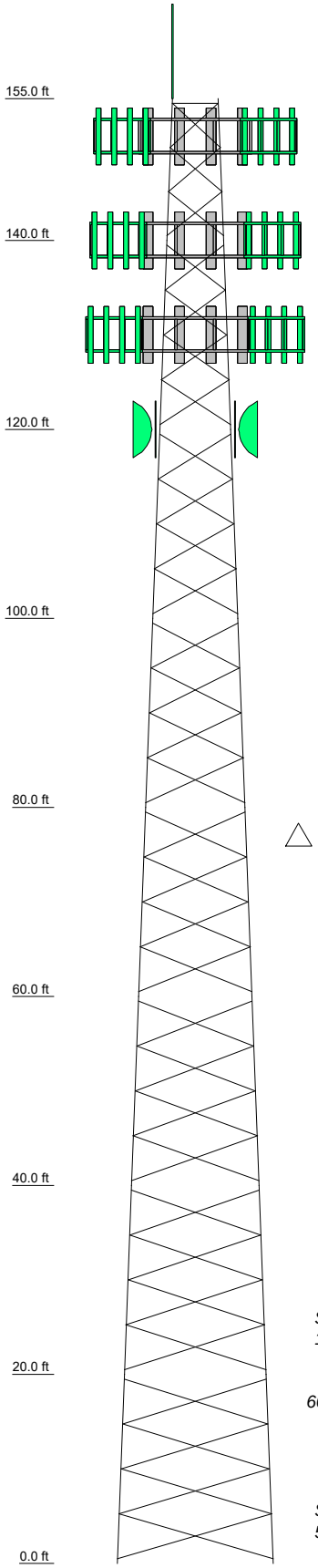
Recieved by Current Planner 12/20/2024

Attachment C:
Tower and Foundation Design Drawings



Rcvd by MSB Nov 19, 2024

Section	T1	T2	T3	T4	T5	T6	T7	T8			
Legs	SR 1 3/4	SR 2 1/4	SR 2 3/4	SR 3	SR 3 1/4	SR 3 1/2	SR 3 3/4	SR 4			
Leg Grade	A529-50										
Diagonals	L1 3/4x1 3/4x3/16	L2x2x3/16	L2 1/2x2 1/2x3/16			L3x3x3/16		L3x3x1/4			
Diagonal Grade	A36M-50										
Top Girts	L1 3/4x1 3/4x3/16	N.A.									
Face Width (ft)	4.875	6	7.5	9	10.5	12	13.5	15	16.5		
# Panels @ (ft)	3 @ 4.66667	28 @ 4.75									
Weight (K)	0.7	1.3	1.9	2.2	2.6	3.2	3.6	4.5	20.0		



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 1"x10'	155	Sector1(CaAa=10000 Sq.in)No Ice (Carrier 3)	130
Sector1(CaAa=14000 Sq.in)No Ice (Carrier 1)	151	Sector2(CaAa=10000 Sq.in)No Ice (Carrier 3)	130
Sector2(CaAa=14000 Sq.in)No Ice (Carrier 1)	151	Sector3(CaAa=10000 Sq.in)No Ice (Carrier 3)	130
Sector3(CaAa=14000 Sq.in)No Ice (Carrier 1)	151	4 1/2" OD Dish Mount (Carrier 4)	120
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	140	4 1/2" OD Dish Mount (Carrier 4)	120
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	140	6' MW Dish (Carrier 4)	120
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2)	140	6' MW Dish (Carrier 4)	120

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A529-50	50 ksi	65 ksi	A36M-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 121 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 60 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.000 ft
7. Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity.

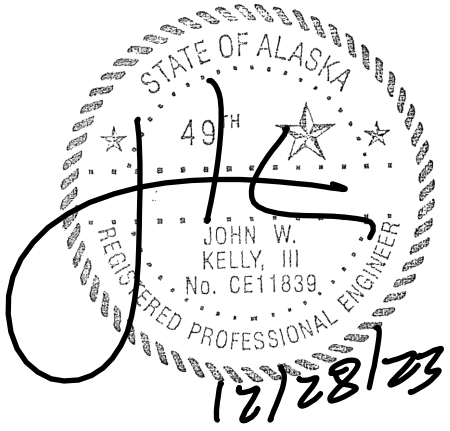
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 396 K
SHEAR: 31 K

UPLIFT: -346 K
SHEAR: 29 K

AXIAL 80 K
SHEAR 16 K *MOMENT 1654 kip-ft*
TORQUE 3 kip-ft
60 mph WIND - 0.500 in ICE

AXIAL 52 K
SHEAR 53 K *MOMENT 5418 kip-ft*
TORQUE 8 kip-ft
REACTIONS - 121 mph WIND



ARCOSA
TELECOM STRUCTURES

B+T GRP
B+T Group
1717 S Boulder Ave, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: A653 - Gull Lake (Site# US-AK-5280)			
Project: 155' SST/61.536646, -148.97899			
Client: Vertical Bridge	Drawn by: luke.antloger	App'd:	
Code: TIA-222-H	Date: 12/28/23	Scale: NTS	
Path: S:\Projects\Arcosa Telecom Structures\169347_A653_Gull Lake\Engineering\tnxTower\1223-064_155SST_Gull Lake.eri		Dwg No. E-1	

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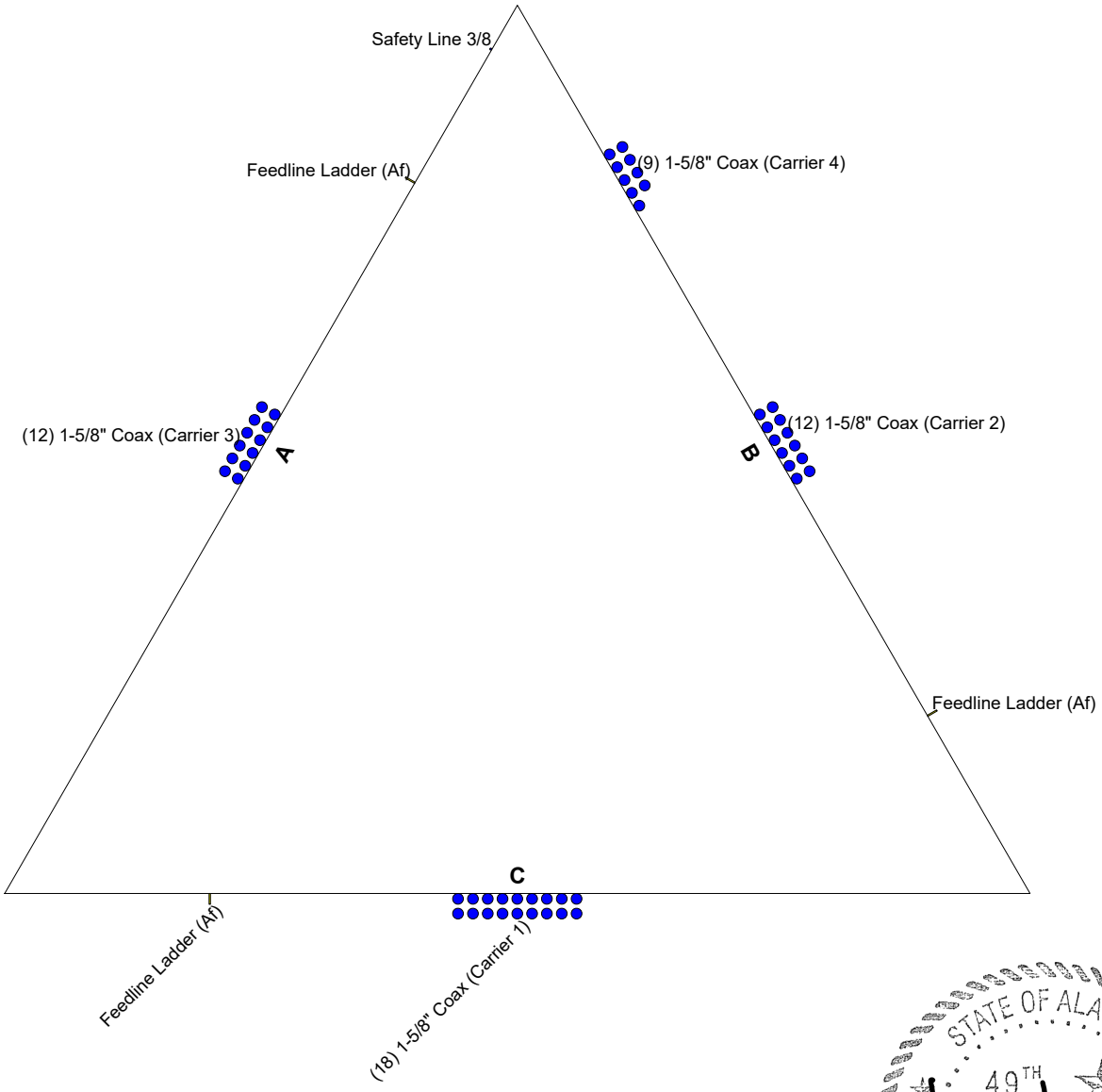
Feed Line Plan





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Code: TIA-222-H	Date: 12/28/23	Scale: NTS
Path: S:\Projects\Arcosa Telecom Structures\169347_A653_Gull Lake\Engineering\tnxTower\1223-064_155SST_Gull Lake.eri		Dwg No. E-7

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tnxTower	Job	Page
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	1 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 155.000 ft above the ground line.
The base of the tower is set at an elevation of 0.000 ft above the ground line.
The face width of the tower is 4.875 ft at the top and 16.500 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 66.000 ft.
Basic wind speed of 121 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft.
Nominal ice thickness of 0.500 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 60 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Horizontals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Consider Moments - Diagonals	√	Use Clear Spans For Wind Area	√	SR Leg Bolts Resist Compression
	Use Moment Magnification	√	Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Stress Ratios		Retension Guys To Initial Tension		Offset Girt At Foundation
√	Use Code Safety Factors - Guys	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Escalate Ice	√	Use Azimuth Dish Coefficients	√	Include Angle Block Shear Check
	Always Use Max Kz	√	Project Wind Area of Appurtenances		Use TIA-222-H Bracing Resist. Exemption
	Use Special Wind Profile		Alternative Appurt. EPA Calculation		Use TIA-222-H Tension Splice Exemption
√	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Poles
√	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Include Shear-Torsion Interaction
√	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Pole Without Linear Attachments
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole With Shroud Or No Appurtenances
	Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules		Outside and Inside Corner Radii Are Known

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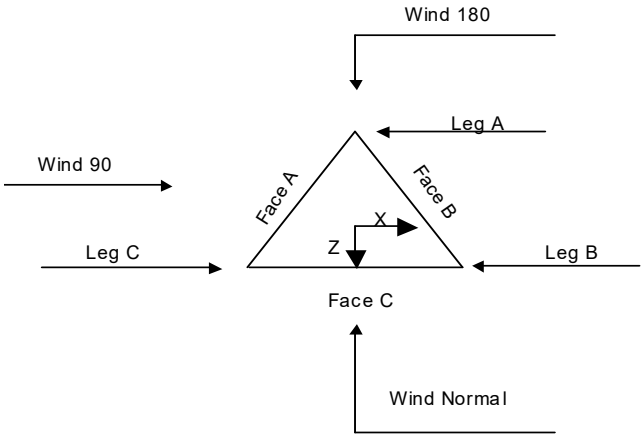
tnxTower	Job	Page
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	2 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	155.000-140.000			4.875	1	15.000
T2	140.000-120.000			6.000	1	20.000
T3	120.000-100.000			7.500	1	20.000
T4	100.000-80.000			9.000	1	20.000
T5	80.000-60.000			10.500	1	20.000
T6	60.000-40.000			12.000	1	20.000
T7	40.000-20.000			13.500	1	20.000
T8	20.000-0.000			15.000	1	20.000

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	155.000-140.000	4.667	X Brace	No	No	6.000	6.000
T2	140.000-120.000	4.750	X Brace	No	No	6.000	6.000
T3	120.000-100.000	4.750	X Brace	No	No	6.000	6.000
T4	100.000-80.000	4.750	X Brace	No	No	6.000	6.000
T5	80.000-60.000	4.750	X Brace	No	No	6.000	6.000
T6	60.000-40.000	4.750	X Brace	No	No	6.000	6.000
T7	40.000-20.000	4.750	X Brace	No	No	6.000	6.000

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Planning Commission Meeting
March 5, 2025
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Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T8	20.000-0.000	4.750	X Brace	No	No	6.000	6.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 155.000-140.000	Solid Round	1 3/4	A529-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
T2 140.000-120.000	Solid Round	2 1/4	A529-50 (50 ksi)	Equal Angle	L2x2x3/16	A36M-50 (50 ksi)
T3 120.000-100.000	Solid Round	2 3/4	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
T4 100.000-80.000	Solid Round	3	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
T5 80.000-60.000	Solid Round	3 1/4	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
T6 60.000-40.000	Solid Round	3 1/2	A529-50 (50 ksi)	Equal Angle	L3x3x3/16	A36M-50 (50 ksi)
T7 40.000-20.000	Solid Round	3 3/4	A529-50 (50 ksi)	Equal Angle	L3x3x3/16	A36M-50 (50 ksi)
T8 20.000-0.000	Solid Round	4	A529-50 (50 ksi)	Equal Angle	L3x3x1/4	A36M-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 155.000-140.000	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)	Solid Round		A36M-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 155.000-140.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T2 140.000-120.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T3 120.000-100.0	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000

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Planning Commission Meeting
March 5, 2025
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Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
00									
T4 100.000-80.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T5 80.000-60.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T6 60.000-40.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T7 40.000-20.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T8 20.000-0.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 155.000-140.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 140.000-120.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 120.000-100.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 100.000-80.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 80.000-60.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T6 60.000-40.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 40.000-20.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 20.000-0.000	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Rcvd by MSB Nov 19, 2024

tnxTower	Job	Page
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	5 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 155.000-140.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 140.000-120.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 120.000-100.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 100.000-80.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 80.000-60.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 60.000-40.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 40.000-20.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 20.000-0.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 155.000-140.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T2 140.000-120.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T3 120.000-100.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)

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Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T4 100.000-80.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T5 80.000-60.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T6 60.000-40.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T7 40.000-20.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T8 20.000-0.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)

Tower Section Geometry *(cont'd)*

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tnxTower	Job	Page
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	7 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 155.000-140.000	Flange	0.000 A325N	0	0.625 A325X	1	0.625 A325X	1	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T2 140.000-120.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T3 120.000-100.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T4 100.000-80.000	Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T5 80.000-60.000	Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T6 60.000-40.000	Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T7 40.000-20.000	Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T8 20.000-0.000	Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325X	0	0.000 A325X	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
1-5/8" Coax (Carrier 1) **	C	No	No	Ar (CaAa)	151.000 - 10.000	0.000	0	18	9	0.750	1.980		0.001
1-5/8" Coax (Carrier 2) **	B	No	No	Ar (CaAa)	140.000 - 10.000	0.000	0	12	6	0.750	1.980		0.001
1-5/8" Coax (Carrier 3) **	A	No	No	Ar (CaAa)	130.000 - 10.000	0.000	0	12	6	0.750	1.980		0.001
1-5/8" Coax (Carrier 4) **	B	No	No	Ar (CaAa)	120.000 - 10.000	0.000	-0.3	9	5	0.750	1.980		0.001
Safety Line 3/8 **	A	No	No	Ar (CaAa)	155.000 - 10.000	0.000	0.45	1	1	0.375	0.375		0.000
Feedline Ladder (Af)	C	No	No	Af (CaAa)	151.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008
Feedline Ladder (Af)	B	No	No	Af (CaAa)	140.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008
Feedline Ladder (Af) **	A	No	No	Af (CaAa)	130.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008

Feed Line/Linear Appurtenances - Entered As Area

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B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	8 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight klf
**								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	155.000-140.000	A	0.000	0.000	0.562	0.000	0.003
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	39.662	0.000	0.255
T2	140.000-120.000	A	0.000	0.000	24.927	0.000	0.187
		B	0.000	0.000	48.353	0.000	0.365
		C	0.000	0.000	72.113	0.000	0.463
T3	120.000-100.000	A	0.000	0.000	49.103	0.000	0.369
		B	0.000	0.000	83.993	0.000	0.512
		C	0.000	0.000	72.113	0.000	0.463
T4	100.000-80.000	A	0.000	0.000	49.103	0.000	0.369
		B	0.000	0.000	83.993	0.000	0.512
		C	0.000	0.000	72.113	0.000	0.463
T5	80.000-60.000	A	0.000	0.000	49.103	0.000	0.369
		B	0.000	0.000	83.993	0.000	0.512
		C	0.000	0.000	72.113	0.000	0.463
T6	60.000-40.000	A	0.000	0.000	49.103	0.000	0.369
		B	0.000	0.000	83.993	0.000	0.512
		C	0.000	0.000	72.113	0.000	0.463
T7	40.000-20.000	A	0.000	0.000	49.103	0.000	0.369
		B	0.000	0.000	83.993	0.000	0.512
		C	0.000	0.000	72.113	0.000	0.463
T8	20.000-0.000	A	0.000	0.000	24.552	0.000	0.185
		B	0.000	0.000	41.997	0.000	0.256
		C	0.000	0.000	36.057	0.000	0.232

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	155.000-140.000	A	0.581	0.000	0.000	2.305	0.000	0.013
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	37.022	0.000	0.653
T2	140.000-120.000	A	0.573	0.000	0.000	26.820	0.000	0.445
		B		0.000	0.000	47.552	0.000	0.855
		C		0.000	0.000	67.239	0.000	1.183
T3	120.000-100.000	A	0.564	0.000	0.000	50.459	0.000	0.869
		B		0.000	0.000	85.439	0.000	1.342
		C		0.000	0.000	67.144	0.000	1.178
T4	100.000-80.000	A	0.553	0.000	0.000	50.298	0.000	0.864
		B		0.000	0.000	85.250	0.000	1.335
		C		0.000	0.000	67.032	0.000	1.172
T5	80.000-60.000	A	0.539	0.000	0.000	50.101	0.000	0.858

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B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	9 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	85.018	0.000	1.325
		C		0.000	0.000	66.895	0.000	1.165
T6	60.000-40.000	A	0.521	0.000	0.000	49.845	0.000	0.850
		B		0.000	0.000	84.717	0.000	1.313
		C		0.000	0.000	66.716	0.000	1.155
T7	40.000-20.000	A	0.495	0.000	0.000	49.473	0.000	0.839
		B		0.000	0.000	84.279	0.000	1.296
		C		0.000	0.000	66.457	0.000	1.142
T8	20.000-0.000	A	0.444	0.000	0.000	24.367	0.000	0.409
		B		0.000	0.000	41.705	0.000	0.631
		C		0.000	0.000	32.971	0.000	0.558

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	155.000-140.000	-0.102	2.802	-0.407	1.990
T2	140.000-120.000	1.267	-2.768	1.198	-2.456
T3	120.000-100.000	0.968	-9.334	0.900	-8.717
T4	100.000-80.000	1.049	-10.326	0.976	-9.665
T5	80.000-60.000	1.120	-11.200	1.043	-10.509
T6	60.000-40.000	1.106	-11.242	1.046	-10.733
T7	40.000-20.000	1.154	-11.853	1.093	-11.353
T8	20.000-0.000	0.725	-7.546	0.690	-7.265

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	1-5/8" Coax	140.00 - 151.00	0.6000	0.6000
T1	9	Safety Line 3/8	140.00 - 155.00	0.6000	0.6000
T1	11	Feedline Ladder (Af)	140.00 - 151.00	0.6000	0.6000
T2	1	1-5/8" Coax	120.00 - 140.00	0.6000	0.6000
T2	3	1-5/8" Coax	120.00 - 140.00	0.6000	0.6000
T2	5	1-5/8" Coax	120.00 - 130.00	0.6000	0.6000
T2	9	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T2	11	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T2	12	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T2	13	Feedline Ladder (Af)	120.00 - 130.00	0.6000	0.6000
T3	1	1-5/8" Coax	100.00 -	0.6000	0.6000

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B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	10 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			120.00		
T3	3	1-5/8" Coax	100.00 - 120.00	0.6000	0.6000
T3	5	1-5/8" Coax	100.00 - 120.00	0.6000	0.6000
T3	7	1-5/8" Coax	100.00 - 120.00	0.6000	0.6000
T3	9	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000
T3	11	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T3	12	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T3	13	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T4	1	1-5/8" Coax	80.00 - 100.00	0.6000	0.6000
T4	3	1-5/8" Coax	80.00 - 100.00	0.6000	0.6000
T4	5	1-5/8" Coax	80.00 - 100.00	0.6000	0.6000
T4	7	1-5/8" Coax	80.00 - 100.00	0.6000	0.6000
T4	9	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T4	11	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T4	12	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T4	13	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T5	1	1-5/8" Coax	60.00 - 80.00	0.6000	0.6000
T5	3	1-5/8" Coax	60.00 - 80.00	0.6000	0.6000
T5	5	1-5/8" Coax	60.00 - 80.00	0.6000	0.6000
T5	7	1-5/8" Coax	60.00 - 80.00	0.6000	0.6000
T5	9	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T5	11	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T5	12	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T5	13	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T6	1	1-5/8" Coax	40.00 - 60.00	0.6000	0.6000
T6	3	1-5/8" Coax	40.00 - 60.00	0.6000	0.6000
T6	5	1-5/8" Coax	40.00 - 60.00	0.6000	0.6000
T6	7	1-5/8" Coax	40.00 - 60.00	0.6000	0.6000
T6	9	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T6	11	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T6	12	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T6	13	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T7	1	1-5/8" Coax	20.00 - 40.00	0.6000	0.6000
T7	3	1-5/8" Coax	20.00 - 40.00	0.6000	0.6000
T7	5	1-5/8" Coax	20.00 - 40.00	0.6000	0.6000
T7	7	1-5/8" Coax	20.00 - 40.00	0.6000	0.6000
T7	9	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T7	11	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T7	12	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T7	13	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T8	1	1-5/8" Coax	10.00 - 20.00	0.6000	0.6000
T8	3	1-5/8" Coax	10.00 - 20.00	0.6000	0.6000
T8	5	1-5/8" Coax	10.00 - 20.00	0.6000	0.6000
T8	7	1-5/8" Coax	10.00 - 20.00	0.6000	0.6000
T8	9	Safety Line 3/8	10.00 - 20.00	0.6000	0.6000
T8	11	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T8	12	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T8	13	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000

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tnxTower	Job: A653 - Gull Lake (Site# US-AK-5280)	Page: 1 of 23
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Project: 155' SST/61.536646, -148.97899	Date: 15:19:14 12/28/23
	Client: Vertical Bridge	Designed by: luke.antloger

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 1"x10'	C	From Leg	0.000 0.000 5.000	0.000	155.000	No Ice 1/2" Ice	1.000 2.017	1.000 2.017	0.040 0.049
**									
Sector1(CaAa=14000 Sq.in)No Ice (Carrier 1)	A	From Leg	4.000 0.000 0.000	0.000	151.000	No Ice 1/2" Ice	97.222 121.527	65.138 81.423	3.333 4.167
Sector2(CaAa=14000 Sq.in)No Ice (Carrier 1)	B	From Leg	4.000 0.000 0.000	0.000	151.000	No Ice 1/2" Ice	97.222 121.527	65.138 81.423	3.333 4.167
Sector3(CaAa=14000 Sq.in)No Ice (Carrier 1)	C	From Leg	4.000 0.000 0.000	0.000	151.000	No Ice 1/2" Ice	97.222 121.527	65.138 81.423	3.333 4.167
**									
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	A	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 1/2" Ice	69.444 86.805	46.527 58.159	0.700 1.400
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	B	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 1/2" Ice	69.444 86.805	46.527 58.159	0.700 1.400
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2)	C	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 1/2" Ice	69.444 86.805	46.527 58.159	0.700 1.400
**									
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 3)	A	From Leg	4.000 0.000 0.000	0.000	130.000	No Ice 1/2" Ice	69.444 86.805	46.527 58.159	0.700 1.400
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 3)	B	From Leg	4.000 0.000 0.000	0.000	130.000	No Ice 1/2" Ice	69.444 86.805	46.527 58.159	0.700 1.400
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 3)	C	From Leg	4.000 0.000 0.000	0.000	130.000	No Ice 1/2" Ice	69.444 86.805	46.527 58.159	0.700 1.400
**									
4 1/2" OD Dish Mount (Carrier 4)	C	From Leg	0.500 0.000 0.000	0.000	120.000	No Ice 1/2" Ice	1.690 2.207	1.690 2.207	0.057 0.074
4 1/2" OD Dish Mount (Carrier 4)	B	From Leg	0.500 0.000 0.000	0.000	120.000	No Ice 1/2" Ice	1.690 2.207	1.690 2.207	0.057 0.074
**									

Dishes

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B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	A653 - Gull Lake (Site# US-AK-5280)	12 of 23
	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
6' MW Dish (Carrier 4)	C	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		120.000	6.000	No Ice 1/2" Ice	28.270 29.050	0.143 0.292
6' MW Dish (Carrier 4)	B	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		120.000	6.000	No Ice 1/2" Ice	28.270 29.050	0.143 0.292
**											

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service

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Comb. No.	Description
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	155 - 140	Leg	Max Tension	15	18.907	1.315	0.004
			Max. Compression	2	-26.360	0.853	0.002
			Max. Mx	14	-4.030	1.943	0.001
			Max. My	6	-3.986	0.509	1.626
			Max. Vy	2	-4.694	0.853	0.002
			Max. Vx	18	-2.246	-0.652	1.006
		Diagonal	Max Tension	4	5.587	0.000	0.000
			Max. Compression	4	-5.861	0.000	0.000
			Max. Mx	20	1.819	0.016	0.002
			Max. My	20	-5.781	0.006	0.019
			Max. Vy	36	-0.011	0.014	0.002
			Max. Vx	20	-0.006	0.000	0.000
		Top Girt	Max Tension	22	0.964	0.000	0.000
			Max. Compression	11	-0.693	0.000	0.000
			Max. Mx	26	0.110	-0.014	0.000
			Max. My	34	-0.104	0.000	0.000
			Max. Vy	26	0.012	0.000	0.000
			Max. Vx	34	-0.000	0.000	0.000
T2	140 - 120	Leg	Max Tension	15	75.501	2.528	-0.004
			Max. Compression	2	-88.123	1.636	-0.006
			Max. Mx	2	-27.218	4.049	0.008
			Max. My	2	6.017	-1.976	1.853
			Max. Vy	2	-9.815	1.636	-0.006
			Max. Vx	14	-4.166	0.772	0.455
		Diagonal	Max Tension	4	10.271	0.000	0.000
			Max. Compression	4	-9.514	0.000	0.000
			Max. Mx	2	2.109	0.056	-0.001
			Max. My	8	-8.654	0.002	-0.070
			Max. Vy	22	0.019	0.000	0.000
			Max. Vx	8	0.018	0.000	0.000
T3	120 - 100	Leg	Max Tension	15	133.397	3.605	-0.013
			Max. Compression	2	-151.926	0.988	-0.005
			Max. Mx	2	-88.127	6.851	-0.018
			Max. My	6	-46.333	3.080	-2.842
			Max. Vy	2	-11.565	0.988	-0.005
			Max. Vx	6	4.995	3.080	-2.842
		Diagonal	Max Tension	8	10.871	0.000	0.000
			Max. Compression	20	-11.533	0.000	0.000
			Max. Mx	2	2.332	0.070	0.002
			Max. My	8	-11.480	-0.007	-0.068
			Max. Vy	2	0.022	0.070	0.002
			Max. Vx	8	0.015	0.000	0.000
T4	100 - 80	Leg	Max Tension	15	183.352	3.909	-0.019
			Max. Compression	2	-207.760	0.999	-0.005
			Max. Mx	2	-151.948	6.740	-0.029
			Max. My	6	-77.928	3.029	-2.440
			Max. Vy	2	-12.480	0.999	-0.005

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	6	4.347	3.029	-2.440
		Diagonal	Max Tension	16	10.105	0.000	0.000
			Max. Compression	20	-10.597	0.000	0.000
			Max. Mx	4	5.351	0.050	-0.000
			Max. My	20	-10.534	-0.010	0.034
			Max. Vy	28	0.022	0.032	0.003
			Max. Vx	20	-0.007	0.000	0.000
T5	80 - 60	Leg	Max Tension	15	228.465	4.172	-0.024
			Max. Compression	2	-258.841	1.073	-0.007
			Max. Mx	2	-207.782	7.210	-0.040
			Max. My	4	-13.476	0.128	-2.437
			Max. Vy	2	-13.278	1.073	-0.007
			Max. Vx	4	4.326	0.016	-0.492
		Diagonal	Max Tension	16	10.158	0.000	0.000
			Max. Compression	16	-10.488	0.000	0.000
			Max. Mx	4	5.256	0.044	0.001
			Max. My	16	-10.411	-0.006	-0.022
			Max. Vy	28	0.025	0.037	0.003
			Max. Vx	16	0.004	0.000	0.000
T6	60 - 40	Leg	Max Tension	15	270.415	4.602	-0.031
			Max. Compression	2	-307.144	1.037	-0.006
			Max. Mx	2	-258.866	7.682	-0.049
			Max. My	4	-16.235	0.128	-2.658
			Max. Vy	2	-14.215	1.037	-0.006
			Max. Vx	4	4.601	0.016	-0.450
		Diagonal	Max Tension	16	10.539	0.000	0.000
			Max. Compression	16	-10.703	0.000	0.000
			Max. Mx	4	4.472	0.062	0.003
			Max. My	16	-10.591	-0.007	-0.020
			Max. Vy	28	0.033	0.053	0.004
			Max. Vx	16	0.003	0.000	0.000
T7	40 - 20	Leg	Max Tension	7	310.089	4.839	-0.057
			Max. Compression	2	-353.404	1.245	-0.009
			Max. Mx	2	-307.171	8.121	-0.054
			Max. My	4	-18.969	0.134	-2.753
			Max. Vy	2	-15.028	1.245	-0.009
			Max. Vx	4	4.866	0.026	-0.644
		Diagonal	Max Tension	16	10.819	0.000	0.000
			Max. Compression	16	-11.015	0.000	0.000
			Max. Mx	27	2.255	0.061	-0.005
			Max. My	16	-10.879	0.004	-0.017
			Max. Vy	29	0.034	0.059	0.005
			Max. Vx	16	0.003	0.000	0.000
T8	20 - 0	Leg	Max Tension	7	347.455	6.002	-0.080
			Max. Compression	2	-397.360	0.000	0.000
			Max. Mx	2	-353.433	8.731	-0.061
			Max. My	4	-21.695	0.156	-3.079
			Max. Vy	2	-15.747	0.000	0.000
			Max. Vx	4	4.869	0.156	-3.079
		Diagonal	Max Tension	16	11.228	0.000	0.000
			Max. Compression	16	-11.461	0.000	0.000
			Max. Mx	27	1.314	0.113	-0.007
			Max. My	16	-11.253	0.018	-0.015
			Max. Vy	29	0.047	0.113	0.007
			Max. Vx	16	0.002	0.000	0.000

Maximum Reactions

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tnxTower	Job: A653 - Gull Lake (Site# US-AK-5280)	Page: 15 of 23
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Project: 155' SST/61.536646, -148.97899	Date: 15:19:14 12/28/23
	Client: Vertical Bridge	Designed by: luke.antloger

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	388.995	26.008	-15.215
	Max. H_x	18	388.995	26.008	-15.215
	Max. H_z	5	-308.017	-20.803	15.141
	Min. Vert	7	-346.459	-24.738	14.502
	Min. H_x	7	-346.459	-24.738	14.502
	Min. H_z	18	388.995	26.008	-15.215
Leg B	Max. Vert	10	379.711	-25.261	-14.675
	Max. H_x	23	-336.919	23.911	13.894
	Max. H_z	25	-299.723	20.079	14.633
	Min. Vert	23	-336.919	23.911	13.894
	Min. H_x	10	379.711	-25.261	-14.675
	Min. H_z	10	379.711	-25.261	-14.675
Leg A	Max. Vert	2	396.496	0.083	30.562
	Max. H_x	19	-162.947	4.911	-13.944
	Max. H_z	2	396.496	0.083	30.562
	Min. Vert	15	-346.117	-0.094	-28.588
	Min. H_x	9	19.396	-4.676	1.033
	Min. H_z	15	-346.117	-0.094	-28.588

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	43.304	0.000	0.000	-0.072	-1.054	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	51.965	0.000	-53.186	-5418.186	-1.281	2.535
0.9 Dead+1.0 Wind 0 deg - No Ice	38.973	0.000	-53.186	-5408.246	-0.961	2.533
1.2 Dead+1.0 Wind 30 deg - No Ice	51.964	26.295	-43.905	-4495.743	-2711.069	-2.719
0.9 Dead+1.0 Wind 30 deg - No Ice	38.973	26.296	-43.905	-4487.475	-2705.797	-2.723
1.2 Dead+1.0 Wind 60 deg - No Ice	51.964	43.286	-24.797	-2554.939	-4467.056	-5.439
0.9 Dead+1.0 Wind 60 deg - No Ice	38.973	43.286	-24.797	-2550.237	-4458.543	-5.444
1.2 Dead+1.0 Wind 90 deg - No Ice	51.964	49.156	-0.759	-91.686	-5068.795	-3.887
0.9 Dead+1.0 Wind 90 deg - No Ice	38.973	49.157	-0.759	-91.522	-5059.155	-3.893
1.2 Dead+1.0 Wind 120 deg - No Ice	51.965	44.541	24.200	2451.221	-4564.215	-5.005
0.9 Dead+1.0 Wind 120 deg - No Ice	38.973	44.541	24.201	2446.724	-4555.519	-5.008
1.2 Dead+1.0 Wind 150 deg - No Ice	51.964	24.500	42.362	4376.764	-2533.565	-7.088
0.9 Dead+1.0 Wind 150 deg - No Ice	38.973	24.500	42.362	4368.705	-2528.563	-7.088
1.2 Dead+1.0 Wind 180 deg - No Ice	51.964	0.000	49.724	5140.903	-1.279	-2.535
0.9 Dead+1.0 Wind 180 deg - No Ice	38.973	0.000	49.724	5131.451	-0.960	-2.533
1.2 Dead+1.0 Wind 210 deg - No Ice	51.964	-25.383	43.892	4493.811	2598.601	5.883
0.9 Dead+1.0 Wind 210 deg -	38.973	-25.383	43.892	4485.586	2594.139	5.887

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	Project 155' SST/61.536646, -148.97899	Date 15:19:14 12/28/23
	Client Vertical Bridge	Designed by luke.antloger

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
No Ice 1.2 Dead+1.0 Wind 240 deg - No Ice	51.965	-46.068	25.082	2518.642	4678.469	7.969
0.9 Dead+1.0 Wind 240 deg - No Ice	38.973	-46.069	25.082	2514.049	4670.244	7.974
1.2 Dead+1.0 Wind 270 deg - No Ice	51.964	-49.156	-0.759	-91.686	5066.252	3.887
0.9 Dead+1.0 Wind 270 deg - No Ice	38.973	-49.157	-0.759	-91.523	5057.250	3.893
1.2 Dead+1.0 Wind 300 deg - No Ice	51.964	-41.758	-23.915	-2487.502	4347.727	2.475
0.9 Dead+1.0 Wind 300 deg - No Ice	38.973	-41.758	-23.915	-2482.896	4340.019	2.479
1.2 Dead+1.0 Wind 330 deg - No Ice	51.964	-25.412	-42.376	-4378.696	2640.949	3.924
0.9 Dead+1.0 Wind 330 deg - No Ice	38.973	-25.412	-42.376	-4370.595	2636.411	3.924
1.2 Dead+1.0 Ice+1.0 Temp	79.922	-0.000	-0.000	-2.429	-4.038	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	79.922	-0.000	-15.843	-1653.930	-4.067	0.654
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	79.922	7.865	-13.206	-1385.077	-831.449	-1.889
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	79.922	13.076	-7.500	-791.637	-1381.395	-1.782
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	79.922	14.878	-0.193	-25.741	-1571.095	-0.539
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	79.922	13.351	7.324	758.628	-1402.925	-1.786
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	79.922	7.416	12.827	1350.987	-786.766	-3.079
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	79.922	-0.000	15.028	1583.285	-4.069	-0.654
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	79.922	-7.634	13.203	1379.846	795.297	2.692
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	79.922	-13.727	7.541	775.290	1423.655	2.424
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	79.922	-14.878	-0.193	-25.740	1562.963	0.540
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	79.922	-12.700	-7.283	-774.970	1344.398	1.144
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	79.922	-7.648	-12.830	-1356.218	806.653	2.276
Dead+Wind 0 deg - Service	43.304	-0.000	-13.078	-1330.719	-1.059	0.623
Dead+Wind 30 deg - Service	43.304	6.466	-10.796	-1104.159	-666.597	-0.658
Dead+Wind 60 deg - Service	43.304	10.643	-6.097	-627.523	-1097.833	-1.338
Dead+Wind 90 deg - Service	43.304	12.087	-0.187	-22.590	-1245.609	-0.966
Dead+Wind 120 deg - Service	43.304	10.952	5.951	601.960	-1121.686	-1.233
Dead+Wind 150 deg - Service	43.304	6.024	10.416	1074.876	-622.942	-1.733
Dead+Wind 180 deg - Service	43.304	-0.000	12.226	1262.534	-1.059	-0.623
Dead+Wind 210 deg - Service	43.304	-6.241	10.792	1103.630	637.427	1.437
Dead+Wind 240 deg - Service	43.304	-11.328	6.167	618.525	1148.261	1.962
Dead+Wind 270 deg - Service	43.304	-12.087	-0.187	-22.590	1243.492	0.966
Dead+Wind 300 deg - Service	43.304	-10.268	-5.880	-610.957	1067.024	0.609
Dead+Wind 330 deg - Service	43.304	-6.248	-10.420	-1075.403	647.878	0.955

Solution Summary

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B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Project: 155' SST/61.536646, -148.97899	Date: 15:19:14 12/28/23
	Client: Vertical Bridge	Designed by: luke.antloger

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.000	-43.304	0.000	-0.000	43.304	-0.000	0.000%
2	0.000	-51.964	-53.187	-0.000	51.965	53.186	0.002%
3	0.000	-38.973	-53.187	-0.000	38.973	53.186	0.002%
4	26.296	-51.964	-43.906	-26.295	51.964	43.905	0.002%
5	26.296	-38.973	-43.906	-26.296	38.973	43.905	0.001%
6	43.287	-51.964	-24.798	-43.286	51.964	24.797	0.001%
7	43.287	-38.973	-24.798	-43.286	38.973	24.797	0.001%
8	49.158	-51.964	-0.759	-49.156	51.964	0.759	0.002%
9	49.158	-38.973	-0.759	-49.157	38.973	0.759	0.001%
10	44.542	-51.964	24.201	-44.541	51.965	-24.200	0.002%
11	44.542	-38.973	24.201	-44.541	38.973	-24.201	0.002%
12	24.501	-51.964	42.363	-24.500	51.964	-42.362	0.002%
13	24.501	-38.973	42.363	-24.500	38.973	-42.362	0.001%
14	0.000	-51.964	49.725	-0.000	51.964	-49.724	0.001%
15	0.000	-38.973	49.725	-0.000	38.973	-49.724	0.001%
16	-25.384	-51.964	43.893	25.383	51.964	-43.892	0.002%
17	-25.384	-38.973	43.893	25.383	38.973	-43.892	0.001%
18	-46.070	-51.964	25.083	46.068	51.965	-25.082	0.002%
19	-46.070	-38.973	25.083	46.069	38.973	-25.082	0.002%
20	-49.158	-51.964	-0.759	49.156	51.964	0.759	0.002%
21	-49.158	-38.973	-0.759	49.157	38.973	0.759	0.001%
22	-41.759	-51.964	-23.916	41.758	51.964	23.915	0.001%
23	-41.759	-38.973	-23.916	41.758	38.973	23.915	0.001%
24	-25.413	-51.964	-42.377	25.412	51.964	42.376	0.002%
25	-25.413	-38.973	-42.377	25.412	38.973	42.376	0.001%
26	0.000	-79.922	0.000	0.000	79.922	0.000	0.000%
27	0.000	-79.922	-15.843	0.000	79.922	15.843	0.001%
28	7.865	-79.922	-13.207	-7.865	79.922	13.206	0.001%
29	13.076	-79.922	-7.500	-13.076	79.922	7.500	0.001%
30	14.879	-79.922	-0.193	-14.878	79.922	0.193	0.001%
31	13.351	-79.922	7.324	-13.351	79.922	-7.324	0.001%
32	7.417	-79.922	12.827	-7.416	79.922	-12.827	0.001%
33	0.000	-79.922	15.029	0.000	79.922	-15.028	0.001%
34	-7.634	-79.922	13.203	7.634	79.922	-13.203	0.001%
35	-13.727	-79.922	7.541	13.727	79.922	-7.541	0.001%
36	-14.879	-79.922	-0.193	14.878	79.922	0.193	0.001%
37	-12.700	-79.922	-7.283	12.700	79.922	7.283	0.001%
38	-7.648	-79.922	-12.831	7.648	79.922	12.830	0.001%
39	0.000	-43.304	-13.078	0.000	43.304	13.078	0.001%
40	6.466	-43.304	-10.796	-6.466	43.304	10.796	0.001%
41	10.644	-43.304	-6.097	-10.643	43.304	6.097	0.000%
42	12.087	-43.304	-0.187	-12.087	43.304	0.187	0.000%
43	10.952	-43.304	5.951	-10.952	43.304	-5.951	0.001%
44	6.024	-43.304	10.416	-6.024	43.304	-10.416	0.001%
45	0.000	-43.304	12.227	0.000	43.304	-12.226	0.000%
46	-6.242	-43.304	10.793	6.241	43.304	-10.792	0.001%
47	-11.328	-43.304	6.168	11.328	43.304	-6.167	0.001%
48	-12.087	-43.304	-0.187	12.087	43.304	0.187	0.000%
49	-10.268	-43.304	-5.880	10.268	43.304	5.880	0.000%
50	-6.249	-43.304	-10.420	6.248	43.304	10.420	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001

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2	Yes	10	0.00000001	0.00009249
3	Yes	10	0.00000001	0.00007155
4	Yes	10	0.00000001	0.00008106
5	Yes	10	0.00000001	0.00006072
6	Yes	10	0.00000001	0.00006978
7	Yes	10	0.00000001	0.00004962
8	Yes	10	0.00000001	0.00008101
9	Yes	10	0.00000001	0.00006062
10	Yes	10	0.00000001	0.00009176
11	Yes	10	0.00000001	0.00007082
12	Yes	10	0.00000001	0.00008175
13	Yes	10	0.00000001	0.00006129
14	Yes	10	0.00000001	0.00006994
15	Yes	10	0.00000001	0.00004972
16	Yes	10	0.00000001	0.00008167
17	Yes	10	0.00000001	0.00006128
18	Yes	10	0.00000001	0.00009193
19	Yes	10	0.00000001	0.00007103
20	Yes	10	0.00000001	0.00008102
21	Yes	10	0.00000001	0.00006063
22	Yes	10	0.00000001	0.00007015
23	Yes	10	0.00000001	0.00004993
24	Yes	10	0.00000001	0.00008114
25	Yes	10	0.00000001	0.00006074
26	Yes	6	0.00000001	0.00001498
27	Yes	10	0.00000001	0.00011718
28	Yes	10	0.00000001	0.00011342
29	Yes	10	0.00000001	0.00011015
30	Yes	10	0.00000001	0.00011345
31	Yes	10	0.00000001	0.00011699
32	Yes	10	0.00000001	0.00011387
33	Yes	10	0.00000001	0.00011060
34	Yes	10	0.00000001	0.00011381
35	Yes	10	0.00000001	0.00011703
36	Yes	10	0.00000001	0.00011346
37	Yes	10	0.00000001	0.00011024
38	Yes	10	0.00000001	0.00011349
39	Yes	10	0.00000001	0.00006524
40	Yes	10	0.00000001	0.00006251
41	Yes	10	0.00000001	0.00006008
42	Yes	10	0.00000001	0.00006253
43	Yes	10	0.00000001	0.00006511
44	Yes	10	0.00000001	0.00006283
45	Yes	10	0.00000001	0.00006030
46	Yes	10	0.00000001	0.00006273
47	Yes	10	0.00000001	0.00006508
48	Yes	10	0.00000001	0.00006254
49	Yes	10	0.00000001	0.00006025
50	Yes	10	0.00000001	0.00006262

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	155 - 140	4.751	39	0.239	0.074
T2	140 - 120	3.992	39	0.232	0.068
T3	120 - 100	2.958	39	0.207	0.040
T4	100 - 80	2.072	39	0.172	0.024
T5	80 - 60	1.351	39	0.134	0.015

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	60 - 40	0.791	39	0.096	0.009
T7	40 - 20	0.390	39	0.061	0.005
T8	20 - 0	0.126	39	0.029	0.002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
155.000	Lightning Rod 1"x10'	39	4.751	0.239	0.074	148618
151.000	Sector1(CaAa=14000 Sq.in)No Ice	39	4.550	0.238	0.073	148618
140.000	Sector1(CaAa=10000 Sq.in)No Ice	39	3.992	0.232	0.068	60857
130.000	Sector1(CaAa=10000 Sq.in)No Ice	39	3.468	0.222	0.055	80119
120.000	6' MW Dish	39	2.958	0.207	0.040	24219

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	155 - 140	19.417	2	0.977	0.304
T2	140 - 120	16.305	2	0.951	0.277
T3	120 - 100	12.075	2	0.845	0.162
T4	100 - 80	8.455	2	0.702	0.100
T5	80 - 60	5.511	2	0.544	0.062
T6	60 - 40	3.225	2	0.391	0.035
T7	40 - 20	1.592	2	0.248	0.019
T8	20 - 0	0.513	2	0.118	0.007

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
155.000	Lightning Rod 1"x10'	2	19.417	0.977	0.304	36776
151.000	Sector1(CaAa=14000 Sq.in)No Ice	2	18.596	0.973	0.300	36776
140.000	Sector1(CaAa=10000 Sq.in)No Ice	2	16.305	0.951	0.277	15123
130.000	Sector1(CaAa=10000 Sq.in)No Ice	2	14.161	0.906	0.223	20062
120.000	6' MW Dish	2	12.075	0.845	0.162	5976

Bolt Design Data

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tnxTower	Job: A653 - Gull Lake (Site# US-AK-5280)	Page: 20 of 23
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Project: 155' SST/61.536646, -148.97899	Date: 15:19:14 12/28/23
	Client: Vertical Bridge	Designed by: luke.antloger

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	155	Diagonal	A325X	0.625	1	5.587	9.598	0.582 ✔	1	Member Block Shear
		Top Girt	A325X	0.625	1	0.964	9.598	0.100 ✔	1	Member Block Shear
T2	140	Leg	A325N	0.750	6	3.150	30.101	0.105 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.271	10.740	0.956 ✔	1	Member Block Shear
T3	120	Leg	A325N	0.750	6	12.589	30.101	0.418 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.871	13.025	0.835 ✔	1	Member Block Shear
T4	100	Leg	A325N	1.000	6	22.231	54.517	0.408 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.104	13.025	0.776 ✔	1	Member Block Shear
T5	80	Leg	A325N	1.000	6	30.556	54.517	0.560 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.158	13.025	0.780 ✔	1	Member Block Shear
T6	60	Leg	A325N	1.000	6	38.075	54.517	0.698 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.539	14.168	0.744 ✔	1	Member Block Shear
T7	40	Leg	A325N	1.250	6	45.066	87.220	0.517 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.819	14.168	0.764 ✔	1	Member Block Shear
T8	20	Leg	A325N	1.250	6	51.679	87.220	0.593 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	11.461	17.257	0.664 ✔	1	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $P_u / \phi P_n$
T1	155 - 140	1 3/4	15.014	4.671	128.1 K=1.00	2.405	-22.173	33.103	0.670 [1] ✔
T2	140 - 120	2 1/4	20.019	4.754	101.4 K=1.00	3.976	-81.035	84.331	0.961 [1] ✔
T3	120 - 100	2 3/4	20.019	4.754	83.0 K=1.00	5.940	-144.666	161.540	0.896 [1] ✔
T4	100 - 80	3	20.019	4.754	76.1 K=1.00	7.069	-200.936	208.347	0.964 [1] ✔
T5	80 - 60	3 1/4	20.019	4.754	70.2 K=1.00	8.296	-252.312	260.312	0.969 [1] ✔
T6	60 - 40	3 1/2	20.019	4.754	65.2 K=1.00	9.621	-300.746	317.273	0.948 [1] ✔
T7	40 - 20	3 3/4	20.019	4.754	60.9 K=1.00	11.045	-347.139	379.106	0.916 [1] ✔

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Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T8	20 - 0	4	20.019	4.754	57.1 K=1.00	12.566	-391.250	445.717	0.878 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	155 - 140	L1 3/4x1 3/4x3/16	7.166	3.605	125.9 K=1.00	0.621	-5.861	11.206	0.523 [1] ✔
T2	140 - 120	L2x2x3/16	8.697	4.343	132.3 K=1.00	0.715	-9.296	11.697	0.795 [1] ✔
T3	120 - 100	L2 1/2x2 1/2x3/16	9.987	4.964	120.3 K=1.00	0.902	-9.725	17.824	0.546 [1] ✔
T4	100 - 80	L2 1/2x2 1/2x3/16	11.329	5.625	136.4 K=1.00	0.902	-9.458	13.885	0.681 [1] ✔
T5	80 - 60	L2 1/2x2 1/2x3/16	12.706	6.303	152.8 K=1.00	0.902	-9.691	11.057	0.876 [1] ✔
T6	60 - 40	L3x3x3/16	14.108	6.994	140.8 K=1.00	1.090	-10.137	15.733	0.644 [1] ✔
T7	40 - 20	L3x3x3/16	15.529	7.694	154.9 K=1.00	1.090	-10.587	13.000	0.814 [1] ✔
T8	20 - 0	L3x3x1/4	16.963	8.401	170.3 K=1.00	1.440	-10.921	14.213	0.768 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	155 - 140	L1 3/4x1 3/4x3/16	4.913	4.767	166.5 K=1.00	0.621	-0.693	6.409	0.108 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

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Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	155 - 140	1 3/4	15.014	0.500	13.7	2.405	18.907	108.238	0.175 [1] ✔
T2	140 - 120	2 1/4	20.019	0.500	10.7	3.976	75.501	178.924	0.422 [1] ✔
T3	120 - 100	2 3/4	20.019	0.500	8.7	5.940	133.397	267.281	0.499 [1] ✔
T4	100 - 80	3	20.019	0.500	8.0	7.069	183.352	318.086	0.576 [1] ✔
T5	80 - 60	3 1/4	20.019	0.500	7.4	8.296	228.465	373.310	0.612 [1] ✔
T6	60 - 40	3 1/2	20.019	0.500	6.9	9.621	270.415	432.951	0.625 [1] ✔
T7	40 - 20	3 3/4	20.019	0.500	6.4	11.045	310.089	497.010	0.624 [1] ✔
T8	20 - 0	4	20.019	0.500	6.0	12.566	347.455	565.487	0.614 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	155 - 140	L1 3/4x1 3/4x3/16	7.435	3.736	83.5	0.360	5.587	17.567	0.318 [1] ✔
T2	140 - 120	L2x2x3/16	8.697	4.343	84.5	0.431	10.271	21.001	0.489 [1] ✔
T3	120 - 100	L2 1/2x2 1/2x3/16	9.061	4.505	69.5	0.571	10.871	27.838	0.391 [1] ✔
T4	100 - 80	L2 1/2x2 1/2x3/16	11.329	5.625	86.8	0.571	10.104	27.838	0.363 [1] ✔
T5	80 - 60	L2 1/2x2 1/2x3/16	12.706	6.303	97.2	0.571	10.158	27.838	0.365 [1] ✔
T6	60 - 40	L3x3x3/16	14.108	6.994	89.4	0.712	10.539	34.712	0.304 [1] ✔
T7	40 - 20	L3x3x3/16	15.529	7.694	98.3	0.712	10.819	34.712	0.312 [1] ✔
T8	20 - 0	L3x3x1/4	16.963	8.401	108.4	0.939	11.228	45.794	0.245 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Rcvd by MSB Nov 19, 2024

tnxTower	Job: A653 - Gull Lake (Site# US-AK-5280)	Page: 23 of 23
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Project: 155' SST/61.536646, -148.97899	Date: 15:19:14 12/28/23
	Client: Vertical Bridge	Designed by: luke.antloger

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	155 - 140	L1 3/4x1 3/4x3/16	4.913	4.767	106.5	0.360	0.964	17.567	0.055 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	155 - 140	Leg	1 3/4	3	-22.173	33.103	67.0	Pass
T2	140 - 120	Leg	2 1/4	27	-81.035	84.331	96.1	Pass
T3	120 - 100	Leg	2 3/4	54	-144.666	161.540	89.6	Pass
T4	100 - 80	Leg	3	81	-200.936	208.347	96.4	Pass
T5	80 - 60	Leg	3 1/4	108	-252.312	260.312	96.9	Pass
T6	60 - 40	Leg	3 1/2	135	-300.746	317.273	94.8	Pass
T7	40 - 20	Leg	3 3/4	162	-347.139	379.106	91.6	Pass
T8	20 - 0	Leg	4	189	-391.250	445.717	87.8	Pass
T1	155 - 140	Diagonal	L1 3/4x1 3/4x3/16	17	-5.861	11.206	52.3 58.2 (b)	Pass
T2	140 - 120	Diagonal	L2x2x3/16	33	-9.296	11.697	79.5 95.6 (b)	Pass
T3	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	55	-9.725	17.824	54.6 83.5 (b)	Pass
T4	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	87	-9.458	13.885	68.1 77.6 (b)	Pass
T5	80 - 60	Diagonal	L2 1/2x2 1/2x3/16	114	-9.691	11.057	87.6	Pass
T6	60 - 40	Diagonal	L3x3x3/16	141	-10.137	15.733	64.4 74.4 (b)	Pass
T7	40 - 20	Diagonal	L3x3x3/16	168	-10.587	13.000	81.4	Pass
T8	20 - 0	Diagonal	L3x3x1/4	195	-10.921	14.213	76.8	Pass
T1	155 - 140	Top Girt	L1 3/4x1 3/4x3/16	6	-0.693	6.409	10.8	Pass
							Summary	
						Leg (T5)	96.9	Pass
						Diagonal (T2)	95.6	Pass
						Top Girt (T1)	10.8	Pass
						Bolt Checks	95.6	Pass
						RATING =	**96.9**	**Pass**

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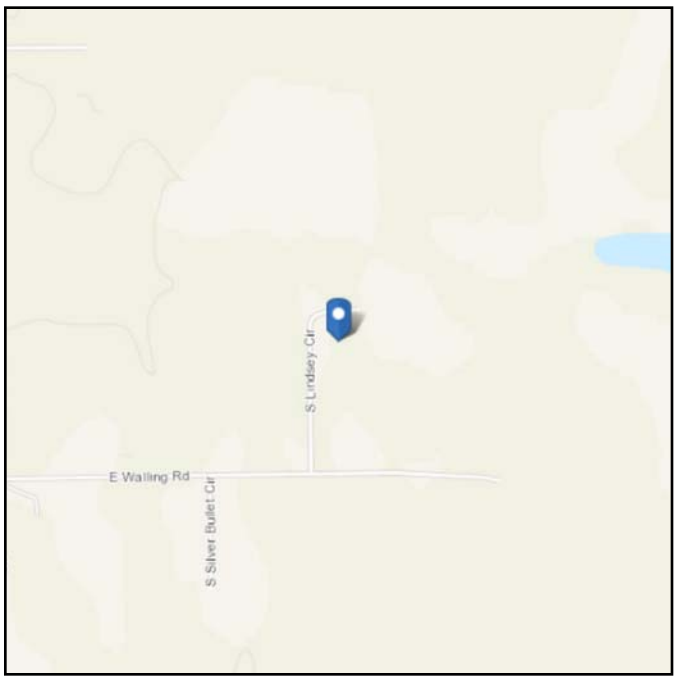
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	61.536646
Risk Category:	II	**Longitude:**	-148.97899
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	66.33937101721676 ft (NAVD 88)





Wind

Results:

Wind Speed	121 Vmph
10-year MRI	87 Vmph
25-year MRI	94 Vmph
50-year MRI	99 Vmph
100-year MRI	106 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Dec 14 2023

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Rcvd by MSB Nov 19, 2024

Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	1.5	S_{D1} :	N/A
S_1 :	0.697	T_L :	16
F_a :	1.2	PGA :	0.5
F_v :	N/A	PGA_M :	0.6
S_{MS} :	1.8	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	1.2	C_v :	1.4

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Thu Dec 14 2023

Date Source: USGS Seismic Design Maps

Rcvd by MSB Nov 19, 2024

Ice

Results:

Ice Thickness:	0.50 in.
Concurrent Temperature:	-15 F
Gust Speed	60 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Dec 14 2023

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

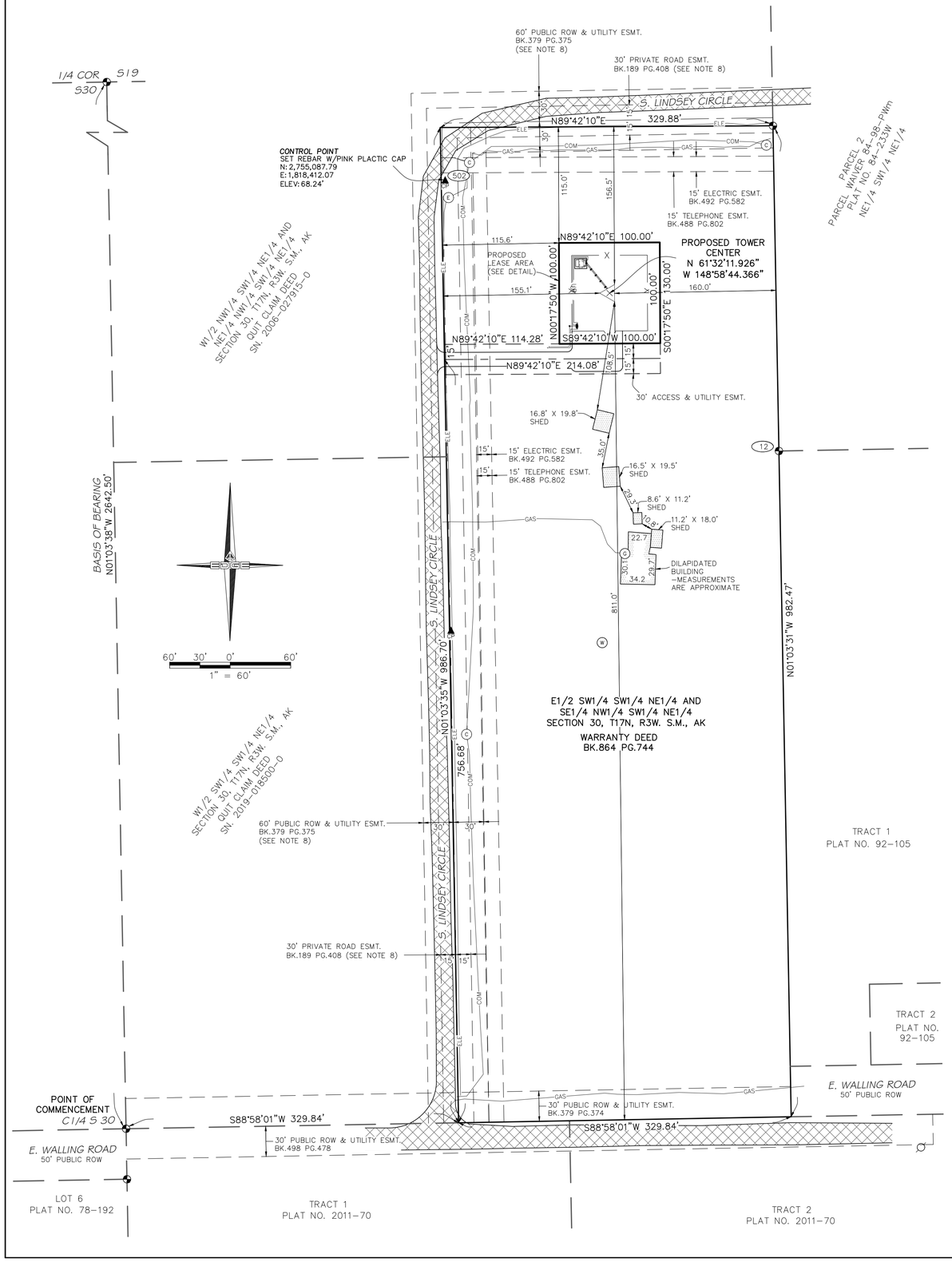
ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

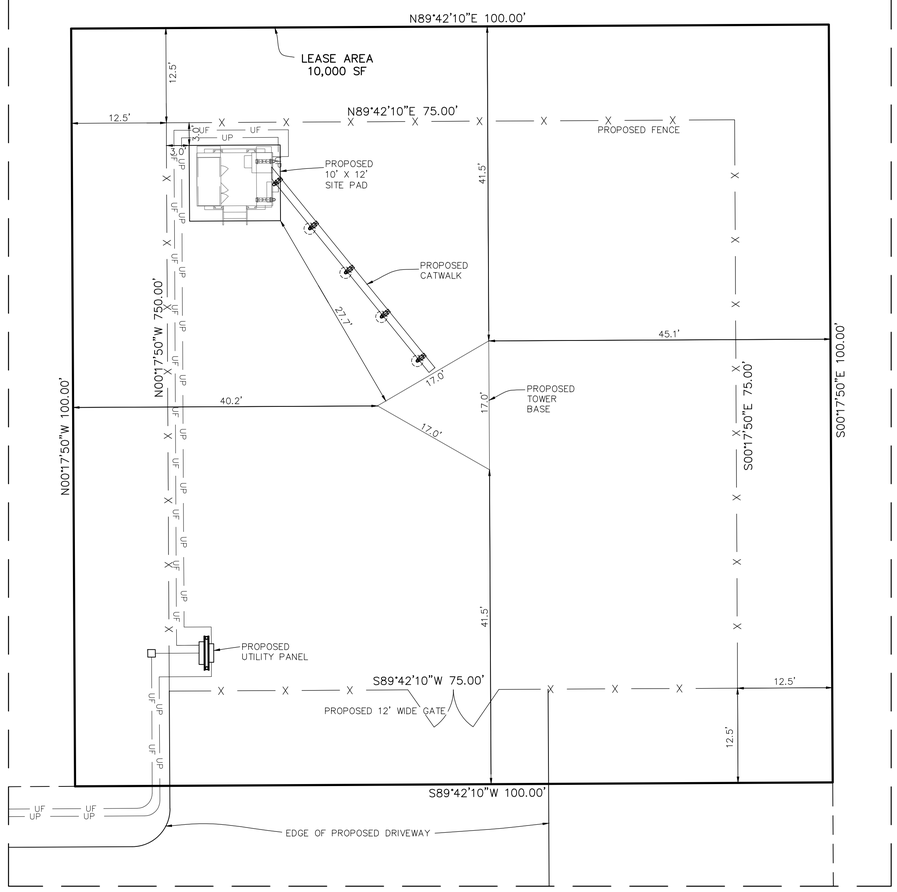
Rcvd by MSB Nov 19, 2024

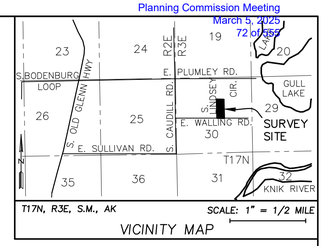
Attachment D:
Certified Site Plan

Rcvd by MSB Nov 19, 2024



LEASE AREA / COMPOUND DETAIL SCALE = 1"=10'





VICINITY MAP

LEGEND

- FOUND MONUMENT AS NOTED
- SURVEY CONTROL POINT
- UTILITY POLE
- (C) MISC. COMMUNICATION PEDESTAL
- (W) WELL
- (E) ELECTRIC VAULT
- (G) GAS METER
- (###) POINT NUMBER
- ROW RIGHT-OF-WAY
- ESMT. EASEMENT
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- EDGE OF ROAD
- GAS UNDERGROUND GAS
- ELE UNDERGROUND ELECTRIC
- COM UNDERGROUND COMMUNICATION
- BUILDING
- 100' CONTOUR LINE
- LEASE BOUNDARY
- PROPOSED EASEMENT

NOTES

1. THIS DRAWING IS BASED ON A FIELD SURVEY PERFORMED BY EDGE SURVEY & DESIGN, LLC ON AUGUST 28, 2023 AND PREPARED FOR THE TOWERS LLC.
2. ELEVATIONS SHOWN HEREON ARE NAVD88 ORTHOMETRIC HEIGHTS, GEOID 12B AS DETERMINED BY A NGS OPUS SOLUTION.
3. THE BASIS OF BEARINGS FOR IS ALASKA STATE PLANE COORDINATE SYSTEM, ZONE 4 AS MEASURED BETWEEN THE TWO FOUND MONUMENTS ON THE CENTER SECTION LINE OF SECTION 30, T17N, R3E, S.M., AK AND HAVING A BEARING OF N01°03'38"W.
4. SITE NUMBER: US-AK-5280
   SITE NAME: GULL LAKE
   SITE ADDRESS: 4075 LINDSEY CIRCLE, BUTTE, AK 99645
5. LEASE AREA IS UNDISTURBED NATURAL TERRAIN WITH 1' UNDULATIONS COVERED WITH MATURE; SPRUCE, BIRCH AND COTTONWOOD TREES.
6. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THIS PROPERTY IS IN ZONE X, AN AREA THAT IS OUTSIDE THE 0.2% CHANCE FLOODPLAN; FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 02170C8190F BEARING AN EFFECTIVE DATE OF MARCH 17, 2011 WAS USED TO DETERMINE THE FLOOD ZONE. EXACT DESIGNATION CAN ONLY BE DETERMINED BY AN ELEVATION CERTIFICATE.
7. THE CENTERLINE OF THE 60' ROAD & UTILITY EASEMENT PER BK.378 PG.375 AND 30' PRIVATE ROAD EASEMENT PER BK.189 PG.408 ARE NOT CENTERED ON NORTH & WEST LINE OF THE SUBJECT PARCEL. THE EXISTING ROAD FALLS ENTIRELY WITHIN SAID EASEMENTS AS SHOWN HEREON.
8. AT THE TIME OF THE SURVEY, NO VISIBLE ENCROACHMENTS WERE EVIDENT ONTO OR BEYOND THE LEASE AREA OR ANY VB EASEMENTS.
9. ACCESS AND UTILITY EASEMENTS GO TO S. LINDSEY CIRCLE, A RECORDED PUBLIC RIGHT-OF-WAY EASEMENT.
10. ALL LEASE AREA AND EASEMENTS ARE WITHIN THE PARENT PARCEL.
11. IT IS RECOMMENDED THAT THE CONTRACTOR CALLS 811 PRIOR TO CONSTRUCTION.

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THIS DRAWING REPRESENTS THE PROPOSED LOCATION AND DIMENSIONS OF THE STRUCTURE(S) SHOWN HEREON AND IS INTENDED FOR THE SOLE PURPOSE OF OBTAINING A BUILDING PERMIT. OTHER INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY OF THE SITE AND/OR OTHER PROPOSED IMPROVEMENTS FROM A CIVIL SITE PLAN FOR THE SUBJECT PROPERTY. THE SURVEYOR MAKES NO GUARANTEES THAT THIS INFORMATION INCLUDES ALL IMPROVEMENTS, INCLUDING UTILITIES, EITHER EXISTING OR ABANDONED ON THE SUBJECT PROPERTY.

MARK A. AIMONETTI
AKPLS 13022

05/14/2024
DATE

STATE OF ALASKA 49TH
Mark A. Aimonetti
No. 13022 - S
05/14/2024
REGISTERED PROFESSIONAL LAND SURVEYOR

vertical bridge

CERTIFIED CARBON NEUTRAL company
CarbonNeutral.com

EDGE
SURVEY AND DESIGN, LLC
8000 KING STREET ANCHORAGE, AK 99518
Phone (907) 344-5990 Fax (907) 344-7794
ACEL # 1392 WWW.EDGESURVEY.NET

PLOT PLAN
US-AK-5280 GULL LAKE TOWER
4075 LINDSEY CIRCLE, BUTTE, ALASKA
SE1/4 SW1/4 SW1/4 NE1/4 AND
SE1/4 NW1/4 SW1/4 NE1/4
SECTION 30, T17N, R3W. S.M., AK
PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT

DRAWN BY: SH/VB	DATE: 05/14/2024	PROJECT NO: 23-203
CHECKED BY: MA	SCALE: 1" = 60'	SHEET: 1 OF 1

Rcvd by MSB Nov 19, 2024

Attachment E:
FAA Determination Letter
Study 2023-AAL-377-OE



Rcvd by MSB Nov 19, 2024

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Planning Commission Meeting
March 5, 2025
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Aeronautical Study No.
2023-AAL-3777-OE

Issued Date: 12/20/2023

Julie Heffernan
The Towers, LLC
7500 Park of Commerce Dr
Suite 200
Boca Raton, FL 33487

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Antenna Tower US-AK-5280 Gull Lake
Location:	Palmer, AK
Latitude:	61-32-11.93N NAD 83
Longitude:	148-58-44.37W
Heights:	67 feet site elevation (SE)
	165 feet above ground level (AGL)
	232 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 06/20/2025 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

Rcvd by MSB Nov 19, 2024

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

Planning Commission Meeting
March 5, 2025
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NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination does not constitute authority to transmit on the frequency(ies) identified in this study. The proponent is required to obtain a formal frequency transmit license from the Federal Communications Commission (FCC) or National Telecommunications and Information Administration (NTIA), prior to on-air operations of these frequency(ies).

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (206) 231-2993, or lynnette.farrell@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-AAL-377-OE.

Signature Control No: 600599522-607744902 (DNE)
Lynnette Farrell
Technician

Attachment(s)
Frequency Data
Map(s)

Rcvd by MSB Nov 19, 2024

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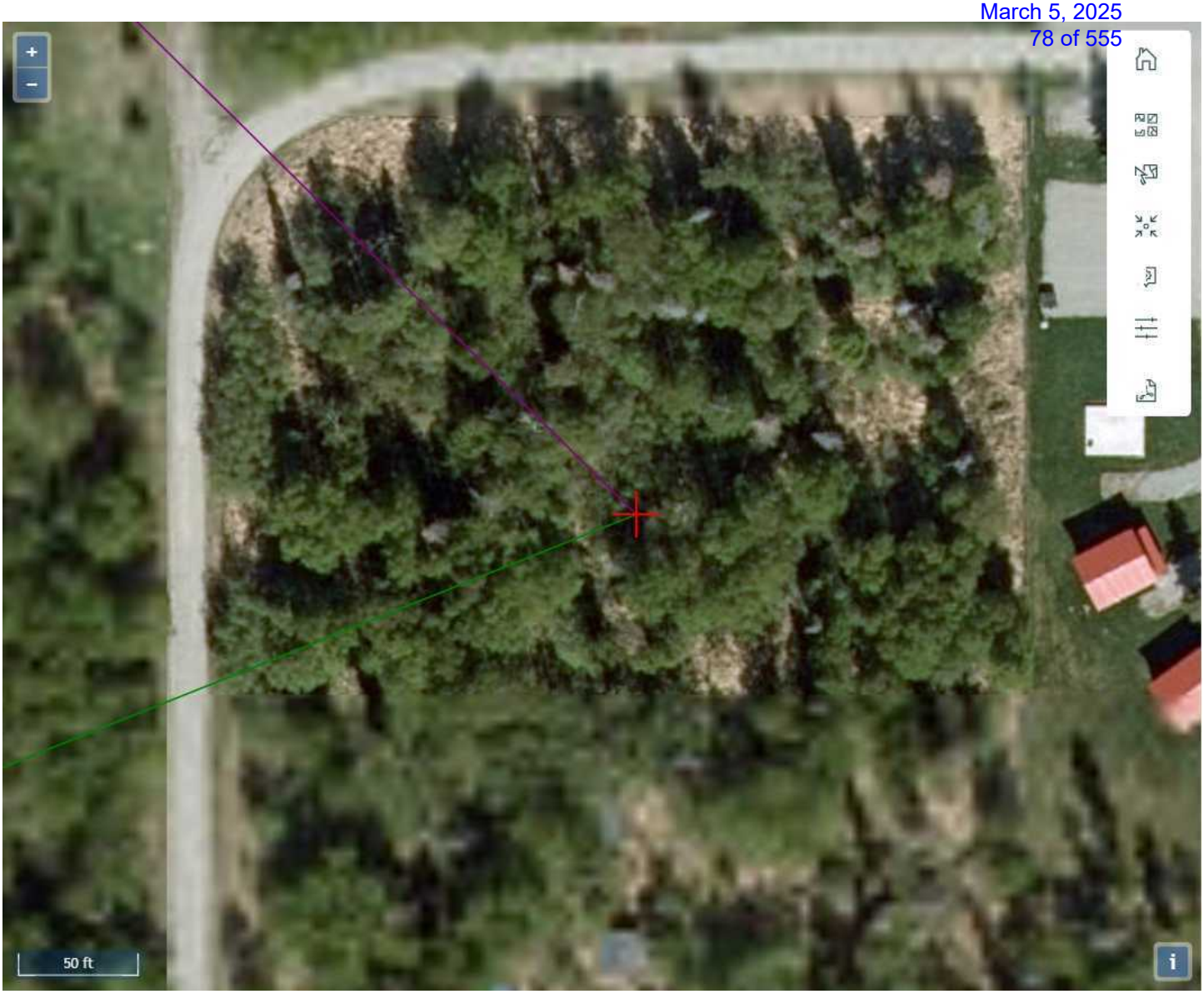
LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Rcvd by MSB Nov 19, 2024



Rcvd by MSB Nov 19, 2024

Attachment F:
Estimated Verizon Service Area Plots

Rcvd by MSB Nov 19, 2024

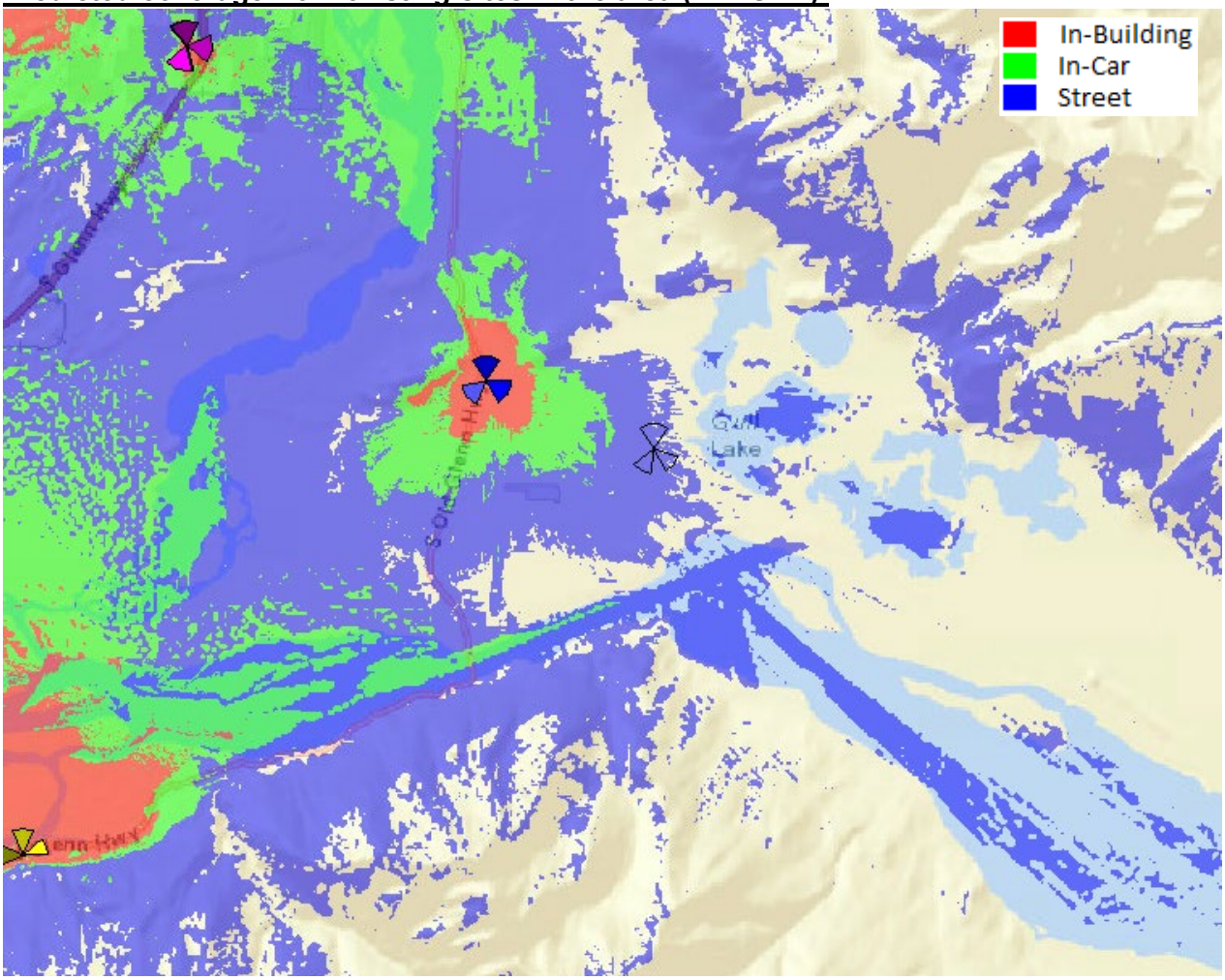
Overview of Cellular Service Coverage

Proposed "Gull Lake" Communications Tower

Legend:

- Red areas indicate a high probability of having in-building coverage
- Green areas indicate probable coverage in-building and good coverage in vehicles
- Blue areas indicate street coverage with questionable coverage in-buildings
- Areas without color indicates questionable coverage

Predicted coverage from *existing* sites in the area (BEFORE):

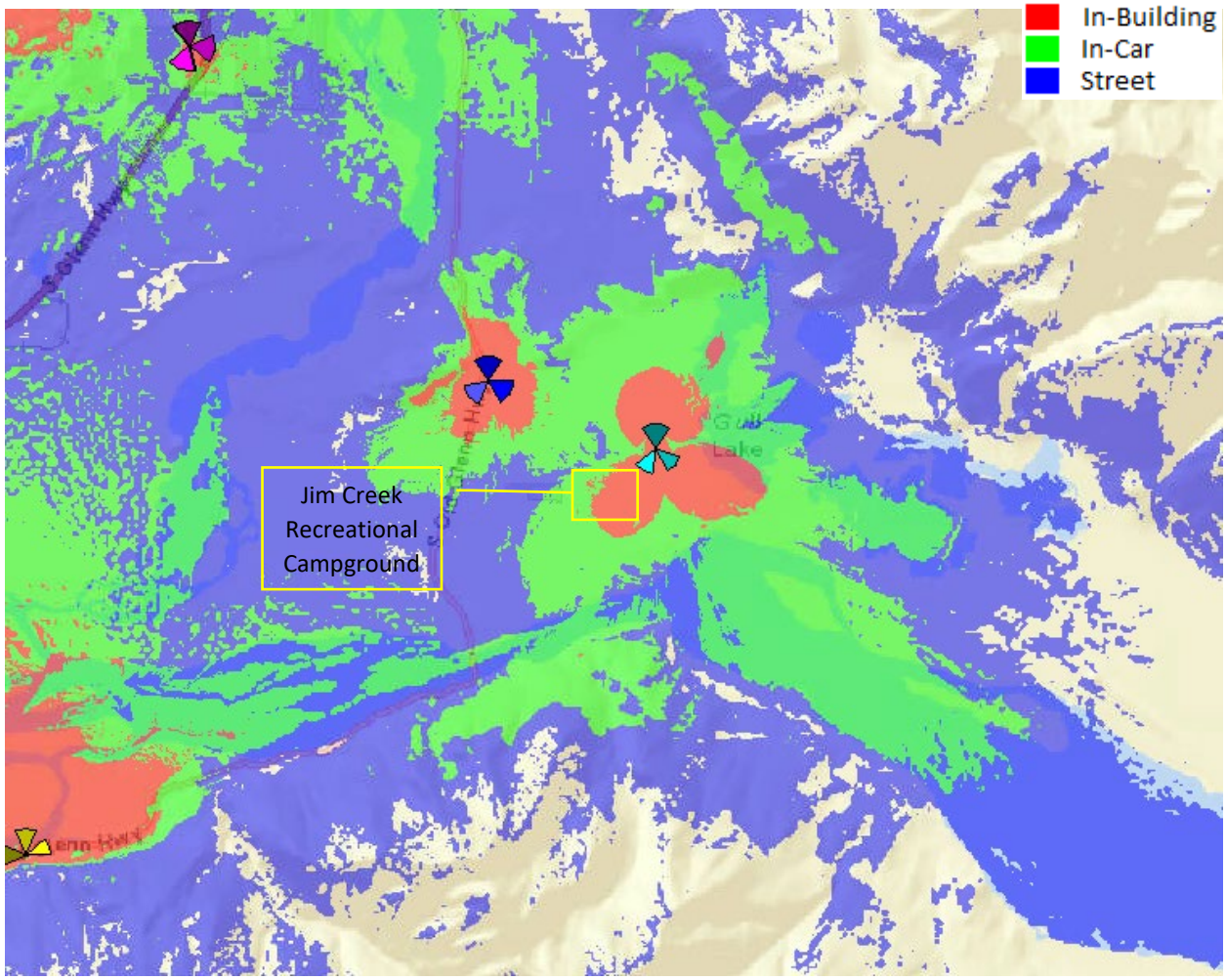


Rcvd by MSB Nov 19, 2024

Legend:

- Red areas indicate a high probability of having in-building coverage
- Green areas indicate probable coverage in-building and good coverage in vehicles
- Blue areas indicate street coverage with questionable coverage in-buildings
- Areas without color indicates questionable coverage

Predicted coverage including the proposed "GULL_LAKE" site (AFTER):



Rcvd by MSB Nov 19, 2024

Attachment G:
Memorandum of Option to Lease
Subject Property

Rcvd by MSB Nov 19, 2024

Planning Commission Meeting
March 3, 2025
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ALASKA
2023-016022-0
Recording Dist: 311 - Palmer
9/5/2023 11:43 AM Pages: 1 of 5



(Above 3" Space for Recorder's Use Only)

Upon Recording Return to:

The Towers, LLC
750 Park of Commerce Drive, Suite 200
Boca Raton, Florida 33487
Attn: Daniel Marinberg

Site Name: Gull Lake
Site Number: US-AK-5280
Commitment #: VTB-157733-C

MEMORANDUM OF OPTION TO LEASE

This Memorandum of Option to Lease ("**Memorandum**") evidences an Option and Lease Agreement (the "**Agreement**") between **Jeff Cotterman**, a single man ("**Landlord**"), whose address is 13818 E Hay Wagon Way, Palmer, AK 99645, and **The Towers, LLC**, a Delaware limited liability company, whose mailing address is 750 Park of Commerce Drive, Suite 200, Boca Raton, Florida 33487 ("**Tenant**"), dated August 25th, 2023 (the "**Effective Date**"), for a portion (the "**Premises**") of the real property (the "**Property**") described in Exhibit A attached hereto.

Pursuant to the Agreement, Landlord has granted Tenant an exclusive option to lease the Premises (the "**Option**"). The Option commenced as of the Effective Date and shall continue in effect for a period of four (4) years from the Effective Date.

Landlord ratifies, restates and confirms the Agreement and, upon exercise of the Option, shall lease to Tenant the Premises, subject to the terms and conditions of the Agreement. The Agreement provides for the lease by Landlord to Tenant of the Premises for an initial term of five (5) years with nine (9) renewal option(s) of an additional five (5) years each, and further provides:

1. Landlord may assign the Agreement only in its entirety and only to a purchaser of the fee interest of the Property;

2. Under certain circumstances, Tenant has a right of first refusal to acquire the Premises or the Property from Landlord;

3. Under certain circumstances, Landlord may not subdivide the Property without Tenant's prior written consent; and

eRecorded Document
Rcvd by MSB Nov 19, 2024

4. The Agreement restricts Landlord's ability to utilize or allow the utilization of the Property or real property owned by Landlord which is adjacent or contiguous to the Property for the construction, operation and/or maintenance of the Communications Facilities (as defined in the Agreement).

This Memorandum is not intended to amend or modify and shall not be deemed or construed as amending or modifying, any of the terms, conditions or provisions of the Agreement. In the event of a conflict between the provisions of this Memorandum and the provisions of the Agreement, the provisions of the Agreement shall control. The Agreement shall be binding upon and inure to the benefit of Landlord and Tenant and shall inure to the benefit of their respective heirs, successors, and assigns, subject to the provisions of the Agreement.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK; SIGNATURES BEGIN ON NEXT PAGE]

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Rcvd by MSB Nov 19, 2024

IN WITNESS WHEREOF, the parties hereto have executed this MEMORANDUM OF OPTION TO LEASE effective as of the date last signed by a party hereto.

WITNESSES:

_____

Name:_____

_____

Name:_____

LANDLORD:

_____

Jeff Cotterman

Date: 8/23/23

STATE OF Alaska

COUNTY OF Mat Su Borough

The foregoing instrument was acknowledged before me this 23 day of August, 2023 by Jeff Cotterman.

_____

Notary Public

Print Name: Morgan Hull

My Commission Expires: April 19, 2027

Serial Number, if any: 230419007

NOTARY PUBLIC
MORGAN HULL
STATE OF ALASKA
MY COMMISSION EXPIRES APR. 19, 2027

eRecorded Document
Rcvd by MSB Nov 19, 2024

(Tenant's Signature Page to Memorandum of Option to Lease)

WITNESSES:

Name: Edward Davis

Name: Christopher Antoun

TENANT:

The Towers, LLC
a Delaware limited liability company

By: Tim Tuck
Name:
Title: Vice President - Lease Administration
Date: 08/25/2023

Leasing Ops DS

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 25th day of August, 2023, by Tim Tuck (signing party), the VP-LA (title of signatory) of The Towers, LLC, a Delaware limited liability company, on behalf of said company.

Notary Public

Print Name: Vanessa Sanchez

My Commission Expires: April 20, 2025

Serial Number, if any: HH 119583

VANESSA SANCHEZ
MY COMMISSION EXPIRES
APRIL 20, 2025
#HH 119583
Bonded thru Notary Public Underwriters
NOTARY PUBLIC, STATE OF FLORIDA

eRecorded Document
Rcvd by MSB Nov 19, 2024

EXHIBIT A
(TO MEMORANDUM OF OPTION TO LEASE)

The Property
(may be updated by Tenant upon receipt of final legal description from title)

The land referred to herein below is situated in the Palmer Recording District, Third Judicial District, State of Alaska and is described as follows:

The East one-half of the Southwest one-quarter of the Southwest one-quarter of the Northeast one-quarter (E1/2 SW1/4 SW1/4 NE1/4) and the Southeast one-quarter of the Northwest one-quarter of the Southwest one-quarter of the Northeast one-quarter (SE1/4 NW1/4 SW1/4 NE1/4) of Section 30, Township 17 North, Range 3 East, Seward Meridian, located in the Palmer Recording District, Third Judicial District, State of Alaska.

Tax Account No.: 117N03E30A012

Access and utilities serving the Premises (as defined in the Agreement) includes all easements of record as well as that portion of the Property designated by Landlord and Tenant for Tenant (and Tenant's guests, agents, customers, subtenants, licensees and assigns) ingress, egress, and utility purposes to and from a public right-of-way.

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Rcvd by MSB Nov 19, 2024

Attachment H:
Google Earth Viewshed Analysis

Rcvd by MSB Nov 19, 2024



Rcvd by MSB Nov 19, 2024



NEW HORIZONS
Building Tomorrow's Infrastructure Today

Corporate Headquarters
901 Cope Industrial Way
Palmer, Alaska 99645
907.761.6000

www.nhtiusa.com

Rcvd by MSB Nov 19, 2024

NEW HORIZONS
Building Tomorrow's Infrastructure Today

December 11, 2023

Rick Benedict, Current Planner
Development Services Division
Matanuska-Susitna Borough
350 E. Dahlia Avenue
Palmer, Alaska 99645

Subject: Proposed Gull Lake Communications Tower – Citizen Participation Report

Dear Mr. Benedict:

This is a citizien participation report in accordance with MSB 17.67.050(B) which summarizes the notifications and results of the community meeting that was held prior to submittal of the Conditional Use Permit (CUP) application for Tall Structures under MSB 17.67.

On November 3rd, New Horizons sent out notification of the community meeting to discuss the proposed development to 67 landowners located within ½ mile of the proposed tower site, as well as a copy to the Butte Community Council. The list was created using the MSBs Mailing List GIS Application. The application provided results for 77 parcel owners; however, due to several landowners owning multiple pieces of land, the actual number of mailings came to 67. Attachment A contains a copy of the USPS certificate of mailing and list of landowners who received notifications. Mailings included a copy of the community meeting notification letter, Mat-Su Borough public comment form, as well as a graphic depicting estimate service coverage of the subject tower. All documents mailed to landowners can be found in Attachment B. In addition, local citizens published copies of the mailings to two local Palmer Facebook pages, increasing awareness of the proposed development and community meeting date.

The community meeting was coordinated with the Butte Community Council President and was held on November 27th, 2023 at 6:00 p.m. at the Butte Community Center, 3881 Butte Road, Palmer, AK 99654. The meeting was in-person only due to the community center not having internet connectivity. At the meeting, New Horizons provided copies of all the material already published, as well as copies of the zoning drawings and additional graphics (google earth overlay) showing the proposed service area.

There were four people in attendance at the meeting, two of which live in the neighborhood in which the tower is proposed to be located. The sign-in sheet for the meeting is located in Attachment C. No property owners have requested updates in writing regarding the proposed development, nor were any written comments provided at the meeting.

New Horizons Telecom, Inc.
901 Cope Industrial Way
Palmer, Alaska 99645
www.nhtiusa.com

907.761.6000 (phone)
907.761.6091 (fax)

Rcvd by MSB Jan 9, 2024

In the notification letter, and re-stated during the meeting, New Horizons requested a deadline of December 1st for submittal of written comments to be included in the citizen participation report. Several written comments were submitted to the MSB utilizing the public comment forms that were mailed out or provided at the meeting, and they are included in Attachment D. Three comments were submitted prior to the deadline, and one comment was received several days later, but is also discussed in this report. A summary of public comments received to-date is below, including responses on how the comments have been addressed, are being addressed, or are not intended to be addressed.

Summary of Comment #1 received 11/8/23
The comment expressed support for the proposed tower, emphasizing its potential to enhance area communications and safety. They acknowledge the importance of minimizing aerial obstructions given the proximity to Butte Airport and the Knik River's significance as a major aircraft recreational corridor, suggesting careful consideration of tower lighting due to low-flying air traffic in the area.

Vertical Bridge has requested an Obstruction Evaluation Study from the Federal Aviation Administation (FAA), assigned number 2023-AAL-377-OE. The outcome of this study will determine whether or not the proposed tower will require hazard lighting.

Summary of Comment #2 received 11/14/23
The commenter, residing near the proposed tower site for 25 years without cellular coverage, expresses inconvenience and safety concerns, highlighting the Jim Creek Recreational Area's lack of reliable cell service. They emphasize the potential benefits of improved communication for the safety of residents and visitors and express full support for the proposed tower, hoping their letter will contribute to the discussion, as they cannot attend the community center meeting in person.

There is no specific concerns to address in this comment. The proposed project will vastly contribute to increased cellular coverage in the area, including areas widely used for recreation, thus increasing public safety and enjoyment.

Summary of Comment #3 received 12/1/23
The commenter strongly opposes the installation of the Gull Lake cell tower, expressing concern about the commercialization of the rural area they value for its beauty and serenity. They question the proposal, particularly since the landowner, who does not live there, will not be negatively affected by the cell tower on their property. The commenter emphasizes the importance of their opinion in the decision-making process.

While it is unfortunate that the commenter has had to endure several instances of large development near or adjacent to her long-time residence that was once undeveloped, we do not intend to address this comment with any changes to the proposal. The benefits the proposed tower will bring to the area outweigh any perceived negatives and the project complies with local, state and federal regulations.

Summary of Comment #4 received after the comment submittal deadline
The commenter has concerns about radiation and the safety of their family and pets regarding the proposed cell tower, and they worry about restrictions on local businesses' expansion. They also find the tower to be an eyesore and note that their cell phone currently works fine.

No changes are being made to the proposed development based on this comment. The tower will comply with local, state and federal safety regulations, including the Federal Communications Commission (FCC) limits on human exposure to radiofrequency (RF)

Rcvd by MSB Jan 9, 2024

radiation. We are unaware of any restrictions to local business that would occur from the proposed project.

If you require any further information or have any questions, please do not hesitate to contact me at 907-761-6054 or slarson@nhtiusa.com.

Sincerely,

Sierra Larson

Sierra Larson
Project Manager, New Horizons Telecom, Inc.

Attachment(s):
A - USPS Certificate of Mailing and List of Landowners from MSB Mailing Application
B - Copy of Mailing sent to Landowners
C - Community Meeting Sign-In Sheet
D - Public Comments Received To-Date

Rcvd by MSB Jan 9, 2024

Attachment A

Rcvd by MSB Jan 9, 2024

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing — Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)

For each additional 1,000 pieces, or fraction thereof

Duplicate Copy ☐

Use Current Price List (Notice 123)

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
67	First	☐ Verified	67

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
4.187	$42.21	$9.30

Mailed For	Mailed By

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

(Postmaster or Designee)

Postage: Mailers must affix meter, PC Postage®, or (uncanceled) postage stamps here in payment of total fee due.

NOV – 3 2023

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here:

PALMER AK 99645
NOV – 3 2023
USPS



PS Form **3606-D,** January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Instructions for Certificate of Bulk Mailing — Domestic Service

This service is available only at the time of mailing and is used to specify only the number of identical-weight pieces mailed; it does *not* provide evidence that a piece was mailed to a particular address. This certificate is available for domestic mailings of First-Class Mail®, First-Class Package Service®, Priority Mail®, USPS Retail Ground™, Media Mail®, Library Mail, Bound Printed Matter, Standard Mail® (excluding Customized MarketMail® and Marketing Parcels), and Parcel Select® (including Parcel Select Lightweight®) items.

1. Pay postage as appropriate — affix meter, PC Postage, or (uncanceled) postage stamps in payment of total fee due in the postage area, or if paying fee by permit imprint, enter information in the postage area at the top right of the form.

2. Present PS Form 3606-D and the mailing as follows:

   - When the mailing has fewer than 50 mailpieces *and* less than 50 pounds, present the form and mailing at a retail Post Office™ location.
   - When the mailing has at least 50 mailpieces *or* at least 50 pounds, present the form and mailing at a business mail entry unit (BMEU) or USPS-authorized detached mail unit (DMU).

3. The Postal Service™ certifies and postmarks (round-dates) the PS Form 3606-D at the time of mailing and then returns it to the mailer as the mailer's receipt.

Certificate of Bulk Mailing — Domestic service does not provide a record of delivery, and the Postal Service does not retain any copies of PS Form 3606-D. The mailer cannot use PS Form 3606-D as a certificate of mailing for individual mailpieces or itemized lists.

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Roxanne Pedersen
PO Box 2261
Palmer, AK 99645

Milton & Kelley Barker
4030 S Aurora View Circle
Palmer, AK 99645

Deanna Gratrix
4111 S. Silver Bullet Circle
Palmer, AK 99645

Mark & Carol Symonds
PO Box 2254
Palmer, AK 99645

Daniel & Elizabeth Truett
4404 S. Silver Bullet Circle
Palmer, AK 99645

Dorene Heit
18036 E Walling Rd.
Palmer, AK 99645

Christopher & Lynn Humphrey
18149 E Merry Circle
Palmer, AK 99645

Jeff Cotterman
13818 E Hay Wagon Way
Palmer, AK 99645

Kimberly Hopkins
PO Box 3795
Palmer, AK 99645

John Dixon & Christine Erdle
PO Box 771296
Eagle River, AK 99577

Amanda Starr
18164 E. Pine Needle Way
Palmer, AK 99645

Nathan & Krystal Erickson
PO Box 3875
Palmer, AK 99645

Keith & Ann Nelson
PO Box 1222
Palmer, AK 99645

Todd & Robyn Bjork
PO Box 532
Palmer, AK 99645

Jene Mobley & Deanna Gratrix-Mobley
4111 S Silver Bullet Circle
Palmer, AK 99645

Jasmine Felthauser
PO Box 4509
Palmer, AK 99645

Joshua Hale
6105 N Wolverine Rd
Palmer, AK 99645

Matthew & Sarah Joseph
1150 S Colony Way Ste 3 PMB 312
Palmer, AK 99645

Amy Jeffery
500 S Cobb St #468
Palmer, AK 99645

Crispin & Mary Gentry
4064 S. Aurora View Circle
Palmer, AK 99645

Dale & Lorie Koppenberg
PO Box 2344
Palmer, AK 99645

Mckenna Properties, LLC
PO Box 240007
Anchorage, AK 99524

Randall & Patti Sandvik
PO Box 3412
Palmer, AK 99645

Christopher Garner & Jennifer Dushane
3655 Old Glenn Hwy PMB 206
Palmer, AK 99645

Dennis & Jeanette Ray
4307 Alexa Circle
Palmer, AK 99645

Todd & Cynthia McCaw
18084 E. Walling Rd
Palmer, AK 99645

Troy & Emily Deel
PO Box 2574
Palmer, AK 99645

Tracy Rogers
PO Box 190092
Anchorage, AK 99519

Stephen Conklin
18037 E. Walling Rd
Palmer, AK 99645

Starr Trucking Co. Inc.
1405 N Smith Rd
Palmer, AK 99645

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Clint Nelson
PO Box 3660
Palmer, AK 99645

Connie Smith
18332 E Plumley Rd 6A-9
Palmer, AK 99645

Koresa Gratrix
4256 S Silver Bullet Circle
Palmer, AK 99645

Brian & Krista Dewees
3853 S Caudill Rd
Palmer, AK 99645

Kristie Besemer
3972 S Lindsey Circle
Palmer, AK 99645

Eklutna, Inc. & Great Land Trust, Inc.
16515 Centerfield Dr. Ste 201
Eagle River, AK 99577

Brendan Trevors
PO Box 767
Palmer, AK 99645

Jesse Jens
18444 E Walling Rd
Palmer, AK 99645

Marty & Cynthia Rapp
PO Box 2213
Palmer, AK 99645

Lucille Frey
3353 S Caudill Rd
Palmer, AK 99645

Ryan & Jennifer Raben
18799 E Walling Rd
Palmer, AK 99645

Eklutna, Inc.
16515 Centerfield Dr. Ste 201
Eagle River, AK 99577

John & Gerrie Deal
18542 E Plumley Rd
Palmer, AK 99645

Robert Braun
18075 E Pine Needle Way
Palmer, AK 99645

Amy Jeffrey
PO Box 468
Palmer, AK 99645

Bunee Amble
18637 E Walling Rd
Palmer, AK 99645

Bernard Considine
16605 E Spruce St.
Palmer, AK 99645

Daniel & Merry Duame
18146 E Merry Circle
Palmer, AK 99645

Kenneth & Cynthia Roediger
4264 S Alexa Circle
Palmer, AK 99645

Gary & Susan Lacy
PO Box 2664
Palmer, AK 99645

Michael Connelly
4306 S Alexa Circle
Palmer, AK 99645

Matthew & Rhonda Wirtanen
4225 S Alexa Circle
Palmer, AK 99645

Zachary & Diana Berrier
4115 S Aurora View Circle
Palmer, AK 99645

Brian & Leslie Bagley
4006 S Aurora View Circle
Palmer, AK 99645

Scott & Terri Siler
425 S Main St
Newkirk, OK 74647

Rikki Gatrix
6643 S Sparrow Ave
Tucson, AZ 85746

Brenda Smith
18130 E Walling Rd
Palmer, AK 99645

Calvin Hall
4009 S Aurora View Circle
Palmer, AK 99645

Brandin & Tyra Bignall
18112 E Pine Needle Way
Palmer, AK 99645

Nicholas & Brittany Johnston
PO Box 2301
Palmer, AK 99645

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Alaska Backcountry Cottages, LLC
PO Box 2588
Palmer, AK 99645

Garrett Dunne
4061 S Caudill Rd
Palmer, AK 99645

Stephen & Jean Kelley
18276 E Walling Rd
Palmer, AK 99645

Steven Charron
PO Box 2013
Palmer, AK 99645

Nathan & Darcy Hickman
4042 S Aurora View Circle
Palmer, AK 99645

Rodney & Victoria Schultz
18085 E Walling Rd
Palmer, AK 99645

Butte Community Center
3881 Butte Rd
Palmer, AK 99645

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UNITED STATES POSTAL SERVICE.

PALMER
500 S COBB ST
PALMER, AK 99645-9998
(800)275-8777

11/03/2023 12:35 PM

Product	Qty	Unit Price	Price
$5 Floral Geo	1	$5.00	$5.00
$2 Floral Geo	2	$2.00	$4.00
10c Pears	3	$0.10	$0.30
Grand Total:			$9.30

Credit Card Remit $9.30
Card Name: MasterCard
Account #: XXXXXXXXXXXX6082
Approval #: 003050
Transaction #: 768
AID: A0000000041010 Chip
AL: Mastercard
PIN: Not Required

Preview your Mail
Track your Packages
Sign up for FREE @
https://informeddelivery.usps.com

Now hiring - go to www.usps.com/careers

All sales final on stamps and postage.
Refunds for guaranteed services only.
Thank you for your business.

Tell us about your experience.
Go to: https://postalexperience.com/Pos
or scan this code with your mobile device,

or call 1-800-410-7420.

UFN: 026747-0646
Receipt #: 840-59950065-1-5195658-1
Clerk: 07

Rcvd by MSB Jan 9, 2024

Attachment B

Rcvd by MSB Jan 9, 2024

NEW HORIZONS
Building Tomorrow's Infrastructure Today

October 27, 2023

RE: Notification of Community Meeting – Proposed Communication Tower

Dear Neighbor,

We hope this letter finds you well. This letter is being sent to invite you to a community meeting to discuss details regarding a proposed communication tower in your vicinity. Your input is valued in shaping this project to align with the community's needs. We encourage you to attend the meeting, submit your comments, and be a part of the approval process.

Meeting Details:

Date: November 27, 2023
Time: 6:00 PM
Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645
Tower Site: 4075 S. Lindsey Circle, Palmer, AK 99645

Description of the Proposed Development:

The proposed communication tower is designed to improve cellular coverage in the area, addressing a significant gap in the community's ability to stay connected and ensuring public safety. The proposed tower will have the following features:

- **Height:** 155'
- **Design:** Self-Support (Lattice) Tower
- **Lighting:** TBD pending FAA Study No. 2023-AAL-377-OE
- **Service Area:** Please see Overview of Service Coverage enclosed

Public Comment Form:

In order to better gather your feedback, we have included a public comment form from the local borough. You can use this form to submit your comments, questions, or concerns about the proposed communication tower directly to the Mat-Su Borough. Deadline for comments to be included in the citizen participation report is December 1, 2023.

Options for Submitting Comments:

1. Mail or Hand-Deliver the Form to the Matanuska Susitna Borough, Development Services Division, at 350 East Dahlia, Palmer, Alaska 99645.
2. Email the Form to: permitcenter@matsugov.us

Applicant Contact Information:

If you have questions or need more information, please reach out to the applicant: Sierra Larson, Project Manager at New Horizons Telecom, Inc. at slarson@nhtiusa.com or 907-761-6054.

Rcvd by MSB Jan 9, 2024

Thank you,

Sierra Larson

Sierra Larson, Project Manager
New Horizons Telecom, Inc.

Enclosures:

- Mat-Su Borough Public Comment Form
- Proposed Service Area of Communication Tower

New Horizons Telecom, Inc.
901 Cope Industrial Way
Palmer, Alaska 99645
www.nhtiusa.com

907.761.6000 (phone)
907.761.6001 (fax)

Rcvd by MSB Jan 9, 2024

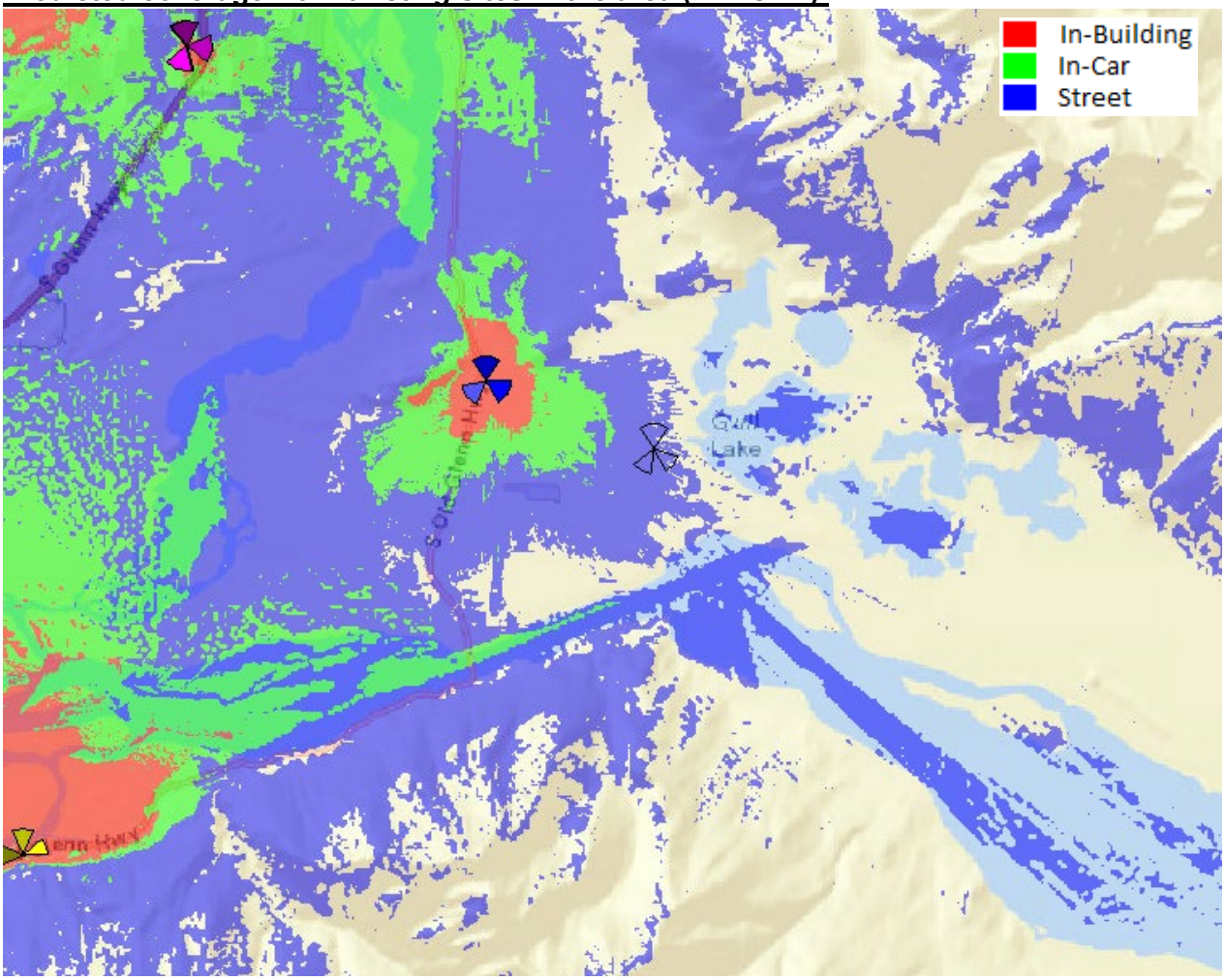
Overview of Cellular Service Coverage

Proposed "Gull Lake" Communications Tower

Legend:

- Red areas indicate a high probability of having in-building coverage
- Green areas indicate probable coverage in-building and good coverage in vehicles
- Blue areas indicate street coverage with questionable coverage in-buildings
- Areas without color indicates questionable coverage

Predicted coverage from *existing* sites in the area (BEFORE):



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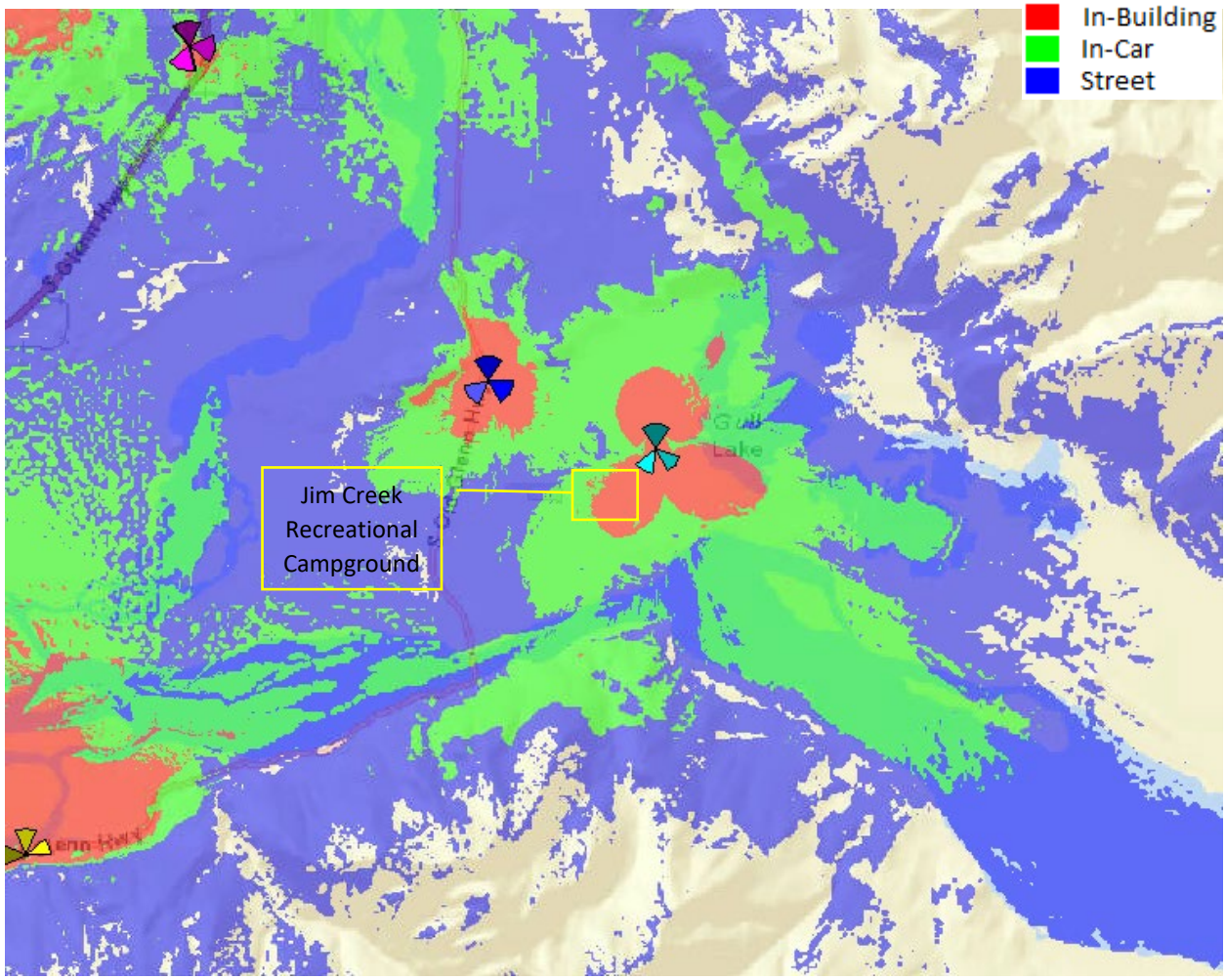
Legend:

- Red areas indicate a high probability of having in-building coverage
- Green areas indicate probable coverage in-building and good coverage in vehicles
- Blue areas indicate street coverage with questionable coverage in-buildings
- Areas without color indicates questionable coverage

Predicted coverage including the proposed "GULL_LAKE" site (AFTER):



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Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

Application or Item: 155' Self-Support Communications Tower (Conditional Use Permit)

Applicant: New Horizons Telecom, Inc.

Contact Person: Sierra Larson, Project Manager

Applicant/Contact Person Phone#: 907-761-6054

Applicant Address: 901 Cope Industrial Way, Palmer, AK 99645

Meeting Date & Time: November 27, 2023, 6:00 PM.

Meeting Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645

Summary of Project:
The proposed communication tower is designed to improve cellular coverage in the Butte area, addressing a significant gap in service. The proposed tower is a 155' Self-Support (lattice) tower.

If you have any questions or would like to send us comments concerning the proposed action, this form may be used for your convenience by filling in the information below and mailing it to the Matanuska-Susitna Borough, Development Services Division, 350 East Dahlia, Palmer, Alaska 99645. You may e-mail comments to *permitcenter@matsugov.us*. Comments received prior to December 1, 2023 will be included in the citizen participation report. Please be advised that comments received from the public after that date will not be included in the citizen participation report but will be included in the staff report to the Planning Commission. If there is not enough room below, please attach this sheet to another piece of paper.

Name:_____ ***Address:***_____

Location/Legal Description of your property:_____

Comments:_____

Note: Vicinity Map Located On Reverse Side

Rcvd by MSB Jan 9, 2024

Attachment C

Rcvd by MSB Jan 9, 2024

MEETING SIGN IN SHEET

Meeting Title: Gull Lake Communications Tower – Community Meeting

Organizer: New Horizons Telecom, Inc.

Location: Butte Community Center, 3881 Butte Road, Palmer, AK 99645

Date:
11/27/2023
Time:
6:00 pm

Name of Attendee	Address	Phone Number	Email
Rod Schultz	18085 E Wallingford	907746-1948	akbutties@ilj.com
Kris Besemer	3972 S. Lindsey Cir Palmer, AK 99645	907-746-2240	N/A
Ron Johnson	3350 S. Martin Palmer	841-6605	ronjohnson@gci.net
Janet Johnson	"	841-6604	janetjohnsonak907@gmail.com

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Attachment D

Rcvd by MSB Jan 9, 2024

Kelsey Bartley

From: fknapp alarmspro.com <fknapp@alarmspro.com>
Sent: Wednesday, November 8, 2023 11:30 AM
To: permitcenter@matsugov.us
Subject: Proposed 155' Self-Support (Lattice) Tower

CAUTION - EXTERNAL EMAIL: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello

FAA Study No. 2023-AAL-377-OE

My wife and I, both born in Palmer, are local land owners and pilots living on Maud Road. We frequent the Knik river with both ground based vehicles and aircraft.

The proposed new tower location will greatly improve area communications and safety, we support the tower and its location. Because we are pilots it is a concern to limit aerial obstructions, this tower is well below the 200' level however tower lighting should be carefully considered due to the proximity to the Butte Airport and the amount of **low flying air traffic in the area**.. the Knik is one of the major aircraft recreational corridors. With the tower placed near the east of any population there is no requirement for aircraft to maintain altitude and as a result they may be very low when approaching from the East.

Thank you
Frank and Kristine Knapp
907-841-0298

Rcvd by MSB Jan 9, 2024

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

Application or Item: 155' Self-Support Communications Tower (Conditional Use Permit)

Applicant: New Horizons Telecom, Inc.

Contact Person: Sierra Larson, Project Manager

Applicant/Contact Person Phone#: 907-761-6054

Applicant Address: 901 Cope Industrial Way, Palmer, AK 99645

Meeting Date & Time: November 27, 2023, 6:00 PM.

Meeting Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645

Summary of Project:
The proposed communication tower is designed to improve cellular coverage in the Butte area, addressing a significant gap in service. The proposed tower is a 155' Self-Support (lattice) tower.

If you have any questions or would like to send us comments concerning the proposed action, this form may be used for your convenience by filling in the information below and mailing it to the Matanuska-Susitna Borough, Development Services Division, 350 East Dahlia, Palmer, Alaska 99645. You may e-mail comments to *permitcenter@matsugov.us*. Comments received prior to December 1, 2023 will be included in the citizen participation report. Please be advised that comments received from the public after that date will not be included in the citizen participation report but will be included in the staff report to the Planning Commission. If there is not enough room below, please attach this sheet to another piece of paper.

Name: KEITH R & ANN F NELSON ***Address:*** 18747 E WALWIG RD.

Location/Legal Description of your property: HAMMER HEAD TRACT 1

Comments: ATTACHED

Note: Vicinity Map Located On Reverse Side

Rcvd by MSB Jan 9, 2024

November 7, 2023

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division

re: Proposed Communications Tower at 4075 Lindsey Circle, Palmer AK

To whom it may concern:

Our property shares a border with the proposed site and as such will be affected by the installation of the tower as much as anyone. We have lived in our home for approximately 25 years and have had to get by without cellular coverage the entire time. This is not the greatest of inconveniences, but in the times we live in it certainly is an inconvenience.

We also view this as a safety concern. The Jim Creek Recreational Area is basically in our backyard, and we use it often, as do tens of thousands of others. The area's cellular service is close to non-existent and the potential for injured or lost individuals is always present. It goes without saying that cell service would be of great assistance in those situations.

We will be out of town on the date of the meeting at the community center so we hope this letter will be of as much influence as testimony at the meeting.

We are in full support of this proposal.

Keith R Nelson
PO Box 1222
18747 E Walling Rd.
Palmer, AK 99645

Ann F Nelson

Legal Description - Hammerhead Tract 1

Rcvd by MSB Jan 9, 2024

Kris Besemer
3972 S. Lindsey Cir.
Palmer, AK 99645

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DEC 01 2023
Mat-Su Borough
Development Services

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

Application or Item: 155' Self-Support Communications Tower (Conditional Use Permit)

Applicant: New Horizons Telecom, Inc.

Contact Person: Sierra Larson, Project Manager

Applicant/Contact Person Phone#: 907-761-6054

Applicant Address: 901 Cope Industrial Way, Palmer, AK 99645

Meeting Date & Time: November 27, 2023, 6:00 PM.

Meeting Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645

Summary of Project:
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Name: Kris Besemer ***Address:*** 3972 S. Lindsey Cir. Palmer 99645

Location/Legal Description of your property: _____

Comments: I am adamantly opposed to the installation of the Gull Lake cell tower. I purchased my property for the beauty and serenity of the area. I'm not in favor of the commercialization of this rural location. While I believe owners have a right to develop their land appropriately, I question this proposal. He doesn't/hasn't lived here. He is not to be negatively impacted. I would hope my opinion matters as well

Note: Vicinity Map Located On Reverse Side

KB

Rcvd by MSB Jan 9, 2024

Trueth
4404 S Silver Bullet
Palmer, AK 99645

Matanuska-Susitna Borough
Development Services

DEC 05 2023

Received

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

Application or Item: 155' Self-Support Communications Tower (Conditional Use Permit)

Applicant: New Horizons Telecom, Inc.

Contact Person: Sierra Larson, Project Manager

Applicant/Contact Person Phone#: 907-761-6054

Applicant Address: 901 Cope Industrial Way, Palmer, AK 99645

Meeting Date & Time: November 27, 2023, 6:00 PM.

Meeting Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645

Summary of Project:
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If you have any questions or would like to send us comments concerning the proposed action, this form may be used for your convenience by filling in the information below and mailing it to the Matanuska-Susitna Borough, Development Services Division, 350 East Dahlia, Palmer, Alaska 99645. You may e-mail comments to *permitcenter@matsugov.us*. Comments received prior to December 1, 2023 will be included in the citizen participation report. Please be advised that comments received from the public after that date will not be included in the citizen participation report but will be included in the staff report to the Planning Commission. If there is not enough room below, please attach this sheet to another piece of paper.

Name: Elizabeth Trueth ***Address:*** 4404 S Silver Bullet Cir

Location/Legal Description of your property: Loa's Acres lot 4

Comments: I have concerns with radiation and the safety of my family & pets. Local businesses would have restrictions in expanding. It's a eye sore. My cell phone works fine.

Note: Vicinity Map Located On Reverse Side

Rcvd by MSB Jan 9, 2024

Close Print



Federal Aviation Administration

Proposed Case for AK: 2023-AAL-377-OE

For information only.
This proposal has not yet been studied. Study outcomes will be posted at a later date.
Public comments are not requested, and will not be considered at this time.

Overview

Study (ASN): 2023-AAL-377-OE
Prior Study:
Status: Work In Progress

Received Date: 09/29/2023
Entered Date: 09/29/2023
Map: View Map

Construction Info

Notice Of: CONSTR
Duration: PERM (Months: 0 Days: 0)
Work Schedule:

Structure Summary

Structure Type: Antenna Tower
Structure Name: US-AK-5280 Gull Lake
FCC Number:

Structure Details

Latitude (NAD 83): 61° 32' 11.93" N
Longitude (NAD 83): 148° 58' 44.37" W
Datum: NAD 83
City: Palmer
State: AK
Nearest County: Matanuska-Susitna

Height and Elevation

	Proposed
Site Elevation:	67
Structure Height:	165
Total Height (AMSL):	232

Frequencies

Low Freq	High Freq	Unit	ERP	Unit
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	2000	W
614	698	MHz	1000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W

929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W
3700	3980	MHz	3280	W

Previous Back to Search Result Next

From: Sierra Larson
To: Permit Center
Cc: Rick Benedict; Paul Danneberg; Chris Mullis; Kristina Buckley
Subject: Driveway Permit Application - 4075 S Lindsey Circle - Gull Lake Communications Tower
Date: Friday, January 10, 2025 4:38:13 PM
Attachments: 250110 VB Gull Lake Driveway-Application.pdf
241220 VB GULL LAKE PRELIMINARY REV A.pdf

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good Afternoon,

Attached please find a driveway permit application for the above referenced property/site. I've also attached a copy of our preliminary construction drawings. Please review and let me know if you have any questions/concerns or changes required.

Thank you!

Sierra Larson, Project Manager
New Horizons Telecom, Inc.
Palmer, Alaska | 907.761.6054
nhtiusa.com

NEW HORIZONS
Building Tomorrow's Infrastructure Today

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue, Palmer, Alaska 99645
(907) 861-7822 Fax (907) 861-8158
E-mail: PermitCenter@matsugov.us

Driveway Permit Application

Permit Fee $200 ($150 Refundable if completed within 3 years) PERMIT NO. _____

Property Owner: (Name) The Towers, LLC. (Vertical Bridge)	Applicant/Agent: (Name) Sierra Larson (New Horizons Telecom), agent for Vertical Bridge
Mailing Address 750 Park of Commerce Drive, Suite 200	Mailing Address 901 Cope Industrial Way
City: Boca Raton State: FL Zip Code: 33487	City: Palmer State: AK Zip Code: 99645
Phone: 206-375-3798 (M) Cell (*optional*):	Phone: 907-761-6054 Cell (*optional*):
E-mail *(optional)* paul.danneberg@verticalbridge.com	E-mail *(optional)* slarson@nhtiusa.com
Site Address: 4075 S. Lindsey Cir.	Driveway Location Will Be Marked With: Survey tape
Property Tax ID #: 26807	Expected Completion Date: August 1, 2025 Driveway Surface Type: Gravel
Road You Are Applying For Access Onto: Lindsey Circle	Distances: Left: 228' Width: 14' Right: 744'
Only Corrugated Metal Pipe Culvert is Allowed Culvert Length: 0' / N/A Diameter: N/A	Pathway or sidewalk dimension (if applicable) N/A

Intended Use:

☐ Single Family ☐ Multi-Family # of units _____

☒ Commercial - Type: Telecommunications Tower Site Estimated "peak hours" trips per day: 2

IF ACCESS IS ONTO A PAVED ROAD, APRON LENGTH TO BE 2 FEET MINIMUM

The Permittee certifies that he/she is the owner, lessee, or authorized agent of the property, that the conditions, restrictions and regulations of the borough will be complied with and that he/she will maintain the driveway in accordance with the provisions and standards attached to this permit, and any applicable code. I hereby certify that the information submitted on this application is complete and accurate to the best of my knowledge and that I am the applicant or agent of the same as stated in the attached documentation. By signing this permit I acknowledge and agree to accept the Driveway Standards and Provisions attached to this permit.

PERMITEE: _____ DATE: 01/10/2025
Signature of Permitee

PERMIT GRANTED BY: _____ DATE: _____
Borough Representative

Revised 12/9/2020

LOW VOLUME DRIVEWAY STANDARDS

High volume driveway accesses shall follow the standards in MSB 11.12.070

A. Driveway width as measured at the property boundary, or at the outside edge of the borough right-of-way, should be a minimum of 10 feet wide and a maximum of 25 feet wide for a residential driveway. Return curves shall be a minimum of 6 feet and maximum of 20 feet. Driveways wider than 25 feet shall be designed by a professional civil engineer registered in the state of Alaska.

B. Driveways to corner lots shall be located 60 feet from the projected point of intersection or property corner. Driveways to corner lots or lots that border two roadways shall gain access from the right-of-way of lowest classification when rights-of-way of multiple classifications bound a lot.

C. Driveway edge clearance shall be equal to or greater than the radius of the driveway curve return. Edge clearance for flag lots with flag poles 40 feet wide or less shall have a minimum edge clearance of 5 feet.

D. Driveways shall not drain onto the roadway. The first 10 feet from road shoulder shall be -2% (negative two percent) slope away from roadway. Where a negative slope away from the roadway is not feasible due to topographical constraints, the driveway shall be constructed in a manner that prevents water from flowing onto the roadway.

E. Driveways shall have a minimum 10 foot landing measured from the outside edge of the road shoulder. The driveway landing shall be installed perpendicular to the roadway. A driveway may intersect the roadway at an angle no less than 60 degrees, upon approval by the Borough, if required by topographical or physical constraints.

F. Unless otherwise specified, a minimum 12" diameter corrugated metal pipe culvert shall be used, and shall be sloped to match the ditch gradient with at least one foot of culvert visible at the toe of the side slopes on each side of the driveway.

G. Permittee shall be responsible for maintenance of the culvert, including thawing, to ensure proper drainage.

H. Driveways shall be installed and maintained to provide the required sight distance triangles. Driveway maintenance is the responsibility of the property owner, including culvert cleaning and thawing, and snow removal. Snow from driveway shall not be placed in or pushed across the roadway but should be stored on property where it does not obstruct traffic signage, address numbers, or sight triangles and placed in such a way as to not interfere with road maintenance.

I. Fill or cut slopes within the right-of-way shall not exceed 2H:1V (2 horizontal:1 vertical) unless designed by a professional civil engineer registered in the state of Alaska.

DRIVEWAY PROVISIONS

1. A driveway constructed within the right-of-way of a public roadway is an encroachment into that right-of-way and requires a written permit. This permit shall not grant the Permittee exclusive right to use the area encroached upon. All driveways or road approaches shall be constructed to Borough Standards.

2. The Permittee is responsible for removal of snow berms placed in driveway during road maintenance activities. Snow removed from driveway by Permittee shall not be placed in the roadway so as to cause interference with road maintenance activities.

3. All driveways or road approaches constructed under this permit within any Borough lands or rights-of-way shall be the property of the Borough. All costs and liability in their connection or in connection with their maintenance shall be at the sole expense of those lands served and/or persons served.

4. Such facilities shall be constructed and maintained in such a manner that the highway and all its appurtenances or facilities including, but not limited to, all drainage pipe, culverts, utilities and their safety shall not be impaired or endangered in any way by the construction or maintenance of this facility.

5. The Permittee shall adjust, relocate or remove this facility without cost or liability to the Borough, if, at any time, or from time to time the use or safety of the roadway requires this to be done.

6. The Permittee shall assume all liability or costs in connection with the facilities and shall hold the Borough or its officers, agents, employees and contractors harmless in matters pertaining to the facilities.

7. The Borough has the right to inspect and/or reject materials or workmanship, to stop work until corrections are made or to require removal of the facility and to charge time and equipment to the Permittee to correct the facility if it is not installed to Borough Standards.

8. The Permittee certifies that the minimum clearance between the proposed finished driveway grade and the lowest aerial utility conductor is in accordance with the requirements of the National Electrical Safety Code (Sec. 23).

9. This Driveway Permit shall belong to the property it serves and the terms and conditions shall be binding upon the Permittee, owner of the property, all new owners, and/lessee. It is the Permittee's responsibility to inform the property owner, new owner, or lessee of the Driveway Permit and conditions.

PERMIT CENTER – FEE RECEIPT FORM

Property Location: D32060 Applicant: Cotterman

	USE PERMITS (100.000.000.341.300)	Fee
	8.35 Public Display of Fireworks	$25.00
	8.40.010 Liquor License - Alcohol & Marijuana Control Office (AMCO) Referrals for Matanuska Susitna Borough Review of Issuance, renewal or transfer (location, owner)	$100.00
	8.40.060 Liquor License Relocation	$500.00
	8.41.010 Marijuana License - Alcohol & Marijuana Control Office (AMCO) Referrals for Matanuska Susitna Borough Review of Issuance, renewal or transfer (location, owner)	$100.00
	8.52 Temporary Noise Permit	$1000.00
	8.55 Special Events Permit 500 – 1000 Attendees 1000+ Attendees 8.55 Special Events Permit Site Monitor Fee / Per Day	 $500.00 $1,000.00 $300.00
	17.02 Mandatory Land Use Permits Commercial	$50.00
	17.04 Nancy Lake Special Land Use District CUP	$1,500.00
	17.06 Electrical Generating & Delivery Facility Application	$500.00
	17.08 Hay Flats Special Land Use District Exception Applica	$1000.00
	17.17 Denali State Park Conditional Use Permit	$1500.00
	17.18 Chickaloon Special Land Use District CUP	$1500.00
	17.19 Glacier View Special Land Use District CUP	$1500.00
	17.23 Port MacKenzie Development Permit	$1000.00
	17.25 Talkeetna Special Land Use CUP	$1500.00
	17.25 Talkeetna Conditional Use Permit – Variance	$1500.00
	17.27 Sutton Special Land Use District CUP	$1500.00
	17.29 Flood Damage Prevention Development Permit	$100.00
	17.29 Flood Damage Prevention Development Permit –Va	$500.00
	17.30.040 Earth Materials Extraction Admin. Permit	$1000.00
	17.30.050 Earth Materials Extraction CUP	$1500.00
	17.36 Residential Planned Unit Development Application – Concept Plan – up to 50 Lots Additional Lots or tracts being created – Per Lot	 $500.00 $100.00
	17.48 Mobile Home Park Application	$500.00
	17.52 Residential Land Use District App (Rezone)	$1,000.00
	17.52 Residential Land Use District CUP	$1,500.00
	17.55 Shoreline Setback Exception Application	$300.00
	17.60 Conditional Use Permit Application	$1500.00
	17.60 Transfer of Junkyard CUP	$500.00

Permit Center
350 E DAHLIA AVE
PALMER AK 99645-6411
907-8618630
Mon 01/13/2025 3:23 PM

Customer: RANDI K BERNIER

Driveway Deposit $150.00
Driveway Applicati $50.00
Sub Total: $200.00
Total: $200.00

PURCHASE
APPROVED 013008

Txn ID:#62313e40 Order ID:#610ae24b
Order Number:450 Type:CREDIT
Card Type:Mastercard Number:*7958
Entry Mode: Chip
SIGNATURE
A0000000041010 Issuer
TAD:01106070032200 TVR:0000008000
ATC:0004 TSI:EC00
UN:6FDF2C32 TC:4F33578F94C77826

THANK YOU

Revised: 11/28/23

	17.61 Commercial/Industrial Core Area Conditional Use Permit	$1500.00
	17.62 Coal Bed Methane Conditional Use Permits	$1500.00
	17.63 Racetracks Conditional Use Permit	$1500.00
	17.64 Waste Incinerator Conditional Use Permit	
	17.65 Variance	$1500.00
	17.67 Tall Structures - Network Improvement Permit Nonconforming Use Administrative Permit Conditional Use Permit	$100.00 $200.00 $500.00 $1500.00
	17.70 Regulation of Alcoholic Beverage Conditional Use Permit	$1500.00
	17.73 Multi-Family Land Use Permit – add $25.00 for each additional unit beyond 5 units.	$500.00
	17.75 Single-Family Residential Land Use District CUP	$1500.00
	17.76 Large Lot Single-Family Residential Land Use District	$1500.00
	17.80 Nonconforming Structures (Amnesty) Pre-Existing Legal Nonconforming (Grandfather)	$300.00 $300.00
	17.90 Regulation of Adult Businesses – Conditional Use Permit	$1500.00

	RIGHT-OF-WAY FEES:	
✓	Driveway	$50.00
☐ ✓	Driveway Deposit {100.226.100}	$150.00
	Construction	$200.00
	Utility (Application Fee = $100 ~ Distance Fee $0.25/per lineal foot)	
	Encroachment	$150.00
	Construction Bond {100.227.000}	

	PLATTING PRE-APPLICATION CONFERENCE:	
	Pre-Application Fee	$50.00

	FEES:	
	Flood Plain Development Survey CD	$10.00
	CD/DVD/DVD-R	$7.50
	Construction Manual/Title 43	$5.00
	Plat Map/Tax Map Copies/Mylar	$5.00
	Color Maps	$12.00
	Xerox Copies (B/W = $0.25 ~ Color $1.00/page 11X17 Color $1.75/page)	
	Advertising Fees	
	Cultural Resources Books or Maps	
☐	Citation Payment (If sent to collections – use total due from Courtview)	
	Thumb Drive 8GB = $10; 16GB = $15; 32GB = $20	

$_____ Amount Paid Date:_____ Receipt #_____ By:_____

NEW HORIZONS
Building Tomorrow's Infrastructure Today

December 11, 2023

Rick Benedict, Current Planner
Development Services Division
Matanuska-Susitna Borough
350 E. Dahlia Avenue
Palmer, Alaska 99645

Subject: Proposed Gull Lake Communications Tower – Citizen Participation Report

Dear Mr. Benedict:

This is a citizien participation report in accordance with MSB 17.67.050(B) which summarizes the notifications and results of the community meeting that was held prior to submittal of the Conditional Use Permit (CUP) application for Tall Structures under MSB 17.67.

On November 3rd, New Horizons sent out notification of the community meeting to discuss the proposed development to 67 landowners located within ½ mile of the proposed tower site, as well as a copy to the Butte Community Council. The list was created using the MSBs Mailing List GIS Application. The application provided results for 77 parcel owners; however, due to several landowners owning multiple pieces of land, the actual number of mailings came to 67. Attachment A contains a copy of the USPS certificate of mailing and list of landowners who received notifications. Mailings included a copy of the community meeting notification letter, Mat-Su Borough public comment form, as well as a graphic depicting estimate service coverage of the subject tower. All documents mailed to landowners can be found in Attachment B. In addition, local citizens published copies of the mailings to two local Palmer Facebook pages, increasing awareness of the proposed development and community meeting date.

The community meeting was coordinated with the Butte Community Council President and was held on November 27th, 2023 at 6:00 p.m. at the Butte Community Center, 3881 Butte Road, Palmer, AK 99654. The meeting was in-person only due to the community center not having internet connectivity. At the meeting, New Horizons provided copies of all the material already published, as well as copies of the zoning drawings and additional graphics (google earth overlay) showing the proposed service area.

There were four people in attendance at the meeting, two of which live in the neighborhood in which the tower is proposed to be located. The sign-in sheet for the meeting is located in Attachment C. No property owners have requested updates in writing regarding the proposed development, nor were any written comments provided at the meeting.

New Horizons Telecom, Inc.
901 Cope Industrial Way
Palmer, Alaska 99645
www.nhtiusa.com

907.761.6000 (phone)
907.761.6091 (fax)

Rcvd by MSB Jan 9, 2024

In the notification letter, and re-stated during the meeting, New Horizons requested a deadline of December 1st for submittal of written comments to be included in the citizen participation report. Several written comments were submitted to the MSB utilizing the public comment forms that were mailed out or provided at the meeting, and they are included in Attachment D. Three comments were submitted prior to the deadline, and one comment was received several days later, but is also discussed in this report. A summary of public comments received to-date is below, including responses on how the comments have been addressed, are being addressed, or are not intended to be addressed.

Summary of Comment #1 received 11/8/23
The comment expressed support for the proposed tower, emphasizing its potential to enhance area communications and safety. They acknowledge the importance of minimizing aerial obstructions given the proximity to Butte Airport and the Knik River's significance as a major aircraft recreational corridor, suggesting careful consideration of tower lighting due to low-flying air traffic in the area.

Vertical Bridge has requested an Obstruction Evaluation Study from the Federal Aviation Administation (FAA), assigned number 2023-AAL-377-OE. The outcome of this study will determine whether or not the proposed tower will require hazard lighting.

Summary of Comment #2 received 11/14/23
The commenter, residing near the proposed tower site for 25 years without cellular coverage, expresses inconvenience and safety concerns, highlighting the Jim Creek Recreational Area's lack of reliable cell service. They emphasize the potential benefits of improved communication for the safety of residents and visitors and express full support for the proposed tower, hoping their letter will contribute to the discussion, as they cannot attend the community center meeting in person.

There is no specific concerns to address in this comment. The proposed project will vastly contribute to increased cellular coverage in the area, including areas widely used for recreation, thus increasing public safety and enjoyment.

Summary of Comment #3 received 12/1/23
The commenter strongly opposes the installation of the Gull Lake cell tower, expressing concern about the commercialization of the rural area they value for its beauty and serenity. They question the proposal, particularly since the landowner, who does not live there, will not be negatively affected by the cell tower on their property. The commenter emphasizes the importance of their opinion in the decision-making process.

While it is unfortunate that the commenter has had to endure several instances of large development near or adjacent to her long-time residence that was once undeveloped, we do not intend to address this comment with any changes to the proposal. The benefits the proposed tower will bring to the area outweigh any perceived negatives and the project complies with local, state and federal regulations.

Summary of Comment #4 received after the comment submittal deadline
The commenter has concerns about radiation and the safety of their family and pets regarding the proposed cell tower, and they worry about restrictions on local businesses' expansion. They also find the tower to be an eyesore and note that their cell phone currently works fine.

No changes are being made to the proposed development based on this comment. The tower will comply with local, state and federal safety regulations, including the Federal Communications Commission (FCC) limits on human exposure to radiofrequency (RF)

Rcvd by MSB Jan 9, 2024

radiation. We are unaware of any restrictions to local business that would occur from the proposed project.

If you require any further information or have any questions, please do not hesitate to contact me at 907-761-6054 or slarson@nhtiusa.com.

Sincerely,

Sierra Larson

Sierra Larson
Project Manager, New Horizons Telecom, Inc.

Attachment(s):
A - USPS Certificate of Mailing and List of Landowners from MSB Mailing Application
B - Copy of Mailing sent to Landowners
C - Community Meeting Sign-In Sheet
D - Public Comments Received To-Date

Rcvd by MSB Jan 9, 2024

Attachment A

Rcvd by MSB Jan 9, 2024

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing — Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)

For each additional 1,000 pieces, or fraction thereof

Duplicate Copy ☐

Use Current Price List (Notice 123)

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
67	First	☐ Verified	67

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
4.187	$42.21	$9.30

Mailed For	Mailed By

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

(Postmaster or Designee)

Postage: Mailers must affix meter, PC Postage®, or (uncanceled) postage stamps here in payment of total fee due.

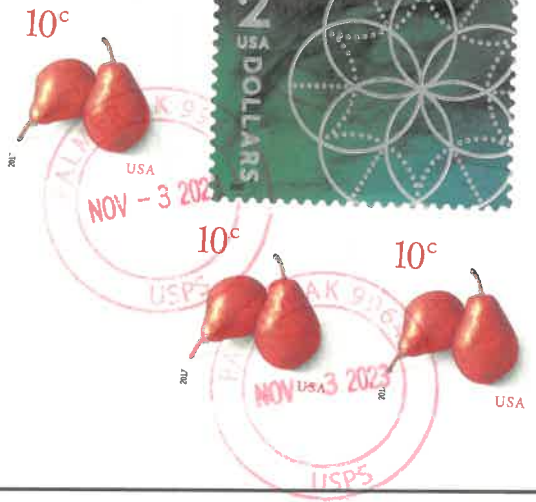
NOV – 3 2023

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here:



PALMER AK 99645
NOV – 3 2023
USPS



PS Form **3606-D,** January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Instructions for Certificate of Bulk Mailing — Domestic Service

This service is available only at the time of mailing and is used to specify only the number of identical-weight pieces mailed; it does *not* provide evidence that a piece was mailed to a particular address. This certificate is available for domestic mailings of First-Class Mail®, First-Class Package Service®, Priority Mail®, USPS Retail Ground™, Media Mail®, Library Mail, Bound Printed Matter, Standard Mail® (excluding Customized MarketMail® and Marketing Parcels), and Parcel Select® (including Parcel Select Lightweight®) items.

1. Pay postage as appropriate — affix meter, PC Postage, or (uncanceled) postage stamps in payment of total fee due in the postage area, or if paying fee by permit imprint, enter information in the postage area at the top right of the form.

2. Present PS Form 3606-D and the mailing as follows:

   - When the mailing has fewer than 50 mailpieces *and* less than 50 pounds, present the form and mailing at a retail Post Office™ location.
   - When the mailing has at least 50 mailpieces *or* at least 50 pounds, present the form and mailing at a business mail entry unit (BMEU) or USPS-authorized detached mail unit (DMU).

3. The Postal Service™ certifies and postmarks (round-dates) the PS Form 3606-D at the time of mailing and then returns it to the mailer as the mailer's receipt.

Certificate of Bulk Mailing — Domestic service does not provide a record of delivery, and the Postal Service does not retain any copies of PS Form 3606-D. The mailer cannot use PS Form 3606-D as a certificate of mailing for individual mailpieces or itemized lists.

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Roxanne Pedersen
PO Box 2261
Palmer, AK 99645

Milton & Kelley Barker
4030 S Aurora View Circle
Palmer, AK 99645

Deanna Gratrix
4111 S. Silver Bullet Circle
Palmer, AK 99645

Mark & Carol Symonds
PO Box 2254
Palmer, AK 99645

Daniel & Elizabeth Truett
4404 S. Silver Bullet Circle
Palmer, AK 99645

Dorene Heit
18036 E Walling Rd.
Palmer, AK 99645

Christopher & Lynn Humphrey
18149 E Merry Circle
Palmer, AK 99645

Jeff Cotterman
13818 E Hay Wagon Way
Palmer, AK 99645

Kimberly Hopkins
PO Box 3795
Palmer, AK 99645

John Dixon & Christine Erdle
PO Box 771296
Eagle River, AK 99577

Amanda Starr
18164 E. Pine Needle Way
Palmer, AK 99645

Nathan & Krystal Erickson
PO Box 3875
Palmer, AK 99645

Keith & Ann Nelson
PO Box 1222
Palmer, AK 99645

Todd & Robyn Bjork
PO Box 532
Palmer, AK 99645

Jene Mobley & Deanna Gratrix-Mobley
4111 S Silver Bullet Circle
Palmer, AK 99645

Jasmine Felthauser
PO Box 4509
Palmer, AK 99645

Joshua Hale
6105 N Wolverine Rd
Palmer, AK 99645

Matthew & Sarah Joseph
1150 S Colony Way Ste 3 PMB 312
Palmer, AK 99645

Amy Jeffery
500 S Cobb St #468
Palmer, AK 99645

Crispin & Mary Gentry
4064 S. Aurora View Circle
Palmer, AK 99645

Dale & Lorie Koppenberg
PO Box 2344
Palmer, AK 99645

Mckenna Properties, LLC
PO Box 240007
Anchorage, AK 99524

Randall & Patti Sandvik
PO Box 3412
Palmer, AK 99645

Christopher Garner & Jennifer Dushane
3655 Old Glenn Hwy PMB 206
Palmer, AK 99645

Dennis & Jeanette Ray
4307 Alexa Circle
Palmer, AK 99645

Todd & Cynthia McCaw
18084 E. Walling Rd
Palmer, AK 99645

Troy & Emily Deel
PO Box 2574
Palmer, AK 99645

Tracy Rogers
PO Box 190092
Anchorage, AK 99519

Stephen Conklin
18037 E. Walling Rd
Palmer, AK 99645

Starr Trucking Co. Inc.
1405 N Smith Rd
Palmer, AK 99645

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Clint Nelson
PO Box 3660
Palmer, AK 99645

Connie Smith
18332 E Plumley Rd 6A-9
Palmer, AK 99645

Koresa Gratrix
4256 S Silver Bullet Circle
Palmer, AK 99645

Brian & Krista Dewees
3853 S Caudill Rd
Palmer, AK 99645

Kristie Besemer
3972 S Lindsey Circle
Palmer, AK 99645

Eklutna, Inc. & Great Land Trust, Inc.
16515 Centerfield Dr. Ste 201
Eagle River, AK 99577

Brendan Trevors
PO Box 767
Palmer, AK 99645

Jesse Jens
18444 E Walling Rd
Palmer, AK 99645

Marty & Cynthia Rapp
PO Box 2213
Palmer, AK 99645

Lucille Frey
3353 S Caudill Rd
Palmer, AK 99645

Ryan & Jennifer Raben
18799 E Walling Rd
Palmer, AK 99645

Eklutna, Inc.
16515 Centerfield Dr. Ste 201
Eagle River, AK 99577

John & Gerrie Deal
18542 E Plumley Rd
Palmer, AK 99645

Robert Braun
18075 E Pine Needle Way
Palmer, AK 99645

Amy Jeffrey
PO Box 468
Palmer, AK 99645

Bunee Amble
18637 E Walling Rd
Palmer, AK 99645

Bernard Considine
16605 E Spruce St.
Palmer, AK 99645

Daniel & Merry Duame
18146 E Merry Circle
Palmer, AK 99645

Kenneth & Cynthia Roediger
4264 S Alexa Circle
Palmer, AK 99645

Gary & Susan Lacy
PO Box 2664
Palmer, AK 99645

Michael Connelly
4306 S Alexa Circle
Palmer, AK 99645

Matthew & Rhonda Wirtanen
4225 S Alexa Circle
Palmer, AK 99645

Zachary & Diana Berrier
4115 S Aurora View Circle
Palmer, AK 99645

Brian & Leslie Bagley
4006 S Aurora View Circle
Palmer, AK 99645

Scott & Terri Siler
425 S Main St
Newkirk, OK 74647

Rikki Gatrix
6643 S Sparrow Ave
Tucson, AZ 85746

Brenda Smith
18130 E Walling Rd
Palmer, AK 99645

Calvin Hall
4009 S Aurora View Circle
Palmer, AK 99645

Brandin & Tyra Bignall
18112 E Pine Needle Way
Palmer, AK 99645

Nicholas & Brittany Johnston
PO Box 2301
Palmer, AK 99645

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Alaska Backcountry Cottages, LLC
PO Box 2588
Palmer, AK 99645

Garrett Dunne
4061 S Caudill Rd
Palmer, AK 99645

Stephen & Jean Kelley
18276 E Walling Rd
Palmer, AK 99645

Steven Charron
PO Box 2013
Palmer, AK 99645

Nathan & Darcy Hickman
4042 S Aurora View Circle
Palmer, AK 99645

Rodney & Victoria Schultz
18085 E Walling Rd
Palmer, AK 99645

Butte Community Center
3881 Butte Rd
Palmer, AK 99645

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UNITED STATES POSTAL SERVICE.

PALMER
500 S COBB ST
PALMER, AK 99645-9998
(800)275-8777

11/03/2023 12:35 PM

Product	Qty	Unit Price	Price
$5 Floral Geo	1	$5.00	$5.00
$2 Floral Geo	2	$2.00	$4.00
10c Pears	3	$0.10	$0.30
Grand Total:			$9.30

Credit Card Remit $9.30
Card Name: MasterCard
Account #: XXXXXXXXXXXX6082
Approval #: 003050
Transaction #: 768
AID: A0000000041010 Chip
AL: Mastercard
PIN: Not Required

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or call 1-800-410-7420.

UFN: 026747-0646
Receipt #: 840-59950065-1-5195658-1
Clerk: 07

Attachment B

Rcvd by MSB Jan 9, 2024

NEW HORIZONS
Building Tomorrow's Infrastructure Today

October 27, 2023

RE: Notification of Community Meeting – Proposed Communication Tower

Dear Neighbor,

We hope this letter finds you well. This letter is being sent to invite you to a community meeting to discuss details regarding a proposed communication tower in your vicinity. Your input is valued in shaping this project to align with the community's needs. We encourage you to attend the meeting, submit your comments, and be a part of the approval process.

Meeting Details:

Date: November 27, 2023
Time: 6:00 PM
Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645
Tower Site: 4075 S. Lindsey Circle, Palmer, AK 99645

Description of the Proposed Development:

The proposed communication tower is designed to improve cellular coverage in the area, addressing a significant gap in the community's ability to stay connected and ensuring public safety. The proposed tower will have the following features:

- **Height:** 155'
- **Design:** Self-Support (Lattice) Tower
- **Lighting:** TBD pending FAA Study No. 2023-AAL-377-OE
- **Service Area:** Please see Overview of Service Coverage enclosed

Public Comment Form:

In order to better gather your feedback, we have included a public comment form from the local borough. You can use this form to submit your comments, questions, or concerns about the proposed communication tower directly to the Mat-Su Borough. Deadline for comments to be included in the citizen participation report is December 1, 2023.

Options for Submitting Comments:

1. Mail or Hand-Deliver the Form to the Matanuska Susitna Borough, Development Services Division, at 350 East Dahlia, Palmer, Alaska 99645.
2. Email the Form to: permitcenter@matsugov.us

Applicant Contact Information:

If you have questions or need more information, please reach out to the applicant: Sierra Larson, Project Manager at New Horizons Telecom, Inc. at slarson@nhtiusa.com or 907-761-6054.

Rcvd by MSB Jan 9, 2024

Thank you,

Sierra Larson

Sierra Larson, Project Manager
New Horizons Telecom, Inc.

Enclosures:

- Mat-Su Borough Public Comment Form
- Proposed Service Area of Communication Tower

New Horizons Telecom, Inc.
901 Cope Industrial Way
Palmer, Alaska 99645
www.nhtiusa.com

907.761.6000 (phone)
907.761.6001 (fax)

Rcvd by MSB Jan 9, 2024

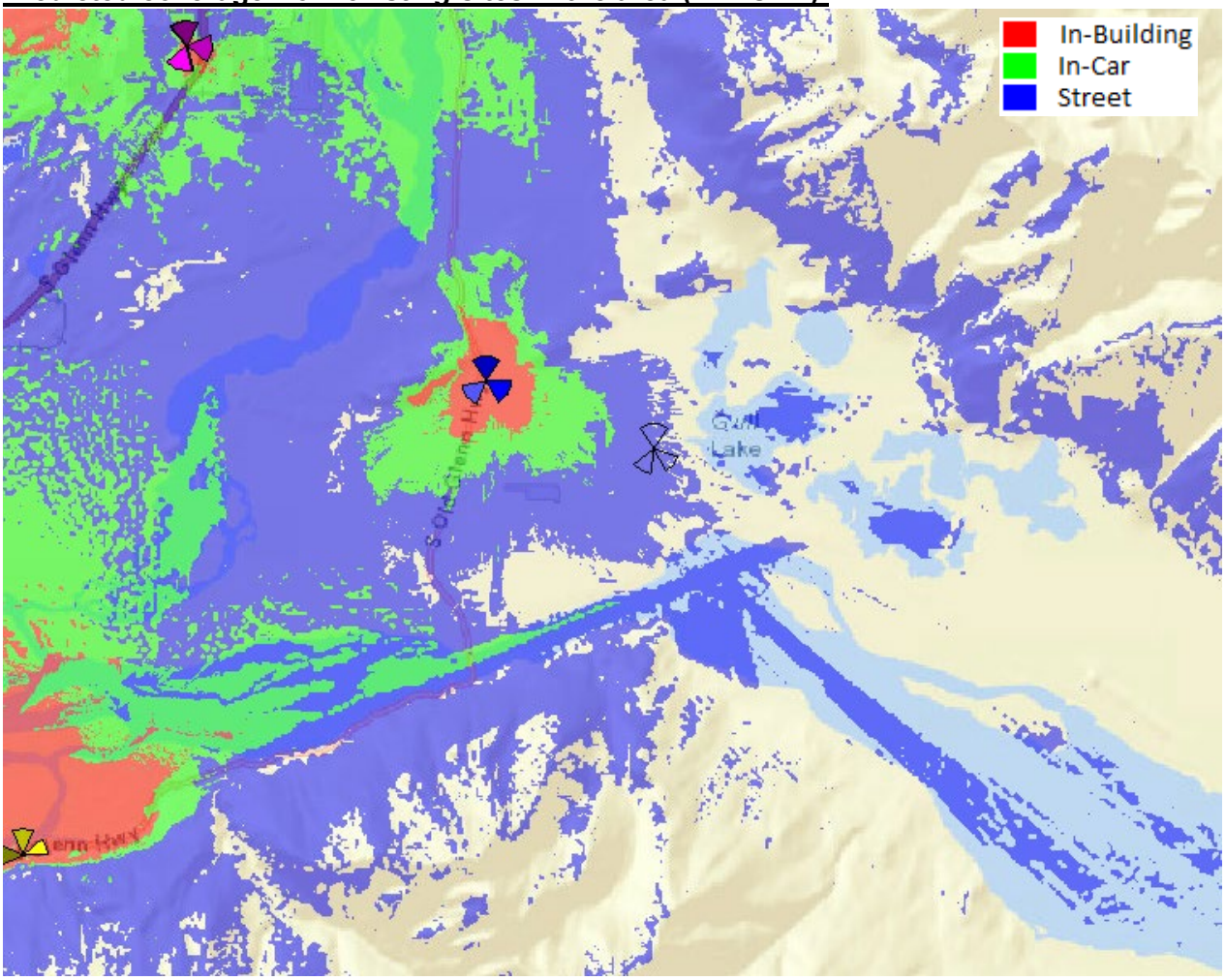
Overview of Cellular Service Coverage

Proposed "Gull Lake" Communications Tower

Legend:

- Red areas indicate a high probability of having in-building coverage
- Green areas indicate probable coverage in-building and good coverage in vehicles
- Blue areas indicate street coverage with questionable coverage in-buildings
- Areas without color indicates questionable coverage

Predicted coverage from *existing* sites in the area (BEFORE):

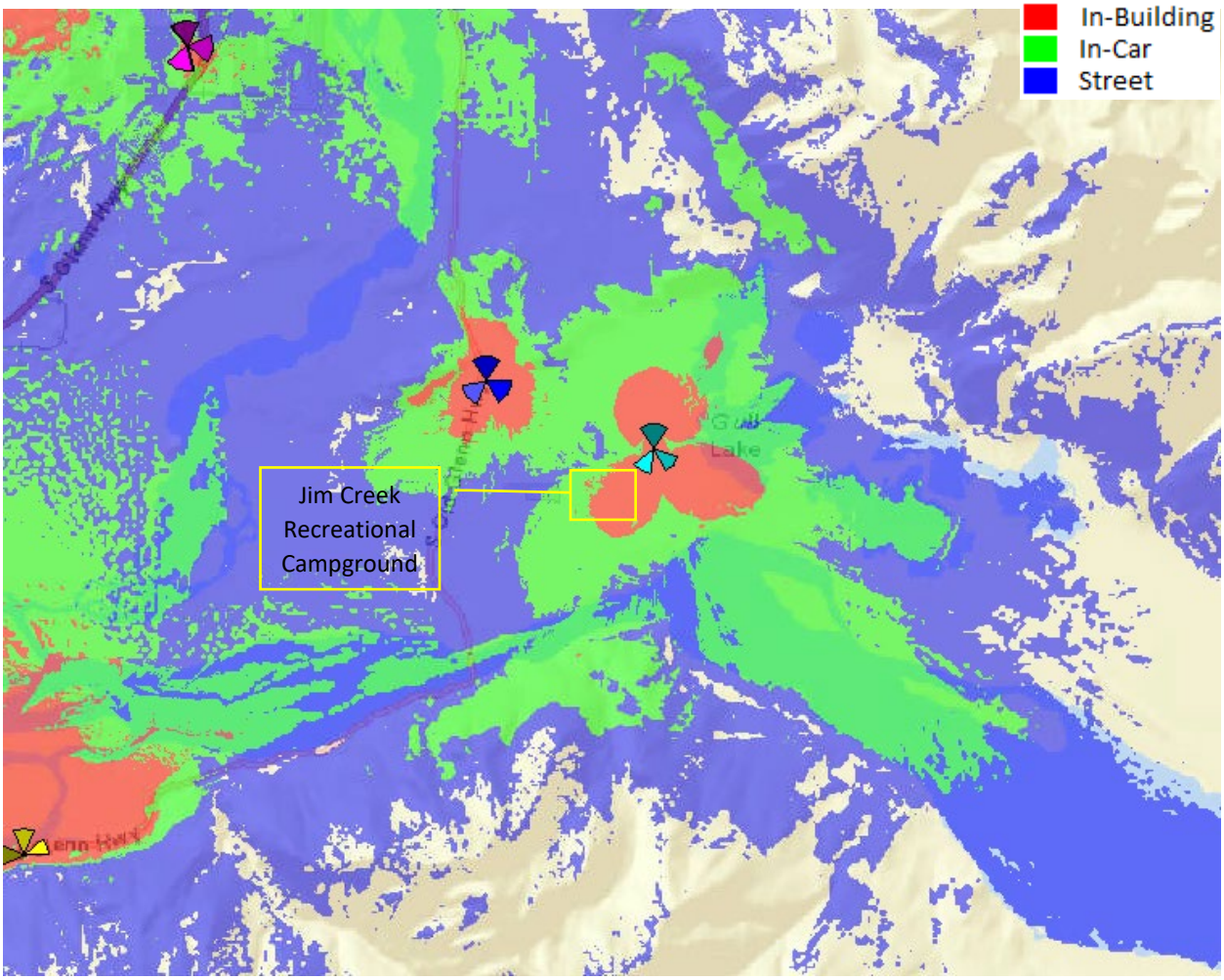


Rcvd by MSB Jan 9, 2024

Legend:

- Red areas indicate a high probability of having in-building coverage
- Green areas indicate probable coverage in-building and good coverage in vehicles
- Blue areas indicate street coverage with questionable coverage in-buildings
- Areas without color indicates questionable coverage

Predicted coverage including the proposed "GULL_LAKE" site (AFTER):



Rcvd by MSB Jan 9, 2024

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

Application or Item: 155' Self-Support Communications Tower (Conditional Use Permit)

Applicant: New Horizons Telecom, Inc.

Contact Person: Sierra Larson, Project Manager

Applicant/Contact Person Phone#: 907-761-6054

Applicant Address: 901 Cope Industrial Way, Palmer, AK 99645

Meeting Date & Time: November 27, 2023, 6:00 PM.

Meeting Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645

Summary of Project:
The proposed communication tower is designed to improve cellular coverage in the Butte area, addressing a significant gap in service. The proposed tower is a 155' Self-Support (lattice) tower.

If you have any questions or would like to send us comments concerning the proposed action, this form may be used for your convenience by filling in the information below and mailing it to the Matanuska-Susitna Borough, Development Services Division, 350 East Dahlia, Palmer, Alaska 99645. You may e-mail comments to *permitcenter@matsugov.us*. Comments received prior to December 1, 2023 will be included in the citizen participation report. Please be advised that comments received from the public after that date will not be included in the citizen participation report but will be included in the staff report to the Planning Commission. If there is not enough room below, please attach this sheet to another piece of paper.

Name:_____ ***Address:***_____

Location/Legal Description of your property:_____

Comments:_____

Note: Vicinity Map Located On Reverse Side

Rcvd by MSB Jan 9, 2024

Attachment C

Rcvd by MSB Jan 9, 2024

MEETING SIGN IN SHEET

Meeting Title: Gull Lake Communications Tower – Community Meeting

Organizer: New Horizons Telecom, Inc.

Location: Butte Community Center, 3881 Butte Road, Palmer, AK 99645

Date:
11/27/2023
Time:
6:00 pm

Name of Attendee	Address	Phone Number	Email
Rod Schultz	18085 E Wall Way	907746-1948	akbutties@ilj.com
Kris Besemer	3972 S. Lindsey Cir Palmer, AK 99645	907-746-2240	N/A
Ron Johnson	3350 S. Martin Palmer	841-6605	ronjohnson@gci.net
Janet Johnson	"	841-6604	janetjohnsonak907@gmail.com

Rcvd by MSB Jan 9, 2024

Attachment D

Rcvd by MSB Jan 9, 2024

Kelsey Bartley

From: fknapp alarmspro.com <fknapp@alarmspro.com>
Sent: Wednesday, November 8, 2023 11:30 AM
To: permitcenter@matsugov.us
Subject: Proposed 155' Self-Support (Lattice) Tower

CAUTION - EXTERNAL EMAIL: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello

FAA Study No. 2023-AAL-377-OE

My wife and I, both born in Palmer, are local land owners and pilots living on Maud Road. We frequent the Knik river with both ground based vehicles and aircraft.

The proposed new tower location will greatly improve area communications and safety, we support the tower and its location. Because we are pilots it is a concern to limit aerial obstructions, this tower is well below the 200' level however tower lighting should be carefully considered due to the proximity to the Butte Airport and the amount of **low flying air traffic in the area**.. the Knik is one of the major aircraft recreational corridors. With the tower placed near the east of any population there is no requirement for aircraft to maintain altitude and as a result they may be very low when approaching from the East.

Thank you
Frank and Kristine Knapp
907-841-0298

Rcvd by MSB Jan 9, 2024

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

Application or Item: 155' Self-Support Communications Tower (Conditional Use Permit)

Applicant: New Horizons Telecom, Inc.

Contact Person: Sierra Larson, Project Manager

Applicant/Contact Person Phone#: 907-761-6054

Applicant Address: 901 Cope Industrial Way, Palmer, AK 99645

Meeting Date & Time: November 27, 2023, 6:00 PM.

Meeting Location: Butte Community Center, 3881 Butte Rd., Palmer, AK 99645

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Name: KEITH R & ANN F NELSON ***Address:*** 18747 E WALWIG RD.

Location/Legal Description of your property: HAMMER HEAD TRACT 1

Comments: ATTACHED

Note: Vicinity Map Located On Reverse Side

Rcvd by MSB Jan 9, 2024

November 7, 2023

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division

re: Proposed Communications Tower at 4075 Lindsey Circle, Palmer AK

To whom it may concern:

Our property shares a border with the proposed site and as such will be affected by the installation of the tower as much as anyone. We have lived in our home for approximately 25 years and have had to get by without cellular coverage the entire time. This is not the greatest of inconveniences, but in the times we live in it certainly is an inconvenience.

We also view this as a safety concern. The Jim Creek Recreational Area is basically in our backyard, and we use it often, as do tens of thousands of others. The area's cellular service is close to non-existent and the potential for injured or lost individuals is always present. It goes without saying that cell service would be of great assistance in those situations.

We will be out of town on the date of the meeting at the community center so we hope this letter will be of as much influence as testimony at the meeting.

We are in full support of this proposal.

Keith R Nelson
PO Box 1222
18747 E Walling Rd.
Palmer, AK 99645

Ann F Nelson

Legal Description - Hammerhead Tract 1

Rcvd by MSB Jan 9, 2024

Kris Besemer
3972 S. Lindsey Cir.
Palmer, AK 99645

RECEIVED
DEC 01 2023
Mat-Su Borough
Development Services

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

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Name: Kris Besemer ***Address:*** 3972 S. Lindsey Cir. Palmer 99645

Location/Legal Description of your property: _____

Comments: I am adamantly opposed to the installation of the Gull Lake cell tower. I purchased my property for the beauty and serenity of the area. I'm not in favor of the commercialization of this rural location. While I believe owners have a right to develop their land appropriately, I question this proposal. He doesn't/hasn't lived here. He is not to be negatively impacted. I would hope my opinion matters as well

Note: Vicinity Map Located On Reverse Side

KB

Rcvd by MSB Jan 9, 2024

Trueth
4404 S Silver Bullet
Palmer, AK 99645

Matanuska-Susitna Borough
Development Services

DEC 05 2023

Received

Matanuska-Susitna Borough
Planning & Land Use Department
Development Services Division
350 East Dahlia Avenue
Palmer, Alaska 99645

FIRST CLASS MAIL

Matanuska-Susitna Borough Code Section: MSB 17.67 – Tall Structures

Location/Legal Description of Parcel or Parcels: 4075 S. Lindsey Circle, Palmer, AK 99645

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Name: Elizabeth Trueth ***Address:*** 4404 S Silver Bullet Cir

Location/Legal Description of your property: Loa's Acres lot 4

Comments: I have concerns with radiation and the safety of my family & pets. Local businesses would have restrictions in expanding. It's a eye sore. My cell phone works fine.

Note: Vicinity Map Located On Reverse Side

Rcvd by MSB Jan 9, 2024

INTRODUCTION FOR PUBLIC HEARING QUASI-JUDICIAL

Resolution No. 25-02

A Conditional Use Permit In Accordance With MSB 17.30 - Conditional Use Permit For Earth Materials Extraction Activities To Extract Approximately 1,028,000 Cubic Yards of Gravel Over 10 Years Located At 4120 E. Brenda Avenue (Tax ID#1341000T001) and 4101 E. Fairview Loop (Tax ID#1341000T002) within the Gershmel Harold T/1-3 Subdivision. (Applicant:Paul Minnick, For Big Dipper Construction Inc.; Staff: Rick Benedict, Current Planner)

(Page 147- 181)

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
Email: permitcenter@matsugov.us

APPLICATION FOR A CONDITIONAL USE PERMIT FOR EARTH MATERIALS EXTRACTION – MSB 17.30

NOTE: *Carefully read instructions and applicable borough code. Fill out forms completely. Attach information as needed. Borough staff will not process incomplete applications.*

Application fee must be attached, check one:

____ $1000 for Administrative Permit (Less than two years ***or*** less than 7,000cy annually)

X___ $1,500 for Conditional Use Permit (More than two years ***and*** more than 7,000cy annually)

Required Attachments:

X___ Site plan as detailed on Page 2

X___ Narrative with operational details and all information required on Page 2

X___ Reclamation Plan

Subject Property:

MSB Tax Account ID#(s): 51341000T001 & 51341000T002

Street Address: 4101 E. Fairview Loop

Facility/Business Name: Big Dipper Pi t

Big Dipper Construction, Inc.
PO Box 874550
Wasilla, AK 99687-4550
Phone: Cell (907) 354-5479
Wk 907-376-8341 Hm
E-mail: bdctodd@gmail.com

Name of Agent / Contact for application
Tim Alley, PE, The Boutet Company, Inc
Mailing: 1508 E. Bogard Road #7
Wasilla, AK 99654
Phone: Cell (907) 830-2821
Wk (907) 357-6760 Hm
E-mail: talley@tbcak.com

Attach a narrative describing the proposed extraction activities.	**Attached**
Describe the types of material being extracted.	X
Provide total acreage of all parcels on which the activity will occur.	X
Provide total acreage of earth material extraction activity.	X
Provide total cubic yards to be extracted.	X
Provide the estimated final year extraction will occur.	X
Provide seasonal start and end dates.	X
Provide hours of operation.	X
Provide days of the week operations will take place.	X
Provide proposed peak hour and traffic volume at the peak hour	X
Provide estimated end date of extraction.	X
Provide estimated end date of reclamation.	X
Describe all other uses occurring on the site.	None
Describe methods used to prevent problems on adjacent properties, such as lateral support (steep slopes), water quality, drainage, flooding, dust control, and maintenance of roads.	X
Describe how the operation will monitor the seasonal high water table.	X
Provide quantity estimates and topographical information such as cross section drawings depicting depth of excavation, slopes, and estimated final grade.	X
Provide Reclamation Plan in accordance with MSB 17.28.063 and 17.28.067.	X

Submit a detailed site plan, *drawn to scale*. Drawings under the seal of an engineer or surveyor are recommended but not required.	**Attached**
Identify location of permanent and semi-permanent structures on the site for verification of setback requirements. Include wells and septic systems.	
Depict buffer areas, driveways, dedicated public access easements, noise buffers (such as fences, berms or retained vegetated areas), and drainage control such as ditches, settling ponds, etc.	X
Identify the entire area intended for gravel/material extraction activity.	X
Identify the property boundary containing the operation.	X
Identify ADEC Drinking Water Protection Areas wherever proposed project area boundaries fall within drinking water protection area buffer zones.	None
Identify areas used for past and future phases of the activity.	X
Provide road and access plan that includes anticipated vehicle routes and traffic volumes. If the level of activity exceeds the minimum levels specified in MSB 17.61.090, Traffic Standards, a traffic control plan consistent with state regulations may be required.	X
Provide detailed description of the proposed visual screening.	X
Provide measures to mitigate or lessen noise impacts on surrounding properties.	X
Provide proposed lighting plan.	N/A

Submit documentation showing compliance with borough, state, and federal laws.	**Applied for (list file #)**	**Attached (list file #) or N/A**
Submit mining permit as required by the Alaska State Department of Natural Resources (ADNR) if extraction activities are to take place on state land.	N/A	
Provide reclamation plan as required by ADNR, pursuant to AS 27.19. Provide copy of reclamation financial assurance filed with the State of Alaska (If exempt, provide qualifying documents for exemption).	See attached email submission	
Provide Notice of Intent (NOI) for construction general permit or multi-sector general permit and storm water pollution prevention plan, and other associated permits or plans required by the Environmental Protection Agency (EPA) pursuant to the National Pollutant Discharge Elimination System (NPDES) requirements.	See attached letter	
Provide United States Army Corps of Engineers permit pursuant to Section 404 of the Clean Water Act, 33 U.S.C. 1344, if material extraction activity is to take place within wetlands, lakes, and streams.	N/A	
Provide any other applicable permits, such as driveway/access permits; list as appropriate.	See attached application confirmation email	

Prior to the public hearing, the applicant must also pay the mailing and advertising fees associated with the application. Staff will provide applicant with a statement of advertising and mailing charges. Payment must be made **prior** to the application presentation at the public hearing.

OWNER'S STATEMENT: I am owner or authorized agent of the following property:

MSB Tax Account ID #(s) 51341000T001 & 51341000T002 and, I hereby apply for approval of conditional use permit for earth material extraction activities on the property as described in this application.

I understand all activity must be conducted in compliance with all applicable standards of MSB 17.28, MSB 17.30, and with all other applicable borough, state, and federal laws, including but not limited to, air quality, water quality, and use and storage of hazardous materials, waste and explosives, per MSB 17.30.055.

I understand that other rules such as local, state, and federal regulations, covenants, plat notes, and deed restrictions may be applicable and other permits or authorizations may be required. I understand that the borough may also impose conditions and safeguards designed to protect the public's health, safety, and welfare, and ensure the compatibility of the use with other adjacent uses.

I understand that it is my responsibility to identify and comply with all applicable rules and conditions, covenants, plat notes, and deed restrictions, including changes that may occur in such requirements.

I understand that this permit may transfer to subsequent owners of this land and that it is my responsibility to disclose the requirements of this status to operators on this property, and to the buyer when I sell the land. Additionally, I agree to comply with MSB 17.30.120, Transfer of Conditional Use Permit, in the event this permit is transferred to a subsequent property owner.

I grant permission for borough staff members to enter onto the property as needed to process this application and monitor compliance. Such access will at a minimum, be allowed when the activity is occurring and, with prior notice, and at other times necessary to monitor compliance.

The information submitted in this application is accurate and complete to the best of my knowledge.

Paul Minnick	Paul Minnick	3/28/2024
Signature: Property Owner	Printed Name	Date
Signature: Agent	Printed Name	Date

PERMIT CENTER – FEE RECEIPT FORM

Property Location: 1341000T001/1341000T002 Applicant: BIG DIPPER CONST.

	USE PERMITS {100.000.000.341.300}	Fee
	8.35 Public Display of Fireworks	**$25.00**
	8.40.010 Liquor License - Alcohol & Marijuana Control Office (AMCO) Referrals for Matanuska Susitna Borough Review of Issuance, renewal or transfer (location, owner)	**$100.00**
	8.41.010 Marijuana License - Alcohol & Marijuana Control Office (AMCO) Referrals for Matanuska Susitna Borough Review of Issuance, renewal or transfer (location, owner)	**$100.00**
	8.52 Temporary Noise Permit	**$1000.00**
	8.55 Special Events Permit 500 – 1000 Attendees 1000+ Attendees **8.55** Special Events Permit Site Monitor Fee / Per Day	**$500.00** **$1,000.00** **$300.00**
	17.02 Mandatory Land Use Permits	**$50.00**
	17.04 Nancy Lake Special Land Use District CUP	**$1,500.00**
	17.06 Electrical Generating & Delivery Facility Application	**$500.00**
	17.08 Hay Flats Special Land Use District Exception Application	**$1000.00**
	17.17 Denali State Park Conditional Use Permit	**$1500.00**
	17.18 Chickaloon Special Land Use District CUP	**$1500.00**
	17.19 Glacier View Special Land Use District CUP	**$1500.00**
	17.23 Port MacKenzie Development Permit	**$1000.00**
	17.25 Talkeetna Conditional Use Permit	**$1500.00**
	17.25 Talkeetna Conditional Use Permit – Variance	**$1500.00**
	17.27 Sutton Special Land Use District CUP	**$1500.00**
	17.29 Flood Damage Prevention Development Permit	**$100.00**
	17.29 Flood Damage Prevention Development Permit –Variance	**$500.00**
	17.30.040 Earth Materials Extraction Admin. Permit	**$1000.00**
	17.30.050 Earth Materials Extraction CUP	**$1500.00**
	17.36 Residential Planned Unit Development Application – Concept Plan – up to 50 Lots Additional Lots or tracts being created – Per Lot	**$500.00** **$100.00**
	17.48 Mobile Home Park Permit Application	**$500.00**
	17.52 Residential Land Use District App (Rezone)	**$1,000.00**
	17.52 Conditional Use Permit Application CUP	**$1,500.00**
	17.55 Shoreline Setback Exception Application	**$300.00**
	17.60 Conditional Use Permit Application	**$1500.00**
	17.61 Commercial/Industrial Core Area Conditional Use Permit	**$1500.00**
	17.62 Coal Bed Methane	**$1500.00**

Permit Center
350 E DAHLIA AVE
PALMER AK 99645-6411
907 2618630
Fri 10/25/2024 3:39 PM

Order ID:#8be841d4
Order Number:329
Order Status: COMPLETED
Payment Status: COMPLETED

Permit Fee	$1,500.00
Sub Total:	$1,500.00
Discounts:	$0.00
Fees:	$0.00
Grand Total:	$1,500.00

THANK YOU

	17.63 Conditional Use Permit for Racetracks	**$1500.00**
	17.65 Variance	**$1500.00**
	17.67 Tall Structures - Network Improvement Permit Nonconforming Use Administrative Permit Conditional Use Permit	**$100.00** **$200.00** **$500.00** **$1500.00**
	17.70 Regulation of Alcoholic Beverage Use Permit Application	**$1500.00**
	17.73 Multi-Family Land Use Permit – add $25.00 for each additional unit beyond 5 units.	**$500.00**
	17.75 Single-Family Residential Land Use District CUP	**$500.00**
	17.76 Large Lot Single-Family Residential Land Use District Conditional Use Permit Application	**$1000.00**
	17.80 Nonconforming Structures (Amnesty) Pre-Existing Legal Nonconforming (Grandfather)	**$300.00**
	17.90 Regulation of Adult Businesses – Conditional Use Permit	**$300.00**
	28.60 Timber Transport Permit	**$1500.00**
		$300.00

	RIGHT-OF-WAY FEES:	
	Driveway	**$50.00**
☐	Driveway Deposit {100.226.100}	**$150.00**
	Construction	**$200.00**
	Utility (Application Fee = $100 ~ Distance Fee $0.25/per lineal foot)	
	Encroachment	**$150.00**
	Construction Bond {100.227.000}	

	PLATTING PRE-APPLICATION CONFERENCE:	
	Pre-Application Fee	**$50.00**

	FEES:	
	Flood Plain Development Survey CD	**$10.00**
	CD/DVD/DVD-R	**$7.50**
	Construction Manual/Title 43	**$5.00**
	Plat Map/Tax Map Copies/Mylar	**$5.00**
	Color Maps	**$12.00**
	Xerox Copies (B/W = $0.25 ~ Color $1.00/page 11X17 Color $1.75/page)	
	Advertising Fees	
	Cultural Resources Books or Maps	
☐	Citation Payment (If sent to collections – use total due from Courtview)	
	Thumb Drive 2GB = $5, 4GB = $8, 8GB = $10; 16GB = $15; 32GB = $20	

$_____ Amount Paid **Date:_____** **Receipt #_____** **By:_____**

MATANUSKA-SUSITNA BOROUGH

Real Property Detail for Account: 51341000T001

Site Information

Account Number	51341000T001	Subdivision	GERSHMEL HAROLD T/1-3
Parcel ID	2611	City	None
TRS	S17N01E18	Map WA10	Tax Map
Abbreviated Description (Not for Conveyance)	GERSHMEL HAROLD T/1-3 TRACT 1		
Site Address	4120 E Brenda Ave		

Ownership

Owners	BIG DIPPER CONSTRUCTION I	Buyers	
Primary Owner's Address	PO BOX 871274 WASILLA AK 99687	Primary Buyer's Address	

Appraisal Information

Year	Land Appraised	Bldg. Appraised	Total Appraised
2024	$107,500.00	$0.00	$107,500.00
2023	$107,500.00	$0.00	$107,500.00
2022	$107,500.00	$0.00	$107,500.00

Assessment

Year	Land Assessed	Bldg. Assessed	Total Assessed[1]
2024	$107,500.00	$0.00	$107,500.00
2023	$107,500.00	$0.00	$107,500.00
2022	$107,500.00	$0.00	$107,500.00

Building Information

Building Item Details

Building Number	Description	Area	Percent Complete

Tax/Billing Information

Year	Certified	Zone	Mill	Tax Billed
2024	Yes	0006	12.81	$1377.08
2023	Yes	0006	12.583	$1352.67
2022	Yes	0006	13.882	$1492.32

Recorded Documents

Date	Type	Recording Info (offsite link to DNR)
12/14/2022	PERSONAL REPRESENTATIVE	Palmer 2022-027952-0
9/13/1994	QUITCLAIM DEED (ALL TYPE)	Palmer Bk: 781 Pg: 250

Tax Account Status [2]

Status	Tax Balance	Farm	Disabled Veteran	Senior	Total [3]	LID Exists
Current	$0.00	$0.00	$0.00	$0.00	$0.00	No

Land and Miscellaneous

Gross Acreage	Taxable Acreage	Assembly District	Precinct	Fire Service Area	Road Service Area
9.77	9.77	Assembly District 003	26-350	130 Central Mat-Su	009 Midway RSA

[1] Total Assessed is net of exemptions and deferments.rest, penalties, and other charges posted after Last Update Date are not reflected in balances.

Last Updated: 12/16/2024 10:00:01 AM

[2] If account is in foreclosure, payment must be in certified funds.

[3] If you reside within the city limits of Palmer or Houston, your exemption amount may be different.

MATANUSKA-SUSITNA BOROUGH

Real Property Detail for Account: 51341000T002

Site Information

Account Number	51341000T002	Subdivision	GERSHMEL HAROLD T/1-3
Parcel ID	36860	City	None
TRS	S17N01E18	Map WA10	Tax Map
Abbreviated Description (Not for Conveyance)	GERSHMEL HAROLD T/1-3 TRACT 2		
Site Address	4101 E Fairview Loop		

Ownership

Owners	BIG DIPPER CONST INC	Buyers	
Primary Owner's Address	PO BOX 871274 WASILLA AK 99687-1274	Primary Buyer's Address	

Appraisal Information

Year	Land Appraised	Bldg. Appraised	Total Appraised
2024	$99,100.00	$0.00	$99,100.00
2023	$99,100.00	$0.00	$99,100.00
2022	$99,100.00	$0.00	$99,100.00

Assessment

Year	Land Assessed	Bldg. Assessed	Total Assessed[1]
2024	$99,100.00	$0.00	$99,100.00
2023	$99,100.00	$0.00	$99,100.00
2022	$99,100.00	$0.00	$99,100.00

Building Information

Building Item Details

Building Number	Description	Area	Percent Complete

Tax/Billing Information

Year	Certified	Zone	Mill	Tax Billed
2024	Yes	0006	12.81	$1269.48
2023	Yes	0006	12.583	$1246.97
2022	Yes	0006	13.882	$1375.71

Recorded Documents

Date	Type	Recording Info (offsite link to DNR)
8/2/2017	PERSONAL REPRESENTATIVE	Palmer 2017-015007-0

Tax Account Status [2]

Status	Tax Balance	Farm	Disabled Veteran	Senior	Total [3]	LID Exists
Current	$0.00	$0.00	$0.00	$0.00	$0.00	No

Land and Miscellaneous

Gross Acreage	Taxable Acreage	Assembly District	Precinct	Fire Service Area	Road Service Area
8.62	8.62	Assembly District 003	26-350	130 Central Mat-Su	009 Midway RSA

[1] Total Assessed is net of exemptions and deferments.rest, penalties, and other charges posted after Last Update Date are not reflected in balances.

Last Updated: 12/16/2024 10:00:01 AM

[2] If account is in foreclosure, payment must be in certified funds.

[3] If you reside within the city limits of Palmer or Houston, your exemption amount may be different.

The Boutet Company, Inc.
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Phone 907.522.6776
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December 19, 2024

Planning and Land Use Department
Matanuska- Susitna Borough
350 E. Dahlia Avenue
Palmer, AK 99645

Earth Materials Extraction Permit Narrative
Big Dipper Construction Pit

To Whom It May Concern:

On behalf of Paul Minnick, owner of Big Dipper Construction (BDC) Pit, The Boutet Company, Inc. (TBC) has prepared the following submittal in pursuit of a Conditional Use Permit for Earth Materials Extraction with the Matanuska-Susitna Borough (MSB). The pit is located on Tracts 1 and 2 of Gershmel Harold Subdivision with address 4120 E Brenda Ave (Tract 1) and 4101 E Fairview Loop (Tract 2). The combined property is 18.39 acres.

The 18.39 acres property described above contains about 17.44 acres of usable area for gravel extraction. BDC obtained Tract 2 in 2017 and has used the property for private use as well as providing winter road sand for the MSB. Tract 1 ownership was transferred to BDC in 2022. At the time of transfer materials had been extracted from Tract 2, and the property was littered with junk cars and unused structures. BDC cleared Tract 2 and removed material for use on in-house projects. Tract 1 was undeveloped except for a residential structure in the northeast corner. Portions of this site were disturbed in 2023 to gain access to and removal of the abandoned residential structure and to prepare for material extraction.

No material sales have been conducted prior to or during the Conditional Use Permit (CUP) application process started on March 29, 2024.

The site will be excavated from South to North. Phase 1, currently in development, includes leveling a staging area near the existing entrance on East Fairview Loop. Side slopes will be excavated to the maximum angle of repose of 1.5’ horizontal to 1’ vertical and built back to 2H:1V prior to seasonal shut down of extraction activities.

An 8-foot-tall chain link fence will be installed along the northern, western, and eastern boundaries for safety and security. There is an existing chain link fence and gate along the southern boundary. Vinyl slats will be added to the fence on the western boundary from the

gate for approximately 110 ft north. The fence on the southern boundary (approximately 660 ft) has been upgraded to include opaque fabric which blocks sight without blocking wind.

A 10-foot-wide slope setback inside the property line will be maintained with existing vegetation along all property boundaries to protect the neighboring properties from slope erosion and, along with the pit walls, noise. The bottom of pit drains North and will thus increase in depth as extraction continues, with a maximum depth of approximately 80 ft below existing surface grade. A 20‘ deep test hole was dug in the southeast corner of the extraction area at an elevation of 221.5’; no ground water was encountered. Based on this log the depth of the pit will not be lower than 205.5’ in elevation. A groundwater monitoring tube will be maintained throughout the project. Additional monitoring tubes will be installed after completion of Phases 5 and 8 to ensure that a minimum 4’ separation from ground water is maintained.

BDC Pit currently provides pit run gravel materials for use on BDC construction projects not exceeding 2,000 cubic yards per year. The site is also used for road sand storage for MSB maintenance contracts. No materials sales are currently being conducted. Upon approval of this permit, sales of gravel are intended for select contractors for hauling by BDC and will not be provided to the general public. No concrete or asphalt plants will be installed at the pit. The extraction operation will employ an excavator, loaders, and a screening plant for daily use. Additional dozers, loaders, and excavators are available for increased workloads. The approximately 70-ft tall pit walls will function as a noise mitigation feature for the residential properties to the North and West, as well as the undeveloped property to the east. To further mitigate noise, the screening plant will be moved farther North into the site as phases progress. The property to the South of the site, across the Fairview Loop right of way, is owned and operated by the Alaska Railroad and has sufficient vegetation to mitigate sound.

Relatively modern equipment will be used on site. Given the topography of the pit it is unlikely that noise at the property boundaries that abut residential areas will exceed the sound limits found in MSB 17.28.060(5)(a) Table 1. Should it become apparent that additional noise mitigation is desired, the operator may utilize muffler wraps, muffler silencers, or other add-on equipment to reduce heavy equipment noise.

No lighting will be installed on the site; equipment headlights will be used during dark hours. Glare from the equipment and truck headlights will be blocked by the 30’ to 70’ high pit walls.

The area proposed for extraction can provide approximately 1,028,000 cubic yards of gravel material over ten phases. Phase 10, located along the western boundary, will be extracted last to provide additional buffer from the neighboring residential properties. Approximately, 100,000 CY will be extracted yearly while the pit is in operation. General pit operation hours will be 7:00 AM to 5:00 PM Monday through Saturday. Excavation crews will arrive at 7:00 AM for safety briefing or team meetings, but no noise-generating work will be permitted until 8:00 AM. Daily extraction and trucking activities are expected to last until 5:00 PM. Gravel extraction for sales will occur Monday through Saturday between April 1st to Nov 30th, depending on seasonal weight restrictions and weather; no extraction will be permitted on Sundays. No gravel

extraction and processing is planned for winter months except for producing and hauling sand for road maintenance.

It is estimated that the pit will be exhausted after approximately ten years of operation removing 100,000 CY/Yr. Extraction will begin this year (2024) and is estimated to be finished in 2034, with reclamation completed no later than 2037. Working from south to north allows storm water runoff to be contained on site. Existing soils have a very low silt content and readily absorb stormwater. It is anticipated that minimal stormwater will be discharged from this site.

Primary site access will be from E. Fairview Loop. Traffic generation from this pit is expected to be minimal with a maximum average traffic generation of 20 vehicles per hour and 200 vehicles per day, operating from 8 AM to 5 PM. Truck traffic will use the same 8 AM to 5 PM pit operation schedule. Assuming that 100,000 CY of material will be extracted over 8 months operating 10 hours per day, 6 days per week, the site will generate approximately three truck loads per hour. At maximum production, given the time required to turn around and load trucks, no more than 20 vehicles per hour are expected. To prevent reduce potential for collisions and impacting traffic along Fairview Loop and local neighborhoods, large vehicles will not make left turns during peak traffic hours (0600-0800 and 1600-1800) or when more than 10 trucks per hour are leaving the site, including trucks that are not actively hauling material.

Maximum extraction for large jobs is 20 trucks per hour or 200 – 280 cubic yards of material per hour or 2000 - 2800 cubic yards per day. From April 1st to Nov 30th the absolute maximum total extraction would be 486,000 – 680,400 cubic yards. Maximum extraction will completely exhaust the pit within two years, it is not expected that large jobs will be taken consecutively. Phases will be worked as described in the extraction and reclamation plans. No more than two phases will be worked prior to reclaiming the previous phases with 4” topsoil and seed.

The existing driveway on Brenda Avenue will not be used for extraction purposes; it is currently being used for removal of the existing structure. The driveway may be used in the future for access to the upper area for clearing and grubbing prior to working the next phase. Traffic generation is expected to be minimal, estimated to be 1 trip per hour, and will remain gated while not in use. A driveway permit has been submitted for review by MSB.

To reduce the potential for tracking gravel and sand onto Fairview Loop, a track out BMP will be installed at the pit entrance. Further, the pit operator will sweep Fairview Loop as needed, but no less than every four hours during pit operation. Water shall be used for dust control on the site and to control track out as needed.

Reclamation of the pit expansion includes stabilization of the site slopes by placing unusable soil material to flatten the slope to 2’H to 1’V. All disturbed areas are to be covered with 4” of compacted topsoil and seeded with a certified seed mix suitable for Alaska conditions and free of noxious weeds or other undesirable species per MSB 17.28.067(F), (G), (H), and (I). Reclamation of the pit will occur in stages; slopes shall be reclaimed during extraction. No more than 2 phases will be worked prior to reclaiming the previous phase's slopes or within 4 growing

seasons, whichever is shorter. Plant coverage must reach 60% or greater within this time and maintained until project completion. The only exception for reclamation is the site access and staging areas, which will be reclaimed after completion of the project. The bottom of the pit will be graded to 0.5% slope to the North during extraction; this slope will be maintained after reclamation.

Please see the attached supporting documents for this submittal. Please feel free to contact me for with any questions or requests for additional information.

Sincerely,



Tim Alley, PE
Civil Engineer
The Boutet Company, Inc.
Office: (907) 357-6760
Mobile: (907) 830-2821
Email: talley@tbcak.com

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March 29, 2024

Planning and Land Use Department
Matanuska- Susitna Borough
350 E. Dahlia Avenue
Palmer, AK 99645

RE: Big Dipper Pit Earth Materials Extraction
4101 E. Fairview Loop – Stormwater Pollution Prevention Plan

To Whom It May Concern:

On behalf of Paul Minnick, owner of Big Dipper Pit, The Boutet Company has reviewed the project grading and drainage patterns and has prepared the following recommendations for the implementation of a stormwater pollution prevention plan. The proposed pit is located within Grishmel Harold Subdivision T/1-3 Tracts 1 and 2. The combined property area is 18.39 acres of which 17.44 acres will be utilized for extraction of gravel and topsoil products.

The proposed gravel extraction will excavate an average depth of 70-80' across the two parcels. This area constitutes the available area for gravel extraction on the lot. During extraction the pit floor will be graded to drain north, into the pit, to reduce potential for runoff to the southern property boundary. The side walls of the pit keep drainage inside the properties along the north, west and east property lines. Existing soils within the pit are sandy gravels with little silt and will readily absorb stormwater. The pit grading, together with the clean soils, will prevent stormwater from leaving the site. Furthermore, there is no direct drainage path to any waters of the US. Application for a Notice of Intent for coverage under the Department of Conservation's Construction General Permit (CGP) or Multisector General Permit (MSGP)requires two things:

1. Ground disturbance greater than 1 acre.
2. Discharging to waters of the US.

Since the proposed pit will not discharge to waters of the US it does not qualify for coverage under the CGP or MSGP. It is recommended that the pit owner/operator prepare a SWPPP to install bast management practices to maintain, reduce, treat and/or prevent contamination of stormwater with sediment. If at any time sediment is discharged from the site, it is recommended that the pit owner/operator apply for Notice of Intent under the 2021 CGP.

Please feel free to contact me for with any questions or requests for additional information.

Sincerely,



Tim Alley, PE
AK CESCL # ASA-24-0030
Civil Engineer
The Boutet Company, Inc.
Office: (907) 357-6760
Mobile: (907) 830-2821
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November 20, 2024

Matanuska-Susitna Borough

350 East Dahlia Avenue

Palmer, AK 99645

RE: Conditional Use Permit – Request for Additional Information
LOCATION: Big Dipper Pit 4101 E Fairview Loop, Tax ID# 51341000T001 & T002

Thank you for your review of this permit application. We have reviewed your request for additional information and have provided the responses below and attached supporting documentation:

1. The application narrative requires updating:

    a. Provide an updated narrative detailing the hours of operation for gravel extraction and truck hauling activities on or to/from the site.

Response: The narrative has been updated to include as many of these missing details as possible. The operation hours will be from 8am to 5pm, operation crew is expected to arrive earlier for safety and team meetings or other miscellaneous tasks that will not produce elevated noise.

    b. The narrative indicates no work will be conducted before 8:00 a.m. or after 5:00 p.m. However, the narrative concerning the truck hauling schedule states no trucks will make left turns onto Fairview Loop from 6:00 a.m. to 8:00 a.m., or 12:00 p.m. to 6:00 p.m. These portions in the narrative are conflicting and require clarification. Indicate whether excavating equipment and hauling trucks will operate during similar hours or separately and provide those times.

Response: Peak traffic hours were included for reference; trucks will operate between 8 am and 5 pm, and no left turns will be allowed between 6 am and 8 am or 12 pm and 5 pm. Trucks may haul materials on Sunday as necessary, particularly for winter road sanding. Gravel extraction equipment will operate between 8 am and 5 pm Monday through Saturday.

c. Due to the proximity to residential uses to the west and north, the hours for hauling and extracting gravel are recommended to not exceed 8:00 a.m. to 5:00 p.m., Monday through Saturday. No operations are recommended on Sundays.

Response: Narrative has been updated to be clearer on the operation schedule as defined above.

2. The reclamation plan provided is incomplete according to the requirements of MSB 17.28.063 & 17.28.067:

a. Phase 10 appears to overlap phases 1-9. The "Site Plan and Phases" plans (sheets 3 & 4) for Phase 10 require updating to include the areas within Phases 1-9.

Response: Phase lines are set at the existing ground. With a 2:1 slope requirement the bottom of slope will extend past the phase lines when necessary. Phase 10 has been redefined to include a top of slope and bottom of slope phase line to help clarify this.

b. Update the application narrative addressing MSB 17.28.067(B), (F), (G), (H), and (I).

Response (1): Note 4 pages 5, 6 and 7, and Note 15 pages 2, 3 and 4 have been updated to reflect MSB 17.28.067(F) and (H) more accurately.

Response (2): Note 3 on Sheets 5, 6 and 7 cover MSB 17.28.067(G).

Response (3): MSB 17.28.067(I) There will be no paved area on site and the entire site will be covered in topsoil and seeded.

3. 2022 Aerial imagery indicates that mining has already occurred within proposed phases 1 and 2:

a. Provide a narrative describing the subject properties' history and known excavation activities before the Conditional Use Permit application was submitted on March 29, 2024.

Response: The narrative has been updated to reflect the history of the property. In summary, Big Dipper Construction acquired Tract 2 in 2017 and Tract 1 in 2022. Material from Tract 2 was harvested for use on in-house projects and Tract 1 was only disturbed to remove abandoned vehicles and a structure.

4. The application's site plan requirements are insufficient:

a. Label the 100' buffer area within phase 10 (sheets 2 through 4) to indicate its purpose.

Response: Phase 10 will start 100' from the property line and terminate at the 10' buffer. This label is intended to display the size of phase 10 and nothing more.

b. Provide the distance from the northernmost edge of Phase 9 to the abutting residential lot to the northeast.

Response: Provided on page 3 the shortest distance is 41.53'.

c. The plans are misnumbered. The sheets indicate 9 pages, but only sheets 2 through 8 were provided. Please provide the missing sheets and/or update the plans with the correct page numbers.

Response: Missing sheets were the title (pg. 1) and a traffic flow sheet (pg. 9).

d. Label the property lines or utilize an alternate legend icon or color to distinguish between other plan features. Phasing and property lines are indistinguishable.

Response: The property lines have been changed to help clarify the drawing on all pages.

e. Utilize an alternate legend icon or color for existing and proposed minor contours. These features are indistinguishable.

Response: The contour lines have been changed to help clarify the drawing on all pages.

f. Ensure the existing gravel driveway and gate are labeled on all applicable sheets.

Response: The gravel driveway to the north has been labeled on sheets: 3, 4, 5, and 7

5. The Road and Access Plan is insufficient:

a. An unpermitted driveway exists off Brenda Avenue, which provides access to Tax Acct #1341000T001 (4120 Brenda Ave).

Response: This existing driveway was already in place and was utilized to remove abandoned vehicles and the abandoned structure. It will be barricaded and is not intended to be used for extraction. It will be permanently removed during the reclamation of phase 9.

b. The application narrative and site plans contradict each other. The narrative indicates the existing driveway off Brenda Avenue will be barricaded, but the site plans indicate a gated gravel driveway.

Response: The site plan has been updated to match the narrative.

c. According to MSB 11.12, a driveway permit is required unless the existing driveway is demolished or permanently barricaded and not easily modified to allow access.

Response: The driveway will be barricaded after site cleanup is complete and removed along with the reclamation of phase 9.

6. The operation's proposed noise and visual mitigation measures are incomplete. Reference MSB 17.28.60 Site Development Standards for acceptable noise and visual screening methods:

a. Describe any noise reduction features installed on noise-producing equipment (i.e. excavating equipment and hauling trucks) and measures to utilize equipment with noise reduction features.

Response: Relatively modern equipment will be used on site. Given the topography of the pit it is unlikely that noise at the property boundaries abutting residential areas will exceed the sound limits found in MSB 17.28.060(5)(a) Table 1. Should it become apparent that additional noise mitigation is desired, the operator may utilize muffler wraps, muffler silencers, or other add-on equipment to reduce heavy equipment noise.

7. The submitted materials indicate the driveway permit for East Fairview Loop has been filed with the State of Alaska:

    a. Please note that conditions of approval will be recommended to the Planning Commission should a public meeting occur before these materials are provided to the Borough.

    b. Conditions of approval will recommend that the applicant provide the Borough with a state- issued driveway permit before conducting gravel extraction operations from the proposed properties.

    Response: The driveway permit has been submitted to the DOT under the application ID: 33285

Please see the supporting documents attached for this submittal. Please feel free to contact me for with any questions or requests for additional information.

Sincerely,

Tim Alley, PE

Civil Engineer

The Boutet Company, Inc.

Office: (907) 357-6760

Mobile: (907) 830-2821

Email: talley@tbcak.com

Attachment:
Big Dipper DW Permit Email
Big Dipper Plans
Big Dipper Narrative

From: Sean Jackson
To: Rick Benedict
Cc: Tim Alley
Subject: Big Dipper Pit on Fairview Loop
Date: Thursday, December 19, 2024 3:18:26 PM
Attachments: Big Dipper Extraction Narrative 12-19-2024.pdf
Driveway Application.pdf
Big Dipper Gravel Pit plans 12-19-2024.pdf

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Rick,

I have updated the plan and narrative for the Big Dipper Pit on Fairview loop. I have been informed that the North Driveway Permit has been submitted and I have attached the document. Additionally, the fence on the South side has been upgraded to an 8’ chain link fence with opaque fabric. The new fence follows the top of slope on the south side of the extraction and the 5’ berm is no longer required to obscure the site from Fairview Loop. The plans and narrative have been updated to reflect this, please contact me with any questions or comments.

Sean Jackson.

TBC, Inc. Project Management & Development - Engineering - Surveying - Landscape Architecture

Sean Jackson E.I.T.
Engineer

sjackson@TBCak.com
visit us at www.TBCak.com

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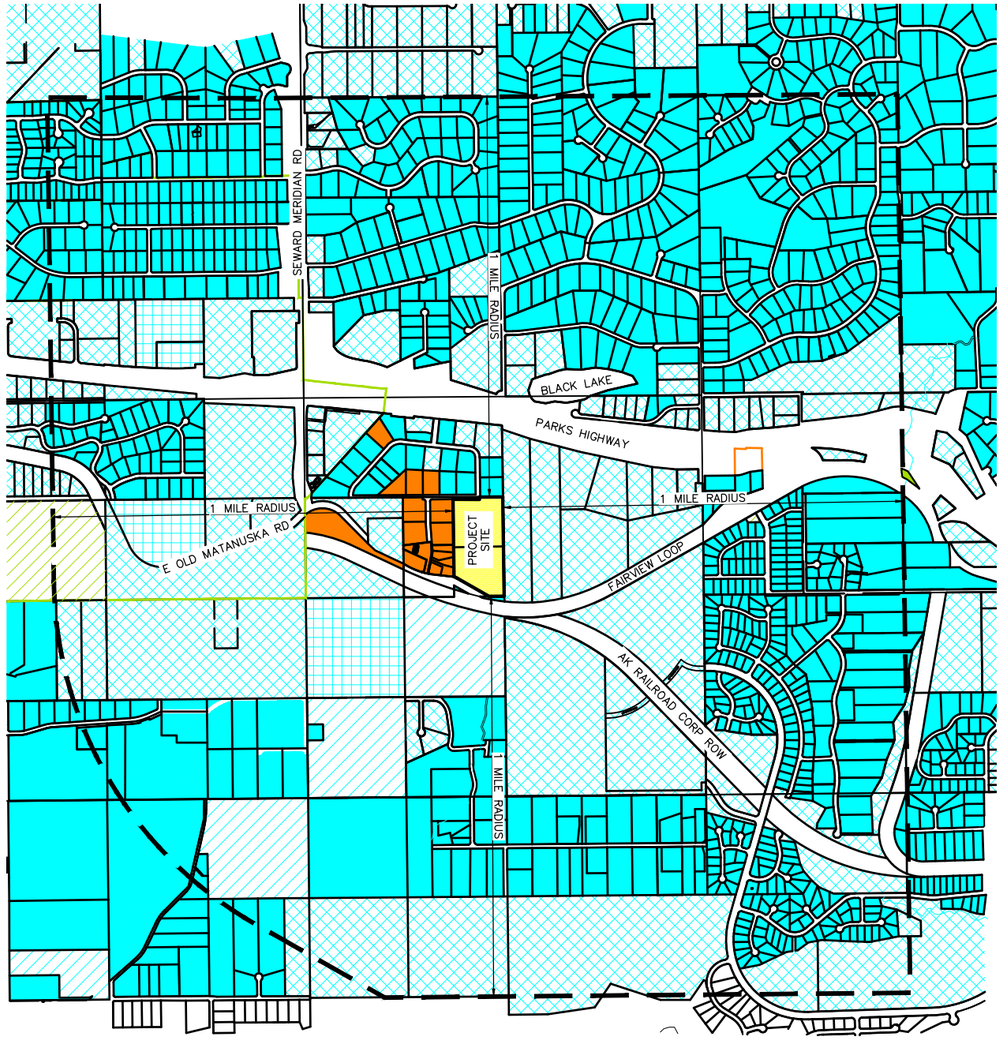

N

0 1000 2000
Feet

PROPERTY USE/OWNERSHIP LEGEND

- PRIVATE PROPERTY - SINGLE FAMILY RESIDENCE
- PRIVATE PROPERTY - MULTI FAMILY RESIDENCE
- PRIVATE PROPERTY - UNDEVELOPED
- PRIVATE PROPERTY - AGRICULTURAL
- PRIVATE PROPERTY - COMMERCIAL
- PRIVATE PROPERTY - MAT-SU HEALTH FOUNDATION (UNDEVELOPED)
- PRIVATE PROPERTY - ALASKA NATIVE CORPORATION (UNDEVELOPED)
- PRIVATE/PULBIC PROPERTY - PRIVATE OWNER WITH MAT-SU BOROUGH
- PUBLIC PROPERTY - (UNDEVELOPED)
- PUBLIC PROPERTY - DEVELOPED
- PUBLIC RIGHT-OF-WAY

Rcvd by Current Planner 12/19/2024

The Boutet Company, Inc.
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Anchorage, AK. 99518
Ph. 907-522-6776
License No. AECC957

CONSULTANT | SEAL

BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

VICINITY MAP, PROPERTY OWNERSHIP AND USES EXHIBIT

HORZ SCALE:1"=1000'
VERT SCALE: N/A
DATE: 12/19/2024

DATE/TIME 08/31/2023 | LAYOUT | DESIGNED CBW | CHECKED TJA | DRAFTED CBW
FILE W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\FAIRVIEW LOOP SURROUNDING PARCELS.DWG

FILE | W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\BIG DIPPER GRAVEL PIT SMJ.DWG
DATE/TIME | 08/31/2023
LAYOUT | DESIGNED | CBW | CHECKED | TJA | DRAFTED | CBW

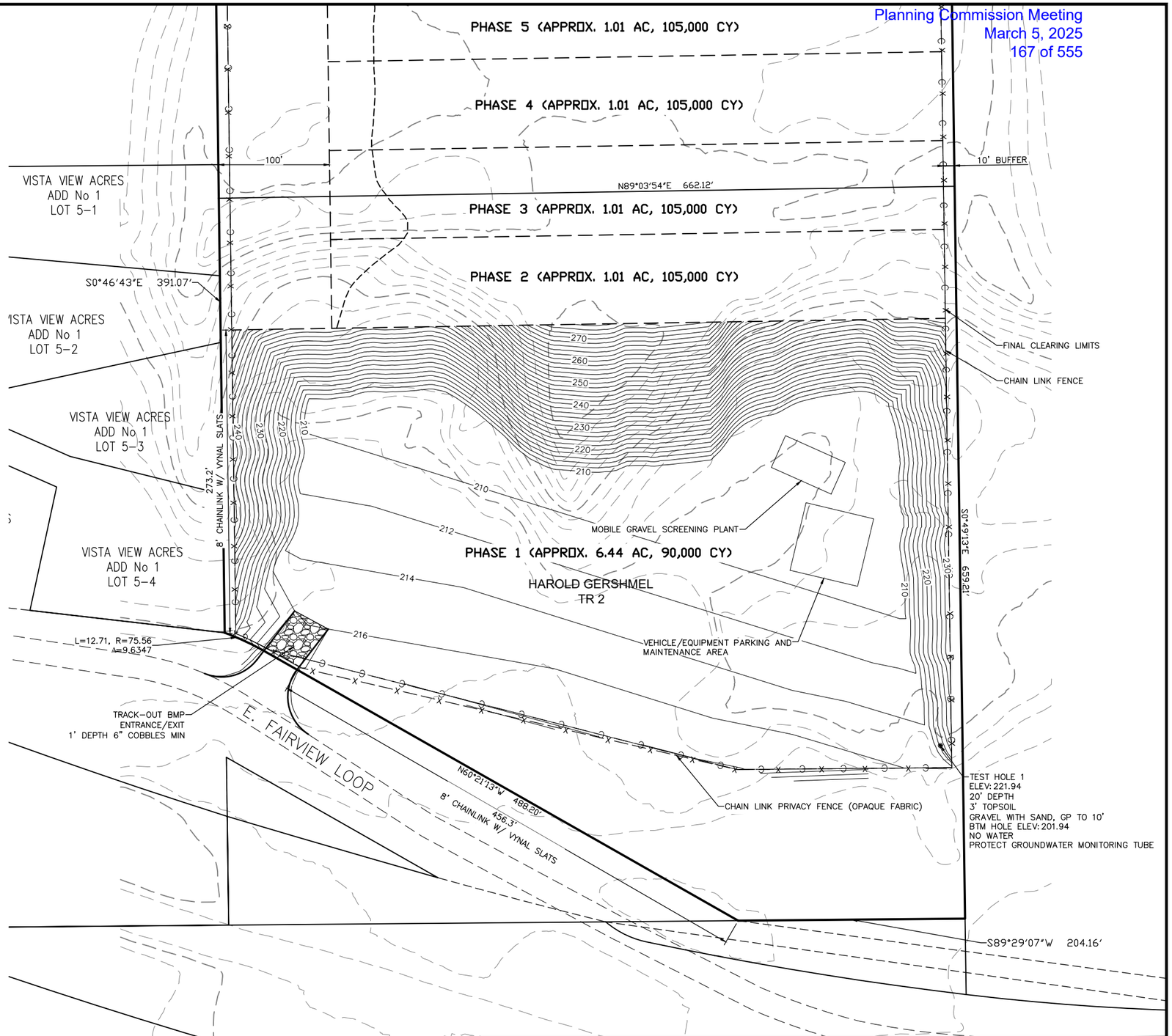
N

0 50 100 Feet

GRAVEL EXTRACTION NOTES:

1. BIG DIPPER CONSTRUCTION GRAVEL PIT (BDC PIT) LOCATED WITHIN GERSHMEL HAROLD T/1-3 TRACT 1 AND 2 (4101 E FAIRVIEW LOOP) WILL OPERATE YEARLY FOR GRAVEL EXTRACTION BETWEEN APPROXIMATELY APRIL 1 TO NOVEMBER 30 DEPENDING ON SEASON WEIGHT RESTRICTIONS. HOURS OF OPERATION ARE TYPICALLY MONDAY THROUGH SATURDAY 8:00 AM TO 5:00 PM. BIG DIPPER PIT WILL BE OPEN NOVEMBER 30 TO APRIL 1 AS NEEDED FOR USE OF SANDING AND ROAD MAINTENANCE.
2. TRACT 1 AND 2 ARE 18.39 ACRES TOTAL AND GRAVEL EXTRACTION TO OCCUR OVER 17.28 ACRES
3. GRAVEL EXTRACTION TO OCCUR OVER 9-10 PHASES EXTRACTING APPROXIMATELY 100,000 CY PER PHASE. TOTAL EXTRACTION VOLUME IS ESTIMATED TO BE 1,028,000 CY. GRAVEL EXTRACTION ESTIMATED TO BE COMPLETED BY 2035.
4. CLEARING AND GRUBBING TO BE COMPLETED BY PHASE. EXISTING VEGETATION WILL BE MAINTAINED UNTIL PHASE IS DEVELOPED FOR EXTRACTION.
5. GRAVEL WILL BE SOLD TO CONTRACTORS FOR SELECT DEVELOPMENTS ONLY. PIT WILL NOT BE OPEN TO THE GENERAL PUBLIC.
6. EXISTING COMMERCIAL DRIVEWAY ONTO E. FAIRVIEW LOOP WILL BE USED AND MAINTAINED FOR ACCESS INTO THE SITE. ANTICIPATED TRAFFIC GENERATION IS ESTIMATED AT 20 VEHICLES PER HOUR MAXIMUM.
7. A 10' CLEARING SETBACK ALONG THE NORTH, EAST AND WEST PROPERTY LINES SHALL BE RETAINED DURING THE DURATION OF PIT EXCAVATION AND RECLAMATION. THE TOP OF SLOPE IS PROVIDED TO PROTECT NEIGHBORING PROPERTIES FROM SLOPE EROSION AND NOISE.
8. A 10' CHAIN LINK FENCE WILL BE CONSTRUCTED AROUND THE PROPERTY AS THE PHASES ARE DEVELOPED AND WILL BE MAINTAINED AT THE TOP OF THE GRAVEL EXTRACTION SLOPES UNTIL THE FINAL PHASE OF EXTRACTION AND RECLAMATION.
9. EXTRACTION WILL BE COMPLETED WITH A LOADER AND/OR EXCAVATOR. SITE GRADE WILL BE ESTABLISHED/MAINTAINED WITH A DOZER.
10. PROCESSING OF EXTRACTED MATERIAL TO INCLUDE SCREENING ONLY. NO CRUSHER, ASPHALT OR CONCRETE PLANTS ARE ANTICIPATED.
11. SITE SHALL BE KEPT CLEAR OF GARBAGE AND DEBRIS INCLUDING DERELICT/ABANDONED VEHICLES ENCOUNTERED DURING GRAVEL EXTRACTION OPERATIONS. HAUL TRASH AND DEBRIS TO MATANUKSA-SUSITNA CENTRAL LANDFILL FOR DISPOSAL.
12. SLOPES MAY BE EXCAVATED TO 1.5:1 MAXIMUM SLOPE BUT MUST BE BUILT BACK TO 2:1 AND RECLAIMED BEFORE SEASONAL CLOSURE.
13. PIT OPERATOR SHALL REDUCE TRACK-OUT MATERIAL ONTO FAIRVIEW LOOP TO THE GREATEST EXTENT PRACTICABLE. DURING HAULING OPERATIONS SWEEP AS NEEDED TO REMOVE SILT, SAND AND GRAVEL FROM FAIRVIEW LOOP. AT MINIMUM SWEEP EVERY 4 HOURS.
14. SLOPES SHALL BE RECLAIMED DURING EXTRACTION. NO MORE THAN 2 PHASES WILL BE WORKED PRIOR TO RECLAIMING THE PREVIOUS PHASE'S SLOPES.
15. RECLAMATION WILL BE MINIMUM 4" TOPSOIL AND SEED WILL BE APPLIED TO ALL SURFACE AREA. RESEEDING SHALL UTILIZE CERTIFIED SEED SUITABLE FOR THE AREA, FREE OF NOXIOUS OR UNDESIRABLE SPECIES.

- 400 — MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- 400 — MAJOR CONTOUR (PROPOSED)
- MINOR CONTOUR (PROPOSED)
- PHASE BOUNDARY
- EDGE OF EXISTING PAVEMENT
- X — CHAIN LINK FENCE
- PROPERTY LINE
- EASEMENT LINE
- C — CLEARING LIMITS/EXCAVATION LIMITS



The Boutet Company, Inc.
601 E. 57th Place #102
Anchorage, AK. 99518
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License No. AECC957

CONSULTANT | SEAL

BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

SITE PLAN AND PHASE 1

HORZ SCALE:1"=50'
VERT SCALE: N/A
DATE: 12/19/2024

Rcvd by Current Planner 12/19/2024

DATE/TIME | 08/31/2023 | LAYOUT | DESIGNED | CBW | CHECKED | CBW | TJA | DRAFTED | CBW
FILE | W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\BIG DIPPER GRAVEL PIT SMJ.DWG

N

0 50 100 Feet

GRAVEL EXTRACTION NOTES:

1. BIG DIPPER CONSTRUCTION GRAVEL PIT (BDC PIT) LOCATED WITHIN GERSHMEL HAROLD T/1-3 TRACT 1 AND 2 (4101 E FAIRVIEW LOOP) WILL OPERATE YEARLY FOR GRAVEL EXTRACTION BETWEEN APPROXIMATELY APRIL 1 TO NOVEMBER 30 DEPENDING ON SEASON WEIGHT RESTRICTIONS. HOURS OF OPERATION ARE TYPICALLY MONDAY THROUGH SATURDAY 7:00 AM TO 5:00 PM. BIG DIPPER PIT WILL BE OPEN NOVEMBER 30 TO APRIL 1 AS NEEDED FOR USE OF SANDING AND ROAD MAINTENANCE.
2. TRACT 1 AND 2 ARE 18.39 ACRES TOTAL AND GRAVEL EXTRACTION TO OCCUR OVER 17.28 ACRES
3. GRAVEL EXTRACTION TO OCCUR OVER 9-10 PHASES EXTRACTING APPROXIMATELY 100,000 CY PER PHASE. TOTAL EXTRACTION VOLUME IS ESTIMATED TO BE 1,028,000 CY. GRAVEL EXTRACTION ESTIMATED TO BE COMPLETED BY 2035.
4. CLEARING AND GRUBBING TO BE COMPLETED BY PHASE. EXISTING VEGETATION WILL BE MAINTAINED UNTIL PHASE IS DEVELOPED FOR EXTRACTION.
5. GRAVEL WILL BE SOLD TO CONTRACTORS FOR SELECT DEVELOPMENTS ONLY. PIT WILL NOT BE OPEN TO THE GENERAL PUBLIC.
6. EXISTING COMMERCIAL DRIVEWAY ONTO E. FAIRVIEW LOOP WILL BE USED AND MAINTAINED FOR ACCESS INTO THE SITE. ANTICIPATED TRAFFIC GENERATION IS ESTIMATED AT 20 VEHICLES PER HOUR MAXIMUM.
7. A 10' CLEARING SETBACK ALONG THE NORTH, EAST AND WEST PROPERTY LINES SHALL BE RETAINED DURING THE DURATION OF PIT EXCAVATION AND RECLAMATION. THE TOP OF SLOPE IS PROVIDED TO PROTECT NEIGHBORING PROPERTIES FROM SLOPE EROSION AND NOISE.
8. A 10' CHAIN LINK FENCE WILL BE CONSTRUCTED AROUND THE PROPERTY AS THE PHASES ARE DEVELOPED AND WILL BE MAINTAINED AT THE TOP OF THE GRAVEL EXTRACTION SLOPES UNTIL THE FINAL PHASE OF EXTRACTION AND RECLAMATION.
9. EXTRACTION WILL BE COMPLETED WITH A LOADER AND/OR EXCAVATOR. SITE GRADE WILL BE ESTABLISHED/MAINTAINED WITH A DOZER.
10. PROCESSING OF EXTRACTED MATERIAL TO INCLUDE SCREENING ONLY. NO CRUSHER, ASPHALT OR CONCRETE PLANTS ARE ANTICIPATED.
11. SITE SHALL BE KEPT CLEAR OF GARBAGE AND DEBRIS INCLUDING DERELICT/ABANDONED VEHICLES ENCOUNTERED DURING GRAVEL EXTRACTION OPERATIONS. HAUL TRASH AND DEBRIS TO MATANUKSA-SUSITNA CENTRAL LANDFILL FOR DISPOSAL.
12. SLOPES MAY BE EXCAVATED TO 1.5:1 MAXIMUM SLOPE BUT MUST BE BUILT BACK TO 2:1 AND RECLAIMED BEFORE SEASONAL CLOSURE.
13. PIT OPERATOR SHALL REDUCE TRACK-OUT MATERIAL ONTO FAIRVIEW LOOP TO THE GREATEST EXTENT PRACTICABLE. DURING HAULING OPERATIONS SWEEP AS NEEDED TO REMOVE SILT, SAND AND GRAVEL FROM FAIRVIEW LOOP. AT MINIMUM SWEEP EVERY 4 HOURS.
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15. RECLAMATION WILL BE MINIMUM 4" TOPSOIL AND SEED WILL BE APPLIED TO ALL SURFACE AREA. RESEEDING SHALL UTILIZE CERTIFIED SEED SUITABLE FOR THE AREA, FREE OF NOXIOUS OR UNDESIRABLE SPECIES..

- 400 — MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
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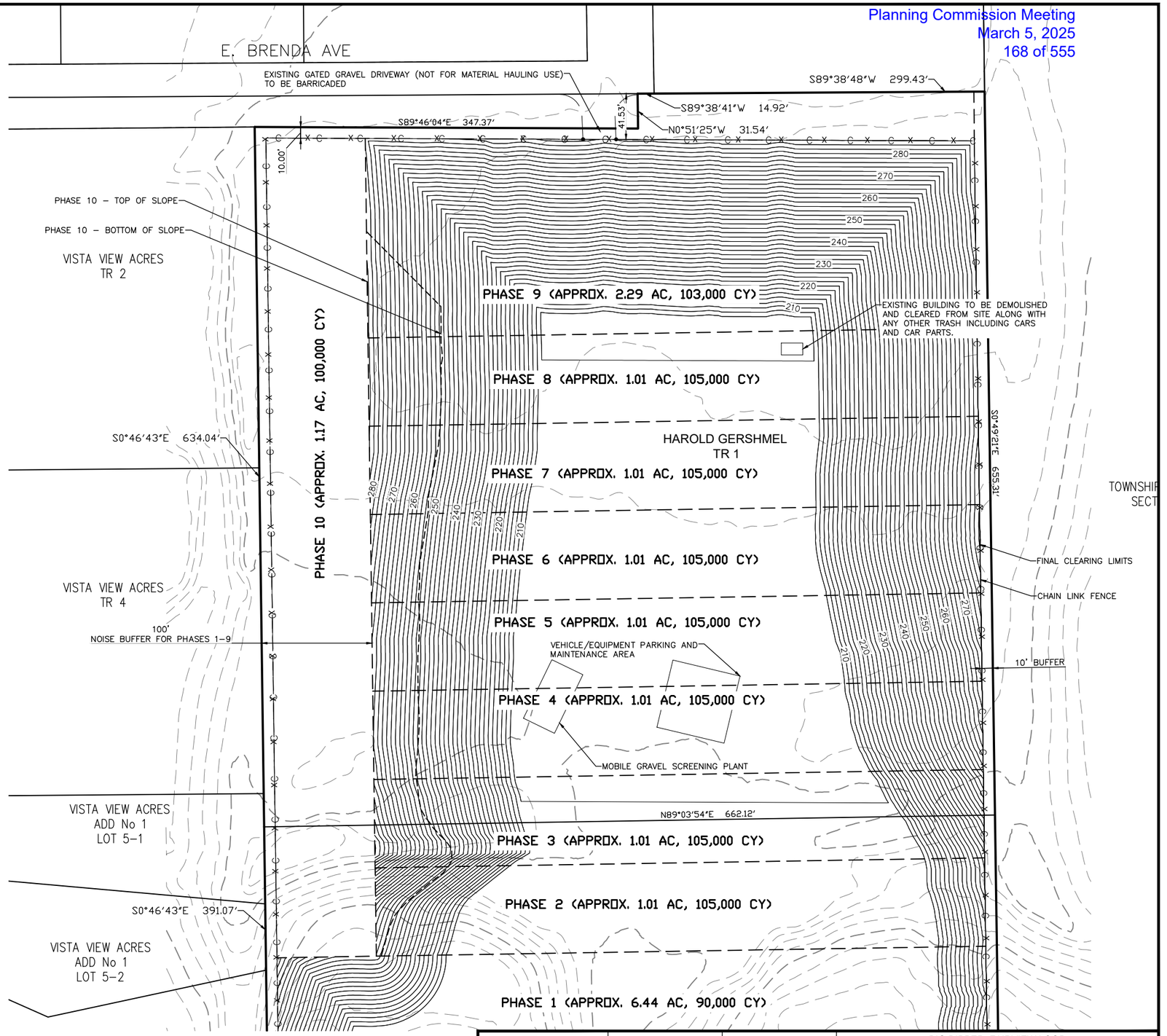
- MINOR CONTOUR (PROPOSED)
- PHASE BOUNDARY
- EDGE OF EXISTING PAVEMENT
- X — CHAIN LINK FENCE
- PROPERTY LINE
- EASEMENT LINE
- C — CLEARING LIMITS/EXCAVATION LIMITS



The Boutet Company, Inc.
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Ph. 907-522-6776
License No. AECC957

CONSULTANT | SEAL

BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

SITE PLAN AND PHASES 2 – 9

HORZ SCALE:1"=50'
VERT SCALE: N/A
DATE: 12/19/2024

Rcvd by Current Planner 12/19/2024

FILE W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\BIG DIPPER GRAVEL PIT SMJ.DWG
DATE/TIME 08/31/2023 LAYOUT DESIGNED CBW CHECKED CBW TJA DRAFTED CBW

N

0 50 100 Feet

GRAVEL EXTRACTION NOTES:

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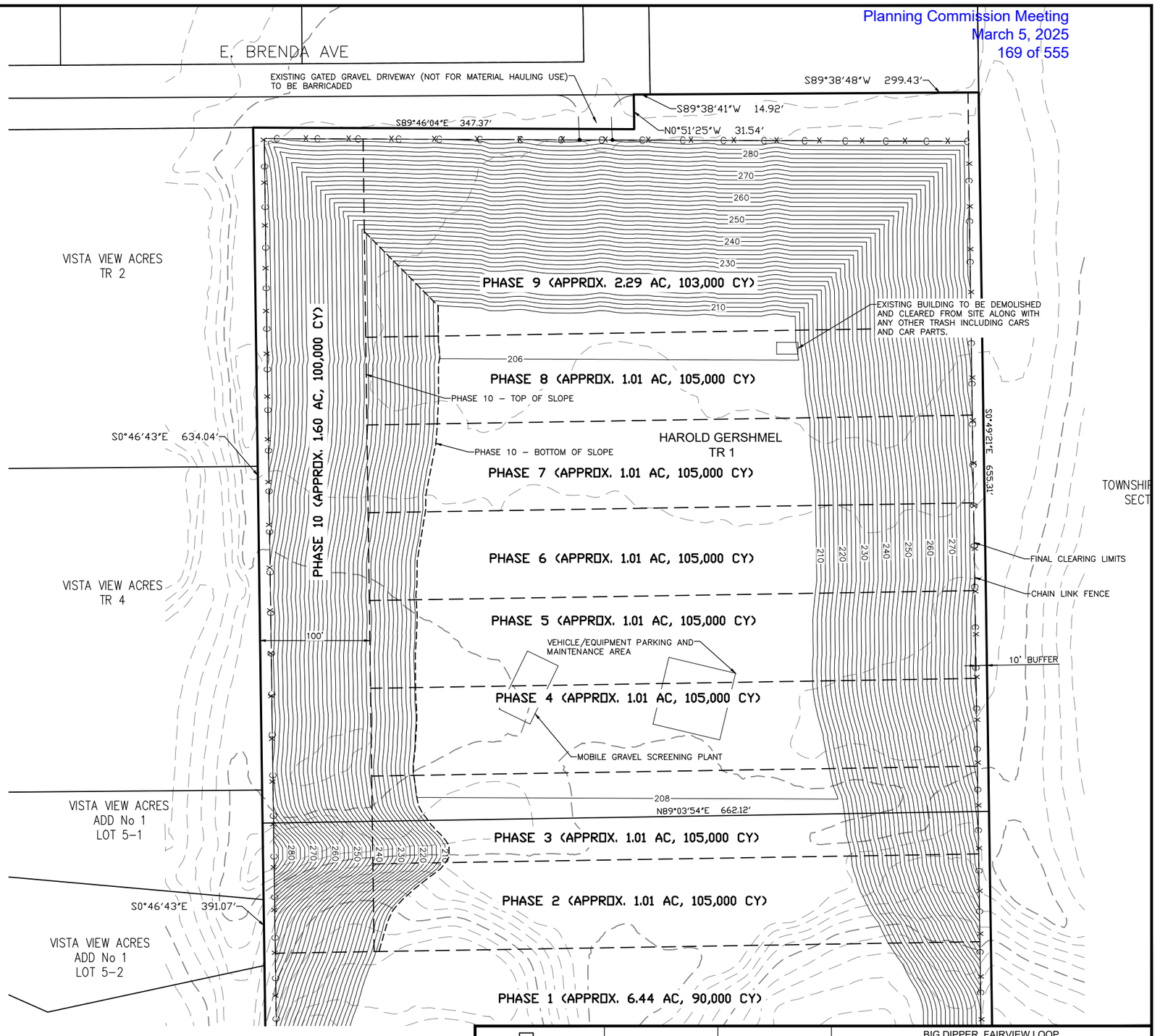
- EASEMENT LINE
- C CLEARING LIMITS/EXCAVATION LIMITS



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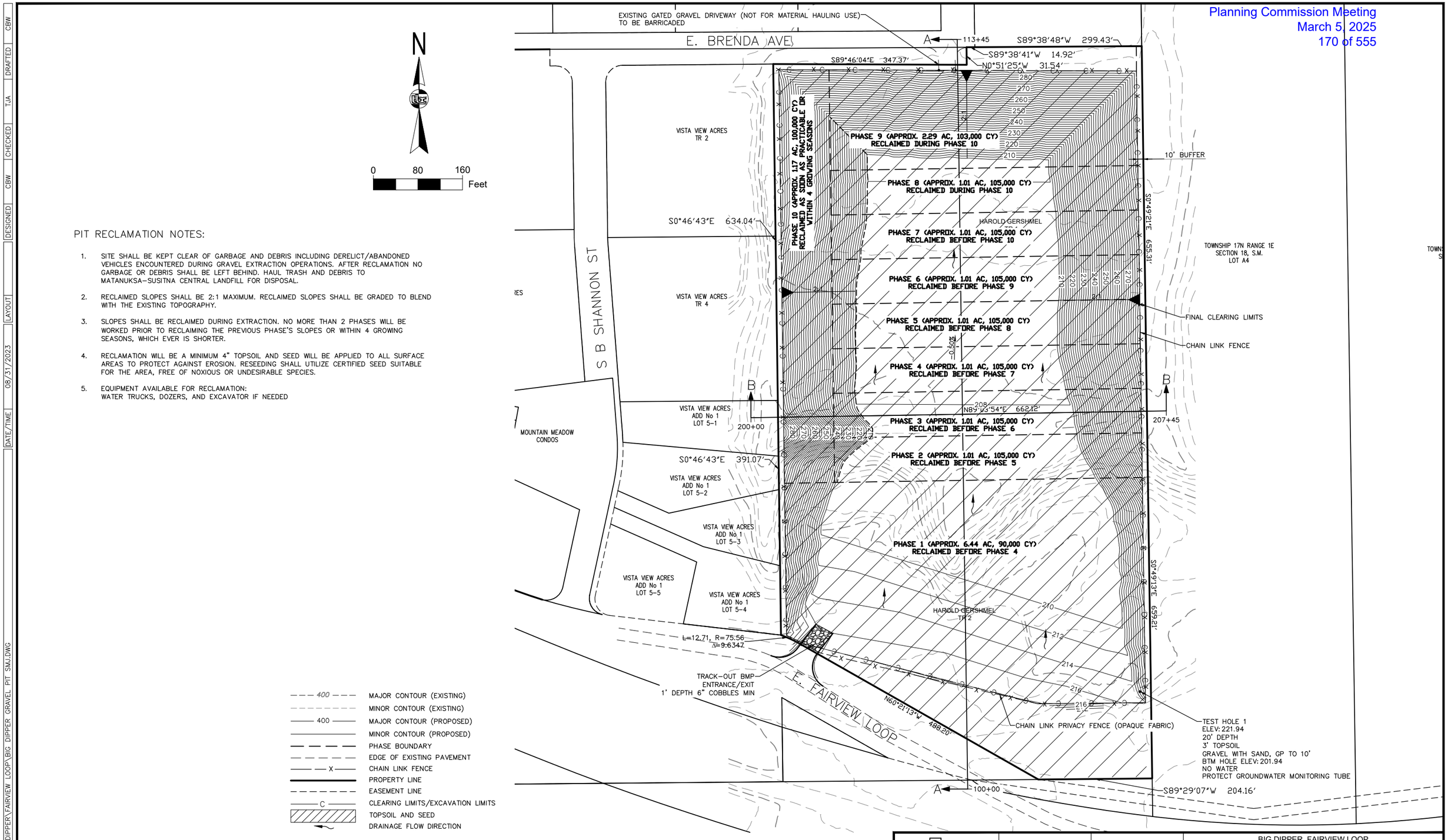
BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

SITE PLAN AND PHASE 10

HORZ SCALE:1"=50'
VERT SCALE: N/A
DATE: 12/19/2024

Rcvd by Current Planner 12/19/2024



N

0 80 160 Feet

PIT RECLAMATION NOTES:

1. SITE SHALL BE KEPT CLEAR OF GARBAGE AND DEBRIS INCLUDING DERELICT/ABANDONED VEHICLES ENCOUNTERED DURING GRAVEL EXTRACTION OPERATIONS. AFTER RECLAMATION NO GARBAGE OR DEBRIS SHALL BE LEFT BEHIND. HAUL TRASH AND DEBRIS TO MATANUKSA-SUSITNA CENTRAL LANDFILL FOR DISPOSAL.
2. RECLAIMED SLOPES SHALL BE 2:1 MAXIMUM. RECLAIMED SLOPES SHALL BE GRADED TO BLEND WITH THE EXISTING TOPOGRAPHY.
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5. EQUIPMENT AVAILABLE FOR RECLAMATION:
WATER TRUCKS, DOZERS, AND EXCAVATOR IF NEEDED

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- C — CLEARING LIMITS/EXCAVATION LIMITS
- TOPSOIL AND SEED
- DRAINAGE FLOW DIRECTION

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BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

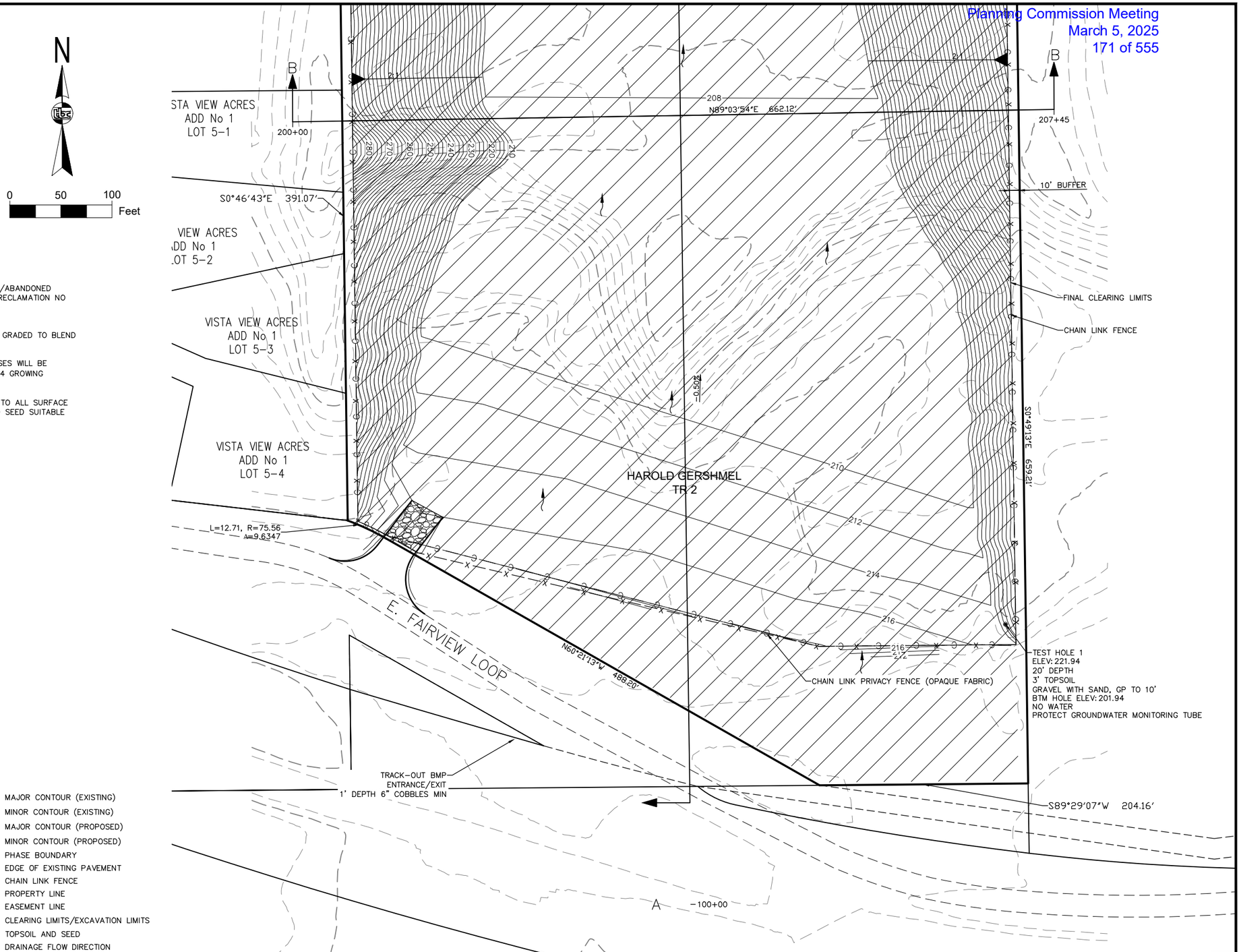
4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

FINAL EXCAVATION/RECLAMATION OVERVIEW

HORZ SCALE:1"=80' | VERT SCALE: N/A | DATE: 12/19/2024

Rcvd by Current Planner 12/19/2024

DATE/TIME | 08/31/2023 | LAYOUT | DESIGNED | CBW | CHECKED | TJA | DRAFTED | CBW
FILE W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\BIG DIPPER GRAVEL PIT SM.DWG



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BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

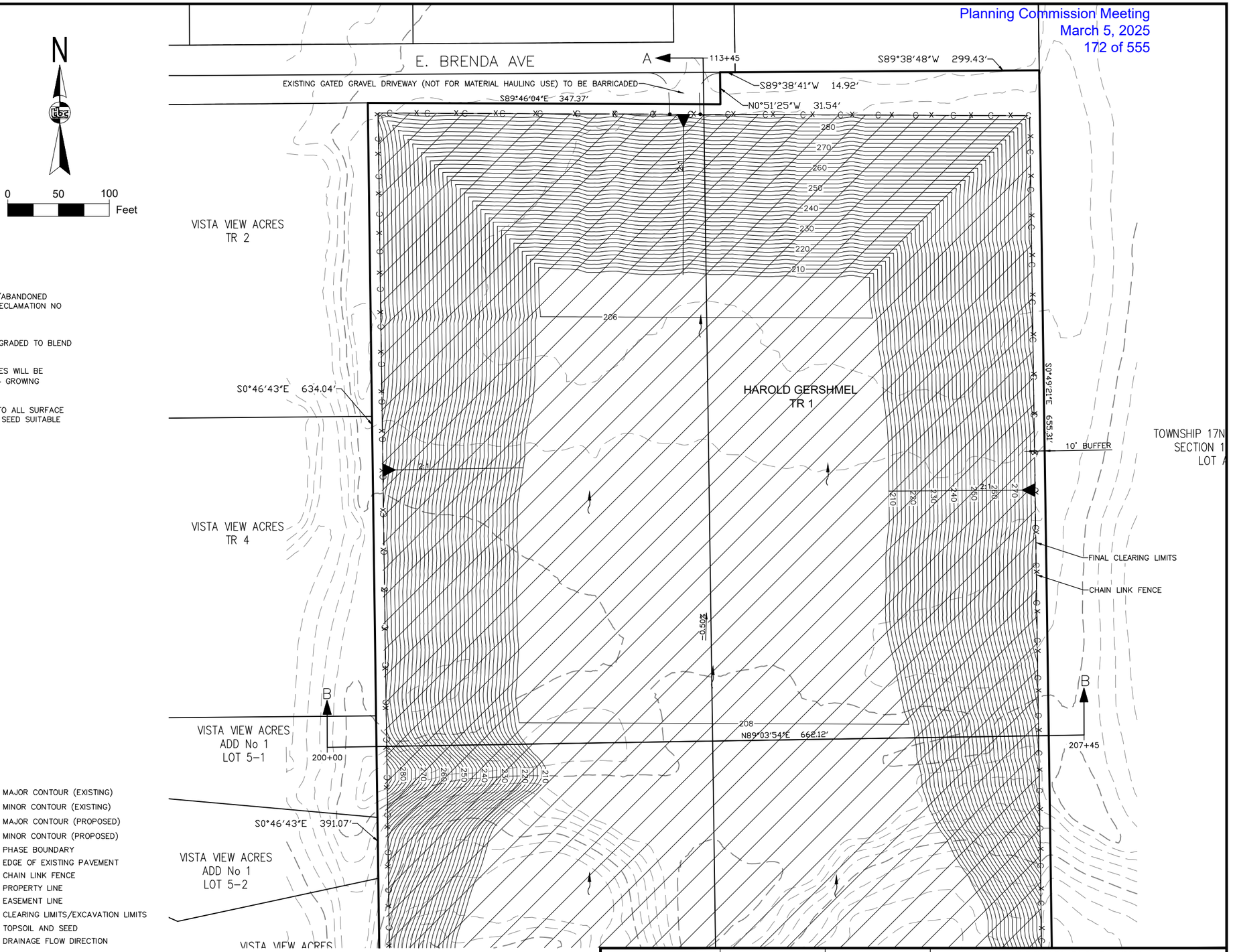
FINAL EXCAVATION/RECLAMATION

HORZ SCALE:1"=50'
VERT SCALE: N/A
DATE: 12/19/2024

SHEET **6** / 9

Rcvd by Current Planner 12/19/2024

DRAFTED CBW | CHECKED TJA | DESIGNED CBW | LAYOUT | DATE/TIME 08/31/2023
FILE W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\BIG DIPPER GRAVEL PIT SM.DWG



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- X — CHAIN LINK FENCE
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- EASEMENT LINE
- C — CLEARING LIMITS/EXCAVATION LIMITS
- TOPSOIL AND SEED
- DRAINAGE FLOW DIRECTION

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4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

FINAL EXCAVATION/RECLAMATION

HORZ SCALE:1"=50'
VERT SCALE: N/A
DATE: 12/19/2024

Rcvd by Current Planner 12/19/2024

DATE/TIME 08/31/2023 | LAYOUT | DESIGNED CBW | CHECKED TJA | DRAFTED CBW
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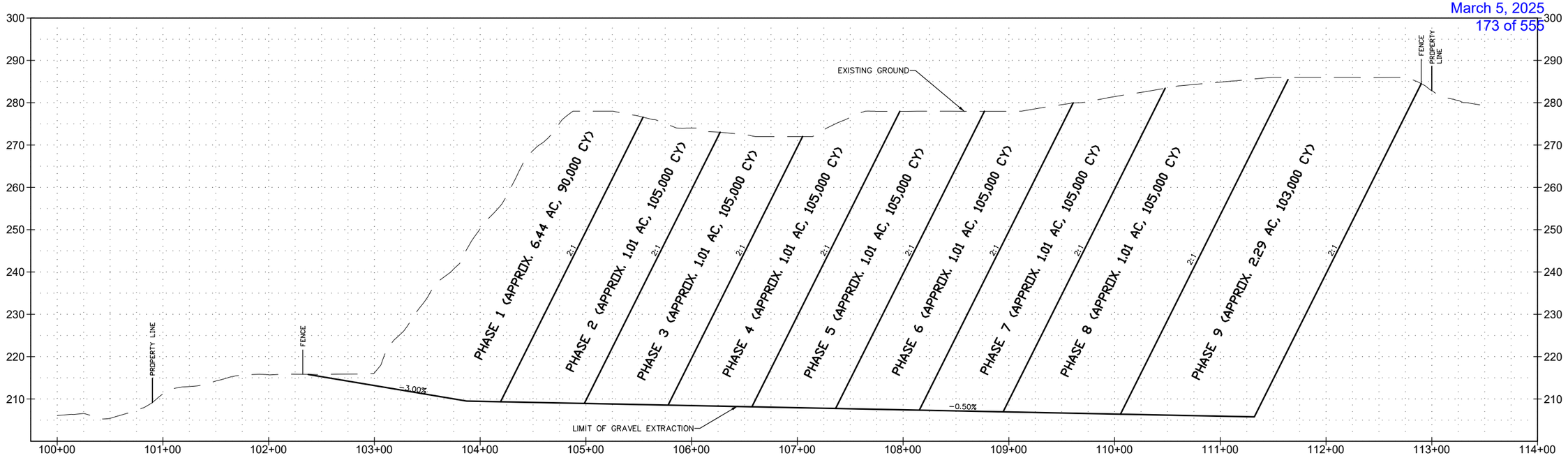
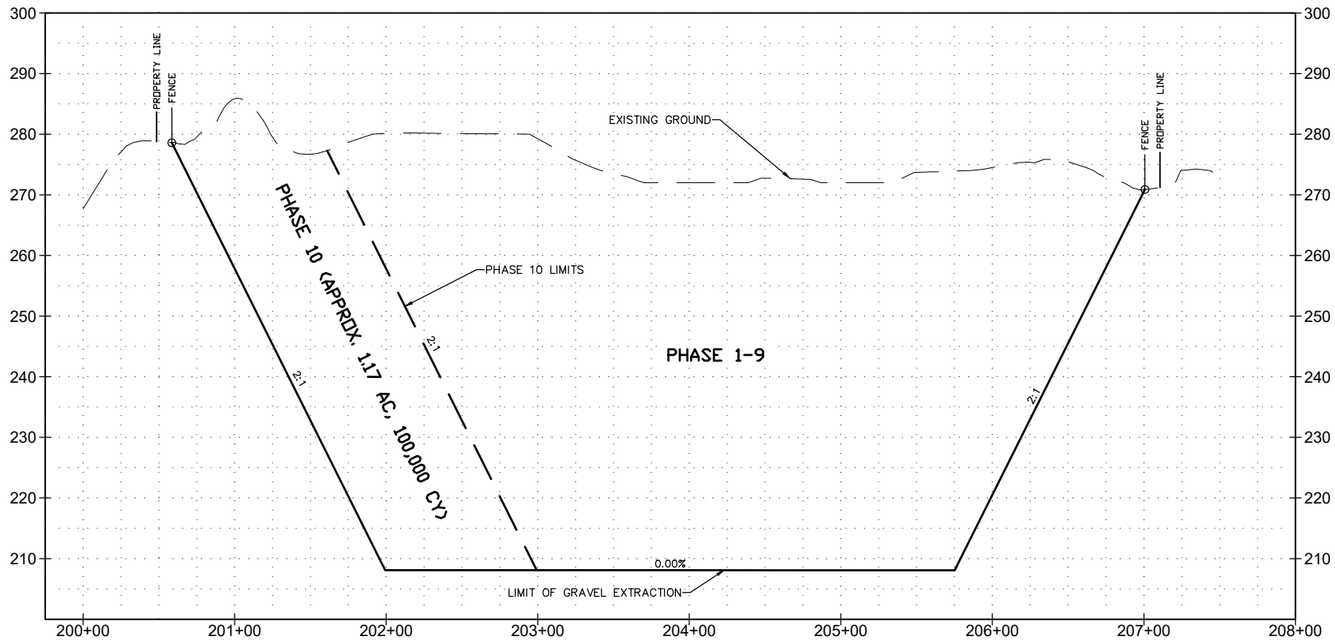


SECTION A-A: EXCAVATION PHASING



SECTION B-B: EXCAVATION PHASING

Rcvd by Current Planner 12/19/2024

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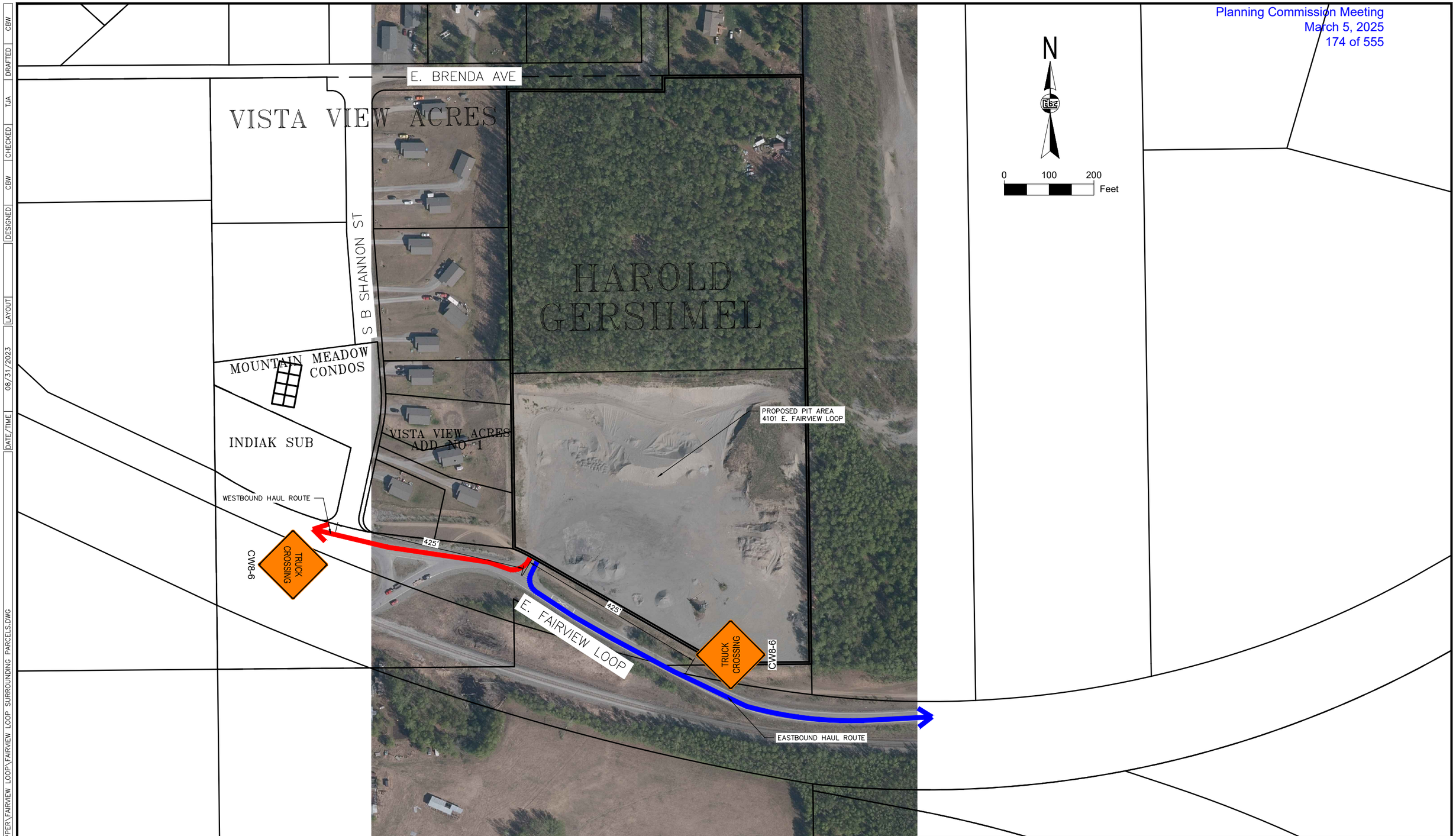
BIG DIPPER, FAIRVIEW LOOP
WASILLA, ALASKA

4101 E. FAIRVIEW LOOP
WASILLA, ALASKA

PIT CROSS SECTIONS

HORZ SCALE: N/A
VERT SCALE: N/A
DATE: 12/19/2024

FILE W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\BIG DIPPER GRAVEL PIT SM.DWG | DATE/TIME 08/31/2023 | LAYOUT | DESIGNED CBW | CHECKED TJA | DRAFTED CBW



HAUL ROUTE AND TRAFFIC CONTROL NOTES:

1. TRAFFIC GENERATION FROM GRAVEL PIT EXTRACTION NOT EXPECTED TO EXCEED 25 VPH AT ANY TIME.
2. PIT HOURS OF OPERATION ARE 0700–1700 MONDAY THROUGH SATURDAY. SEASONALLY BETWEEN APRIL 1 AND NOVEMBER 30 OR AS ALLOWED BY ADOT & MSB SEASONAL ROAD WEIGHT RESTRICTIONS.
3. NO LEFT TURNS DIRECTLY FROM AND TO SITE DURING PEAK TRAFFIC HOURS (DAILY FROM 0600–0800 AND 1200–1800) AND WHEN TRUCK TRAFFIC DURING HAULING IS GREATER THAN 10 TRUCKS PER HOUR.
4. ADVANCE WARNING SIGNS (CW8–6: TRUCK CROSSING) SHALL BE INSTALLED BEFORE HAULING OPERATIONS OF MORE THAN 10 TRUCKS PER HOUR.
5. PIT OPERATOR SHALL MAINTAIN SWEEP DRIVEWAY APPROACH AND HAUL ROUTES WHILE TRUCKS ARE HAULING TO/FROM PIT.

Rcvd by Current Planner 12/19/2024

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WASILLA, ALASKA

HAUL ROUTE AND TRAFFIC CONTROL

HORZ SCALE:1"=100'
VERT SCALE: N/A
DATE: 12/19/2024

SHEET 9 / 9

FILE W:\WASILLAFILES\BIG DIPPER\FAIRVIEW LOOP\FAIRVIEW LOOP SURROUNDING PARCELS.DWG
DATE/TIME 08/31/2023
LAYOUT
DESIGNED CBW
CHECKED TJA
DRAFTED CBW

Sean Jackson

From: row@dot.state.ak.us
Sent: Friday, March 29, 2024 12:57 PM
To: Sean Jackson
Subject: DOT Right of Way New Permit Application Confirmation

You have received this message because you are the primary contact for a new permit application.

Application ID: 33285
Application Type: Driveway / Approach Road
Location: Legal Description: Gershmel Harold T/1-3 The project includes Tract 1 and 2 Tract 1: 4120 E Brenda Ave Tract 2: 4101 E Fairview Loop Both of which are accessed from E Fairview Loop with no other access being provided.

To view or update your application, visit us online at
https://dot.alaska.gov/row/DrivewayApplicationDisplay.po?ApplicationId=33285

Tim Alley

From: Tim Alley
Sent: Friday, March 29, 2024 2:25 PM
To: Lowe, Colleen D (DNR); Micelotta, Cinnamon A (DNR)
Subject: Reclamation Plan App for Gravel Material Extraction
Attachments: Big Dipper Pit DNR Material-Sales-Reclamation-Plan App.pdf; Big Dipper Gravel Pit 03-27-2024.pdf

Good Afternoon Collee and Cinnamon,

Thank you for your help on the Mountain Gravel permit application. I have another gravel extraction permit (Big Dipper Pit) I am working on within MSB. I've attached the application and extraction/reclamation plans. Please review and let me know if anything is needed to move forward with the permit application and fee. The Owner would like to utilize the statewide bonding pool for this one.

Have a great weekend!

Thanks,
Tim

TBC, Inc. Project Management & Development - Engineering - Surveying - Landscape Architecture

Tim Alley, P.E.
Principal/Vice President

talley@TBCak.com

visit us at www.TBCak.com

The Boutet Company, Inc.
1508 E. Bogard Rd., Unit 7
Wasilla, Alaska 99654

Direct: 907.357.6760
Mobile: 907.830.2821
Main: 907.357.6770
Fax: 907.357.6750

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources
DIVISION OF MINING, LAND & WATER
Southcentral Regional Land Office

550 West 7th Avenue, Suite 900C
Anchorage, Alaska 99501-3577
Main: 907.269.8503
TTY: 711 or 800-770-8973
Fax: 907.269.8913

June 12, 2024

Big Dipper Construction, Inc.
Attn: Paul Minnick
415 S Talkeetna St.
Wasilla, AK 99654

Re: LAS 35004 – Non-State Land Material Site Reclamation Plan Approval

Dear Mr. Minnick,

The Department of Natural Resources (DNR), Division of Mining, Land and Water (DMLW), Southcentral Regional Land Office (SCRO), received your Non-State Land Reclamation Plan with attachments. The subject site is Tracts 1 and 2 of Gershmel Harold T/1-3, owned by Big Dipper Construction, Inc., located within Section 18, Township 017 N, Range 001 E, Seward Meridian.

Thank you for submitting a Reclamation Plan for activities taking place from 2024 through 2034. After reviewing your reclamation plan, SCRO has determined the plan is acceptable, provided the operation is conducted in a manner that will prevent unnecessary and undue degradation of land and water resources, and the operation shall be reclaimed using current reclamation methods, leaving the site in a stable and safe condition.

Per Alaska Statute (AS) 27.19.040(a) financial assurance is required. Development of the proposed 17.44-acre site requires $150 of financial assurance per acre of mined area for participation in the statewide bond pool, with $112.50 per acre refundable and $37.50 per acre nonrefundable; therefore, your bond on file in the amount of $2,616.00 is acceptable. The performance bond will remain in effect until the mined area is reclaimed to standards outlined in AS 27.19 and according to the approved Reclamation Plan.

If you have any questions regarding this requirement, please do not hesitate to call. This acceptance letter does not alleviate the necessity to obtain authorizations required by other agencies and entities for this activity. If you have any questions, please feel free to contact Colleen Lowe at (907) 269-8555 or at colleen.lowe@alaska.gov.

Respectfully,

jonisweetman

Joni Sweetman,
Natural Resource Manager
Southcentral Regional Office

Stormwater Best Management Practice

Construction Track-Out Controls

Minimum Measure: Construction Site Stormwater Runoff Control
Subcategory: Sediment Control

Description

Construction track-out controls minimize the amount of sediment leaving or being tracked out from the construction site as dirt, mud or other sediment attached to vehicles. Stabilization measures, vehicle wash stations and sediment collection devices are all common track-out controls.

Installing a pad of gravel over filter cloth where construction traffic leaves a site can help stabilize sediment at a construction entrance/exit. As a vehicle drives over the pad, the pad removes mud and sediment from the wheels and reduces soil transport off the site. The filter cloth separates the gravel from the soil below. It also reduces rutting by vehicle tires.

In addition to using a gravel pad, construction staff can install a vehicle washing station at the site entrance/exit. Using washing stations routinely can remove a lot of sediment from vehicles before they leave the site. Construction staff should divert wash water from vehicle washing stations into a sediment trap that will handle sediment from vehicles properly and keep it on-site.

Several other types of track-out controls, such as shaker racks (also called exit grids, rumble strips or cattle guards) and other similar proprietary devices, can help knock mud and dirt off vehicle tires. Shaker racks work by removing mud or soil from vehicle tires through bouncing or shaking action as the vehicle drives over the rack.

Applicability

Construction staff should install track-out controls anywhere construction traffic leaves or enters a construction site. Track-out controls can also provide benefits from a public relations point of view, as the site entrance/exit is often the most noticeable part of a construction site and can show community members that controls are in place to minimize sediment being tracked onto nearby streets and neighboring areas. Minimizing sediment on roads can improve both the appearance and the public perception of the construction project as well as limit the occurrence of complaints about the site. Additionally, a stabilized construction entrance/exit is generally a requirement of any construction permit, though design engineers should contact local authorities for specific requirements and design specifications.



A construction entrance stabilized with gravel over filter cloth reduces the amount of sediment transported off site.
Photo Credit: PG Environmental for USEPA

Siting and Design Considerations

Before considering track-out controls, design engineers should consider the locations of construction site entrances/exits. Where possible, they should place site entrances/exits in well-drained areas, away from streams or wetlands, and in a place where construction staff can easily conduct regular maintenance. If including wash areas, design engineers should account for adjacent, downstream areas on-site that can collect and treat wash water (e.g., using a sediment basin or similar temporary treatment practice).

Design engineers should follow local design and installation details for all construction entrances/exits. Some common design practices include the following (Caltrans, 2017; MPCA, 2019):

EPA-832-F-21-028DD
December 2021

- Stabilize all entrances/exits to a site before land disturbance begins.
- Make sure the stabilized site entrances/exits are long and wide enough to allow the largest construction vehicle to fit with room to spare. If many vehicles will use an entrance/exit in any one day, make the site entrance/exit wide enough for two vehicles to pass at the same time with room on either side.
- If a site entrance/exit leads to a paved road, make the end of the entrance/exit flared so that long vehicles do not leave the stabilized area when they turn onto or off the road.
- Grade the exit pad so that sediment-laden stormwater does not flow onto streets or into storm drains.
- Install non-woven geotextile on graded soil to support the exit pad and spread rock evenly over the geotextile.
- Make sure the stone and gravel used to stabilize the construction site entrance/exit is large enough that vehicles do not carry it off-site.
- Avoid using sharp-edged stones, which can puncture tires.
- Install stone or gravel at a depth of at least 6 inches for the entire length and width of the stabilized construction entrance/exit. If the design uses shaker racks, make sure they are wide enough to fit the widest vehicles and long enough to allow enough shaking time. Make sure there is enough storage beneath the rack—at least 4 inches is typical.
- If a construction site entrance/exit crosses a stream, swale or other depression, provide a bridge or culvert to prevent erosion from unprotected banks.

Operational practices can also help limit sediment track-out. To limit overloading track-out controls, construction staff should avoid vehicle traffic on exposed, muddy areas of the site where possible. They should also limit traffic onto and off the site by parking vehicles on the street if possible.

Limitations

Although stabilizing a construction entrance/exit reduces the amount of sediment leaving a site, vehicle tires might still deposit some soil onto paved surfaces. To further reduce the chance of these sediments polluting stormwater, construction staff should sweep the paved area adjacent to the stabilized site entrance/exit as needed. Times of wet weather will likely call for increased sweeping and maintenance. For sites that use wash stations, a reliable water source might not be initially available and trucks might have to bring water to the site at an additional cost. Using a recapture and treatment system can help reduce the cost of water imports.

Maintenance Considerations

Construction staff maintain track-out controls in compliance with applicable permits and local regulations, generally until they have fully stabilized the rest of the construction site. Below are some steps they can follow:

- Add stone and gravel periodically to each stabilized construction site entrance/exit.
- Remove mud and dirt clods to keep the stabilized pad relatively clean.
- Immediately sweep up or vacuum soil and dirt clods tracked off-site for proper disposal.
- Make sure not to hose or sweep tracked-out sediment into any stormwater conveyance or storm drain inlet, or directly into any creek, stream or other waterway.
- Periodically remove sediment from wash rack sediment traps to make sure they keep working.

Effectiveness

The effectiveness of track-out controls is highly variable and depends on their design, use and maintenance. Sediment removal rates can range from less than 30 percent up to 60 percent for gravel pads and shaker racks. Wheel washing racks, when properly installed, can remove 75 percent or more of sediment (MPCA, 2019).

In some cases, such as areas with high clay content or persistent rain, stabilizing the site entrances/exits might not be very effective without routine use of a wash rack. Track-out controls are only effective when site rules require vehicles to use them and physical constrictions force traffic through the controls. This can be problematic for sites with multiple entrances/exits and high vehicle traffic.

Cost Considerations[1]

Track-out control costs will vary greatly depending on the controls' type and design specifications, as well as site conditions (MPCA, 2019). According to Minnesota Department of Transportation project bids awarded in 2019, the average cost for a stabilized rock construction entrance was $3,100 (MnDOT, 2019, bid item 2573501/00025). This cost includes maintenance of the track-out control throughout the project. The Construction BMP Online Handbook cites an average annual cost for installation and maintenance of $2,900 (range of $1,500–$5,900) for a stabilized rock entrance. With an added wash rack and sediment trap at the entrance, the average cost increases to $4,400 (range of $1,500–$7,300) per entrance (CASQA, 2009).

[1]Prices updated to 2020 dollars. Inflation rates obtained from the Bureau of Labor Statistics CPI Inflation Calculator Web site, https://data.bls.gov/cgi-bin/cpicalc.pl. Reference dates for the calculation are October 2011 and September 2019.

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

California Department of Transportation (Caltrans). (2017). *Construction site best management practices (BMP) manual*. CTSW-RT-17-314.18.1.

California Stormwater Quality Association (CASQA). (2009). *Construction BMP online handbook.*

Minnesota Department of Transportation (MnDOT). (2019). *Average bid prices for awarded contracts, state aid projects not included: 1/1/2019 to 12/31/2019.*

Minnesota Pollution Control Agency (MPCA). (2019). Sediment control practices—vehicle tracking BMPs. In *Minnesota stormwater manual.*

Disclaimer

This fact sheet is intended to be used for informational purposes only. These examples and references are not intended to be comprehensive and do not preclude the use of other technically sound practices. State or local requirements may apply.

Matanuska-Susitna Borough
Development Services
DEC 16 2024
Received

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue, Palmer, Alaska 99645
(907) 861-7822 Fax (907) 861-8158
E-mail: PermitCenter@matsugov.us

Driveway Permit Application

Permit Fee $200 ($150 Refundable if completed within 3 years) PERMIT NO: 31957

Application Date:			**Notified Date:**		
12/16/2024					
Property Owner (Name):			**Applicant/Agent (Name):**		
Big Dipper Construction					
Mailing Address:			**Mailing Address:**		
Po Box 874550					
City:	**State:**	**Zip:**	**City:**	**State:**	**Zip:**
Wasilla	Ak	99687			
Phone:			**Phone:**		
907-376-8341					
Email *(optional)*:			**E-mail *(optional)*:**		
Site Address:			**Driveway Location Will Be Marked With:**		
4120 Brenda Ave			Existing		
Property Tax ID #:			**Expected Completion Date:**	**Driveway Surface Type:**	
1341000T001					
Applying for Access Onto:			**Distances:**		
Brenda Ave			Left:	Width:	Right
Only Corrugated Metal Pipe Culvert is Allowed			**Path or sidewalk dimension (if applicable):**		
Culvert Length:	Diameter:				
Intended Use:					
☐ Single Family ☐ Mutli-Family # of units _____					
☒ Commercial - Type: _____			Est. "peak hours" trips per day: _____		

INTRODUCTION FOR PUBLIC HEARING

LEGISLATIVE

Resolution No. 25-03

A Resolution Of The Matanuska-Susitna Borough Planning Commission Supporting Assembly Adoption Of The Matanuska-Susitna Borough Safe Streets For All Comprehensive Safety Action Plan (Staff: Jamie Taylor, Civil Engineer)

(Page 182 -527)



MAT-SU BOROUGH

SAFE STREETS FOR ALL

MATANUSKA-SUSITNA BOROUGH

COMPREHENSIVE SAFETY ACTION PLAN

PUBLIC REVIEW DRAFT

DECEMBER 2024

Acknowledgments

Public Participants

Thank you to the 900+ people who participated in this planning process through the safety survey, the virtual public workshops, the interactive online data dashboard, the focus group meetings, the open houses in Wasilla, Palmer, and Houston, and those who reached out to the project team with questions and comments. Thank you also to the many individuals who assisted with engagement through social media and the local press, including Big Cabbage Radio.

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- Jamie Taylor P.E., Project Manager, Matanuska-Susitna Borough (MSB) Public Works
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- Tom Adams, P.E., MSB Public Works Director

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- Bill Gamble, District 5
- Dmitri Fonov, District 6
- Ron Bernier, District 7

Mat-Su Borough Planning Commission

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- Rick Allen, District 2 – Vice Chair
- CJ Koan, District 3 – Chair
- Andrew Shane, District 4
- Linn McCabe, District 5
- Wilfred Fernandez, District 6
- Curt Scoggin, District 7

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- Michael Baker International
- R&M Consultants, Inc.
- Fehr & Peers

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Executive Summary

MAT-SU BOROUGH
SAFE STREETS FOR ALL



What is a Safety Plan?

Safety in transportation is an essential component of a healthy community. A safe transportation environment is one where people can meet their daily needs, using a mode of travel that is the easiest, most convenient, and affordable for them and their families. Recognizing this, the U.S. Department of Transportation created the Safe Streets and Roads for All (SS4A) program to provide funding for plans and projects that help prevent deaths and serious injuries on roadways across the country. The Comprehensive Safety Action Plan (CSAP) for the Matanuska-Susitna Borough (MSB) is a strategic component of the SS4A program. Once developed, the CSAP can be used to successfully apply for SS4A-related grants to fund implementation projects as well as supplemental planning activities and demonstration projects.

Key Components of an Eligible SS4A Comprehensive Safety Action Plan

To ensure that the MSB can use this CSAP to successfully apply for future SS4A grant funding to implement projects and conduct supplemental planning activities, this plan is organized to clearly align with the SS4A eligibility requirements for Safety Action Plans.[1] The eligibility requirements are outlined and included in the following plan chapters. These chapters also specifically support the SS4A Action Plan Components necessary to complete the SS4A Self-Certification Eligibility Worksheet when applying for future SS4A grant funding.

Chapter 1: Leadership Commitment & Goal Setting: This chapter outlines the guiding principles of the Safety Action Plan through the Safe System Approach, establishing a goal to reduce fatal and serious injury crashes by 3.5% per year.

Chapter 2: Planning Structure: To meet SS4A requirements, the MSB established a Safety Action Plan Team (SAPT) to oversee plan development. This chapter provides an overview of their process and involvement in shaping the plan.

Chapter 3: Safety Analysis (Existing Conditions Crash Data & Peer Review Summary): This chapter includes a crash data summary and key trends analysis within the MSB's Expanded Core Area boundary from 2018-2022, as well as a summary of national best practices and a peer city review comparison.

Chapter 4: Engagement & Collaboration: This chapter summarizes the robust public engagement process undertaken throughout plan development to gain valuable information from a multi-disciplinary group of MSB stakeholders, transportation agency professionals, and the public.

Chapter 5: Equity Considerations: This chapter documents the plan's comprehensive equity analysis to identify disadvantaged populations within the MSB Expanded Core Area and shows the correlation between demographics and safety risk. It provides an equity-specific lens that was used to help prioritize and recommend projects for implementation.

Chapter 6: Policy & Process Changes: This chapter provides an assessment of existing MSB transportation safety-related plans, policies, and programs. It identifies opportunities for improving planning and funding processes to help create a safe transportation network. Finally, this chapter outlines the Safety Toolkit which was developed as part of the MSB CSAP to serve as a guide for countermeasure selection to address specific safety issues in the study area.

Chapter 7: Strategy & Process for Project Selection: This chapter describes the risk profiles that correlate to crashes happening in the MSB, and the methodology used to determine priority locations and the projects recommended in the plan.

Chapter 8: Progress & Transparency: This chapter outlines a clear implementation strategy for the plan, including actionable steps outlined in the Implementation Matrix, use of the online Safe Streets MSB dashboard to track progress over time, performance measures and targets, and a process for updating the plan.

[1] If not viewing this document digitally, please see Appendix A for reference citations by chapter, in order of appearance, to see hyperlinked references.



Chapter 1: Leadership Commitment & Goal Setting

MAT-SU BOROUGH
SAFE STREETS FOR ALL

Overview

In 2022, the MSB applied for and was awarded a U.S. Department of Transportation SS4A grant to develop a CSAP for the MSB Expanded Core Area. The CSAP is a strategic roadmap to help the MSB move towards a safer transportation network to significantly reduce serious injuries and fatalities on the roadway. The map on the following page shows the MSB Expanded Core Area.

Vision for Safe Streets in the MSB

In the United States, the number of serious injuries and fatalities on the transportation network is on the rise. This represents a public health concern that merits a focused, comprehensive solution. In 2024, the National Highway Traffic Safety Administration estimated that 8,650 people died in traffic crashes nationally in the first three months of the year alone.

Within the MSB Expanded Core Area, more than 10,000 roadway crashes occurred between 2013 and 2022. These included 99 fatal crashes, 345 serious injury crashes, and 69 crashes involving bicycles and pedestrians, 93% of which resulted in injury or death. The vision for creating a safer transportation network in the MSB stems from the knowledge that all crashes are preventable and all people, regardless of age, ability, race, gender, and mode choice, should be able to get home safely every day.

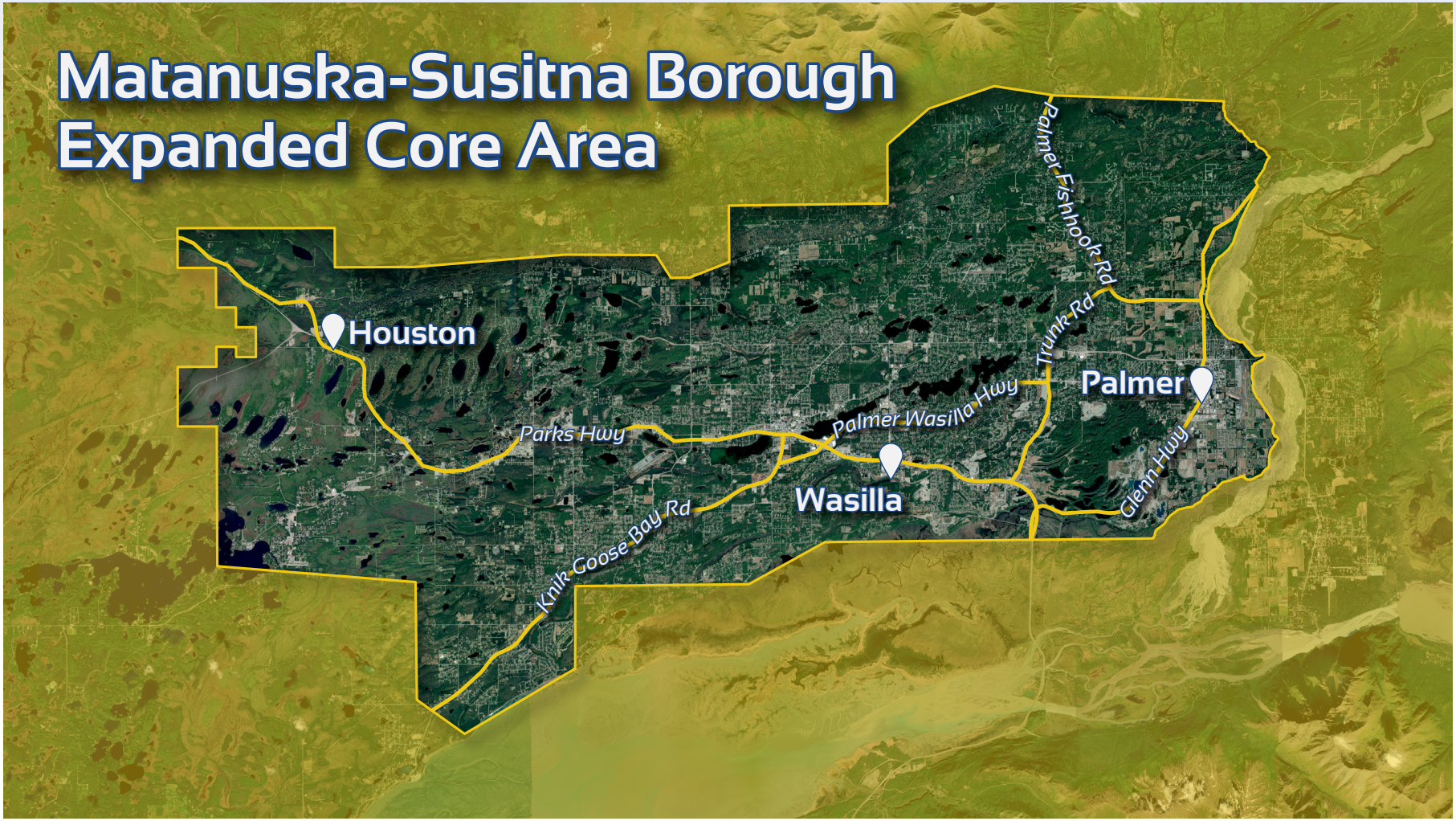


Figure 1. The MSB Expanded Core Area.

The Safe System Approach

The development of the MSB CSAP follows the Safe System Approach (SSA), a national roadway safety strategy developed by the U.S. Department of Transportation (USDOT). Every year, an average of 43 MSB residents are seriously injured or killed on the transportation network of the Expanded Core Area. The ripple effects of these serious crashes go far beyond the lives of the people involved. They reverberate through families, friends, neighborhoods, and the whole community. The SSA recognizes that crashes are preventable. By making changes to key elements of the transportation system, we can anticipate human mistakes and create layers of protection within the network that reduce fatalities and serious injuries.



Figure 2. The Safe System Approach. Credit: USDOT.

Guiding Principles

The SSA was developed as part of the Vision Zero initiative, which states that no person should be killed or seriously injured on the road system, and that even one death is unacceptable. This approach is founded on five core elements and six core principles that work together to form a safe system that protects all road users.

The following principles of the SSA work together to create safer people, safer vehicles, safer speeds, safer roads, and engage in post-crash care.

Deaths and serious injuries on the transportation network are unacceptable.

Humans make mistakes, and a safe system protects them better when they do.

Humans are vulnerable to the forces of a crash.

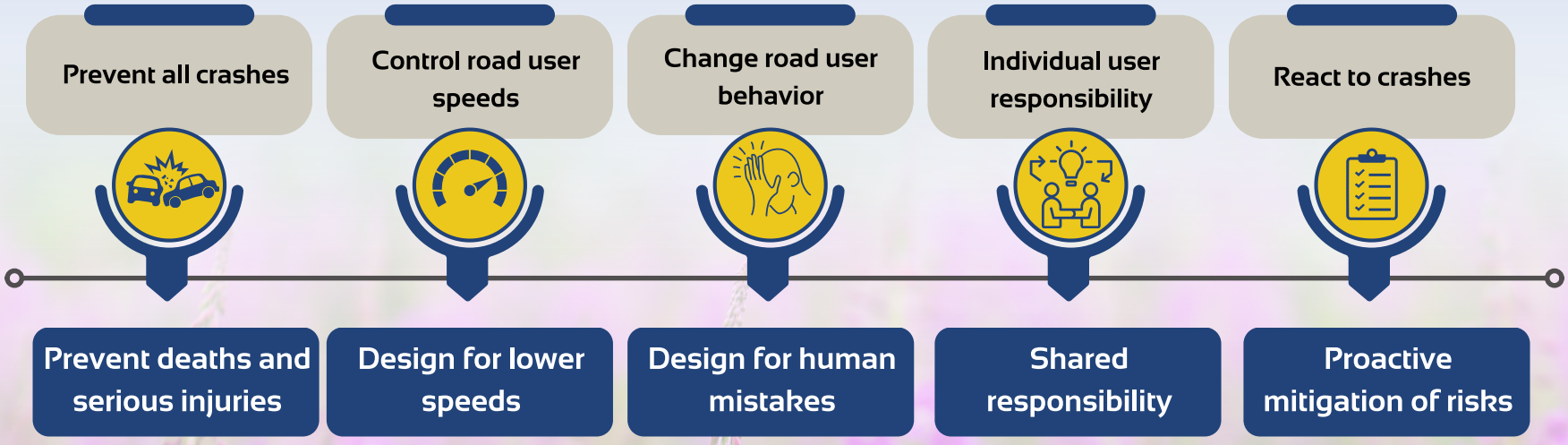
Responsibility to improve safety within the transportation network is shared between road users and transportation practitioners.

To be effective, safety must be proactive and systematic.

Redundancy is crucial to success.

This approach shifts the focus towards both human mistakes and human vulnerability to design a system with protections in place that help mitigate crash severity and occurrence. The six core SSA principles listed above guide the development of all MSB CSAP components, including the comprehensive crash data analysis, robust public outreach, focus on equity and vulnerable populations within the MSB Expanded Core Area, recommended project selection and prioritization, and suggested countermeasures and tools to help mitigate and prevent crashes.

TRADITIONAL APPROACH



SAFE SYSTEM APPROACH

Figure 3. Differences between the traditional and safe system approach

Setting a Goal for Reducing Deaths and Serious Injuries on the Roadway

Over the five-year period between 2018 and 2022, the number of serious crashes per year in the MSB Expanded Core Area decreased by two, with an overall declining trend. The SS4A program requires that an eligible CSAP make a clear commitment to an eventual goal of zero roadway fatalities and serious injuries by a specific date. This goal may be either:

- A target date to achieve zero roadway fatalities and serious injuries, or
- A target date for a substantial percent reduction in roadway fatalities and serious injuries, leading to an eventual elimination of all roadway fatalities and serious injuries.

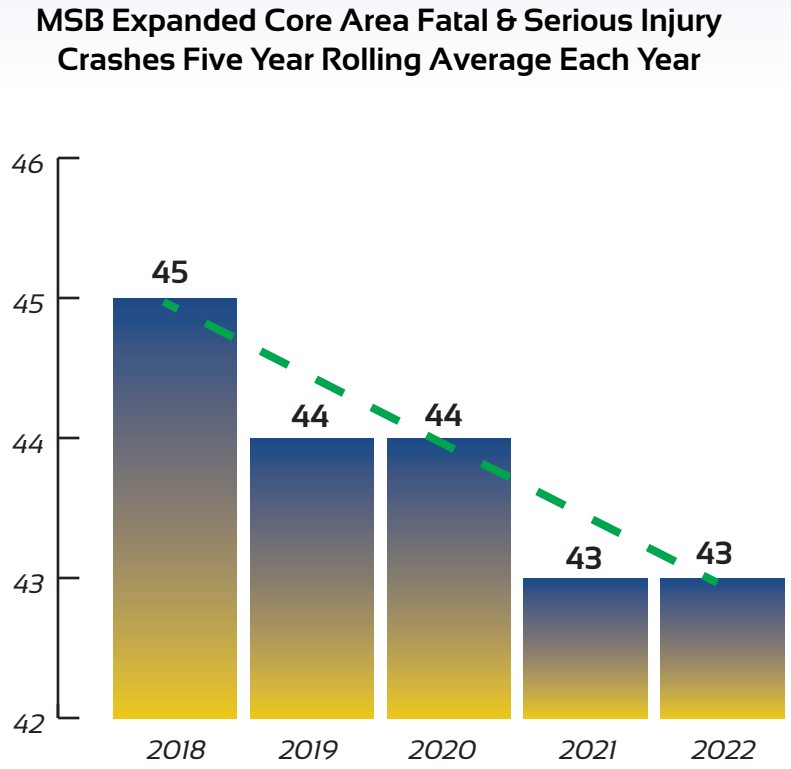


Figure 4. Current Five-Year Serious & Fatal Crash Trend

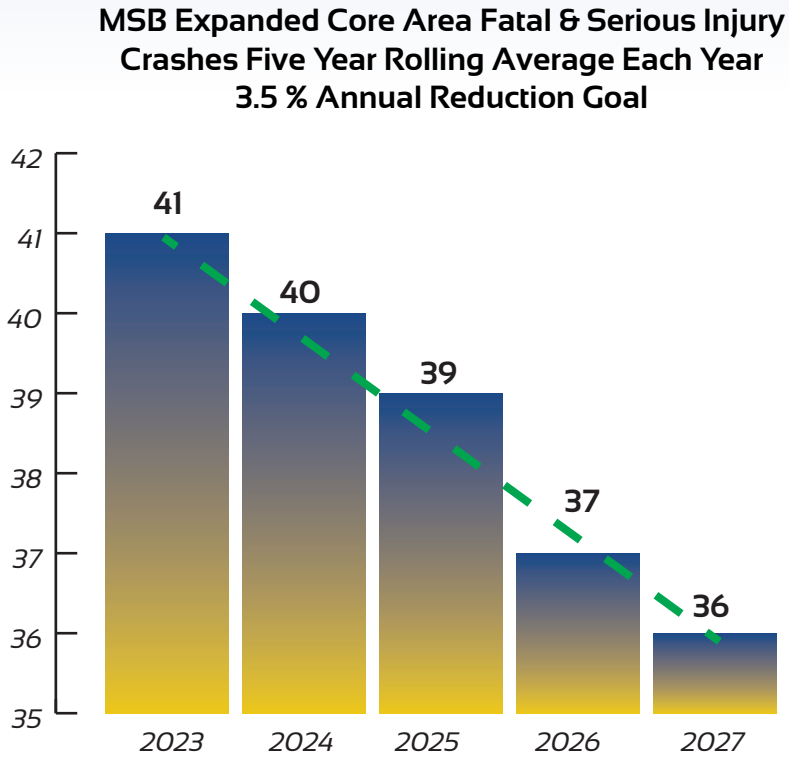


Figure 5. Future Five-Year Crash Trend, 3.5% Annual Reduction

Aligning with the Alaska Department of Transportation and Public Facilities (DOT&PF) Strategic Highway Safety Plan's performance measure goal for fatal and serious injury crash reduction, the CSAP steering committee, or Safety Action Plan Team (SAPT), **approved a 3.5%-annual-reduction goal over a five-year rolling average, with an eventual goal of eliminating all fatal and serious injury crashes.**



Chapter 2:

Planning Structure

MAT-SU BOROUGH SAFE STREETS FOR ALL

Safety Action Plan Team

The SAPT was formed early in the planning process. SAPT member invitations, information about the project, and regular project updates were sent to the following stakeholders. The stakeholder group they represent is inside parentheses.

- **DOT&PF** (State Transportation Agency)
- **Alaska State Troopers** (Enforcement)
- **Alaska Trucking Association** (Freight/Commercial Group)
- **Boys & Girls Club of Mat-Su** (Youth Services)
- **Chickaloon Native Village** (Tribal Entity)
- **City of Houston** (City Agency/Public Works)
- **City of Palmer** (City Agency/Public Works)
- **City of Wasilla** (City Agency/Public Works)
- **Coalition of Mat-Su Senior Centers** (Senior Population Representative)
- **Knik Tribal Council** (Tribal Entity)
- **Local Road Service Area Advisory Board** (Road Maintenance)
- **Mat-Su Health Services** (Health Services)
- **Mat-Su Parks and Trails** (Parks and Trails)
- **MSB Emergency Services** (Emergency Services)
- **MSB Planning** (Borough/Planning)
- **MSB Public Works** (Borough/Public Works)
- **MSB School District** (School District)
- **Valley Mountain Bikers & Hikers** (Pedestrian and Bicycle Advocacy Group)
- **Valley Transit** (Transit Services)



SAPT Meetings

The project team facilitated five meetings with the SAPT at key stages of plan development. These meetings included:

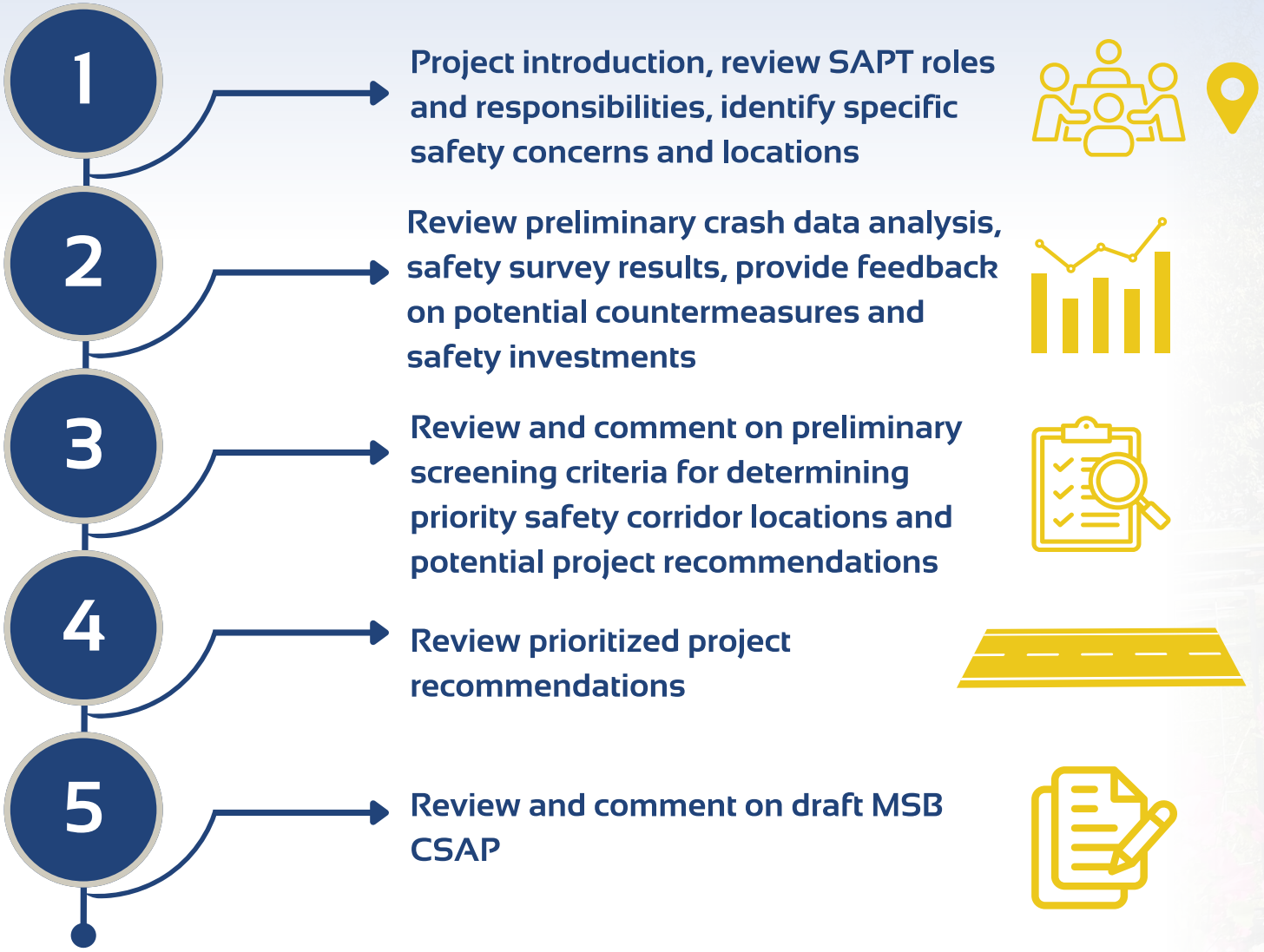


Figure 6: Overview of SAPT meetings.

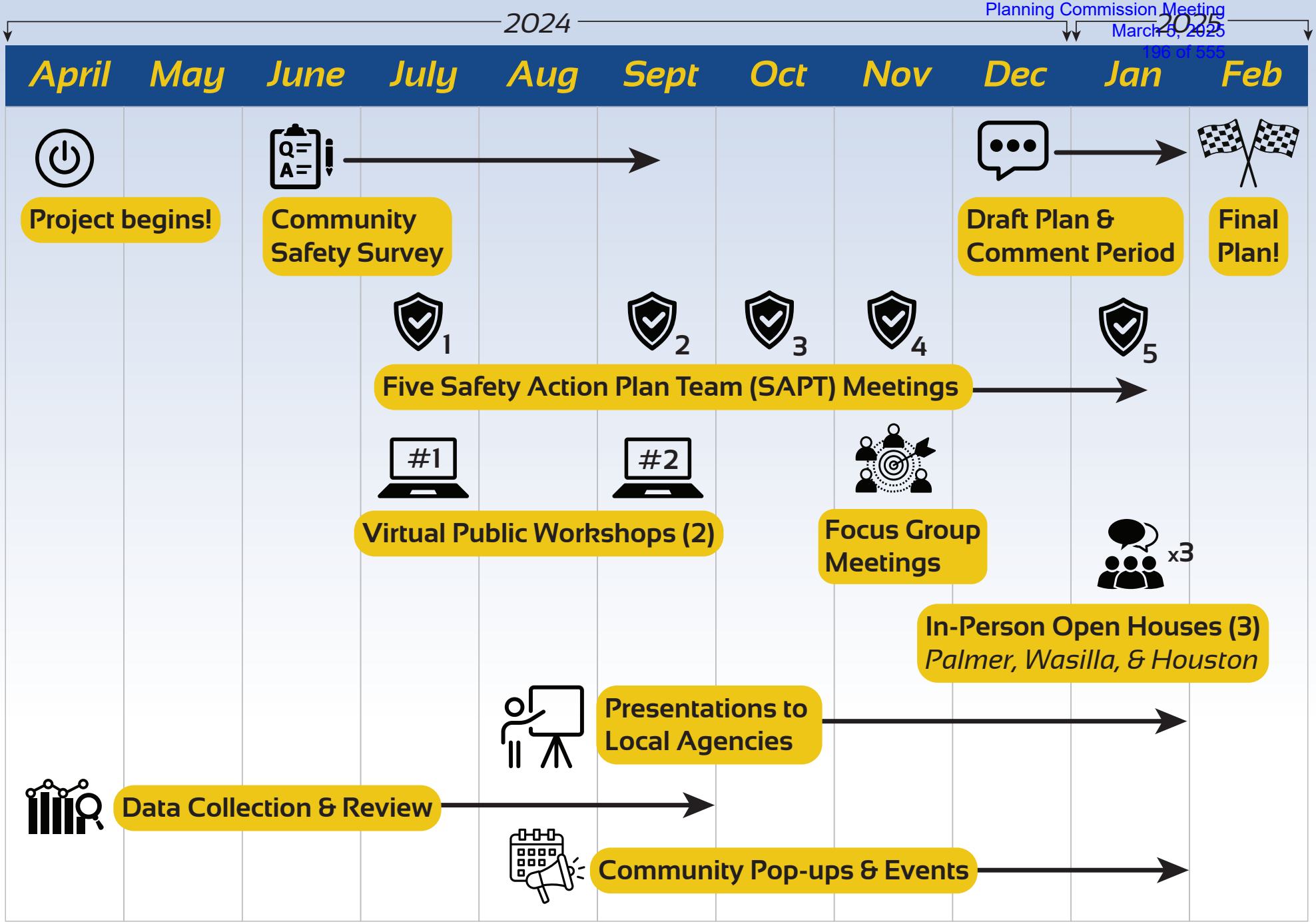


Figure 7. Planning process and timeline



Chapter 3: Safety Analysis

Existing Transportation System Analysis

MAT-SU BOROUGH SAFE STREETS FOR ALL

Data Analysis & Crash History in the MSB

The Michael Baker International project team analyzed crash data within the MSB Expanded Core Area boundary from 2018-2022. On behalf of the borough, the project team obtained and analyzed data from a DOT&PF database that comprises reports submitted by local law enforcement agencies and self-reporting through the Alaska Division of Motor Vehicles.

Safety Trends in the Mat-Su Borough (2018-2022)

General Crash Trends

Within this five-year period, 4,802 total crashes were recorded. Of that total number of crashes, 216 were serious crashes: 57 resulted in a fatality, and 159 involved serious injuries (generally, medical treatment required at a hospital).

4,802 total crashes | **216** serious crashes*  | **57** fatal crashes  | **159** serious injury crashes 

*a serious crash is one where one or more people are seriously injured (generally needing medical treatment) or die

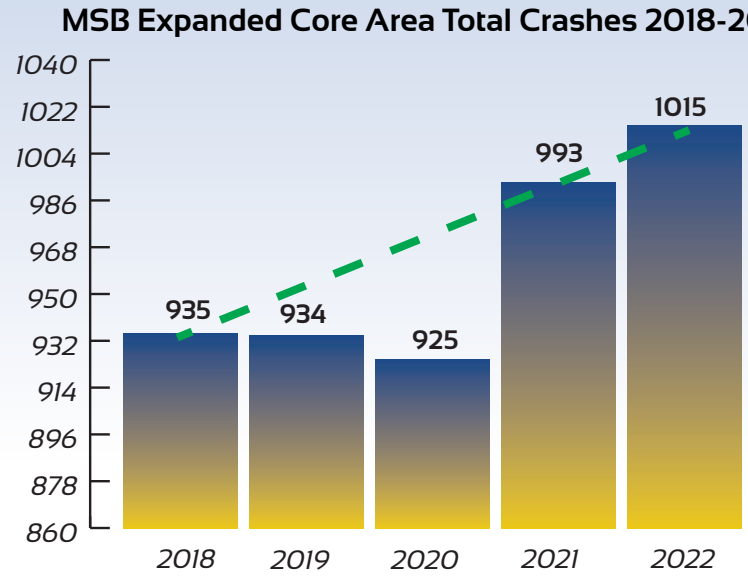


Figure 8. Total crashes by year and growth trend

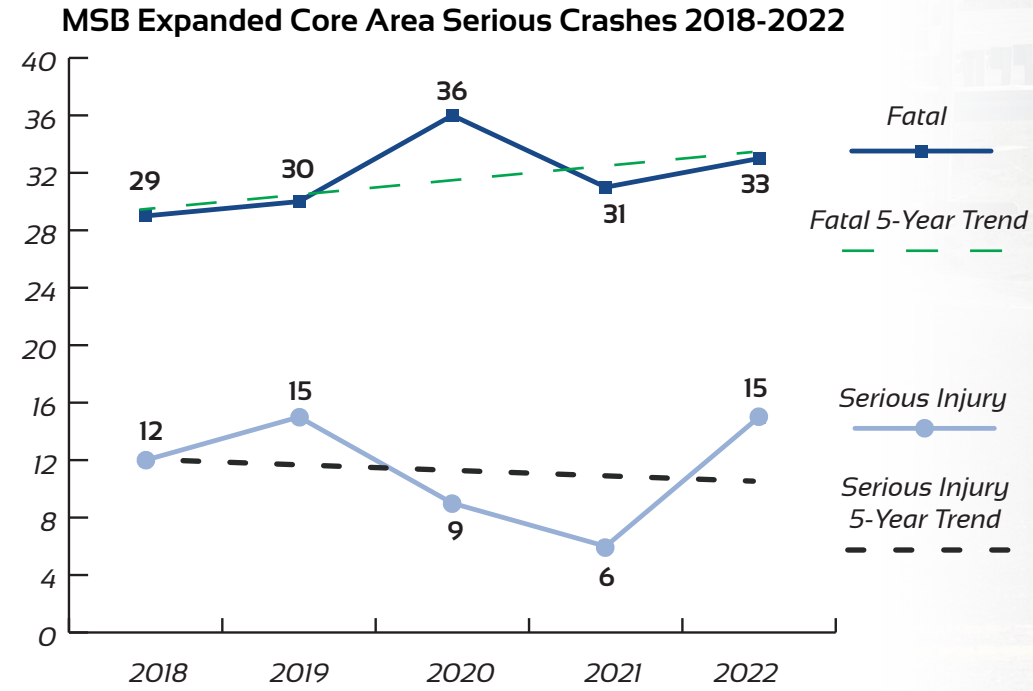


Figure 9. Fatal and serious injury crashes by year and growth trends

Most crashes are concentrated in Wasilla.

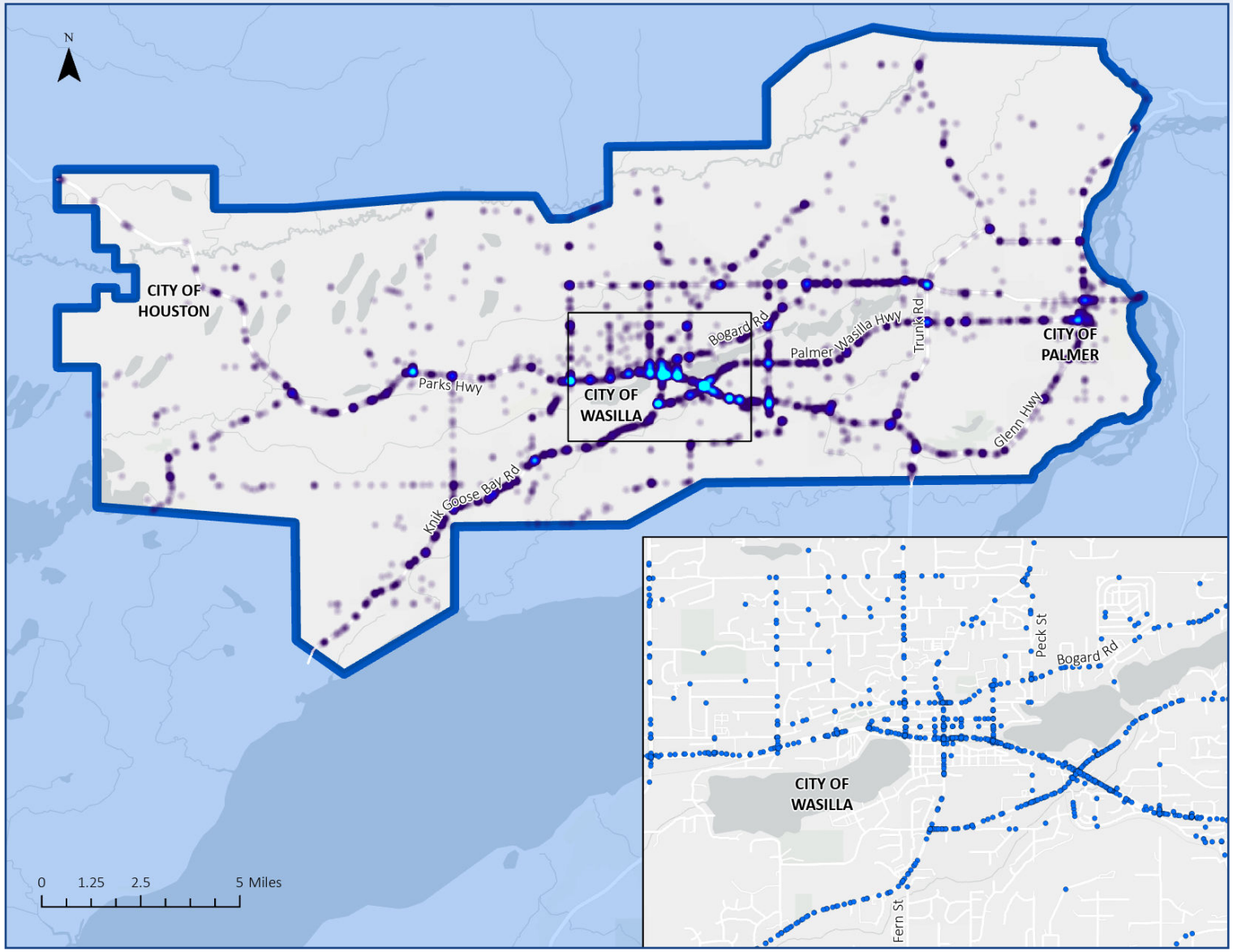


Figure 10. Locations of crashes in the MSB expanded core area.

Crashes are most concentrated around the:

- W Parks Highway
- S Knik-Goose Bay Road, E Bogard Road
- N Crusey Street
- N Lucille Street
- E Palmer-Wasilla Highway

Fatal and serious injury crashes (referred to in this document as "serious crashes") follow this trend, with the highest concentrations around the Parks Highway and E Palmer-Wasilla Highway.



Most crashes occur on high-speed, high volume roads.

40%
of **all crashes** and 40% of all serious crashes occurred on **major and minor arterials**

31%
of **all crashes** and 28% of all serious crashes occurred on **interstates**



Drugs and alcohol are a top contributing factor to serious crashes.

24%
of all serious crashes involved **drugs or alcohol**



Most serious crashes happen at intersections.

70%
of **all crashes** are intersection related

59%
of **serious crashes** are intersection related

There are more crashes in the winter, but fewer serious crashes.

71%
of **all crashes** occur in winter months (October to March)

ONLY **46%**
of **serious crashes** occur during winter

Most crashes involved two or more vehicles.

79%
of all crashes **involved another vehicle** (the most common harmful event)

6.5%
of crashes involved hitting a **live animal** (second most common harmful event)

Hitting another vehicle was also the most common event for serious crashes (65%) and the second most common was vehicle rollover (6%).

Drivers aged 18 experienced the highest extent of crashes for any single age, but drivers aged 25 experienced the most serious crashes for any age.

17%
of **all** crashes involved a driver who was **25-34 years old**

22%
of **serious crashes** involved a driver who was **25-34 years old**

Driver Action at Time of Crash

The graph below shows the most common actions of the contributing unit at the time of a serious crash. Going straight, which may indicate speed as a contributing factor to the crash, and turning left are the primary actions involved in serious crashes.

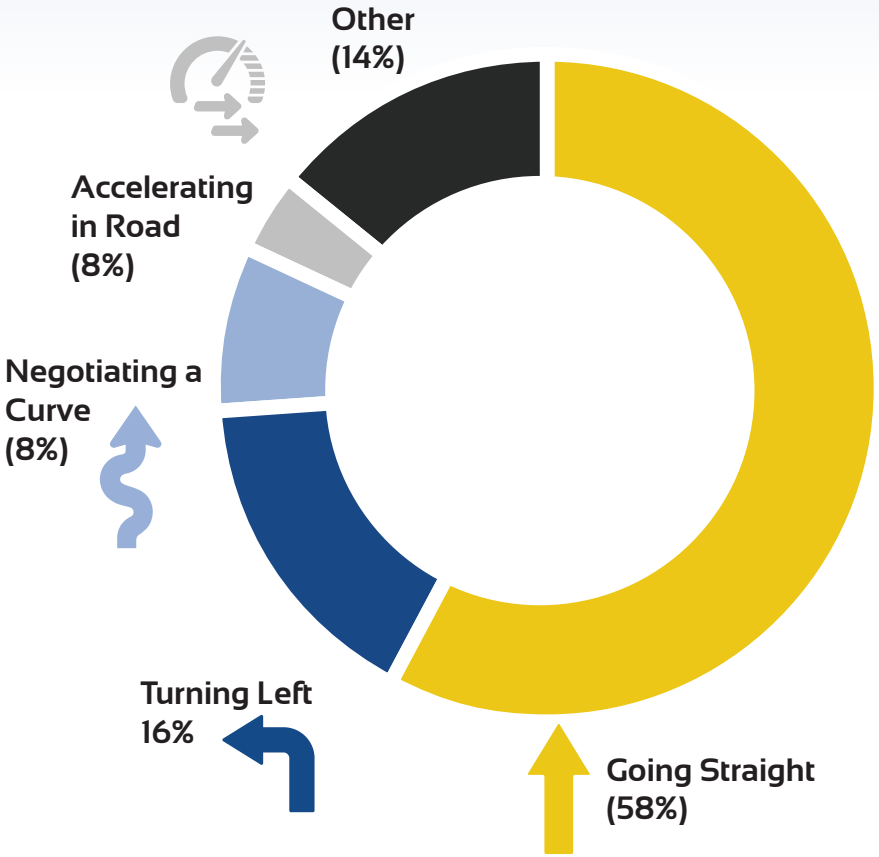


Figure 11. Contributing unit action at time of crash.

Trends by Mode

Most crashes (97.2%) were motor vehicle crashes, with motorcycles accounting for nearly 2% and the remainder involving bicycles and pedestrians (1% combined). For serious crashes, motorcycles make up a larger proportion by mode at 15%.

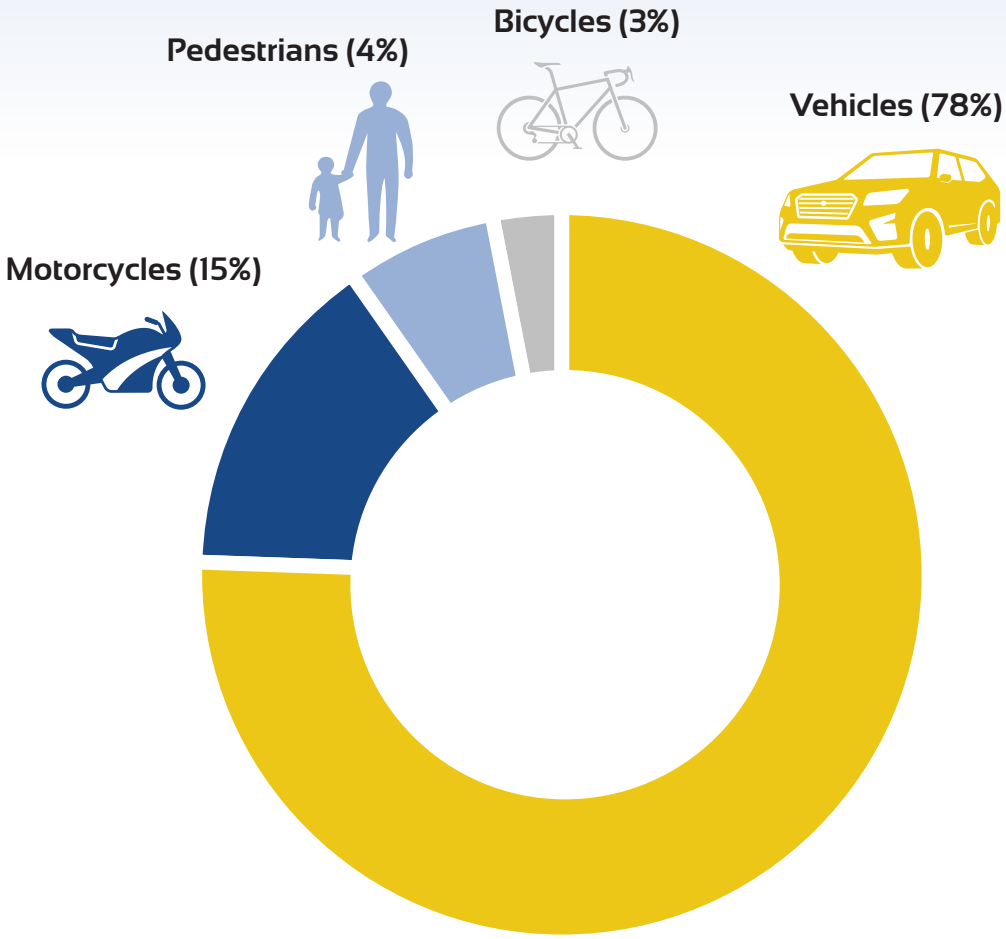


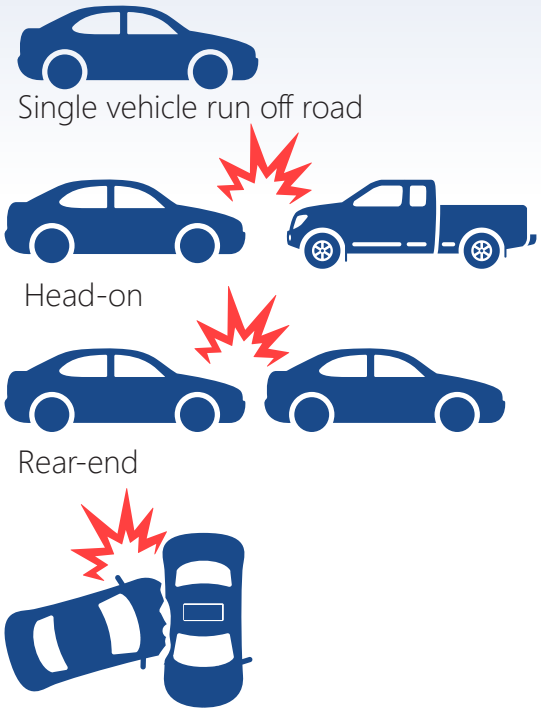
Figure 12. Serious crashes by mode

Motor Vehicle Trends

Big Picture

Vehicles were involved in 4,668 crashes, and 169 of these (3.6%) resulted in a death or serious injury.

Primary Crash Types



Single vehicle run off road

Head-on

Rear-end

Left turn (angle)

Primary Human Behaviors

The driver ran off the road, failed to yield, failed to stay in their lane, ran a stop sign or red light, or displayed inattentive, careless, erratic, or negligent behavior.

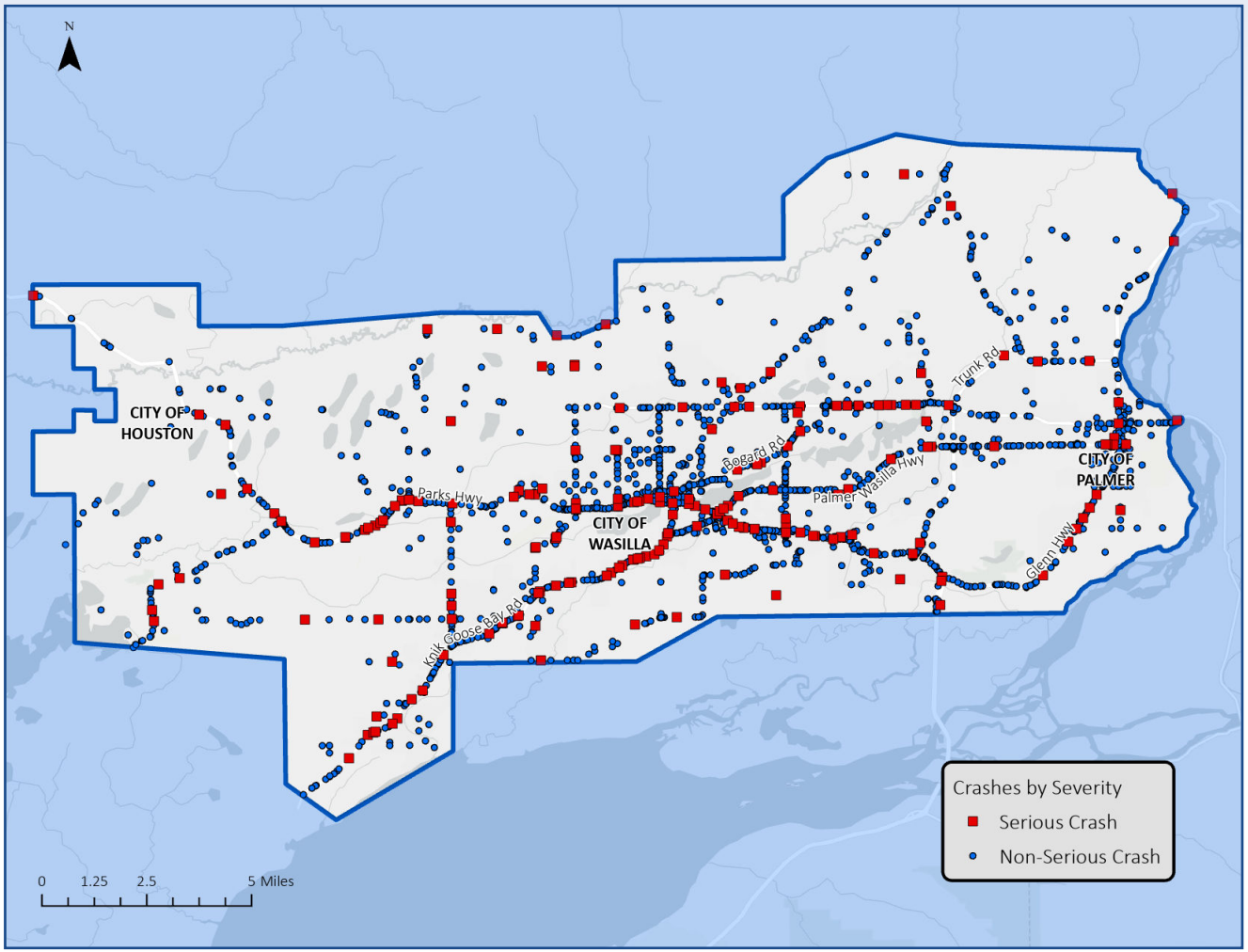


Figure 13. Locations of motor vehicle crashes.

Motorcycle Trends

Big Picture

Motorcycles were involved in 82 total crashes, and 32 of these (39%) resulted in a death or serious injury.

Primary Crash Types



Angle



Front to rear

Primary Human Behaviors

The vehicle driver failed to yield and struck a motorcyclist. The motorcyclist displayed inattentive, careless, erratic, or negligent behavior, or the ran off the roadway.

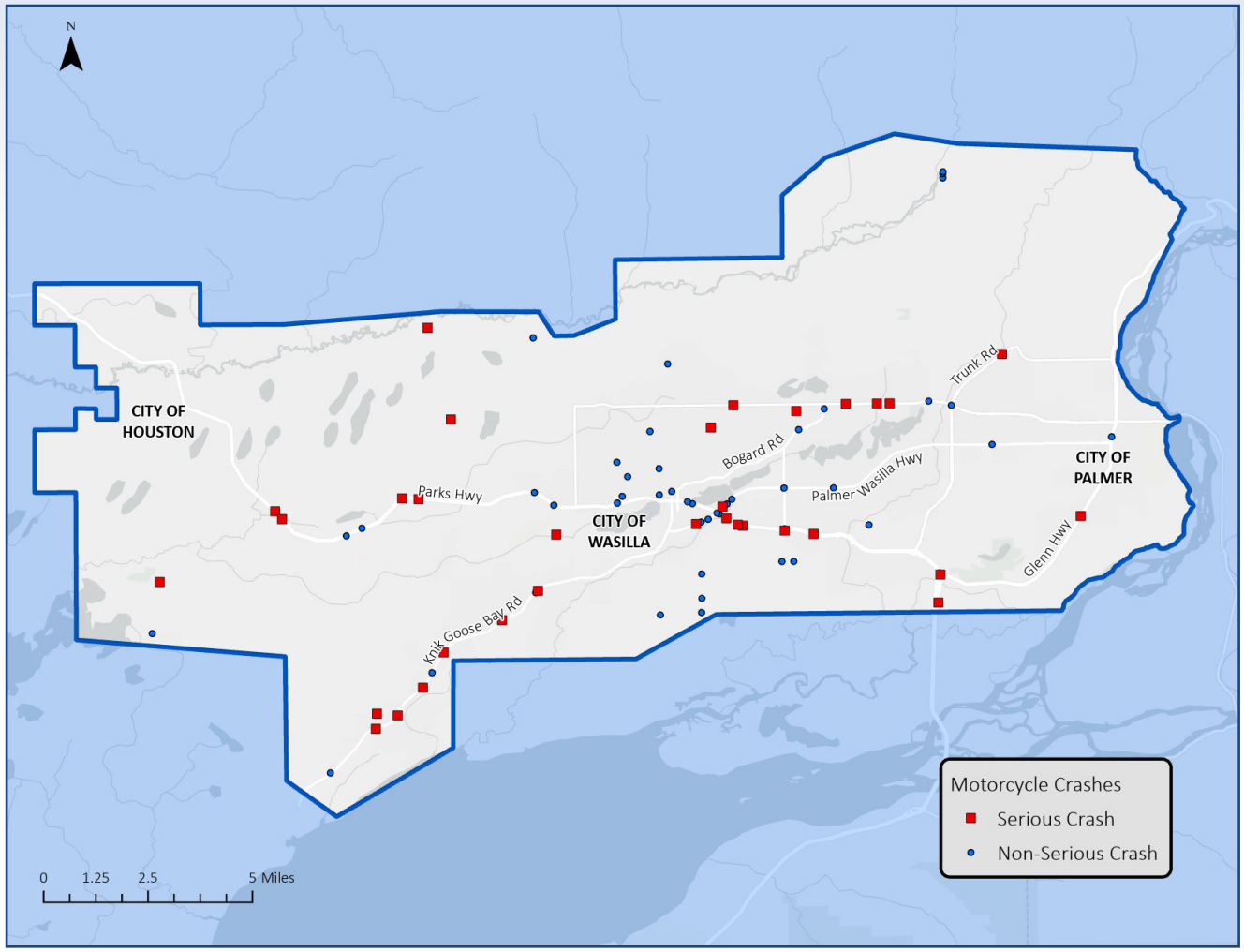


Figure 14. Locations of crashes involving motorcycles.

Bicycle Trends

Big Picture

Bicycles were involved in 22 total crashes. Six (27%) of these resulted in a death or serious injury. 82% of these crashes happened during daylight conditions.

Primary Crash Types



Turning right



Going straight

Primary Human Behavior

Motorist failed to yield.

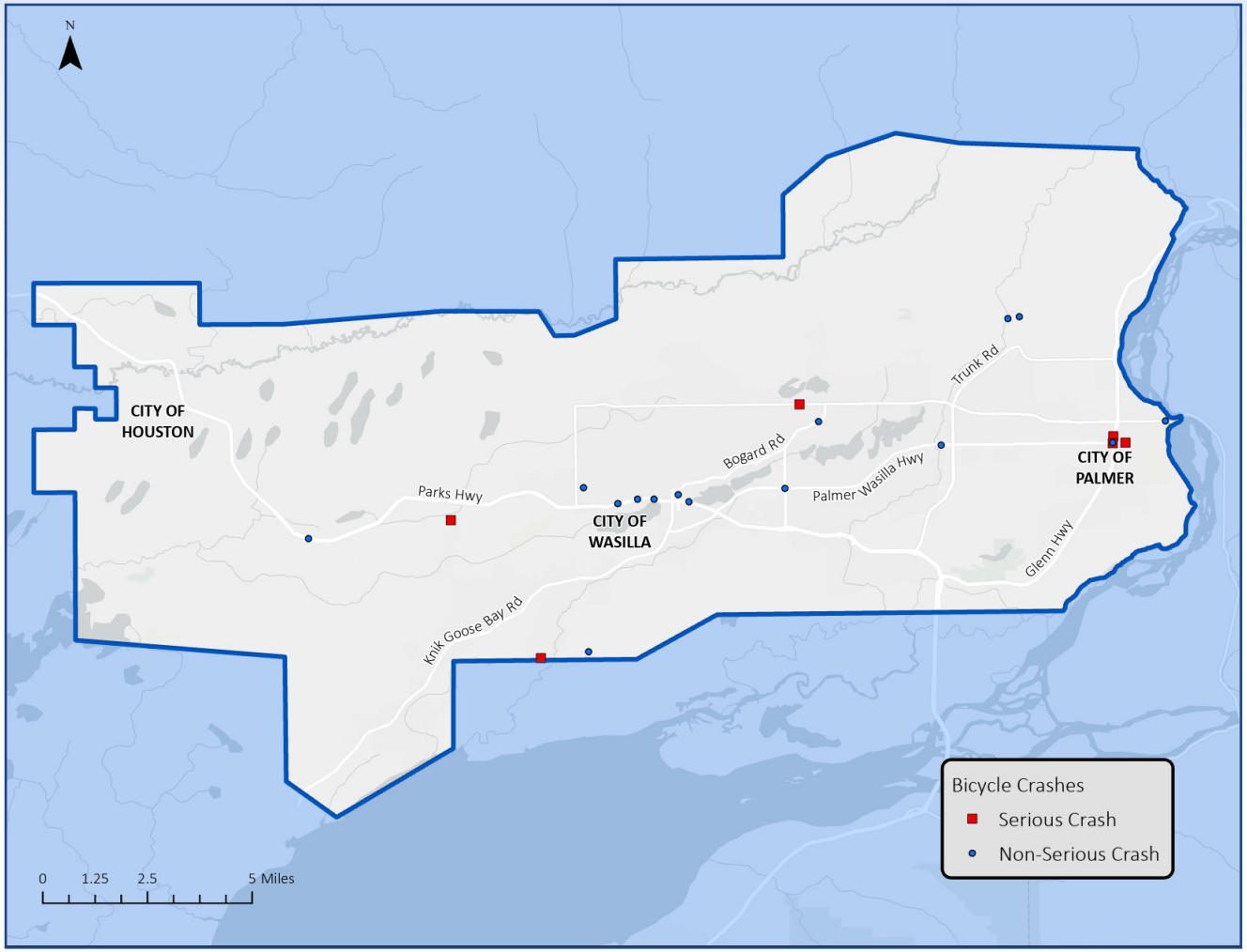


Figure 15. Locations of crashes involving bicycles.

Pedestrian Trends

Big Picture

Pedestrians were involved in 30 total crashes, and 9 (30%) of these resulted in a death or serious injury. Darkness was a factor in most of these crashes, with only 37% of these crashes occurring during daylight conditions.

Primary Crash Types



Turning right



Going straight

Primary Human Behaviors

The primary human behavior from crash reports was no contributing action or circumstance. Motorist failure to yield was the second most common circumstance.

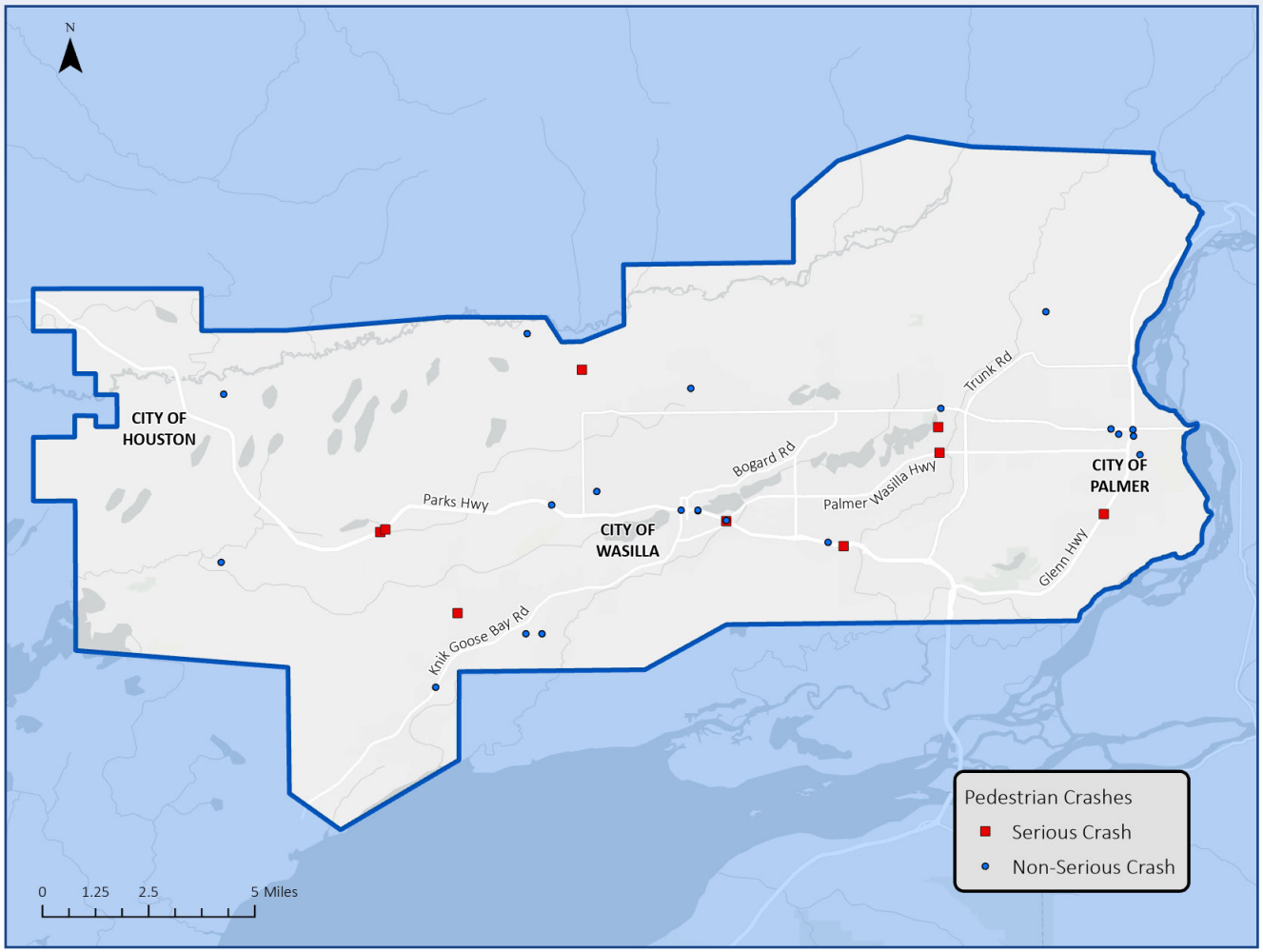
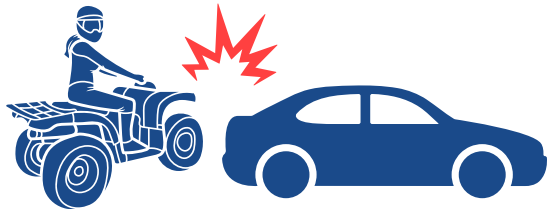


Figure 16. Locations of crashes involving pedestrians.

ATV Trends

Big Picture

ATVs were involved in nine recorded crashes. Five of these resulted in minor injuries, and one resulted in a fatality. Six (66%) of these crashes involved a motor vehicle, and three (33%) involved a driver aged 20 or younger.



66% of crashes involved a motor vehicle



33% of these crashes involved a driver aged 20 or younger



National Best Practices and Peer Review

As part of the MSB CSAP, the project team performed a peer review analysis to assess safety strategies that have proven to be successful in other communities around the United States. Eleven communities were selected, most of which have similar climates to the MSB. They included:

- Ada County, Idaho
- Anchorage, Alaska
- Austin, Texas
- Boulder, Colorado
- Denver Metro Council of Governments
- Canyon County, Idaho
- Fairbanks, Alaska
- Minneapolis, Minnesota
- State of Missouri
- State of Utah
- Walla Walla, Washington

SSA is an emerging concept for the nation and for communities, and many are embracing the Vision Zero goal through public commitments and the SS4A program. The table below includes safety strategies being planned or used in other communities, and some that are already being implemented in Alaska.

Table 1: Education Peer Review

Peer Community Strategy	Benefit	Communities Using it Successfully
Implement Vision Zero campaigns and maintain a regional Vision Zero webpage	• Promotes a culture of traffic safety. • Provides resources, support, and shared responsibility for safety.	Boulder, Denver, and Ada County
Combine countermeasure deployment with promotional activities (press releases, promotional signage, media interviews)	• Provides educational opportunities for safety treatments.	Boulder



Table 2: Enforcement Peer Review		
Strategy	**Benefit**	**Communities Using it Successfully**
Active monitoring for red light-running	• Helps prevent severe angle crashes. • Reduces crash severity, potentially reducing fatal crashes at signalized intersections by 21%.	Boulder
Explore a change in state law to reduce the legal blood alcohol content for impaired driving	• Utah saw a 20% reduction in its fatal crash rate (per 100M VMT) from 2016 to 2019 (law passed in 2017, took effect 2019).	State of Utah
Facilitate training sessions for law enforcement agencies on crash reporting and traffic safety	• Provides support on addressing key crash profiles and behaviors. • Increases consistency of crash reports for improved data quality.	Denver Metro Council of Governments

Table 3: Infrastructure Peer Review		
Strategy	**Benefit**	**Communities Using it Successfully**
Enhanced delineation for horizontal curves	• Low-cost improvements for areas with a high incidence of run-off-the-road crashes and/or curves. • For example, oversized chevron signs can reduce fatal and injury crashes by 15%.	Nationwide and Alaska
Roadside design improvements at curves	• Providing a clear zone of 30 feet from 16.7 feet has been shown to reduce all crashes by up to 44%.	Nationwide
Wider edge lines	• Can reduce non-fatal and injury-related crashes (not intersection related) on two-lane rural roadways by 37%. • Has a 25:1 benefit-cost ratio for fatal and serious injury crashes on two-lane rural roadways. • Roadway restriping can be a low-cost improvement.	Missouri and Idaho
Road diets	• Can reduce total crashes between 19% and 47%. • Relatively low cost. • Can add new facilities without introducing the need for new right-of-way.	Missouri and Idaho

Table 3: Infrastructure Peer Review		
Strategy	**Benefit**	**Communities Using it Successfully**
Flashing yellow arrows at signalized intersections	• Shown to reduce total crashes, especially angle crashes for the permissive left turn at a traffic signal. • Protected left turn phases (solid green arrow) remain safer but can reduce efficiency of intersection operations.	Nationwide including Alaska and the MSB
Leading pedestrian interval at intersections	• Has the potential to reduce pedestrian-vehicle crashes by up to 13% at intersections. • Very low cost to implement if only signal timing changes are required.	Walla Walla and Minneapolis
Retroreflective signal backplates	• Can provide a 15% reduction in total intersection crashes.	Fairbanks, Walla Walla, and Minneapolis
Crosswalk visibility enhancements	• Can reduce pedestrian crashes by up to 40%.	Nationwide and Walla Walla
Dedicated right- and left-turn lanes at intersections	• Right-turn lanes can reduce total crashes at an intersection by 14 to -26%, while left-turn lanes can provide a 28 to 48% reduction. • Can be considered pre-emptively or in response to intersection crash patterns.	Nationwide, Alaska, and the MSB
Dedicated bicycle lanes	• Can reduce total crashes up to 30% on urban two-lane collectors and local roads.	Walla Walla, Boulder, and Minneapolis
Implement rectangular rapid flashing beacons	• Can improve motorist yield compliance by 98% and reduce pedestrian crashes by up to 47%.	Alaska including Anchorage and Fairbanks, Boulder, and Minneapolis



Table 4: Policy Peer Review		
Strategy	**Benefit**	**Communities Using it Successfully**
Establish a regional Vision Zero working group	• Evaluate local safety issues, opportunities. • Maintain accountability to the regional Safety Plan.	Denver Regional Council of Governments
Corridor access management	• Can reduce fatal and serious injury crashes by 25 to 31%. • Can provide benefits to businesses with most businesses reporting the same or increased sales and the same or increased property values.	Nationwide and MSB
Review/implement speed management policies for setting speed limits	• The city of Seattle saw a 26% reduction in traffic fatalities after implementation of city-wide speed management strategies. • Can improve compliance with speed limits and may result in fewer serious and overall crashes.	Walla Walla, Minneapolis, Austin, and Boulder
Update street design guidelines, standards, and municipal codes to support Complete Streets policies and Safe System principles	• Assists planners and engineers with addressing safety-related aspects of street design, incorporating Vision Zero principles, applying countermeasures, and including further guidance for creating design components that create safe speeds.	Denver Regional Council of Governments
Implement a submittal checklist for developers and/or roadway design project reviews prior to project approval	• Strengthens local staff's knowledge of design code and standards, sets expectations for required elements, and provides additional quality review. • For developers, a checklist sets expectations for submittals and can help streamline reviews or delays associated with incomplete submittals.	Ada County
Establish roadway design standards that cite the most recent version of manuals (e.g., AASHTO, MUTCD, Highway Capacity Manual) in municipal code as applicable	• Adopting in code the most recent design manuals from established credible design sources incorporates the most recent research and trends without requiring frequent code review and updates. In turn, designers and developers apply the most modern design criteria. Agencies should consider the legal implications of automatically adopting a standard prior to agency department or assembly/council review.	Canyon County

The MSB Expanded Core Area crash data were compared to other communities with comparable demographics and climates as part of the Existing Conditions Memorandum dated November 26, 2024. Key takeaways related to serious crashes, and where available, vehicle miles traveled (VMT), compared to serious crashes are summarized in the following figures. This comparison showed that the MSB Expanded Core Area had a slightly lower rate of crashes per capita and per VMT and a lower rate of combined fatal and serious crashes per capita. However, in evaluating only fatal crashes, MSB Expanded Core Area exceeded all comparison communities in crashes per capita and crashes per VMT. In addition, MSB Expanded Core Area exceeds the statewide average rate of fatal and serious injury crashes combined per VMT.

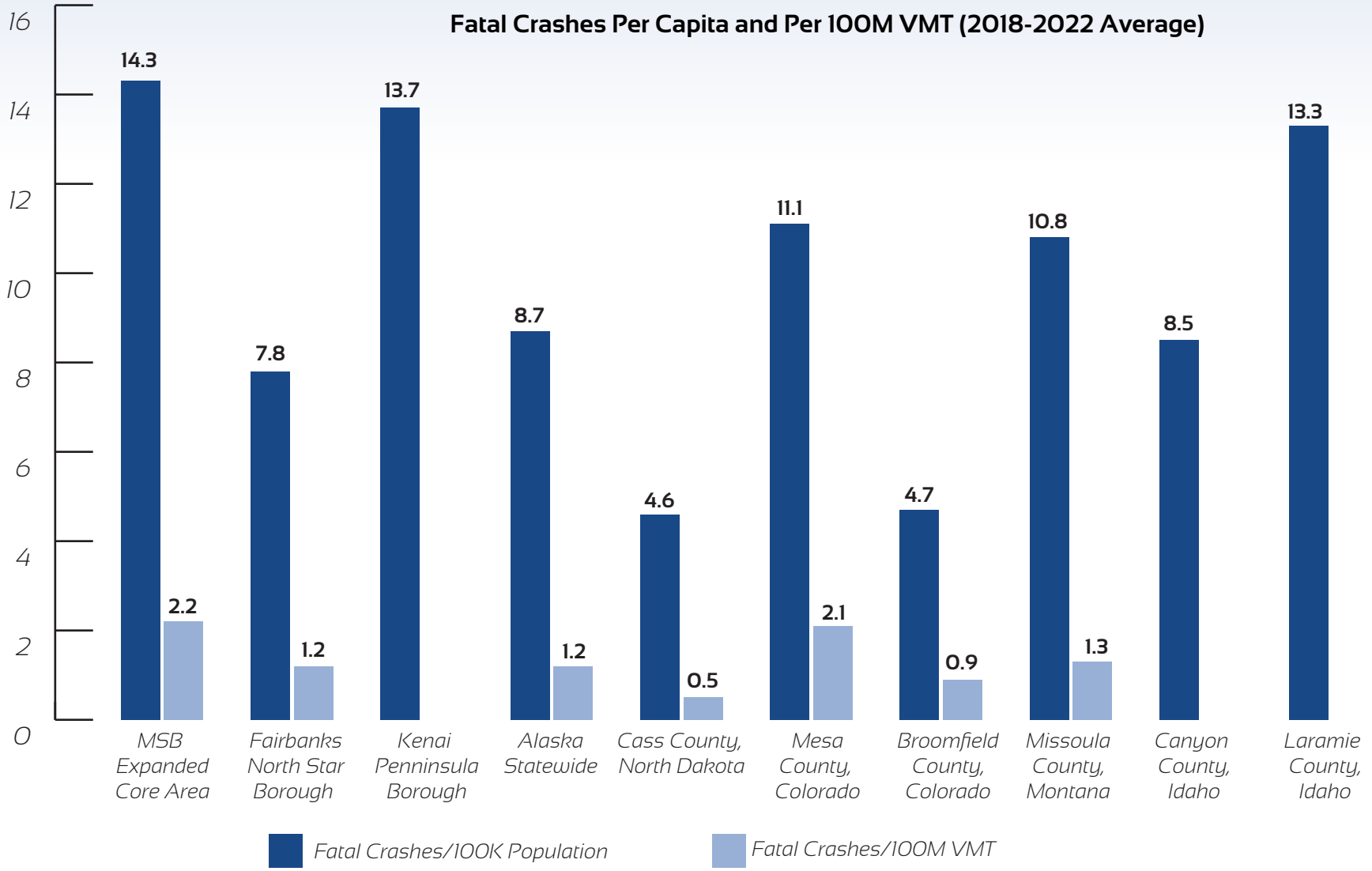


Figure 17. Fatal crashes per capita and VMT by comparison community

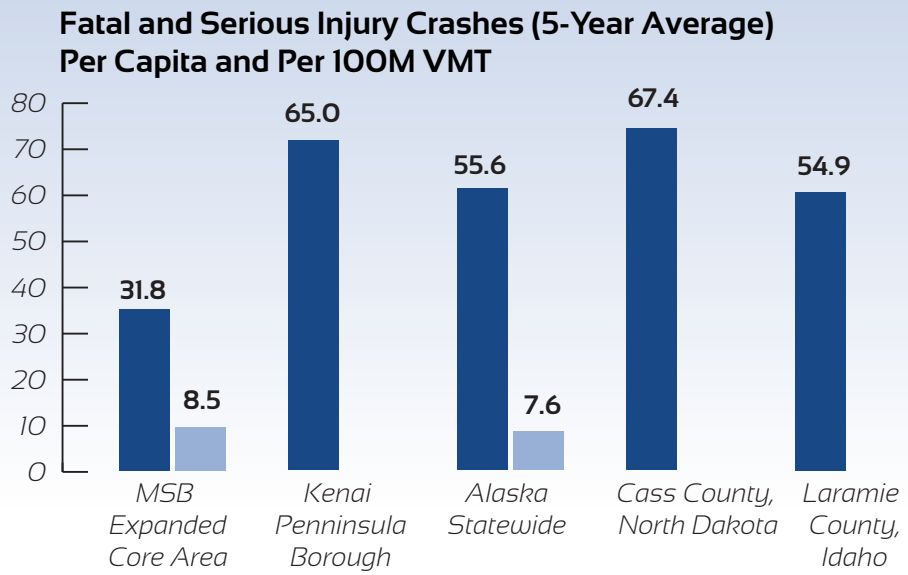


Figure 18. Serious crashes per capita and VMT by comparison community

On a statewide level, the MSB Expanded Core Area comprised approximately 10% of serious crashes in the state over the analysis period, and 18% of fatal crashes statewide.

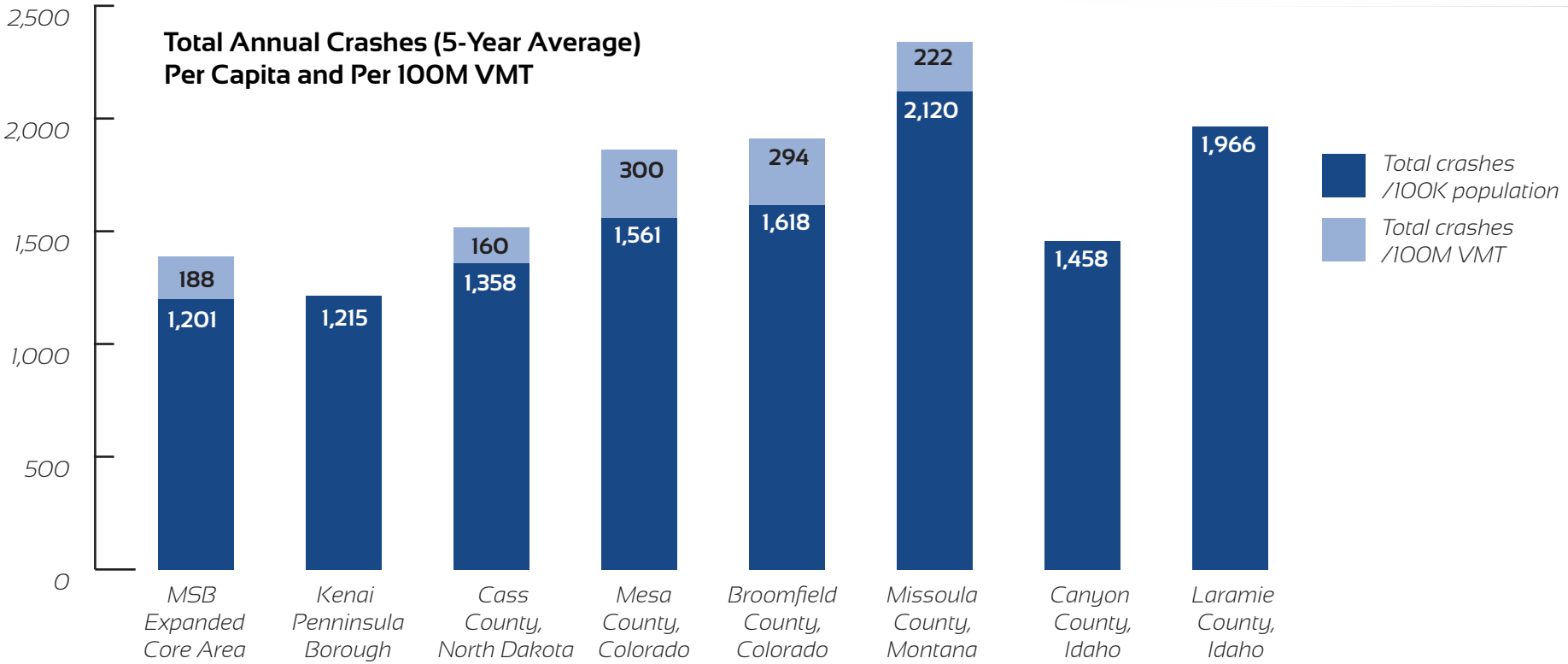


Figure 19. Total annual crashes by comparison community



Chapter 4:

Engagement & Collaboration

MAT-SU BOROUGH
SAFE STREETS FOR ALL

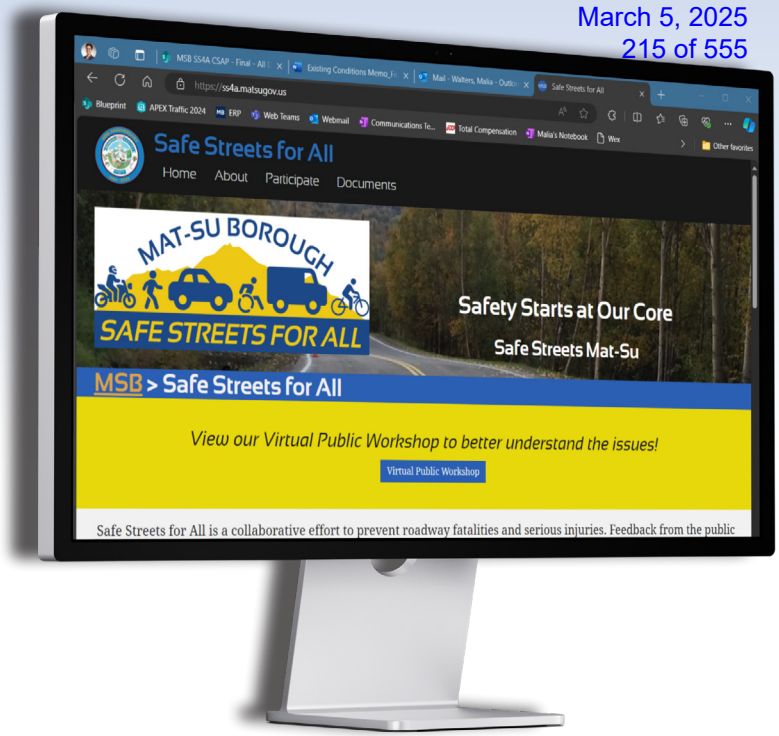
Connecting with the MSB Community on Safety

Comprehending the community's perception of transportation safety in the MSB was an integral part of assessing their safety needs and helped to shape the policy and program recommendations in this plan. Throughout the planning process, the project team utilized several engagement tactics to encourage public participation in the plan and gain valuable information from a multidisciplinary group of stakeholders, transportation agency professionals, and the public. These tactics included:

- A project website
- Development of the stakeholder/outreach list
- A safety survey
- Five SAPT meetings
- Three Focus Group meetings
- Two virtual public workshops
- A public-facing crash data dashboard
- Three in-person open house events
- Six pop-up events
- 15 MSB agency meeting presentations
- Social media and news publications
- Email notifications

The Project Website

This user-friendly, public-facing website included information about the plan, the SS4A program, a project timeline, a calendar of upcoming public events, plan documents, links to the safety survey and the public-facing crash data dashboard, and an online public workshop. The website featured a Google translate tool to assist those with limited English proficiency.



The Stakeholder/Outreach List

The project team developed a robust stakeholder/outreach list, which was used to notify the public about the project, upcoming participation events, and the project timeline. Stakeholders invited key representatives from the following groups:

- Local MSB Advocacy Groups
- Disability Services
- Family Services
- Recreation
- Senior Services
- MSB Government
- Housing
- Employment Services
- Youth Services
- Tribal Governments
- Health Care
- Business
- Emergency Services
- Education
- Transit
- Community Councils
- Local Road Service Areas



The Safety Survey

A comprehensive safety survey was launched on June 26, 2024, and was open to the public for approximately 11 weeks. During that time, it was available on the project website, while physical (hard copy) surveys were distributed and collected in Houston, Wasilla, and Palmer. The purpose of the survey was to gain valuable insight from the public on their perceptions of transportation safety within the MSB Expanded Core Area. The survey included a wide array of questions to understand where the community's biggest opportunities and challenges for transportation safety exist, as well as to identify specific barriers to walking and bicycling. Information gathered from this survey was used to prioritize broad community safety needs, prioritize safety recommendations, and assess core areas for future investment in the MSB Expanded Core Area. **The project team received 912 responses to the survey.**

Survey Findings

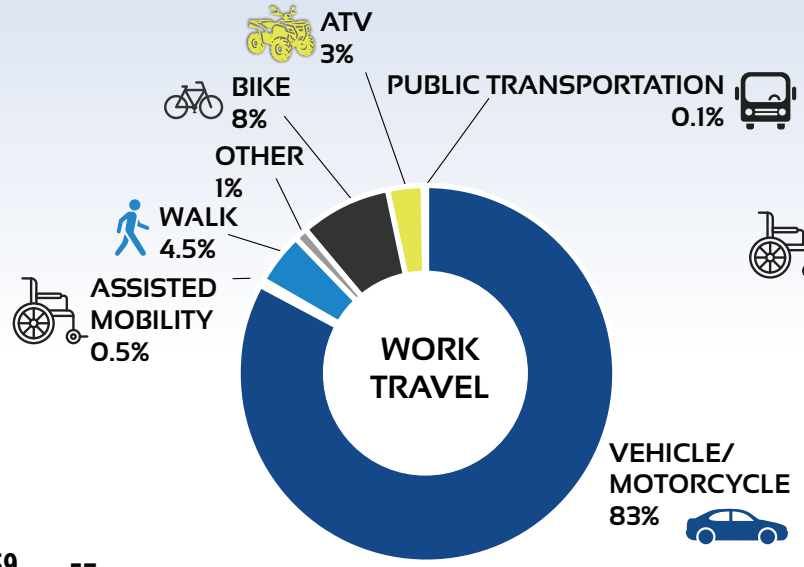


Figure 20. Travel mode for work related travel.

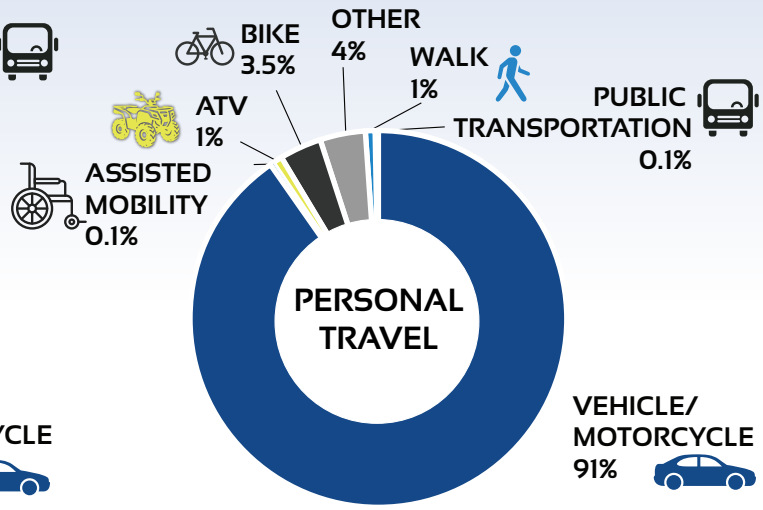


Figure 21. Travel mode for non-work related travel.

Figure 22. Number of survey respondents by location.

Only 54% of respondents feel safe walking during daylight conditions, while 44% feel that their neighborhood is a safe place to walk in general. 39% of respondents feel safe riding a bicycle during daylight hours and only 32% feel safe riding a bicycle in their neighborhood. 6% of respondents felt that they could easily access a form of public transportation (including a school bus) from their house.

54% feel **safe walking** during **daylight** hours

44% feel that their neighborhood is a safe place to **walk in general**

39% feel safe riding a **bicycle** during **daylight** hours

32% feel safe riding a **bicycle in general** in their neighborhood

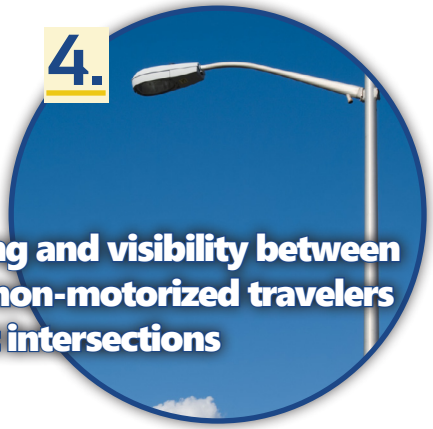
6% feel like they could easily access **public transportation** (including school buses)

When asked what would make them feel safer and more likely to walk, bike, or use a public transportation option, the top five responses were as follows:

1. 

2. 

3. 

4. 

5. 

What would make you feel safer?

We asked what would help encourage people to prioritize safety on community streets. Here are the top three categories:



78%

said that roads designed with more safety-focused elements like separated paths, crosswalks, and bike lanes would help



59%

said that stronger traffic enforcement, especially for impaired and distracted driving would help



30%

said that more public education on transportation safety like speeding, safe driving habits, the rules of the road, and distracted and impaired driving would help

Where should we invest in transportation safety?

We asked where investments should be made to improve safety in the MSB. Here are the top five responses:



1. Better winter maintenance of roads and sidewalks **(62%)**
2. Adding and maintaining sidewalks **(57%)**
3. Adding to and maintaining the trail network **(47%)**
4. Stronger traffic enforcement for speeding, impaired driving, and distracted driving **(47%)**
5. Redesigning and reconstructing roads to increase safety for everyone **(45%)**

Areas of Concern

To help identify specific areas of safety concern, survey respondents were asked to locate their five biggest safety concerns within the study area. Online survey responders were provided a map on which they could drop a pin to notate an area of concern. Paper survey respondents were asked to identify their area of concern using mile markers, intersections, landmarks, and establishments, such as schools or stores.

Common themes for safety isssues identified on the map included:

- **Unsafe intersection design**
- **Unsafe road design**
- **Inadequate facilities for walking & biking**
- **Unsafe speeds on the roadway**

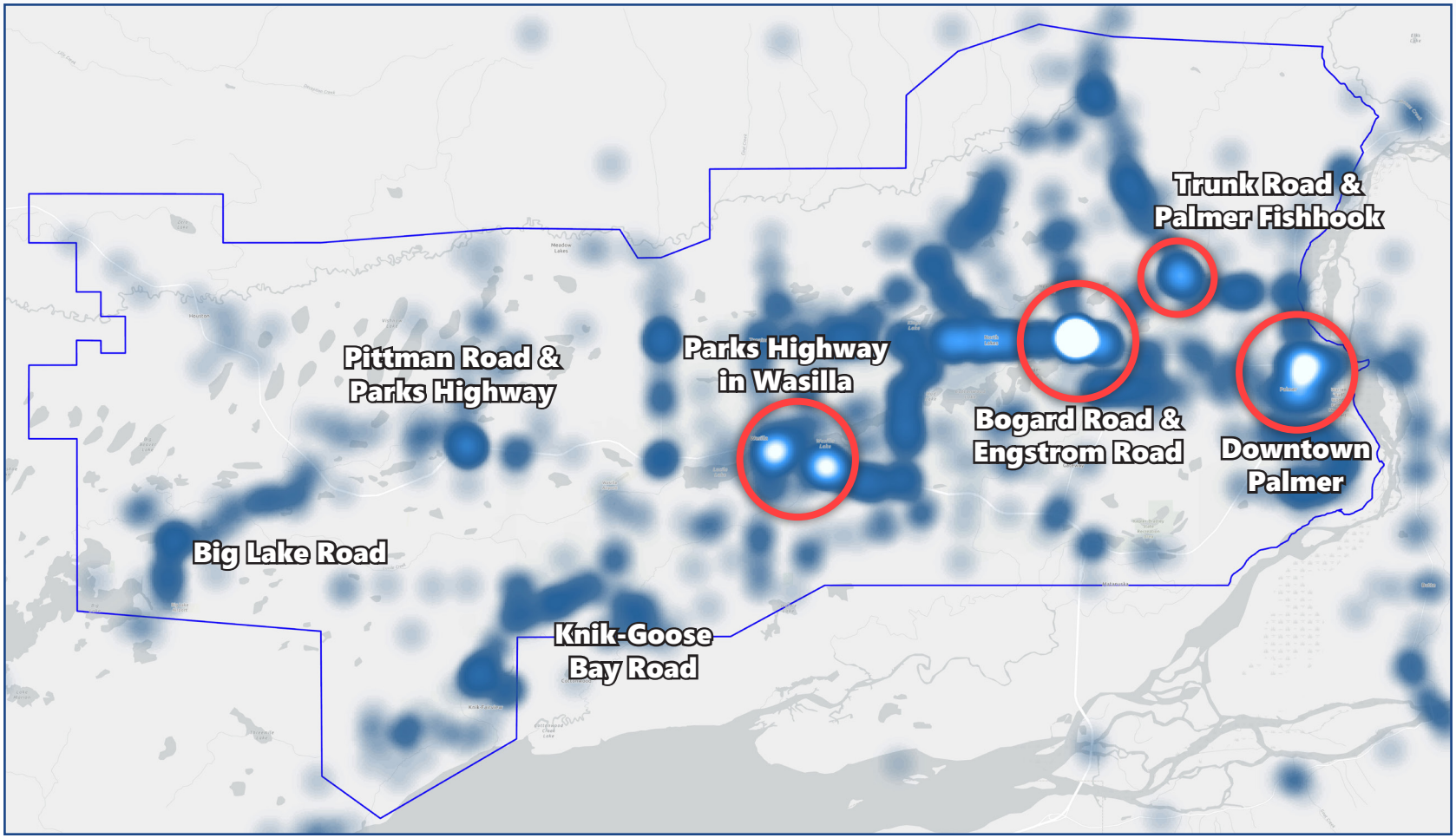


Figure 23. A heatmap of areas identified as safety concerns by survey respondents.



Five Safety Action Plan Team Meetings

The SAPT (described in Chapter 2 – Planning Structure) met at five key stages of the plan development. This group helped to identify specific transportation safety concerns within the MSB Expanded Core Area and provided oversight and direction on potential safety solutions, project recommendations, and implementation actions in the final plan. A full accounting of SAPT comments can be found in Appendix E.



When asked what is and is not working to improve transportation safety in the MSB this is what the SAPT had to say.

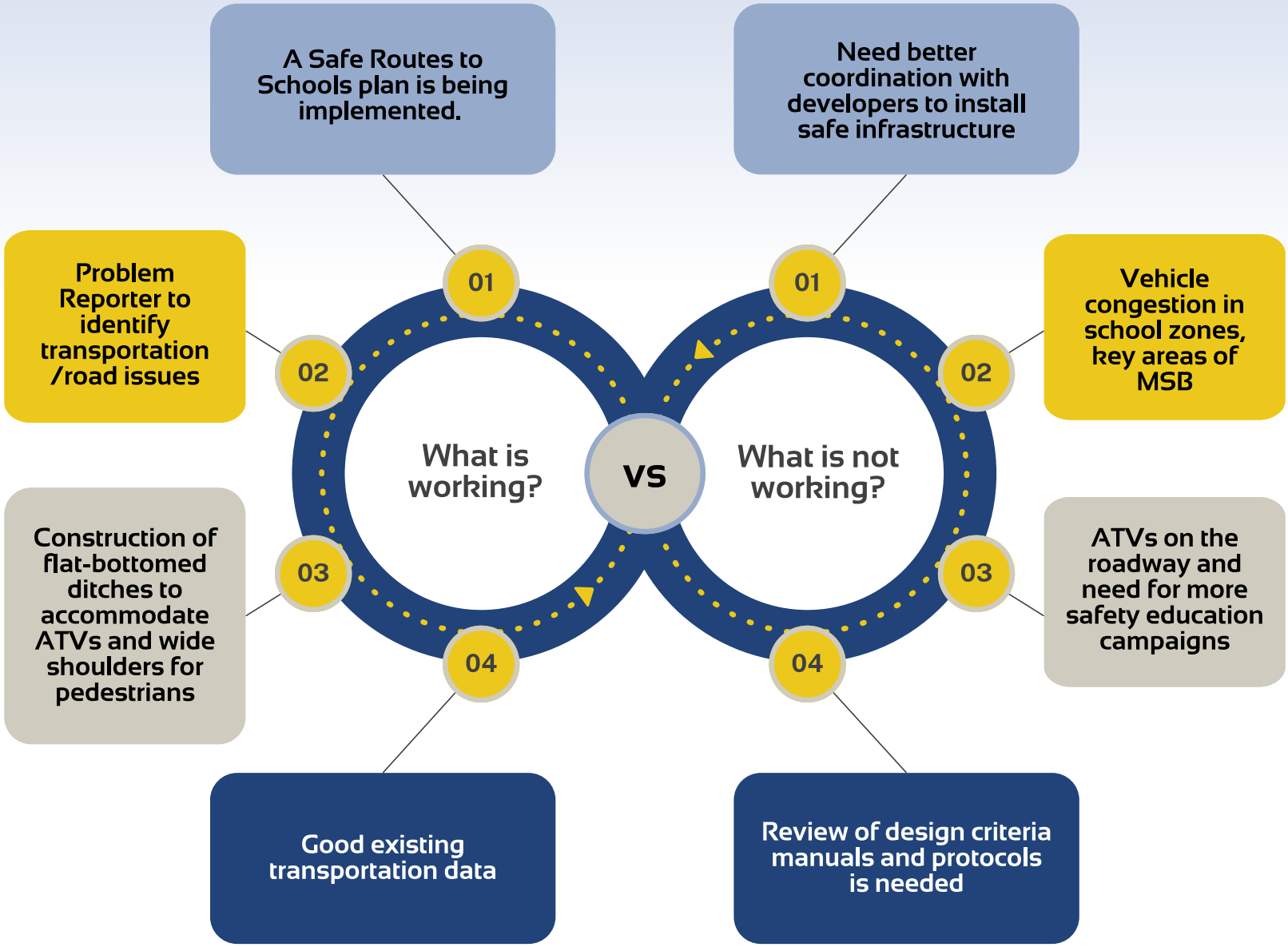


Figure 24. An infographic of what the SAPT said is and isn't working.

Three Focus Group Meetings

The project team facilitated three focus group meetings to explore three topic areas identified during the safety survey and stakeholder meetings. These areas included safety in school zones/safety campaigns, enforcement, and safety policies. Conclusions from discussions at these focus group meetings are presented below:

Safe Policies

- **Speed management** – self-enforcing speed limits on streets are needed. Road design plays an instrumental part. This could be part of the design recommendations from a future Complete Streets Plan.
- Need a policy **enforcing safe street design** for developers of new subdivisions.
- Need **development incentives**, tax reduction for adding walkable facilities, smaller lots, additional density, greenspace.
- Need funding policy to dedicate more **funding to maintenance.**
- Create a **Complete Streets Policy.**
- Explore **consolidation of Road Service Areas** for more efficient contract administration and potentially reduce operational costs. Create policy to allow community members to do their own maintenance, seek funding for equipment.
- Policy to **utilize impact fees** is needed.
- **Traffic calming policy** is needed.

Safety in School Zones and Safety Campaigns

- **Improved lighting** around schools and bus stops and more marked crossings are needed.
- **Separated pathways** around schools will help improve safety.
- Regular, **dependable maintenance** is necessary to encourage kids to use multi-use pathways.
- **Queuing** around school pick-up and drop-off areas is a **safety hazard.**
- School zones should be **consistent throughout the MSB**. The Alaska Traffic Manual does not allow for consistent signing at all schools.

Enforcement

- **Staffing is the biggest challenge** to conducting adequate enforcement.
- **ATV enforcement is difficult** with no legal license needed for off-road users.
- Traffic laws have been decriminalized and there is **no follow through in the court system** to enforce traffic violations.
- **Unsafe passing** is a safety concern tied to serious crashes.





Two Virtual Public Workshops

Virtual Public Workshop #1

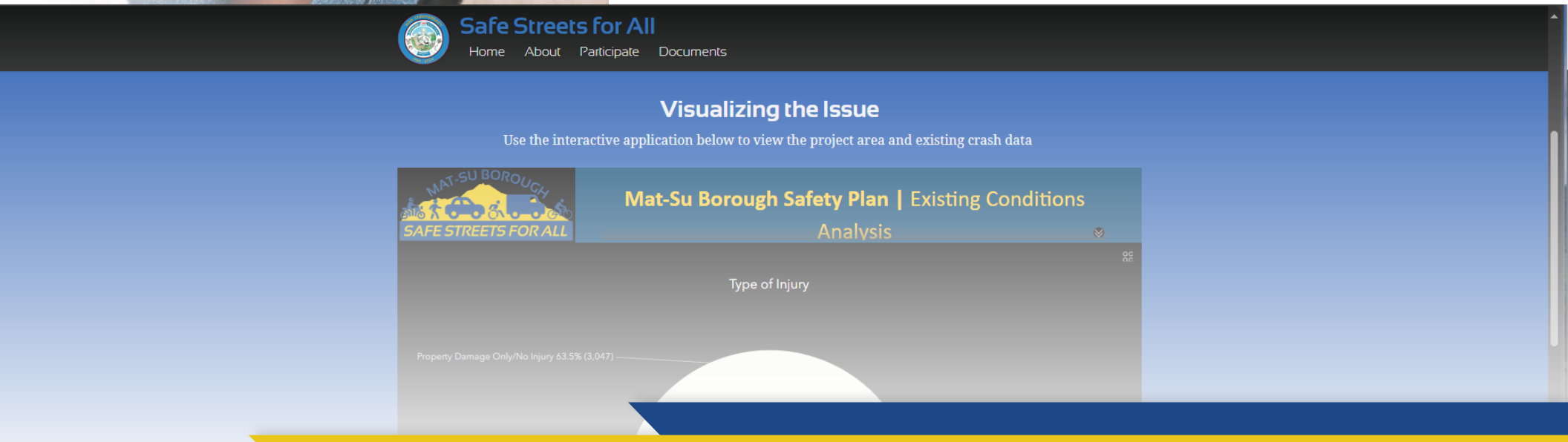
The project team facilitated a virtual public workshop on July 10, 2024. The purpose of this workshop was to introduce the MSB CSAP, highlight the planning process and key milestones, and inform the public about the SS4A program and the SSA.

Virtual Public Workshop #2

This asynchronous interactive online workshop detailed five years of crash data between 2018 and 2022 in the MSB Expanded Core Area and the results of the safety survey. This platform offered a self-guided exploration of the crash data, the SS4A program, specific locations of concern, travel modes, causes of crashes, potential solutions, and next steps. The workshop launched on October 1, 2024, and remained open throughout the duration of the project, garnering 727 views as of December 16, 2024.

A Public-Facing Crash Data Dashboard

An interactive public-facing dashboard was created to show crash data from 2018-2022 in the project area. Located on the home page of the project website, the dashboard allowed the viewer to filter crash data a number of different ways including injury type, crashes by year, crash type, lighting, weather, month, driver age, and alcohol suspected. This dashboard was viewed 660 times as of December 16, 2024.



Three In-Person Open House Events

Placeholder box

Join us for the Public Open Houses:
-January 15, 2025 in Houston
-January 16, 2025 in Palmer and Wasilla

More information will be added to this section after the open houses have been completed.

Pop-up Events

Pop-up events are an effective way to meet the community where they are and provide an opportunity for education and engagement during the plan process. The project team facilitated six pop-up events that collected valuable information from the public including specific safety concern locations and comments on existing and planned facilities. The project team also provided informational flyers, fact sheets, paper copies of the safety survey, and promotional project giveaways (reflective dog bandanas, reflective arm bands, blinking lights, and project stickers). We hosted the following pop-up events:

- Palmer Friday Fling
- Wasilla Farmer's Market
- Houston Founder's Day Celebration
- Alaska Municipal League Annual Conference
- American Society of Civil Engineers Presentation*
- Mat-Su Transportation Fair*
- Bleeding Heart Brewery*

*Planned for January 2025 during draft plan comment period, final plan will be adjusted as necessary



MSB Agency Meeting Presentations

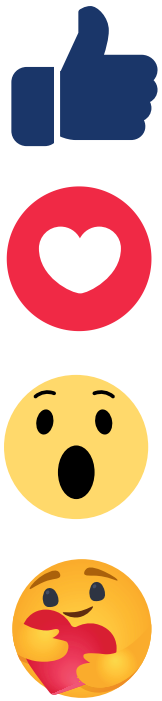
To help facilitate public awareness of the MSB CSAP, promote the safety survey, and ensure a smooth plan adoption process, the project team met with key MSB committees to provide an overview of the MSB CSAP and gather comments from transportation and safety professionals, policy makers, and the public. These included:

- MSB Transportation Advisory Board
- Local Road Service Area Advisory Board
- MSB Planning Commission
- Joint Assembly/Planning Commission Meeting
- Mat-Su Valley Planning (MVP) Technical Committee
- MVP Policy Board

Social Media, News Publications, & Email Notifications

Social media is a powerful tool for promoting plan awareness and gathering feedback at key milestones of the planning process. It can help ensure broad public participation. The project team created a Facebook post and a promotional reel to help publicize the safety survey. The post and reel guided people to the project website where they could learn more about the plan, view the latest plan documents, learn how to get involved in the process, and contact the project team. The Facebook post was promoted through paid advertising on the MSB Facebook page. **The reel was shared 36 times and watched 15,000 times.** The stakeholder/outreach list was used to reach a broad cross section of the MSB Expanded Core Area through email correspondence at key milestones during development of the existing conditions analysis.









Chapter 5:

Equity Considerations

MAT-SU BOROUGH
SAFE STREETS FOR ALL

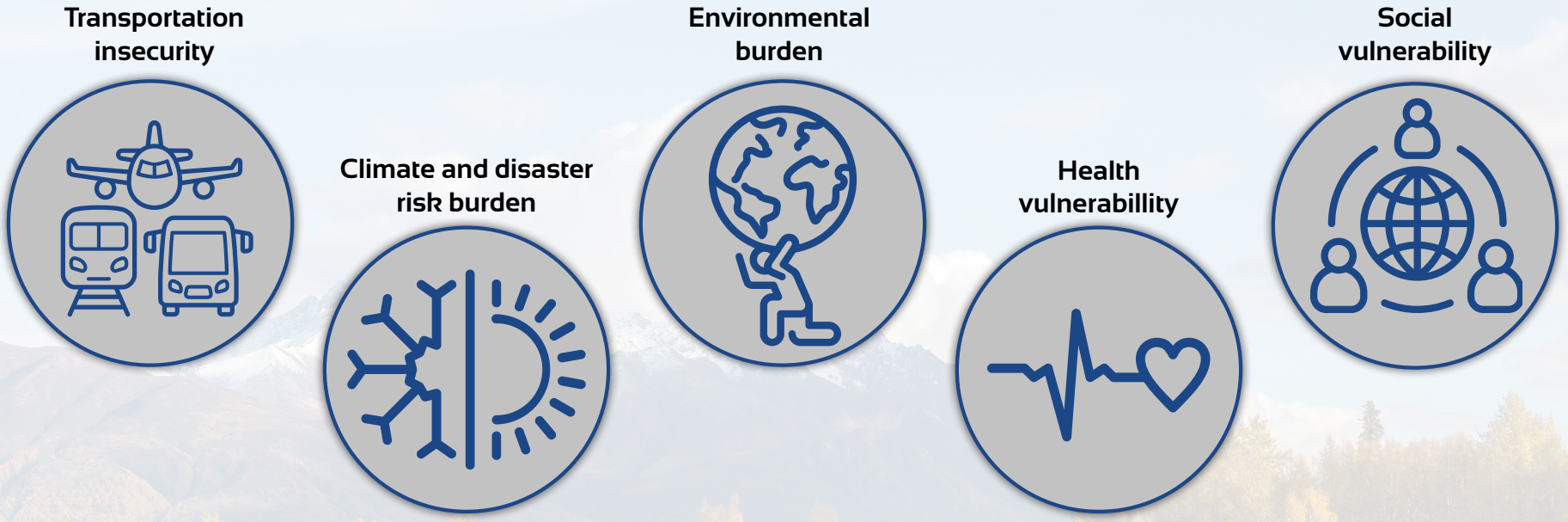
Defining Equity in Transportation

An equitable transportation system strives to support all users by providing transportation options that are affordable and reliable, while meeting the needs of the communities they serve. Executive Order 13985 *Advancing Racial Equity and Support for Underserved Communities* (2021) defines equity as "the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality."

Building an equitable transportation system means taking extra care to consider and plan for the unique challenges that disadvantaged communities face regarding mobility and connectivity needs. Engaging with disadvantaged populations early and often during the transportation planning process can help a community respond to these needs and adjust to ensure an equitable transportation network is achieved. During the planning process and particularly regarding public involvement and outreach, it is the responsibility of transportation planning agencies to ensure that the entire community is included, regardless of race, nationality, income, age, sex, or disability.

Vulnerable Populations Within the MSB Expanded Core Area

As part of the MSB CSAP process, the project team performed a comprehensive equity analysis to identify disadvantaged populations within the MSB Expanded Core Area. These populations have disproportionately higher risks navigating the transportation network. The results of this analysis show a correlation between demographics and safety risk, and they provide an equity-specific lens that was used to help prioritize and recommend projects for implementation in this plan. The plan utilized three methods to identify vulnerable populations within the project area. The first method analyzed results from the Council on Environmental Quality's Climate and Economic Justice Screening Tool. This tool utilized census tract boundaries from 2010 and includes the following eight categories to assess climate and economic justice burden: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. The second tool used was the USDOT Equitable Transportation Community (ETC) Explorer. This interactive web application complements the Climate and Economic Justice Screening Tool by focusing on transportation-related disadvantages. The ETC Explorer analyzes five components to look at the overall burden experienced by a community due to underinvestment in transportation. They include:



Using this tool, we assessed that **nearly the entire MSB Expanded Core Area experiences transportation disadvantages and transportation insecurity.** Transportation insecurity is a core component indicating transportation disadvantage in a community. It occurs when a significant number of people in a community are unable to experience regular, reliable, and safe mobility to meet their daily needs. Transportation insecurity is also a substantial factor in persistent poverty.

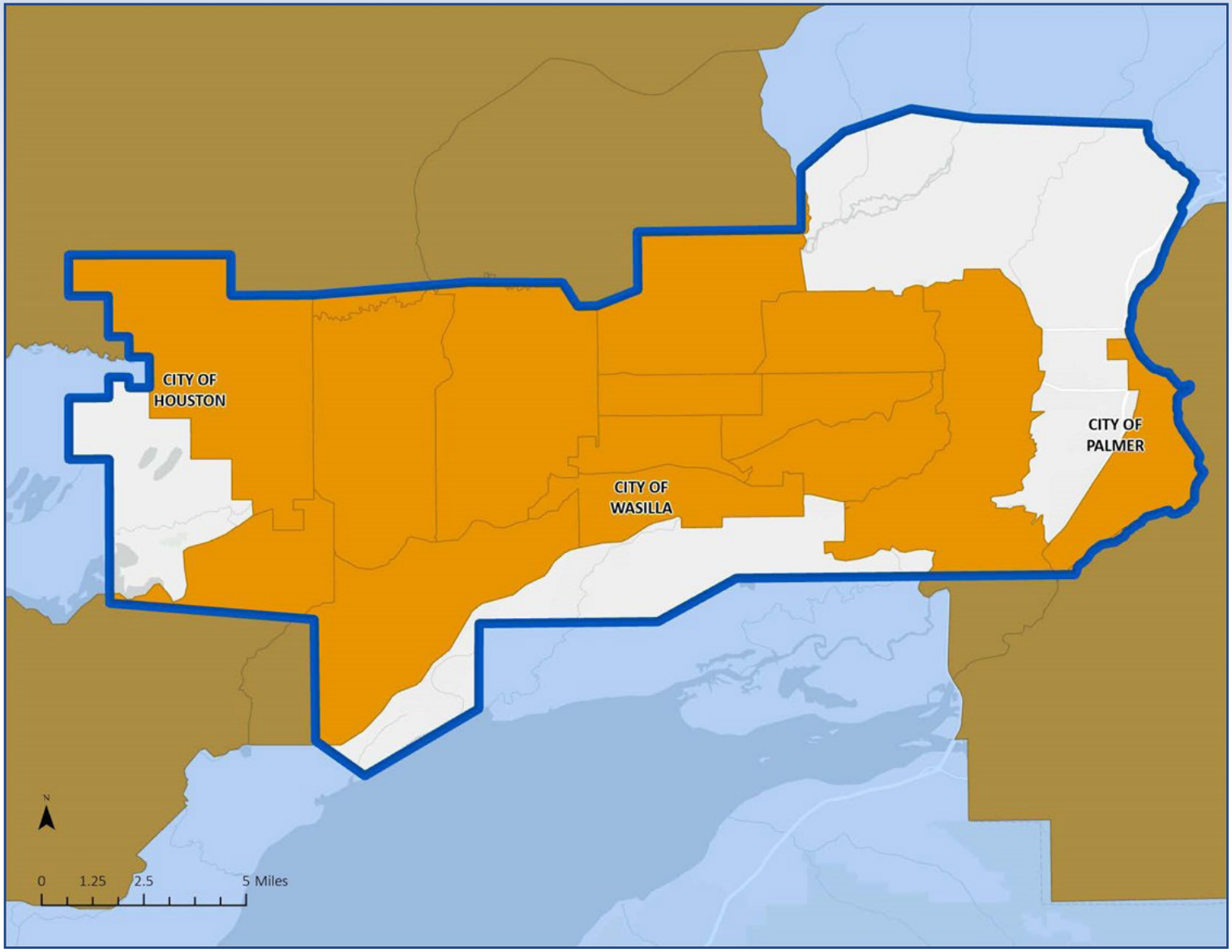


Figure 25. Areas that scored high in three components of the ECT Explorer tool.

On deeper analysis, the orange areas in the above map were found to have high scores in three components of the ETC Explorer Tool. These included transportation insecurity, health vulnerability, and social vulnerability.

Transportation Insecurity

Transportation insecurity occurs when people are unable to meet their daily needs regularly, reliably, and safely due to the following three prevalent factors:

- **Transportation access** – Includes long wait times and difficultly traveling by car, walking, biking, or taking transit. Long commute times and limited access to a vehicle are barriers to employment and resources.
- **Transportation cost burden** – Households that spend a greater than average percentage of their income on transportation, which can include transit costs, vehicle maintenance and insurance costs, gasoline, and fuel. Overspending on transportation costs can make people more vulnerable to losing housing, not being able to afford hospital and medical care, and not being able to afford healthy food options, which can lead to chronic illness and obesity.
- **Transportation safety** – This factor indicates higher than average scores for the number of motor vehicle fatalities per capita.



Social Vulnerability

Social vulnerability measures lack of employment, level of education, level of poverty, percentage of home ownership, access to online resources, housing cost burden, age, English proficiency, and disability status.



Health Vulnerability

The health vulnerability category assesses the rates of disease that can be attributed to air, noise, and water pollution; limited mobility conditions due to lack of safe walking facilities; dependence on a vehicle; and long commute times. This category looks at the prevalence of asthma, cancer, high blood pressure, diabetes, and poor mental health in a community.



Social Vulnerability Indicators Within the MSB Expanded Core Area

Finally, a third equity analysis of the MSB Expanded Core Area focused on the social vulnerability category of the ETC Explorer to assess the most highly disadvantaged areas. For the third equity analysis, the project team used socioeconomic status and household characteristics to assess social vulnerability.

Indicators for socioeconomic status include

- Percent of population with income below 2x the poverty level
- Percent of people age 25+ with less than a high school diploma
- Percent of people age 16+ who are unemployed
- Percent of total housing units that are renter-occupied
- Percent of houses that spend 30% or more of their income on housing with less than $75K income
- Percent of population uninsured
- Percent of households with no internet subscription
- Gini index (degree of inequality in the distribution of income/wealth)

Indicators for household characteristics include

- Percent of population 65 years or older
- Percent of population 17 years or younger
- Percent of population with a disability
- Percent of population (age 5+) with limited English proficiency
- Percent of total housing units that are mobile homes



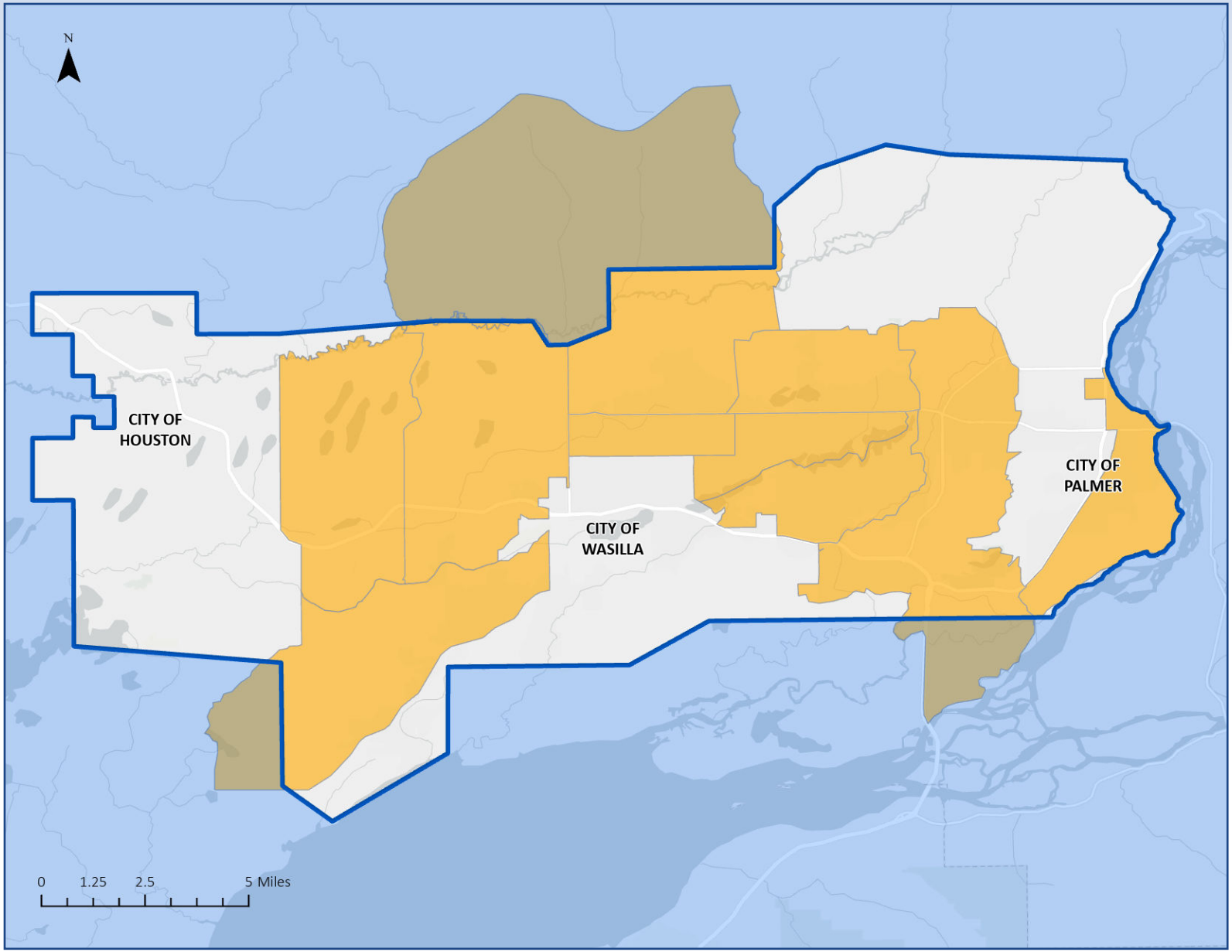


Figure 26. Moderately disadvantaged areas that would receive a moderate impact from projects.

These areas show high transportation insecurity, health vulnerability, and social vulnerability. However, these areas do not exhibit the higher extent of social vulnerability as those in the yellow area of Figure 27. Therefore, improvements in these areas will have a moderate impact to equity.

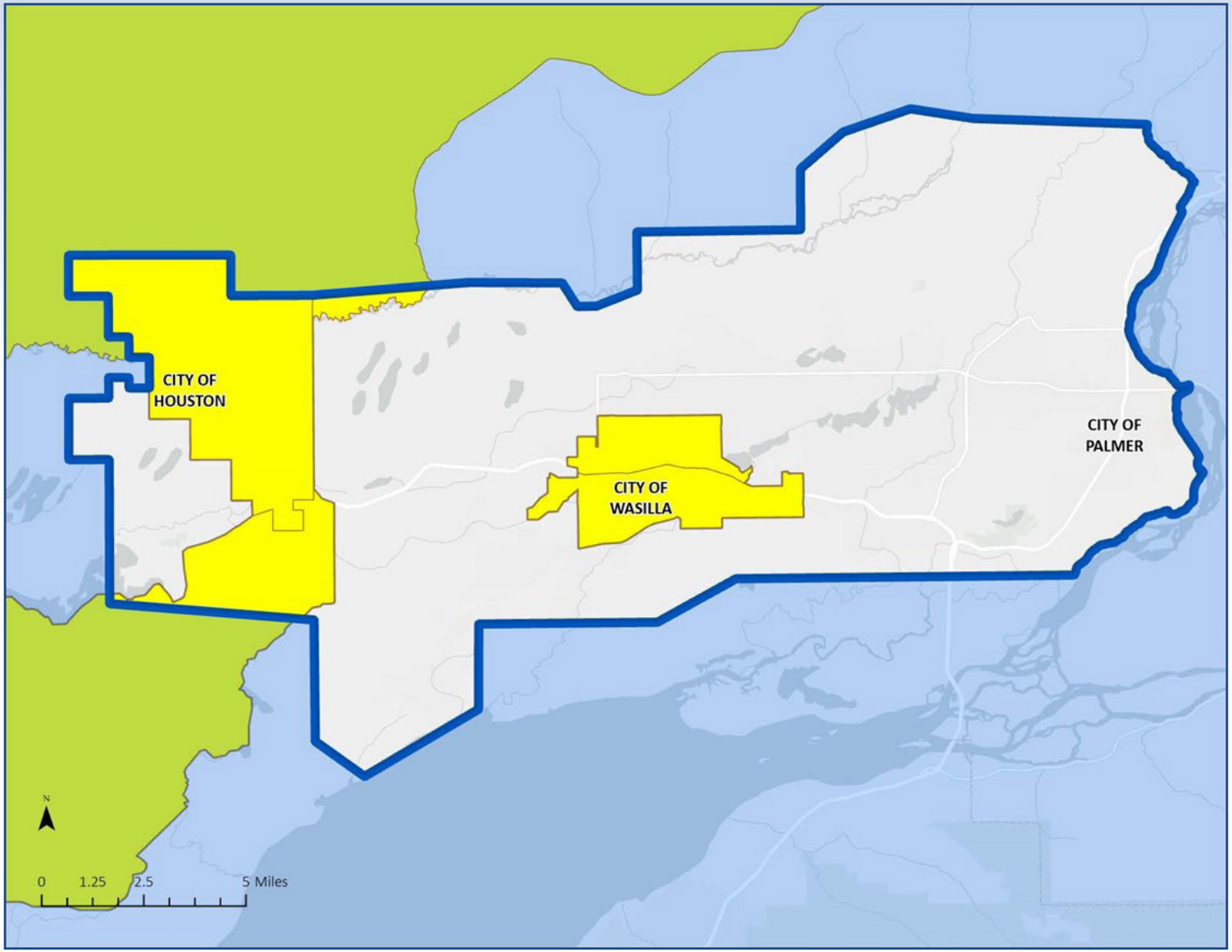


Figure 27. Highly disadvantaged areas that would recieve a high impact from projects.

Four census tracts within the MSB Expanded Core Area had high percentages of the indicators for social vulnerability. They include Houston, Big Lake, North Wasilla, and South Wasilla, as shown in yellow in this figure. These areas are considered the most disadvantaged or underserved in the MSB Expanded Core Area, and would receive the highest impact from an equity perspective for strategies and projects recommended in this plan.

High Injury Equity Analysis

The MSB Expanded Core Area experienced 4,802 crashes between 2018-2022. Of those crashes, 57 resulted in a fatality and 159 resulted in a serious injury. The following figure depicts the crash locations for fatalities and serious injuries.

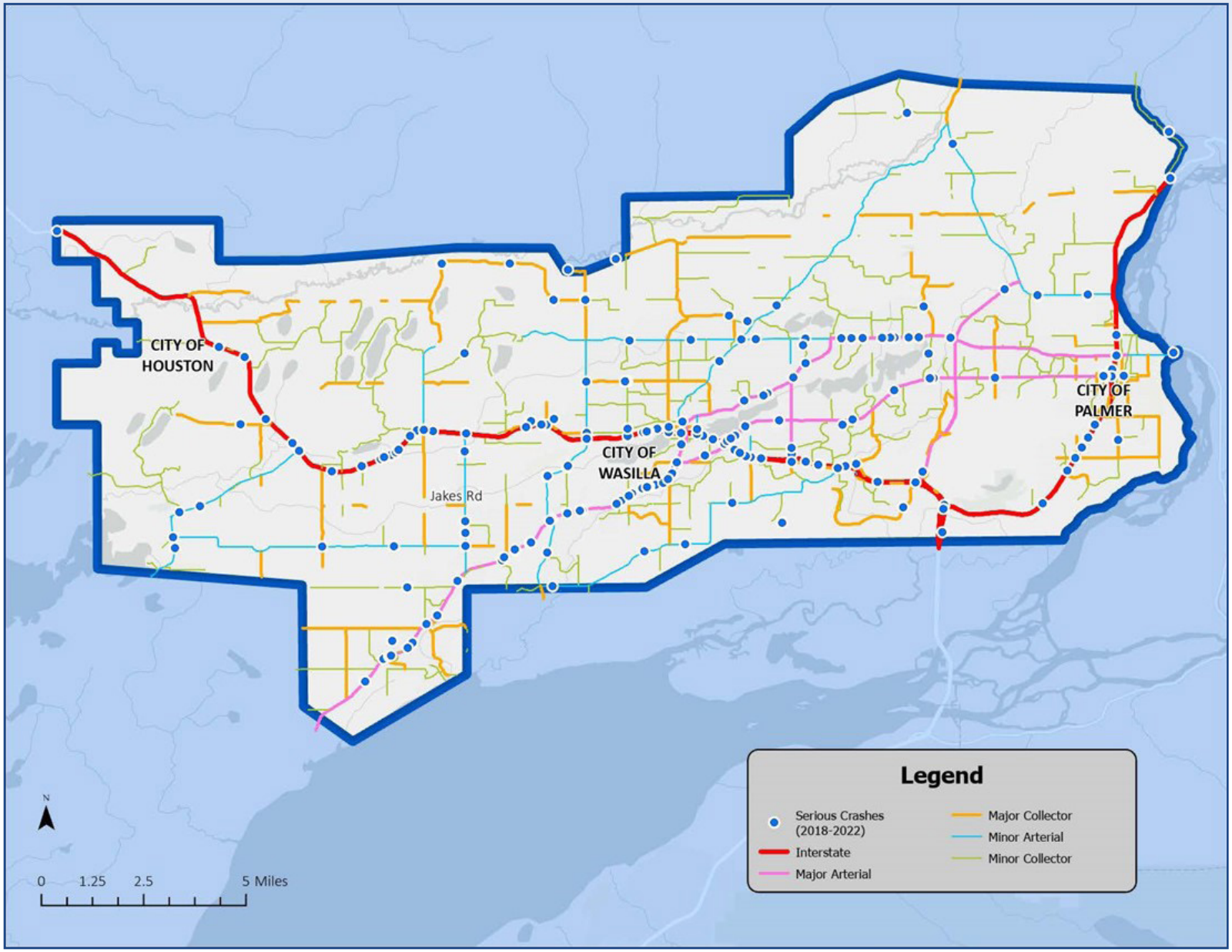
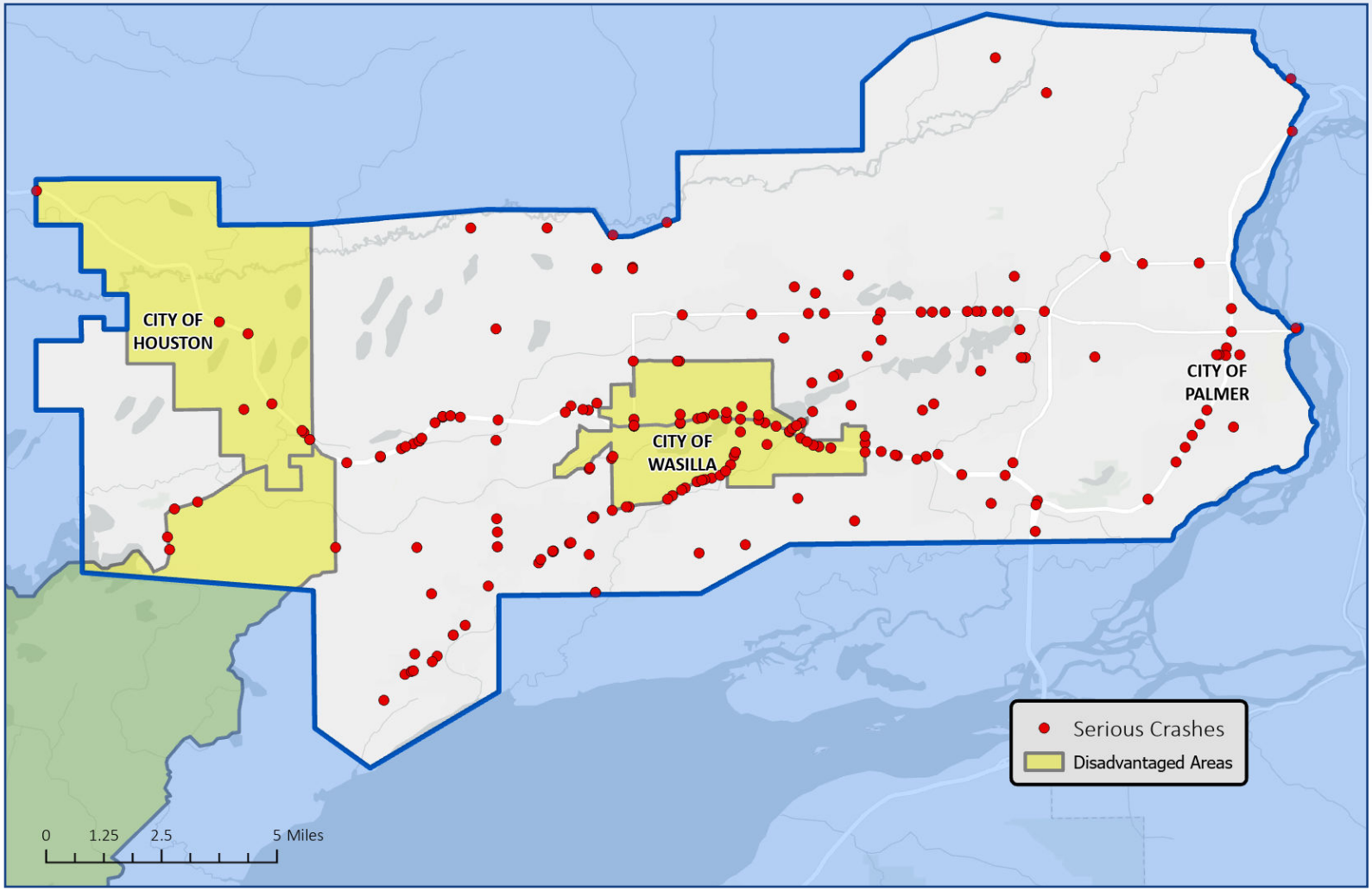


Figure 28. Locations of all serious and fatal injury crashes.

Looking at these crashes through an equity lens developed using only the social vulnerability indicators analysis, it was determined that 2,050 **(42% of all crashes)** occurred in the areas determined to have highly disadvantaged populations. Of those crashes, 11 resulted in a fatality and 59 resulted in a serious injury. Furthermore, **32% of all serious injury and fatality crashes occurred in areas with highly disadvantaged populations.** Both total crashes and serious crashes are overrepresented in these areas, as the disadvantaged population boundaries comprise less than 18% of the MSB Expanded Core Area boundary.



As this map illustrates, the number of fatal and serious injury crashes is disproportionately skewed towards areas with highly disadvantaged populations. By focusing on the high injury network and expanding quality mobility options in areas with highly disadvantaged populations, the MSB can significantly improve transportation safety for socially vulnerable populations.

Figure 29. Locations of all serious crashes compared to disadvantaged areas.

Transportation Disparities

The MSB CSAP emphasizes minimizing safety risks within the transportation network. However, other factors can lead to transportation inequality within disadvantaged populations. These factors can have a substantial impact on a community member's health, ability to work, and ability to meet their day-to-day needs such as access to groceries and consumer goods. They include elevated safety risks for people who depend on transit facilities and have limited access to transportation options and desired destinations, such as places of work, healthcare, education, and social networks. When disadvantaged populations are also subject to these transportation disparities, it creates a state of transportation poverty, which can severely limit a population's resources for meeting mobility needs. It can also lead to social isolation and a reduced quality of life.

This following figure outlines the transportation disparities that exist within the study area based on the two social vulnerability categories used in the third equity analysis—socioeconomic status and household characteristics. They include access to transportation options and desired destinations, quality of transportation, safety risks, and health risks.

The recognition of transportation disparities is growing in the United States and building momentum towards creating meaningful solutions. To avoid perpetuating disparities within the transportation network, it is important to recognize emerging needs within the MSB Expanded Core Area and plan to address them in future transportation improvements. Some examples of emerging needs for this area include:

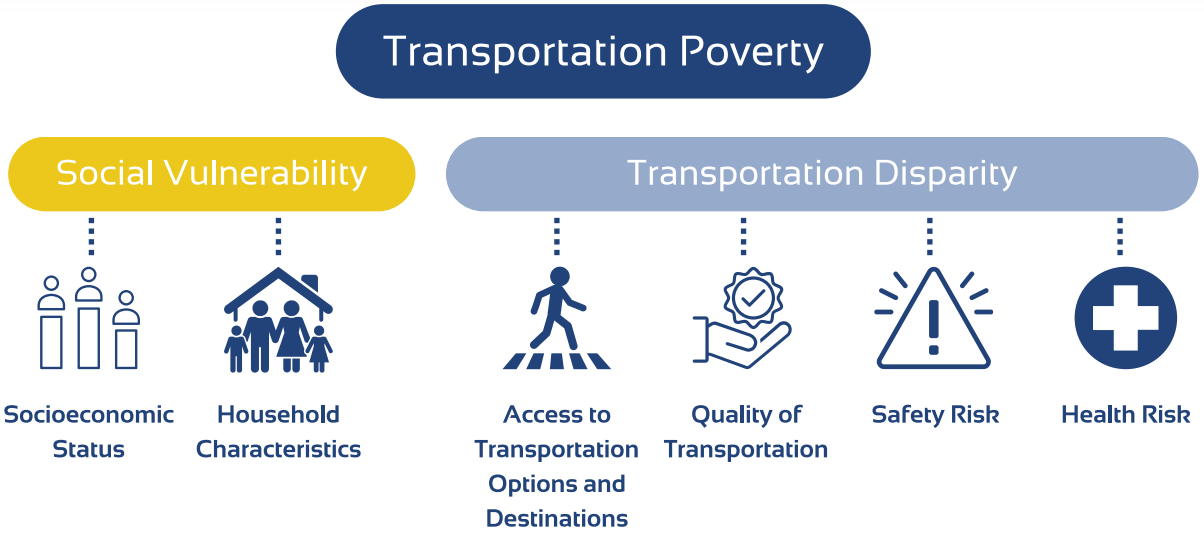


Figure 30. What makes up transportation poverty?

- Older MSB residents need safe and convenient multi-modal options so they can choose to age in place.
- Common impacts of climate change, including severe storms, higher than average winds, and heavy snowfall can disproportionately affect disadvantaged populations, limiting their ability to access basic services. Providing convenient transportation options lowers the reliance on single vehicle ownership and provides alternatives in the event of a severe climate event.
- Changes in travel patterns due to part-time work and telework abilities can result in lower peak-hour congestion and more dispersed trips throughout the day. Encouraging a shift toward shared mobility options and roadway optimization will help the community envision a proactive plan for growing MSB populations.

Transportation Barriers that Exist Within Vulnerable Populations

Transportation barriers are caused by a lack of adequate transportation or access to transportation to the extent that it interferes with an individual's ability to meet their daily needs and be a functioning member of society. For the MSB Expanded Core Area the project team identified the following barriers through the CSAP Equity Analysis:



High cost of transportation (higher than the 90th percentile nationally)



Lack of transit facilities/routes



Long commute times to employment and resources



Limited access to a vehicle



Vehicle maintenance/ insurance/fuel costs (higher than the 90th percentile nationally)



Lack of safe walking and biking facilities



Lack of safety on roadways (MSB has a higher-than-average rate of motor vehicle fatalities per capita than other areas nationally)



Lack of adequate all-season maintenance to keep roads and pathways clear



Low income to transportation needs cost ratio



Limited access to transportation options and destinations

By addressing these barriers through future investments in the MSB Expanded Core Area transportation network, transportation disparities can be diminished to create greater equity, a safer and more convenient transportation system, and a safer community.

Equitable Distribution of Safety Investments

This equity analysis is a core component of the MSB CSAP and will serve to influence decisions about future safety investments within the MSB Expanded Core Area. The disproportionate safety risk identified within disadvantaged populations in the study area means that any safety improvements made in these areas, including new infrastructure, policies, programs, enforcement, and education, will help to advance equity. This equity analysis can also be used in future planning efforts such as assisting with determining selection criteria for the local area Metropolitan Planning Organization's (Mat-Su Valley Planning) Transportation Improvement Program (TIP). This analysis helps determine where future investments will make the most headway in decreasing severe injuries and fatalities. It will also help make the most of limited transportation improvement funding.

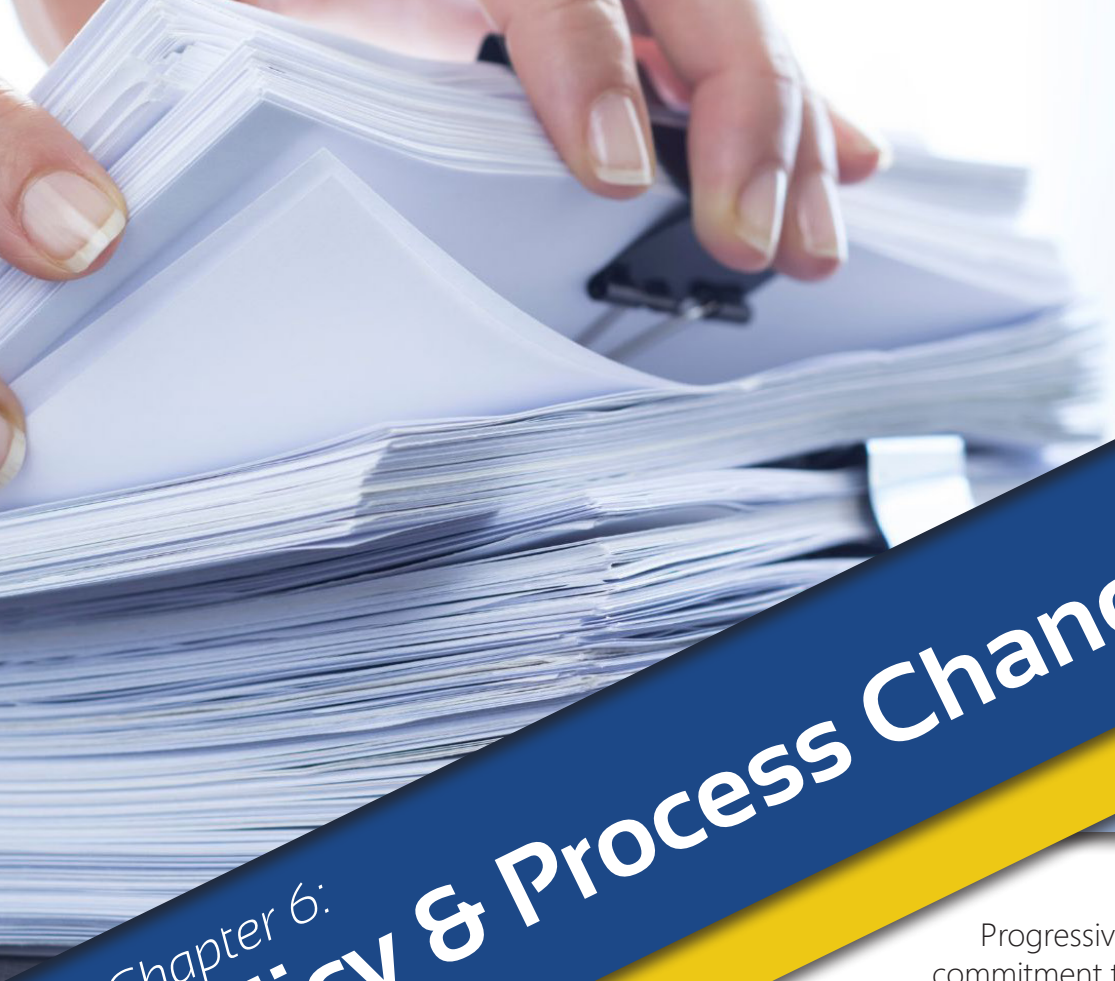
Recommendations

To ensure that the MSB Expanded Core Area makes the most of its limited resources to advance transportation equity, it is important to respond to the transportation disparities and barriers that have been identified in the MSB CSAP. Infrastructure and services that support safe, multi-modal transportation should be advanced throughout the MSB Expanded Core Area, but with specific focus given to the areas of Houston, Big Lake, North Wasilla, and South Wasilla. Investments in infrastructure and services could include:

- Expanding **local transit** operators
- Expanding **commuter/service** providers like Valley Transit
- Building **transit facilities** such as bus stops, bus shelters, transit corridors, and park-and-ride lots
- Investing in protected walking and biking facilities such as **sidewalks and separated pathways**
- Funding adequate **all-season maintenance** of existing multi-modal transportation facilities
- Including funding for all-season maintenance in planned transportation infrastructure (new facilities)
- Installing roadway and pedestrian-scale **lighting in urban areas**
- Retrofitting existing transportation facilities to ensure **compliance with the Americans with Disabilities Act** (ADA)
- Ensuring that new or planned transportation facilities are ADA compliant
- Encouraging the development of transit-supportive corridors that incentivize compact, **mixed-use development** along commercial nodes and urban centers; affordable housing; and easy access to walking and bicycling facilities
- **Closing gaps** within the existing transportation networks with new planned infrastructure
- Connecting the on-street transportation network to existing pathways and trails
- **Expanding the Safe Routes to School (SRTS) program** to include specific project investment recommendations for school zone improvements



The above recommendations are specific to equity within the MSB CSAP. The implementation chapter in the final plan will include additional safety recommendations for all areas within the MSB Expanded Core Area.



Chapter 6:

Policy & Process Changes

MAT-SU BOROUGH
SAFE STREETS FOR ALL



Progressive safety policies and processes are an essential part of the MSB's commitment to creating a safe transportation system. Policy and process changes that support a culture of roadway safety can build a framework that protects users of the transportation network, decreasing serious injuries and saving lives.

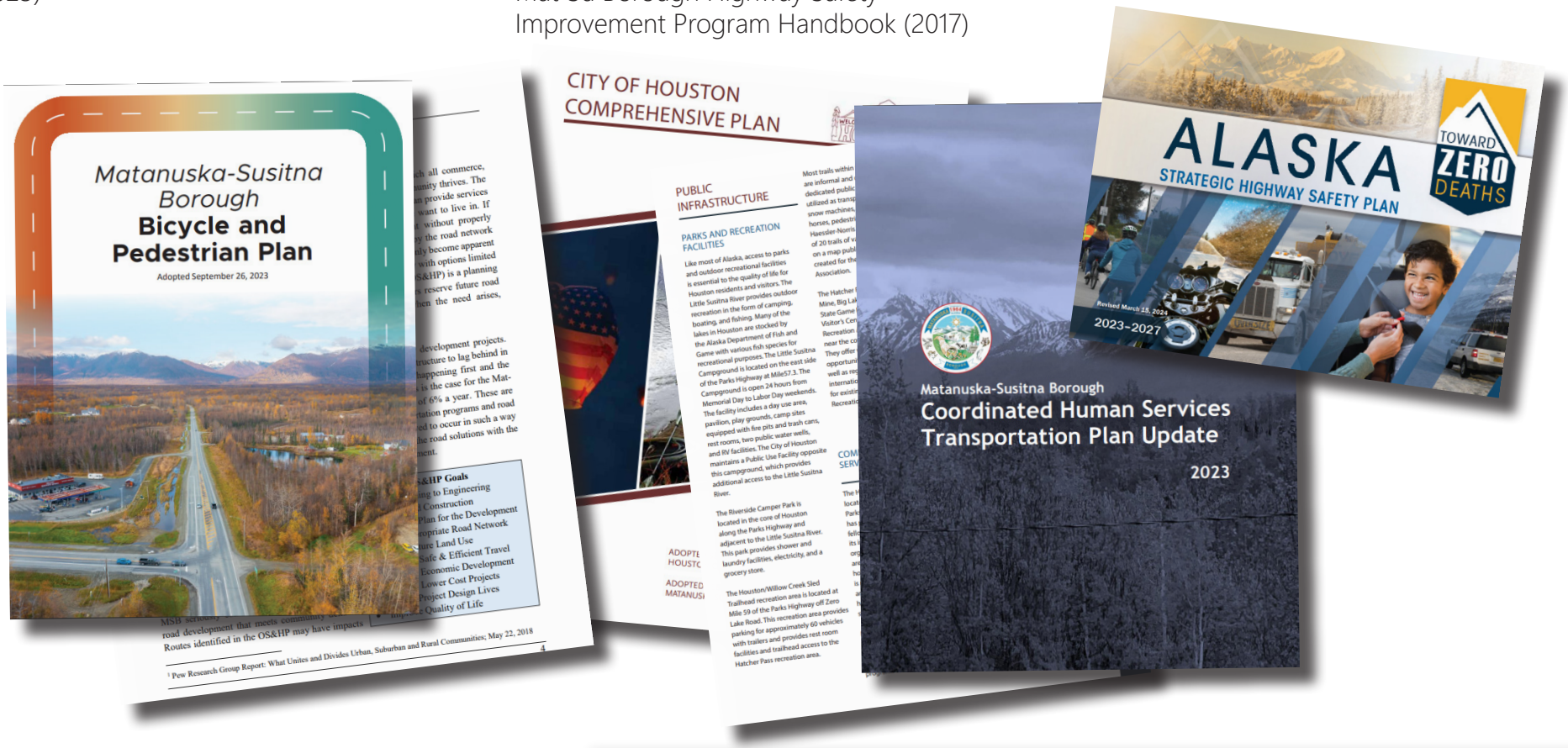
Existing Plan Reviews

The project team evaluated existing plans to analyze relevant goals, strategies, policies, and recommended projects from those efforts. Wherever possible, these planning initiatives are carried forward and aligned with MSB CSAP goals, polices, strategies, and recommended projects. Consolidating these transportation safety planning elements into one document will also help facilitate CSAP implementation after it is adopted.

The project team reviewed the following plans, identifying the overarching plan goal; transportation safety-related goals; key safety-related policies, programs, and projects; and applicability to the MSB CSAP. Summaries of our reviews of the following plans are in Appendix B: Existing Conditions Report.

List of Plans Reviewed

- Mat-Su Borough Comprehensive Plan Update (in process)
- Alaska DOT&PF Statewide Transportation Improvement Program (2024)
- Alaska Strategic Highway Safety Plan (2024)
- Bogard-Seldon Corridor Access Management Plan (Draft, 2024)
- Alaska Vulnerable Road User Assessment (2023)
- Mat-Su Borough Bicycle & Pedestrian Plan (2023)
- Mat-Su Borough Coordinated Human Services Transportation Plan Update (2023)
- Mat-Su Valley Planning (MVP) MPO Boundary Development Document & Interactive Map (2023)
- Mat-Su Borough Official Streets & Highways Plan (2022)
- Mat-Su Borough Transportation Infrastructure Program (2021, 2023 & 2024)
- City of Houston Comprehensive Plan (2017)
- Mat-Su Borough Highway Safety Improvement Program Handbook (2017)
- Mat-Su Borough Long Range Transportation Plan (2017)
- Mat-Su Borough MPO Self-Assessment (2016)
- City of Wasilla Comprehensive Plan (2011)
- Mat-Su Borough Core Area Comprehensive Plan (2007)
- City of Palmer Comprehensive Plan (2006)
- Mat-Su Borough Comprehensive Plan (2005)



Plan Review - Key Findings

Transportation-Related Safety Goals

These plans typically share the common goals of improving road safety and aligning with long-range strategies to improve transportation efficiency, promote healthy communities, and foster vibrant economies. Common transportation safety-related goals include:

- Reduce and mitigate crashes
- Reduce congestion
- Promote efficient movement of people, goods, and services throughout the borough
- Protect and foster the health, safety, and welfare of the MSB community
- Improve pedestrian and vehicle connections adjacent to the Glenn Highway
- Identify and prioritize trail improvements and future trail corridors
- Expand safe, accessible, and affordable transit facilities
- Provide safe street networks that enhance the quality of life for residents
- Grow sidewalk networks and improve maintenance of sidewalks
- Improve connectivity
- Prioritize projects that will strengthen the transportation network and improve safety
- Identify funding opportunities to implement plan recommendations



Plan Review - Key Findings

Transportation Safety-Related Recommendations

Many of the plans reviewed included recommendations that serve to strengthen and complete the existing transportation network to support safe multi-modal movement throughout the MSB. Many plans also stress the importance of integrating street and trail connectivity to develop pedestrian and bicycle linkages between schools, public facilities, neighborhoods, parks and open spaces, and population centers, where feasible. Potential countermeasures from these plans that could apply to the MSB CSAP include:

- Access management, intersection, and driveway consolidation
- ATV Policy adoption to designate facilities for this use type
- Incorporating flat-bottomed gravel ditches, stabilized shoulders, and trail/road intersections into new road construction
- Installing more pedestrian crossing infrastructure
- Separating vulnerable road users from motor vehicle traffic
- Installing signage and wayfinding on trails and within population centers
- Paving local roads to decrease dust/visibility/asthma issues
- Expanding transit service with a focus on senior centers and vulnerable populations
- Enhancing ADA accessibility on walkways
- Implementing better lighting on trails, pathways, and in town centers
- Updating multi-modal design standards
- Updating the Subdivision Construction Manual to include bicycle and pedestrian safety and connectivity

Plan Review - Project Recommendations

Project recommendations included in previous planning efforts may be good candidates for SS4A projects after countermeasures have been identified. In the case of the Statewide Transportation Improvement Program (STIP), if funding is secured, those projects would likely be screened out of SS4A consideration. The project team analyzed the project recommendations in these plans, integrating them into the safety analysis and project selection methodology described in Chapter 7, Strategy and Project Selections. Recommended projects from MSB existing plans can be found in Appendix B of the Existing Conditions Memorandum dated November 26, 2024.

Policy Review

Until Vision Zero is achieved, all communities can do more to improve safety. However, the MSB has done or is already doing things that support Vision Zero objectives. This section describes areas of success and other areas with opportunities for improvement.

Code Review

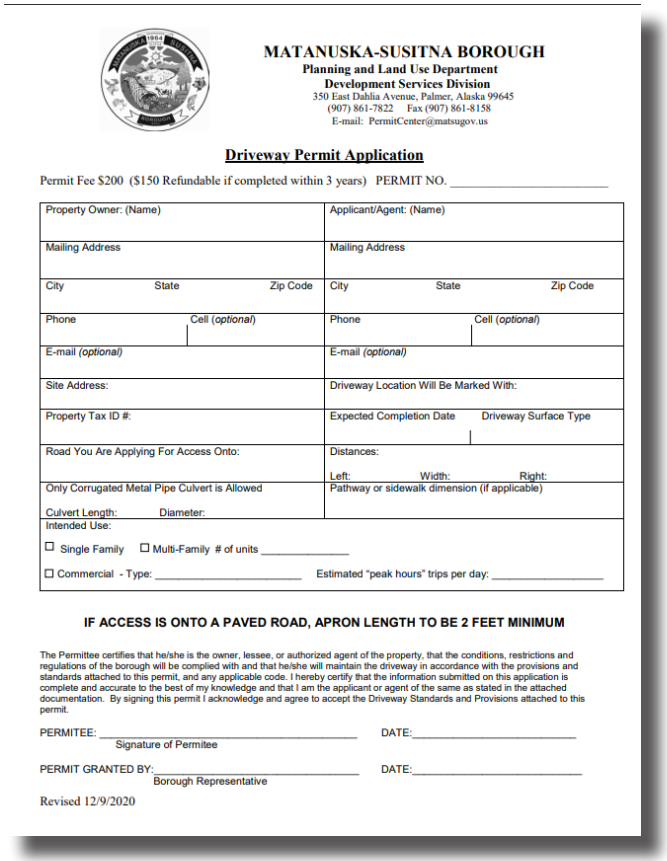
The project team did not conduct a comprehensive review of MSB code, as this effort is presently underway as part of the MSB's Sub-Area Solutions Studies. However, the project team performed a cursory review to identify issues directly related to safety. Recommendations based on this review are found in the Existing Conditions Memorandum dated November 26, 2024, and some of these formulated the basis for, and can be used in support of, the recommended policies and practices found in this chapter. They include recommended changes to:

Driveway applications code (11.02.040)

High volume driveway standards code (11.02.070)

Changes to design criteria in the Subdivision Construction Manual

Traffic impact analyses code (11.020.080)



MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue, Palmer, Alaska 99645
(907) 861-7822 Fax (907) 861-8158
E-mail: PermitCenter@matsugov.us

Driveway Permit Application

Permit Fee $200 ($150 Refundable if completed within 3 years) PERMIT NO. _____

Property Owner: (Name)	Applicant/Agent: (Name)
Mailing Address	Mailing Address
City State Zip Code	City State Zip Code
Phone Cell (*optional*)	Phone Cell (*optional*)
E-mail *(optional)*	E-mail *(optional)*
Site Address:	Driveway Location Will Be Marked With:
Property Tax ID #:	Expected Completion Date Driveway Surface Type
Road You Are Applying For Access Onto:	Distances: Left: Width: Right:
Only Corrugated Metal Pipe Culvert is Allowed Culvert Length: Diameter:	Pathway or sidewalk dimension (if applicable)

Intended Use:

☐ Single Family ☐ Multi-Family # of units _____

☐ Commercial - Type: _____ Estimated "peak hours" trips per day: _____

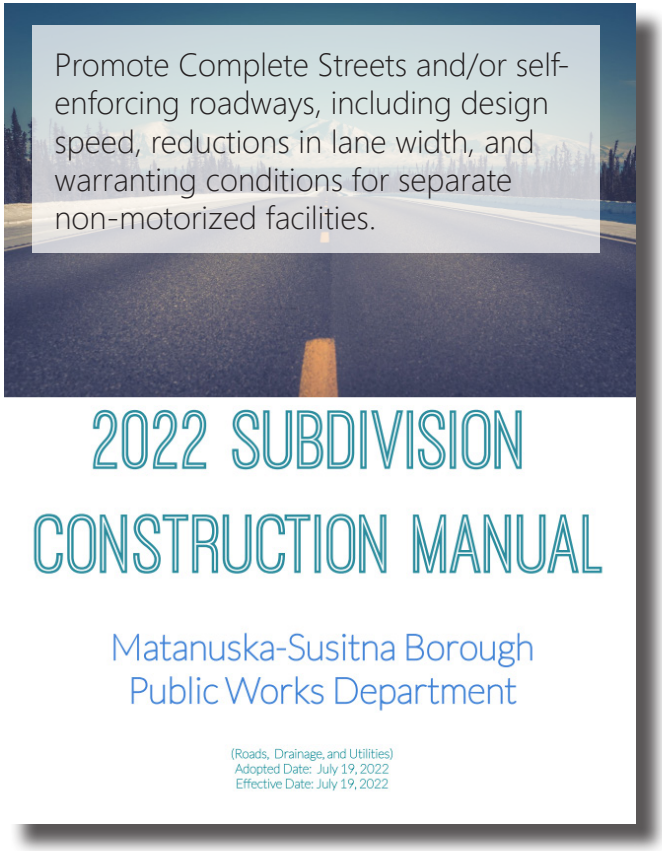
IF ACCESS IS ONTO A PAVED ROAD, APRON LENGTH TO BE 2 FEET MINIMUM

The Permittee certifies that he/she is the owner, lessee, or authorized agent of the property, that the conditions, restrictions and regulations of the borough will be complied with and that he/she will maintain the driveway in accordance with the provisions and standards attached to this permit, and any applicable code. I hereby certify that the information submitted on this application is complete and accurate to the best of my knowledge and that I am the applicant or agent of the same as stated in the attached documentation. By signing this permit I acknowledge and agree to accept the Driveway Standards and Provisions attached to this permit.

PERMITEE: _____ DATE: _____
Signature of Permitee

PERMIT GRANTED BY: _____ DATE: _____
Borough Representative

Revised 12/9/2020



Program and Process Review

What is already working?

The MSB CSAP intends to build on best practices that are already working in the MSB to improve transportation safety. The project team identified several MSB programs and processes that have been shown to improve safety. These include:



Designating and Decomissioning Safety Corridors



Roundabout Construction



Transportation Capital Investments



Highway Safety Improvement Program



Data

WHAT'S ALREADY WORKING?

Designating and Decomissioning Safety Corridors

The Parks Highway between Wasilla and Houston was the second of four Safety Corridors designated in Alaska in 2007. It was the first to be decommissioned in 2022 once the four-lane divided highway, with segments of separated multi-use path, was completed. **This corridor saw a 55% reduction in fatal crashes** between 2009 and 2022.

Knik-Goose Bay Road was designated as a Safety Corridor in 2009. Work is currently underway to reconstruct it as a divided highway with a separated multi-use path. In November 2024, DOT&PF decommissioned four miles of Safety Corridor designation upon completion of the first phase of this reconstruction.

Designating these high-crash corridors as Safety Corridors incorporates the tenets of the SSA by adding an enforcement focus (more serious penalties for speeding infractions) and a call to action to allocate funding for construction of needed changes to these roadways.

WHAT'S ALREADY WORKING?

Data

The MSB has extensive data that are collected and organized into a GIS data system. This practice is valuable as it can inform elected bodies of specific needs and trends. In addition to collecting asset management needs, the MSB collects data on public requests for speed calming. These data can be used as part of a speed management policy that considers public input and common themes. They can also be used to help support local requests for increased enforcement presence, particularly outside of the city boundaries of Palmer and Wasilla.



WHAT'S ALREADY WORKING?

Roundabout Construction

Since 2010, eight single-lane or multi-lane roundabouts have been constructed in the MSB Expanded Core Area, with at least six more planned. Roundabouts are an FHWA Proven Safety Countermeasure that can reduce fatal and serious injury crashes by 81%. They are continuing to grow in number across Alaska and show the same effectiveness within the state as in national studies.

This safety track record is why Alaska DOT&PF has a "Roundabouts First" policy, requiring engineers to consider whether a roundabout is appropriate before considering other intersection solutions. Engineers are also required to document when traffic signals are selected over a single-lane roundabout.

Roundabouts are effective because they reduce the number of potential conflicts, reducing the likelihood of a crash. They also substantially reduce speeds, which reduces the severity of crashes when they do occur. Before and after crash data and benefit costs of single-lane roundabouts were not analyzed in the MSB, but conclusions from 2018-2022 data are provided below.

Each location had consistent trends: no serious injury, and no bicycle, pedestrian, or motorcycle crashes. Each location demonstrates that while crashes may occur, they are not serious. This indicates that single-lane roundabouts are an effective intersection treatment on collector and arterial roads in the MSB Expanded Core Area.

- **Lucille Street and Seldon Road Roundabout** was developed under MSB's Highway Safety Improvement Program (HSIP) and constructed in 2014. There were 23 crashes at this intersection from 2018-2022, most of which were angle crashes. Where driver circumstances were reported, they were listed as failure to yield.
- **Trunk Road and Parks Highway South Ramp Roundabout** was constructed in 2016. There were 14 crashes at this intersection from 2018-2022. Where driver circumstances were reported, they were listed as failure to yield.
- **Big Lake Road and Northshore Drive Roundabout** was constructed in 2016. There were two crashes at this intersection from 2018-2022. One was an angle crash, and the other was a crash with a sign.

WHAT'S ALREADY WORKING?

Transportation Capital Investments

Through DOT&PF and locally funded projects, it is estimated the MSB Expanded Core Area has recently constructed or is planning to construct over $600M in transportation projects that will significantly contribute to safety and operations in the region.[2] Some of the larger dollar investments contributing to that total include:

- Glenn Hwy.: Parks Hwy. to S. Inner Springer Loop Phase II
- Knik-Goose Bay Road Reconstruction
- Wasilla-Fishhook Main St. Rehabilitation
- Seward Meridian Road, Phase II: Palmer-Wasilla Hwy. to Seldon Road
- Parks Hwy. MP 52-57 Reconstruction (Big Lake to Houston)
- Glenn Hwy.: Arctic Avenue to Palmer-Fishhook
- Fairview Loop Rehabilitation and Pathway
- Bogard Road Safety and Capacity Improvements (Trunk Road to Grumman Circle)

The MSB has its own TIP and has successfully secured voter-approved bond projects for local needs. For some projects, the MSB has used local funds as a match to DOT&PF's Community Transportation Program to further leverage available funding sources and increase the likelihood of grant awards. MSB TIP projects include addressing multi-modal needs such as a pathway on the Inner-Outer Springer Loop. The projects also address safety needs in and around schools with pathway improvements (E Nelson Road near Machetanz Elementary) and school site safety improvements (Finger Lake and Shaw Elementary Schools). The TIP also appropriately addresses asset management through drainage improvements (Jolly Creek) and pavement preservation (Earl Drive, Eek St. Pavement Rehabilitation).

The region also benefits from city-sponsored projects from the cities of Houston, Palmer, and Wasilla and will soon have a local TIP dedicated to funding for the recently formed Metropolitan Planning Organization, MVP for Transportation.

[2] Review of DOT&PF 2024-2027 STIP Amendment #1, DOT&PF's 2024-2027 HSIP Funding Plan, Mat-Su Borough TIP-21, 23, and 24 as well as DOT&PF open construction phases for projects in the Mat-Su Borough Expanded Core Area as of August 2024. DOT&PF projects include total project development cost.



WHAT'S ALREADY WORKING?

Highway Safety Improvement Program

Roads within the MSB are eligible for project nomination and funding under DOT&PF's HSIP, regardless of the road's ownership. This funding program within the STIP is focused on reducing fatal and serious crashes through systemic or spot safety improvements. The program requires eligible projects to have crash data demonstrating a safety cost-benefit through established countermeasures.

Recently, a $20M two-way left-turn lane was constructed on Palmer-Wasilla Highway under HSIP. This program is also funding three roundabouts under development at Hollywood and Vine, Palmer-Fishhook and Trunk Road, and Wasilla-Fishhook at Spruce and Peck.

Some project activities are not eligible under HSIP, and its cost-benefit requirements generally eliminate the eligibility of higher-dollar improvements such as grade-separated interchanges. HSIP projects must present an engineering solution to a demonstrated problem, which makes other factors such as public input and equity less likely to influence its nominations. However, federal rulemaking is underway to incorporate equity considerations into the program.

The *Mat-Su Borough HSIP Handbook*, last updated in 2017, is modeled after DOT&PF's handbook of the same name. The handbook was developed to augment DOT&PF's HSIP by prioritizing safety projects, maintaining local control, and allowing more flexibility on the data-driven approach. (Prior to 2021, DOT&PF often had a lag of up to four years when producing crash data, making data flexibility useful.)

The *Mat-Su Borough HSIP Handbook* has project screening criteria similar to DOT&PF's program and it was used successfully in 2014 to construct the roundabout at Seldon Road and Lucille Street. The manual has not been updated in recent years due to a lack of resources, and no dedicated capital funding program exists for safety projects.

While the MSB's investment in transportation improvements is commendable, dedicating a portion of the capital funding program to safety, especially as population growth and development occurs, would be beneficial. Such a program could be designed to focus on recommendations and tools from the CSAP. It could include projects identified during the plan's data evaluation, as well as future evaluations of the publicly available and updated crash data presented through the crash dashboard developed under this plan.

Recommended Policies and Practices

Building upon findings from the MSB plan review, stakeholder and community feedback, and national best practices, the plan recommends developing the following policies and practices to eliminate barriers to safer streets and help foster a culture of roadway safety in the MSB Expanded Core Area.

The policies and practices below are rated as high or moderate in terms of their impact toward improving transportation equity for underserved populations. No recommended policy is believed to have a low impact on improving equity, based on the extent of disadvantaged population areas within the MSB Expanded Core Area and how proposed policies benefit vulnerable road users (VRUs) region-wide. See Chapter 5 for discussion about disadvantaged population areas.

Table 5: Safe People - SSA Recommended Policies and Practices for MSB Expanded Core Area

ID	Equity Impact	Policy/Practice
SP1	High	Establish a Safety Action Plan (Safe Streets MSB) Implementation working group.
SP2	High	Implement Safe Streets MSB (or Vision Zero) campaigns and build and maintain a regional Safe Streets MSB (or Vision Zero) webpage.
SP3	High	Create and distribute educational materials to complement development of an MSB Complete Streets policy that aligns with the MVP Complete Streets Policy.
SP4	Moderate	Work with local community partners to create and distribute seasonal safety messaging on how to be safe on the roadway during winter and low light conditions.
SP5	Moderate	Combine countermeasure deployment with promotional activities (press releases, promotional signage, media interviews).
SP6	Moderate	Explore a change in state law to reduce the legal blood alcohol content (BAC) for impaired driving.
SP7	Moderate	Implement a submittal checklist for developers and/or roadway design project reviews prior to project approval.
SP8	High	Host safety walking tours annually for elected officials and the public to demonstrate safety needs and navigating locations where improvements have been implemented.
SP9	High	Create a policy to establish consistent messaging for school zone safety throughout the MSB.
SP10	Moderate	Work with local partners to develop a safety campaign that encourages compassion in young people to advocate for safe driving behaviors.
SP11	High	Work with local agencies and policy makers to create economic investment incentives for new development that adds walkable facilities, smaller lot sizes, increased density, and greenspace.
SP12	Moderate	Work with the MSB School District to expand offerings of driver's education for students. Explore opportunities to defray costs through grants or local sponsorships .
SP13	High	Explore purpose and feasibility of a local ATV and snowmachine safety program, working with local dealerships and trail rider groups. Focus on education and outreach for safe and legal ATV and snowmachine operations.

Table 6: Safe Vehicles - SSA Recommended Policies and Practices for MSB Expanded Core Area		
ID	**Equity Impact**	**Policy/Practice**
SV1	High	Evaluate the MSB's vehicle fleet, and when replacement vehicles are due, give consideration for the smallest vehicle size suitable for the task.
SV2	Moderate	Child car seat education and workshops
SV3	Moderate	Adult car fitting education and workshops (e.g., proper mirror adjustment, ergonomics, and other safe practices in vehicles)
SV4	High	Income-based programs and potential incentives for vehicle owners that address vehicle maintenance issues such as operable headlights and blinkers, brakes and brake lights, and tires with proper all-season tread
SV5	High	When purchasing replacement vehicles for MSB vehicle fleet, consider vehicles with more safety features and automations such as lane assist, backup cameras, and other hazard warnings.

Table 7: Safe Speeds - SSA Recommended Policies and Practices for MSB Expanded Core Area		
ID	**Equity Impact**	**Policy/Practice**
SS1	Moderate	Initiate policy development for active monitoring for speed enforcement.
SS2	Moderate	Review/implement speed management policies for setting speed limits.
SS3	High	Assess the appropriateness of speed and functionality of local and state roads in the MSB through the development of an MSB Complete Streets Plan and future MSB transportation plan updates.
SS4	Moderate	Develop a consistent speed zone policy for schools within the MSB Expanded Core Area.
SS5	Moderate	Work with local enforcement agencies to advocate for increased funding, staffing, and equipment to strengthen policing capabilities throughout the MSB.
SS6	Moderate	Work with local enforcement agencies to educate policy makers and advocate for stronger laws and stricter fines and penalties to improve accountability for speeding and traffic violations.

Table 8: Safe Roads - SSA Recommended Policies and Practices for MSB Expanded Core Area		
ID	**Equity Impact**	**Policy/Practice**
SR1	High	Develop an MSB Complete Streets Plan.
SR2	High	Update street design guidelines, standards, and borough code to support Complete Streets policies and Safe System principles.
SR3	Moderate	Prioritize and pursue implementation funding for the projects recommended in the MSB CSAP. Refresh the safety priority analysis at least every three years to ensure continued relevancy.
SR4	Moderate	Systematically install low-cost safety countermeasures at priority locations identified in the MSB CSAP and throughout the region.

Table 8: Safe Roads - SSA Recommended Policies and Practices for MSB Expanded Core Area		
ID	**Equity Impact**	**Policy/Practice**
SR5	Moderate	Share the countermeasures and toolbox solutions identified in the MSB CSAP with applicable implementors (e.g., developers).
SR6	Moderate	Apply for federal grant funding, such as the SS4A program, to leverage traditional funding sources for safety demonstration and implementation efforts.
SR7	High	Create policy to promote safe street design for developers of new subdivisions within the MSB, with a focus on when non-motorized facilities are required.
SR8	Moderate	Create policy to require impact fees and Traffic Impact Analyses for new subdivisions.
SR9	Moderate	Initiate design guidance and/or policy to reduce minimum thresholds for right- or left-turn lanes for roadway designers and developers.
SR10	High	Develop guidelines for evaluating implementation of a road diet, in coordination with the Complete Streets policy and Complete Streets plan.
SR11	High	Create policy and coordinate with pending Alaska Traffic Manual updates to establish consistent features within school zones including speed zones, signs and markings, and lighting practices.
SR12	High	Create policy to establish consistent all-season maintenance practices for transportation facilities within one mile walking distance of a school including sidewalks, multi-use pathways, and bus stops.
SR13	High	Prioritize the safety of all road users during winter maintenance through MSB agency coordination and evaluate mechanisms and resources to streamline maintenance processes, such as interagency agreements.
SR14	High	Develop a working group to identify the key challenges and roadblocks and provide solutions associated with maintaining streets, sidewalks, and bicycle facilities year-round, but especially during a snow or weather event.
SR15	High	Reinstate an MSB HSIP program, update HSIP Handbook and advocate for dedicated funding to HSIP projects as a separate component of capital improvement or TIP projects.
SR16	Moderate	Encourage efficient resource allocation through consolidation of Road Service Areas.

Table 9: Post Crash Care - SSA Recommended Policies and Practices for MSB Expanded Core Area		
ID	**Equity Impact**	**Policy/Practice**
PCC1	Moderate	Facilitate training sessions for law enforcement agencies on traffic safety during crash response and on comprehensive crash reporting.
PCC2	High	Collaborate with health organizations and non-profits to engage in treatment options for people involved in drug and alcohol related crashes.
PCC3	High	Improve ambulance availability and response times.

Safety Countermeasures

This safety toolkit features design treatments known to reduce crashes involving people driving, walking, bicycling, or rolling (using a wheelchair or other mobility assistive devices). It is intended as a guideline for roadway engineers, transportation planners, and other agency officials to aid decision-making during the planning and design of roadway improvement projects. This toolkit is not an all-inclusive list, and other treatments may be relevant and applicable for safety improvements. These treatments were primarily selected from FHWA's Proven Safety Countermeasures as appropriate for MSB's roads. The entire toolkit can be found in Appendix D: Safety Toolkit.



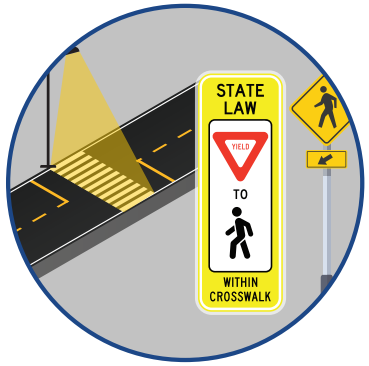
Appropriate Speed Limits & Speed Feedback Signs



Speed Safety Cameras



Bicycle Lanes



Crosswalk Visibility Enhancements



Leading Pedestrian Intervals



Medians & Pedestrian Refuge Islands



Rectangular Rapid Flashing Beacons (RRFBs)



Walkways & Shared Use Paths

Safety Countermeasures



Road Diets (Roadway Reconfiguration)



Enhanced Delineation for Horizontal Curves



Roadside Design Improvements at Curves



Wider Edge Lines



Longitudinal Rumble Strips & Stripes



Safety Edge℠



Dedicated Left- and Right- Turn Lanes at Intersections



Corridor Access Management

Safety Countermeasures



Roundabouts



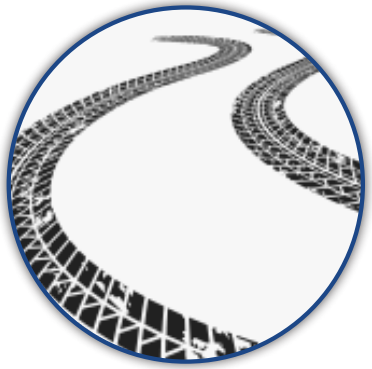
Backplates with Retroreflective Borders



Transverse Rumble Strips



Lighting



High Friction Surface Treatment



Local Road Safety Plans & Road Safety Audits



Separate ATV Users With Their Own Trail or Facility



Install "NO MOTOR VEHICLES" Signs Along Separated Paths



Chapter 7: Strategy & Process for Project Selection

MAT-SU BOROUGH
SAFE STREETS FOR ALL

Overview

The process for selecting recommended projects followed these steps:

1. Identify high injury segments and intersections based on crash data
2. Identify risk profiles for serious crashes based on crash history and other contextual information
3. Establish priority locations on the network
4. Using countermeasures and strategies identified in this CSAP, develop scopes for recommended infrastructure projects or supplemental plan recommendations to improve road safety

Detailed discussion of the process for establishing priority locations, including associated maps, can be found in Appendix C, Safety Analysis Report. Priority areas were developed using criteria for overall considerations that considered overall crashes and risk profiles. A separate set of criteria and profiles were used for VRUs.

High Injury Networks

Overall High Injury Network (HIN) and VRU HINs were developed based on a points assignment.
Overall HIN: 5 points for a fatal crash, 3 points for a serious injury crash, and 1 point for a minor injury crash.
VRU HIN: All crashes equally weighted (52 total).

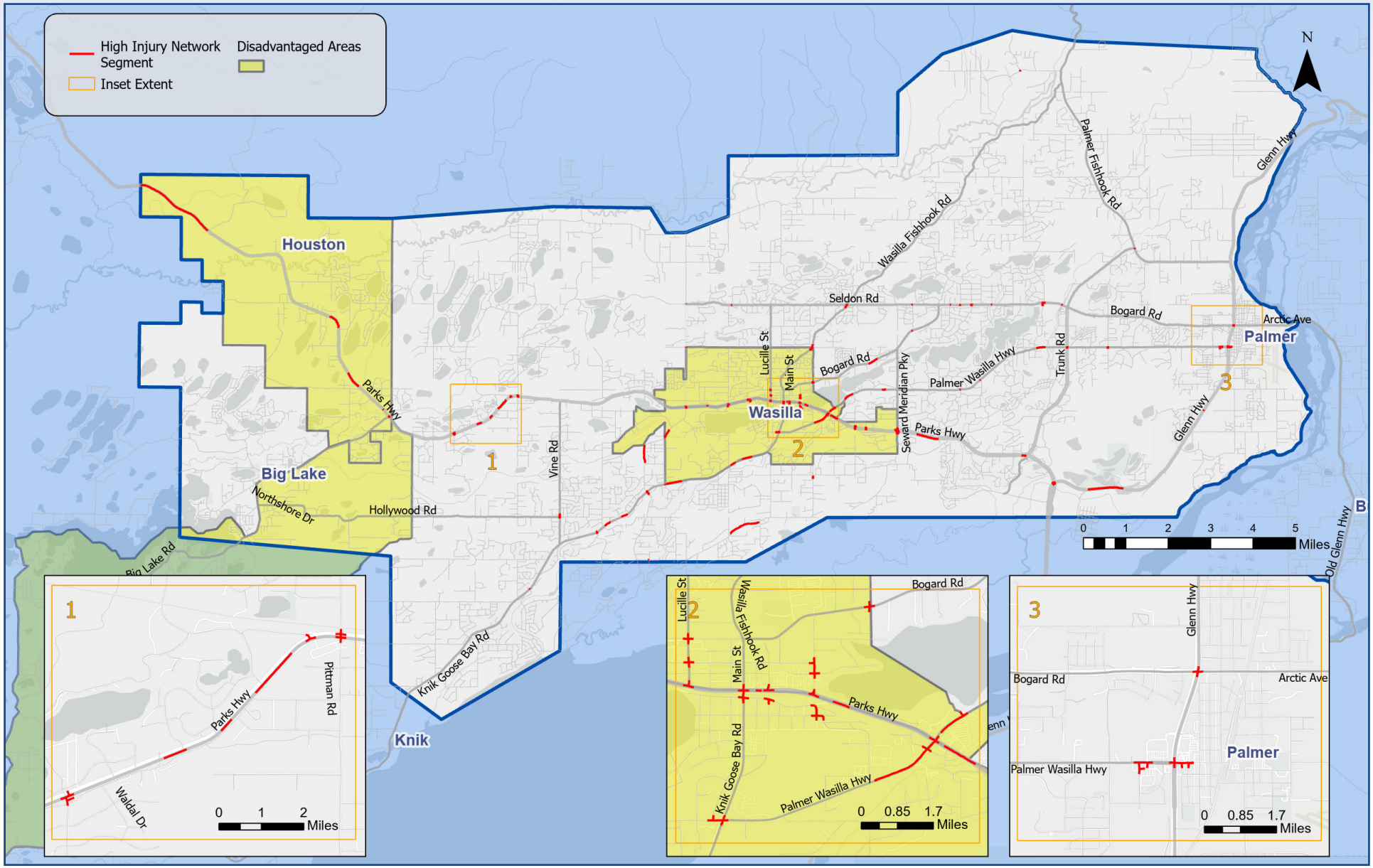


Figure 31. Overall HIN map.

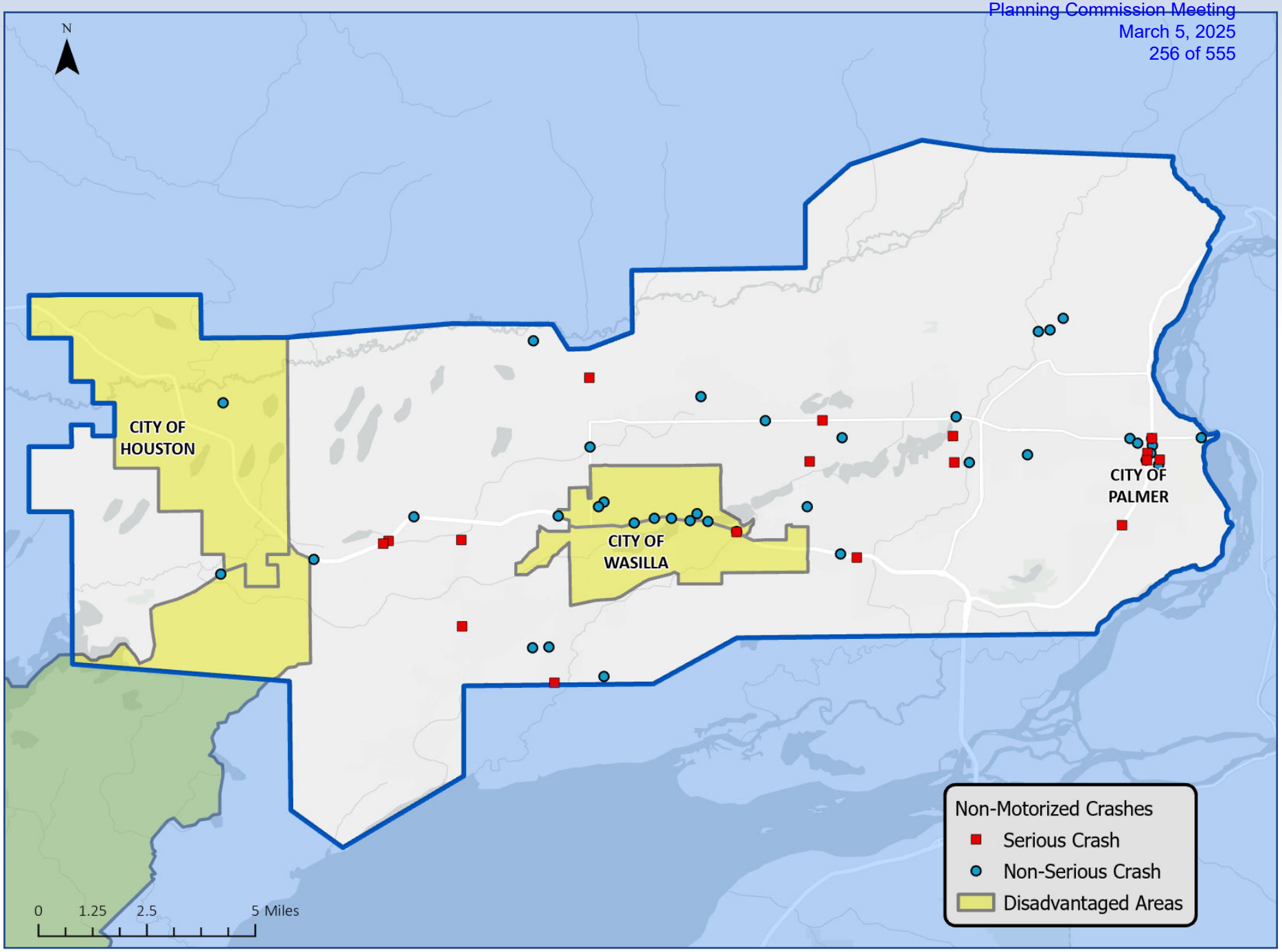


Figure 32. VRU HIN map.

Risk Profiles

Analysis of serious crashes revealed the following systemic risk factors, which are described in more detail in Appendix C.

Of all serious crashes...



71% were on roads with a **posted speed limit of 45+ MPH**

42% were at an **unsignalized intersection**

64% were **outside city limits**

Serious Crashes Risk Factors

Of all VRU crashes...



58% were on roads with a **posted speed limit of 45+ MPH**

58% were at a location with **no separated pathway**

65% were **at an intersection**

60% were on **collector or arterial roads**

VRU Crashes Risk Factors

Priority Location Weighting

The following figures visually depict the process used for weighting locations beyond the risk profiles above and high injury networks to account for areas that may not present historic crash data, but still have safety risks and needs. Contextual factors for the overall priority locations included equity (as defined by a location identified in a disadvantaged population area), community feedback, and local roads. Contextual factors for VRU priority locations included equity, community feedback, and proximity to a VRU destination, defined as within ¾ of a mile of a school, recreational area, or a community or senior center.

How we identified overall priority locations

Does this area meet certain risk factors?

YES, 3 factors	YES, 2 factors	YES, 1 factor	NO
+5 points	+3 points	+2 points	No points

Risk factors include:
- Speed limits ≥45 mph
- Unsignalized intersections
- Outside city limits

Is this area included on the high injury network?

YES	NO
+3 points	No points

What is the high injury network? These are segments of roads and intersections with a high density of serious crashes.

How high is the rate of serious crashes?

HIGHEST	MODERATE	LOW	NONE
+3 points	+2 points	+1 point	No points

What's a serious crash?
A crash is classified as a "serious crash" when at least one party has to seek medical attention or dies from injuries sustained.

Is this location in a disadvantaged area?

YES	NO
+3 points	No points

What makes an area disadvantaged?
Classification is based on a variety of criteria such as income level, access to public transportation, environmental factors, and more.

Was this location mentioned by survey respondents?

YES, 3+ times	YES, twice	YES, once	NO
+3 points	+2 points	+1 point	No points

900+ people answered our safety survey.

Is this a local road?

YES	NO
+3 points	No points

What is a local road?
Low speed, lower traffic volume roads that move travelers short distances. There tend to be fewer lanes of travel and maximum access to driveways and side streets. These make up 74% of roads on the network.

Add up all points.
More points = higher priority

A nuanced approach is used when determining priority areas. Areas with planned improvements were screened out, and locations influenced by the Parks Highway were included in one overarching systemic recommendation.

Figure 33. Process for identifying overall priority locations

How we identified VRU priority locations

A vulnerable road user (VRU) is someone who is walking, biking, or rolling (like in a wheelchair) on a roadway.

Does this area meet certain risk factors?

YES, 3 factors	YES, 2 factors	YES, 1 factor	NO
+5 points	+3 points	+2 points	No points

Risk factors include:
- Speed limits ≥45 mph
- No separated pathway
- Any intersection
- Collectors and arterials

+

Is this area included on the high injury network?

YES	NO
+3 points	No points

Non-motorized high injury network
In addition to high injury network for crashes between two or more motor vehicles, there is a network for crashes between a vehicle and a VRU.

+

Is this location in a disadvantaged area?

YES	NO
+5 points	No points

42% of all crashes occurred in areas determined to have high disadvantaged populations. **32% of all fatal and serious injury crashes** happened in these areas.

+

Was this location mentioned by survey respondents?

YES, 3+ times	YES, twice	YES, once	NO
+3 points	+2 points	+1 point	No points

Less than half of survey respondents felt their community is a safe place to walk.

+

Are there VRU destinations within 3/4 mile?

YES, 3+ places	YES, 2 places	YES, 1 place	NO
+3 points	+2 points	+1 point	No points

What is a VRU destination?
These include schools, recreational facilities, community centers, and senior centers.

=

Add up all points. More points = higher priority

We looked at areas holistically meaning we didn't just look at the segment, but the network itself. For example, a segment of Green Forest Drive emerged that was close to Bogard/Engstrom. That area has a future project planned, but we looked at the rest of Green Forest Drive, and our public survey comments, to identify a lack of bike/ped facilities.

Figure 34. Process for identifying VRU priority locations

Priority Locations

The process of determining priority locations described earlier was conducted in ArcGIS to reveal segments of highest points (overall, and for VRU) and then reviewed in list format. Each list was reviewed for priority segments, with some similar or adjacent segments showing on both lists. Segments were reviewed against recently constructed safety improvement projects or ones planned and funded to initiate design. If a proposed project had safety elements that were likely to mitigate safety issues in the area, those locations were generally not evaluated for project recommendations.

The Parks Highway corridor presented the most priority segments, as did the Palmer-Wasilla Highway especially near the Parks. These areas were identified for an overall corridor access management need. Area-wide recommendations were also considered for systemic improvements or further supplemental planning, such as at schools and on local roads. Consideration was also given to geographic distribution to provide project recommendations across the MSB Expanded Core Area.

Project recommendation narratives are provided below followed by maps for each location. Because priority locations were pulled from overall and VRU lists that each had different scoring mechanisms as described earlier, an estimation of relative ranking is provided. It is worth noting that several locations appear on both lists (see Appendix C). They are provided in ranking order of score, but this is not necessarily a required order of implementation. This is particularly true for area-wide recommendations that are multi-location, and so were not scored collectively. Several priority locations had identical scores.

A narrative of the recommendation is provided along with a planning level, total project cost estimate (including design development), and a recommended timeframe to initiate and implement:



Short-term:
0-5 years



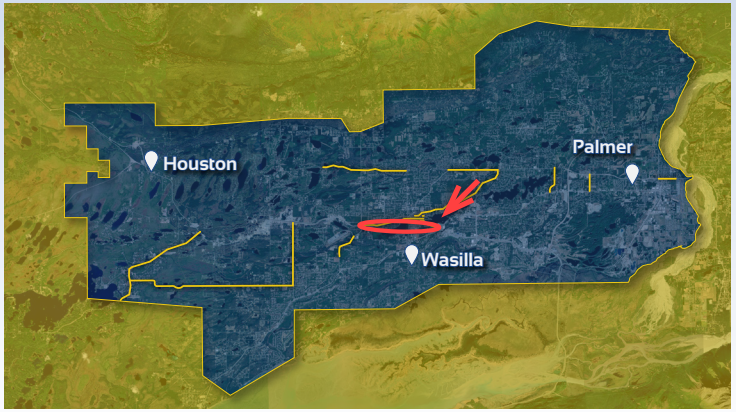
Mid-term:
5-10 years



Long-term:
10-15 years

An equity impact assessment is provided for each project in consideration of its location in the MSB Expanded Core Area's underserved populations (see Chapter 5) and benefit to VRUs.

See Appendix D for the Safety Toolkit which describes many of the suggested safety countermeasures within the project recommendations.



#1 Parks Highway Corridor (Church Road to Seward Meridian Parkway)

Background:

This high-volume corridor (26,700 to 34,000 average annual vehicles per day) is on the Interstate Highway System but also serves as a major east-west corridor for local trips within Wasilla. Rapid development, frequent access points (both signalized and unsignalized), and no median divider in several areas contribute to delay, congestion, and a high density of serious crashes. The section west of Church Road was recently reconstructed as a divided highway with consolidated access points, and east of the Seward Meridian Parkway, the highway has ramp-only access. The intersection with the Palmer-Wasilla Highway is near a major retail development and the surrounding area has a very high density of crashes.

The Parks Highway bisects the community of Wasilla, and there is a need for all modes to access the highway on both sides. The Alaska Railroad (south side) and development on the north side makes adding a continuous frontage road network complicated. Pedestrians must cross a long distance at signalized intersection crosswalks. The corridor is balancing the competing needs of access and mobility and these, along with safety, will continue to degrade without more stringent access management.

Recommendations – Short Term:

A comprehensive look at access in the corridor is necessary to understand the operational considerations of various access management methods, including partial or full restriction of access and development of parallel access roads. Short-term improvements at 10 signalized intersections in this corridor would benefit pedestrians.

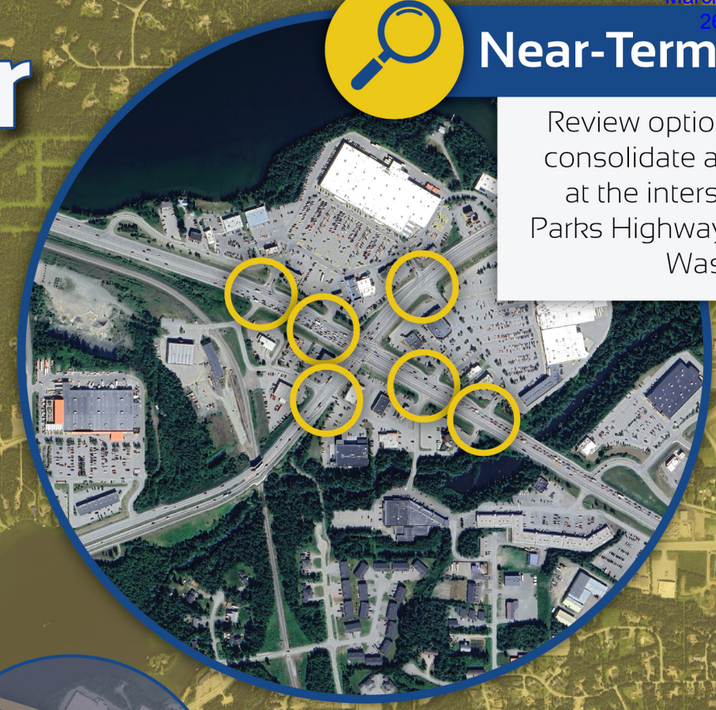
- Supplemental plan for a corridor access management plan for this corridor that includes traffic analysis and comprehensive public engagement with area businesses and residents. Some solutions can be implemented immediately once analysis is completed, such as median closures, and would likely be eligible under DOT&PF's HSIP. Supplemental plans are eligible for SS4A grants.
  Estimated plan cost: $2.5M
- Systemic intersection improvements at signals area-wide, but with priority given to this corridor to implement retroreflective signal backplates, accessible pedestrian signals, and leading pedestrian intervals. The cost estimate assumes these changes are implemented as pro-rated portions of systemic improvements under HSIP for this corridor. Pedestrian refuges were considered separately and may not be eligible under that program.
  Estimated cost: $180,000

Estimated Equity Impact:

High. This corridor is in one of the highest disadvantaged population areas of the MSB Expanded Core Area, and these systemic and corridor improvements directly benefit VRUs.

#1 Parks Highway Corridor

Church Road to Seward Meridian Parkway



Near-Term Priority

Review options to close & consolidate access points at the intersection of the Parks Highway and Palmer Wasilla Highway



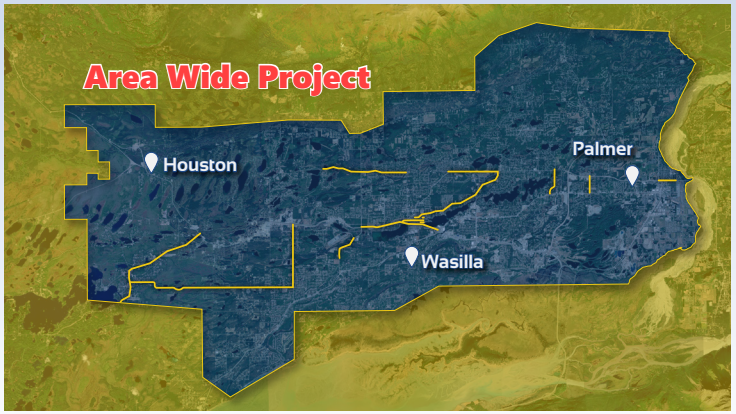
Systemic Intersection Improvements

Accessible Pedestrian Signals
Leading Pedestrian Interval
Retroreflective Signals & Backplates
Pedestrian Refuge Islands

Corridor Access Management Plan

Review driveway access, signalized intersections, and frontage road networks

Church Road
Main Street
Parks Highway
Knik Goose Bay Road
Palmer-Wasilla Highway
Seward-Meridian Parkway
Parks Highway



#2 Safe, Equitable Walking Routes to School (Area Wide)

Background:

This project prioritizes upgrades to school zones (signs, beacons, markings, and walking routes) within disadvantaged population areas. Safe routes to school (SRTS) projects are eligible for implementation grants under SS4A, and the program emphasizes these improvements for the underserved areas of communities.

The MSB, MSB School District, and DOT&PF have a working group that regularly meets to discuss and prioritize recommended school walking routes, but they do not have outside resources to support this work. Additional support would help keep walking route maps current and provide regular updates to priority lists for capital project needs. The MSB has been funding all SRTS projects through its TIP program since exhausting the SRTS funding offered through DOT&PF.

Recommendations - Short Term:

- Supplemental plan to sustain and build the SRTS program for a three-year period. ***Estimated cost for plan: $350,000***
- Implement projects at the following school sites. ***Estimated cost: $6.5M***
  - Wasilla Middle and High Schools: Construct separated path on both sides of Bogard between N Crusey and Wasilla-Fishhook. Add new pathways from Bogard Road to the north border of Iditarod Elementary property, and along the north border of Wasilla High School that connects south to the football field.
  - Burchell High School: Add a crosswalk at Nicola Avenue and Deskas Street. Add path on east side of Deskas Street and on Nicola Avenue between Church Road and Lucas Road.
  - Iditarod Elementary: Construct a sidewalk or separated path on Kalli Circle, Glen Circle, Kara Circle , Danna Avenue, and Aspen Avenue. Add crosswalk and RRFBs on Wasilla-Fishhook.
  - Houston Middle and High Schools: Build a path connecting Pepper Street to the school parking lot.
  - Big Lake Elementary: Expand school zone and add a crosswalk at Hollywood Road. A separated path on Hollywood Road is recommended separately under Project 9, Hollywood Road Safety Improvements.
  - Meadow Lakes Elementary: Add path along east side of Pittman Road between Zehnder Circle and Meadow Lakes Loop.
  - Tanaina Elementary: Add crossing and flashers at Mulchatna Drive and Lucille Street. Add sidewalk on Mulchatna Drive from Lucille Street to Raven's Flight Drive.
  - Dena'ina Elementary: Add pedestrian crossings and flashers on W. Clay Chapman Road/Knik Knack Mud Shack Road and S. Alix Drive. Add a path on the west side of S. Alix Drive from W. Trimotor Street, and along west side of Knick Knack Mud Shack Road to school entrance.
  - Teeland Middle School: Add sidewalk on E. Tambert Drive.
  - Knik and Goose Bay Elementaries: Add path on north side of Hollywood Road between Vine Street and Edelweiss Drive. Improve crossings at school entrance.

Safe, Equitable Walking Routes to School (Area Wide) cont.

Recommendations - Mid Term:

- Construct a separated pathway along Hawk Lane for Houston Middle and High Schools.
  Estimated cost: $2.2M
- Larson Elementary/Teeland Middle School: Construct a separated path on Seldon Road between Wasilla-Fishhook Road and Seward Meridian Parkway. Evaluate crossings with RRFBs at Larson Elementary and at Anoka Place (consider posted speed of Seldon, possibly in conjunction with Project #11, E. Seldon Road Improvements).
  Estimated cost: $1.5M

Estimated Equity Impact:

High. Projects directly benefit VRUs, and school locations are either in one of the highest disadvantaged population areas of the MSB Expanded Core Area, and/or are designated Title I schools in the moderately disadvantaged population area where a high proportion of students receive assistance with free or reduced lunch costs.

#2 Safe, Equitable Walking Routes To School

Area-Wide Project

Safe Routes to School Plan

Create a plan focused on safe school routes, crossings, and plans for implementation and maintenance.

Houston

Houston Middle & High Schools

Meadow Lakes Elementary School

Tanaina Elementary School

Larson Elementary & Teeland Middle School

Palmer

Burchell High School

Wasilla Middle & High Schools & Iditarod Elementary

Wasilla

Big Lake Elementary School

Knik & Goose Bay Elementary Schools

Dena'ina Elementary School

Equitable Walking Routes to Schools in Disadvantaged Areas

Houston Middle & High Schools
Big Lake Elementary School
Dena'ina Elementary School
Knik & Goose Bay Elementary Schools
Meadow Lakes Elementary School
Burchell High School
Wasilla Middle & High Schools
Iditarod Elementary School
Tanaina Elementary School
Larson Elementary & Teeland Middle Schools

#2 Safe, Equitable Walking Routes To School Area-Wide Project

Houston Middle & High Schools

Add separated pathway for Hawk Lane
Add path connection from school to Pepper Lane

Big Lake Elementary School

See project 9 for separated pathway on Hollywood
Add crossing at Hollywood and extend school zone

Dena'ina Elementary School

Add crossings
Add paths on S. Alix Drive and Knik Knack Mud Shack Drive

Knik & Goose Bay Elementary Schools

Add north side path from Vine Road to Edelweiss Drive
Improve crossings at schools

Tanaina Elementary School

Add crossing at Mulchatna Dr and Lucille St
Add paths on Mulchatna Dr

Iditarod Elementary School

Add separated paths for Kalli, Glen, and Kara Circles, and Danna and Aspen Avenues
Improve crossing at Wasilla-Fishhook at Kalli/Carpenter

Meadow Lakes Elementary School

Add path along east side of Pittman between Zehnder Circle and Meadow Lakes Loop

Burchell High School

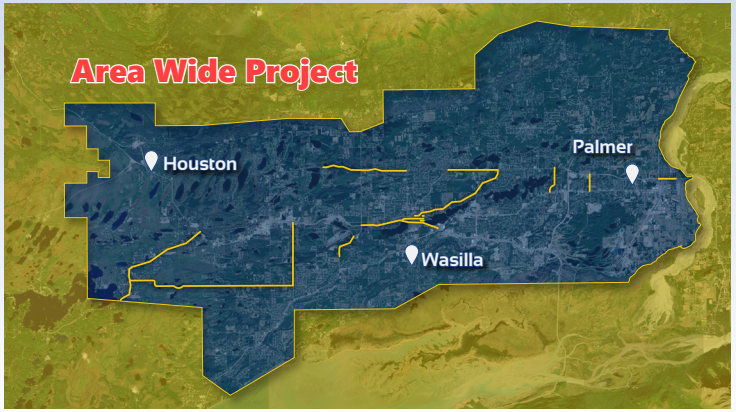
Add crosswalk at W. Nicola Avenue and Deshas Street
Add separated path along W. Nicola between Church and Lucas
Add sidewalk to east side of Deshas Street

Wasilla Middle & High Schools

Add separated path both sides of Bogard between N. Crusey and Wasilla-Fishhook
Add pathway from N. Crusey into Wasilla Middle School building entrance
Add path from Bogard to the north border of Wasilla High that connects south to the football field

Larson Elementary & Teeland Middle School

Add crossings on Seldon at Larson Elementary and Anoka Place
Add pathway on E Tambert Drive and along Bogard Road between Seward Meridian and Wasilla Fishhook



#3 Separated Pathway Regulatory Signs (Area Wide)

Background:

Community survey responses and focus group discussions revealed concerns with ATV and snowmachine use on separated pathways. This presents both a safety concern with the resulting user and speed conflicts, and additional maintenance concerns for gravel tracking and raveling of asphalt path edges. Motorized vehicle use of facilities intended for pedestrians is prohibited by state law (Alaska Administrative Code 02.455(g)). Younger drivers of ATVs and snowmachines may not be aware of this. Signs are expected to improve compliance through increased awareness.

Recommendation - Near Term:

- Install regulatory (NO MOTOR VEHICLES) signs along separated pathways at various entry points, such as at intersections with side streets.
  Estimated cost: $160,000

Estimated Equity Impact:

High. ATVs on facilities intended for bicycles and pedestrians create a user conflict and safety concern for VRUs.

#3 Separated Pathway Regulatory Signs

Area-Wide Project

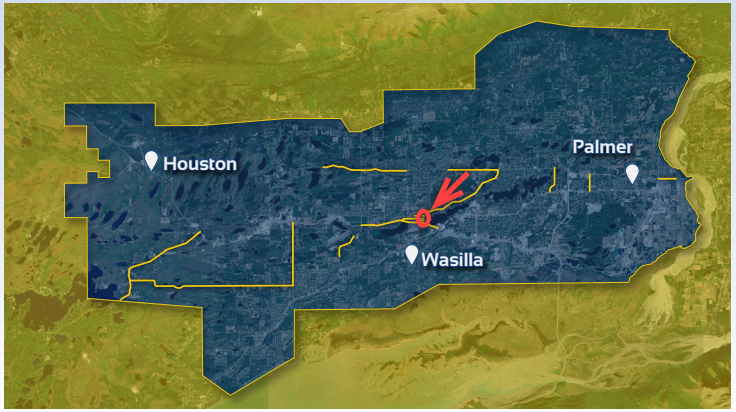
Houston

Palmer

Wasilla

NO MOTOR VEHICLES Signs

Install these regulatory signs on pathways throughout the borough. Do this in conjunction with bicycle/pedestrian and ATV safety campaigns.



#4 Westpoint Drive & Crusey Street Pedestrian Improvements

Background:

This proposed project falls within a disadvantaged population area and has proximity to VRU destinations (Wasilla Middle and High Schools, ice rink, library, parks, and access to Wasilla Lake). Crusey is a five-lane road with a sidewalk on both sides with retail areas closer to the Parks Highway and additional development further north as Crusey approaches the schools. There is no crosswalk across either leg of Westpoint Drive despite the fact there are sidewalk facilities on both sides of Crusey. There is also no pedestrian facility into the retail area (Carrs) and near McDonald's. Pedestrian crossing opportunities on Crusey are limited to signalized intersections.

Recommendation - Near Term:

- Stripe crosswalks at both legs of Westpoint Drive and Crusey. Install a crosswalk at Lakeshore Drive and at Swanson Avenue and an RRFB at one or both.
  Estimated cost: $330,000 assumes two locations for the beacons.

Recommendations - Mid Term:

- Consider a road diet on Crusey and the need for a continuous left turn lane; re-use this space for bike lanes and/or a center median with a pedestrian refuge.
  Estimated cost: $300,000

- Construct a sidewalk on Westpoint Drive from Crusey to retail (Carr's) in front of McDonald's.
  Estimated cost: $450,000

Estimated Equity Impact:

High. Projects recommended directly benefit VRUs and this project falls within the one of the highest disadvantaged population areas of MSB's Expanded Core Area.

#4 Westpoint Drive & Crusey Street Pedestrian Improvements



Lakeshore Avenue

Crusey Street

New Crosswalks

Across Crusey Street at Lakeshore and Swanson
Across Westpoint Drive at Crusey Street

Add RRFB

At Lakeshore Ave and Swanson Ave

City of Wasilla Public Library

Swanson Avenue

New Sidewalk

Along the southern side of Westpoint Drive



Consider Road Diet

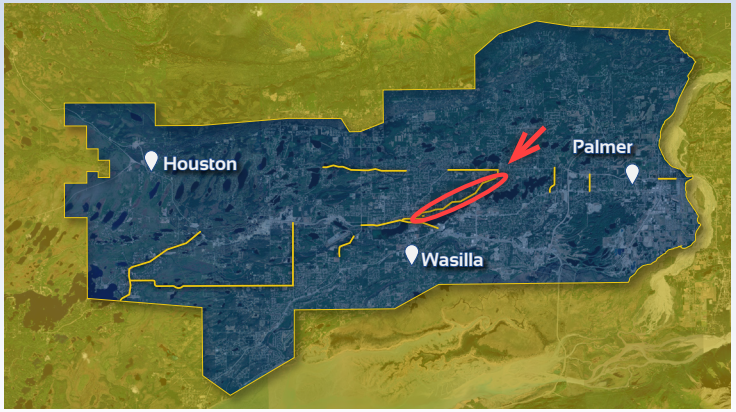
Carrs



Westpoint Drive

Westpoint Drive

N



#5 Bogard Road Intersection Improvements and Separated Path (Seldon Road to Peck Street OR Seldon Road to Wasilla-Fishhook)

Background:

E Bogard from Wasilla-Fishhook Road to Seldon Road is a high-speed (55 mph) arterial (over 8,000 annual average vehicles per day) with multiple access points for residential areas. The intersection at Tait Drive had a cluster of crashes between 2018 and 2022 with one serious injury crash recorded. There is no continuous separated path facility, although a separated path between Seldon Road and Peck Street was recommended in the 2023 Mat-Su Borough Bicycle and Pedestrian Plan. The intersection of Seldon and Bogard is a busy intersection of two arterials with a mini roundabout. The mini roundabout has been effective, but a modern single-lane roundabout would improve capacity and operational concerns. It would also provide improved traffic calming through channelized approaches and a raised center island.

Recommendations - Mid Term:

- Right- and left-turn lanes at Tait Drive and at Copper Creek Road, with added lighting.
  Estimated cost: $2.2M
- Separated path from Seldon to Peck or Wasilla-Fishhook. The Wasilla-Fishhook end has path recommendations tied to Wasilla Middle School which are considered separately under school area projects.
  Estimated cost: $2.8M
- Modern single-lane roundabout at Bogard and Seldon.
  Estimated cost: $6M

Estimated Equity Impact:

The turn lanes and roundabout are a **low** impact as they do not fall within the highest disadvantaged population area of the MSB Expanded Core Area and do not directly benefit VRUs, although new roundabout approaches can be redesigned to improve visibility of VRUs. The separated path from Seldon to Wasilla-Fishhook is estimated to have a **high** impact as it directly benefits VRUs and a portion falls within one of the highest disadvantaged population areas.

#5 Bogard Road Intersection Improvements and Separated Path

Seldon Road to Peck Street OR
Seldon Road to Wasilla-Fishhook Road

Intersection Improvements

At Tait Drive and Copper Creek Road: Increase lighting and add turn lanes

Add Separated Pathway

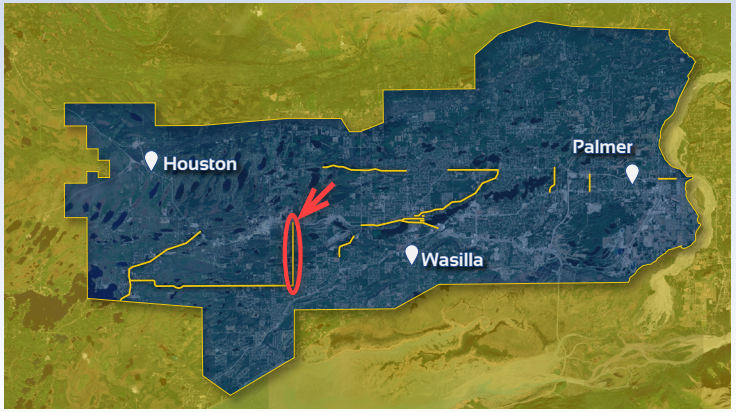
Roundabout

Update the mini roundabout at Bogard/Seldon to a modern roundabout

Project in Progress

Alaska DOT&PF has a resurfacing project from Wasilla-Fishhook to Main, but this project will not add a path or turn lanes

Seldon Road
Bogard Road
Tait Drive
Copper Creek Road
Bogard Road
Seward-Meridian Parkway
Wasilla-Fishhook Road
Peck Street
Main Street



#6 Vine Road Separated Path

Background:

Vine Road is a high-speed minor arterial between Knik-Goose Bay Road and the Parks Highway with between 4,000 and 5,000 annual average vehicles per day. The road has narrow shoulders, which limits accommodations for bicycles and pedestrians. DOT&PF is developing a project to reconstruct Vine from Knik-Goose Bay to Hollywood Road, including a roundabout at the intersection. This project will include a separated path on the west side.

Recommendation - Mid Term:

- Construct a separated pathway on the west side of Vine Road as a continuation of the proposed Vine Road: KGB to Hollywood Road project.
  Estimated cost: $4M

Estimated Equity Impact:

High. Project directly benefits VRUs and is within the moderately disadvantaged population area of the MSB Expanded Core Area.

#6 Vine Road Separated Path

Parks Highway

Vine Road

Hollywood Road

Knik-Goose Bay Road

Add a Separated Path

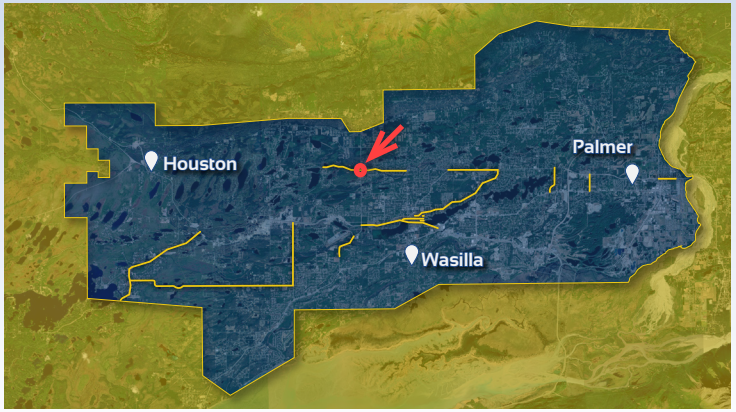
From Knik-Goose Bay Road to the Parks Highway

Planned Projects

Alaska DOT&PF has a planned project to add a separated pathway from Knik-Goose Bay Road to Hollywood Road, however it is not currently funded.

DOT&PF has near-term plans to resurface Vine Road, but it will not include a separated path.

There is a planned project to install a roundabout at Hollywood and Vine to improve safety.



#7 Seldon Road and Chuch Road Intersection Improvements

Background:

This is a two-way, stop-controlled intersection with the right-of-way given to Church Road, which is posted at 45 mph. There is a pedestrian path on the south side of the intersection, but there is no lighting in the area. Church Road is a long, straight, rural section of road where drivers may tend to speed. There has been a cluster of crashes at this intersection, though no serious ones. Crashes involved running the stop signs, despite the fact the intersection has oversized stop signs and intersection warning signs.

Recommendations - Mid Term:

- Roundabout and add intersection lighting. Accommodate crosswalks on the south side of the intersection to connect pathways. ***Estimated cost: $6M***

Estimated Equity Impact:

High. Project would benefit VRUs through an added crossing and reduced vehicle speeds, and is within the moderately disadvantaged population area of the MSB Expanded Core Area.

#7 Seldon Road and Church Road Intersection Improvements

Roundabout

A single-lane roundabout

Seldon Road

Church Road

or

Flashing Beacon

Seldon Road

Church Road

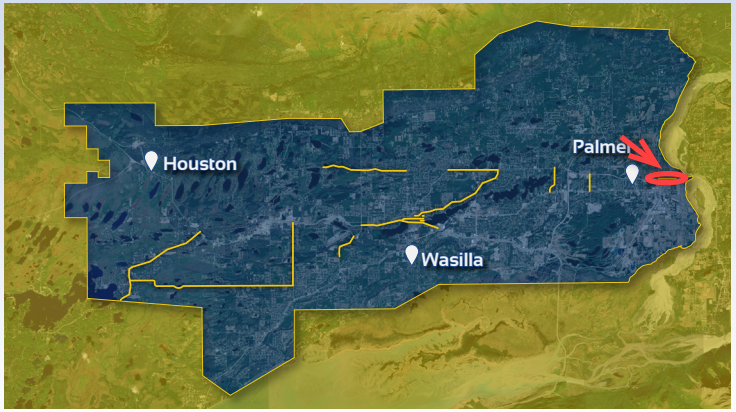
Increased Lighting

Crosswalks

Crosswalks for the southern leg of the intersection to accomodate the existing path

Planned Project

Lower-cost improvements in near term include transverse rumble strips and converting to 4-way stop.



#8 Arctic Avenue Bicycle and Pedestrian Improvements (Glenn Highway to Palmer Airport Road)

Background:

This is a low-speed arterial road in Palmer that serves adjoining residential areas, schools and recreational areas, the Palmer airport, and is the primary access to the Old Glenn Highway for Butte residents. The section between Glenn Highway and Valley Way has pathways on both sides of the road but they are shared use facilities for both bicycles and pedestrians. There are limited mid-block crossing opportunities for pedestrians despite schools in the area (Academy Charter School, and Swanson and Sherrod Elementaries to the north). The north side of Arctic lacks a separated path from Gulkana Street east to Academy Charter School. This corridor could benefit from a corridor plan to address longer-term access management and non-motorized needs.

Recommendations - Short Term:

- Supplemental plan for access management and non-motorized facility needs from Glenn Highway to Clark-Wolverine Road, or other eastern boundary as determined with DOT&PF and the City of Palmer.
  Estimated cost for plan: $500,000

- Stripe bicycle lanes in existing shoulder like the corridor west of Glenn Highway, as recommended in MSB's Bicycle and Pedestrian Plan. Width of bicycle lane available through re-striping only may not be desirable long term, so this may be an interim measure until wider shared-use facilities can be constructed.
  Estimated cost: $75,000

- Construct separated path or sidewalk on north side between Gulkana Street and Palmer Airport Road. Improve crosswalk and install an RRFB at Academy Charter School. Install crosswalk at Valley Way, consider an additional crosswalk at Gulkana St.
  Estimated cost: $650,000

Estimated Equity Impact:

Moderate. While the project does not fall within a disadvantaged population area of the MSB Expanded Core Area, it directly benefits VRUs with improvements to facilities used to access VRU destinations.

#8 Arctic Avenue Bicycle and Pedestrian Improvements Glenn Highway to Palmer Airport Road

Bike Lanes and/or Widened Pathway

Both sides of the road from the Glenn Highway to Gulkana Street
Consider striping the existing shoulders from Gulkana to the airport as a bike lane

Separated Path

On the north side of Arctic from Gulkana to the airport

Valley Way

Gulkana Street

Academy Charter School

Arctic Avenue

Glenn Highway

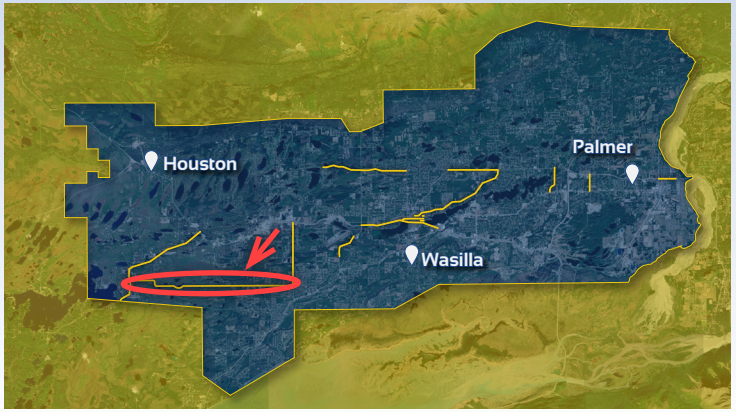
Palmer Airport Road

Pedestrian Crossings

At Gulkana Street, Valley Way, and Academy Charter School

Supplemental Corridor Plan

Address access management and bicycle and pedestrian needs between Glenn Highway and Clark-Wolverine



#9 Hollywood Road Safety Improvements (Big Lake Road to Vine Road)

Background:

Hollywood Road is a major collector connecting Vine Road to Big Lake Road. It is posted at 40 mph and lacks a shoulder or separated facilities for bicycles or pedestrians.

Recommendation - Short Term:

- Improve delineation on the curves near the transfer station and Edsulu Drive, including oversized chevrons and advanced warning signs.
  Estimated cost: $70,000

Recommendation - Mid-Term:

- Construct right- and left-turn lanes and lighting at Sylvan Lane and Johnsons Road.
  Estimated cost: $1.7M

Recommendation - Long Term:

- Construct separated path (south side) from Connie Lane to Big Lake Road or widen shoulders.
  Estimated cost: $8M (assumes higher cost path).

Estimated Equity Impact:

High overall. The separated path from Connie Lane to Big Lake Road directly benefits VRUs within the west side of Hollywood Road, which is within one of the highest disadvantaged population area of the MSB Expanded Core Area. The school improvements at Knik and Goose Bay Elementaries would have a high impact as they directly benefit VRUs, are Title I schools, and are within the moderately disadvantaged population area of the MSB Expanded Core Area. All other proposed improvements are within the most disadvantaged population area of the MSB Expanded Corea Area with the exception of Sylvan Lane, but safety improvements on this corridor are considered a high equity impact overall.

#9 Hollywood Road Safety Improvements

Big Lake Road to Vine Road

Intersection Improvements

At Big Lake Road and Hollywood Road



Enhanced Curve Delineation

Near Transfer Station



Planned Projects

Alaska DOT&PF has a resurfacing project planned for 2025 but it does not include a path, shoulders, or a turn lane.

There is a planned project to install a roundabout at Hollywood and Vine to improve safety.

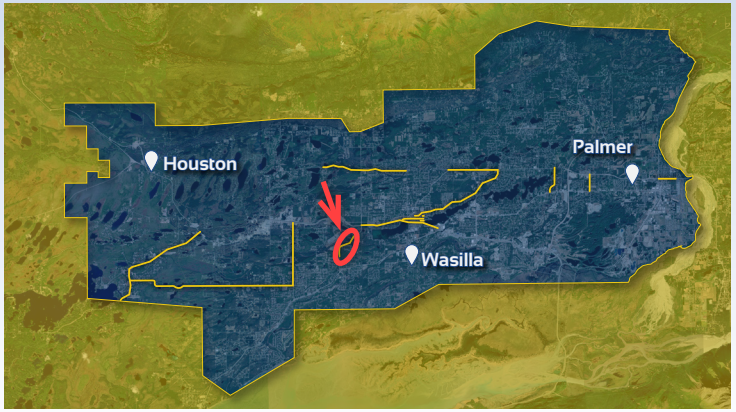


Add a Separated Path or Add Shoulders

From Big Lake Road to Connie Lane

Add Turn Lanes and Lighting

At Johnsons Road and Sylvan Lane



#10 Clapp Street Safety Improvements (Curtis Menard Sports Center to Laurie Avenue)

Background:

Clapp Street is a 40 mph collector road with up to 3,000 vehicles per day annually on average. It accesses residential areas, gravel pits, and the Curtis Menard Sports Center.

Recommendation - Short Term:

- Enhance curve delineation and clear brush around curves near Mack Drive.
  Estimated cost: $80,000

Recommendations - Mid-Term

- Construct right- and left-turn lanes at Mack Drive and Laurie Avenue. Both right- and left-turn lanes may not be necessary.
  Estimated cost: $1.6M
- Add continuous lighting between Curtis Menard Sports Center and Laurie Avenue.
  Estimated cost: $800,00

Estimated Equity Impact:

High overall. Clapp Street north of Mack Drive is within one of the highest disadvantaged population area of the MSB Expanded Core Area and safety improvements in this corridor are considered a high equity impact overall.

#10 Clapp Street Safety Improvements

Curtis Menard Sports Center to Laurie Avenue

Curtis Menard Sports Center

Increased Lighting

Enhanced Curve Delineation

Brush Clearing

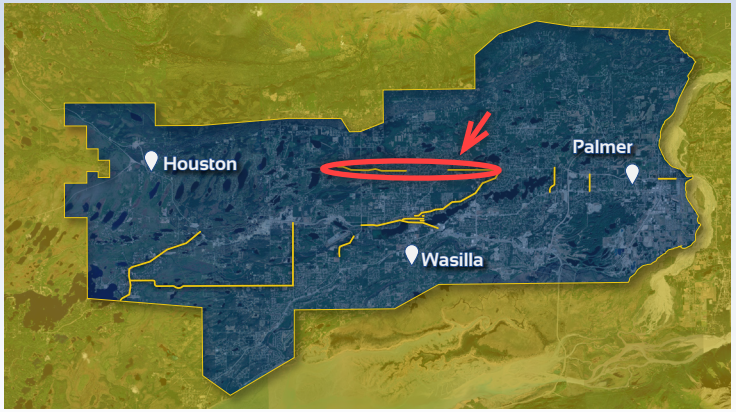
Add Turn Lanes

At Laurie Ave and Mack Drive

Clapp Street

Mack Drive

Laurie Avenue



#11 E. Seldon Road Safety Improvements (Windy Bottom Road to Lucille Street & Wasilla-Fishhook Road to Bogard Road)

Background:

E Seldon Road is a high-speed east-west arterial with over 8,000 annual average vehicles per day on its west end. It accesses many residential areas and has frequent turning traffic. The section between Bogard and Church Road falls into Segments D, E, and F under the Bogard-Seldon Corridor Access Management Plan, recently released for draft review. This plan addresses future access management needs including driveway closures and consolidations, medians, and need for left-turn lanes.

Recommendation - Short Term:

- Initiate a project to reconstruct Seldon Road between Bogard Road and Wasilla-Fishhook Road, and from Lucille Street to Church Road. Construct left-turn lanes at Schrock Road, Tait Drive, and Northgate Place, as recommended in the Bogard-Seldon Corridor Access Management Plan. Add lighting and a separated pathway between Wasilla-Fishhook Road and Bogard Road. ***Estimated cost: $50M*** (based on other DOT&PF STIP project total costs for Seldon Road)

Recommendations - Mid-Term:

- Add pedestrian lighting on the path from Church Road to Windy Bottom Road. ***Estimated cost: $500,000***

Estimated Equity Impact:

High. Project would directly benefit VRUs within a moderately disadvantaged population area of the MSB Expanded Core Area.

#11 E. Seldon Road Safety Improvements

Windy Bottom Road to Lucille Street and Wasilla-Fishhook Road to Bogard Road

Construct Turn Lanes Recommended by Bogard-Seldon Corridor Plan

Add Separated Pathway and Lighting



Add Left Turn Lanes

At Schrock, Tait, and Northgate Place



Seldon & Church Intersection Improvements

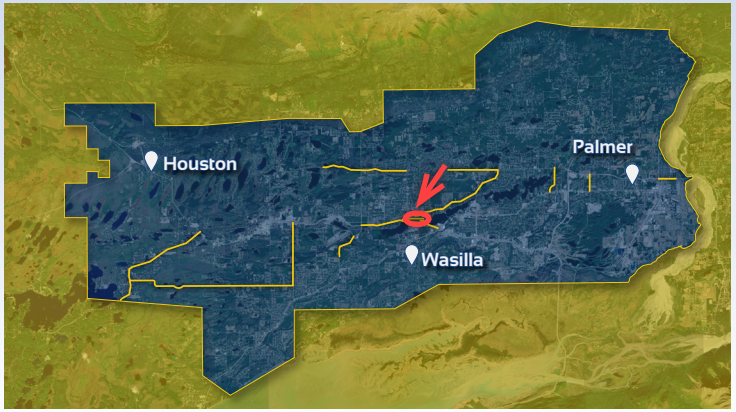
Either a roundabout or flashing beacon with lighting and a crosswalk

Add Pedestrian Lighting

From Windy Bottom to Church

Planned Project

Alaska DOT&PF has a project programmed in the STIP to work on Seldon between Lucille and Wasilla-Fishhook



#12 Swanson Avenue Complete Street (Parks Highway to Crusey Street)

Background:

Swanson Avenue is a local road in downtown Wasilla and connects a variety of facilities including businesses, Iditapark, Valley Performing Arts Center, Wasilla Public Library, and the Wasilla Museum and Visitors Center. It is a lighted, low-speed road with narrow sidewalks on both sides. It has a continuous two-way left-turn lane that may not be necessary given traffic turning volumes.

Recommendation - Short Term:

- Make a Complete Street through re-striping. If acceptable for traffic operations, remove the center two-way left-turn lane and use the remaining width for striping bicycle lanes. The pending Main Street couplet project downtown will be implementing one-way cycle tracks, which would complement bike lanes on Swanson Avenue. Re-stripe and sign all stop-controlled intersections between Tommy Moe Way and Yenlo Street.
  Estimated cost: $260,000

Recommendations - Mid-Term:

- Widen sidewalks to six feet to match the portions of the Swanson Avenue sidewalks that will be this width on each side of Main Street and Yenlo Street after the Main Street couplet project. If this can be accomplished without new right-of-way acquisition, this change should be moved to the short term.
  Estimated costs: $2.3M

Estimated Equity Impact:

High. Project would directly benefit VRUs within one of the highest disadvantaged population area of the MSB Expanded Core Area.

#12 Swanson Avenue Complete Street

Parks Highway to Crusey Street

Install 6-foot Sidewalks

Match the pending Main Street project

Remove Two-Way Center Turn Lane

Swanson Avenue

Parks Highway

Lucille Street

Main Street

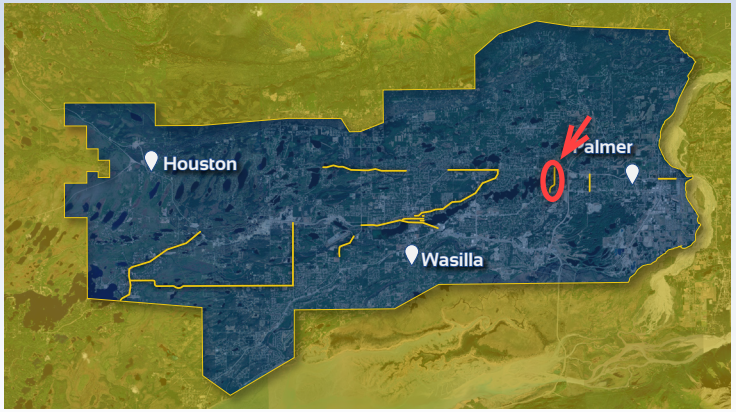
Carrs

Crusey Street

Retain Shoulder/Bike Lane

Enhanced Crosswalks

Enhanced striping and signs at all stop-controlled intersections



#13 Green Forest Drive Improvements

Background:

This is a local road that is desired for improvements to collector road standards. It is narrow, lacks pedestrian/bicycle facilities, and residents report excessive speeds.

Recommendation - Short Term:

- Include an attached (curbed) pathway (if feasible within the right-of-way) in current TIP project to upgrade this road. Right-of-way is constrained on this road and partial acquisitions may be impractical due to minimum lot size requirements. Add a mini roundabout at E Frances Lane for improved circulation and traffic calming.
  Estimated cost: $7.2M, inclusive of planned TIP upgrades which are estimated at $6.2M.

Estimated Equity Impact:

Moderate. Project would directly benefit VRUs with a new facility and/or traffic calming within a moderately disadvantaged population area of the MSB Expanded Core Area.

#13 Green Forest Drive Improvements

Bogard Road

E Frances Lane

Palmer-Wasilla Hwy

Green Forest Drive

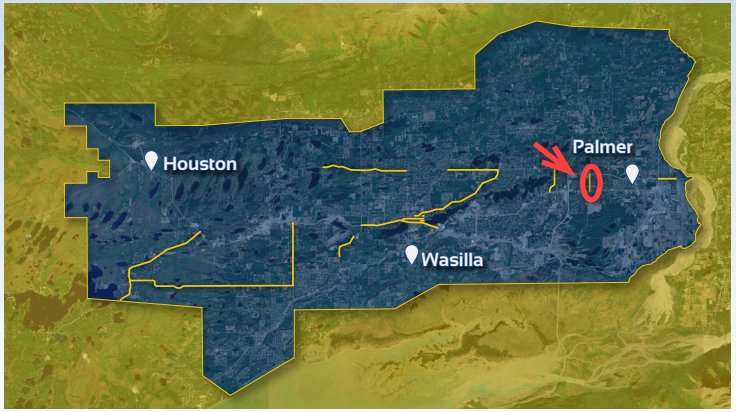
Trunk Road

Add an Attached Path Making this a Complete Street

Right-of-way constraints make a separated facility challenging, but it is recognized as a need in this area

Roundabout

A mini-roundabout at E. Frances Lane for traffic calming and circulation



#14 49th State Street Separated Path

Background:

49th State Street is a high-speed major collector in Palmer and lacks non-motorized facilities. Constructing a path eliminates a gap in bicycle/pedestrian facilities between Palmer-Wasilla Highway and Bogard Road. This area serves Colony Middle and High Schools and has recent multi-family housing development. A separated path is currently proposed as a TIP project and was identified in the MSB Bicycle and Pedestrian Plan.

Recommendation - Short Term:

- Continue to develop the proposed separated path project. Add a crosswalk and Rectangular an RRFB at the southern school driveway access to Colony High School.
  Estimated cost: $2.8M

Estimated Equity Impact:

Moderate. While the project does not fall within a disadvantaged population area of the MSB Expanded Core Area, it directly benefits VRUs with improvements to facilities used to access VRU destinations.

#14 49th State Street Separated Path

Bogard Road

Colony High School

49th State Street

New Crosswalk

At southern driveway of Colony High School

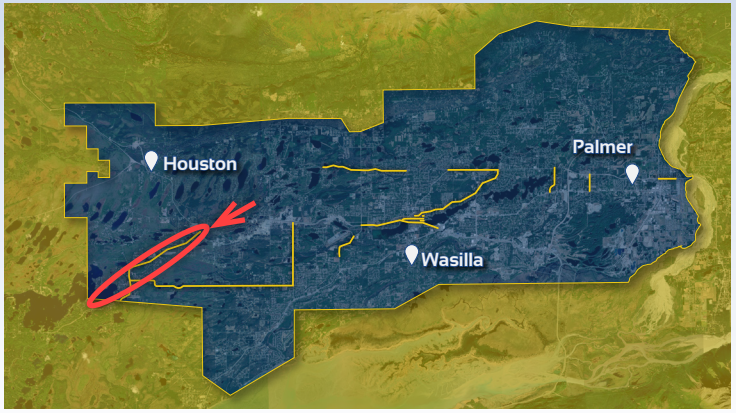
Add RRFB

At southern driveway of Colony High School

Add a Separated Path

Supplement or replace funds for MSB TIP 21 project

Palmer-Wasilla Highway



#15 Big Lake Road Intersection Improvements

Background:

Big Lake Road is a high-speed arterial that accesses the community of Big Lake. The first 3.5 miles are posted at 55 mph. There is a separated path, but there is limited lighting and advance warning for intersections along the route that access various residential areas.

Recommendation - Mid Term:

- Add lighting and right- and left-turn lanes to up to three intersections for increased conspicuity. Suggested intersections include Shotgun Drive, Kenlar Road, Birch Lake Drive, Beaver Lake Road, and Pedro Pio Drive.
  Estimated cost: $2.7M

Estimated Equity Impact:

High. Project falls within one of the highest disadvantaged population areas of the MSB Expanded Core Area, and safety improvements in this corridor are considered a high equity impact overall.

#15 Big Lake Road Intersection Improvements

Enhanced Intersections

Enhanced lighting and signs. Possible intersections include Shotgun Drive, Pedro Pio Road, Kenlar Road, Birch Lake Drive, and Beaver Lake Road

Planned Project

Alaska DOT&PF has a resurfacing project planned for 2025 from the Parks Highway to North Shore Drive, but it will not include turn lanes or new lighting.

DOT&PF plans to reconstruct Big Lake Road from MP 3.6-9.1

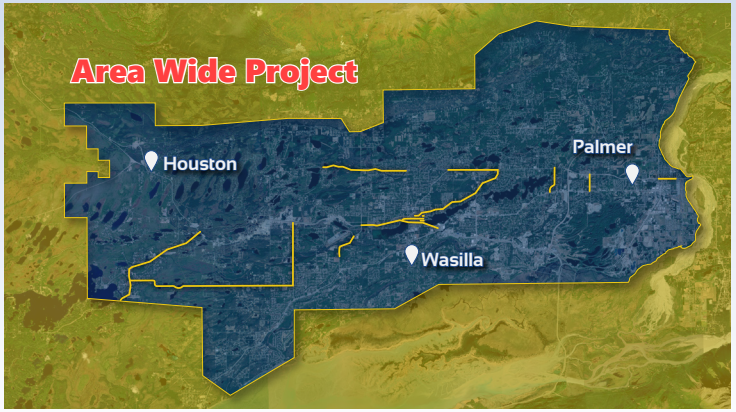
Add Turn Lanes

Parks Highway

Big Lake Road

North Shore Drive

Hollywood Road



#16 Local Road Speed Management Plan (Area Wide)

Background:

Local roads comprise 74% of the MSB Expanded Core Area network of roads. While a relatively low percentage of serious crashes occur on these local roads (a reflection of lower speed and lower volumes), many residents expressed concern in the community survey with speeding on residential roads and associated discomfort with walking and bicycling in their neighborhoods. A supplemental plan can focus on specific road safety needs, mitigating options, and maintenance implications. Neighborhood input can give community councils a tool to recommend and pursue funding for physical traffic calming measures.

Recommendation - Short Term:

- Prepare a supplemental plan focused on local roads that are identified for needing traffic calming, in accordance with a policy for establishing when traffic calming is warranted.
  Estimated plan cost: $350,000

Estimated Equity Impact:

Moderate to high, depending on location of application with respect to disadvantaged population areas. Traffic calming directly benefits VRUs by helping reduce the severity of injury in the event of a collision with a motor vehicle.

#16 Local Road Speed Management Plan

Area-Wide Project

Local Road Speed Management Plan

Create a supplemental plan to evaluate public interest in local road traffic calming potential countermeasures such as mini roundabouts, speed humps, speed tables and more. Keep any specific maintenance considerations in mind. Complete this plan in conjunction with a policy recommendation for evaluating when roads warrant traffic calming. Potential routes for inclusion in this project include, but are not limited to: Serendipity Loop, Lakeview Loop, Cottonwood Loop, Hart Lake Loop, Charley Drive, Melanie Drive, Vaunda Drive.

Houston

Palmer

Wasilla



Chapter 8: Progress & Transparency

MAT-SU BOROUGH
SAFE STREETS FOR ALL



Setting up for Successful Plan Implementation

With a comprehensive understanding of the safety landscape in the MSB Expanded Core Area, and a defined list of prioritized areas and projects to implement, it is important to provide a clear list of actions that the MSB and its partners can follow. This will ensure the region achieves the transportation safety goals laid out in the MSB CSAP. No plan is complete without an implementation matrix that identifies a clear action item, what overarching policy or practice it is associated with, when it should happen, and who will be responsible for implementing it. These key steps to plan implementation are described in the Implementation Matrix below.

Integral to successful plan implementation is a clearly defined method of tracking progress toward improving safety on the roadway. The Safe Streets MSB Dashboard and Performance Measures and Targets table can be used together to track plan implementation over time.

Finally, this chapter closes with a recommended strategy for updating the MSB CSAP so it remains relevant for long-term success.

Implementation Matrix

Table 10: Implementation Matrix - Immediate (0-2 years)		
Implementation Action	**Related Policy/ Practice**	**Implementation Partners**
Apply for federal grant funding, such as the Safe Streets for All program, to implement recommended near-term projects outlined in Chapter 7. Strategy and Project Selections of the MSB CSAP.	SR3, SR4, SR5	MSB, City of Houston, City of Palmer, City of Wasilla, MVP
Apply for federal grant funding, such as the Safe Streets for All program, to implement near-term demonstration projects or supplemental planning projects that align with the MSB CSAP.	SR3, SR4, SR5, SR6	MSB, City of Houston, City of Palmer, City of Wasilla, MVP
Begin systematically installing low-cost safety countermeasures at locations identified for improvement in Chapter 7. Strategy and Project Selections, and throughout the region.	SR4, SR5, SP5	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF
Share the MSB CSAP and Safety Countermeasures Toolkit with partner transportation agencies such as MVP and DOT&PF in support of implementation projects.	SP3, SR5	MSB
Establish a Safe Streets MSB Working Group to guide development of a Safe Streets MSB or Vision Zero campaign and website, including seasonal safety messaging, safety in school zones (developing consistent speed zone policy, signs and markings, and maintenance procedures for schools), and encouraging compassion and community responsibility in young drivers through campaign partnerships with health and human service organizations, parent groups, and schools.	SP1, SP2, SP4, SS4, SP9, SP10, SP11, SR11	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF, Alaska State Troopers, MSB School District, Mat-Su Health Foundation
Implement a Winter Dashboard for MSB to show the public the status of open requests, in progress, and snow removal on routes for borough-maintained routes.	SR12, SR13, SR14	MSB
Establish a Maintenance Working Group to address key challenges and roadblocks associated with all-season maintenance of streets, sidewalks, multi-use pathways, bike lanes, bus stops, and school zones. Devise a resource such as a checklist or infographic to illustrate the hierarchy of information, roles, and responsibilities for adhering to maintenance goals. Explore potential efficiencies in RSA consolidation.	SR12, SR16, SR14	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF
Organize and facilitate an annual safety walking tour for elected officials and the public to demonstrate safety needs and navigating locations where improvements are planned or have recently been implemented.	SP8	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF

Table 10: Implementation Matrix - Immediate (0-2 years)		
Implementation Action	**Related Policy/ Practice**	**Implementation Partners**
Initiate policy for automated speed enforcement, and/or implement a pilot project.	SS1	MSB, Alaska State Troopers, Palmer Police Department, Wasilla Police Department
Initiate review of policy to determine when a road diet is recommended.	SR1, SR2, SR10	MSB, MVP
Create a Safe Streets MSB Coordinator position to staff Safe Streets MSB and Maintenance Working Groups and support CSAP implementation.	SP1, SP2, SP3, SP4	MSB, MVP, DOT&PF
Evaluate the feasibility of a local ATV and snowmachine safety program, working with local dealerships and trail rider group(s). Focus on education and outreach for safe and legal ATV and snowmachine operations.	SP13	MSB, Alaska State Troopers, recreational ATV rider/trail user group(s)
Initiate implementing on-demand transit services for vulnerable populations and eventual fixed-route transit services.	SP14	MSB, MVP, Connect Mat-Su
Establish metrics to increase ambulance response times. Identify where metrics can improve through increased staffing and fleet and explore funding options.	PCC3	MSB
Consider safe vehicle sizes and safety features in replacing MSB vehicle fleets.	SV1, SV5	MSB
Explore initiating programs to improve community use of safe vehicle practices through child car seat education, adult safe vehicle practices, and income-based education and incentives for maintaining safe vehicle features (tires, headlights, blinkers).	SV2, SV3, SV4	MSB, Connect Mat-Su, DOT&PF, Alaska Highway Safety Office

Table 11: Implementation Matrix - Mid-Term (2-10 years)		
Implementation Action	**Related Policy/ Practice**	**Implementation Partners**
Apply for federal grant funding, such as the Safe Streets for All program, to implement recommended mid-term projects outlined in Chapter 7. Strategy and Project Selections of the MSB CSAP.	SR3, SR4, SR5	MSB, City of Houston, City of Palmer, City of Wasilla, MVP
Apply for federal grant funding, such as the Safe Streets for All program, to implement mid-term demonstration projects and supplemental planning projects that align with the MSB CSAP.	SR3, SR4, SR5, SR6	MSB, City of Houston, City of Palmer, City of Wasilla, MVP
Develop an MSB Complete Streets Policy and Plan.	SP3, SR1, SS3	MSB, City of Houston, City of Palmer, City of Wasilla, MVP
Update street design guidelines, standards, and municipal codes to support Complete Streets policies and Safe System principles.	SR2, SR9, SP7, SS4, SR11	MSB, MVP
Establish a Development Working Group to develop policies and procedures to enforce safe street design for developers of new subdivisions within the MSB. This includes requiring impact fees and Traffic Impact Analyses for new subdivisions and increasing minimum thresholds for right- or left-turn lanes for developers and roadway designers and developing a checklist.	SP7, SP11, SR7, SR8, SR9	MSB, MVP
Review and implement new speed management policy for setting speed limits on borough roads.	SS2	MSB, Alaska State Troopers
Continue to systematically install low-cost safety countermeasures at locations identified for improvement in Chapter 7. Strategy and Project Selections.	SR4, SP5	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF
Combine countermeasure deployment with promotional activities (press releases, promotional signage, media interviews) during implementation of new infrastructure construction.	SP5	MSB, MVP
Explore a change in state law to reduce the legal BAC for impaired driving and work with local partners to promote treatment options for those involved in drug and alcohol related crashes.	SP6, SP12	MSB, Alaska State Troopers
Work with local enforcement agencies to advocate for increased funding, staffing, and equipment to strengthen policing capabilities throughout the MSB.	SS5	MSB, Alaska State Troopers,Palmer Police Department, Wasilla Police Department

Table 11: Implementation Matrix - Mid-Term (2-10 years)		
Implementation Action	**Related Policy/ Practice**	**Implementation Partners**
Work with local enforcement agencies to educate policy makers and advocate for stronger fines and consequences to promote accountability for speeding and traffic violations.	SS6	MSB, Alaska State Troopers, Palmer Police Department, Wasilla Police Department
Facilitate training sessions for law enforcement agencies on crash reporting and traffic safety.	PCC1	MSB, DOT&PF, Alaska State Troopers, Palmer Police Department, Wasilla Police Department
Update MSB HSIP Handbook and advocate for dedicated capital funding for HSIP projects within MSB capital improvement programs.	SR15	MSB
Collaborate with health agencies and local nonprofits to engage in treatment options for people involved in drug- and alcohol-related crashes.	PCC2	MSB, Mat-Su Health Foundation, Connect Mat-Su
Review and update the MSB CSAP.		Mat-Su Borough

Table 12: Implementation Matrix - Long-Term (10+ years)		
Implementation Action	**Related Policy/ Practice**	**Implementation Partners**
Apply for federal grant funding, such as the Safe Streets for All program, to implement any remaining recommended mid-term and long-term projects outlined in Chapter 7. Strategy and Project Selections of the MSB CSAP.	SR3, SR4, SR5, SR6	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF
Continue to systematically install low-cost safety countermeasures at locations identified for improvement in Chapter 7. Strategy and Project Selections.	SR4	MSB, City of Houston, City of Palmer, City of Wasilla, MVP, DOT&PF
Review and update the MSB CSAP.		MSB



Tracking Progress

Safe Streets MSB Dashboard

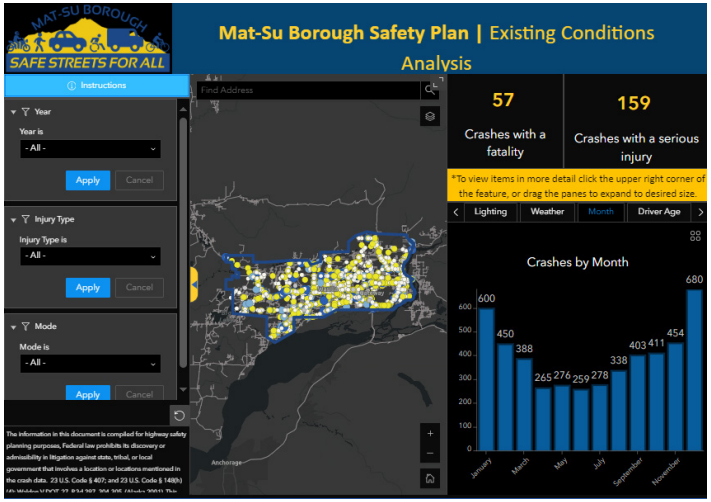
To enhance road safety and work towards the goal of zero roadway fatalities and serious injuries, the project team developed a comprehensive Safe Streets MSB Dashboard (the Dashboard). This interactive online resource will assist the MSB in continuous monitoring of safety trends, crash patterns, and other contributing safety elements in the years following adoption of the MSB CSAP. The Dashboard is an essential component of the MSB CSAP, providing a tool for data-driven decision making and strategic planning.

The Dashboard integrates a variety of map data to provide a clear and comprehensive view of road safety data:

- **High Injury Network:** Displays a heat map of roads with the highest concentration of serious crashes, identifying priority areas for safety improvements.
- **Equity Layer:** Includes an equity layer to identify areas with high concentrations of vulnerable populations within the MSB Expanded Core Area.

The Dashboard will allow the MSB to filter crash data based on specific safety attributes to better assess current trends and make informed decisions about project implementation.

- **Year:** Filter crash data by year to analyze trends over time.
- **Month:** Filter information by month to view the effects of seasonality on crashes.
- **Lighting Conditions:** Filter crash data by daylight at time of crash.
- **Influence of Drugs or Alcohol:** Filter information by suspected drug or alcohol use.
- **Driver Age:** Filter crash data by driver age range.
- **Weather:** Filter information by presence of rain, snow, ice, or dry pavement.
- **Crash Type:** Filter crash data by crash factors including angle crashes (such as left turn or T-bone), run off the road, head on, animal, and mode choice.
- **Injury Type:** Filter information by severity of injury including fatality, serious injury, injury, and property damage only.



An essential goal of the Dashboard is to support the MSB in reaching zero roadway fatalities and serious injuries. The Dashboard will provide an up-to-date, data-driven assessment of safety on the MSB Expanded Core Area road system, thereby helping the MSB make proactive and informed decisions as they work towards accomplishing this ambitious goal. The Dashboard should be updated and reviewed annually to provide a current assessment of safety trends as they unfold over time and for comparison to the crash reduction target of this plan. It is estimated to take MSB GIS staff 40 hours to incorporate a new year of crash data into the dashboard each year, plus another 20 hours for Public Works or Planning staff to review the trend changes, for a total annual estimated staff impact cost of $6,000.

Performance Measures and Targets

Table 13: Roadway Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Number of fatal crashes on the roadway (five-year rolling average)	10	10	10	9	9
Number of serious injury crashes on the roadway (five-year rolling average)	29	28	27	26	25
Number of non-motorized fatalities	1	0	0	0	0
Number of non-motorized serious injuries	1	1	0	0	0

Table 14: Transit Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Number of added transit operators serving disadvantaged populations in the MSB			1		
Number of commuter/demand service providers, such as Valley Transit, serving disadvantaged populations		1	1	1	1
Number of transit routes serving disadvantaged populations			3	3	3
Number of bus stops in disadvantaged areas			15	15	15
Number of bus stop shelters within disadvantaged areas			5	5	5
Percentage of population using transit facilities or other alternative transportation in disadvantaged areas			3%	4%	5%



Table 15: Safe Walking and Biking Facilities Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Number of added sidewalks on a road segment within disadvantaged areas (one side of road = one sidewalk)		2			
Number or length of added multi-use pathways within disadvantaged areas		1			
Number of separated pathways added; any road segment	1	1	1	1	
Number of protected bicycle facilities added within disadvantaged areas			1	1	

Table 16: Maintenance Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Minimum annual funding increase to maintenance budgets for road and pathway maintenance in the MSB over prior year	2%	3%	3%	3%	3%
Average time (in hours) to clear snow from walking and bicycling facilities in disadvantaged areas	<36 hrs	<36 hrs	<24 hrs	<24 hrs	<24 hrs

Table 17: Project Implementation Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Number of MSB CSAP-recommended projects initiated	1	1	1	1	1
Number of MSB CSAP-recommended projects completed			1	1	1
Number of SS4A supplemental plans and/or demonstration projects completed	1	1	1	1	1



Table 18: Safe Programs and Policies Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Safe Streets MSB Coordinator Position	x				
Safe Streets MSB Working Group	x				
Maintenance Working Group	x				
Development Working Group		x			
Complete Streets Policy		x			
Complete Streets Plan			x		

Table 19: Enforcement Performance Measures					
Performance Measure	**2025 Target**	**2026 Target**	**2027 Target**	**2028 Target**	**2029 Target**
Number of added active law enforcement officer positions assigned to MSB		3	3	3	3
Number of training sessions for law enforcement agencies on crash reporting and/or traffic safety during crash response	1	1	1	1	1
Policy developed for, or implementation of, automated speed enforcement on at least a pilot basis		x			

Updating the MSB CSAP

The MSB CSAP will help guide key transportation safety strategies for many years to come. However, it is essential that the CSAP be monitored and kept up to date, ensuring that it reflects the most current safety trends and continues to align with community goals for transportation safety. The MSB will regularly update the CSAP to reflect:

- Progress on action items outlined in the implementation matrix.
- Progress toward completion of recommended projects to improve high-priority corridors.
- Progress towards performance measures.
- Implementation of recommended policies and programs or new safety initiatives.
- Updates to crash data and socioeconomic changes within the MSB Expanded Core Area.

It is recommended that the MSB provide an update to the MSB CSAP every four years and work with MVP to ensure integration of safety data into regular MVP MTP updates.



Appendix A: References

Executive Summary

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- https://www.transportation.gov/sites/dot.gov/files/2024-02/SS4A-FY24-Self-Certification-Worksheet.pdf

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- https://highways.dot.gov/safety/proven-safety-countermeasures/enhanced-delineation-horizontal-curves and Safety Toolkit, Appendix D
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Chapter 4: Engagement and Collaboration

- https://ss4a.matsugov.us/

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Appendix B: Existing Conditions Report

Existing Conditions Memorandum for Mat-Su Borough Comprehensive Safety Action Plan

PREPARED BY MICHAEL BAKER INTERNATIONAL FOR MATANUSKA-SUSITNA BOROUGH









November 26, 2024

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Introduction

In 2023, the Matanuska-Susitna (Mat-Su) Borough applied for and was awarded a U.S. Department of Transportation - Safe Streets for All grant to develop a Comprehensive Safety Action Plan (CSAP) for the Mat-Su Borough's Expanded Core Area. The CSAP will be a strategic roadmap to help the Mat-Su Borough move towards a safer transportation network to significantly reduce serious injuries and fatalities on the roadway. To begin this planning effort, a comprehensive analysis of existing conditions was undertaken to provide a solid foundation on which to build the Mat-Su Borough's CSAP. The map below shows the study area analyzed in the Existing Conditions Memorandum.

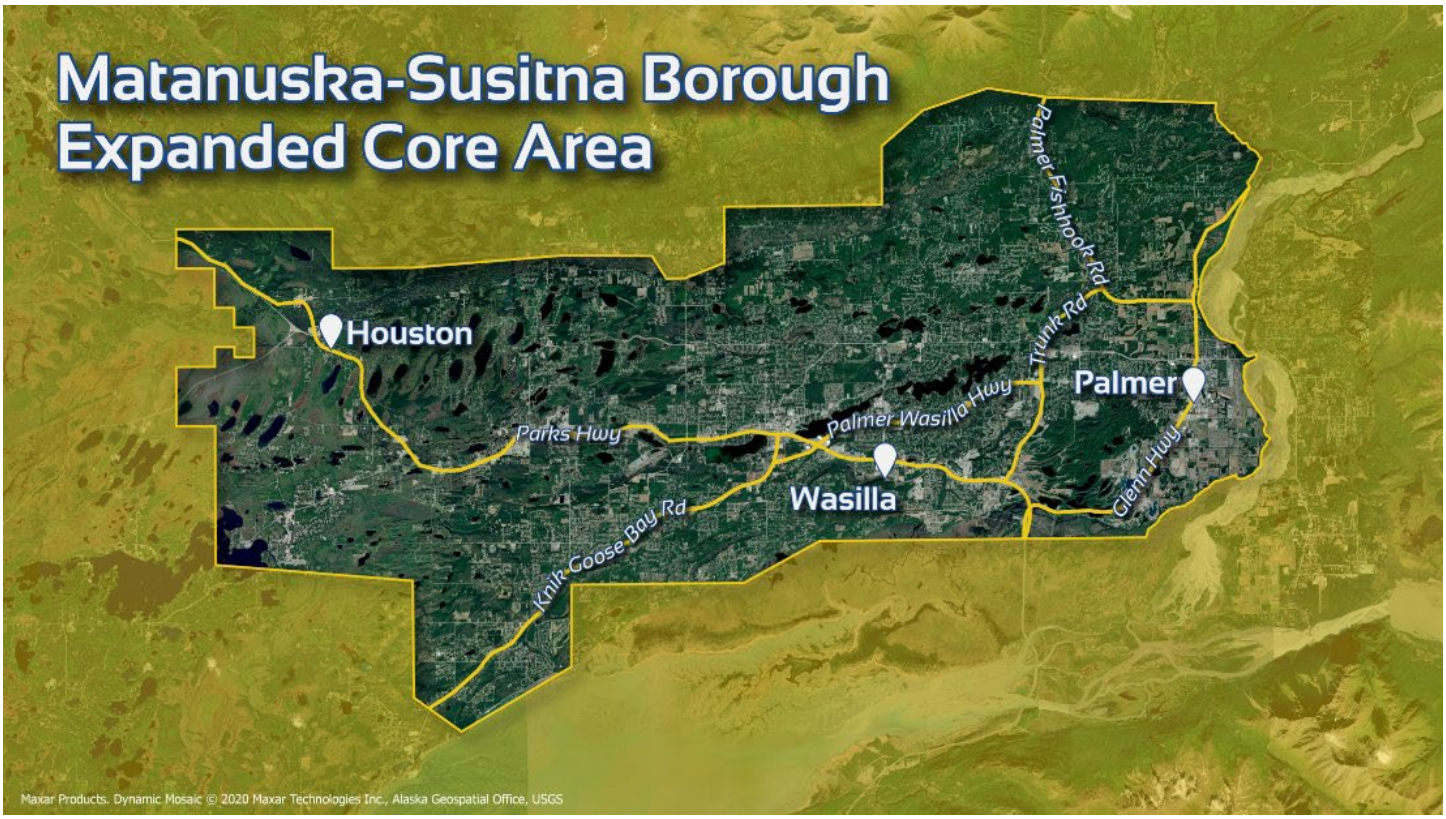


Figure 1. Map of the Mat-Su Borough Expanded Core Area

The existing conditions analysis includes an overview of the Safe Systems Approach; a crash data summary and key trends analysis; a comprehensive equity analysis outlining disadvantaged populations that exist within the study area; a peer city review; a review of existing Mat-Su Borough transportation safety-related plans, policies, and programs; and a comprehensive review of the methods used to gather input from stakeholders and the public on current safety conditions within the Mat-Su Borough Expanded Core Area.

Safe System Approach

The development of the Mat-Su Borough Comprehensive Safety Action Plan (CSAP) will follow the Safe System Approach (SSA), a national roadway safety strategy developed by the U.S. Department of Transportation (USDOT). Every year, an average of 43 Mat-Su Borough residents are seriously injured or killed on the transportation network in the Expanded Core Area. The ripple effects of these serious crashes go far beyond the lives of the people involved. They reverberate through families, friends, neighborhoods, and the whole community. The SSA recognizes that crashes are preventable. By making changes to key elements of the transportation system, we can anticipate human mistakes and create layers of protection within the network that reduce fatalities and serious injuries.

In the United States, the number of serious injuries and fatalities on the transportation network is on the rise. This represents a public health concern that merits a focused, comprehensive solution. In 2024, the National Highway Traffic Safety Administration estimated that 8,650 people died in traffic crashes nationally in the first three months of the year alone. Within the Mat-Su Borough Expanded Core Area, more than 10,000 roadway crashes occurred between 2013-2022. These included 99 fatal crashes, 345 serious injury crashes, and 69 crashes involving bicycles and pedestrians, 93% of which resulted in injury or death.



Figure 2. Safe System Approach diagram courtesy of USDOT

The SSA was developed as part of the Vision Zero initiative, which states that no person should be killed or seriously injured on the road system, and that even one death is unacceptable. This approach is founded on five core elements and six core principles that work together to form a safe system that protects all road users.

The following principles of the SSA work together to create safer people, safer vehicles, safer speeds, safer roads, and engage in post-crash care.

1. Death and serious injuries on the transportation network are unacceptable.
2. Humans make mistakes, and a safe system protects them better when they do.
3. Humans are vulnerable to the forces of a crash.
4. Responsibility to improve safety within the transportation network is shared between road users and transportation practitioners.
5. To be effective, safety must be proactive and systematic.
6. Redundancy within the system is crucial to success.

This approach shifts the focus towards both human mistakes and human vulnerability to design a system with protections in place that help mitigate crash severity and occurrence.

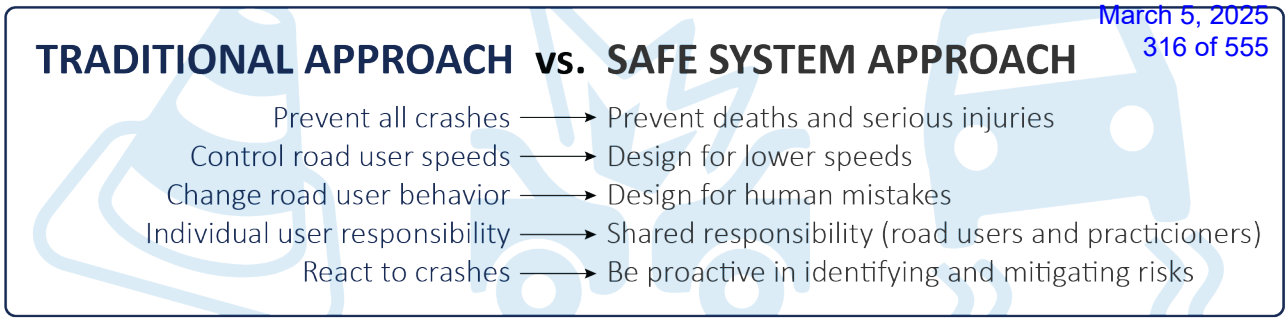


Figure 3. Comparison of traditional versus Safe System Approach

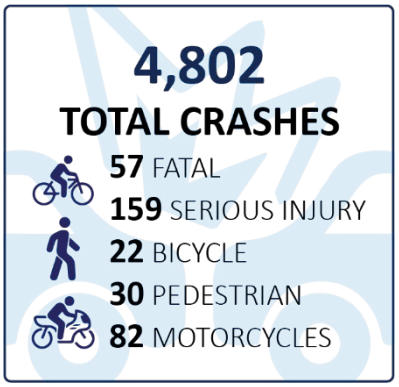
The six core SSA principles listed above guide the development of all Mat-Su Borough CSAP components, including the comprehensive crash data analysis, robust public outreach, focus on equity and vulnerable populations within the Mat-Su Borough Expanded Core Area, recommended project selection and prioritization, and suggested countermeasures and tools to help mitigate and prevent crashes.

Crash Data Summary and Key Trends

Overview

Below is a summary of crash data within the Mat-Su Borough's Expanded Core Area boundary from 2018-2022. Michael Baker International, on behalf of the borough, obtained and analyzed data from an Alaska Department of Transportation and Public Facilities (DOT&PF) database that comprises reports submitted by local law enforcement agencies and self-reporting through the Alaska Division of Motor Vehicles.

Key takeaways from 2018-2022 crash trends



Most crashes are concentrated in Wasilla.

- Crashes are most concentrated around the W Parks Highway, S Knik-Goose Bay Road, E Bogard Road, N. Crusey Street, N. Lucille Street, and E. Palmer-Wasilla Highway (see Figure 5).
  - Fatal and serious injury crashes (referred to in this document as "serious crashes") follow this trend, with the highest concentrations around the Parks Highway and E. Palmer-Wasilla Highway (see Figure 6).

Most crashes occur on high-speed, high-volume roads.

- More crashes are occurring on interstates compared to other road classifications, which is a direct correlation to speed and volume.
- However, **more crashes occurred on major and minor arterials** combined than on interstates (see Figure 4). This same pattern is present with serious crashes.

Drugs and alcohol are the top contributing factors to serious crashes.

- Drugs or alcohol were involved in **24% of serious crashes**.

Most serious crashes happen at intersections.

- 75% of all crashes and 66% of serious crashes are **intersection related**.

There are more crashes during winter, but fewer serious crashes.

- 71% of crashes occur in the **winter months** (October-March), but only 46% of serious crashes occur during winter.

Most crashes involved two or more vehicles.

- The most common first harmful event was a crash with another vehicle (79%) and the second most common was hitting a live animal (6.5%).
- Hitting another vehicle was also the most common event for serious crashes (65%) and the second most common was vehicle rollover (6%).

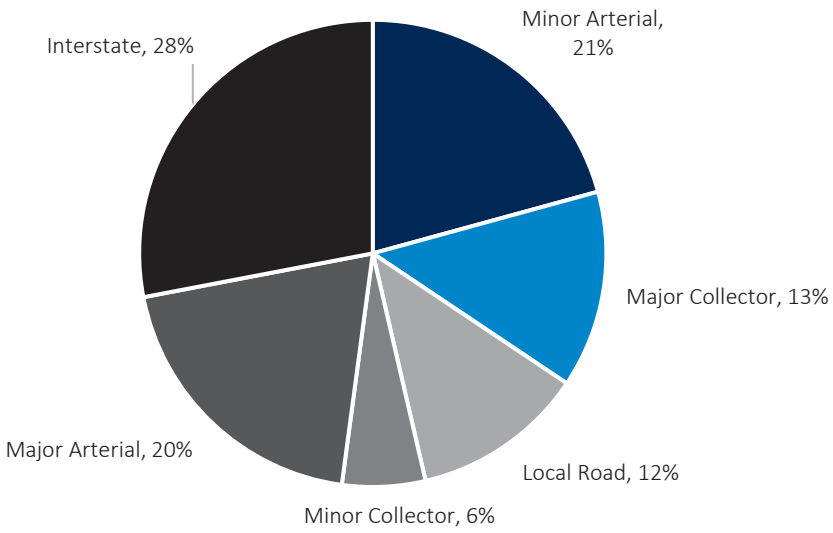


Figure 4. Percent of crashes by roadway functional class

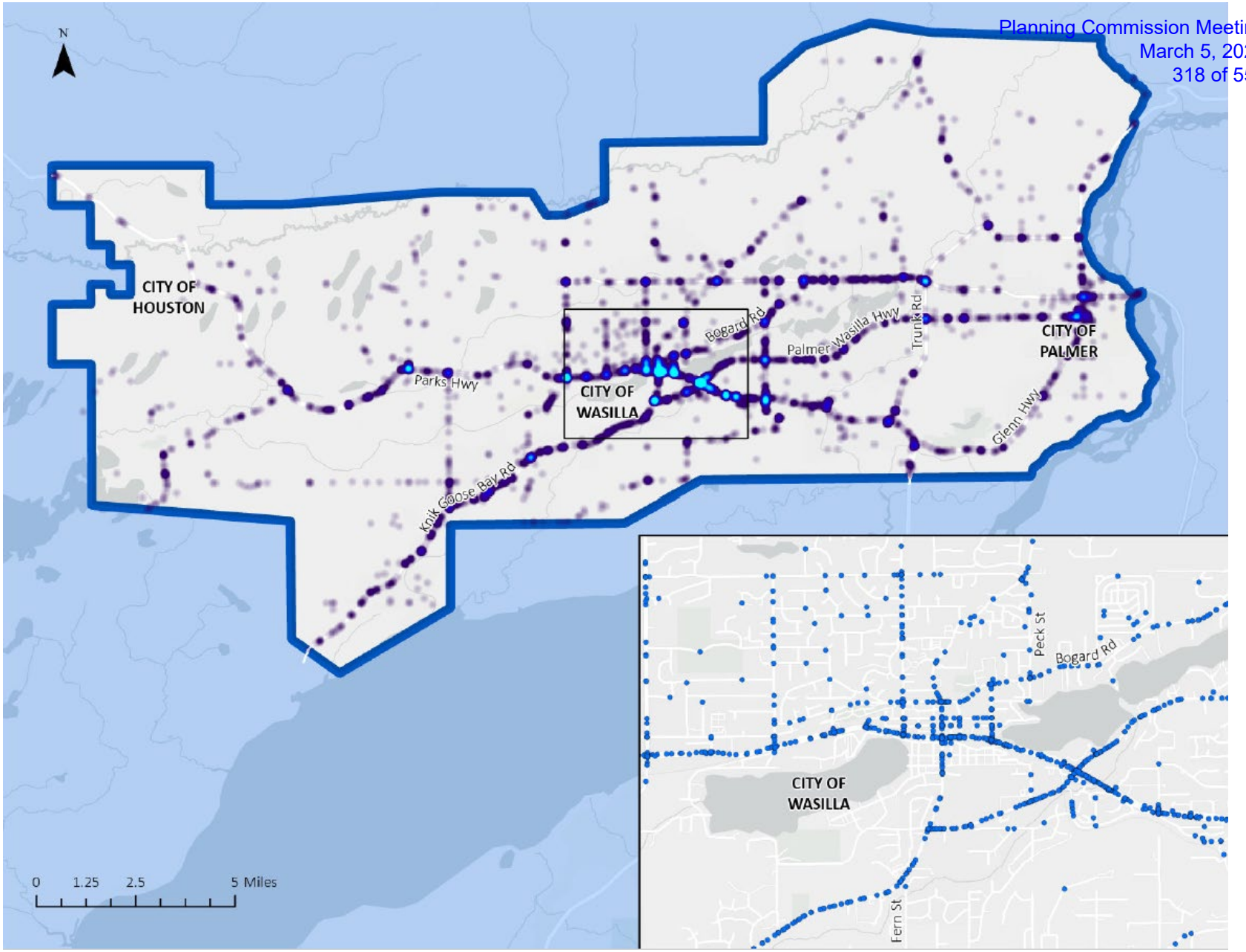


Figure 5. Heat map with point map inset showing concentration of all crashes in the Mat-Su Expanded Core Area

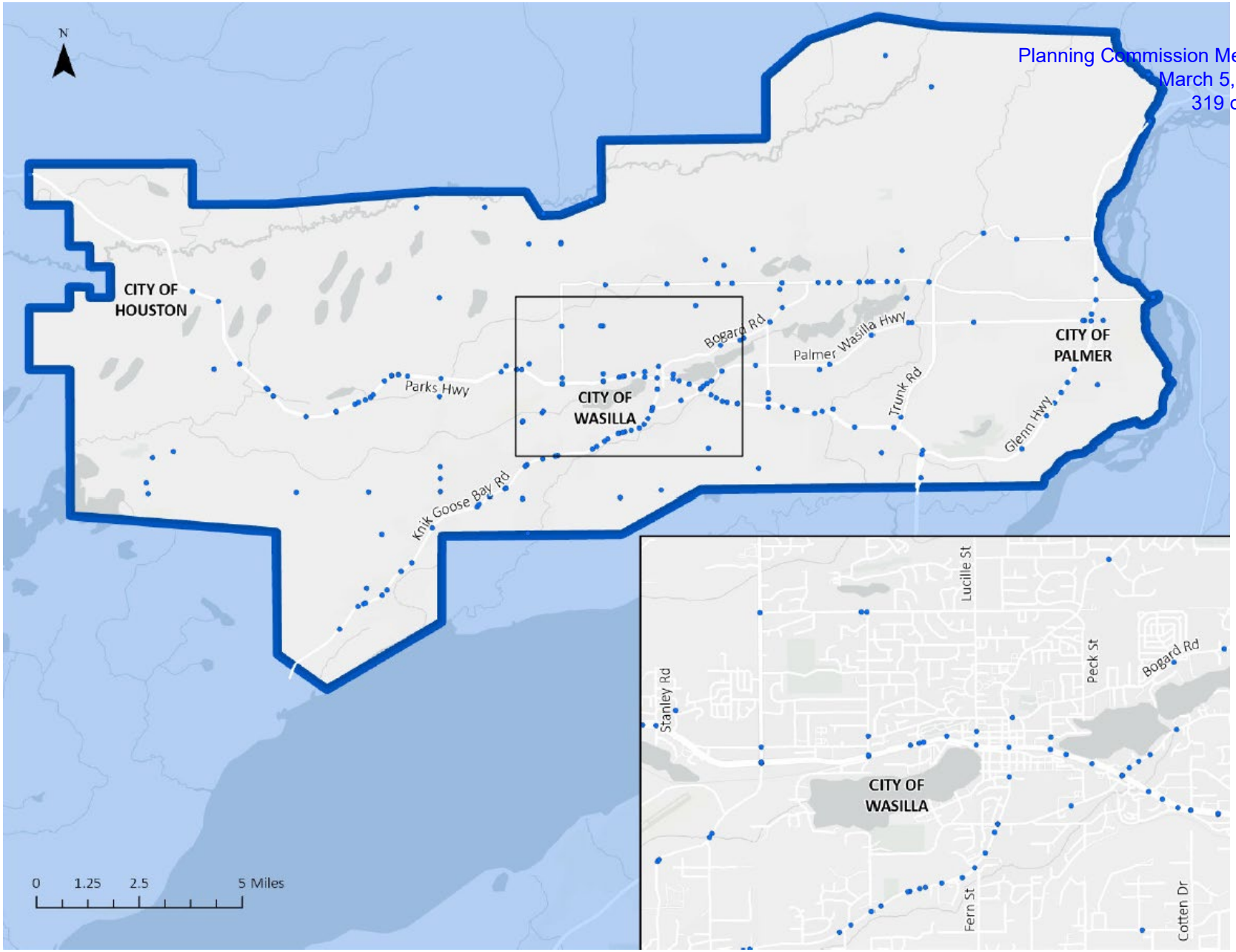


Figure 6. Map showing concentration of serious crashes in Mat-Su Expanded Core Area

Data clarification and potential data gaps

Fatal and serious injury crash definitions

This report discusses and analyzes fatal crashes and serious injury crashes by event. This means that each crash event that includes the death or serious injury of one or more individuals is counted as one serious crash. The total number of fatalities and serious injuries may be more than the number of fatal and serious injury crashes.

Alaska defines a fatal crash as one where death results within 30 days from the injuries received in the traffic crash. Serious injuries are defined as "severe lacerations [with] significant loss of blood; Broken or distorted extremity (arm or leg); Crush injuries; Suspected skull, chest or abdominal injury other than bruises or minor lacerations; Significant burns (second and third degree burns over 10% or more of the body); Unconsciousness when taken from the crash scene; or Paralysis."[1] Most serious injury crashes will have an ambulance response and/or require hospitalization.

Data collection

There are many opportunities for varied and sometimes contradictory responses in crash data report fields. One notable example relates to the use of seatbelts. One field asks if there was "driver restraint misuse" and another field asks if a "driver restraint system [was] used." It is unclear whether "misuse" includes not using a restraint system. Multiple reports indicated no misuse and no use of a restraint system. Duplicative and ambiguous fields like these increase the likelihood of the fields not being completed as intended, which makes accurate data analysis more challenging.

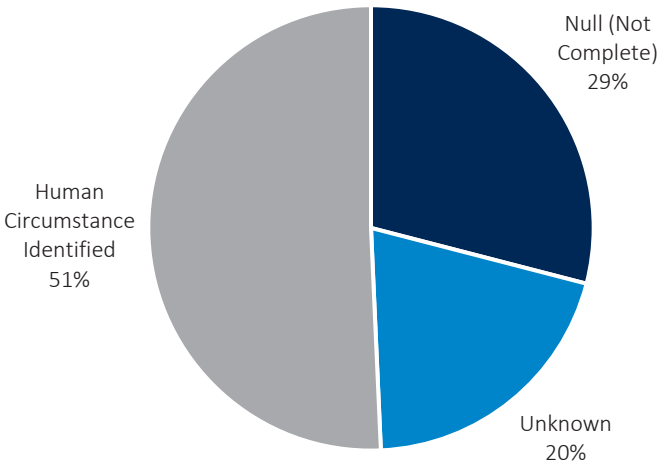


Figure 7. Human circumstances breakdown for all crashes, showing extent of missing or incomplete information for this data field

The extent of "null" (not completed), "unknown," and vague options that do not provide valuable insight on crash reports reveal missed opportunities for understanding the factors involved in crashes. Figure 7 is a chart that exemplifies this with the "human circumstance" breakdown of all crashes. Nearly 50% of the data from these fields yield no meaningful information with fields showing as "null," "unknown," or "no contributing action/circumstance" or "other contributing action/circumstance." This data field is useful and includes choices such as: driver inattention, following too closely, or ran red light or stop sign. Reducing the extent of choices in this field may increase quality of response in crash reports.

Self-reporting

Forty-three percent of crash reports were completed using Form 12209, which is submitted by individuals (not law enforcement officers). Seventy-three percent of those reported no injuries. None of these reports indicated misuse of seatbelts, or speed or alcohol as factors in the crash. While better than no data at all, driver self-reports are less likely to capture all data fields as accurately as when completed by a third-party law enforcement officer, adding further subjectivity to data fields. All fatal crashes and all but five reports indicating serious injuries were completed by law enforcement officers using Form 12200.

[1] https://highways.dot.gov/media/20141

Big Picture Trends

Five-Year Trend

Since 2018, the total number of crashes is trending upward (Figure 8) even when including a decline in 2020, which is likely due to the COVID pandemic when fewer drivers were on the road. Serious crashes are on a flatter but upward trend (Figure 9).

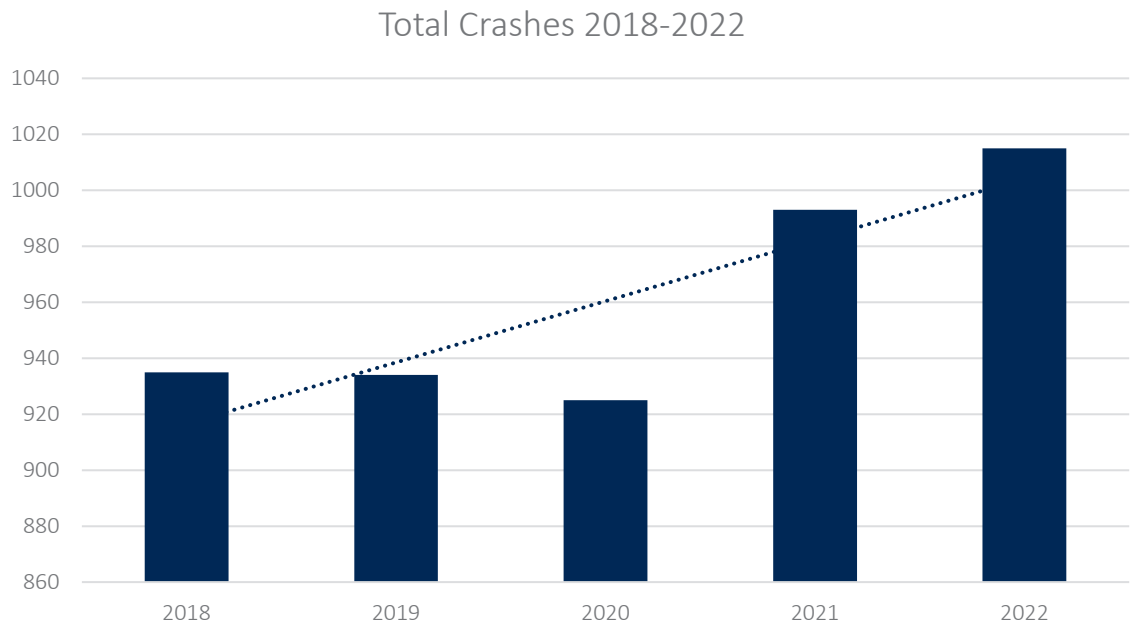


Figure 8. Total crashes by year and growth trend

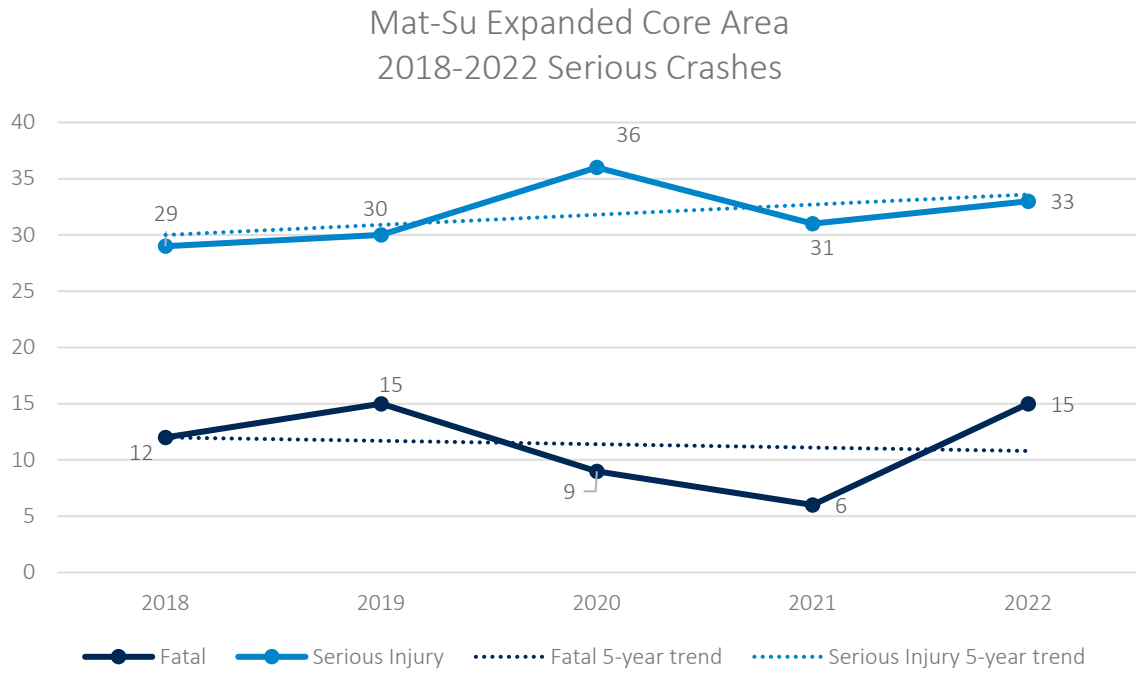


Figure 9. Serious crashes by year and growth trend

Driver Age

Drivers aged 25-34 were involved in 17% of all crashes and 22% of serious crashes. Drivers aged 18 experienced the highest extent of crashes for any single age, but drivers aged 25 experienced the most serious crashes for any age (Figure 10 and Figure 11). Total crashes and serious crashes generally declined for drivers after age 65.

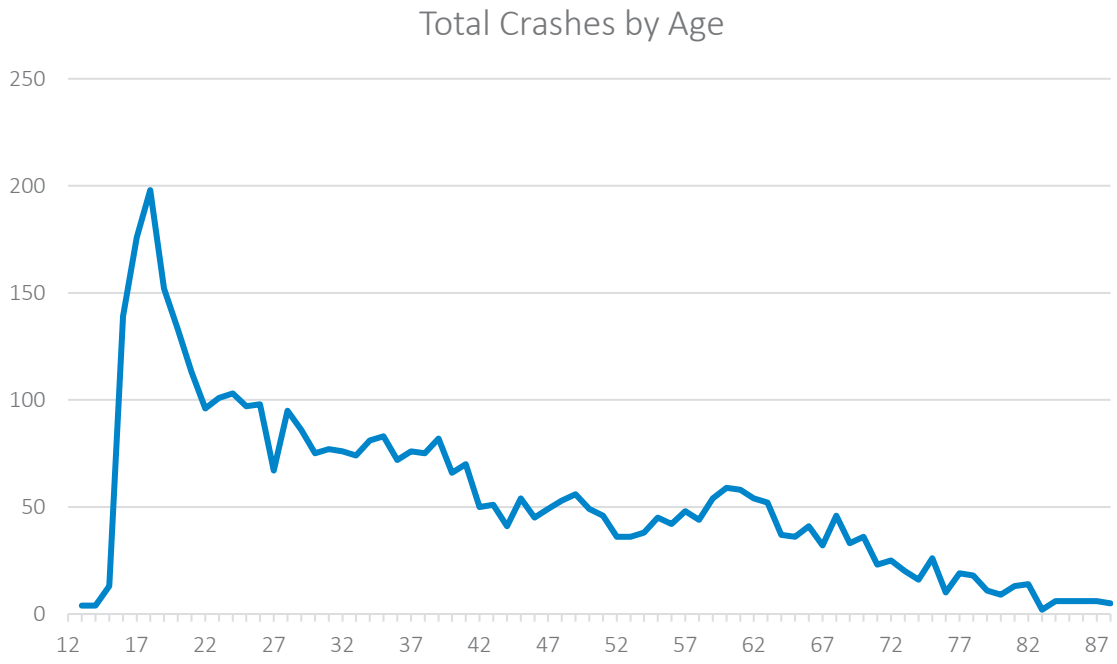


Figure 10. Number of crashes by age

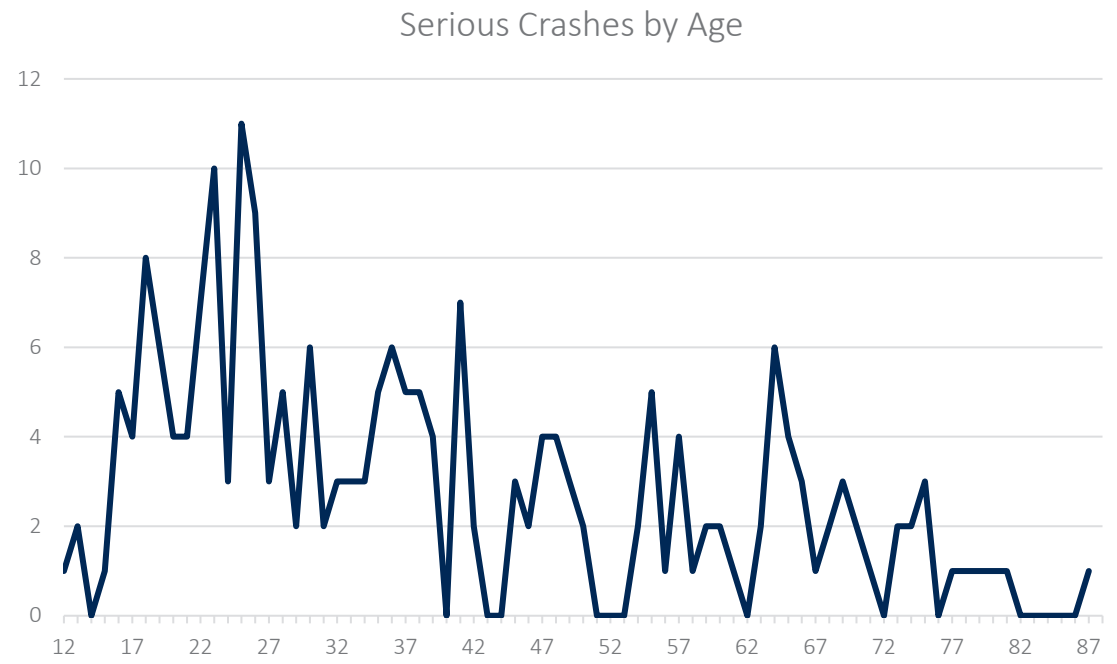


Figure 11. Number of serious crashes by age

Contributing Action at Time of Crash

A contributing unit in a crash report is the entity that was the main contributor to the crash, i.e., the person at fault. Figure 12 shows the most common actions of the contributing unit at the time of a serious crash. Going straight, which may indicate speed as a contributing factor to the crash, and turning left are the primary actions involved in serious crashes.

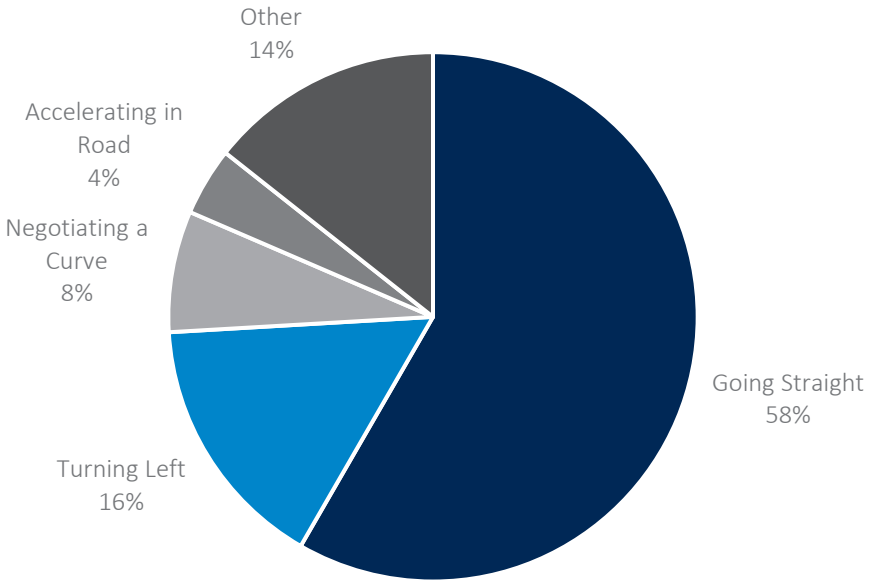


Figure 12. Contributing unit action at time of serious crash

Trends by Mode

Most crashes (97.2%) were motor vehicle crashes, with nearly 2% motorcycles and the remainder involving bicycles and pedestrians (1% combined). For serious crashes, motorcycles make up a larger proportion by mode at 15% (Figure 13).

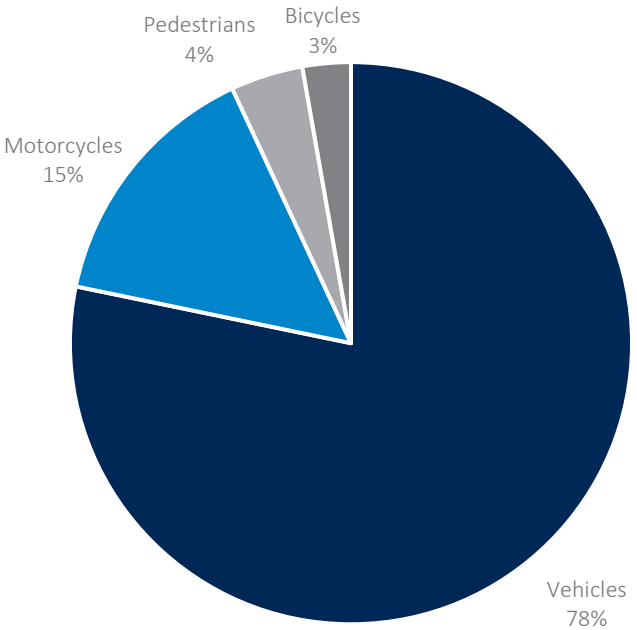


Figure 13. Serious crashes by mode

Motor Vehicle Trends

There were 4,668 motor vehicle crashes from 2018-2022, of which 169 (or 3.6%) were serious crashes. Alcohol was a factor in 17.8% of serious crashes. Males accounted for 59% of drivers in serious crashes while females accounted for 39%[2] (Figure 14).

PRIMARY MOTOR VEHICLE TRENDS

4,668 total crashes

43 FATAL

124 SERIOUS INJURY

Top serious crash types:

- Single vehicle run off the road
- Head-on
- Rear-end
- Left turn (angle)

Top serious crash human circumstances:

- Run off the road
- Failure to yield
- Failed to keep in lane
- Ran stop sign / red light
- Inattentive, careless, erratic, negligent

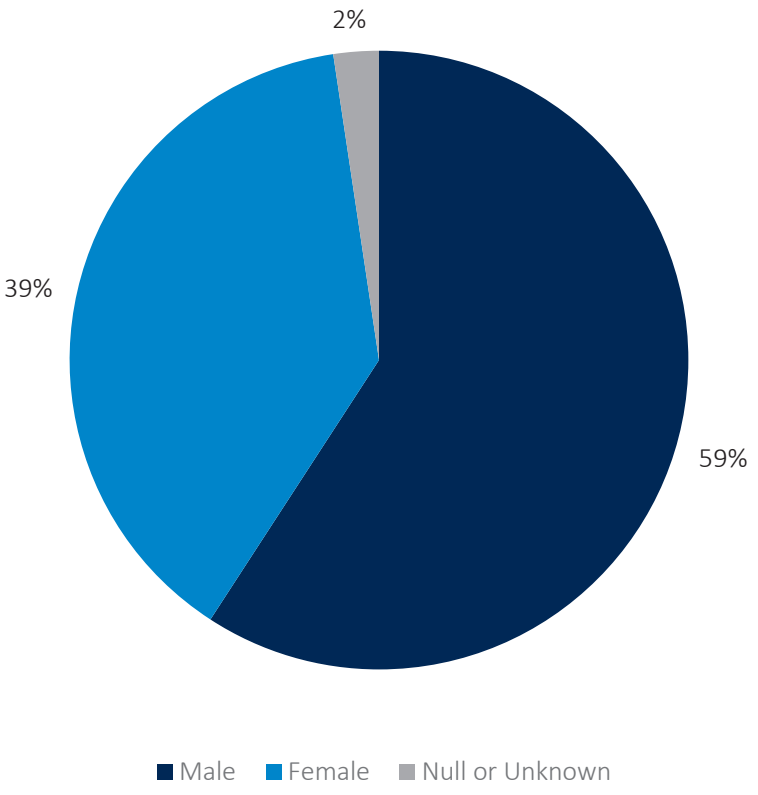


Figure 14. Serious motor vehicle crashes by driver gender

[2] From driver's license data or as identified on an individual crash report. The Alaska Division of Motor Vehicles recognizes only male and female for gender (sex) in driver licensing.

Motorcycle Trends

There were 82 motorcycle crashes from 2018-2022, and 32 (or 39%) were serious crashes. Alcohol was a factor in 12% of all motorcycle crashes and 12% of all serious motorcycle crashes. The first harmful event in 75% of serious crashes was hitting a motor vehicle. Males were involved in more motorcycle crashes (72%) than females (25%). In all but one of the serious motorcycle crashes, the driver wore no helmet, it was not a USDOT-approved helmet, or it was unknown whether they wore a helmet. No helmet worn was cited in three of the six (50%) fatal motorcycle crashes, and one other fatal crash cited a non-USDOT-approved helmet was worn by the driver. Figure 17 shows the location of motorcycle crashes in the Expanded Core Area.

PRIMARY MOTORCYCLE TRENDS

82 total crashes

6 FATAL

26 SERIOUS INJURY

Top serious crash types:

- Angle
- Front to rear

Top serious crash human circumstances:

- Failure to yield
- Inattentive, careless, erratic, negligent

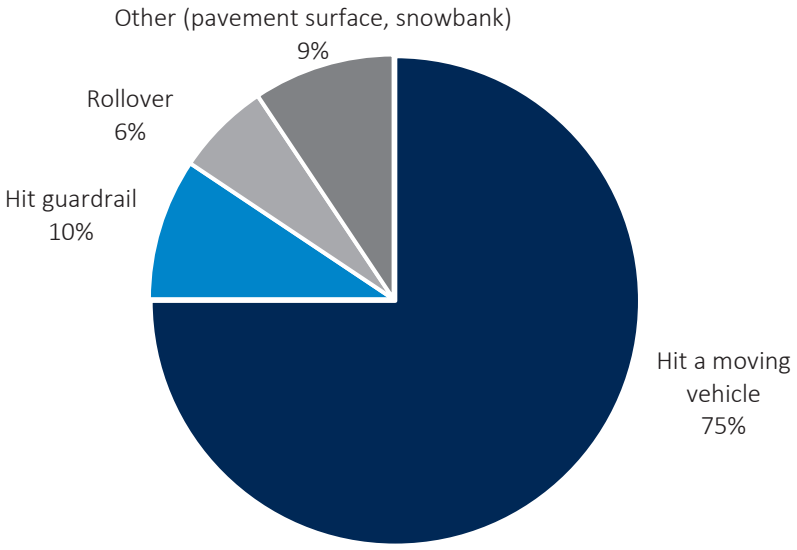


Figure 15. Serious motorcycle crash first harmful event

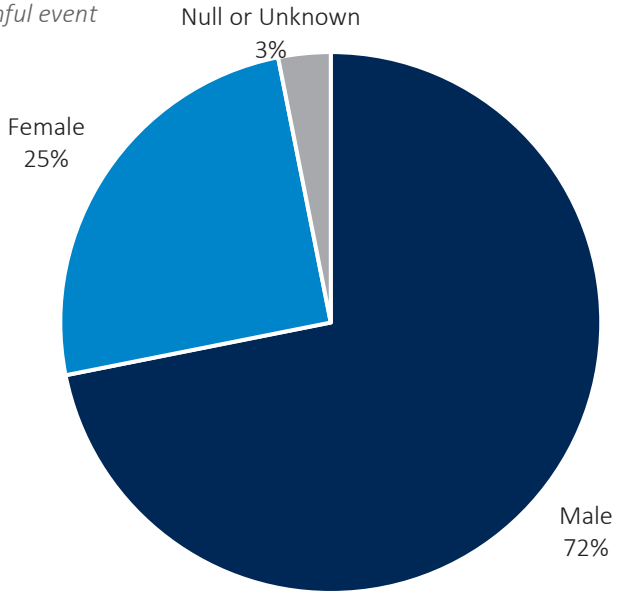


Figure 16. Serious motorcycle crashes by driver gender

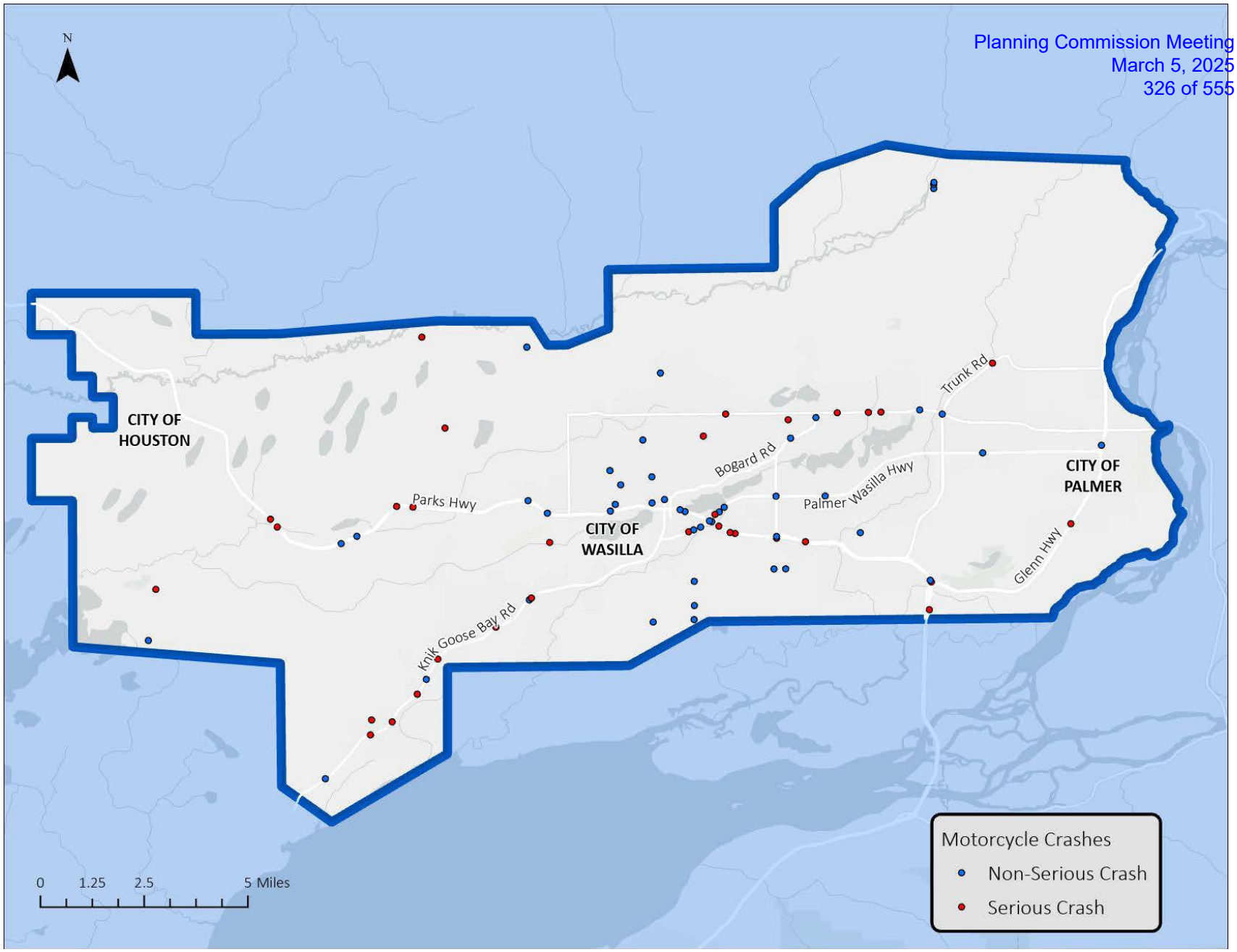


Figure 17. Locations of motorcycle crashes in the Mat-Su Expanded Core Area

Bicycle Trends

There were 22 bicycle crashes from 2018-2022, with six (27%) serious crashes—one fatality and five serious injuries. All but three bicycle crashes resulted in some form of injury (see Figure 18). Figure 21 shows that the location of bicycle crashes is predominantly intersections for both all crashes (82%) and for serious crashes (83%.)

Figure 19 shows the most common action of the contributing unit at the time of the crash, and Figure 20 shows the lighting conditions at the time of the crash.

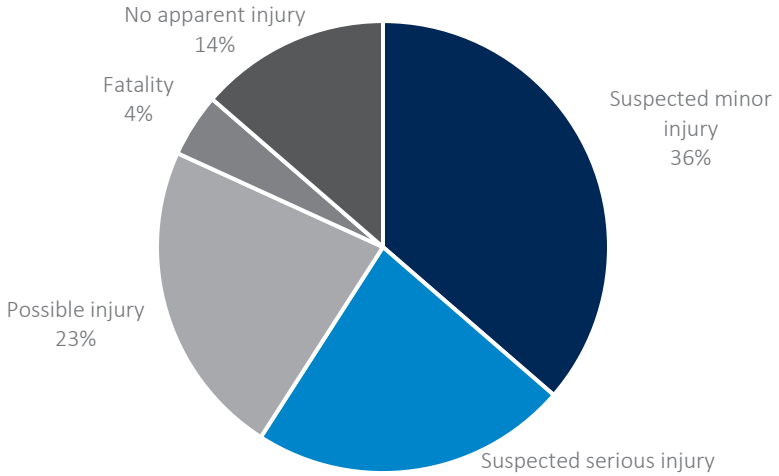


Figure 18. Severity of bicycle crashes

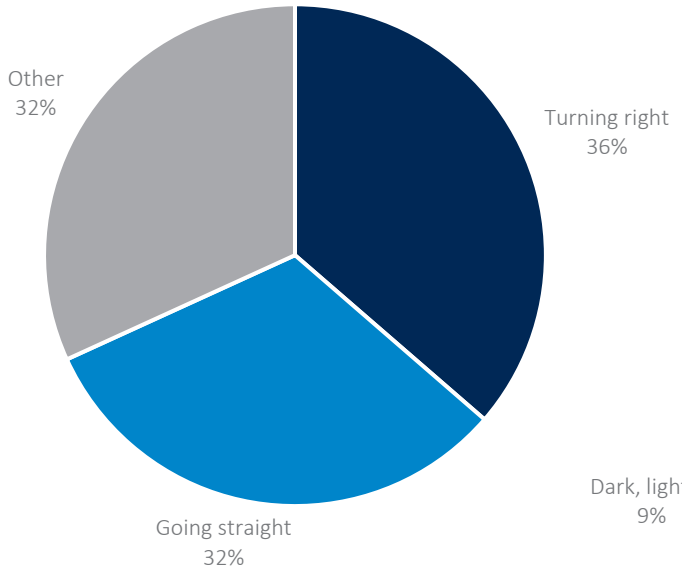


Figure 19. Contributing unit action in all bicycle crashes

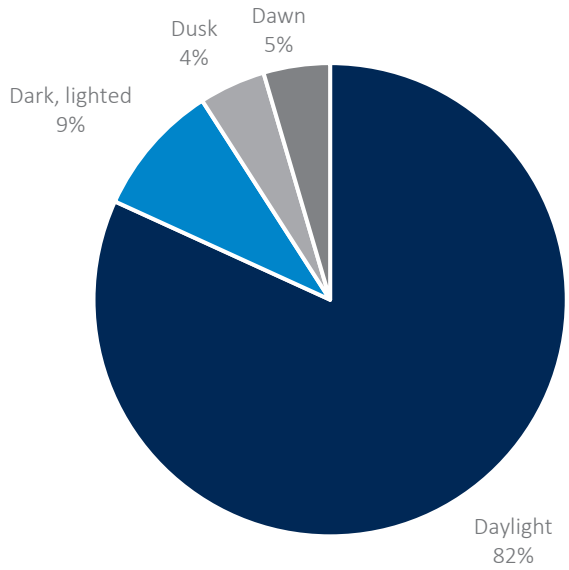


Figure 20. Lighting conditions for all bicycle crashes

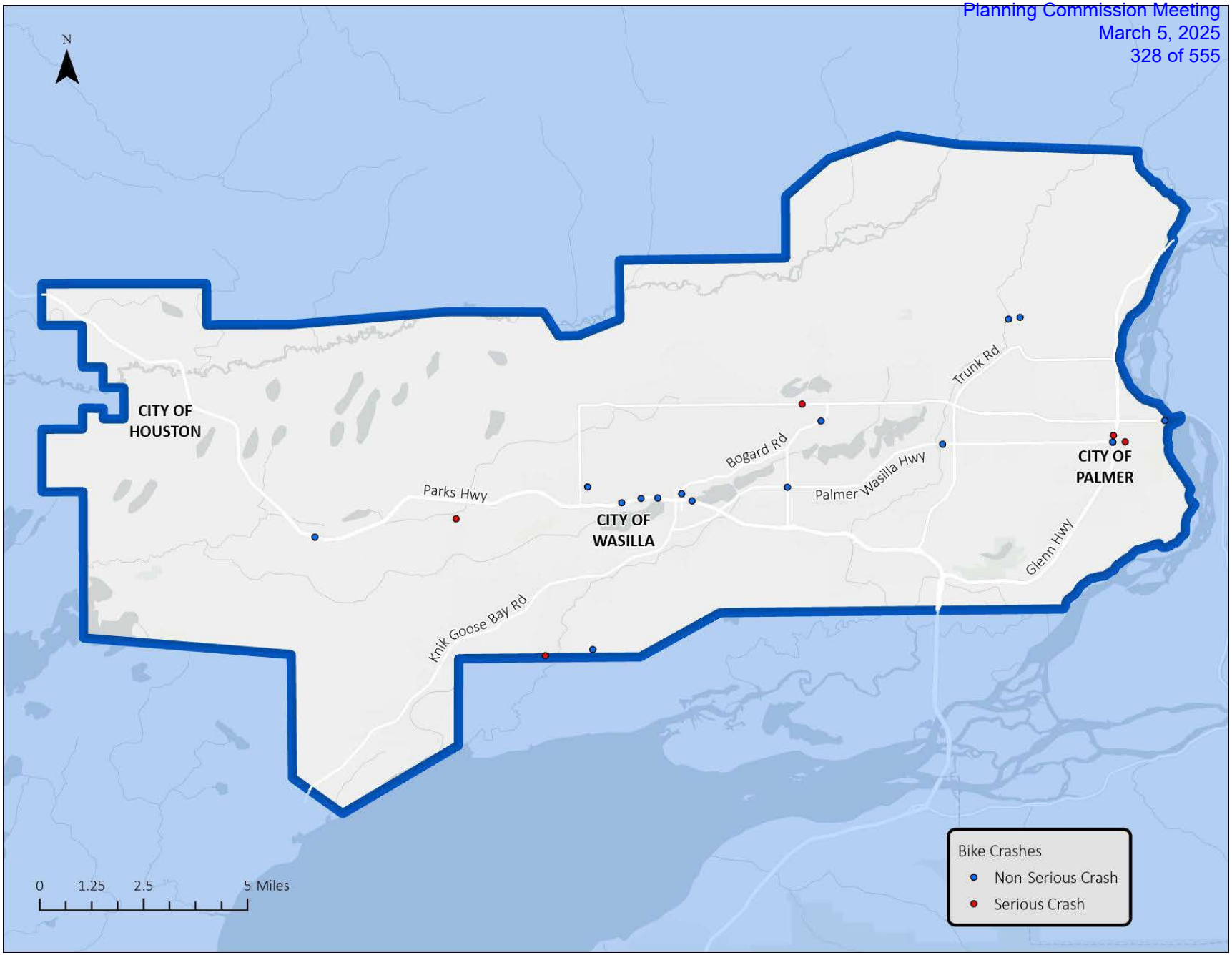


Figure 21. Location of bicycle crashes in the Mat-Su Expanded Core Area

Pedestrian Trends

There were 30 crashes involving pedestrians from 2018-2022, with 9 of those (30%) being serious crashes—5 fatalities, and 4 serious injuries. All but three pedestrian crashes resulted in some form of injury (see Figure 22). Figure 23 shows lighting conditions for pedestrian crashes, which are mostly occurring in dark conditions. Figure 24 shows contributing actions at the time of a pedestrian crash. Figure 25 shows the location of pedestrian crashes is predominantly at intersections for both all crashes (70%) and serious crashes (20%.)

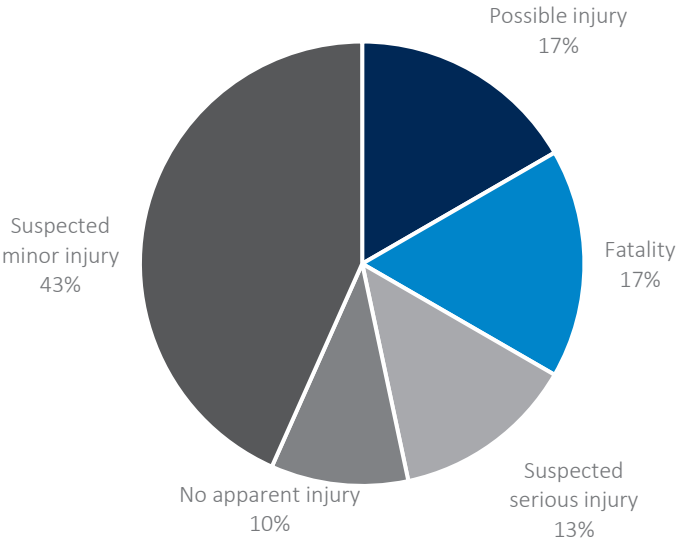


Figure 22. Severity of pedestrian crashes

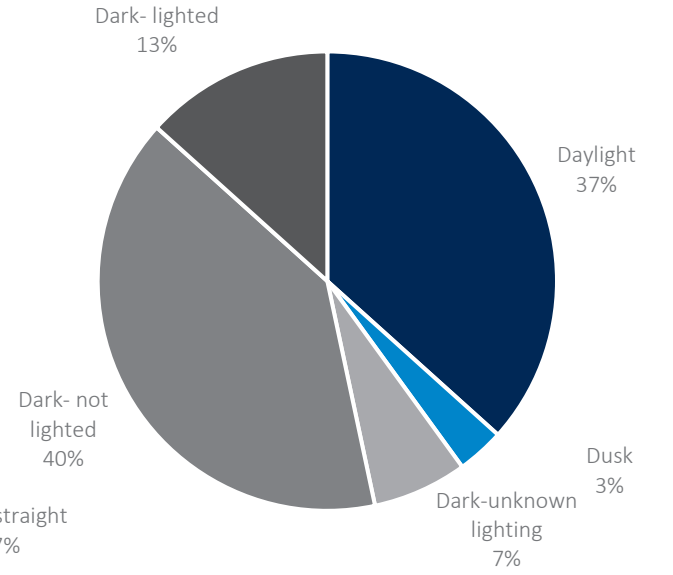


Figure 23. Lighting conditions for all pedestrian crashes

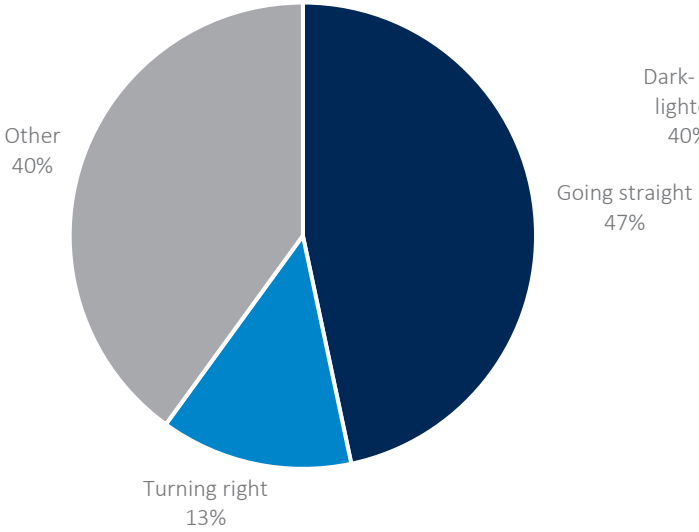


Figure 24. Most contributing unit's action in pedestrian crashes

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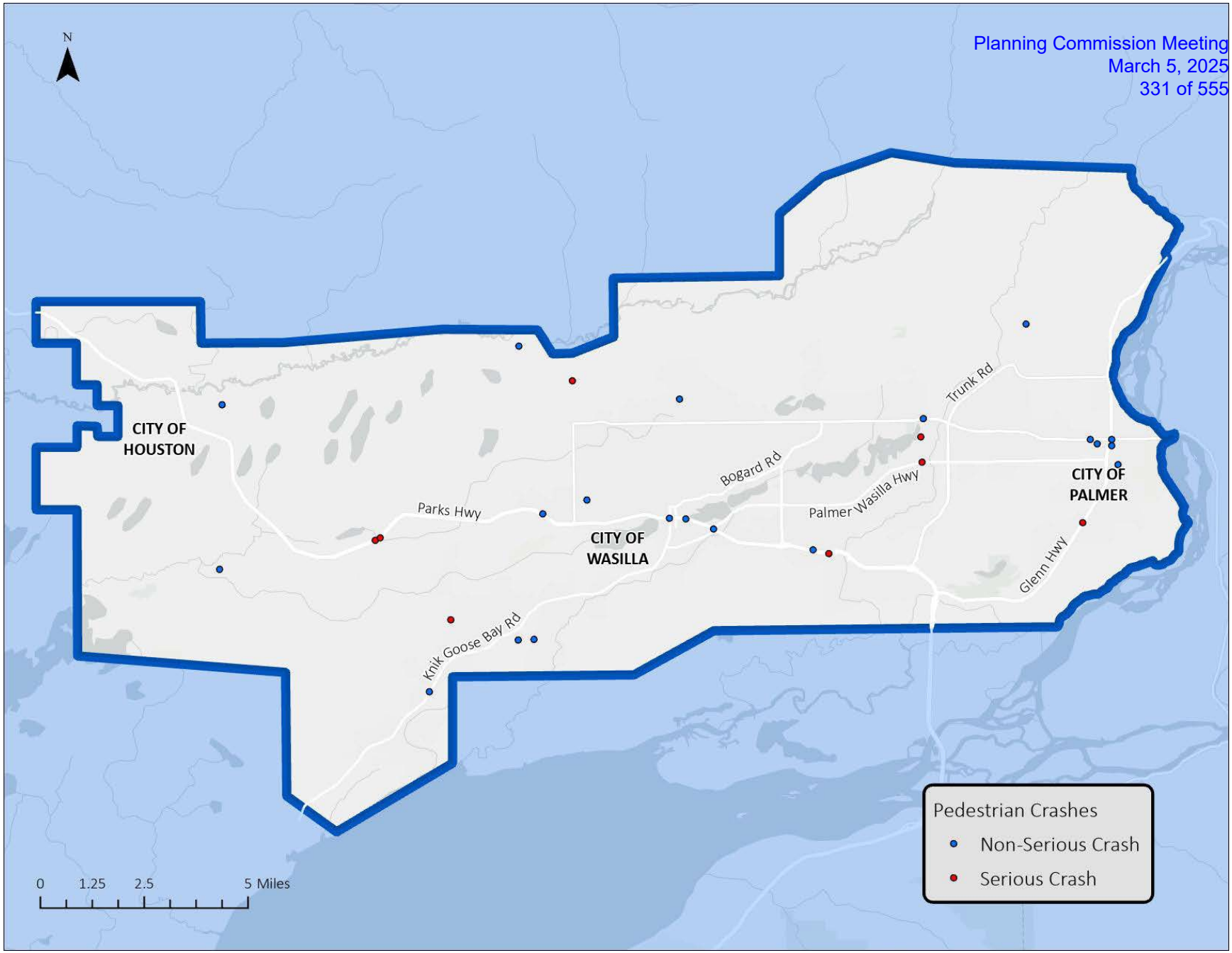

Figure 25. Location of pedestrian crashes in the in the Mat-Su Expanded Core Area

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Environmental Trends (lighting, surface condition, adverse weather)

Most crash types occurred in the winter months, with 75% occurring from October through March. However, only 46% of serious crashes occurred during this same timeframe, with the highest months for serious crashes occurring in September and July (12% and 10% of all serious crashes, respectively). Figure 26 shows the distribution of crash severity by month from 2018-2022.

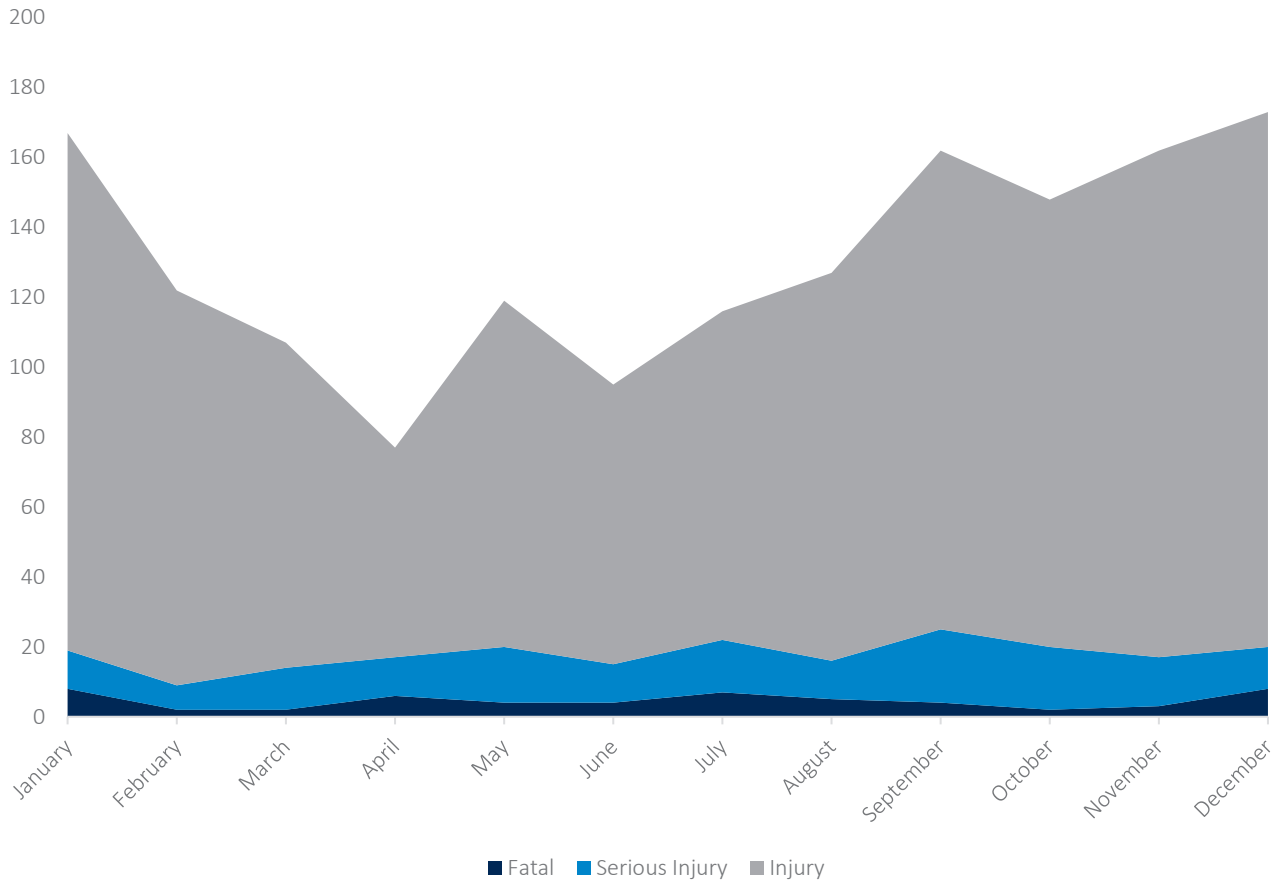

Figure 26. Crashes by month

While more total crashes are occurring in the winter months, dark and winter road conditions do not appear to be the predominant contributing factors for all crashes. Figure 27 indicates nearly half of all crashes occur during dry conditions, Figure 29 conditions (64%) and daylight (62%), correlating to the highest crash months of September and July.

This data suggest both darkness and inclement weather conditions are not a major contributing factor to crashes. In particular, most serious crashes are happening in dry road conditions. The environmental conditions trend for serious crashes may indicate aggressive or overconfident driving, and that drivers may be more conservative or cautious in less favorable conditions. As noted in modal trends, bicycle crashes occur more commonly during daylight hours (82% of all crashes), but most pedestrian crashes (63%) do not occur during daylight hours. Twenty-one percent of all serious crashes occur in dark and unlighted conditions, compared to 13% of all crashes occurring in those conditions, suggesting a lack of roadway lighting could be a factor in serious crashes.

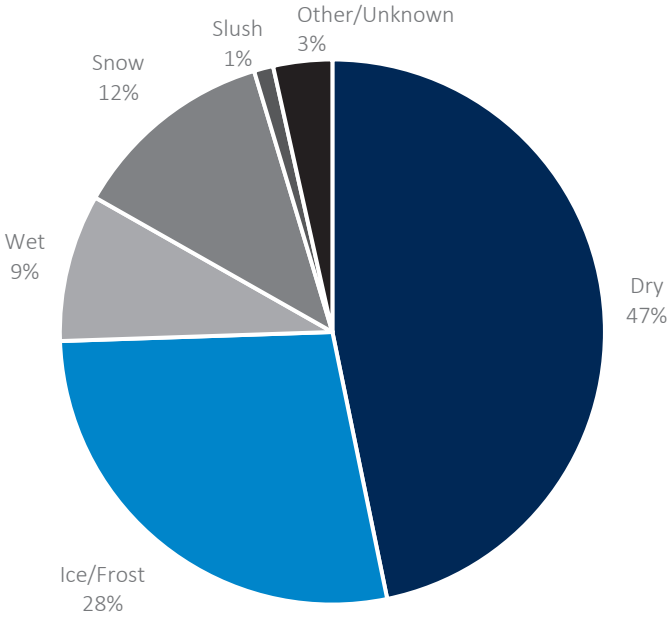

Figure 28. Road conditions at the time of all crashes

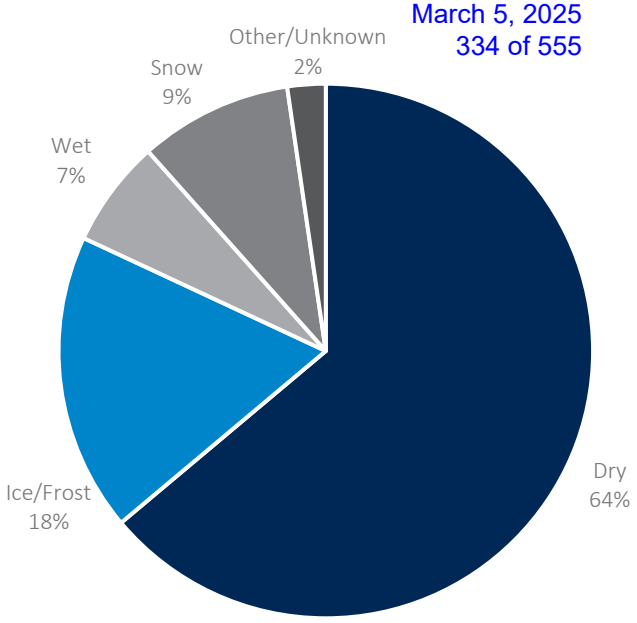

Figure 27. Road conditions at the time of serious crashes

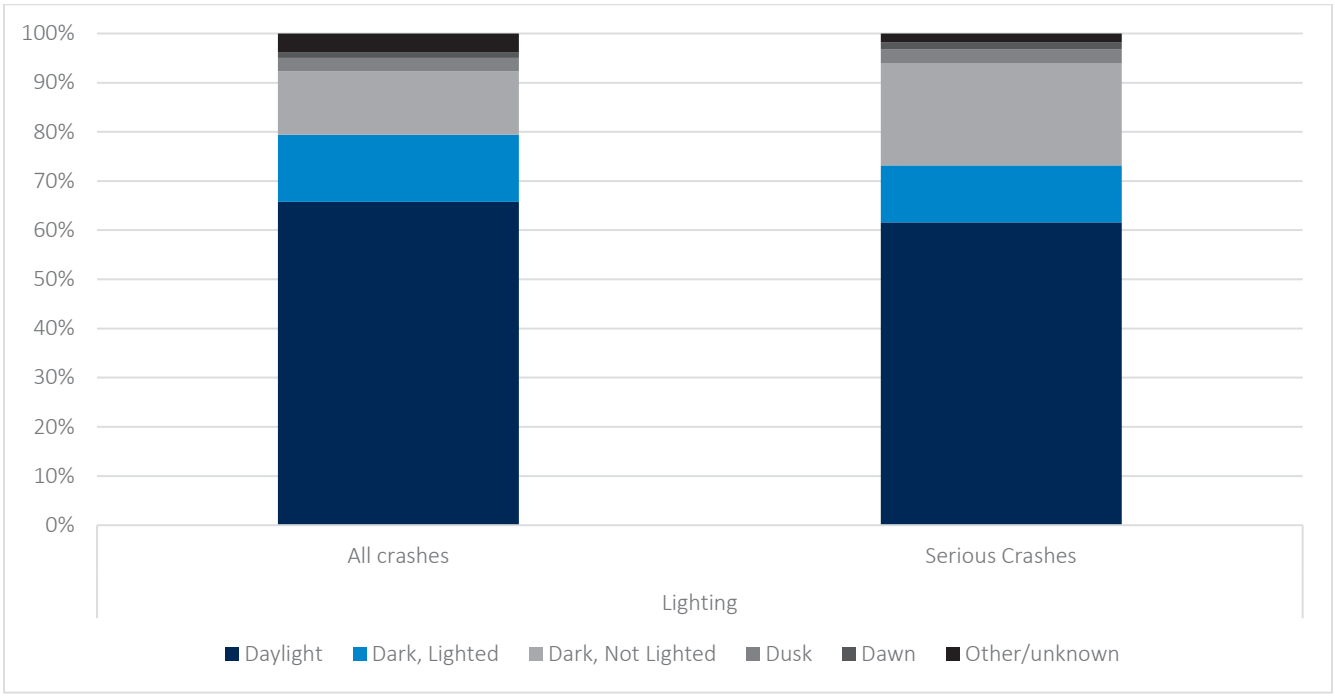

Figure 29. Lighting conditions at time of crash

Defining Equity in Transportation

An equitable transportation system strives to support all users by providing transportation options that are affordable and reliable and that meet the needs of the communities they serve. Executive Order 13985 *Advancing Racial Equity and Support for Underserved Communities*[3] (2021) defines equity as "the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality."

Building an equitable transportation system means taking extra care to consider and plan for the unique challenges that disadvantaged communities face regarding mobility and connectivity needs. Engaging with disadvantaged populations early and often during the transportation planning process can help a community respond to these needs and adjust to ensure an equitable transportation network is achieved. During the planning process and particularly regarding public involvement and outreach, it is the responsibility of transportation planning agencies to ensure that the entire community is included, regardless of race, nationality, income, age, sex, or disability.

Vulnerable Populations within the Expanded Core Area

As part of the Mat-Su Borough CSAP process, we performed a comprehensive equity analysis to identify disadvantaged populations within the Mat-Su Borough Expanded Core Area. These populations have disproportionately higher risks navigating the transportation network. The results of this analysis show a correlation between demographics and safety risk, and they provide an equity-specific lens that can be used to help prioritize and recommend projects for implementation in the final Mat-Su Borough CSAP. To complete this analysis, we used three separate methods for determining disadvantaged populations in the Mat-Su Borough Expanded Core Area. The first method features results using the Council on Environmental Quality's Climate and Economic Justice Screening Tool. This tool utilized census tract boundaries from 2010 and includes the following eight categories to assess climate and economic justice burden:

- Climate Change – loss of agriculture, buildings, and population because of climate change, flood risk, and wildfire risk
- Energy – high energy costs
- Health – asthma, diabetes, heart disease, low life expectancy
- Housing – historic underinvestment, high housing costs, lack of green space, lack of indoor plumbing, presence of lead paint
- Legacy pollution – presence of abandoned mining land or former defense sites, proximity to hazardous waste facilities, proximity to superfund sites, proximity to risk management plan facilities
- Transportation – exposure to diesel particulate matter, transportation barriers, traffic proximity and volume
- Water and wastewater – presence of underground storage tanks and releases of wastewater discharge
- Workforce development – linguistic isolation, low median income, poverty, unemployment

Purple shading in the map below shows areas with a high number of indicators signifying the presence of climate and economic justice burdens. These areas specific to the Mat-Su Borough Expanded Core Area indicate low-income populations, higher than average (above the 90th percentile) energy costs, lack of indoor plumbing, higher than average (above the 90th percentile) relative cost and time spent on transportation, and high (above 90th percentile) numbers of unemployment.

[3] https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/

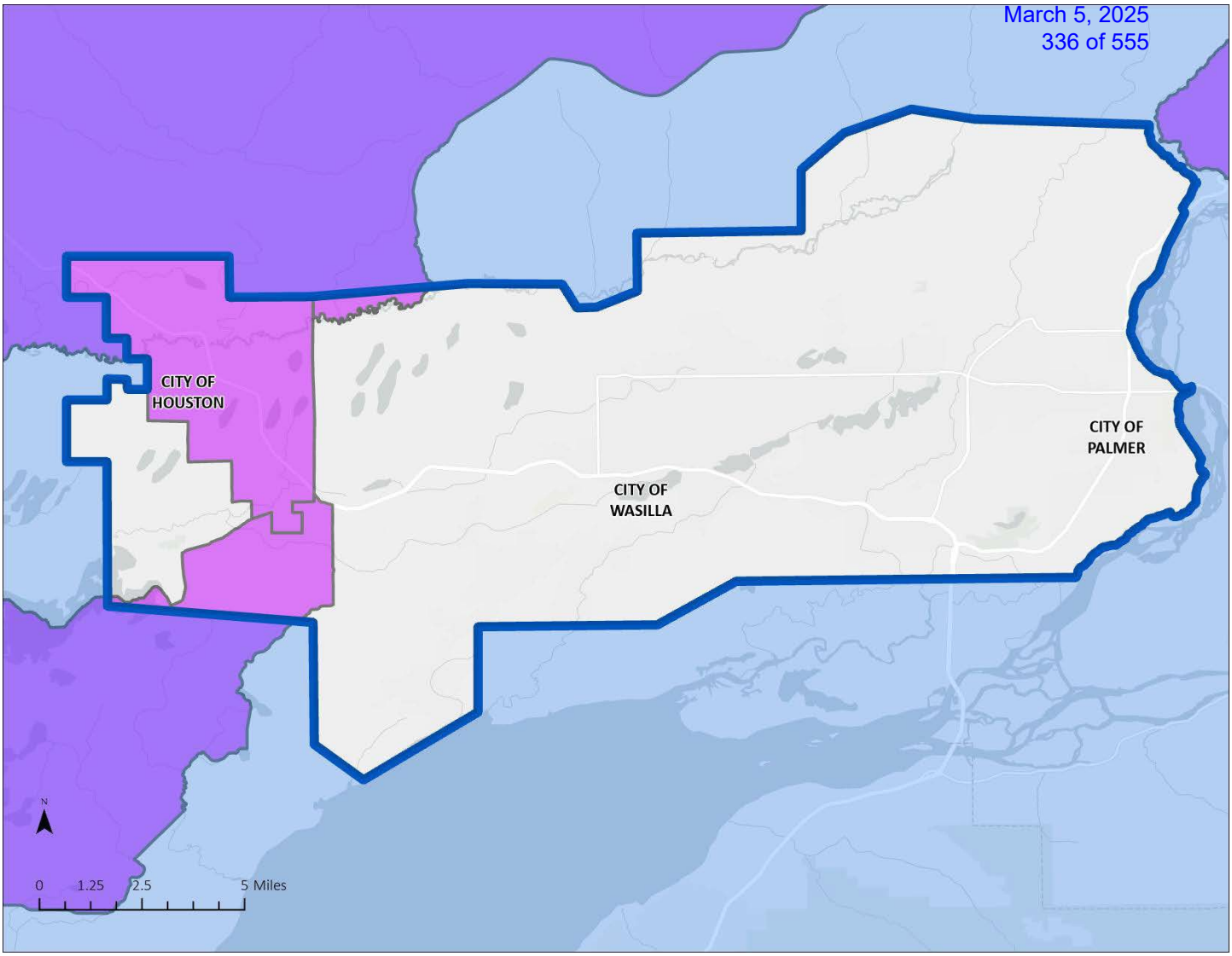

Figure 30. Climate and Economic Justice Screening Tool analysis for Expanded Core Area

The second equity analysis tool we used was the USDOT Equitable Transportation Community (ETC) Explorer. This interactive web application serves to complement the Climate and Economic Justice Screening Tool by focusing on transportation-related disadvantages. The ETC Explorer analyzes five components to look at the overall burden experienced by a community due to underinvestment in transportation. They include:

- Transportation insecurity
- Climate and disaster risk burden
- Environmental burden
- Health vulnerability
- Social vulnerability

Using this tool, we assessed that nearly the entire Mat-Su Borough Expanded Core Area experiences transportation disadvantages and transportation insecurity. Transportation insecurity is a core component indicating transportation disadvantage in a community. It occurs when a significant number of people in a community are unable to experience regular, reliable, and safe mobility to meet their daily needs. Transportation insecurity is also a substantial factor in persistent poverty.

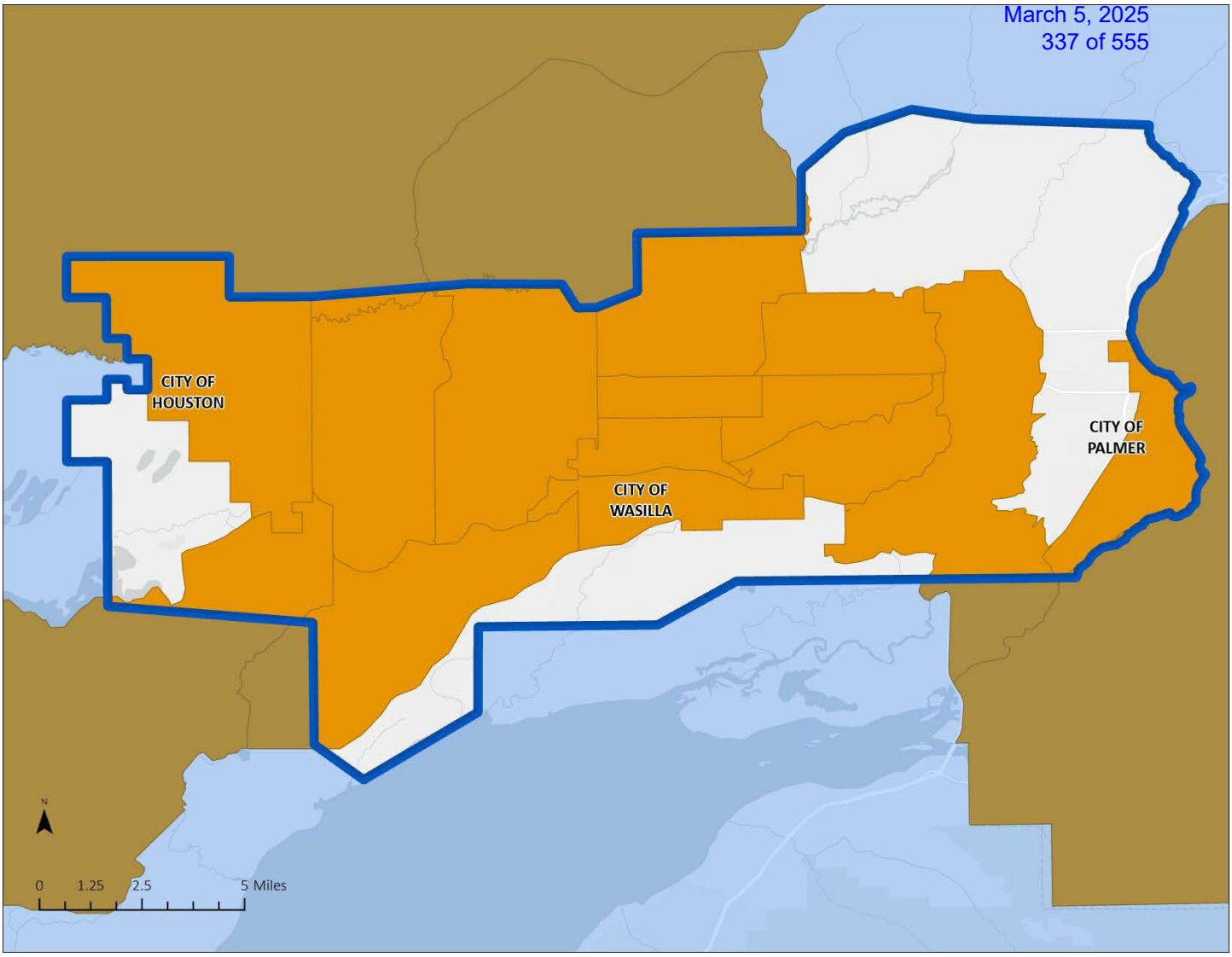

Figure 31. USDOT ETC analysis for the Expanded Core Area

On deeper analysis, the orange areas in the above map were found to have high scores in three components of the ETC Explorer Tool. These included transportation insecurity, health vulnerability, and social vulnerability.

Transportation insecurity

Transportation insecurity occurs when people are unable to meet their daily needs regularly, reliably, and safely due to the following three prevalent factors.

- Transportation access – Includes long wait times and difficultly traveling by car, walking, biking, or taking transit. Long commute times and limited access to a vehicle are barriers to employment and resources.
- Transportation cost burden – Households that spend a greater than average percentage of their income on transportation, which can include transit costs, vehicle maintenance and insurance costs, gasoline, and fuel. Overspending on transportation costs can make people more vulnerable to losing housing, not being able to afford hospital and medical care, and not being able to afford healthy food options, which can lead to chronic illness and obesity.
- Transportation safety – This factor indicates higher than average scores for the number of motor vehicle fatalities per capita.

Social Vulnerability

Social vulnerability measures lack of employment, level of education, level of poverty, percentage of home ownership, access to online resources, housing cost burden, age, English proficiency, and disability status.

Health Vulnerability

The health vulnerability category assesses the rates of disease that can be attributed to air, noise, and water pollution; limited mobility conditions due to lack of safe walking facilities; dependence on a vehicle; and long commute times. This category looks at the prevalence of asthma, cancer, high blood pressure, diabetes, and poor mental health in a community.

Finally, a third equity analysis of the Mat-Su Borough Expanded Core Area focused on the social vulnerability category of the ETC Explorer to assess the highest disadvantaged areas. This analysis is explained in the next section, Social Vulnerability Indicators within the Expanded Core Area.

Social vulnerability indicators within the Expanded Core Area

For this equity analysis, we used socioeconomic status and household characteristics to assess social vulnerability.

Indicators for socioeconomic status include:

- Percent of population with income below 200% of poverty level
- Percent of people age 25+ with less than a high school diploma
- Percent of people age 16+ who are unemployed
- Percent of total housing units that are renter-occupied
- Percent of houses that spend 30% or more of their income on housing with less than $75k income
- Percent of population uninsured
- Percent of households with no internet subscription
- Gini index (degree of inequality in the distribution of income/wealth)

Indicators for household characteristics include:

- Percent of population 65 years or older
- Percent of population 17 years or younger
- Percent of population with a disability
- Percent of population (age 5+) with limited English proficiency
- Percent of total housing units that are mobile homes

Four census tracts within the Mat-Su Borough Expanded Core Area had high percentages of the above indicators for social vulnerability. They include Houston, Big Lake, North Wasilla, and South Wasilla.

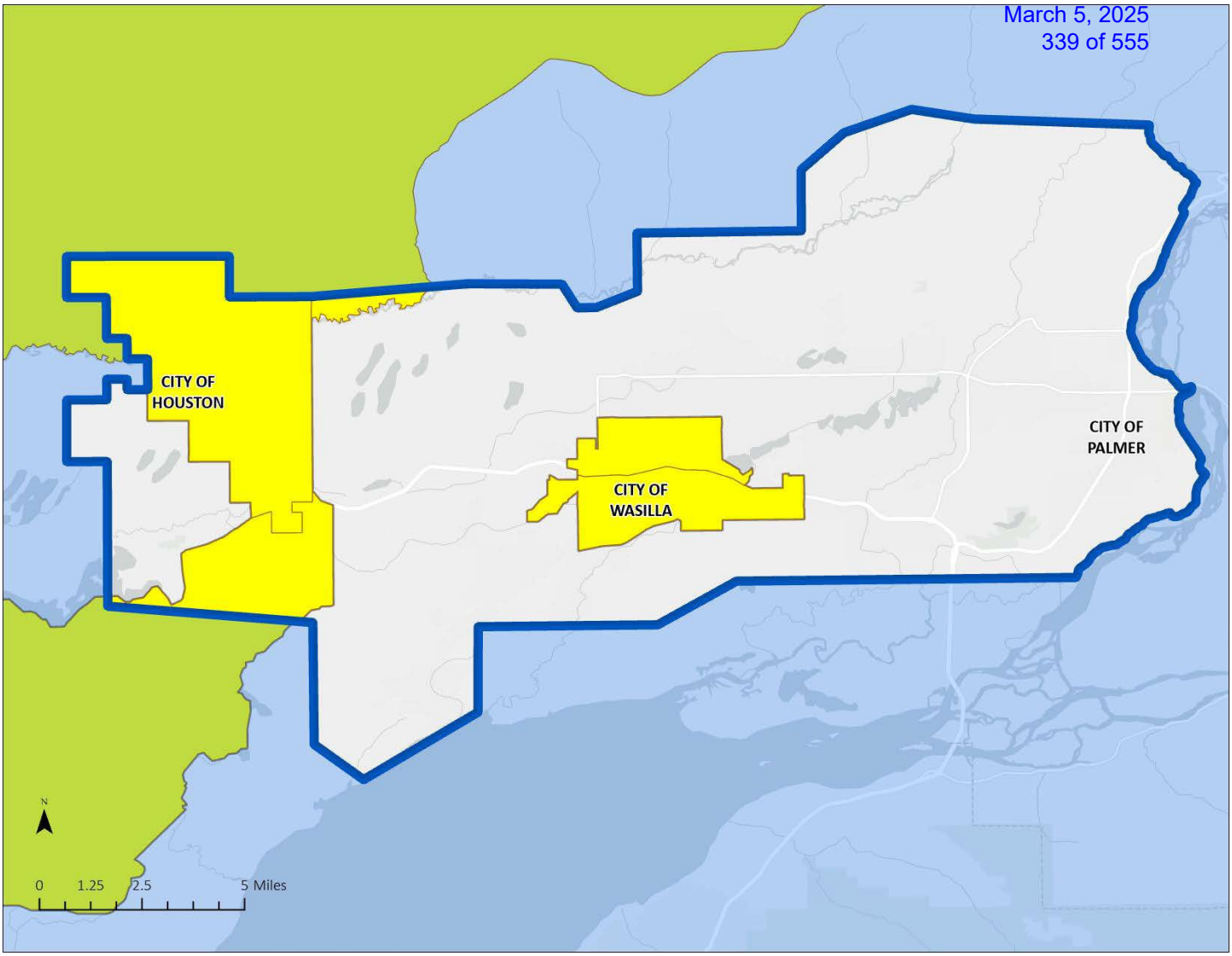

Figure 32. USDOT ETC analysis of social vulnerability in the Expanded Core Area

High Injury Area Equity Analysis

The Mat-Su Borough Expanded Core Area experienced 4,802 crashes between 2018-2022. Of those crashes, 57 resulted in a fatality and 159 resulted in a serious injury. Figure 33 depicts the crash locations for fatal and serious injury crashes.

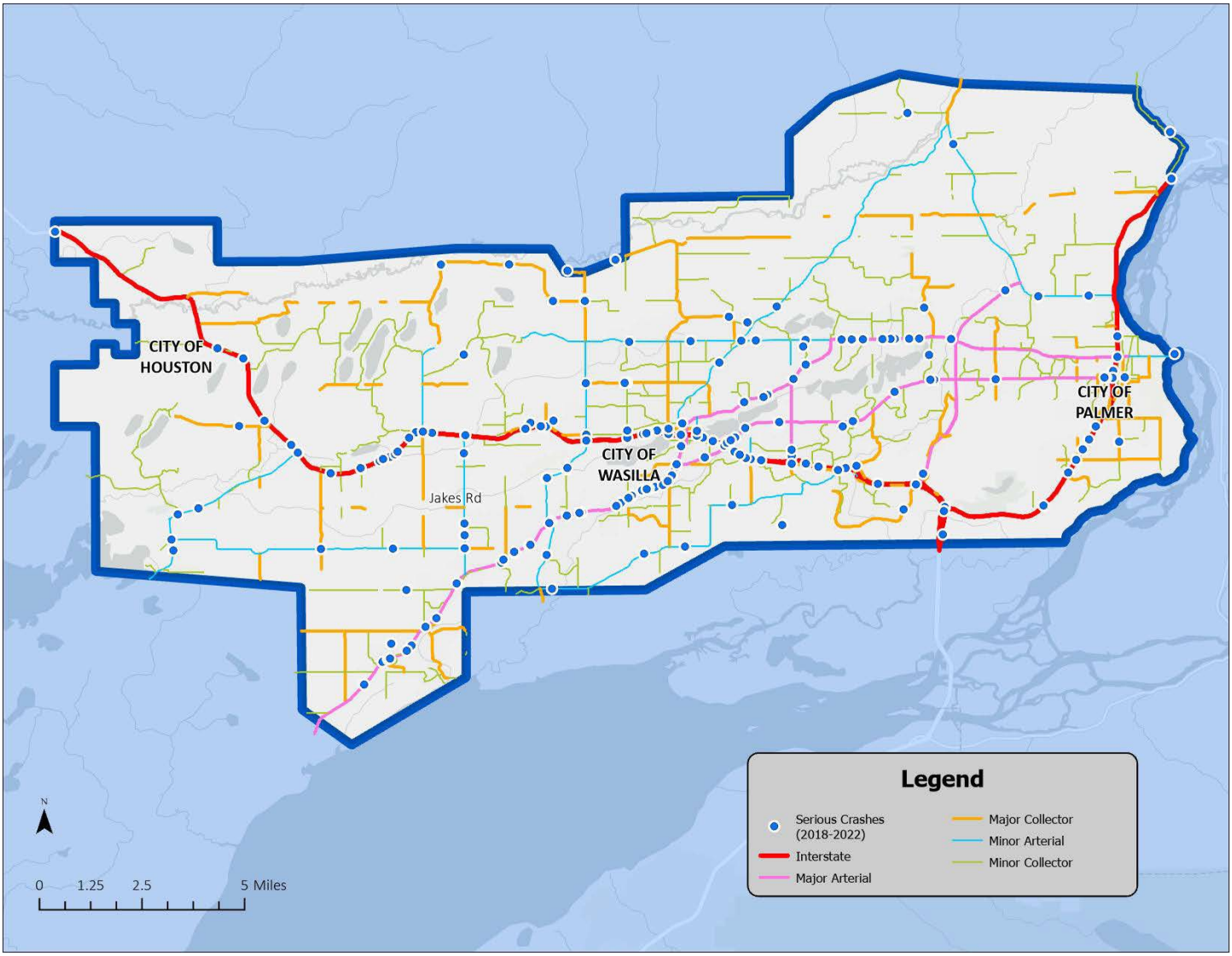

Figure 33. Mat-Su Expanded Core Area Crashes 2018-2022 (Fatalities and Serious Injuries)

Looking at these crashes through an equity lens developed using only the social vulnerability indicators analysis, it was determined that 2,050 (**42% of all crashes**) occurred in the areas determined to have high disadvantaged populations. Of those crashes, 11 resulted in a fatality and 59 resulted in a serious injury. Furthermore, **32% of all serious injury and fatality crashes occurred in areas with greater disadvantaged populations.** Both total crashes and serious crashes are overrepresented in these areas, as the disadvantaged population boundaries comprise less than 18% of the Mat-Su Expanded Core Area boundary.

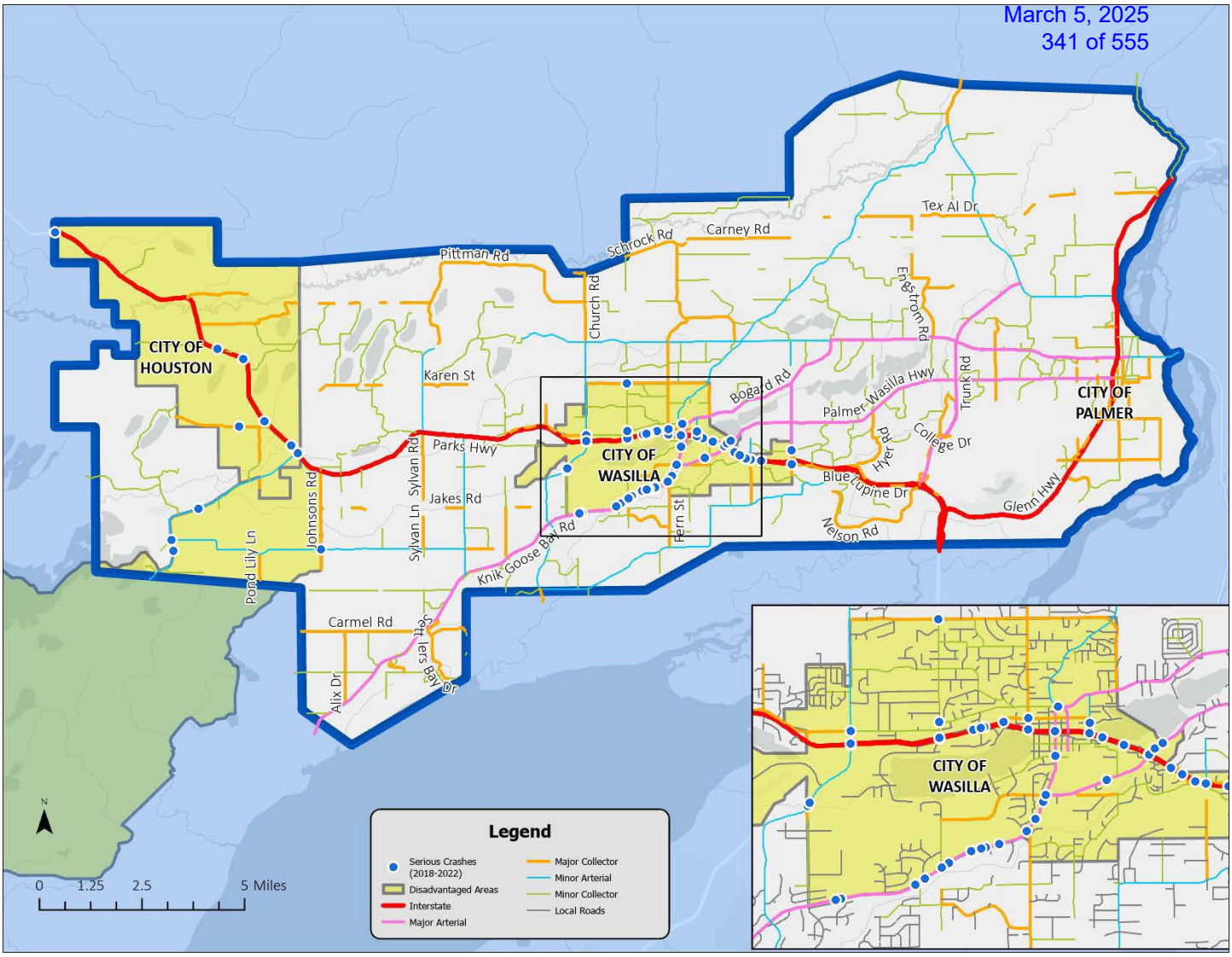

Figure 34. Mat-Su Expanded Core Area Crashes 2018-2022 (Fatalities and Serious Injuries in Disadvantaged Areas)

Figure 34 illustrates where fatal and serious injury crashes occurred in disadvantaged population areas. By focusing on the expanding quality mobility options and focusing on road safety issues in these areas, the Mat-Su Borough can have a profound effect on improving transportation safety for socially vulnerable populations.

Transportation Disparities

The Mat-Su Borough CSAP emphasizes minimizing safety risks within the transportation network. However, other factors can lead to transportation inequality within disadvantaged populations. These factors can have a substantial impact on a community member's health, ability to work, and ability to meet their day-to-day needs such as access to groceries and consumer goods. They include elevated safety risks for people who depend on transit facilities and have limited access to transportation options and desired destinations, such as places of work, healthcare, education, and social networks. When disadvantaged populations are also subject to these transportation disparities, it creates a state of transportation poverty, which can severely limit a population's resources for meeting mobility needs. It can also lead to social isolation and a reduced quality of life.

Figure 35 outlines the transportation disparities that exist within the study area based on the two social vulnerability categories used in the third equity analysis—socioeconomic status and household characteristics. They include access to transportation options and desired destinations, quality of transportation, safety risks, and health risks.

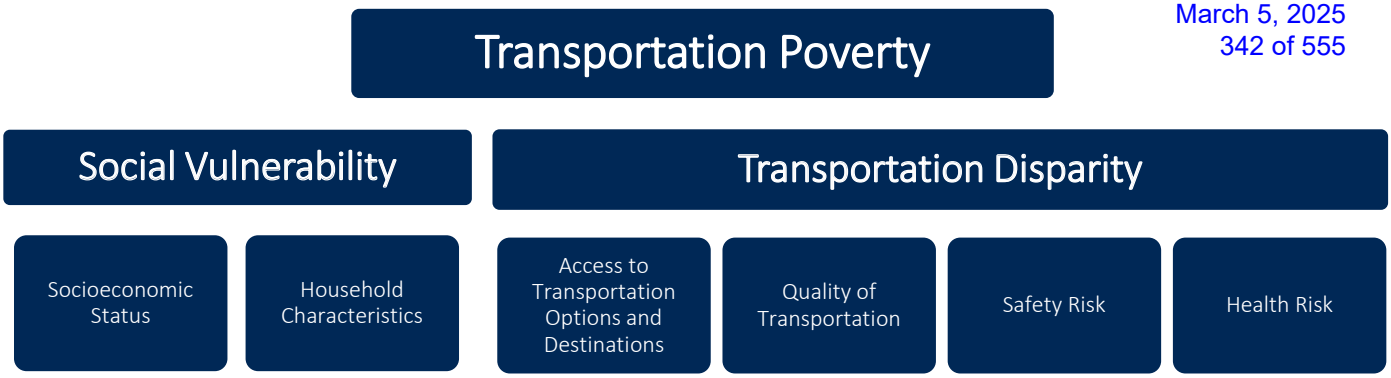

Figure 35. Transportation Poverty Diagram

The recognition of transportation disparities is growing in the United States and building momentum towards creating meaningful solutions. To avoid perpetuating disparities within the transportation network, it is important to recognize emerging needs within the Mat-Su Borough Expanded Core and plan to address them in future transportation improvements. Some examples of emerging needs for this area include:

- Older Mat-Su Borough residents need safe and convenient multi-modal options so they can choose to age in place.
- Common impacts of climate change, including severe storms, higher than average winds, and heavy snowfall can disproportionately affect disadvantaged populations, limiting their ability to access basic services. Providing convenient transportation options lowers the reliance on single vehicle ownership and provides alternatives in the event of a severe climate event.
- Changes in travel patterns due to part-time work and telework abilities can result in lower peak-hour congestion and more dispersed trips throughout the day. Encouraging a shift toward shared mobility options and roadway optimization will help the community envision a proactive plan for growing Mat-Su populations.

Transportation Barriers That Exist Within Vulnerable Populations

Transportation barriers are caused by a lack of adequate transportation or access to transportation to the extent that it interferes with an individual's ability to meet their daily needs and be a functioning member of society. For the Mat-Su Borough Expanded Core Area we identified the following barriers through the CSAP Equity Analysis:

- High cost of transportation (higher than 90th percentile nationally)
- Lack of transit facilities/routes
- Long commute times to employment and resources
- Limited access to a vehicle
- Vehicle maintenance/insurance/fuel costs (higher than 90th percentile nationally)
- Lack of safety on roadway (Mat-Su Borough has a higher-than-average rate of motor vehicle fatalities per capita than other areas nationally)
- Lack of safe walking and biking facilities
- Lack of adequate all-season maintenance to keep pathways clear
- Low income to transportation needs cost ratio
- Limited access to transportation options and destinations

By addressing these barriers through future investments in the Mat-Su Borough Expanded Core Area transportation network, transportation disparities can be diminished to create greater equity, a safer and more convenient transportation system, and a safer community.

Regional Transportation Indicators Within the Expanded Core Area

To help mitigate transportation barriers that exist in the Mat-Su Borough Expanded Core Area, it is important that the Brough proactively work to address each barrier and measure the effectiveness of mitigation over time to indicate progress. To help that process be effective, indicators that measure progress in decreasing these barriers over time need to be developed. For each barrier identified in the equity analysis, one or multiple regional transportation indicators are suggested in the table below. The corresponding performance measures shown will help to track progress on mitigating transportation barriers and potential inequities that exist within the Mat-Su Borough Expanded Core Area.

Transportation Barrier	Regional Transportation Indicator	Performance Measure (within Mat-Su Borough Expanded Core Area)
High cost of transportation	Affordability Accessibility	• Transportation cost analysis performed with each new census update
Lack of transit facilities/routes	Accessibility Connectivity Effectiveness Mobility Health	• Number of transit operators that serve disadvantaged populations • Number of commuter/demand service providers, such as Valley Transit, serving disadvantaged populations • Number of transit routes serving disadvantaged populations • Number of bus stops in disadvantaged areas • Number of bus stop shelters within disadvantaged areas
Long commute times to employment and resources	Accessibility Effectiveness Health	• Average distance from disadvantaged households to employment centers • Average distance from disadvantaged households to resources (grocery stores, schools, parks, urban centers)
Limited access to a vehicle	Accessibility Affordability Mobility	• Access to a vehicle analysis performed with each new census update
Vehicle maintenance/insurance/ fuel costs	Affordability Accessibility	• Transportation cost analysis performed with each new census update
Lack of safety on roadways	Safety Effectiveness Health	• Yearly update on number of fatal and serious injury crashes within disadvantaged areas • 3-year (repeating) survey to assess level of comfort and feelings of safety on the transportation network
Lack of safe walking and biking facilities	Accessibility Affordability Connectivity Effectiveness Mobility Health Safety	• Number of added sidewalks within disadvantaged areas • Number of added multi-use pathways within disadvantaged areas • Number of protected bicycle facilities added within disadvantaged areas • Number of gaps in the non-motorized transportation network overall
Lack of adequate all-season maintenance	Accessibility Effectiveness Mobility Connectivity Health Safety	• Number of maintenance vehicles servicing the Mat-Su Borough Expanded Core Area • Average yearly funding for maintenance in the Mat-Su Borough Expanded Core Area • Number of maintenance staff servicing the Mat-Su Borough Expanded Core Area • Average time (in hours) to clear walking and bicycling facilities in disadvantaged areas of snow and debris

Transportation Barrier	Regional Transportation Indicator	Performance Measure (within Mat-Su Borough Expanded Core Area)
Low income to transportation needs cost ratio	Affordability Accessibility	• Percentage of population using transit facilities or other alternative transportation in disadvantaged areas
Limited access to transportation options and destinations	Accessibility Mobility Connectivity Effectiveness Mobility Health Safety	• Number of transit routes serving disadvantaged areas • Average distance from households to urban centers in disadvantaged areas • Average distance from households to walking and bicycling routes in disadvantaged areas • Average distance from households to transit stops in disadvantaged areas

Equitable Distribution of Safety Investments

This equity analysis is a core component of the Mat-Su Borough CSAP and will serve to influence decisions about future safety investments within the Mat-Su Borough Expanded Core Area. The disproportionate safety risk identified within disadvantaged populations in the study area means that any safety improvements made in these areas, including new infrastructure, policies, programs, enforcement, and education, will help to advance equity. This equity analysis can also be used in future planning efforts such as assisting with determining selection criteria for the local area Metropolitan Planning Organization's (MVP) Transportation Improvement Program. This analysis helps determine where future investments will make the most headway in decreasing severe injuries and fatalities. It will also help make the most of limited transportation improvement funding.

Recommendations

To ensure that the Mat-Su Borough Expanded Core Area makes the most of limited resources in advancing transportation equity, it is important to respond to the transportation disparities and barriers that have been identified in the Mat-Su Borough CSAP. Infrastructure and services that support safe, multi-modal transportation should be advanced throughout the Expanded Core Area, but also specifically targeted towards the areas of Houston, Big Lake, North Wasilla, and South Wasilla. Investments in infrastructure and services could include:

- Expanding local transit operators
- Expanding commuter/service providers like Valley Transit
- Building transit facilities such as bus stops, bus shelters, transit corridors, and park and ride lots
- Investing in protected walking and biking facilities such as sidewalks and separated pathways
- Funding adequate all-season maintenance of existing multi-modal transportation facilities
- Including funding for all-season maintenance in planned transportation infrastructure (new facilities)
- Installing roadway and pedestrian-scale lighting in urban areas
- Retrofitting existing transportation facilities to ensure compliance with the Americans with Disabilities Act (ADA)
- Ensuring that new or planned transportation facilities are ADA compliant
- Encouraging the development of transit supportive corridors that incentivize compact, mixed-use development along commercial nodes and urban centers, affordable housing, and easy access to walking and bicycling facilities
- Closing gaps within the existing transportation networks with new planned infrastructure
- Connecting the on-street transportation network to existing pathways and trails
- Expanding the Safe Routes to School Program to include specific project investment recommendations for school zone improvements

The above recommendations are specific to equity within the Mat-Su Borough CSAP. The implementation chapter in the final plan will include additional safety recommendations inclusive to all areas within the Mat-Su Borough Expanded Core Area.

Peer City Review

To better understand how the Mat-Su Borough Expanded Core Area's roadway crashes compared to similarly sized winter communities, we evaluated crash and population data for several other communities. Where possible, the Mat-Su Borough Expanded Core Area was also compared to statewide data.

To account for the variability in roadway network length in relation to traffic volumes, comparing on a vehicle miles traveled (VMT) basis rather than population alone helps portray a more accurate picture of crash trends from one community to another. VMTs are calculated by the total length of road in a segment or network multiplied by the average annual daily traffic of each route or segment, times 365 days per year.

VMTs are published at the state level as required by the Federal Highway Administration (FHWA), but not necessarily at the local level. VMT data were not available for all communities. Similarly, publicly available crash data varies at the municipal level, so the leading factor of crashes for peer cities was not analyzed. A summary of data by community is in Appendix A: Summary Data and Sources for Peer City Comparison. Notes about the data sources and their limitations are also provided.

Comparison Community Backgrounds

Communities selected for comparison were chosen from the Midwest or Western states with winter climates. Fairbanks North Star Borough and Kenai Peninsula Borough were also selected as more closely relatable communities on the statewide level. Western states typically have underdeveloped and growing transportation networks like the Mat-Su Borough Expanded Core Area. Fargo, North Dakota (considered Midwestern) has a comparable climate to the Mat-Su Borough. Appendix A contains more background on the comparison communities and how they correspond to the Mat-Su Expanded Core Area.

Total crashes

The Mat-Su Borough Expanded Core Area is in the low end of total crashes for comparison communities for both population and VMTs (where data were available). This is not surprising given the Mat-Su Borough Expanded Core Area is on the low end of VMTs for all comparison communities. However, Cass County, North Dakota has far greater VMTs (likely given the presence of I-29 and I-94) and notably had lower crashes per VMT.

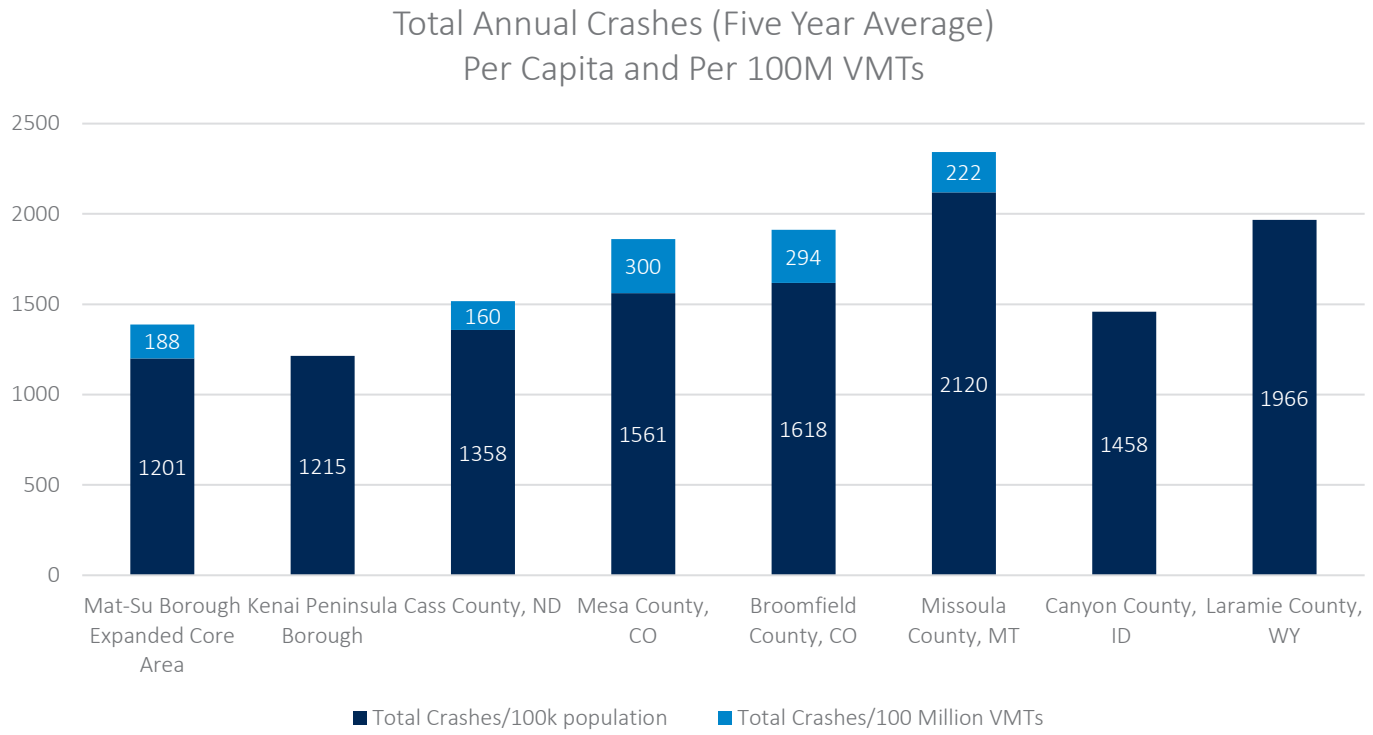

Figure 36. Total annual crashes by comparison community

Fatal and Serious Injury Crashes

The composite of fatal and serious injury crashes is a better indicator of serious crash trends as evaluating fatal crashes on their own may show high variability over a given period. The Mat-Su Borough Expanded Core Area averaged 43.2 fatal and serious injury crashes from 2018-2022, comprising 10.5% of the state's total. This was mostly comparable to Laramie County, Wyoming, and Kenai Peninsula Borough, but was substantially less than Canyon County, Idaho. By VMT, the Mat-Su Borough Expanded Core Area was slightly above the state rates of fatal and serious injury crashes, but well below comparison communities in total serious crashes.

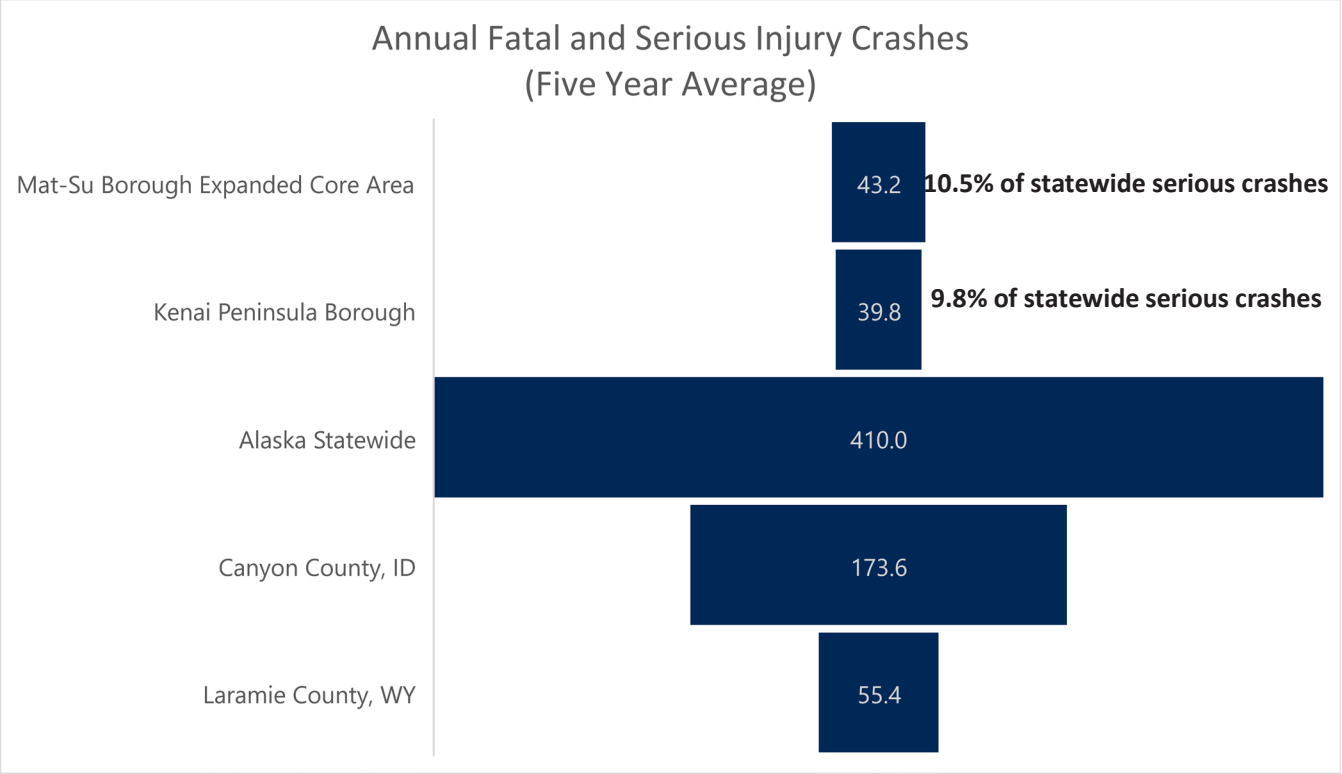

Figure 37. Fatal and serious crashes by comparison community

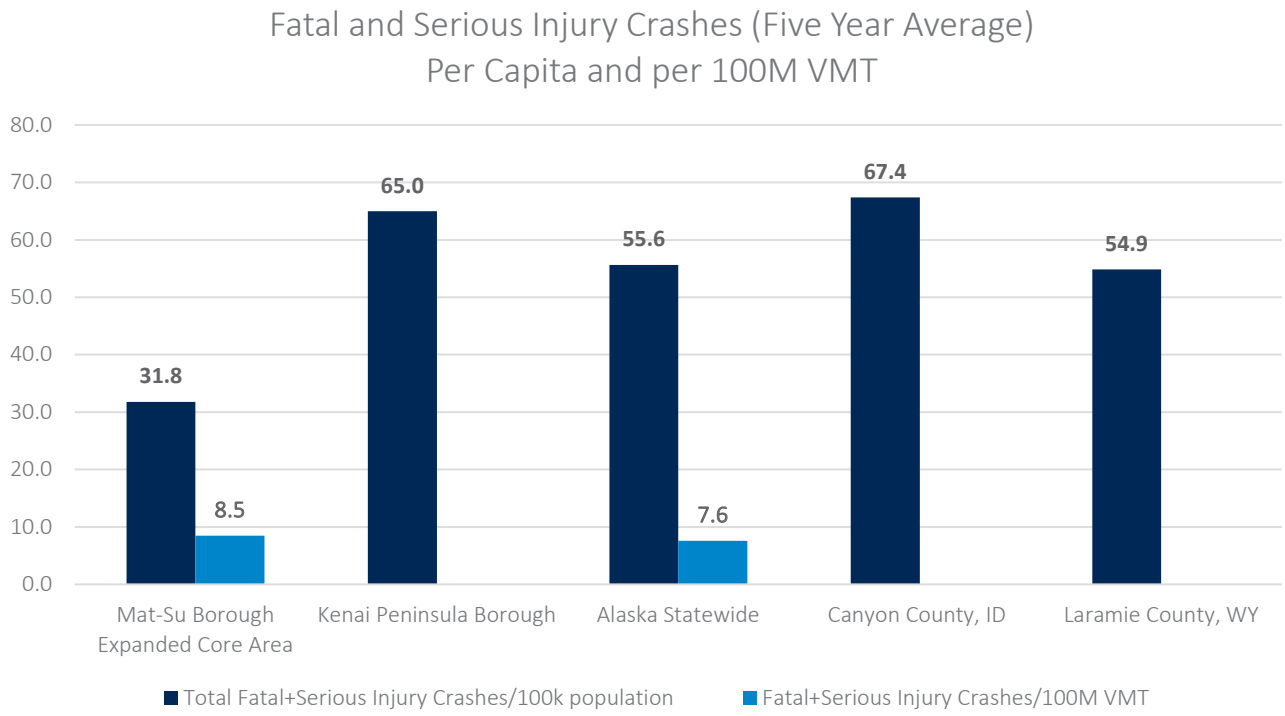

Figure 38. Serious crashes per capita and VMT by comparison community

Fatal Crashes

Peer cities were compared for fatalities for further context, particularly since fatal crash data are more widely available for states and municipalities. The Mat-Su Borough Expanded Core Area led all communities in fatal crashes per capita by a small margin. The Expanded Core Area led by a large magnitude per VMT, however, with only Mesa County on a comparable but slightly lower crash rate per VMT.

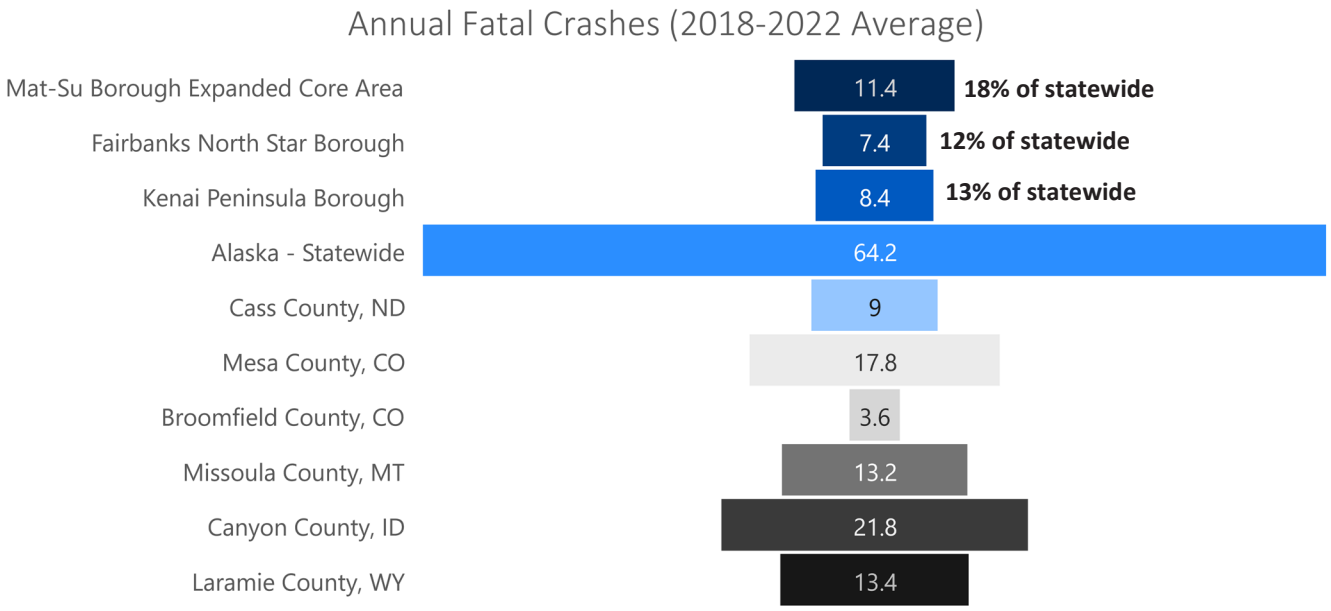

Figure 39. Annual fatal crashes by comparison community

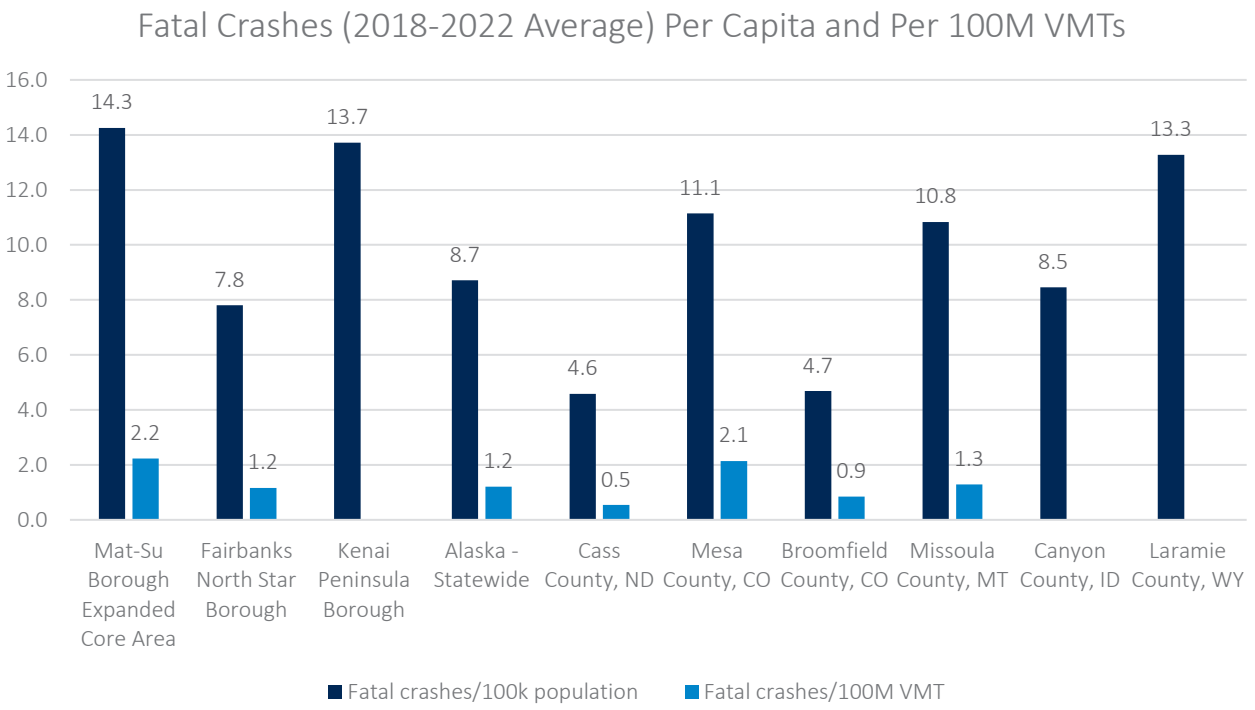

Figure 40. Fatal crashes per capita and VMT by comparison community

Exposure to Crash Risk

Alaska DOT&PF's defined program methodology for evaluating exposure type in its Highway Safety Improvement Program is simply traffic volume or average annual daily traffic (AADT). VMT can also be a measure of risk exposure for a given route or a network. Other exposure metrics can include population, number of registered vehicles, and number of licensed drivers. Population data for the Mat-Su Borough Expanded Core Area is described in Table A-2, Appendix A. As of 2023, the Mat-Su Borough has 80,330 registered motor vehicles, or 12% of the state's total.[4] Vehicle registration data for the smaller Mat-Su Expanded Core Area is unknown, and the Alaska Division of Motor Vehicles does not publish licensed drivers by municipal area.

For motor vehicle traffic, the highest volume[5] route segments in the Mat-Su Borough Expanded Core Area as of 2022 are:

- Parks Highway near Palmer-Wasilla Highway (36,500 AADT)
- Knik-Goose Bay Road near Parks Highway (15,200 AADT)
- Glenn Highway near Bogard Road (14,600 AADT)
- Palmer-Wasilla Highway near Trunk Road (14,000 AADT)

Total crashes in the heat map shown in Figure 5 correlate to higher concentrations of crashes in these route segments.

For bicycles and pedestrians, FHWA defines exposure to roadway features criteria as follows:[6]

- **Urban roadways** have a higher concentration of non-motorized users and, accordingly, a higher proportion of non-motorized crashes occur on these routes
- **Divided roadways** are demonstrated to be safer for non-motorized users compared to undivided roadways
- **Work zone crashes** disproportionately affect non-motorized users

[4] Alaska Division of Motor Vehicles: https://dmv.alaska.gov/media/rs3owmwl/2023_registeredvehiclesbyboundaryreport.pdf
[5] Alaska DOT&PF: https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp
[6] https://highways.dot.gov/safety/pedestrian-bicyclist/safety-tools/synthesis-methods-estimating-pedestrian-and-bicyclist-8

- **Higher posted speed** increases the probability of a non-motorized user fatality
- **Lack of roadway lighting** increases the likelihood of a non-motorized fatality
- **Sidewalks, bike lanes, road shoulders, and on-street parking** are all shown to improve safety for bicycles and pedestrians, while the **presence of bus stops** appears to increase pedestrian crash frequency
- **Multilane** roadways are more likely to see a higher incidence of non-motorized crashes
- **Signalized intersections** generally present less risk to non-motorized users compared to unsignalized intersections
- **Marked crosswalks** present mixed data for prevalence of pedestrian fatalities, with volume and the presence of other traffic control devices greatly affecting pedestrian fatalities

For the relatively low number of bicycle crashes in the Mat-Su Borough Expanded Core Area, they appear most prevalent on exposure features along undivided segments of the Parks Highway (an interstate with higher posted speed) and urban arterials (higher posted speed). The relatively low number of pedestrian crashes appear intersection-related with a slightly higher prevalence at unsignalized intersections.

Plan, Policy, and Program Reviews

Plan Reviews

To ensure the Mat-Su Borough CSAP builds upon past transportation safety planning efforts, we studied existing plans to analyze relevant goals, strategies, policies, and recommended projects from those efforts. Wherever possible, these planning initiatives will be carried forward and aligned with Mat-Su Borough CSAP goals, polices, strategies, and recommended projects. Consolidating these transportation safety planning elements into one document will also help facilitate CSAP implementation after it is adopted.

Summaries of our reviews of the following plans are in Appendix B: MSB CSAP Plans Review. For each plan, we performed an analysis of the overarching plan goal; transportation safety-related goals; key safety-related policies, programs, and projects; and applicability to the Mat-Su Borough CSAP.

Plan Title	Plan Owner	Year
Mat-Su Borough Comprehensive Plan Update	Mat-Su Borough	in process
Alaska DOT&PF Statewide Transportation Improvement Program	DOT&PF	2024
Alaska Strategic Highway Safety Plan	DOT&PF	2024
Bogard-Seldon Corridor Access Management Plan (Draft)	Mat-Su Borough	2024
Alaska Vulnerable Road User Assessment	DOT&PF	2023
Mat-Su Borough Bicycle & Pedestrian Plan	Mat-Su Borough	2023
Mat-Su Borough Coordinated Human Services Transportation Plan Update	Mat-Su Borough	2023
Mat-Su Valley Planning (MVP) MPO Boundary Development Document & Interactive Map	Mat-Su Borough	2023
Mat-Su Borough Official Streets & Highways Plan	Mat-Su Borough	2022
Mat-Su Borough Transportation Infrastructure Program	Mat-Su Borough	2021,2023 & 2024
City of Houston Comprehensive Plan	City of Houston	2017
Mat-Su Borough Highway Safety Improvement Program Handbook	Mat-Su Borough	2017
Mat-Su Borough Long Range Transportation Plan	Mat-Su Borough	2017
Mat-Su Borough MPO Self-Assessment	Mat-Su Borough	2016
City of Wasilla Comprehensive Plan	City of Wasilla	2011
Mat-Su Borough Core Area Comprehensive Plan	Mat-Su Borough	2007
City of Palmer Comprehensive Plan	City of Palmer	2006
Mat-Su Borough Comprehensive Plan	Mat-Su Borough	2005

Key Findings

Transportation related safety goals

A common theme among these plans are the goals of improving road safety and aligning with long-range strategies to improve transportation efficiency, promote healthy communities, and foster vibrant economies. Common transportation safety-related goals include:

- Reduce and mitigate crashes
- Reduce congestion
- Promote efficient movement of people, goods, and services throughout the borough
- Protect and foster the health, safety, and welfare of the Mat-Su Borough community
- Improve pedestrian and vehicle connections adjacent to the Glenn Highway
- Identify and prioritize trail improvements and future trail corridors
- Expand safe, accessible, and affordable transit facilities
- Provide safe street networks that enhance the quality of life for residents
- Grow sidewalk networks and improve maintenance of sidewalks
- Improve connectivity
- Prioritize projects that will strengthen the transportation network and improve safety
- Identify funding opportunities to implement plan recommendations

Transportation safety-related recommendations

Many of the plans reviewed included recommendations that serve to strengthen and complete the existing transportation network, supporting safe multi-modal movement throughout the Mat-Su Borough. Many plans also stress the importance of integrating street and trail connectivity, developing pedestrian and bicycle linkages between schools, public facilities, neighborhoods, parks and open spaces, and population centers, where feasible. Potential countermeasures from these plans that could apply to the Mat-Su Borough CSAP include:

- Access management, intersection, and driveway consolidation
- ATV Policy adoption to designate facilities for this use type
- Incorporation of flat-bottomed gravel ditches, stabilized shoulders, and trail/road intersections into new road construction
- Installing more pedestrian crossing infrastructure
- Separating vulnerable road users from motor vehicle traffic
- Installation of signage and wayfinding on trails and within population centers
- Pavement of local roads to decrease dust/visibility/asthma issues
- Expanding transit service with a focus on senior centers and vulnerable populations
- Enhance ADA accessibility on walkways
- Implement better lighting on trails, pathways, and in town centers
- Update multi-modal design standards
- Update the Subdivision Construction Manual to include bicycle and pedestrian safety and connectivity

Project Recommendations

Project recommendations included in previous planning efforts may be good candidates for Safe Streets for All (SS4A) projects after countermeasures have been identified. In the case of the Statewide Transportation Improvement Program, if funding is secured, those projects would likely be screened out of SS4A consideration. Below are the recommended projects included in each plan.

Alaska DOT&PF Statewide Transportation Improvement Program (latest approved) and Highway Safety Improvement Program (Note: some of these have started or recently completed construction, and as such are not good candidates for SS4A but are included to show recent transportation improvements and investment.)

- Bogard Road N. Earl to N. Engstrom
- Bogard Road Safety and Capacity Improvements
- Fairview Loop Road Rehabilitation and Pathway
- Hermon Road Extension (Parks to Palmer-Wasilla)
- Hemmer Road Upgrade and Extension
- Palmer-Fishhook Separated Pathway (Trunk to Edgerton-Parks)
- Parks Highway MP 52-57 Reconstruction (Big Lake to Houston)
- Glenn Highway: Parks Highway to South Inner Springer Loop (Cienna Ave.)
- Glenn Highway Arctic Avenue to Palmer-Fishhook Road Safety and Capacity Improvements
- Seldon Road Extension Phase II: Windy Bottom/Beverly Lakes Road – Pittman
- Seldon Road Reconstruction: Wasilla-Fishhook to Lucille Street
- Knik-Goose Bay Road Reconstruction
- Wasilla to Fishhook Main Street Reconstruction
- Big Lake Road Rehabilitation
- Trunk (Nelson) Road Rehabilitation
- Inner and Outer Springer Loop Separated Pathway
- (HSIP) Bogard Road at Engstrom/Green Forest Drive Intersection Improvements
- (HSIP) Vine Road at Hollywood Road Intersection Improvements
- (HSIP) Church Road and Spruce Ave Intersection Flashing Beacon
- (HSIP) Wasilla-Fishhook Road and Spruce Ave./Peck St. Roundabout
- (HSIP) Palmer-Fishhook Road and Trunk Road Roundabout
- (HSIP) Pittman Road Shoulder Widening and Slope Flattening
- (HSIP) Bogard Road: Greyling Street to Grumman Circle Safety Improvements
- (HSIP) Bogard Road: Trunk Road to Engstrom Safety Improvements

Alaska Vulnerable Road User Assessment

- Bogard/Arctic Avenue from Anna St. to Gulkana St.
- East Palmer-Wasilla from Felton St. to Valley Way
- East Palmer-Wasilla and Glenn Hwy.
- West Bogard and Glenn Hwy.
- East Parks and Palmer-Wasilla Hwy.

City of Houston Comprehensive Plan

- Parks Highway bypass
- Four-Lane Upgrade from Big Lake to Houston
- Access consolidation W. Larae Road/Airolo
- Access consolidation Corn St.
- Access consolidation N. Dana Ct. to Railroad Undercrossing
- More pedestrian crossings (general)
- Secondary road link to Beaver Lake area
- Access to middle and high schools from Delroy Road
- Alternate access to Cheri Lake
- Bridge connecting Armstrong Road to Prater Lake area

- Pathway along Hawk Lane (between middle and high schools)
- Connect Hawk Lane pathway to Big Beaver Lake
- Pathway along Kenlar Road

City of Palmer Comprehensive Plan

- Glenn Highway Bypass
- Bogard Road Extension
- Downtown – East West Connection
- Felton Extension
- Pave all roads within community (general)
- Connect north and south Gulkana St.

City of Wasilla Comprehensive Plan

- Expand Parks Highway through Downtown Wasilla
- Mack Dr. with Clapp Road extension
- New intersection at Fairview Road
- Conceptual Transportation Site Master Plan

Mat-Su Borough Long Range Transportation Plan

- Access Development Plans for all major collectors and arterial roadways
- Highway Safety Corridor designation for between Palmer and Wasilla
- Glenn Hwy. Erosion Protection
- Parks Highway/Talkeetna Spur Ped Improvements
- Palmer Wasilla Highway widen to three lanes
- Bridge replacement Montana Creek and Sheep Creek
- Nelson Road extension to Fairview Loop Road
- Engstrom Road Congestion Relief
- Engstrom Rd North extension to Tex Al
- Tex Al Road Upgrade and Extension
- Glenn/Parks Interchange Hospital Access Improvements
- Ongoing AKDOT&PF Asset Management and Safety Improvement Program
- Seldon Road - Beverly Lake Road to Pittman Road
- Jensen Road Extension to Soapstone Road
- Museum Drive Extension west to Vine Road
- Katherine Drive Connection to Trunk Road
- Vine Road Improvements - Hollywood Blvd. to Parks Hwy.
- Wolverine Road from Wolverine Creek Canyon to approximately Mile 10 (where maintenance ends)

Mat-Su Borough Transportation Infrastructure Program (21, 23, 24)

- Lucille Street Rehabilitation
- Cheri Lake Drive/Karen Avenue/King Arthur Drive
- Fern Street Reconstruction
- Palmer-Fishhook Separated Pathway
- Inner-Outer Springer Loop Pathway (see STIP)
- MSB School District Pedestrian Projects (Safe Routes to Schools)
- School Site Traffic and Safety Improvements: Shaw Elementary School
- School Site Traffic and Safety Improvements: Finger Lake Elementary School

- School Site Traffic and Safety Improvements: Pioneer Peak Elementary School
- King Arthur Drive Reconstruction
- Johnsons Road Upgrade
- Edgerton Parks Rd - Mtn Trails Drive Upgrade & Pathway
- MSB School District Shaw Elementary Access Improvements
- 49th State Street Pathway
- Smith Road Extension Upgrade and Pathway
- Green Forest Drive Upgrade
- Engstrom North Extension to Tex-Al

Policy and Program Reviews

Programs and Policy Review Related to Safety

Until Vision Zero is achieved, all communities can do more to improve safety. However, Mat-Su Borough has done or is already doing things that support Vision Zero objectives. This section describes areas of success and other areas with opportunities for improvement.

Code Review

We did not conduct a comprehensive review of Mat-Su Borough code, as this effort is presently underway as part of the borough's Sub-Area Solutions Studies. However, we performed a cursory review to identify issues directly related to safety. Below is a summary of recommendations based on this review:

Chapter 11 (Roads, Streets, Sidewalks and Trails)

- 11.020.040 Driveway Applications
  - (A)(4) triggers a turn lane warrant analysis when 50 or more vehicles are anticipated in the peak hour. Consider not constraining turn lane warrants to only high-volume driveways. AASHTO's GB7 (see Policy Section) identifies left turn lane warrants starting as low as five turning vehicles in the peak hour. Consideration should be given for other contextual factors to require a turn lane analysis such as AADT, roadway functional classification, crash history, or other roadways key for development as identified in the Official Highways and Streets Plan.
  - For both (A)(4) and (A)(5), consider requiring, as a factor in triggering a warrant or traffic impact analysis, a 15- or 20-year growth projection and/or the growth factor for anticipated trips as the basis or source of projected growth for a given roadway to ensure consideration is given to future anticipated traffic growth and not just the year of development.
- 11.020.070 High Volume Driveway Standards
  - Consider adopting the latest version of AASHTO for left turn lane warrants in part B. The cited standard is from 1967 and considerable research has been conducted since then (see the Corridor Access Management section).
  - Consider a review of requirements or creating custom requirements for right turn lane warrants. See the Increase minimum thresholds for right or left turn lanes for developers and roadway designers section for examples of practices in other communities. While the turning traffic volume warrants will always be higher for right turn lanes than for left turn lanes, other mitigations for right turning traffic such as 10:1 approach tapers can be considered.
- 11.020.080 Traffic Impact Analysis
  - (A)(3) Consider removing reference to the date or version of the Transportation Research Board's *Highway Capacity Manual* and requiring the most current version be used instead. Using the most current version of a cited manual ensures the latest research and best practices are applied and does not require the borough to update code every time a new manual is released. This practice is consistent with

Mat-Su Borough Code 11.020.040(A)(2)(h)(ii), which requires use of the most current version of the Institute of Traffic Engineers *Trip Generation Manual*. This practice is also used in the Mat-Su Borough 2022 Subdivision Construction Manual where AASHTO manuals are cited.

2022 Subdivision Construction Manual

- Table A-1 Design Criteria: consider making design speed equal to posted speed to promote operating speeds at the target speed.
- Section C-B.02: consider less than 12-foot lane widths where context-appropriate for arterials and collectors to help reduce driver speed, and potentially provide wider shoulders or space for non-motorized users.
- General: consider warranting requirements for separated bicycle or pedestrian facilities.

Mat-Su Borough is preparing a draft design criteria manual. The considerations above should also be given in this criteria manual, with particular focus on selecting a design speed. Designing to a speed higher than the intended posted and operational speed may promote driving above the intended speed and is not consistent with the practice of designing roadways to be self-enforcing. See the Review/implement speed management policies for setting speed limits section on speed management policies and DOT&PF's shift to designing self-enforcing roadways.

Program Review

Designating and Decommissioning Safety Corridors

The Parks Highway between Wasilla and Houston was the second of four Safety Corridors designated in Alaska in 2007. It was the first to be decommissioned in 2022 once the four-lane divided highway, with segments of separated multi-use path, was completed. This corridor saw a 55% reduction in fatal crashes[7] between 2009 and 2022.

Knik-Goose Bay Road[8] was designated as a Safety Corridor in 2009, with work currently underway (beginning in 2022) that should allow for removal of this designation once it becomes a divided highway with a separated multi-use path. Crash data reinforce the reason Knik-Goose Bay Road was designated as a safety corridor, as shown in the heat map in Figure 5.

Designating these high crash corridors as Safety Corridors incorporates the tenets of the SSA by adding an enforcement focus (more serious penalties for speeding infractions) and a call to action to allocate funding for construction of needed changes to these roadways.

Roundabout Construction

Since 2010, eight single-lane or multi-lane roundabouts have been constructed in the Mat-Su Borough Expanded Core Area, with at least six more planned. Roundabouts are an FHWA Proven Safety Countermeasure[9] that can reduce fatal and serious injury crashes by 81%. They are continuing to grow in number across Alaska and show the same effectiveness within the state as in national studies.

This safety track record is why Alaska DOT&PF has a "Roundabouts First[10]" policy, requiring engineers to consider whether a roundabout is appropriate before considering other intersection solutions. Engineers are also required to document when traffic signals are selected over a single-lane roundabout.

Roundabouts are effective because they reduce the number of potential conflicts, reducing the likelihood of a crash. They also substantially reduce speeds, which reduces the severity of crashes when they do occur. Before and after crash data and benefit costs of Mat-Su area single-lane roundabouts were not analyzed, but conclusions from 2018-2022 data are provided below.

[7] https://dot.alaska.gov/stwdplng/hwysafety/assets/pdf/2022_Safety_Corridors_Audit.pdf
[8] https://dot.alaska.gov/stwdplng/hwysafety/safety_corridors.shtml#:~:text=Currently%20the%20Seward%20%28May%202006%29%2C%20the%20Parks%20%28October,are%20the%20four%20designated%20Safety%20Corridors%20in%20Alaska
[9] https://highways.dot.gov/safety/proven-safety-countermeasures/roundabouts
[10] https://dot.alaska.gov/stwddes/dcstraffic/roundabouts.shtml

Each location had consistent trends: no serious injury, and no bicycle, pedestrian, or motorcycle crashes. Each location demonstrates that while crashes may occur, they are not serious, indicating that single-lane roundabouts are an effective intersection treatment on collector and arterial roads in the Mat-Su Borough Expanded Core Area.

- **Lucille St. and Seldon Road Roundabout** was developed under Mat-Su Borough's Highway Safety Improvement Program (HSIP) and constructed in 2014. There were 23 crashes at this intersection from 2018-2022, most of which were angle crashes. Where driver circumstances were reported, they were listed as failure to yield.
- **Trunk Road and Parks Highway South Ramp Roundabout** was constructed in 2016. There were 14 crashes at this intersection from 2018-2022. Where driver circumstances were reported, they were listed as failure to yield.
- **Big Lake Road and Northshore Drive Roundabout** was constructed in 2016. There were two crashes at this intersection from 2018-2022. One was an angle crash, and the other was a crash with a sign.

Transportation Capital Investments

Through DOT&PF and locally funded projects, it is estimated the Mat-Su Borough Expanded Core Area has recently constructed or is planning to construct over $600M in transportation projects that will significantly contribute to safety and operations in the region.[11] Some of the larger dollar investments contributing to that total include:

- Glenn Hwy.: Parks Hwy. to S. Inner Springer Loop Phase II
- Knik-Goose Bay Road Reconstruction
- Wasilla to Fishhook Main St. Rehabilitation
- Seward-Meridian Road, Phase II: Palmer-Wasilla Hwy. to Seldon Road
- Parks Hwy. MP 52-57 Reconstruction (Big Lake to Houston)
- Glenn Hwy.: Arctic Avenue to Palmer-Fishhook
- Fairview Loop Rehabilitation and Pathway
- Glenn Hwy. Parks to Old Glenn
- Bogard Road Safety and Capacity Improvements (Trunk Road to Grumman Circle)

The Mat-Su Borough has its own Transportation Improvement Program (TIP) and has successfully secured voter-approved bond projects for local needs. For some projects, the borough has used local funds as match to DOT&PF's Community Transportation Program to further leverage available funding sources and increase the likelihood of grant awards. Mat-Su Borough TIP projects include addressing multi-modal needs such as a pathway on the Inner-Outer Springer Loop. The projects also address safety needs in and around schools with pathway improvements (E. Nelson Road near Machetanz Elementary) and school site safety improvements (Finger Lake and Shaw Elementary Schools). The TIP also appropriately addresses asset management through drainage improvements (Jolly Creek) and pavement preservation (Earl Drive, Eek St. Pavement Rehabilitation).

The region also benefits from city-sponsored projects from the cities of Houston, Palmer, and Wasilla and will soon have a local TIP dedicated to funding for the recently formed Metropolitan Planning Organization, MVP for Transportation.

Highway Safety Improvement Program

Roads within the Mat-Su Borough are eligible for project nomination and funding under DOT&PF's HSIP, regardless of the road's ownership. This funding program within the Statewide Transportation Improvement Program (STIP) is focused on reducing fatal and serious crashes through systemic or spot safety improvements. The program requires eligible projects to have crash data demonstrating a safety cost-benefit through established countermeasures.

Recently, a $20M two-way left-turn lane was constructed on Palmer-Wasilla Highway under HSIP. This program is also funding three roundabouts under development at Hollywood and Vine, Palmer-Fishhook and Trunk Road, and Wasilla-Fishhook at Spruce and Peck.

Some project activities are not eligible under HSIP, and its cost-benefit requirements generally eliminate the eligibility of higher-dollar improvements such as grade-separated interchanges. HSIP projects must present an engineering solution to

[11] Review of DOT&PF 2024-2027 STIP Amendment #1, DOT&PF's 2024-2027 HSIP Funding Plan, Mat-Su Borough TIP-21, 23, and 24 as well as DOT&PF open construction phases for projects in the Mat-Su Borough Expanded Core area as of August 2024. DOT&PF projects include total project development cost.

a demonstrated problem, which makes other factors such as public input and equity less likely to influence its nominations. However, federal rulemaking is underway to incorporate equity considerations[12] into the program.

The *Mat-Su Borough HSIP Handbook*, last updated in 2017, is modeled after DOT&PF's handbook of the same name. The handbook was developed to augment DOT&PF's HSIP by prioritizing safety projects, maintaining local control, and allowing more flexibility on the data-driven approach. (Prior to 2021, DOT&PF often had a lag of up to four years with producing crash data, making data flexibility useful.)

The *Mat-Su Borough HSIP Handbook* has project screening criteria similar to DOT&PF's program and it was used successfully in 2014 to construct the roundabout at Seldon Road and Lucille Street. The manual has not been updated in recent years due to lack of resources, and no dedicated capital funding program exists for safety projects.

While Mat-Su Borough's investment in transportation improvements is commendable, dedicating a portion of the capital funding program to safety, especially as population growth and development occurs, would be beneficial. Such a program could be designed to focus on recommendations and tools from the CSAP. It could include projects identified during the plan's data evaluation, as well as future evaluations of the publicly available and updated crash data presented through the crash dashboard developed under this plan.

Data

The Mat-Su Borough has extensive data that are collected and organized into a GIS data system. This practice is valuable as it can inform elected bodies of specific needs and trends. In addition to collecting asset management needs, the Mat-Su Borough collects data on public requests for speed calming. These data can be used as part of a speed management policy that considers public input and common themes. They can also be used to help support local requests for increased enforcement presence, particularly outside of the city boundaries of Houston, Palmer, and Wasilla.

Safety Strategies and Programs in Other Communities

SSA is an emerging concept for the Nation and for communities, and many are embracing the Vision Zero goal through public commitments and the SS4A program. The next section describes some safety strategies being planned or used in other communities, and some that are already being implemented in Alaska.

Education

►*Collaborate with DOT&PF and the Metropolitan Planning Organization to implement Vision Zero campaigns and maintain a regional Vision Zero webpage*

These campaigns focus on behaviors of concern such as distracted driving, driving under the influence, all modes sharing the road, and unsafe behavior from younger drivers. This collaborative effort requires a coordinator or champion to be effective.

Benefit: Promotes a culture of traffic safety among a community's leaders and decision makers. A website can provide resources for safety emphasis areas and supports the shared responsibility aspect of the SSA.

Communities: Boulder, Colorado[13], Denver Metro Council of Governments,[14], Ada County, Idaho[15]

►*Combine countermeasure deployment with promotional activities*

Generate announcements such as press releases, conduct media interviews, organize ribbon cuttings, and install promotional signs at project sites.

[12] https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-02/HSIP%20NPRM%20Briefing%202-27-24.pdf
[13] https://bouldercolorado.gov/media/11606/download?inline hereafter hyperlinked as Boulder, Colorado
[14] https://drcog.org/transportation-planning/planning-future/safety/regional-vision-zero hereafter hyperlinked as Denver Metro Council of Governments
[15] https://www.achdidaho.org/community-resources/education/let-s-get-there-safely hereafter hyperlinked as Ada County, Idaho

Benefit: Publicizes community safety efforts and provides an opportunity to educate the public on the rationale and benefits. May improve morale for transportation staff working on these initiatives.

Communities: Boulder, Colorado

Enforcement

►*Active monitoring for red light-running*

Deploy cameras at traffic signals to assist law enforcement officials through automated enforcement.

Benefit: Drivers who are not compliant at traffic signals present a risk of severe angle crashes. Increased compliance can result in a corresponding reduction in crash severity, potentially reducing fatal crashes[16] at signalized intersections by 21%. The USDOT has published operational guidelines for camera deployment.[17]

Communities: Boulder, Colorado

►*Explore a change in state law to reduce legal blood alcohol content (BAC) for impaired driving*

Reduce the impaired driving threshold from a BAC of 0.08 to 0.05.

Benefit: Recognizing these crashes are 100% preventable, this threshold reduction reinforces the cultural stigma of having even one drink and then driving. Utah saw a 20% reduction[18] in its fatal crash rate (per 100M VMT) from 2016 to 2019 (law passed in 2017, took effect 2019). This practice is supported by the National Transportation Safety Board, whose 2023 paper cites research indicating the law had no apparent impact on alcohol sales, consumption, or tourist revenue—only driver choices. While Mat-Su Borough does not have the authority to change state law, its community leaders could advocate for the change to legislators.

Communities: State of Utah

►*Facilitate training sessions for law enforcement agencies on crash reporting and traffic safety*

Benefit: Particularly in areas with multiple law enforcement jurisdictions, training provides support on addressing key crash profiles and behaviors (to get ahead of the crash data reporting lag). Promotes consistency in generating comprehensive crash reports for improved data quality.

Communities: Denver Metro Council of Governments

Infrastructure

►*Enhanced delineation for horizontal curves*

Improve conspicuity of horizontal curves and enhance advanced warning to prevent run-off-the-road crashes on high-speed roadways. Includes installing delineators, chevron signs, larger fluorescent and/or retroreflective sign panels, dynamic curve warning signs including speed radar feedback signs, and in-lane curve warning through pavement markings.

Benefit: These are low-cost improvements for areas with a high incidence of run-off-the-road crashes and/or curves. As an example, oversized chevron signs can reduce fatal and injury crashes[19] by 15%.

[16] https://www.iihs.org/news/detail/turning-off-red-light-cameras-costs-lives-new-research-shows
[17] https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/red_light_camera_systems_operational_guidelines.pdf
[18] https://www.ntsb.gov/Advocacy/safety-topics/Documents/Point-05%20SafetyBriefingFacts%20March2023.pdf
[19] https://highways.dot.gov/safety/proven-safety-countermeasures/enhanced-delineation-horizontal-curves

Communities: This is an FHWA Proven Safety Countermeasure applied nationwide and in Alaska. For example, these were installed across the state on rural roadways including the Richardson, Steese, and Alaska Highways, where as much as a 20:1 benefit-cost ratio was realized.[20]

► *Roadside design improvements at curves*

Provide additional clear zone through slope flattening and/or shoulder widening on roads near horizontal curves to provide a more traversable or recoverable area for vehicles that leave the roadway.

Benefit: Providing a clear zone of 30 feet from 16.7 feet has been shown to reduce all crashes[21] by up to 44%.

Communities: This is an FHWA Proven Safety Countermeasure applied nationwide. This is a customary design practice for roadway rehabilitation and reconstruction projects (including Mat-Su area projects) but it can be applied as a spot improvement if crash history suggests curves are contributing to run-off-the-road crashes.

► *Wider edge lines*

Stripe 6-inch roadway fog lines instead of the standard 4-inch fog line to emphasize the roadway edge.

Benefit: This FHWA Proven Safety Countermeasure has shown to reduce non-fatal and injury related crashes[22] (not intersection related) on two-lane rural roadways by 37%, and has a 25:1 benefit-cost ratio for fatal and serious injury crashes on two-lane rural roadways. Roadway restriping can be a low-cost improvement.

Communities: FHWA's research cites application in Missouri and Idaho.

► *Road diets*

Convert four-lane roadways to three-lane, or three-lane roadways to two-lane depending on context and capacity. Utilize the space previously used by vehicles for bicycle and pedestrian accommodations. Some roads constructed decades ago may no longer need all the vehicular lanes considering shifts in transportation modes and build-outs of other road networks.

Benefit: This FHWA Proven Safety Countermeasure has shown to reduce total crashes[23] between 19 and 47%. Depending on the facility, it can be implemented at relatively low cost through roadway restriping and can also add new facilities without introducing the need for new right-of-way.

Communities: Walla Walla, Washington,[24] Minneapolis, Minnesota,[25] and nationwide

► *Flashing yellow arrows at signalized intersections*

Advises drivers to use caution on a permissive left turn, as opposed to the traditional "yield on green ball" signal, which is not always intuitive because green indicates "go."

Benefit: Flashing yellow arrows are shown to reduce total crashes,[26] especially angle crashes for the permissive left turn at a traffic signal. Protected left turn phases (solid green arrow) remain safer but can reduce efficiency of intersection operations.

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[20] https://aws.state.ak.us/OnlinePublicNotices/Notices/Attachment.aspx?id=142395 for 13NR04 Richardson Highway MP 291- 295 Enhanced Curve Delineation
[21] https://highways.dot.gov/safety/proven-safety-countermeasures/roadside-design-improvements-curves
[22] https://highways.dot.gov/safety/proven-safety-countermeasures/wider-edge-lines
[23] https://highways.dot.gov/safety/proven-safety-countermeasures/road-diets-roadway-reconfiguration
[24] https://www.wallawallawa.gov/home/showpublisheddocument/9438/638424659891470000 hereafter hyperlinked as Walla Walla, Washington
[25] https://lims.minneapolismn.gov/Download/RCAV2/31027/18-Vision-Zero-Action-Plan-2023-2025.pdf hereafter hyperlinked as Minneapolis, Minnesota
[26] https://highways.dot.gov/sites/fhwa.dot.gov/files/FHWA-HRT-19-035.pdf

Communities: Nationwide including Alaska[27] and Mat-Su Borough (not fully deployed at all signals)

►*Leading pedestrian interval at intersections*

A leading pedestrian interval gives pedestrians the opportunity to enter the crosswalk at an intersection 3 to 7 seconds before vehicles are given a green indication, improving their visibility in the crosswalk before turning vehicles approach the crosswalk.

Benefit: This FHWA Proven Safety Countermeasure can potentially reduce pedestrian-vehicle crashes[28] by up to 13% at intersections and is very low cost to implement if only signal timing changes are required.

Communities: Walla Walla, Washington, Boulder, Colorado

►*Retroreflective signal backplates*

Promotes traffic signal visibility, conspicuity, and orientation for both older and color vision deficient drivers.

Benefit: Can provide a 15% reduction in total intersection crashes[29]. These backplates can be implemented in conjunction with other signal modernization projects, such as flashing yellow arrow implementation. This has been done in Fairbanks and is planned in Anchorage.

Communities: Alaska, Walla Walla, Washington, and Minneapolis, Minnesota

Crosswalk visibility enhancements

These enhancements include ladder-style crosswalks, enhanced signs and markings, and improved lighting at crosswalks. These treatments should focus on uncontrolled intersections and mid-block crossings at areas that connect key pedestrian generators.

Benefit: This proven safety countermeasure can reduce pedestrian crashes[30] by up to 40%.

Communities: Nationwide, Walla Walla, Washington.

Dedicated right- and left-turn lanes at intersections

Auxiliary lanes, or turn lanes, separate stopped or turning traffic from through-traffic movements at the approaches to intersections.

Benefit: Right-turn lanes can reduce total crashes[31] at an intersection by 14-26%, while left-turn lanes can provide a 28 to 48% reduction. This FHWA Proven Safety Countermeasure can be considered preemptively or in response to intersection crash patterns. Discussion about design guideline policy decisions is provided in the **Reduce minimum thresholds for right or left turn lanes for developers and roadway designers** section.

Communities: Nationwide, including Alaska and Mat-Su Borough.

Dedicated bicycle lanes

These facilities make space for bicyclists and alert motorists to anticipate the presence of bicycles adjacent to the travel lane. Implementing can be low cost depending on the existing road width. Protected bike lanes add a further element of bicycle lane visibility and improve comfort and safety for cyclists.

Benefit: Adding bicycle lanes can reduce total crashes[32] up to 30% on urban two-lane collectors and local roads.

[27] https://dot.alaska.gov/stwddes/dcstraffic/fya/index.shtml
[28] https://highways.dot.gov/safety/proven-safety-countermeasures/leading-pedestrian-interval
[29] https://highways.dot.gov/safety/proven-safety-countermeasures/backplates-retroreflective-borders
[30] https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements
[31] https://highways.dot.gov/safety/proven-safety-countermeasures/dedicated-left-and-right-turn-lanes-intersections
[32] https://highways.dot.gov/safety/proven-safety-countermeasures/bicycle-lanes

Communities: Walla Walla, Washington, Boulder, Colorado, and Minneapolis, Minnesota.

Implement rectangular rapid flashing beacons

Enhances awareness of pedestrian crossings at uncontrolled marked crosswalks by providing pedestrian activated (as needed) beacons.

Benefit: This FHWA Proven Safety Countermeasure is particularly effective at multilane crossings with speed limits less than 40 mph. It can improve motorist yield compliance by 98% and reduce pedestrian crashes[33] up to 47%.

Communities: Anchorage and Fairbanks, Alaska, Boulder, Colorado, and Minneapolis, Minnesota.

Roundabouts

See Roundabout Construction section about roundabout benefits and specific data in the Mat-Su Borough.

Policy

Establish a regional Vision Zero working group

This group consists of borough/county, MPO, and city representatives who meet regularly to discuss local roadway safety issues.

Benefit: The Safety Action Plan stakeholder team (Vision Zero Working Group) continues to meet after the plan to evaluate local safety issues, opportunities, and to maintain accountability to the regional Safety Plan.

Communities: Denver Regional Council of Governments.

Corridor access management

Plan access management for a given corridor with various tactics for eventual infrastructure projects combined with a development management policy such as:

- Reducing or consolidating access points (driveways)
- Manage spacing of future driveways to limit density and reduce conflicts
- Implement raised medians to reduce left turning and cross-traffic conflicts
- Implement roundabouts and/or restricted crossing U-turns and median U-turns that reduce left-turn conflicts
- Provide auxiliary turn lanes with adequate deceleration and storage
- Develop frontage or backage off-arterial roads (one way or two way) that are lower speed and keep local traffic off the main higher speed artery

Benefit: Reducing the density of driveways on urban arterials can reduce fatal and serious injury crashes[34] by 25 to 31%. Access management has proven to provide benefits to businesses across the United State, with most businesses reporting the same or increased sales and the same or increased property values.

Communities: Nationwide, including Mat-Su Borough (Parks Highway Wasilla to Big Lake, Knik-Goose Bay Road).

Review/implement speed management policies for setting speed limits

Safe speeds are a core tenet of SSA because human error compounded with speed can result in serious crashes. Speed management policies[35] are one way of managing the energy (and resulting severity) of a crash and are an FHWA Proven Safety Countermeasure.[36] Where allowed by state law, local jurisdictions are designating reduced speed zones beyond the statutory maximum speed limits when regulatory limits do not fit a road or traffic conditions.[37] Many states and communities, including Alaska DOT&PF, are departing from the traditional practice of setting speed limits based on 85th percentile speed. Alaska DOT&PF's emerging speed management policy will focus on self-enforcing roadways[38] to give drivers more indicators than a speed limit sign to advise them to drive a target speed more appropriate for the local

[33] https://highways.dot.gov/safety/proven-safety-countermeasures/rectangular-rapid-flashing-beacons-rrfb
[34] https://highways.dot.gov/safety/proven-safety-countermeasures/corridor-access-management
[35] https://highways.dot.gov/sites/fhwa.dot.gov/files/Safe_System_Approach_for_Speed_Management.pdf
[36] https://highways.dot.gov/safety/proven-safety-countermeasures/appropriate-speed-limits-all-road-users
[37] This is allowed by state law in Alaska. See Alaska Administrative Code 13 AAC 275 and 13 AAC 280
[38] https://www.fhwa.dot.gov/publications/research/safety/17098/17098.pdf?_gl=1*o3j07d*_ga*MTAxNDg2NDg3Ni4xNzIzNTA2ODM5*_ga_VW1SFWJKBB*MTcyMzUwNjgzOC4xLjEuMTcyMzUwOTcyMy4wLjAuMA

context.[39] This is in line with NCRHP Report 966: *Posted Speed Limit Setting Procedure Tool*, which departs from the 85th percentile speed with more focus on roadway context and use.

Benefit: The city of Seattle saw a 26% reduction in traffic fatalities after implementation of city-wide speed management strategies. Another study found that on rural roads, setting a speed limit to 5 mph below the 85th percentile improved compliance with speed limits and may result in fewer serious and overall crashes.[40]

Communities: Walla Walla, Washington, Minneapolis, Minnesota, Austin, Texas,[41] and Boulder, Colorado.

Additional resources: The FHWA provides technical assistance to local governments trying to set safe, reasonable, and consistent speed limits[42] through an engineering evaluation, resources for traffic calming[43], and a template for state and local jurisdictions for development of speed management action plans.[44]

Work with member governments to help update street design guidelines, standards, and municipal codes to support Complete Streets policies and Safe System principles

Supports design consistency within a region and focuses on design parameters that align with Safe System principles.

Benefit: Can complement a Complete Streets Policy and/or Toolkit to assist planners and engineers with addressing safety-related aspects of street design, incorporating Vision Zero principles, applying countermeasures, and including further guidance for creating design components that create safe speeds.

Communities: Denver Regional Council of Governments.

Implement a submittal checklist for developers and/or roadway design project reviews prior to project approval

Benefit: A checklist for designers and reviewers of plans strengthens local staff's knowledge of design code and standards, sets expectations for required elements, and provides additional quality review. For developers, a checklist sets expectations for submittals and can help streamline reviews or delays associated with incomplete submittals. The exercise of creating a checklist can also assist municipal staff in identifying gaps in municipal code or design standards or areas needing improvement. It can be completed in conjunction with design manual updates.

Communities: Ada County, Idaho[45] (developer checklist example).

Establish roadway design standards that cite the most recent version of manuals (e.g., AASHTO, MUTCD, Highway Capacity Manual) in municipal code as applicable

Memorializing a version of manuals in code or other dated reference documents requires regular review of code for any desired updates. Code changes generally require elected body approval.

Benefit: Adopting in code the most recent design manuals from established credible design sources incorporates the most recent research and trends without requiring frequent code review and updates. In turn, designers and developers apply the most modern design criteria.

Communities: Canyon County, Idaho[46]

Reduce minimum thresholds for right or left turn lanes for developers and roadway designers

This section describes policy around the design policy decisions to construct new turn lanes. Benefits of this FHWA Proven Safety Countermeasure are described earlier in the **Program Review** section.

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[39] DOT&PF update to Alaska House Transportation Committee, July 11, 2024
[40] https://highways.dot.gov/safety/proven-safety-countermeasures/appropriate-speed-limits-all-road-users
[41] https://www.austintexas.gov/department/speed-management
[42] https://highways.dot.gov/safety/speed-management/uslimits2
[43] https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer
[44] https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwa_speedmanagementpackage_final.pdf
[45] https://www.achdidaho.org/home/showpublisheddocument/166/638239823692100000
[46] https://www.nampahighway1.com/forms/2022_ACCHD_Manual.pdf

Warrants for turn lanes vary by community. Early research by M.D. Harmelink dating back to 1967 is the origin[47] of many adopted turn lane design guidance policies nationwide. Installing turn lanes, especially left turn lanes, adds cost and can add right-of-way considerations due to the extent of pavement widening and modification to incorporate appropriate tapers and storage. As such, agencies often rely on warrants to validate design decisions and/or to set consistent expectations for developers. Modern research and guidance incorporate context-sensitive design principles for the basis of exceeding design minimums for roadway design professionals and/or developer proposed driveways. Nothing precludes designers from adding a turn lane when one does not meet design warrants, but they should have good (and documented) reasons for straying from established standards. Requiring an unwarranted turn lane of a developer is likely to be heavily resisted and politically elevated due to a perceived arbitrary requirement adding to development costs.

Traditional turn lane guidance leans toward warranting conditions for turn lanes in areas of high through traffic and turning volumes and on higher speed roadways. High traffic volumes are generally not realized in many Alaskan communities except on major arterials, and while turning volumes can be limited depending on the development, they can still present a safety or operational issue. These higher thresholds can limit opportunities to construct turn lanes at the opportune time, which is particularly true for private developments where there is generally only one opportunity to require roadway improvements constructed at their cost (as a condition of granting access.)

Benefit: Adopting new standards based on more recent research[48] allows roadway designers more flexibility and comfort in making decisions to incorporate auxiliary lanes as a safety and operational enhancement to arterial roads (generally associated with more traffic volumes) and turning movements (generally associated with collector roads.) Adopting these approaches into local code (with some further analysis and clarifying directives to make it less subjective for developers to ascertain warrants) could result in more developer-funded auxiliary lanes associated with development. It could also give planners and designers working on borough roads stronger tools for design decision making for incorporating auxiliary lanes in road rehabilitation or reconstruction projects.

Considerations:

Left turn lane warrants: AASHTO's *Policy for Geometric Designs of Highways and Streets*, 2018 (GB7) emphasizes the importance of roadway context in its view that "warrants for the use of auxiliary lanes cannot be stated definitely.[49]" The GB7 takes a generally conservative approach and ranges for establishing when left turn lanes may be warranted for urban and when rural arterials may be warranted. This information is presented in an easy-to-follow table (not complex charts with multiple variables). One key distinction in GB7 from traditional Harmelink charts is that warrants are not dependent on roadway speed, which allows speed to be part of a contextual decision but not a key design criterion. However, GB7 suggests decisions are "after cost benefit evaluation" which ultimately leaves the discretion to the designer and their available project budget.

Using GB7 (or the most modern version) standards for left turn lane warrants is a credible basis for establishing left turn lanes. Local policy must be developed to isolate the appropriate ranges. For example, GB7 suggests an urban arterial at a three-leg intersection and at least 450 vehicles in the peak hour on the major route could warrant a left turn lane with as few as five turning vehicles in any peak hour. However, it goes as high as 50 or more in the peak hour if the through volume is 100 vehicles in the peak hour.[50] Thresholds are considerably lower for rural areas, which is suggestive of a higher likelihood of a following driver being surprised by a turning vehicle in these areas.

Right turn lane warrants have a higher threshold because unlike a left turn, right turners do not have to yield to opposing traffic, which requires a potential stop condition. Alaska DOT&PF uses criteria[51] that do not trigger full right turn lane widths until 40 turns an hour, and the threshold goes up to 100 an hour as through volumes decrease. There are some

[47] https://onlinepubs.trb.org/Onlinepubs/hrr/1967/211/211-001.pdf
[48] https://nap.nationalacademies.org/catalog/22608/left-turn-accommodations-at-unsignalized-intersections
[49] AASHTO's *A Policy on Geometric Design of Highways and Streets,* 2018, Section 9.7.1
[50] AASHTO's *A Policy on Geometric Design of Highways and Streets,* 2018, Tables 9-24 and 9-26
[51] *NCHRP Report 279*, Figure 4-23, 1985, referenced by the Alaska Highway Preconstruction Manual for right turn lanes

variations of these requirements, but the threshold does not change substantially.[52] Arizona DOT has high thresholds for right turn lanes but presents data in a more concise tabular form[53].

Other contextual considerations for right turn lanes should consider total roadway width and shoulder width since shoulders provide some margin of error for slowing vehicles to pull over. Driveway standards can also adopt 10:1 pavement tapers[54] transitioning from driveways on higher speed roads to provide limited deceleration space.

Any new policy should include context guidance to be incorporated into decisions for either right or left turn lanes as is used by Alaska DOT&PF.[55] Policy should also consider surrounding driveways in proximity to the intersection (which may introduce confusion about what the turn lane is accessing) and consider any impacts the added road width may have on bicycles and pedestrian ability to cross at the intersection. Another option is to select classes of roads, or key roads in an area for which a development will automatically trigger a traffic impact analysis, regardless of the development's trip generation. For example, the city of Marysville, Ohio's access management policy is that any proposed development along an arterial will generally require a traffic impact study to demonstrate the need for the access on the arterial and consideration given to future volume and operations.[56]

Consideration should also be given to whether a growth factor should be applied to through volumes or turning traffic. Design projects traditionally target a design year AADT that accounts for projected growth, but developers tend to report maximum peak hour anticipated based on guidelines for trip generation, which may increase once constructed. In a fast-growing community, discretion is needed for when to expect a development may attract more traffic in the foreseeable design year (generally accepted to be 20 years) to apply a realistic growth projection so that the local agency's capital resources are not overly burdened by the actions of a developer. Any policy could ultimately delegate decision making to a designated borough official, regardless of whether the proposal is part of roadway reconstruction or a developer's actions.

Public and Stakeholder Input

Introduction and Purpose

Safety on the roadway is affected by many variables, and there can be several factors associated with any crash. To ensure that the Mat-Su Borough CSAP Existing Conditions Analysis accounts for the wide array of different variables present in the Mat-Su Borough Expanded Core Area, a robust public engagement process was initiated to gain valuable information from a multidisciplinary group of stakeholders, transportation agency professionals, and the public.

Engagement Tactics

Several engagement tactics were deployed to ensure robust public participation for the Existing Conditions Analysis. The following activities were through September 2024. The final CSAP will address engagement tactics through completion of the plan.

This comprehensive engagement strategy included:

- Development of the project website, branding, and logo
- Development of the stakeholder/outreach list
- A meeting with the Safety Action Plan Team (SAPT) to introduce the project and gain valuable insights on safety issues and areas of concern.

[52] Missouri DOT: https://epg.modot.org/index.php/940.9_Auxiliary_Acceleration_and_Turning_Lanes#940.9.7_Right_Turn_Lanes
[53] https://azdot.gov/sites/default/files/2019/05/tgp0245-2019-01.pdf
[54] Alaska Highway Preconstruction Manual, 1190.5.4
[55] https://dot.alaska.gov/nreg/precon/Design_Directives/ See 19-02, Turn Lanes for examples of roadway context considerations
[56] https://marysvilleohio.org/DocumentCenter/View/489/2023-Access-Management-Guidelines?bidId=

- Three pop-up events to provide Mat-Su Borough CSAP information and a platform to identify safety concerns voiced by the public.
- Five Mat-Su Borough agency meeting presentations.
- Social media and news publications.
- Email notifications to a broad stakeholder list.
- A safety survey which had a total of 913 responders and identified over 1,000 locations of concern in and around the Mat-Su Borough Expanded Core Area.

The Project Website

Our team developed a project website using Esri Experience Builder in the first phase of plan development. This website included general information about the plan, the SS4A, SSA, the project timeline and calendar of events, and contact information. To help facilitate engagement in the plan process, the website included a page to notify the public on upcoming public workshops and pop-up events. It also provided an opportunity to sign up for email updates on future planning milestones. Finally, the website includes a documents page where the public can view milestone deliverables including a video recording of Public Workshop #1, the Expanded Core Area Map, an informational recording on the SS4A program, and feedback gathered during Public Workshop #1.

The Stakeholder/Outreach List

Our team developed a robust stakeholder/outreach list which was used to notify the public about the project, upcoming participation events, and the project timeline. Stakeholders included key representatives from the following groups:

- Local Mat-Su Borough Advocacy Groups
- Disability Services
- Family Services
- Recreation
- Senior Services
- Mat-Su Borough Government
- Housing
- Employment Services
- Youth Services
- Tribal Governments
- Health Care
- Business
- Emergency Services
- Education
- Transit

Safety Action Plan Team

To comply with SS4A guidelines for developing CSAPs, we initiated development of an advisory committee to oversee key milestones during the planning process. The SAPT will provide valuable local insights into transportation safety in the study area. It is made up of key transportation and safety representatives from the following agencies:

- Mat-Su Borough Public Works*
- Mat-Su Borough Planning*
- Mat-Su Borough Emergency Services*
- Mat-Su Borough School District*
- MVP*
- DOT&PF*

- Alaska State Troopers*
- City of Palmer
- City of Wasilla
- City of Houston
- Valley Mountain Bikers & Hikers
- Coalition of Mat-Su Senior Centers
- Boys and Girls Club of Mat-Su
- Alaska Trucking Association
- Knik Tribal Council
- Native Village of Chickaloon
- Valley Transit

*Participated in SAPT meetings to date

This group helped to identify specific transportation safety concerns within the Mat-Su Borough Expanded Core and will provide oversight and direction on potential safety solutions, project recommendations, and implementation actions in the final plan.

Pop-up Events

Pop-up events are an effective way to meet the community where they are and provide an opportunity for education and engagement during the plan process. Our team facilitated three pop-up events that collected valuable information from the public including specific safety concern locations and comments on existing and planned facilities. Our team also provided project information flyers, fact sheets, paper copies of the safety survey, and promotional project giveaways (reflective dog bandanas, reflective arm bands, blinking lights, and project stickers). We engaged with the community at three separate in-person events on the following dates:

- August 9, 2024 – Friday Fling in Palmer
- August 17, 2024 – Houston Founders Day
- August 21, 2024 – Wasilla Farmer's Market

Mat-Su Borough Committee Meeting Presentations

To help facilitate public awareness of the Mat-Su Borough CSAP, promote the safety survey, and ensure a smooth plan adoption process, our team met with key Mat-Su Borough committees to provide an overview of the Mat-Su Borough CSAP and gather comments from transportation and safety professionals, policy makers, and the public. These included:

- Mat-Su Borough Transportation Advisory Board
- Local Road Service Area Advisory Board
- Mat-Su Borough Planning Commission
- MVP Technical Committee
- MVP Policy Board

Social Media and News Publications

Utilizing social media to promote plan awareness and gather feedback at key milestones of the plan process is a powerful tool and can help ensure broad public participation. Our team created a Facebook post and a promotional reel to help publicize the safety survey. The post and reel guided people to the project website where they could learn more about the plan, view the latest plan documents, learn how to get involved in the process, and contact the project team. The Facebook post was promoted through paid advertising by the Mat-Su Borough's Facebook page. The reel was shared 36 times and watched 15,000 times. In addition, the Facebook post and reel were shared with the following Facebook groups:

- Friends Who Like Saving Life Thru Driver's Safety Class
- Saving Life Thru Driver's Safety Class
- Willow Area Community Organization
- KGB community, traffic & crime updates - Wasilla, Alaska
- Alaska DOT&PF
- Glenn Highway Construction and General Traffic Report
- Mat-Su Valley Traffic, Road, and Weather Conditions Discussion
- Palmer Alaska Buzz
- Palmer Alaska News
- Mat-Su Borough EMS
- Wasilla Police Department
- Mat-Su Valley News
- City of Houston, Alaska (didn't share the reel but did share the info about the survey)

Email Notifications

The stakeholder/outreach list was utilized to reach a broad cross section of the Mat-Su Borough Expanded Core Area through email correspondence at key milestones during development of the existing conditions analysis. These included:

- Project Initiation – an email notification to launch the project website and educate stakeholders and the public about the purpose of the plan, the SS4A program, and upcoming public participation opportunities.
- Virtual Public Workshop #1 – an email to invite the public to attend the workshop and provide workshop details such as purpose, outcomes, and schedule. This email also promoted and encouraged participation in the safety survey.
- A reminder email to take the safety survey before it closed on September 13, 2024.

Safety Survey

Safety Survey Results

Purpose

We conducted a comprehensive safety survey to gain valuable insight from the public on their perceptions of transportation safety within the Mat-Su Borough Expanded Core Area. The survey included a wide array of questions to understand where the community's biggest opportunities and challenges for transportation safety exist, as well as to identify specific barriers to walking and bicycling. The information from this survey will be used to prioritize broad community safety needs, prioritize safety recommendations, and assess core areas for future investment in the Mat-Su Borough Expanded Core Area.

Methods

The safety survey was launched on June 26, 2024, and open through September 13, 2024. During that time, it was available on the project website. Physical (hard copy) surveys were distributed in Houston, Wasilla, and Palmer at the following locations:

- Houston City Hall
- Wasilla Museum and Visitor Center
- Wasilla Public Library
- Palmer Public Library
- Palmer Museum and Visitor Center

Physical surveys were collected, and their data were entered into the Esri Experience Builder project database. Access to the online survey was provided at the following:

- Virtual Public Workshop #1
- On the project website

- Through a mass email to the project's stakeholder outreach database
- Via paper flyers distributed at public pop-up events
- Via social media outlets including Facebook and Instagram
- At presentations to five local Mat-Su Borough Agencies including the Planning Commission, Local Road Service Area Advisory Board, Transportation Advisory Board, MVP Technical Committee, and MVP Policy Board.

Online Survey

The online survey was developed using Esri Experience Builder and a link was hosted on the project website. Survey responders took the survey via participant self-selection after gaining access to the link through one of the many outreach methods. Any person who was uncomfortable taking the survey online was encouraged (through specific direction on the project website) to call the Michael Baker International project manager to take the survey over the phone.

Paper Survey

Thirty paper surveys were collected at the above-listed locations. Additionally, one paper survey was mailed to the Mat-Su Borough project manager. All data from the paper surveys were manually entered into the Esri Experience Builder project site.

Survey Content

The survey included a total of 16 multiple choice, ranking, and open-ended questions encompassing the following topics:

- Demographics of survey responder (age, ethnicity, place of residence, and gender identity)
- Relationship to the Mat-Su Borough CSAP
- Typical mode of transportation for work and non-work travel
- Perception of safety in place of residence
- Factors affecting the likelihood of walking and biking in place of residence
- Factors encouraging the prioritization of safety
- Challenges to transportation safety
- Priorities for investing in transportation safety
- One open ended question providing the opportunity to share a transportation safety concern
- Online surveys included a map where respondents could drop a pin to identify areas of specific concern

Results

Response rate

The survey garnered a total of 927 complete responses within the Mat-Su Borough area.

Demographics

Age

The largest age group represented in the survey was 36-45 years of age (24%) followed closely by those 46-55 years of age (23%). The next largest groups were 56-65 years of age and 66-75 years of age, representing 18% and 15% of all responders, respectively. People over 75 made up 3% of responders and people 18-25 years of age made up 2% of all responders. There was only one person under 18 who took the survey.

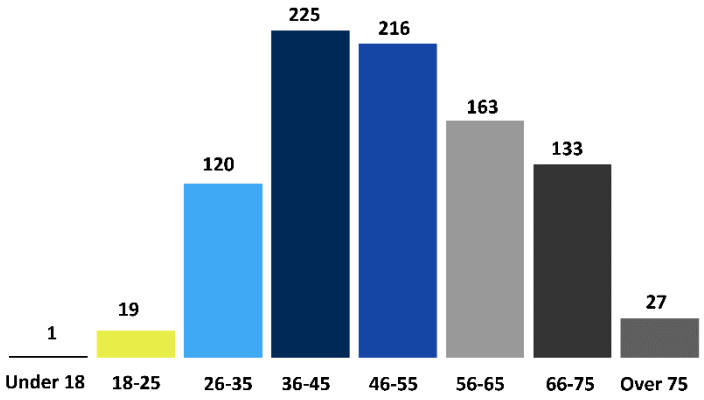

Figure 41. Safety Survey Results – Age of respondents

Ethnicity/Race

Most of the survey respondents identified as white (74%). The next largest identified ethnicity was American Indian or Alaska Native at 4%, while 1% identified as Asian, 1% identified as Black or African American, 1.5% identified as Hispanic or Latino, and 0.25% identified as Native Hawaiian or Other Pacific Islander. Of all survey responders, 2.5% identified as Other and 18% preferred not to answer this question.

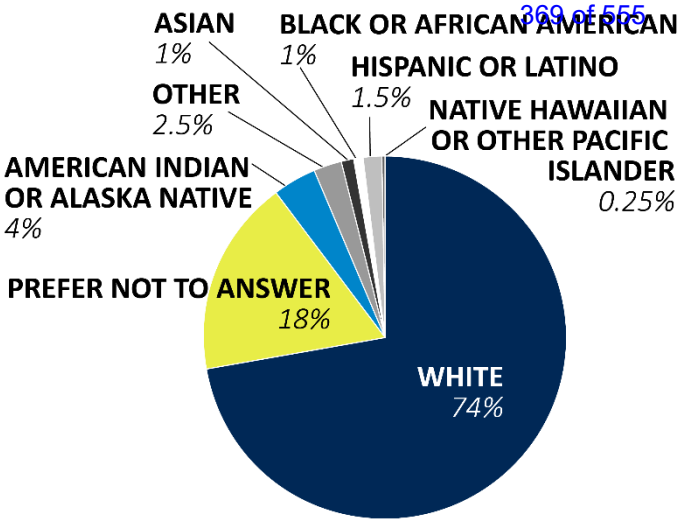

Figure 42. Safety Survey Results – Ethnicity of respondents

Gender Identity

Most survey respondents identified as female (55%) and 30% identified as male, 0.5% identified as non-binary/non-conforming, 11% preferred not to answer, and 0.1% identified as other.

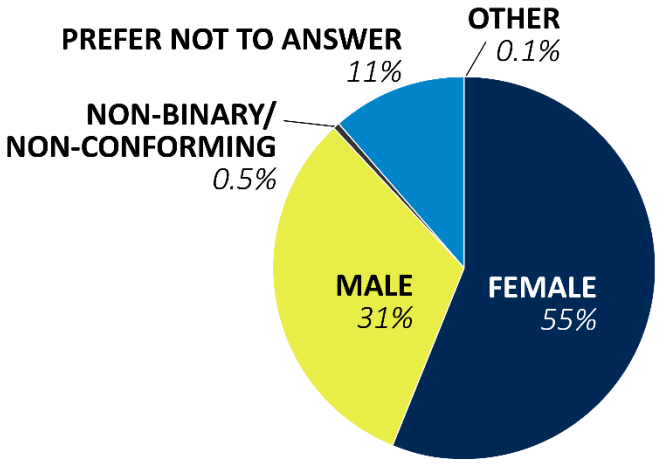

Figure 43. Safety Survey Results – Gender Identity of respondents

Where in the MSB Do You Live?

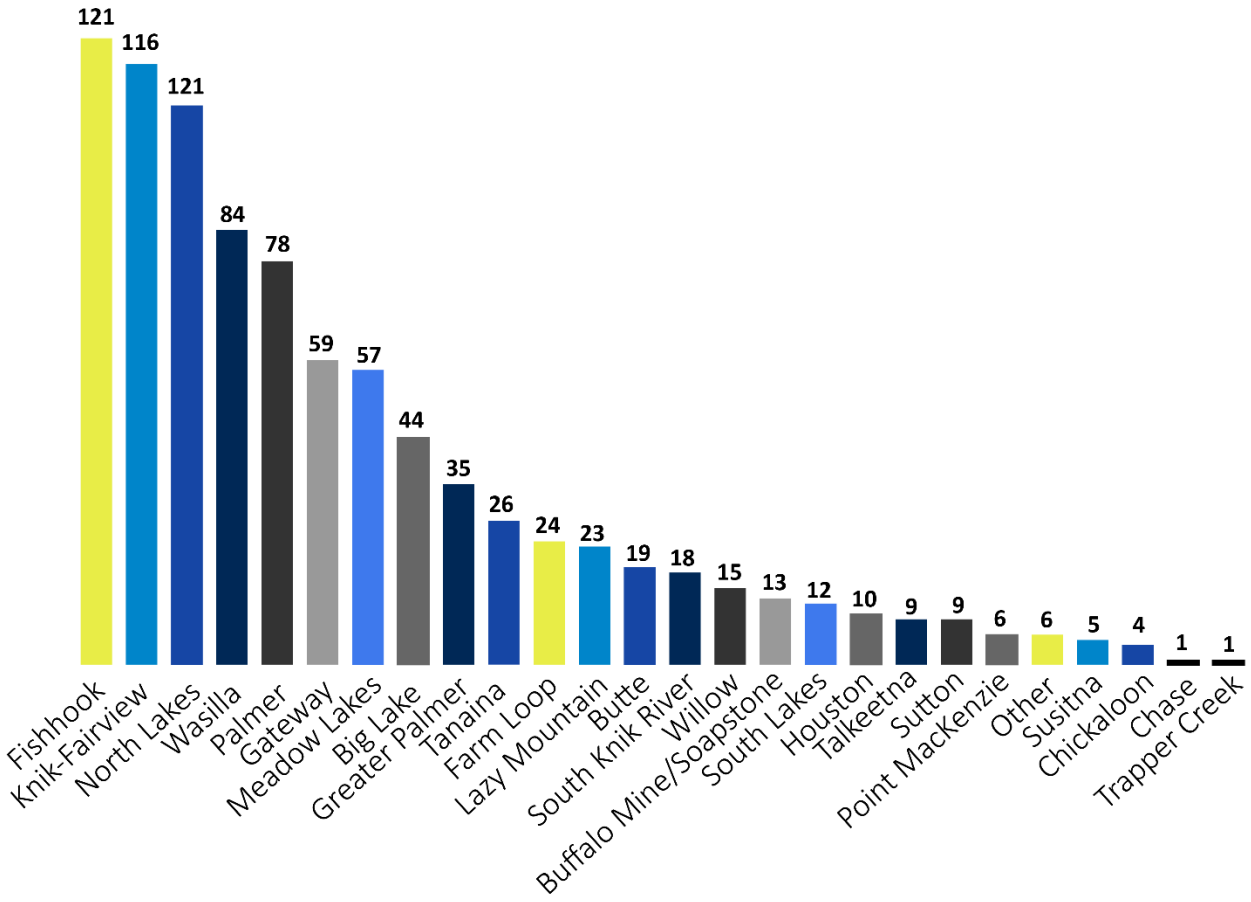

Figure 44. Safety Survey Results – Location of respondents

Regarding where people who took the survey lived, there was good representation across all communities within the Mat-Su Borough Expanded Core Area as well as some from areas outside the study boundary. Most survey responses came from residents of the Fishhook, Knik-Fairview, North Lakes, Wasilla, Palmer, Gateway, and Meadow Lakes communities.

Relationship to Transportation Safety

The overwhelming majority of survey respondents were interested residents at 92%. Safety Professionals made up 4%, while Transportation Professionals made up 3% of respondents. Interested visitors and Interested Non-resident workers each made up 0.5% of respondents.

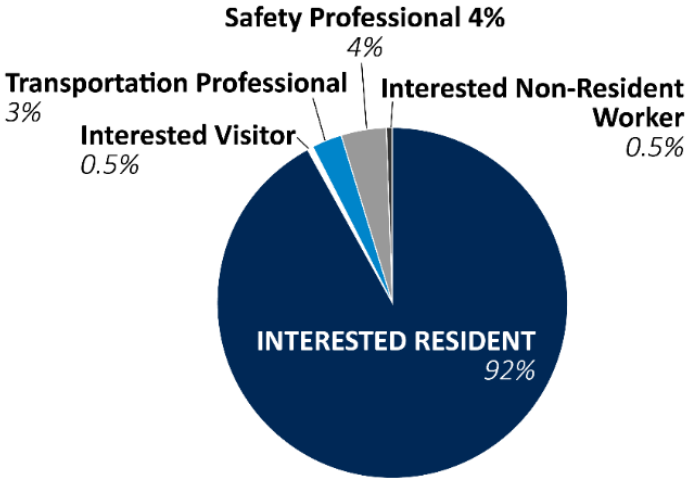

Figure 45. Safety Survey Results – Relationship to Transportation Safety

Modes of Transportation

Workplace Travel

Looking at mode choice in the Mat-Su Borough transportation network, 91% of survey respondents indicated that they use a vehicle or motorcycle for transport to and from their workplace. Of those surveyed, 3.5% chose bicycling as their primary means of commuting to work, 1% walked, 1% rode an ATV, 0.1% use public transportation, and 0.1% indicated needing an assisted mobility device. 4% chose other.

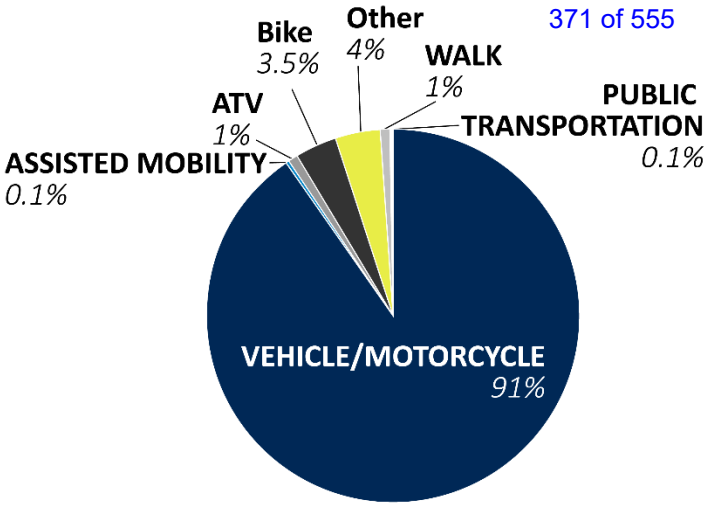

Figure 46. Safety Survey Results – Work Travel Mode Choice

Non-work Travel

For non-work travel, the survey results showed more diversity in mode choice. While 83% of respondents still chose vehicle/motorcycle as their primary mode of choice, 8% indicated bicycling as their primary choice, 4% indicated walking, 3% rode an ATV, and 0.1% used public transit. 1% indicated they used another option for transport.

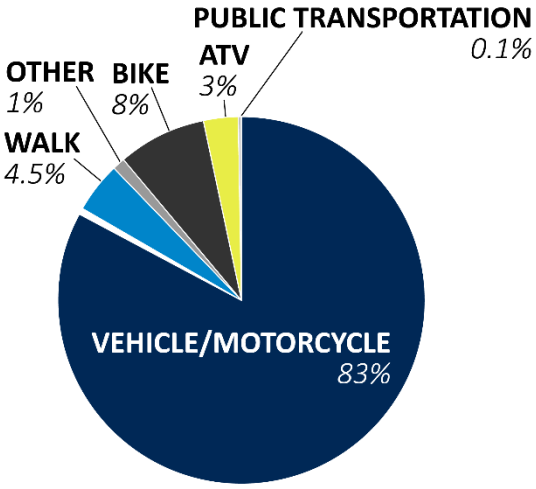

Figure 47. Safety Survey Results – Non-Work Travel Mode Choice

Perceptions to Transportation Safety and Proximity to Transit

A major element of the SS4A program is assessing the perception of safety in and around the transportation network. This is intended to help identify areas of improvement that will encourage greater use of the system and provide more options when it comes to mode choice. The survey asked respondents to share their perception of safety while walking and biking to gauge the ease of access to transit facilities.

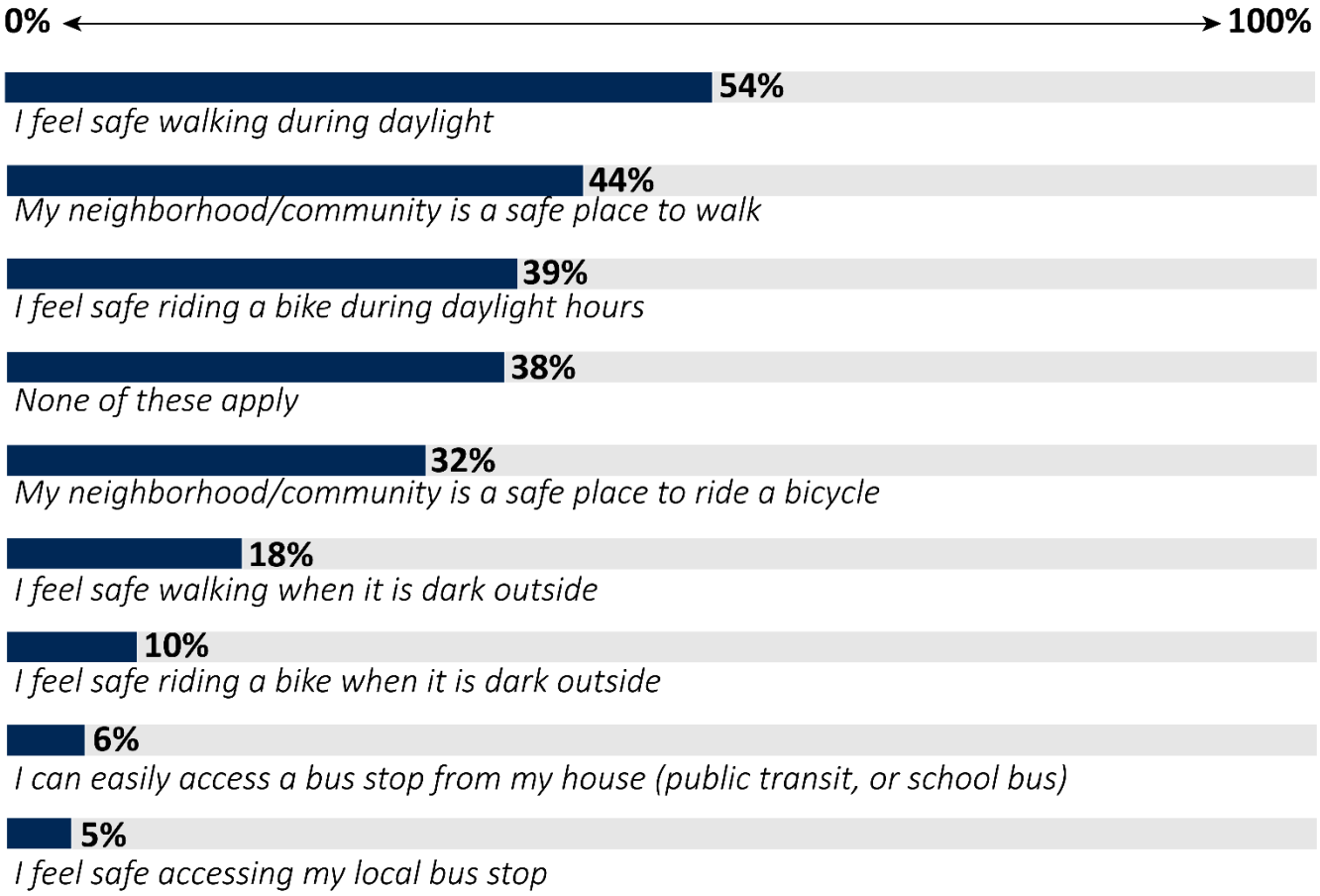

Figure 48. Safety Survey Results – Perceived Safety Walking, Biking, and Taking Transit

Only 54% of survey respondents felt safe walking in their communities during the daytime, and that decreased to 18% when it was dark outside. Similarly, 39% felt safe riding a bicycle during daylight hours, while just 10% felt safe riding a bicycle after nightfall. Only 6% of all respondents felt they had easy access to a bus stop or school bus from their place of residence and even less (5%) felt that it was safe to access their local bus stop.

Choosing to Walk

Identifying barriers to transportation is a key step leading to solutions that promote greater choices for mobility in a community. The survey asked respondents to indicate what improvements or changes might be made to the transportation network that would make them feel more comfortable walking. They were asked to rank the following choices on a scale of 1 to 5, with 1 being not likely at all and 5 indicating extremely likely to encourage them to walk.

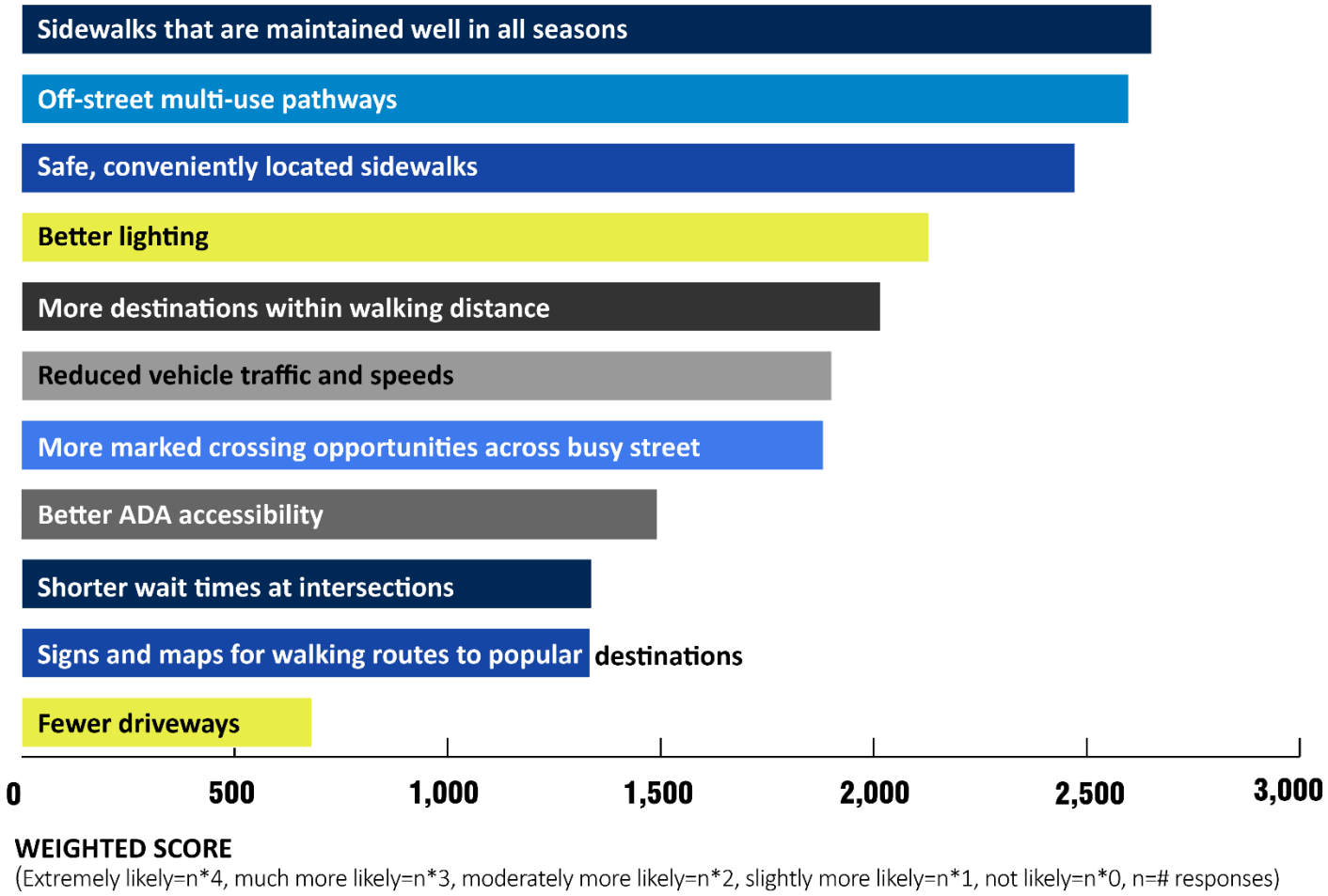

Figure 49. Safety Survey Results – Choosing to Walk

Sidewalks that are well-maintained in all seasons, off-street multi-use pathways, and safe, conveniently located sidewalks were the top three categories that would encourage residents to walk more. Better lighting, destinations within walking distance, reduced vehicle traffic and speeds, and more marked crossing opportunities were the next three highest scoring categories. Better ADA accessibility, shorter wait times at intersections, and signs and maps leading to popular destinations were next. Fewer driveways was the lowest indicator of a change that would increase walking in the Mat-Su Borough Expanded Core area.

Identifying these barriers (potential changes that would increase the likelihood of walking) is a tool that can be used to prioritize future improvements to the transportation network and help allocate valuable transportation safety funds with limited resources.

Choosing to Bike

A similar question was asked about biking within the Mat-Su Borough Expanded Corea area.

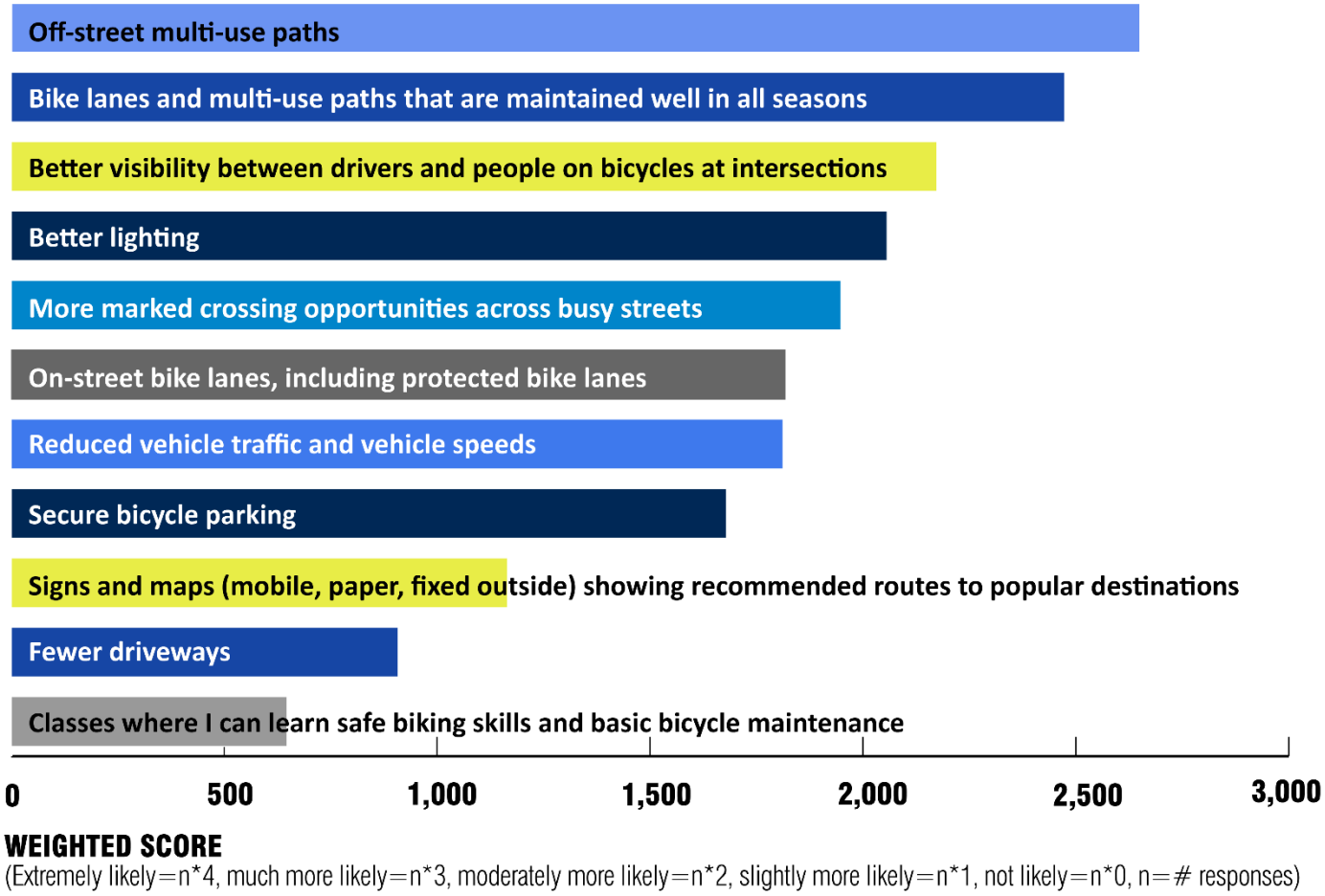

Figure 50. Safety Survey Results – Choosing to Bike

In terms of changes that would encourage people to bike more, the presence of off-street, multi-use paths and well-maintained bike lanes and multi-use paths scored the highest. The next four highest scoring categories included better lighting, more marked crossing opportunities across busy streets, on-street bike lanes including protected bike lanes, and reduced vehicle traffic and vehicle speeds. Secure bicycle parking, signs and maps leading to popular destinations, and fewer driveways were the next three highest scoring categories. Classes teaching safe biking skills and basic bicycle maintenance was the lowest scoring category to have an influence on whether more people choose bicycling.

Encouraging People to Prioritize Safety

To help prioritize improvements that will most help to prioritize safety in the transportation system, survey respondents were asked to assess a variety of actions to determine what actions might have the most impact. The respondents were asked to select all choices that they thought would help to prioritize safety.

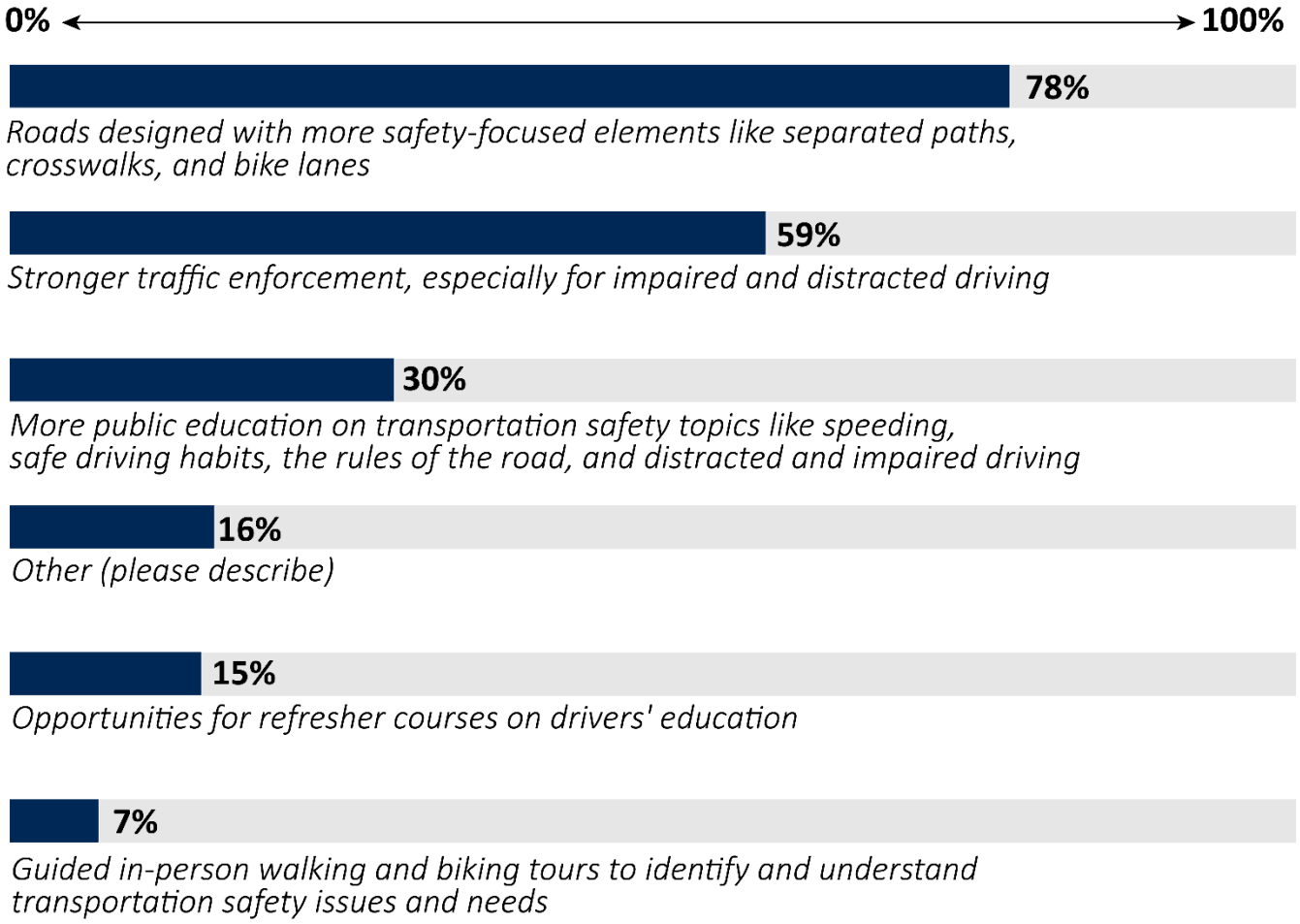

Figure 51. Safety Survey Results – Prioritizing Safety

Overwhelmingly, 78% of respondents chose road design with more safety-focused elements such as separated paths, crosswalks, and bike lanes as the most important action that would help to prioritize safety within the Mat-Su Borough Expanded Core Area. The next highest scoring action (59%) was stronger traffic enforcement, especially for impaired and distracted driving. More public education on transportation safety topics like speeding, safe driving habits, the rules of the road, and distracted and impaired driving came in third, scoring 30%. Fifteen percent of respondents thought that refresher courses on drivers' education would be beneficial and 7% thought that guided, in-person walking and biking tours to identify and understand transportation safety issues and needs would help to prioritize safety in the Mat-Su Borough Expanded Core Area.

The Biggest Challenges to Related to Transportation Safety

In addition to identifying transportation barriers, identifying perceived challenges to improving safety in the transportation network can help to prioritize where resources should be spent to overcome these challenges.

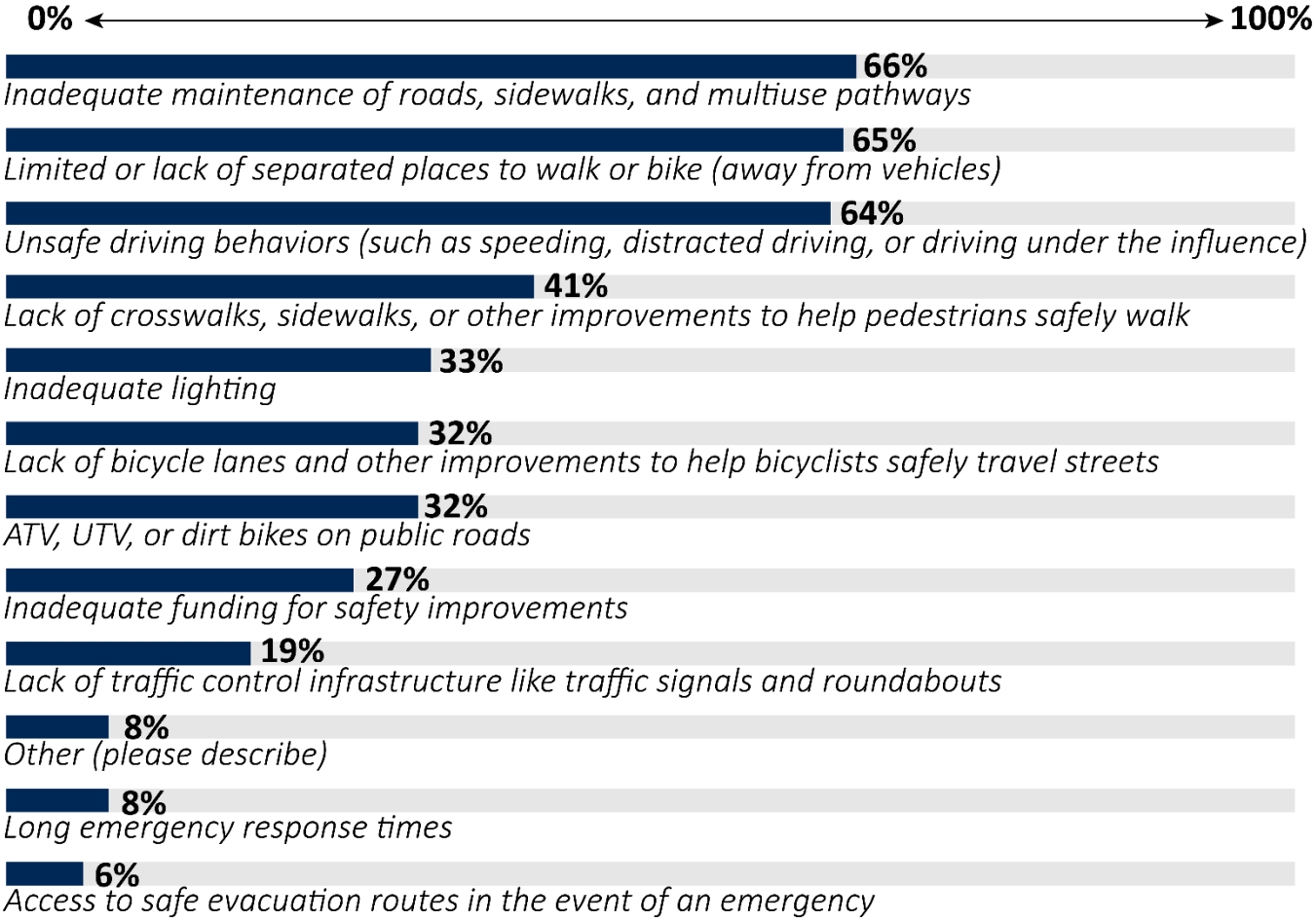

Figure 52. Safety Survey Results – Challenges to Safety

The top three scoring categories for this question included inadequate maintenance of roads, sidewalks, and multiuse pathways (66%); a lack of separated places to walk and bike (away from vehicles) (65%); and unsafe driving behaviors (such as speeding, distracted driving, or driving under the influence) (64%). The next four similarly scored categories included lack of crosswalks, sidewalks, other improvements to help pedestrians safely walk (41%); inadequate lighting (33%); lack of bicycle lanes and other improvements to help bicyclists safety travel the streets (32%); and ATV, UTV, or dirt bikes on public roads (32%). Inadequate funding for safety improvements scored 27%, while lack of traffic control infrastructure like traffic signals and roundabouts scored 19%. Finally, long emergency response times scored 8%, while access to safe evacuation routes scored 6%.

Investments in Transportation Safety

Survey respondents were asked to indicate which of the following investments would have the most impact on improving safety within the Mat-Su Borough Expanded Core Area. They were asked to select their top 5 priorities.

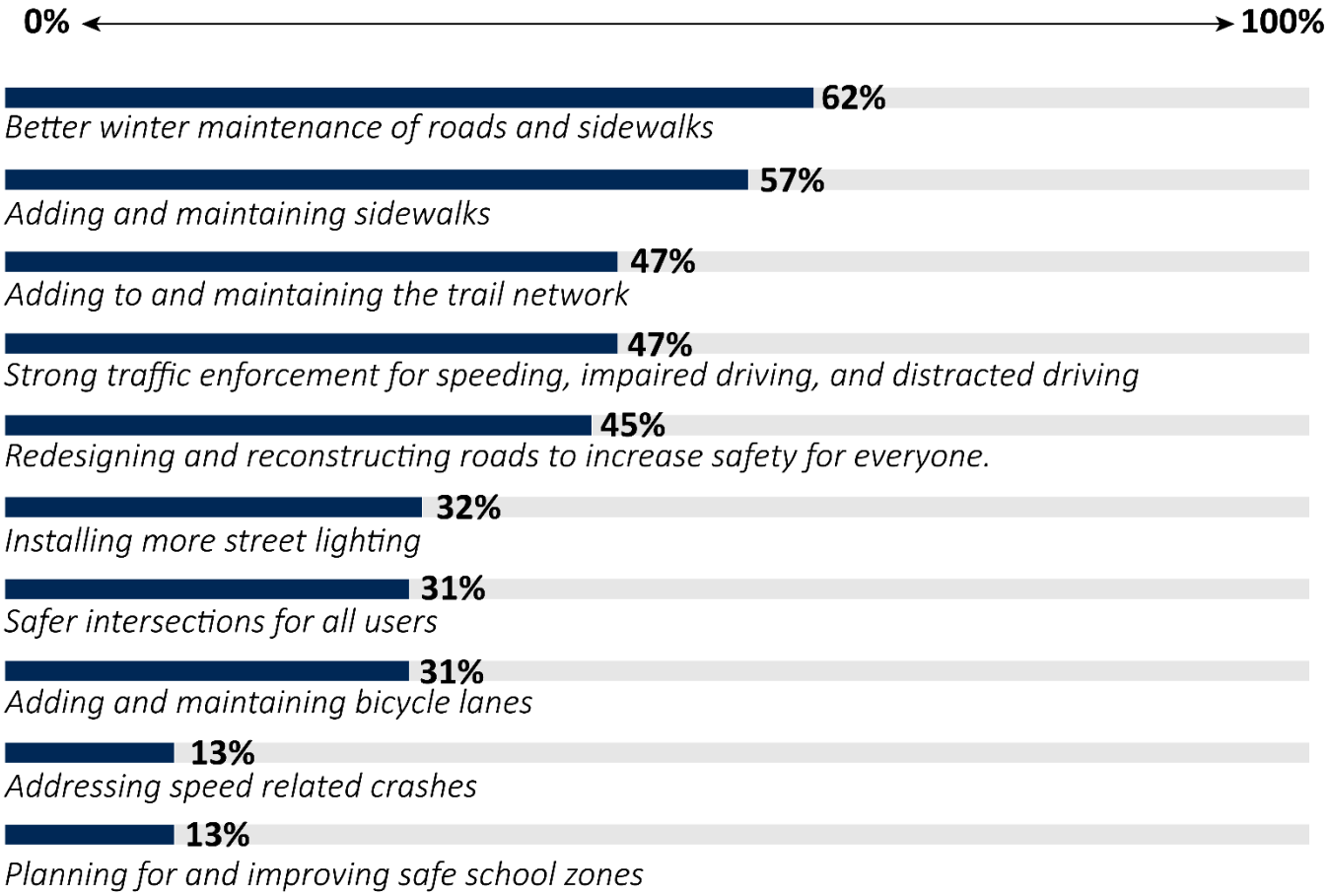

Figure 53. Safety Survey Results – Investing in Safety

Areas of Concern

To help identify specific areas of safety concern, survey respondents were asked to locate their five biggest safety concerns within the study area. Online survey responders were provided a map on which they could drop a pin to notate an area of concern. Paper survey respondents were asked to identify their area of concern using mile markers, intersections, landmarks, and establishments, such as schools or stores, to help identify the location.

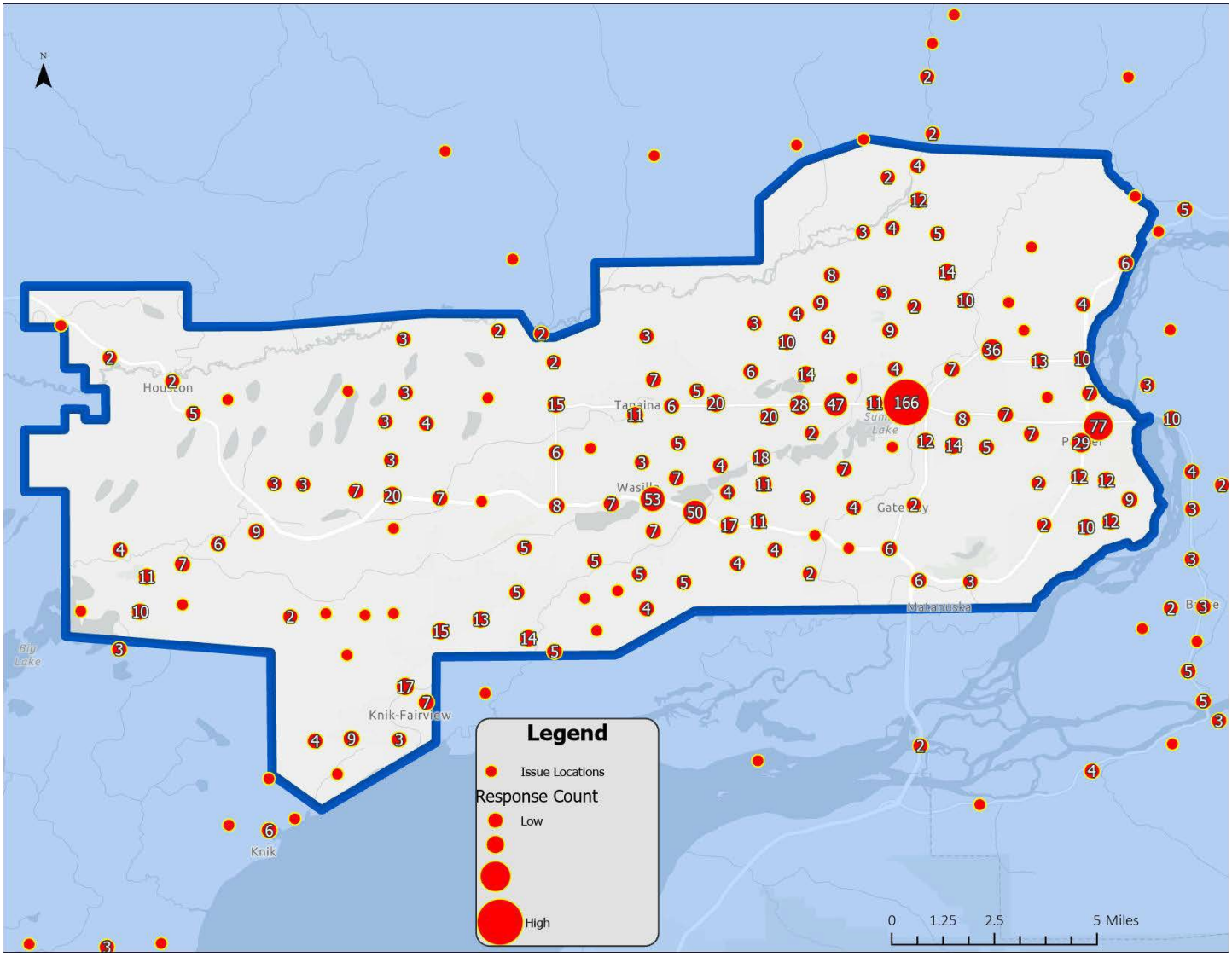

Figure 54. Safety Survey Results – Areas of Concern

This map displays over 1,000 pins dropped by survey participants to indicate their biggest safety concerns in and around the Mat-Su Borough Expanded Core Area. Larger circles are locations with multiple pins indicating the same area of concern. Additionally, survey respondents were asked to explain the safety issue or concern for each location they indicated on the map. Common themes for safety issues identified through the survey included unsafe intersection design, unsafe road design, inadequate facilities for walking and biking, and unsafe speeds on the roadway.

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Appendix A: Summary Data and Sources for Peer City Comparison

Table A-1. Peer City Comparisons

Community	General Information	Similarities to Mat-Su Expanded Core Area
Fairbanks North Star Borough	• Third most[57] populated area of Alaska (followed by Anchorage and Mat-Su) and two military bases • Includes City of Fairbanks, North Pole, and University of Alaska Fairbanks • Junction of two interstates, Richardson Highway and Parks Highway	• Generally similar climate • Comparable population and demographics[1] and mix of urban/rural roadways • Similar spread of borough government, city government and unincorporated city boundary between • Similar demographics[1] and VMTs
Kenai Peninsula Borough	• Fourth most[1] populated area of Alaska • Heavy traffic for summer tourist destinations • Reliant on main interstate access: Seward and Sterling Highways and connecting roadways	• Generally similar climate • Comparable population and demographics[1] and mix of urban/rural roadways • Similar spread of borough government, city government and unincorporated city boundary between • Similar demographics[1]
Cass County, North Dakota	• County seat is Fargo, ND, the state's most populated city • Metropolitan Planning Area joined with Moorhead, MN (Fargo-Moorhead Metropolitan Council of Governments)	• Similar climate particularly for wind and winter conditions • Comparable population • Similar demographics[1] • Presence of agriculture and mix of rural/urban roadways • Has experienced rapid population growth since 2010 similar to Mat-Su Borough [58] • Has interstate highway presence (I-29 and I-94)
Mesa County, Colorado	• Encompasses Grand Junction (most populated city in county) • Not considered in Front Rage mountainous area of Colorado, or part of Denver metropolitan area	• Winter climate • Comparable population • Similar demographics[1] and mix of urban/rural roadways • Has interstate highway presence (I-70) • Active trails network and outdoor community • Actively working on an SS4A Comprehensive Safety Action Plan
Broomfield County, Colorado	Consolidated city and county in north central Colorado	• Winter climate • Very comparable population and demographics[1], though population more dense • Similar VMTs • Has interstate highway presence (I-25) • Active trails network and parks/recreational community • Rapid population growth similar to Mat-Su Borough[2]
Missoula County, Montana	• Western county in Montana, Missoula is county seat and largest city in county • College town, home of University of Montana	• Winter climate • Includes many unincorporated communities • Has interstate highway presence (I-90) and mix of urban/rural roadways • Comparable population and demographics[1]
Canyon County, Idaho	• County of "bedroom" communities in western Idaho encompassing Nampa, Caldwell and Middleton, part of Boise (Ada County) metro area	• Winter climate • Has interstate highway presence (I-84) • Comparable population density, demographics demographics[1] as well as mix of urban/rural roadways • Rapid population growth similar to Mat-Su Borough [2]
Laramie County, Wyoming	Southeastern county in Wyoming, home of Cheyenne, the state capital	• Winter climate • Has interstate presence (I-25 and I-80) • Railroad history/in vicinity (Union Pacific) • Comparable population • Similar demographics[1] and mix of urban/rural roadways

[57] Alaska Department of Labor & Workforce Development https://live.laborstats.alaska.gov/pop/estimates/pub/chap2.pdf
[58] US Census Data https://www.census.gov/quickfacts/

Table A-2. Peer City Summary Data

	VMT (hundred million)	Length of Road (mi)	Latest population est. [2]	Land area (Sq Mi)[2]	Population Density (person/Sq Mi)	Fatal crashes 2018-2022 (5 yr avg)[1]	Fatal crashes/100M VMT	Fatal crashes/100k population	Serious Injury Crashes[16] (5 yr average)	Killed + Serious Injury (KSI) Crashes	KSI Crashes/100k population	KSI Crashes/100M VMT	Total Crashes (5 yr avg)	Crashes/100M VMT	Crashes/100k population
Mat-Su Borough Expanded Core Area	5.1[3]	1,184[10]	81,000	253	320	11.4	2.2	14.1	31.8[14]	43.2	53.3	8.5	960[14]	188.3	1185.7
Fairbanks North Star Borough	6.4[4]	1,909[10]	94,840	7,335	13	7.4	1.2	7.8							
Kenai Peninsula Borough	0.10[5]	1,994[10]	61,223	16,017	4	8.4		13.7	31.4[14]	39.8	65.0		744[14]		1215.2
Alaska - Statewide	54[6]	17,681[1]	736,812[2]	571,022	1	64.2	1.2	8.7	335[15]	410.0[15]	55.6	7.6			
Cass County, ND	16.7[7]		196,362	1,765	111	9	0.5	4.6	Not available by county				2666[18]	159.6	1357.7
Mesa County, CO	8.30[8]	266[12]	159,681	3,328	48	17.8	2.1	11.1	CO does not track severity				2492.2[18]	300.1	1560.7
Broomfield County, CO	4.23[8]	28[12]	76,860	33	2,329	3.6	0.9	4.7	CO does not track severity				1243.4[18]	293.8	1617.7
Missoula County, MT	11.63[9]	2,275[13]	121,849	2,593	47	13.2	1.3	10.8	MT does not track severity				2583[18]	222.1	2120.2
Canyon County, ID			257,674	587	439	21.8		8.5	151.6	173.6	67.4		3757[18]		1458.0
Laramie County, WY			100,984	2,686	38	13.4		13.3	42	55.4	54.9		1986[18]		1966.5

Data Source Reference Information:

1. Fatality and Injury Reporting System Tool, National Highway Transportation System Administration, 2018-2022 five-year average, with exception of Mat-Su Borough Expanded Core Area. This is a custom boundary and fatalities were pulled from local law enforcement reports within this boundary, 2018-2022 five-year average.
2. **Communities**: US Census Data population data estimates as of 2023, land area as of 2020. Mat-Su Expanded Core Area population data is not available as this was a boundary determined for purposes of the SS4A grant. MSB Expanded Core area is a custom boundary and estimated from census tracts most closely matching it from the US DOT Equitable Transportation Community Explorer Tool, which sources from US Census. **Alaska statewide population data** from Alaska Dept. of Labor & Workforce Development, estimate as of 2023. Alaska land area from US Census data.
3. Vehicle Miles Traveled (VMT) estimate as of 2022. This was calculated from the length of roadway within the MSB Expanded Core Area (source: MSB GIS data) multiplied by the AADT of routes, where available, times 365. Not all routes in this area had volume data but the most recent year of data available was used. AADT data sourced from DOT&PF and MSB. Low volume roads often do not have AADT data, but accordingly make less of an impact on VMT calculations. This estimate is believed to be reasonably accurate for comparison purposes. **Note:** VMT data is difficult to obtain at a county/city level and generally reported at statewide level. Some states report VMT like Colorado and Montana report by county. Alaska does not report VMT by municipality.
4. Vehicle Miles Traveled estimate as of 2022. This was calculated similar to MSB Expanded Core Area above using DOT&PF AADT data. This estimate is believed to be reasonably accurate for comparison purposes.
5. Vehicle Miles Traveled estimate as of 2022, calculated similar to MSB and FSNB. However, substantial AADT information is missing for more than two thirds of the routes in the KPB, and the VMT, while believed to be substantially lower than MSB and FNSB, is not believed to be actually this low. Crashes per VMT were not carried through in calculations due to this uncertainty.
6. Estimation from 2016-2020 annual VMTs presented in *Alaska Strategic Highway Safety Plan*, updated March 2024.
7. 2022 VMT, North Dakota DOT
8. 2023 VMT, Colorado DOT
9. 2023 VMT, Montana DOT
10. Calculation from GIS data sourced from respective Boroughs. For communities without road length data shown, complete length of network data was not located. Most municipal entities only report roads under their ownership which is not representative of the total length of roads in a network.
11. 2020 estimate, *Alaska Strategic Highway Safety Plan*, updated March 2024.
12. Colorado DOT
13. Montana DOT

14. 2018-2022 crash data from local law enforcement reports. Serious injury crashes shown as annual estimate averaged over five-year period.
15. Rolling average 2016-2020, *Alaska Strategic Highway Safety Plan*, updated March 2024.
16. Where not reported, serious injury crash data is not tracked specifically in these localities at the municipal level (Cass County) or is not tracked by severity (Montana and Colorado). Montana DOT reported this data is not public on advice of counsel and referred us to FIRST/NHTSA for fatality only data. Fairbanks North Star Borough data for 2018-2022 was available but not used for this metric as a known deficiency in data reporting uploads from Fairbanks Police Department since 2018. Total crashes and serious injury crashes would be underrepresented based on available data at this time.
17. Respective state DOT, 2018-2022 annual estimate averaged over this five-year period. Exception: Laramie County data is from 2019-2023 from WYDOT.

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Appendix B: MSB CSAP Plans Review

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MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
Alaska Vulnerable Road User Assessment	DOT&PF	2023	A program of strategies that uses data and local stakeholders to address safety for vulnerable road users (VRUs). VRUs are generally anyone mobile on a roadway outside of a motor vehicle (pedestrians, bicyclists, wheelchair users, skaters/rollers, children playing, and workers in construction zones.	Identify VRU high risk areas and develops 14 strategies to reduce VRU crash risk.	Identifies high risk corridors and intersections statewide.	Identifies the following MSB Expanded Core Area Corridors for VRUs which may be good candidate SS4A projects once countermeasures identified: ***Bogard/Arctic Avenue** from Anna Street to Gulkana Street ***East Palmer-Wasilla** from Felton St to Valley Way. Similarly identifies high risk intersections: ***East Palmer-Wasilla and Glenn Highway *West Bogard & Glenn Hwy *East Parks & Palmer-Wasilla Highway.** Several strategies are useful and applicable for consideration as CSAP recommended implementation or supplemental planning projects, including deploying FHWA Proven Safety Countermeasures in underserved communities, conducting VRU Safety Audits, installing more pedestrian crossing infrastructure, and separating VRUs from motor vehicle traffic.
Alaska Strategic Highway Safety Plan	DOT&PF	2024	Provides a coordinated framework to unify safety stakeholders in reducing fatalities and serious injuries on public roads statewide.	Incorporates Safe System principles to establish performance goals for reducing fatal and serious injury crashes Toward Zero Deaths, with a commitment to monitor and report on goals over time.	*Key reporting measures include: number of fatalities, rate of fatalities, number of serious injuries, rate of serious injuries, and number of non-motorized fatalities and serious injuries (vulnerable road users.) Emphasis areas include: **Pedestrians and Bicyclists; Young Drivers and Older Drivers; Motorcycles, All-Purpose Vehicles and Snowmachines; Dangerous Driving; Roadways; Speed Management; Vehicle Safety; and Emergency Response.**	The plan provides a wealth of statewide data, trends and emphasis areas related to transportation safety. The framework for actions, responsible agency, performance measures and timeframes for each emphasis area is also an excellent model for CSAP recommendations.
Mat-Su Borough Highway Safety Improvement Program Handbook	MSB	2017	Reduce the number of crashes on borough roads, reduce injuries and save lives.	Reduce the number of crashes on borough roads, reduce injuries and save lives. Takes Alaska DOT&PF's HSIP program one step further in considering public input or addressing high-risk potential crash locations.	Policy focuses on a benefit cost model for countermeasures that reduce crashes (and associated crash costs to society.) However, no dedicated funding exists for the program, and project screening has not happened on a recent or regular basis due to lack of staff resources. Some elements of the HSIP screening process may apply to CSAP implementation projects, however, SS4A has other considerations, including equity. In addition, since 2017 DOT&PF's HSIP program has been modified to evaluate intersections by spots and does not use crash rates.	No program of projects exists currently. However, a plan recommendation could be to bring focus back to this program, and associated funding/resources.
Mat-Su Borough Core Area Comprehensive Plan	MSB	2007	The purpose of the plan is to set out goals and policies to guide the development in the Core Area that will enhance the quality of life and the public health, safety, and welfare.	Implement MSB LRTP goals for transportation	Strategies that serve the transportation safety goal are: Improve Transportation Safety Education; Continue the Safe Routes to School Program; Continue Support of Highway Safety Improvement Program; Develop and Implement Access Development Plans for all Major Collectors and Arterial Roadways within the MSB.	Work with AKDOT&PF, Cities of Palmer & Wasilla to purse funding for a Traffic Safety Signal Management Program. Palmer Wasilla Highway Action Plan. Subdivision Construction Manual Update. Develop Active Transportation Work Plan. Continue Coordination with MSB School District Regarding Safe Routes to School (SRTS). Proactively Support Active Transportation Provisions with Highway Facility Improvements.

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
Mat-Su Borough Comprehensive Plan	MSB	2005	Enhance quality of life, improve public health, safety, and welfare. Address borough-wide growth and provide general goals and policy recommendations for future development. The plan addresses these elements: Land use Transportation Public facilities Planning methods Community quality Parks and open space Economy Hazards Implementation	Develop an integrated surface transportation network that facilitates the efficient movement of people, goods, and services throughout the Borough and region. Protect and enhance the public safety, health, and welfare of Borough residents. Enhance the transportation infrastructure to reduce travel times and improve transport efficiencies and safety.	Locate new economic nodes at or near major arterial intersections instead of allowing linear commercial growth along such arterials. Develop an integrated highway and arterial surface transport system. Allow local communities, through local community based plans, to refine and tailor transportation system needs and alternatives for their particular community needs that are consistent with the borough's long range transportation plan and Borough-wide Comprehensive Plan. Develop an effective multi-modal transportation plan that provides recommendations for all modes of transportation including surface, air, waterborne, rail, public transit and trails, pipeline, electrical, and communications. Provide and encourage street and trail connectivity at a regional and local level. Require new developments to integrate street and trail connectivity as a component of their proposal. Develop pedestrian and bicycle linkages between schools, public facilities, neighborhoods, parks and open spaces and population centers where feasible.	Develop pedestrian and bike linkages
City of Houston Comprehensive Plan	City of Houston	2017	The purpose of the plan is to reflect the community's vision for future growth and development changes., to provide direction for development, and validate the community's core values. These include accommodating orderly growth, addressing the need for enhance education, health, and governmental services, promoting local employment and economic opportunity; and maintaining a high quality semi-rural residential environment.	• Increase safety, accessibility, and mobility through much of the city with improvements benefiting all users, including pedestrians, bicyclists, and other non-motorized users, while maintaining community character. • Provide a transportation system that enhances the local economy and quality of life: Minimize neighborhood through-traffic movements; promote positive and attractive design of transportation facilities; develop a multi-modal transportation network; encourage the paving of roads and the increased use of dust control materials. • Develop an integrated roadway network that facilitates the efficient movement of people and goods: Minimizing the number of access points on collector and arterial roads to maximize safety and road capacity; provide a multi-modal transportation system that is safe, effective and meets the needs of all residents;	Parks Highway: •Parks Hwy bypass (grade separated interchange between mile 56 and mile 60) - this project will provide opportunities for a cohesive town center around community assets (Little Susitna River and existing businesses) and help facilitate efficient and safe freight movement. •Upgrade to a 4-lane divided highway between Big Lake Road and the northern boundary of Houston. A divided highway will reduce conflicts between slower moving trucks and faster moving cars and has the potential to greatly reduce severe crashes, such as head-on collisions. • Access Management: limiting the number of intersections with the Parks Hwy and using frontage roads in the existing commercial zone near Armstrong Road. Access points identified for consolidating/rerouting include 1. W Larae Rd/Airolo (align intersections) Dr 2. Corn St (close hwy access and route to Hawk Ln or Delroy Rd) 3. Debra Jean Ln (close hwy access and route to Hawk Ln or Delroy Rd) 4. N Dana Ct to Railroad undercrossing (close hwy and provide frontage roads connecting to repurposed Parks Hwy after bypass construction) • Pedestrian crossings - safer crossings could be encouraged through construction and proper maintenance of surrounding trail networks, directing pedestrians to reduced speed areas of the Parks Hwy or future signalized access points. Local Road Network: Improve neighborhood connectivity	•Signage and wayfinding directing visitors to town center businesses •On/off ramps at existing Parks Highway at either end of bypass • Streetside or other public parking venues in the town center • Access management through intersection and driveway consolidation • Safer pedestrian crossings connecting to trail the trail network and future signalized access points • Preservation of existing formal pathways • ATV Policy adoption to designate facilities for this use type, incorporation of flat bottomed gravel ditches, stabilized shoulders, and trail/road intersections into new road construction.

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
				provide for the travel needs of mobility limited residents (young, old, low income, disabled); support continued operation and expansion of local public transportation.• City of Houston's 1999 adopted plan stressed need for emergency access routes and combination fire breaks. Proposed emergency access routes include a connection between Millers Reach Road and the Beaver Lake area and connecting roads north of the Little Susitna River from Armstrong Road to Edgerton Parks Road.	• West of Park Highway: secondary road link to the Beaver Lake area; access around the south side of Morvo Lake; and access to the Middle and High Schools from Delroy Road. • East of Parks Highway: Alternate Cheri Lake access; access to the east of Cheri Lake; completion of a loop around Prator Lake; and a new bridge over the Little Susitna River to connect Armstrong Road tot he Prator Lake area. Non-motorized Users: • Preserve existing formal pathways and add addition pathways along Hawk Lane (btwn Park hwy and Middle/High Schools); Extend Hawk Lane pathway from school campus to Big Beaver Lake and connect with the Big Lake community trail system. • Construct a formal pathway along Kenlar Road connecting the Hawk Lane pathway with the existing pathway adjacent to Big Lake Road. • Construct formal pathway along King Arthur Drive with connection to the existing pathway along the Parks Hwy. • Construct missing links to provide continuous pathways on both sides along the entire Parks Hwy. • construct formal pathway along the Little Susitna River in vicinity of proposed Town Center •Include adjacent pathways wherever feasible in all new construction and upgrade projects for interstate, arterial and collector roads. Off-Road Vehicles: ATVs and snow machines are allowed on City streets and ROW, however these can cause conflicts including invading private property, rutting, and safety concerns at intersections and dust/visibility hazards	
					• Adopt a policy to incorporate off-road vehicle facilities including stabilized shoulders, flat-bottom gravel surfaced ditches, and trail/road intersection considerations when constructing new roadways. • provide designated ATV trails between major ATV destinations, such as frequently visited lakes. Public Transportation: Existing bus service only extends into Houston's southern boundary. • expand bus service to other parts of Houston • Senior Center on Hawk Lane is a potential candidate for bus service • Create a formal, city owned Park-and-Ride lot for people who want to use the bus or carpool to commute to Wasilla or Anchorage • support development of Anchorage to MSB commute rail.	

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
City of Palmer Comprehensive Plan	City of Palmer	2006	To provide a method to analyze past development, current issues and community views, and use this information to establish policies guiding future development. Key components of this plan include a broad, long term vision for Palmer's future; policies to guide land use, growth, and development; priorities to improve community facilities and services; and policies to promote economic development, retain community character and protect the natural environment.	GOAL 1: Shape the character and use of the Glenn Highway. • Provide efficient, safe access to Palmer while serving the needs of through traffic. • Maintain the Glenn Highway corridor as an attractive community entry. • Improve pedestrian and vehicular links between east and west sides of the Glenn Highway. • Control access to commercial development along the Glenn Highway. GOAL 2: Improve the Palmer road system to meet anticipated growth. • Identify and prioritize specific roads for improvement. • Identify collector-level streets that are or will be needed to serve future development and traffic. • Identify future road corridors for acquisition of right-of-way GOAL 3: Maintain and improve community sidewalks and trails. • Make it easier to move around town without a car. • Identify and prioritize trails for improvement and future trail corridors for preservation	• Glenn Highway Bypass/Hemmer Road Extension •Proposed Road Improvements include Glenn Hwy (the Glenn Highway should be designated as a four-lane, limited-access, "boulevard-style" arterial with a generous planted median) Bogard Road Extension (Bogard Road is a key Core Area arterial that helps carry east-west traffic that uses the Palmer-Wasilla Highway.) Downtown – East West Connection (Another important road project is to develop a new, improved east-west connection across the railroad in downtown. The most promising route is to connect existing street segments of Dogwood Street to create an urban street running east of Denali Street, across the Alaska Railroad right-of-way.) Felton Extension (The Felton extension would connect Evergreen (Palmer-Wasilla Highway) with W. Arctic Avenue, and be connected to the planned extension of Dogwood. This improvement will create an important, more direct north-south link, reducing travel times and congestion on the Glenn Highway.) • Other Road Connections/Road Projects (Pave all roads within the community with the highest priorities should be streets with the greatest use, particularly in the downtown commercial and mixed use area. Collector streets are needed on an approximate one to one half mile grid consider requiring subdividers to consider the relationship of their developments to adjacent subdivisions.	• Implement identified road projects that will help alleviate congestion • Pave local roads to decrease dust/visibility/asthma issues • require developers to connect subdivision roads to walking and biking trails • implement identified trail and sidewalk missing links, needed improvements • rehabilitate sidewalks and improve sidewalk maintenance • expand transit service with a focus on service to senior centers and vulnerable populations
				GOAL 4: Support expansion and improvement of regional transit service. • Continue to provide and improve transportation services for disabled individuals. • Improve the "MASCOT" transportation service by establishing smaller node routes that are interconnected to reduce overall travel time.	Additional minor road connections needed include connecting the north and south sections of Gulkana Street coincident with the development of adjacent property. Connect subdivisions to existing trails within the community • Implement Proposed Trail Improvements and Proposed Sidewalk Improvements (see map (Figure 3) of proposed trail and sidewalk connections) • Rehabilitate Sidewalks and Improve Sidewalk Maintenance • Expand upon Mat-Su Community Transit (MASCOT) • Increase funding for transit service for The Palmer Senior Citizens Center • Pursue the creation of bus and rail commuter service between the Valley and Anchorage.	
City of Wasilla Comprehensive Plan	City of Wasilla	2011	The Plan is intended to guide the decision-making of the City's elected officials, commissions, and staff regarding future development and community quality of life. It provides a road map for action, with findings and goals that address important community elements.	1) Provide for streets and highways that promote mobility, connectivity and access for both present and future users. 2) Provide a streets and highway network that supports economic development and growth. 3) Support the City as a transportation hub that provides connecting highways, railroad, and expanded air service. 4) Provide a neighborhood street network that enhances the residents' quality of life. 5) Maintain and improve City sidewalks and non-motorized pathways to increase walkability.	• Develop strategies and partnerships to successfully fund regionally important road projects (e.g., STIP identified priority projects) • Update and maintain the City's Streets and Highways Plan. • Set aside funds annually to maintain and improve the existing City roads. • Seek alternatives to expanding and widening the Parks Highway through Downtown to alleviate current and future traffic. • Identify network options and negotiate right-of-way acquisition needed to speed up work on anticipated critical project linkages. •Work toward completing the region's perimeter roads that allow residents north and south of the City to avoid major road networks and remove unnecessary traffic from congested areas. • Minimize driveways and visual clutter within sight distance of intersections. • Work with ARRC to develop and maintain appropriate at-grade railroad crossings and to make improvements that address traffic flow impacts related to the railroad. • Identify ways to improve safety at high accident intersections. • Seek ways to reduce pedestrian and vehicle conflicts and make pedestrian crossings safer. • Require new commercial developments to provide connectivity with adjoining commercial uses.	• strengthen relationship with AKDOT to help plan and fund road improvements • develop perimeter roads that allow city residents to avoid major road networks and decrease congestion • improve pedestrian crossings • require commercial developers to provide access to adjoining commercial uses • develop transportation master plan • develop conceptual city site master plan which includes an element of buffering between non-compatible uses • implement safe routes to school program to identify routes and plan for safety improvements • develop and implement signage and wayfinding that is accessible for multi-modal travel • create and implement a maintenance plan for walkways • encourage sidewalk accessibility and connection to transit stops • enhance ADA accessibility on walkways • implement better lighting on walkways

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
					• Ensure future street connectivity for new subdivisions during plat reviews by recommending connections between subdivisions and appropriate roadway alignments. • Consider a Mack Drive with Clapp Road extension, with a major intersection that re-orients and links in Fairview Road for maximum safety and connectivity. • Develop a conceptual site master plan for the transportation node and surrounding lands, which considers compatibility, connectivity, and buffering between non-compatible uses.	
					• Support the public and private sector in establishing viable alternatives to single-occupancy vehicle trips, particularly for commuters. • Where through-traffic problems occur consider traffic calming measures or shifting road use and circulation patterns to address the issue. • Encourage neighborhoods to develop plans and identify neighborhood-specific transportation improvement priorities. • Work with existing schools to identify major pedestrian/bike access routes, and undertake safety and circulation improvements. Use the "Safe Routes to School" program as a potential resource and source of funding. • Require new commercial developments to provide basic pedestrian access to adjacent commercial uses. • Develop signage and safety solutions for road crossings and sidewalks that attract multiple types of users (pedestrians, handicapped persons, bicycles, and ATV's. • Create and implement a maintenance plan for walkways that allows them to be used year-round. • Encourage sidewalk connections to public transit stops. • Create design standards for new sidewalks that require the developer to provide connectivity between uses that are pedestrian friendly. • Ensure that sufficient area for pathways is set aside for future pathways at time of development. • Enhance ADA accessibility on walkways. • Encourage use of low-impact lighting.	
Mat-Su Borough Long Range Transportation Plan	MSB	2017	The stated purpose of the plan is to identify and communicate the MSB's highest transportation priorities. The Plan establishes goals for the MSB transportation system, recommends strategies for all modes of travel, including personal automobiles, bus/transit, bicycles, pedestrians, freight, rail, marine, and aviation. It provides a range of improvements that address mobility, safety, and accessibility needs, and establishes a prioritized, fiscally constrained list of roadway improvements as well as a short term implementation strategy.	Goal 5: Make Transportation Safer; Goal 1: Improve Transportation & Land Use Connection; Goal 3: Improve Connectivity;	Goal 1 strategy: Explore Remote Land Use Access and Infrastructure Issues -noting lack of infrastructure impacts user safety. Goal 3 strategy: Establish Non-Motorized Design Requirements on All Major Collector Roads and Above. Increases access to transit and improves pedestrian safety. Goal 5 strategies: Improve Transportation Safety Education. Continue Safe Routes to School Program. Continue support of Highway Safety Improvement Program. Develop and Implement Access Development Plans for All Major Collectors and Arterial Roadways within the MSB. Knik Goosebak between Parks Hwy and Pt MacKenzie Rd and the Parks Hwy between Wasilla and Big Lake are designated as Highway Safety Corridors. Palmer Wasilla Hwy between Palmer and Wasilla is being considered for Highway Safety Corridor designation. Glenn Hwy Erosion Protection MP 64/64; Parks Hwy/Talkeetna Spur Ped improvements; Palmer Wasilla Hwy widen to 3 lanes; AKDOT&PF MSB Intersection Improvement Program; Parks Hwy. Bridge Replacement Montana Creek and Sheep Creek; Nelson Rd extension to Fairview Loop Rd; Engstrom Road Congestion Relief; Engstrom Rd North extension to Tex Al; Tex Al Rd Upgrade and Extension; Glenn/Parks Interchange Hospital Access Improvements; Ongoing AKDOT&PF Asset Management and Safety Improvement Program; Seldon Rd - Beverly Lake Rd to Pittman Rd; Jensen Rd Extension to Soapstone Rd; Museum Drive Extension west to Vine Rd	Access management, pedestrian improvements, design standards.

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
					Katerine Drive Connection to Trunk Rd; Vine Rd Improvements - Hollywood Blvd to Parks Hwy; Wolverine Rd from Wolverine Creek Canyon to approx. Mile 10 (where maintenance ends)	
Mat-Su Borough MPO Self-Assessment	MSB	2016	To help identify the context in which an MPO would operate, the requirements of an MPO if one is established, the financial ramifications on existing staff and project resources, and the pros/cons of having an MPO.	The document is not a plan and does not contain goals, as such. The document explains the MPO structure/organization and compares that with MSB transportation planning and services. The document includes a peer MPO evaluation and more in-depth information about the FMATS (now FAST Planning) and AMATS. The document also includes a "give/gain" grid to help evaluate partnership roles/responsibilities, their contributions and benefits gained from participating in the MPO. The document also assesses the RTPO (Regional Transportation Planning Organization) vs the MPO and determines having both would be duplicative.	The document does not identify specific projects, but explains and evaluates the MPO structure and how it may work for the MSB. The MPO would be required to prepare and maintain a Metropolitan Transportation Plan (MTP) with performance measures and targets. One of the many stated purposes to the MTP is to increase the safety of the transportation system for motorized and non-motorized users.	The document does not include specific projects/locations or countermeasures.
Mat-Su Borough Official Streets & Highways Plan	MSB	2022	To be a planning tool to help decision makers reserve future road corridors and identify possible road network improvements so that when the need arises, reasonable options are still available. The stated goals of the plan are: Link planning to engineering; Provide a plan for development of an appropriate road network; Guide future land use; Preserve safe & efficient travel; Promote economic development; Produce lower cost projects; Extend project design lives; Improve quality of life.	Road network access & connectivity; Protect options for projects beyond 2035; Implements the Long Range Transportation Plan; Not fiscally constrained; Defines functional classes & patterns network design with planning level road alignments; Designs secondary road system network needed to support arterial level Long Range Transportation Plan solutions. Expected Design Features per Functional Class identify design speed, road surface, access, intersection treatments, median treatments, shoulder treatments, pedestrian treatments, and other expectations such as transit stops, mail box pull outs, etc.	Develop policy stating that OS&HP routes and recommendations be incorporated into all aspects of planning, design, project development, and construction within the MSB; Revise the SCM to better align with the OS&HP and FHWA AADT thresholds; Adopt ROW standards for each functional classification for use in plat reviews, setback requirements, and road network development; Draft or revise MSB code to require all streets to conform to the OS&HP; Require Developers to identify the intended use of the property to better plan for trip generation; Require developments to document how traffic will impact the surrounding road network; Require developments with impacts that result in a change of functional class to the immediately adjacent road network as outlined in the OS&HP, change of intersection location, and/or change in OS&HP present a plan for bringing impacted road to the applicable functional classification; Develop policy and plans for access management ; Develop a timeline or triggers for implementing zoning and/or adopting road power; Develop and adopt a Design Criteria Manual which includes standard criteria for the design and construction of each functional class of roads in the OS&HP; Survey existing road designs and compare them to standards of the DCM; Determine locations where road upgrades are needed to conform to standards; Prioritize projects to upgrade existing roads to meet the OS&HP recommendations	Specific projects are not recommended. Many of the recommended policies and standards employ applicable countermeasures, such as controlled intersections, access control management, and pedestrian facilities. Development of a Design Criteria Manual is likely to be a related plan recommendation in the CSAP in implementing Complete Streets principles or employing Proven Safety Countermeasures.
					Prioritize projects to upgrade existing roads to meet the OS&HP recommendations; Conduct corridor management studies.	

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
Mat-Su Borough Bicycle and Pedestrian Plan	MSB	2023	**Vision:** The Matanuska-Susitna Borough envisions equitable access to a safe bike and pedestrian transportation network where residents and visitors of all ages and abilities enjoy an improved quality of life through healthier, better-connected communities.	**Plan Goals**: • Inventory and document the bike and pedestrian network to identify gaps and deficiencies. • Review MSB Code, the MSB Subdivision Construction Manual, and MSB Policy to identify potential changes that will help implement the plan's recommendations. • Create a prioritized list of projects to start building out the bike and pedestrian network. • Educate the public on the vision and goals for the BPP. •Solicit public input on the BPP's gap analysis and other findings. • Identify funding mechanisms to help implement the BPP's recommendations.	**Recommended policies**: Implement facility design standards • Implement a Complete Streets Policy • Implement a snow-clearing policy • Implement a general Maintenance Policy • Revise MSB Code to include pedestrian infrastructure when subdivisions are created • Implement a Vision Zero program • Include bicycle and pedestrian plans in the TIP. **Recommended Infrastructure**: Implement SRTS Walk zone inventory for MSB • Separated path along Glenn Hwy (Fish Lake to Chickaloon Branch Rd and Palmer Fishhook Rd and Jonesville Road) •Separated path along Maud Road (Old Glenn to end of paved portion of Maud Rd)...see all projects (pgs. 39-47) • **Recommended Programs:** Convene nonmotorized task force • Conduct annual bicycle/pedestrian counts at key MSB locations • Conduct LOS assessment for bicyclists and pedestrians. • Publish a bicycle and pedestrian map • Conduct ADA assessment in core areas. • Conduct a user conflict study • Develop a wayfinding plan • Conduct a greenbelt pathway reconnaissance and feasibility study. • Develop an interpretive bicycle and pedestrian path to connect historic transportation routes. Include interpretive and wayfinding signage.	Update multi-modal design standards • Complete Streets Policy • All season maintenance policy • Policy to include pedestrian infrastructure in new subdivision developments • Implement separated pathways along key safety corridors • Develop bicycle map • Install wayfinding signage • Crosswalks • Enhanced pedestrian street amenities
Mat-Su Borough Comprehensive Plan Update (in process)	MSB		Help elected officials and borough staff make policy decisions that protect private investments, bolster economic development, and support high-quality public services.	Planning staff are working to develop solutions for connections between platting and classifying roads.	This plan is still in development, but during public outreach, the borough asked about the favorability of the Parks Highway Alternative Corridor (Wasilla Bypass). 79% of respondents were either in favor or neutral to this project.	This plan is still in development, but stakeholders suggested more lighting, crosswalks, and safer routes to school. Some other ideas in the forces and trends report: Updating the Subdivision Construction Manual to include bicycle and pedestrian safety and connectivity.
Mat-Su Borough Coordinated Human Services Transportation Plan Update	MSB	2023	Improve transportation options and access to services for the following target populations: Older adults (65+) Youth (ages 10 to 17) Indigenous people Veterans Individuals with disabilities Individuals living in poverty Individuals with limited English proficiency Households with no vehicles Unhoused people. Aid in the allocation of future funding for transit projects for these populations Identify and prioritize strategies for future implementation in the Borough	Design safe, accessible, and affordable services for borough residents.	Upgrade facilities at bus stops and transfer stations. Further identify public transportation infrastructure needs in the borough.	Lighting
Mat-Su Valley Planning (MVP) MPO Boundary Development Document & Interactive Map	MSB		This document presents a methodology to form the Mat-Su MPO Metropolitan Planning Area (MPA) boundary to be submitted to the Governor for designation as a MPO.	The document is not a plan and does not contain goals, as such.	The document does not identify specific projects. Nor does it include recommended policies, program or projects. It evaluates areas of potential growth and recommends a boundary for the MPA.	

MSB CSAP Plans Review						
Plan Title	Plan Ownership	Year Completed	Overarching Goal of Plan	Transportation Safety Related Goals	Key safety related policies/programs/projects	Potential applicability to MSB CSAP
Mat-Su Borough Transportation Infrastructure Program	MSB	2021 & 2023	A funding plan that focuses on implementing projects identified other plans including the Long Range Transportation Plan, Official Highways and Streets Plan, and Safe Routes to School.	Program of projects that address traffic congestion, connectivity improvements, pedestrian and vehicle safety improvements, and provide more transportation choices for residents. The Borough recognizes the importance of TIP investment due to the fast growing nature of the community.	Example TIP 23 projects include *Inner-Outer Springer Loop Pathway *School Site Traffic and Safety Improvements: Pioneer Peak Elementary *Hemmer Road Extension South. Constructed TIP 21 projects include Nelson Road Pathway, Trunk Road Connector (Katherine Drive) including a separated pathway, and Lucille Street (Seldon to Schrok).	Planned capital projects should be screened out during safety analysis to optimize available funding for SS4A grant opportunities. However, TIP projects that are still in the development phase may qualify for SS4A grant funding, which may free up TIP funding for other project needs in the Borough.
Alaska DOT&PF Statewide Transportation Improvement Program and Draft Amendment #1	DOT&PF	2024	Demonstrates DOT&PF's four year transportation investment plan statewide that is fiscally constrained. Adopts MPO TIPs by reference, except not MVP at this time since they do not yet have a TIP.	Highway, non-motorized and transit investment in planning, design and construction phases across a variety of funding categories and route classifications. The STIP includes an allocation of Highway Safety Improvement Program funding of over $62M in FFY24.	Example projects include: *Bogard Road N. Earl to N. Engstrom*Bogard Road Safety & Capacity Improvements *Fairview Loop Road Rehabilitation and Pathway *Hermon Road Extension (Parks to Palmer-Wasilla) *Hemmer Road Upgrade & Extension *Palmer-Fishhook Separated Pathway (Trunk to Edgerton-Parks) *Parks Highway Big Lake to Houston *Seldon Road Wasilla-Fishhook to Lucille St *Knik-Goose Bay Road Reconstruction	Planned capital projects should be screened out during safety analysis to optimize available funding for SS4A grant opportunities.

Appendix C: Safety Analysis Report

Safety Analysis

MATANUSKA-SUSITNA BOROUGH COMPREHENSIVE SAFETY ACTION PLAN

Introduction

This document summarizes the safety analysis process for the Matanuska-Susitna Borough (MSB) Comprehensive Safety Action Plan (CSAP) conducted under the Safe Streets and Roads for All (SS4A) program. This document describes the data, methodology and considerations used in evaluating crash trends and systemic safety considerations for the Expanded Core Area of the Mat-Su Borough. Ultimately, this analysis was used to fulfill the U.S. Department of Transportation's SS4A program's requirements for a CSAP. The SS4A requirements include analyses of existing conditions, contributing factors, and crash types for different users. A systemic analysis is also required to identify high-risk elements and areas of a road network that may present crash risk even in the absence of crash history.

Crash Data Sources and Overview

A detailed overview of the crash data summary and key trends for this analysis period were provided in the *Existing Conditions Memorandum for the Mat-Su Borough Comprehensive Safety Action Plan* dated November 26, 2024. Michael Baker International, on behalf of the Mat-Su Borough, obtained and analyzed 2018-2022 crash data from an Alaska Department of Transportation & Public Facilities (DOT&PF) database comprising reports submitted by local law enforcement agencies and self-reporting through the Alaska Division of Motor Vehicles. The crash analysis area, including the locations of serious injury and fatal crash locations (hereafter referred to as "serious crashes"), is shown in Figure 1.

Crash analysis was performed with an overall view of crashes and with a separate evaluation focused on Vulnerable Road Users (VRU.) The *2023-2027 Alaska Strategic Highway Safety Plan's Vulnerable Road User Assessment* defines a VRU as anyone who chooses to bike, walk, or roll on a roadway. VRUs can include people in wheelchairs or mobility assistive devices; people on roller skates or skateboards; children playing; or highway workers on foot in work zones. Based on available data, VRUs in this safety analysis are noted as bicyclists or pedestrians.

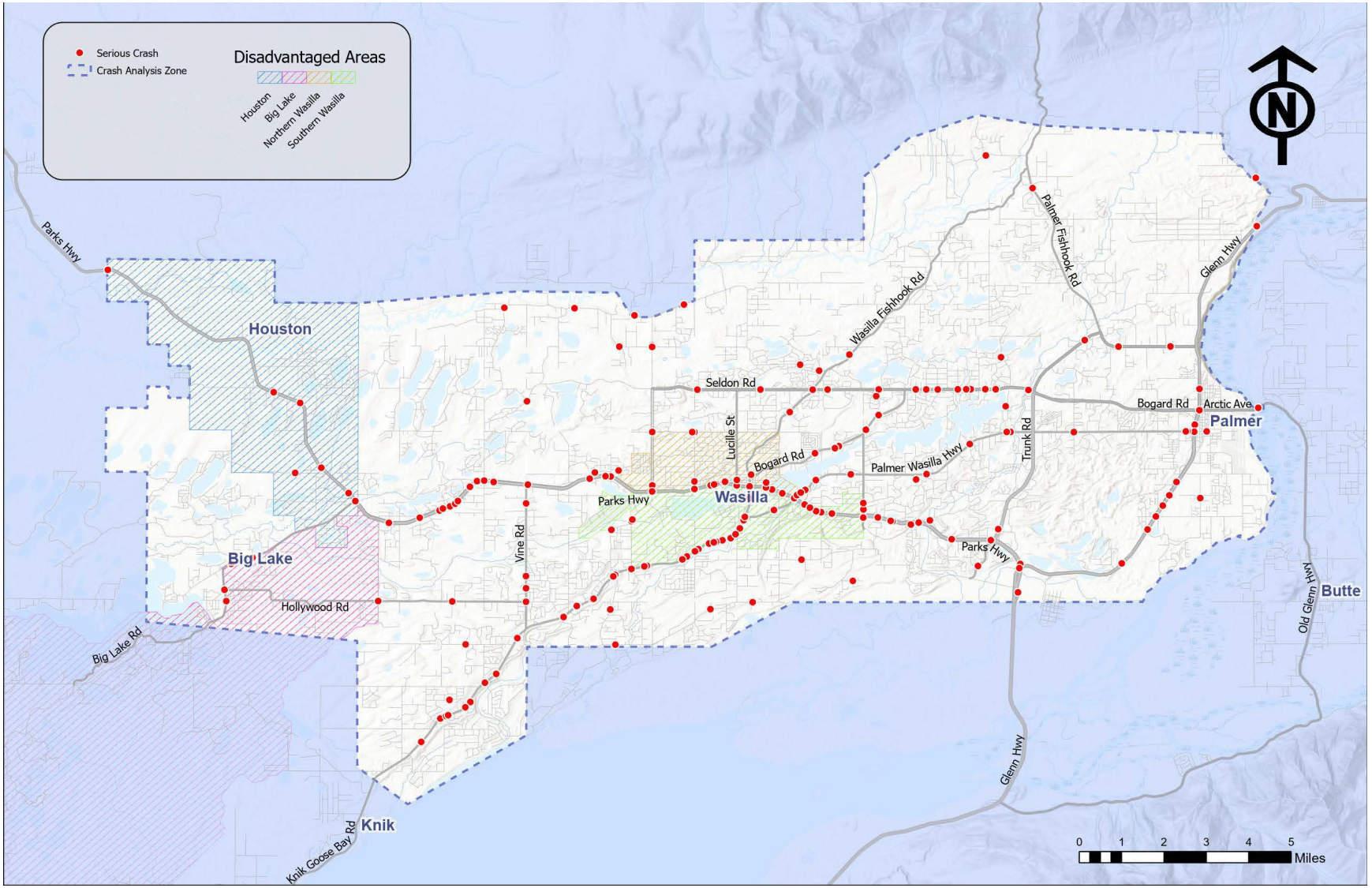


Figure 1: Mat-Su Borough Expanded Core Area Including Disadvantaged Areas and Serious Crashes (2018 – 2022)

Safety Analysis Methodology

For the systemic analysis, several methods were used to consider multiple perspectives of safety issues or potential risk. These analyses established priority safety locations for the Mat-Su Borough Expanded Core Area, and ultimately, were used to recommend improvement strategies and safety projects for the CSAP.

Systemic analysis is a proactive approach that extrapolates crash history to the greater network by identifying locations that have similar context to where fatal and serious injury crashes have happened. This approach looks at crash history on an aggregate basis to identify roadway characteristics of concern, in addition to the locations where serious crashes have happened. By merging adjacent road and intersection features with crash data, relationships can be identified between contextual factors and the likelihood of certain crash types. Systemic improvements then aim to address risk factors before a severe crash is experienced.

Crash and Systemic Analysis

Evaluating Risk Profiles

The Existing Conditions Analysis identified key trends in crashes with two major themes emerging:

- **Speed is a major contributing factor to serious crashes.** Looking at the data multiple ways completes this picture even with variances in crash reports and whether speed-related report fields were completed on the report:
    - A contributing unit's driver speed was marked as "exceeding speed limit" or "too fast for conditions" in 24% of serious crashes. It is not known how completely or accurately these fields are completed but is one indication of a crash occurring due to excessive speed.
    - A contributing unit's action of going straight (implying some loss of control resulting in the crash), accelerating, decelerating, negotiating a curve, or passing/overtaking are believed to be associated with speed. These comprise 72% of serious crashes (Figure 2). The remaining 28% include crash types like turning crashes, which may be speed-related but are not as likely to be as the other actions comprising 72%. In this context, it is not known whether the driver was exceeding the speed limit or driving too fast for conditions, but it is still indicative of speed as a contributing factor to the crash.
- 70% of serious crashes occur on roadways with posted speed limits of 45 mph or higher. As above, this does not mean all drivers were exceeding the posted speed limit or driving too fast for conditions, but it does indicate that the most serious crashes are occurring on higher speed roads where vehicles are presumably traveling at or above 45 mph.
    - Of all VRU crashes, 58% occurred on roads with posted speed limits of 45 mph or more.
    - DOT&PF identified the MSB as the borough (including unorganized boroughs) in the state with the most speed-related traffic fatalities between 2013-2022.[1] While their analysis period includes five additional years and a substantially larger area of the Borough outside the Expanded Core Area, it is still indicative of a regional trend.
    - Higher posted speed is more than just a statistical risk based on the proportion of serious crashes for all users and for VRUs occurring on these roads in the MSB Expanded Core Area. While it is true that many higher speed roads also have higher volumes, therefore presenting a higher risk of all crash types, the probability of a severe crash resulting in serious injury or

[1] https://dot.alaska.gov/stwdplng/hwysafety/data.shtml

death is higher due to the increased kinetic energy involved in crashes at speed. This is true for people in motor vehicles, but especially true for VRUs motorcycles, and ATV riders who do not have the protection of a vehicle around them if a crash happens.

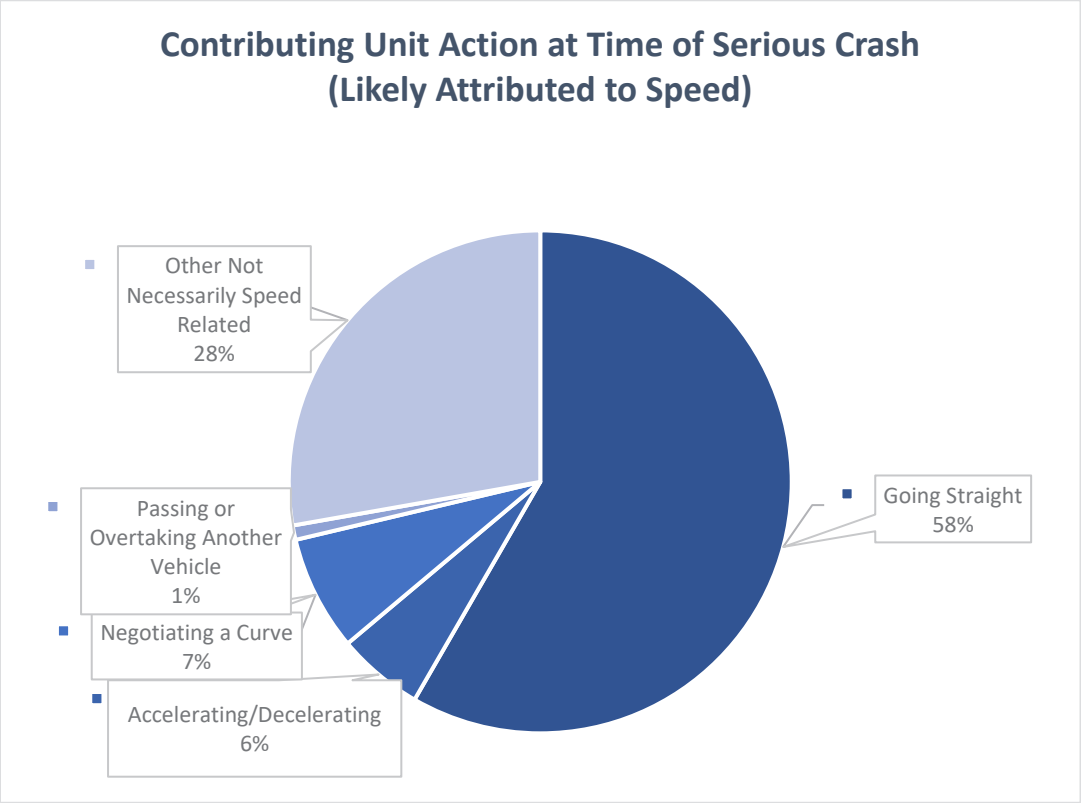


Figure 2: Contributing Unit's Action at Time of Serious Crash

- Most serious crashes are occurring at intersections.
  - Crash reports and geo-located crash locations from crash reports indicate 66% of serious crashes[2] are intersection-related.
- A more comprehensive analysis of intersection and segment locations within 0.03 miles of an intersection revealed that 59% of serious crashes were intersection-related, and most occur at unsignalized intersections (Figure 3). No serious crashes and no VRU crashes were recorded at roundabouts.
  - Angle and rear-end crashes are indicative of intersection crashes and comprised 32% of crash type categories (Figure 4). Other crash types in this category include head-on (15%) and single vehicle run-off-the road (18%). However, it also includes motorcycle, bicycle, and pedestrian as a primary crash type, some or even many of which likely fall into an angle-related crash category.
  - Of all serious VRU crashes, 80% occurred at intersections, and 69% of all VRU crashes occurred at intersections.

[2] As Presented in Existing Conditions Memorandum (dated November 26, 2024) based on crash data. Subsequent analysis adjusted crash locations based on a defined distance of 0.03 miles from an identified intersection. Crash reports may have correlated a crash to an intersection using different criteria (likely, further away from an intersection.)

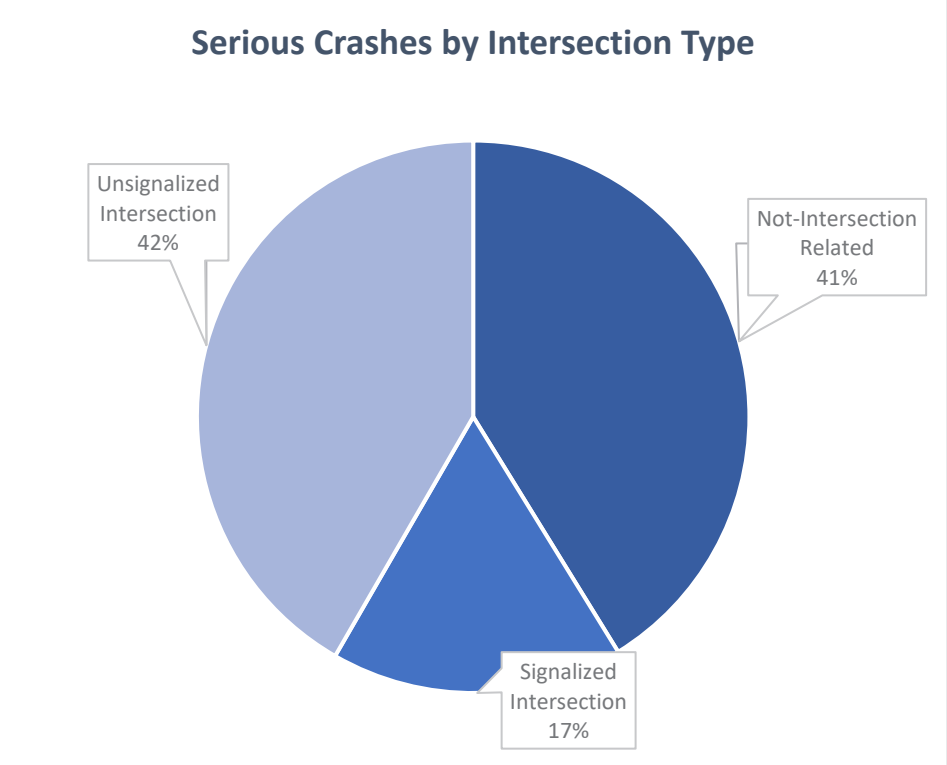


Figure 3: Serious Crashes by Intersection Type

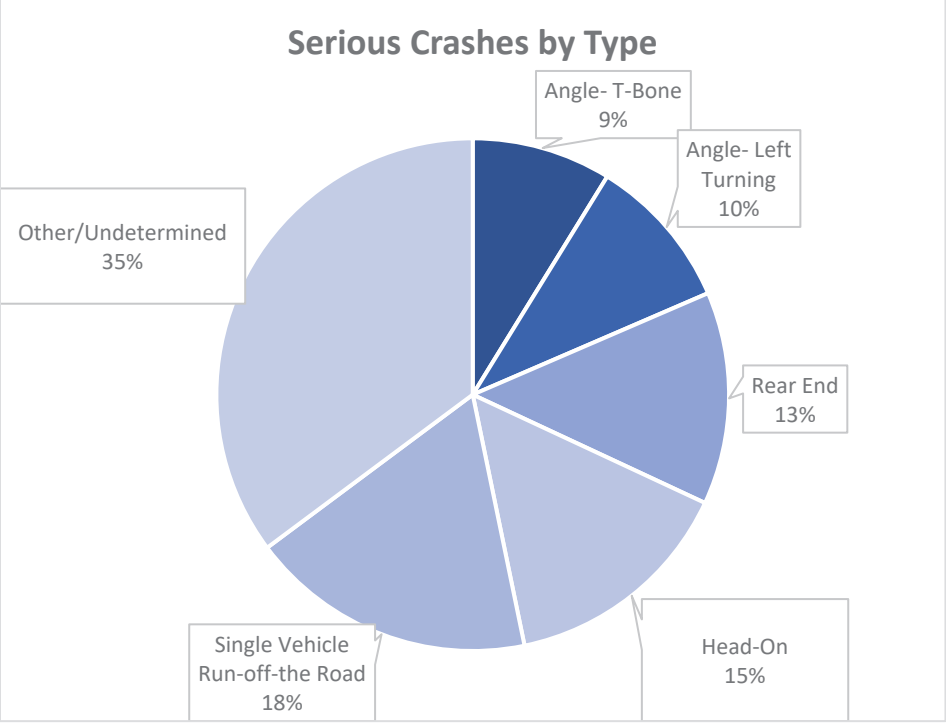


Figure 4: Serious Crashes by Crash Type

Using available data, the following other roadway features or circumstances presenting risks were identified:

- Serious crashes (64%) are most commonly occurring **outside the city limits** of Houston, Palmer and Wasilla (Figure 5). This is recognized as a risk profile due to the geographic expanse this comprises, and because police enforcement outside the cities of Palmer and Wasilla is limited to the resources of the Alaska State Troopers. In addition, emergency medical services response can be more delayed by the longer distances to travel.
- **Roads without a separated path** comprise 58% of all VRU crashes, and 67% of all serious ones. For roads near a path that had VRU crashes (42% of total VRU crashes), 68% were attributed to an intersection crossing, indicating that even when sidewalks or paths are present, intersections present a risk to VRUs.
- VRU crashes most commonly occur on roads functionally classified as **Collectors and Arterial** (60%).
- While serious crashes on roads managed by the Mat-Su Borough are underrepresented and serious crashes on roads managed by the State of Alaska are overrepresented (Figure 6), **local roads still comprise most of the network** (Figure 7), and the Mat-Su Borough manages the majority of all roads in the network (Figure 8). While 10% of serious crashes occurred on local roads, their proportion of the network presents a risk exposure to users.
- Review of serious pedestrian crashes revealed 89% occurred in dark, unlighted conditions. The Mat-Su Borough has records of their road network with lighting, but this is not inclusive of roads where Homeowner Associations may own their own lighting and does not include all illuminated roads owned by the cities and State of Alaska. Therefore, this was not included as a risk profile for identifying these locations; however, lighting was noted as a countermeasure when priority locations emerged.

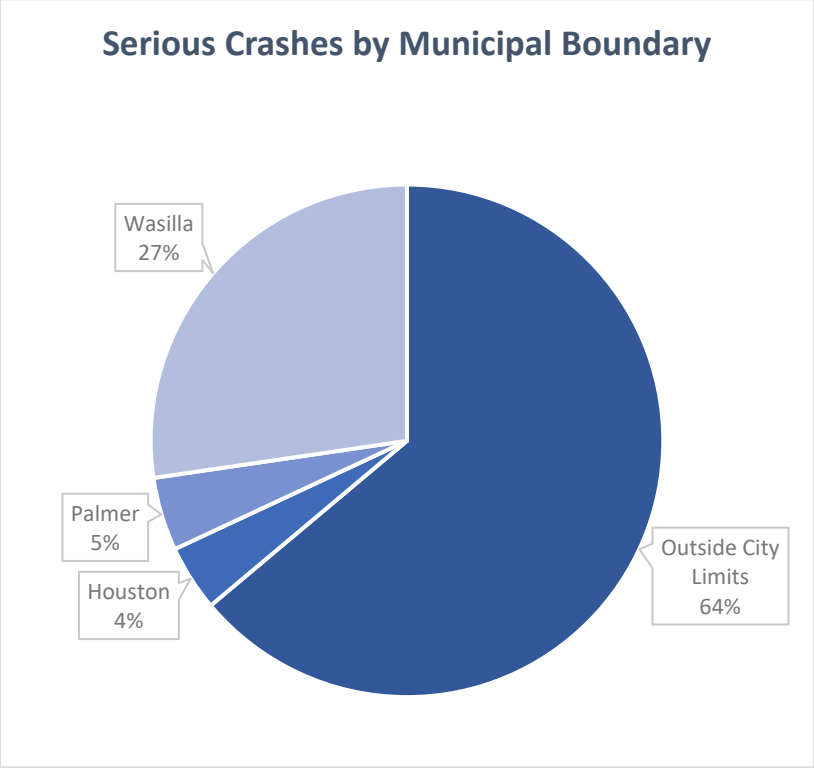


Figure 5: Serious Crashes by Municipal Boundary

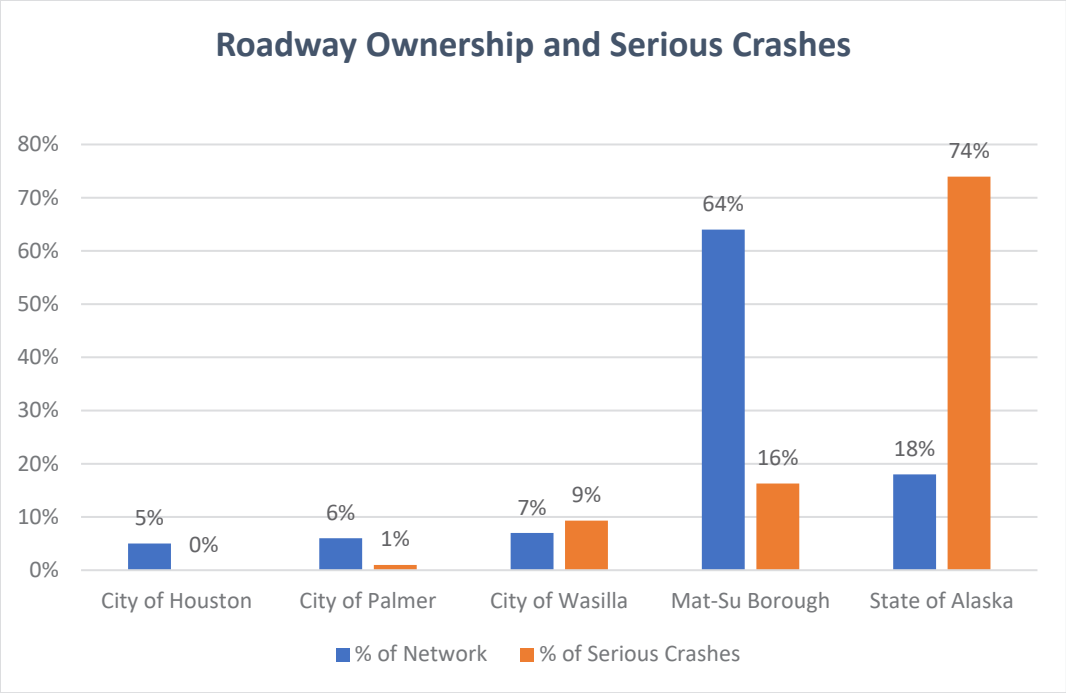


Figure 6: Roadway Ownership and Serious Crash Breakdown by Owner

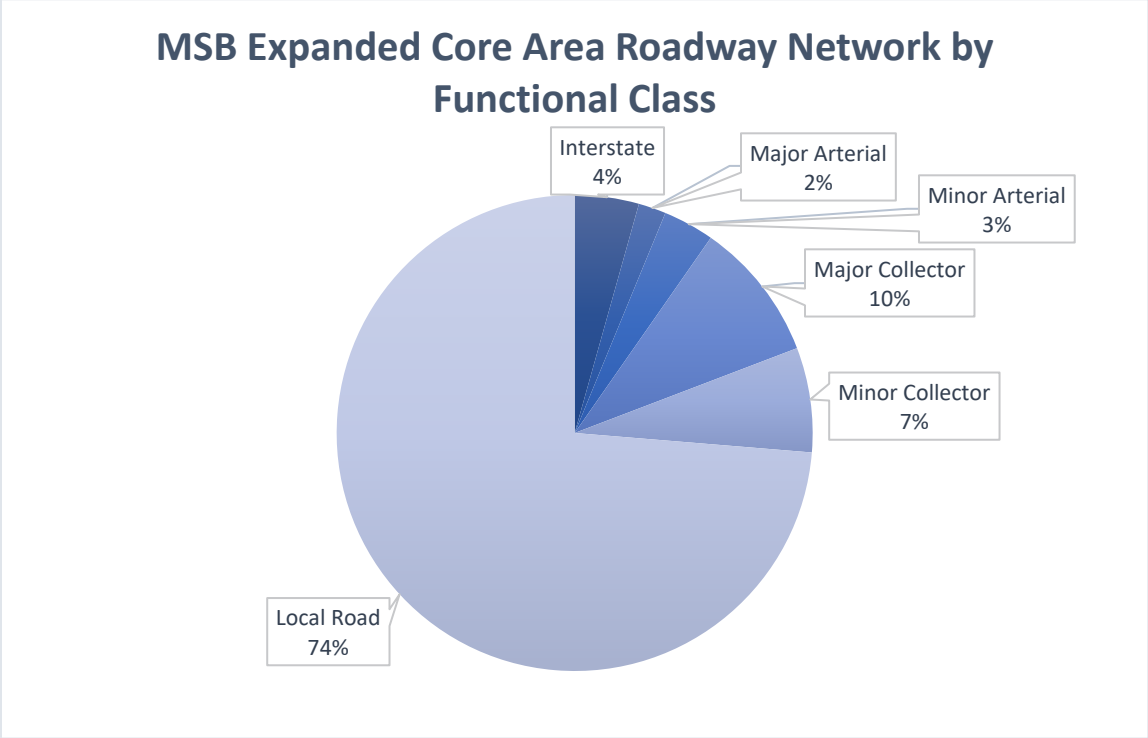


Figure 7: Road Network by Functional Class

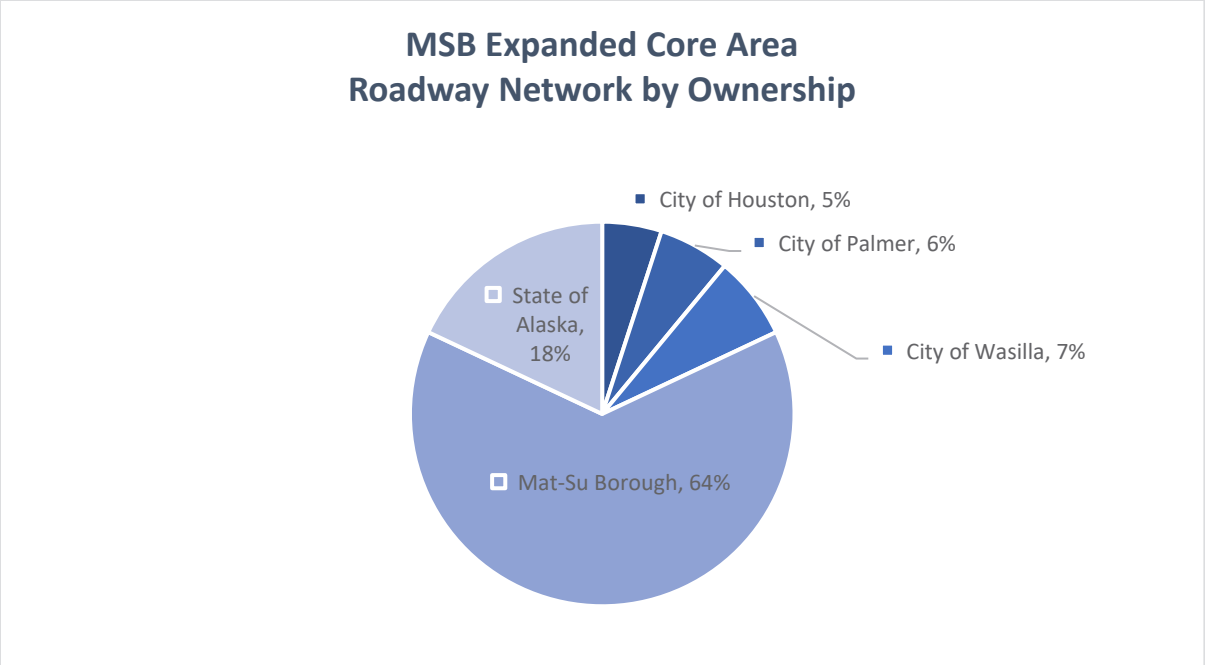


Figure 8: Roadway Network by Owner[3]

The result of this analysis revealed the following Risk Profiles:

Risk Profile for All Serious Injury and Fatal Crashes

- Roads with posted speed limits of 45 mph or higher
- Unsignalized intersections
- Areas outside the city limits of Houston, Palmer or Wasilla

Risk Profile for All Vulnerable Road User Crashes

- Roads with posted speed limits of 45 mph or higher
- No separated pathway
- Any intersection
- Collector and Arterial roads

Identifying Priority Areas

The following steps were taken in the analysis:

1) Priority area scoring criteria was developed to account for the risk factors identified above. These criteria are shown in Table 1 and Table 2, which include crash densities and High Injury Network (HIN) segments that are described in following steps.
2) Segments were created in ArcGIS to identify attributes in Table 1 and Table 2. Intersections were defined as 0.03 miles, or 158 ft from the center of intersecting roadways, and segments were defined as anything not within the intersection zone. The result of this created very short segments to adjust to an attribute change, for example: road sections broke at all intersections, where a speed limit

[3] Based on available data for roadway custodian. MSB GIS data shows 15 miles of private roadway within the Expanded Corea Area (comprising just over 1% of network) which is not included in this breakdown.

changed, where a segment changed within proximity to a VRU destination, or where a municipal or equity boundary changed.

3) Crashes were overlaid onto these segments and intersections and spatially joined. From this, crash densities for segments were established based on the total number of crashes over the length of roadway segment in miles so that relative density (highest, mid, low) could be considered.
4) An overall HIN was identified based on a weighted criteria for crash severity. An HIN for Vulnerable Road Users (VRU) was developed in addition to the overall based on the point locations of VRU crashes. See High Injury Network section that follows.
5) Segments were assigned points based on the criteria in Table 1 and Table 2, resulting in locations for overall priority and VRU priority that were then screened and evaluated for safety countermeasures as explained in Priority Area Scoring.

Table 1: Priority Locations - Overall

Criteria	Points Assigned
Risk Factors Present	5 points – 3 or more factors 3 points – 2 factors 2 points – 1 factor 0 points – no factor
Inclusion on Overall High Injury Network	3 points – On HIN 0 points – Off HIN
Serious Crash Density	3 points – Highest density 2 points –Middle density 1 point – Lowest density 0 points – No serious crashes
Equity	3 points – Within disadvantaged area identified through equity analysis[4]
Community Feedback	3 points – Location noted in community survey three or more times 2 points – Noted two times 1 point – Noted once 0 points – Not noted
Local Road	2 points – Yes 0 points – No

Table 2: Priority Locations - Vulnerable Road Users

Criteria	Points Assigned
VRU Risk Factors Present	5 points – 3 or more factors 3 points – 2 factors 2 points – 1 factor 0 points – no factor
Inclusion on VRU High Injury Network	3 points – On HIN 0 points – Off HIN
Equity	5 points – Within disadvantaged area identified through equity analysis[5]
Community Feedback	3 points – Location noted in community survey three or more times 2 points – Noted two times 1 point – Noted once 0 points – Not noted
Proximity to VRU Destinations (3/4 mile from a school, recreational, community or senior center)	3 points – Three or more 2 points – Two 1 points – One 0 points – None

[4] See Existing Conditions Memorandum dated November 26, 2024
[5] See Existing Conditions Memorandum dated November 26, 2024

Crash Rates

Crash rate calculations reveal the relative safety of a segment or intersection in a way that accounts for exposure data. For example, a crash rate can show if a road with higher traffic volume is relatively safer than a lower volume rural road of the same length, even if it has more crashes. Crash rates (crashes per hundred million vehicle miles traveled) for segments are calculated as:

$$\text{Crash Rate} = \frac{100{,}000{,}000 \times C}{365 \times N \times V \times L}$$

Where C = Total number of crashes in the study period
N = Number of years of data
V = Number of vehicles per day, both directions on segment
L = Length of segment

Intersection crash rates are calculated similarly, but must factor total entering volume of the intersection, and there is no segment length used. Intersection turning movement data was not available and would have to have been estimated by all entering segments' closest available average annual daily traffic counts.

For identifying segment or intersection trends across the network, crash rates are valuable for comparison to similar roadways when those rates are known. Alaska DOT&PF has not had comparable crash rates developed for different road classifications for over a decade and as such has not been using crash rates in their annual Highway Safety Improvement Program project screening. The crash rate calculation above also does not account for severity of the crash, and the focus of SS4A CSAPs is to reduce fatal and serious injury crashes. For these reasons, crash rates were not reviewed as part of the safety analysis for the MSB CSAP. However, a sample of segments (excluding intersections) of varying volume and posted speed limit were calculated as information to demonstrate the variability of crash rates for different road types in in the MSB Expanded Core Area, as shown in Table 3.

Table 3: Crash Rates per Vehicle Miles Traveled (VMT) on Various MSB Expanded Core Area Routes

Segment	Posted Speed limit (mph)	Average Annual Daily Traffic (2022)	Crash Rate per 100M VMT
Palmer-Wasilla Highway, Parks - Hurley Circle	45	13,100	472.3
Lucille St, Spruce to Seldon	35	1410	202.5
Engstrom Rd, Bogard to Southshore	35	2270	127.8
Wasilla-Fishhook Rd, Seldon to E. Lakeview	45	4670	106
Wasilla-Fishhook Rd, E. Lakeview to Pamela	45	4010	87.3
Spruce Ave, Lucas to Lucille	35	2420	82.9
Seldon Rd, Seward-Meridian to Bogard	50	5870	72.5
Spruce Ave, Church to Lucas	35	1570	45.9
Seldon Rd, Wasilla-Fishhook to Seward-Meridian	50	7280	29.4

High Injury Networks

The goal of Mat-Su Borough's CSAP is to provide actionable recommendations to reduce fatal and serious injury crashes for all users. From 2018-2022, there were 159 serious injury crashes and 57 fatal crashes in the Mat-Su Borough Expanded Core Area. HINs are stretches of roadway on a network that have the highest concentration of fatal and serious injury crashes.

Overall HIN

To further examine serious crash trends by location, HINs were created by identifying segments and intersections with a higher density of crashes resulting in injury or death. Minor injury (categorized in the data as "suspected minor injury" or "possible minor injury"), serious injury, and fatal crashes on the network were weighted through a point system to identify the segments with the highest crash densities as the HIN. The point system used was:

- 5 points – fatal crash
- 3 points – serious injury crash
- 1 point – minor injury crash

For serious crashes, 59% were intersection-related. For fatal, serious injury, and minor injury crashes combined, 70% occurred at intersections. Both intersections and segments were included in creating the HIN. Segments and intersections with fewer than six points were removed from the HIN to ensure at least more than one crash with any injury (minor, serious or fatal) contributed to determining the HIN segment. See Figure 9 for a visual depiction of the overall HIN.

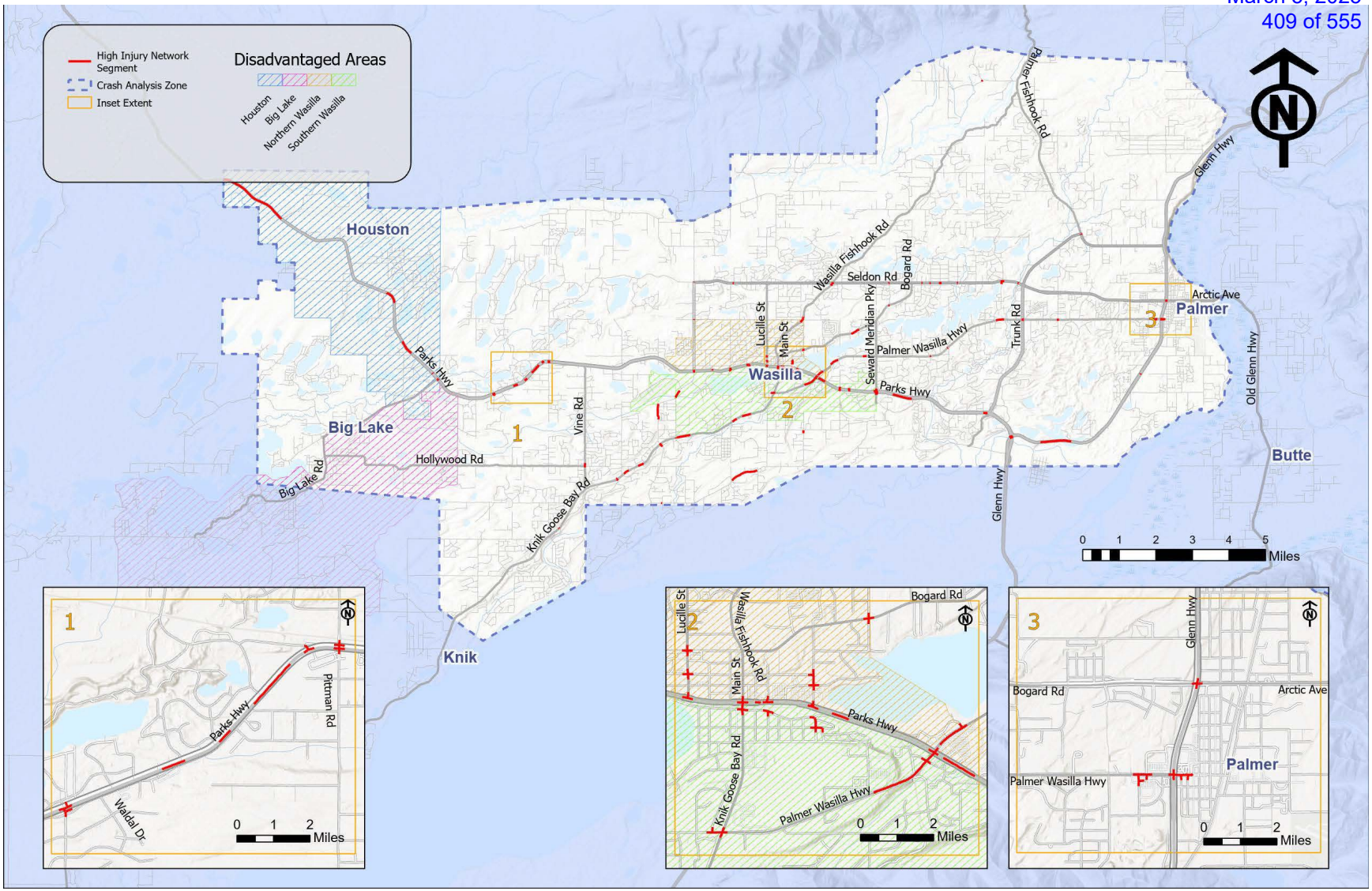


Figure 9: Overall High Injury Network

VRU HIN

The Overall High Injury Network is inclusive of VRU crashes, but a separate VRU HIN was developed to view VRU crashes comprehensively. Due to the low number of VRU crashes (22 bicycle, 30 pedestrian) and the fact that 88% of those (all but six) involved at least a minor injury, every location of a VRU crash was added to the VRU HIN. Figure 10 depicts these locations, with fatal and serious injury crashes denoted as serious crashes.

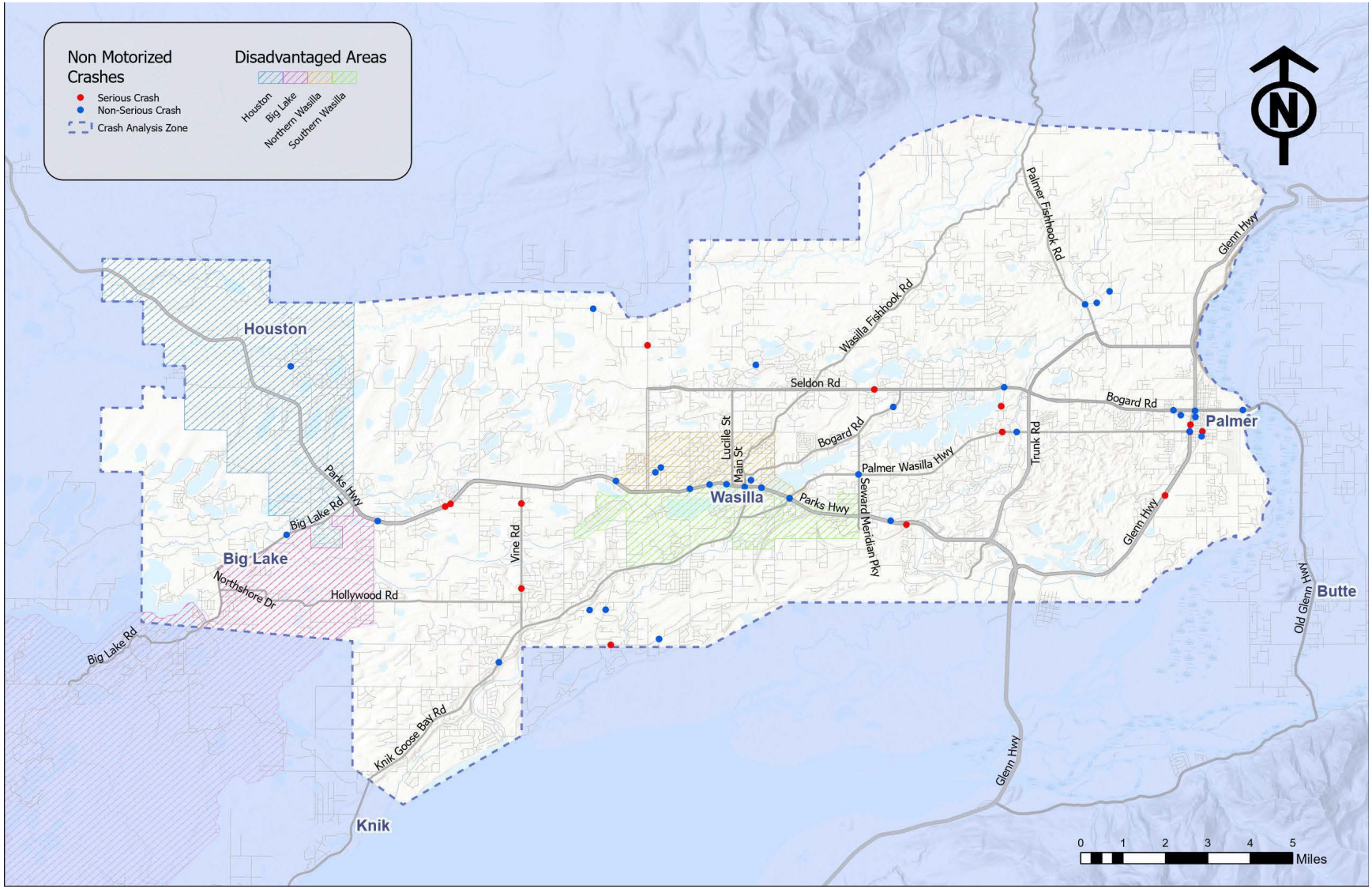


Figure 10: Vulnerable Road User High Injury Network

Priority Area Scoring

Segments were assigned points based on the criteria in Table 1 and Table 2 above, resulting in locations for overall priority and VRU priority to account for different risk profiles and HINs developed for each. The safety analysis was performed with an overall view of corridor improvement rather than select spot improvement to provide a greater benefit to the system and all users. Draft risk profiles, priority area scoring criteria, and recommended priority segments for project recommendations were presented to the MSB Safety Action Plan Team for review and input prior to finalizing the safety analysis.

Priority Area Review and Project Recommendations

The points system developed in Table 1 and Table 2 were developed to identify and prioritize areas that present a risk for serious crashes based on historic data and predictive factors. Historic crashes are important in identifying priority safety areas as they can predict future trends continuing. However, crash records do not account for near misses; areas that may be disproportionately affected by crashes due to socioeconomic (equity) indicators for people less likely to drive a motor vehicle; and insights from members of the community that use different modes of transportation in the network. Crash data may also not be present for some higher-risk areas of the network such as high-speed roads, local roads, and areas more likely to have a presence of VRUs.

The points assignment for the criteria described was completed in ArcGIS to apply scoring weights to reveal priority segments for both overall and VRUs. Each list was referenced for a more comprehensive look at priority locations, though many overlapped. Figure 11 shows the resulting combined priority locations with the highest scores.

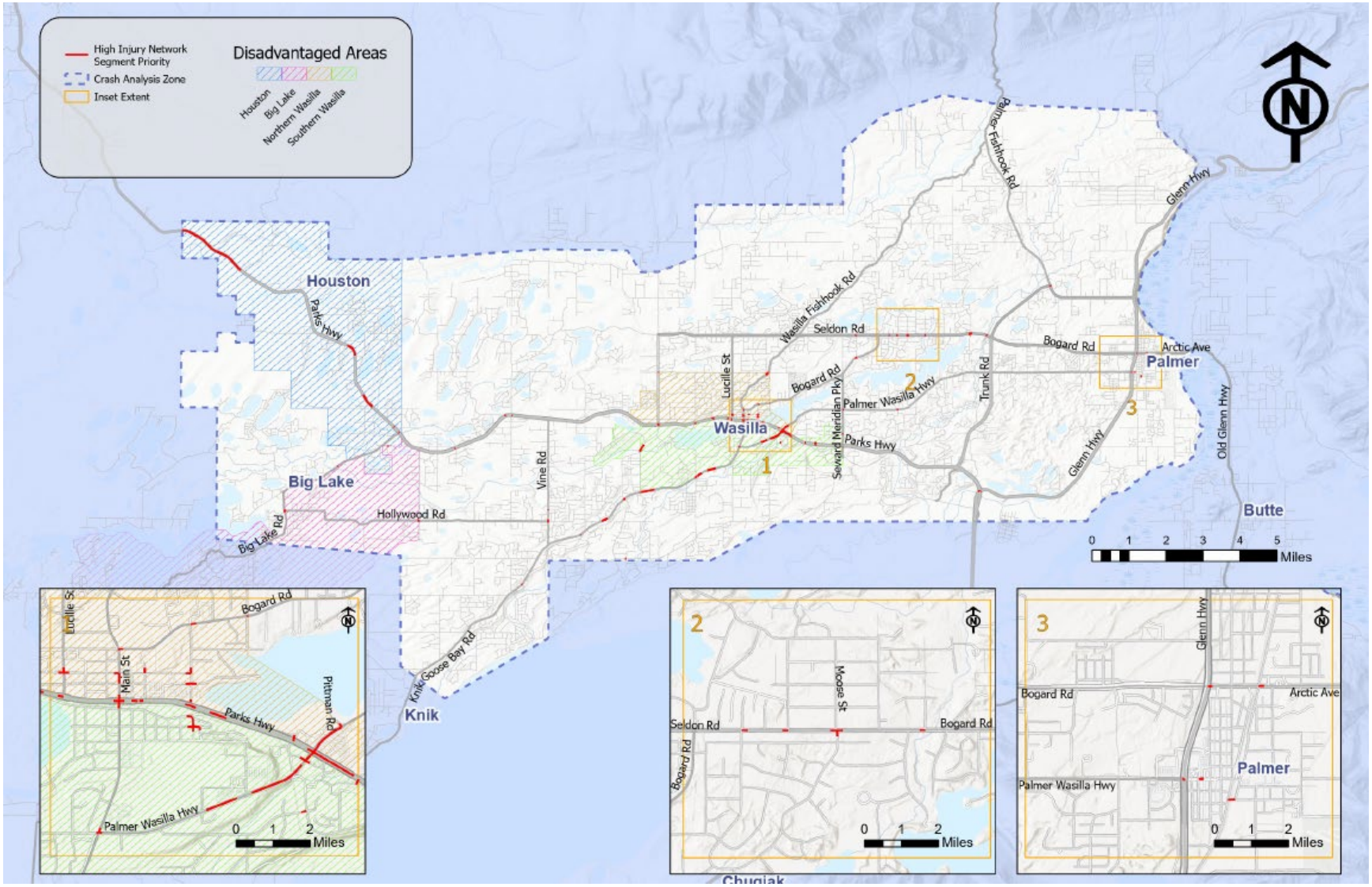


Figure 11: Priority Segments

Segments were reviewed in list format against recently constructed or planned (in the design phase) safety improvements in the vicinity, either through DOT&PF's Statewide Transportation Improvement Program or Mat-Su Borough's Transportation Improvement Program (TIP). If a proposed project had safety elements that were likely to mitigate the concerns in the area, in most cases those locations were not evaluated for recommended projects in the CSAP and noted accordingly. Two exceptions where TIP-funded projects were evaluated and recommended for additional safety improvements are noted below.

The Parks Highway corridor, specifically at the intersection of Palmer-Wasilla Highway, presented the most priority segments. Most of the Palmer-Wasilla segments had apparent influence from the Parks Highway, as did many intersections and frontage roads near it. Specific recommendations were made for the Parks corridor, as spot improvements will have limited effectiveness without a holistic look at the corridor and resulting impacts of access closures. Similarly, Knik-Goose Bay Road generated many priority segments but was not evaluated due to the ongoing reconstruction project.

For the priority segments identified, the adjoining roadway sections within the vicinity, including intersections, were reviewed to provide logical termini for project packaging. Area-wide recommendations were considered for systemic improvements (such as schools and local roads).

Consideration was also given to geographic distribution to provide project recommendations across different areas of the Expanded Core area network, as well as a project readiness consideration. An example of this was 49th State Street, which scored 12 on the VRU priority location list, is in Palmer where not as many priority locations were scoring high, and has a TIP project in development that addresses VRU needs. Another example is Green Forest Drive, a local road where a TIP project is planned to update to modern design standards. These projects were retained as recommendations because:

- Both proposed projects provided geographic variation among higher scoring priority locations;
- Both projects addressed, or with additional recommendations will address currently unmet VRU needs;
- Both projects have initiated design development, making them quicker-build solutions compared to other recommendations;
- As TIP-funded projects through bond packages approved by voters, both already have public support and a considerable proportion of their construction cost secured

The overall priority locations were not evaluated below a score of 9 and VRU priority locations were not evaluated below a score of 12 because at those score cutoffs, 16 priority locations and potential projects had emerged, inclusive of two area wide projects.

Based on this analysis and for reasons described above, Figure 11 should be considered high priority segments and intersections for safety concerns in the Mat-Su Borough Expanded Core Area, even if the CSAP does not make specific project recommendations for all those areas.
The priority area lists are included in Appendix A. Rows highlighted indicate the location was selected for a project recommendation. Project recommendations are included in the Implementation Matrix and will be presented in the draft CSAP

Safety Assessment of Non-Crash Data

Additional factors that exist outside crash data were considered throughout plan development to evaluate elements that may contribute to a higher risk for serious crashes. These factors are described below as they correlate to transportation safety.

Structural Issues and the Built Environment

Land Use and Transportation

Historically, the MSB Expanded Core Area developed to support agricultural and mining activities in Palmer and Wasilla, including the construction of the Alaska Railroad. The construction of the Parks Highway in the 1970s in addition to the rebuilt Glenn Highway around Palmer altered the landscape of the region as it became a major transportation corridor in Alaska.[6] The city of Wasilla grew and expanded immediately adjacent to the Parks Highway, which was designated an Interstate Highway Route in the 1970s and now bisects some of the community. Downtown Wasilla has grown into a thriving network of businesses and some residential units, as well as parks and open space, including access to large retail chain stores, gas stations, restaurants, coffee shops, car dealerships, and small businesses. The Parks Highway sees an average annual 34,000 vehicles per day in areas around Wasilla and serves a variety of local access needs while maintaining its commuter and freight network role as an Interstate. As a result, congestion in and around Wasilla has become a safety concern and point of frustration among community residents and travelers along the Parks Highway. These concerns were reflected in MSB CSAP public comments gathered through a community survey, at pop-up events, public meetings, and steering committee (Safety Action Plan Team) meetings. Options to mitigate congestion in this area are limited in places due to proximity of the Alaska Railroad, limited right-of-way, and potential disruption to existing businesses and established traffic patterns. In addition, north and south Wasilla are identified as areas with high concentrations of disadvantaged populations, exhibiting disproportionate high crash numbers as compared to other areas within study area.[7]

As the MSB continues to grow, especially for the Wasilla area described above, it is important to plan for access management and accessible transit facilities, incorporate adequate roadway lighting, and provide for consistent all-season maintenance. Incorporating Complete Streets elements such as protected, separated facilities for pedestrians, bicyclists, and those with disabilities will further enhance livability and transportation equity for all residents. It will also be important to work collaboratively with developers and business owners to develop policies that promote growth that supports a safe and comfortable transportation network. A table of recommended policies and practices that support Complete Streets development is included in the MSB CSAP, in Chapter 6. Policy and Process Changes. Additionally, action items that support these policies are identified in the Implementation Matrix in Chapter 8. Progress and Transparency.

Transportation Infrastructure

As described in the Existing Conditions Memorandum dated November 26, 2024, there has been considerable investment (over $600M) in transportation safety and operational improvements in the region, but the population growth has generally outpaced the region's ability to keep up with transportation infrastructure needs. With nearly 1,200 miles of roads in the Expanded Core Area, keeping pavement in good condition is a considerable challenge, especially given the temperature extremes

[6] https://www.cityofwasilla.gov/services/departments/museum/wasilla-history
[7] See Existing Conditions Memorandum dated November 26, 2024, Equity Analysis

common to this region. MSB has continued to build new roads or extensions of roads, such as with Seward-Meridian Parkway and Katherine Drive, and where feasible is developing separated pathways adjacent to roads.

Sidewalk facilities are generally limited to Wasilla and Palmer downtown cores, and mid-block crossing opportunities are limited. Continuous roadway lighting is not present on many longer routes outside of the city cores, which is an economical and safety consideration in a northern climate exhibiting long stretches of darkness and low light conditions, as well as higher costs of electricity.

Maintenance

The MSB CSAP community survey, focus groups, and Safety Action Plan Team raised maintenance as a concern for safety and reliable operations particularly for non-motorized facilities. Roads, sidewalks, and paths in MSB are maintained by multiple agencies: MSB through Road Service Areas, City of Houston, City of Palmer, City of Wasilla, and DOT&PF. This is not an unusual circumstance but can result in perceived inconsistences in maintenance practices and/or levels of service for winter maintenance. For most agencies, non-motorized facilities are treated as lower priority in winter while the main routes are cleared. MSB contracts out most of its road and path maintenance and has recently experienced difficulties obtaining quotes from interested contractors to provide snow removal for new routes added to the network. Constraints related to maintenance are multi-faceted and reinforce the importance of multiple jurisdictions coordinating, communicating, and sharing resources where feasible.

Demographics

The MSB experienced a 29% increase in population growth from 2010-2023.[8] MSB's growth in Southcentral Alaska is largely attributed to its feasible commute distance to Anchorage, Alaska's largest city, and lower priced land and housing compared to it.

As of 2023, 14.2% of the population is aged 65 or older, and 25.3% is aged 18 or younger. These proportions are higher than the nearest larger populated areas: Fairbanks and Anchorage. MSB also exceeds these communities in percent of disabled population under the age of 65 at 10.7%, and it is estimated 14.7% of the population is without health insurance. Given this information and assuming continuing growth trends, transportation safety considerations must account for an increasingly older population as residents age in place, as well as the needs of VRUs in the community who may have reduced incomes, and/or lack access to a vehicle, including children and those with disabilities. Access to medical services, growth and expansion of schools, and general community support services can be expected as the spread of ages within the population continues to increase. While other communities in the state are grappling with school closures due to low enrollment and budget reductions, MSB is seeing growth and expansion plans for some area schools, such as with Mat-Su Central School and Academy Charter School. Continued development and facilities with essential services will translate to an increased demand for safe, multi-modal means of transportation to these services.

MSB has a very low population density at 4.3 people per square mile, though the Expanded Core Area is the most densely populated area with an estimated 320 people per square mile. It is estimated that the mean travel time to work for MSB residents is 35 minutes, compared to 19 minutes in Anchorage and Fairbanks. This disparity likely accounts for the percent of MSB residents who commute to Anchorage, and the more outlying areas of MSB that travel into the core area for work or school. The geographic expanse

[8] All statistics cited in this section are from Census.gov data as of July 1, 2023.

of the borough and these longer commute times reinforce the importance of a safe transportation network as more time on the road is more exposure to risk of a crash. High costs of transportation compared to other household expenses, coupled with limited options for non-motorized mobility in the area combine to create multiple barriers to safe, reliable transportation. These barriers, listed in the MSB CSAP Equity Analysis, include the following:

- High cost of transportation (higher than the 90th percentile nationally)
- Lack of transit facilities/routes
- Long commute times to employment and resources
- Limited access to a vehicle
- Vehicle maintenance/insurance/fuel costs (higher than the 90th percentile nationally)
- Lack of safety on roadways (MSB has a higher-than-average rate of motor vehicle fatalities per capita than other areas nationally)
- Lack of safe walking and biking facilities
- Lack of adequate all-season maintenance to keep roads and pathways clear
- Low income to transportation needs cost ratio
- Limited access to transportation options and destinations

The MSB CSAP Equity Analysis recommends implementing infrastructure and services that support safe, multi-modal transportation throughout the Expanded Core Area, but also specifically targeting the areas of Houston, Big Lake, North Wasilla, and South Wasilla. These investments can include the following:

- Expanding local transit operators
- Expanding commuter/service providers like Valley Transit
- Building transit facilities such as bus stops, bus shelters, transit corridors, and park and ride lots
- Investing in protected walking and biking facilities such as sidewalks and separated pathways
- Funding adequate all-season maintenance of existing multi-modal transportation facilities
- Including funding for all-season maintenance in planned transportation infrastructure (new facilities)
- Installing roadway and pedestrian-scale lighting in urban areas
- Retrofitting existing transportation facilities to ensure compliance with the Americans with Disabilities Act (ADA)
- Ensuring that new or planned transportation facilities are ADA compliant
- Encouraging the development of transit supportive corridors that incentivize compact, mixed-use development along commercial nodes and urban centers, affordable housing, and easy access to walking and bicycling facilities
- Closing gaps within the existing transportation networks with new planned infrastructure
- Connecting the on-street transportation network to existing pathways and trails
- Expanding the Safe Routes to School Program to include specific project investment recommendations for school zone improvements

Public Health

Transportation and public health are community building blocks that work hand-in-hand to create livable places that are vibrant, diverse, and economically resilient. Recognizing health vulnerability in populations is an important step towards developing safe transportation networks. Health vulnerability is an assessment of the rates of disease that can be attributed to air, noise, water pollution, and limited mobility conditions due to a lack of safe walking facilities, dependence on a vehicle, and long commute times. In communities that display high scores of health vulnerability (due to any combination of the

above factors), there is a strong prevalence of asthma, cancer, high blood pressure, diabetes, and poor mental health[9].

Limited mobility choices in the MSB Expanded Core area including a lack of safe walking and biking facilities, the absence of an established transit system or transit facilities, and longer than average commute times can result in depressed opportunities for physical activity and subsequent poor health in the form of obesity, heart disease, stroke, and some cancers. Through the public outreach performed during development of the MSB CSAP, many community members expressed feeling unsafe walking and biking in their neighborhoods due to a lack of separated facilities, vehicles moving at high speeds, unsafe driving behaviors, poor lighting, and inadequate winter maintenance on pathways and sidewalks.

In 2010, the Center for Disease Control (CDC) published the following recommendations[10] to improve the health of communities through transportation policy:

1. Promote active transportation
2. Encourage healthy community design (connectivity, bicycle and pedestrian infrastructure, public transit, zoning/land use policy creation)
3. Expand public transportation
4. Reduce injuries associated with motor vehicle crashes
5. Design to minimize harmful health and safety consequences (health impact assessments, safety audits)
6. Require research and surveillance
7. Improve air quality
8. Support professional development and job creation

The MSB CSAP lists policies and practices that will help to implement the above CDC recommendations in Chapter 6. Policy and Process Changes. Additionally, action items that support these policies have been identified in the Implementation Matrix in Chapter 8. Progress and Transparency.

[9] See ETC Explorer Tool metrics for health vulnerability, https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Homepage/ and Equity Analysis in Existing Conditions Memorandum November 26, 2024.
[10] https://www.cdc.gov/transportation/php/about/index.html

Notes	CSAP Possible Rec	OBJECTID	Functional Class	Route Name	Intersection Type	Pathway	Public Facility	Crash w/ Injury Density	Disadvantaged Area	Community Responses	City Boundary	HIN	Equity Score	Community Feedback Score	Fatal & Serious Injury Crashes	Crash Density Actual	Total RFScore Actual	Public Facility within 3/4 mile	Local Road?	Total Score
West of Palmer-Wasilla	Parks corridor access study, evaluate closing direct access at gas station (currently right in, right out or RI/RO and in area of influence of signal). Accessible Pedestrian Signals, Leading Pedestrian Interval and pedestrian refuge for wide intersection legs	1398	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	548	Yes	13	Wasilla	3	3	3	3	3	1	Yes	0	14
Project - Greyling to Grumman	Skip	2911	Minor Arterial	Bogard Road	Unsignalized	No	No	94	No	6	Not in a City Bou	3	0	3	2	2	3	Yes	0	13
Parks influence (north), intersection with frontage road to Lowe's	Consider full or partial median closure (RI/RO), signal access at Hermon. Needs evaluation to impacts to network and whether Hermon project fixes issue.	19543	Local	Alpine Street	Unsignalized	No	No	914	Yes	1	Wasilla	3	3	1	2	2	1	Yes	2	13
Project Trunk to Engstrom	Skip	7276	Minor Arterial	Bogard Road	Unsignalized	No	No	99	No	3	Not in a City Bou	3	0	3	1	1	3	Yes	0	12
West of Crusey, near McDonald's.	Add sidewalk on Westpoint and crosswalks at intersection with Crusey. Crusey has sidewalk both sides	7676	Local	Westpoint Drive	Unsignalized	Yes	No	146	Yes	1	Wasilla	3	3	1	1	1	1	Yes	2	12
Near Trunk/Fishhhook Trunk Roundabout, path project	Skip	1672	Minor Arterial	Palmer-Fishhook Road	Unsignalized	No	No	212	No	10	Not in a City Bou	3	0	3		0	3	No	0	11
East of Palmer-Wasilla, west of frontage road at Sportsman's Warehouse	Consider restricting Parks access to Target center/Financial Drive	4517	Interstate	Parks Highway SB Matsu	Not an intersection	Yes	No	50	Yes	5	Wasilla	3	3	3		0	1	Yes	0	11
East of Main	Parks corridor access study. Accessible Pedestrian Signals, Leading Pedestrian Interval and pedestrian refuge for wide intersection (check Main St design)	5991	Interstate	Parks Highway SB Matsu	Signalized	Yes	No		Yes	9	Wasilla	3	3	3		0	1	Yes	0	11
East of Engstrom, project	Skip	7278	Minor Arterial	Bogard Road	Unsignalized	No	No		No	26	Not in a City Bou	3	0	3		0	3	Yes	0	11
Near Seldon - see community feedback	Look at intersection improvements- roundabout, lighting?	9083	Major Collector	Church Road	Unsignalized	Yes	No	695	No	4	Not in a City Bou	3	0	3		0	3	No	0	11
North of Parks	Skip	11068	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No		Yes	5	Wasilla	3	3	3		0	1	Yes	0	11
Near Engstrom, PJ	Skip	11307	Minor Arterial	Bogard Road	Unsignalized	No	No	163	No	67	Not in a City Bou	3	0	3		0	3	Yes	0	11
Between Susitna & Spruce on Wasilla Fishhook, near Spruce/Peck roundabout project	Skip	12802	Local	Spruce Avenue	Unsignalized	No	No		Yes		Not in a City Bou	3	3	0		0	2	No	2	11
South of Parks/Parks influence	Parks corridor rec	15100	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No	53	Yes	3	Wasilla	3	3	3		0	1	Yes	0	11
Near Moose, Cottonwood, Greyling-Grumman PJ	Skip	16384	Minor Arterial	Bogard Road	Unsignalized	No	No	160	No	2	Not in a City Bou	3	0	2	1	1	3	Yes	0	11
Parks influence (north), intersection with frontage road to Lowe's	Possibly systemic low-cost countermeasures for stop controlled intersection. This road does not appear to serve high pedestrian network, but a path exists along Sun Mountain (frontage road.)	18359	Local	Alpine Street	Unsignalized	Yes	No	57	Yes	1	Wasilla	3	3	1		0	1	Yes	2	11
Near Alpine East of S. Hermon	Parks corridor rec	18365	Interstate	Parks Highway SB Matsu	Unsignalized	No	No	134	Yes	1	Wasilla	3	3	1	1	1	2	Yes	0	11
W of Big Lake Road, probably not an issue since 2020 project	Skip but look at intersection rec	19348	Interstate	Parks Highway	Signalized	Yes	No	89	Yes	1	Houston	3	3	1	2	2	1	No	0	11
Parks influence (north), intersection with frontage road to Lowe's	Consider full or partial median closure (right in/right out), signal access at Hermon. Needs evaluation to impacts to network.	19542	Local	Alpine Street	Unsignalized	Yes	No		Yes	1	Wasilla	3	3	1		0	1	Yes	2	11
South of Hollywood, roundabout PJ	Skip	21653	Minor Arterial	VINE ROAD	Unsignalized	No	No	34	No	3	Not in a City Bou	3	0	3		0	3	Yes	0	11
West of Green Forest/Engstrom, PJ	Skip	22159	Minor Arterial	Bogard Road	Unsignalized	No	No	122	No	4	Not in a City Bou	3	0	3		0	3	Yes	0	11
KGB project, on HIN	Skip	22831	Principal Arterial	Knik-Goose Bay Road	Not an intersection	Yes	No	32	Yes		Wasilla	3	3	0	4	3	1	Yes	0	11
Other side of Moose, Cottonwood, Greyling to Grumman PJ	Skip	23840	Minor Arterial	Bogard Road	Unsignalized	No	No	33	No	2	Not in a City Bou	3	0	2	1	1	3	Yes	0	11
West of Tait, no project except Tait Drive Rehab, see community feedback. Project gap from	Right and especially left turn lanes at Tait, potentially lighting. No path on Bogard.	29498	Minor Arterial	Bogard Road	Unsignalized	No	Yes	128	No	2	Not in a City Bou	3	0	2	1	1	3	Yes	0	11
Near Big Lake Road	Skip, project built median/frontage, path, crashes older prior to Parks project	455	Interstate	Parks Highway	Unsignalized	Yes	No	66	Yes		Houston	3	3	0	1	1	3	Yes	0	10
North of Hollywood, roundabout PJ	Skip	1075	Minor Arterial	VINE ROAD	Unsignalized	No	No	68	No		Not in a City Bou	3	0	0	2	2	3	Yes	0	10
Intersection with KGB	Skip	1623	Local	Riley Avenue	Signalized	Yes	No	605	Yes		Wasilla	3	3	0	2	2	0	Yes	2	10
East access from Parks	Left in on west leg, RI/RO on east leg. This segment is where median is. Defer to Parks corridor access study	2658	Local	Bella Way	Unsignalized	Yes	No	29	Yes	3	Wasilla	0	3	3		0	1	Yes	2	10
Between MP 59-60, Houston to Willow project	Skip	2797	Interstate	Parks Highway	Not an intersection	Yes	No	1	Yes	1	Houston	3	3	1	1	1	1	Yes	0	10
Near Spruce/Peck Roundabout, PJ	Skip, near intersection/roundabout	3050	Local	Spruce Avenue	Unsignalized	No	No		Yes		Wasilla	3	3	0		0	1	No	2	10
Intersection with Parks; median closure in 2020 PJ	Skip	4050	Local	Meadow Lakes Road	Unsignalized	No	No	87	No		Not in a City Bou	3	0	0	2	2	2	Yes	2	10
	Skip	4836	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No	320	No		Not in a City Bou	3	0	0	2	2	3	No	0	10
	Parks corridor	5217	Interstate	Parks Highway SB Matsu	Unsignalized	Yes	No	178	Yes	1	Wasilla	3	3	1		0	2	Yes	0	10
	Skip	6485	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	33	Yes	1	Wasilla	3	3	1	1	1	1	Yes	0	10
East of Lowe's/Crusey	May be equity anomoly (Wasilla Lake)	6544	Local	Westpoint Drive	Unsignalized	Yes	No		Yes		Wasilla	3	3	0		0	1	Yes	2	10
East of Lowe's/Crusey	May be equity anomoly (Wasilla Lake)	6545	Local	Westpoint Drive	Unsignalized	No	No		Yes		Wasilla	3	3	0		0	1	Yes	2	10
West of Crusey, near McDonald's. No sidewalk on Westpoint and no crosswalk on Westpoint or Crusey. Crusey has sidewalk both sides	See 7676	7675	Local	Westpoint Drive	Unsignalized	No	No		Yes		Wasilla	3	3	0		0	1	Yes	2	10
	Parks corridor	8019	Interstate	Parks Highway SB Matsu	Not an intersection	No	Yes	61	Yes	1	Wasilla	3	3	1	1	1	1	Yes	0	10
	Parks corridor	8360	Interstate	Parks Highway	Unsignalized	No	No		Yes	1	Wasilla	3	3	1		0	2	Yes	0	10
North of Parks/Parks influence	Parks corridor	9150	Major Collector	Church Road	Signalized	Yes	No		Yes	2	Wasilla	3	3	2		0	1	Yes	0	10
North of Mack Drive	Slight downgrade, curve delineation, illumination (has path and shoulders)	13968	Local	Clapp Street	Not an intersection	Yes	No	18	Yes		Wasilla	3	3	0	2	2	0	Yes	2	10
West of Tait, no project except Tait Drive Rehab, see community feedback	Project gap between Wasilla-Fishhook and Bogard on Seldon. Right and left turn lanes? No path on Seldon	14241	Minor Arterial	East Seldon Extension/Bogard Extension	Unsignalized	No	No	130	No	1	Not in a City Bou	3	0	1	1	1	3	Yes	0	10
East of Lucille	Sidewalks both sides and TWLTL. Midblock crossings or Lucille intersection enhancements? Consider corridor on Lucille or Swanson for similar.	15511	Local	Swanson Avenue	Unsignalized	No	No	33	Yes		Wasilla	3	3	0		0	1	Yes	2	10
	Skip, project	16205	Principal Arterial	Knik-Goose Bay Road	Not an intersection	Yes	No	29	No	2	Not in a City Bou	3	0	2	2	2	2	No	0	10
	Parks corridor	16600	Interstate	Parks Highway	Unsignalized	Yes	No	133	No		Not in a City Bou	3	0	0	2	2	3	No	0	10
	Skip, project	16964	Principal Arterial	Knik-Goose Bay Road	Not an intersection	Yes	No	14	Yes		Wasilla	3	3	0	2	2	1	No	0	10

Notes	CSAP Possible Rec	OBJECTID	Functional Class	Route Name	Intersection Type	Pathway	Public Facility	Crash w/ Injury Density	Disadvantaged Area	Community Responses	City Boundary	HIN	Equity Score	Community Feedback Score	Fatal & Serious Injury Crashes	Crash Density Actual	Total RFScore Actual	Public Facility within 3/4 mile	Local Road?	Total Score
North of Sun Mountain/Frontage road (Lowe's)	Consider full or partial median closure (RI/RO), signal access at Hermon. Needs evaluation to impacts to network and whether Hermon project fixes issue.	18358	Local	Alpine Street	Unsignalized	No	No		Yes		Wasilla	3	3	0		0	1	Yes	2	10
Church and Spruce	Skip, HSIP/flashing beacon project bidding	18592	Major Collector	Church Road	Unsignalized	Yes	No	305	Yes		Wasilla	3	3	0	1	1	2	Yes	0	10
West of Canter circle	Check Fairview project	18899	Major Collector	Fairview Loop Road	Unsignalized	No	No	66	No		Not in a City Bou	3	0	0	2	2	3	No	0	10
At Parks intersection	Parks corridor rec, look at intersection rec	19203	Principal Arterial	Main Street	Signalized	Yes	No	602	Yes	4	Wasilla	3	3	3	1	1	0	Yes	0	10
	Parks corridor	19722	Interstate	Parks Highway	Not an intersection	Yes	No	14	Yes	1	Houston	3	3	1	1	1	1	Yes	0	10
	Parks corridor	23213	Interstate	Parks Highway	Signalized	Yes	No	399	Yes		Wasilla	3	3	0	2	2	1	Yes	0	10
	Skip	25069	Principal Arterial	Knik-Goose Bay Road	Unsignalized	No	No	607	No	1	Not in a City Bou	3	0	1	1	1	3	Yes	0	10
West of Greyling	Check Bogard Safety & Capacity Imp project	25431	Minor Arterial	Bogard Road	Unsignalized	No	No	99	No		Not in a City Bou	3	0	0	2	2	3	Yes	0	10
West of Crusey	Path both sides, Skip (data error)	25594	Local	Swanson Avenue	Unsignalized	No	No		Yes		Wasilla	3	3	0		0	1	Yes	2	10
West of Crusey	Path both sides, Skip (data error)	25595	Local	Swanson Avenue	Unsignalized	Yes	No	90	Yes		Wasilla	3	3	0		0	1	Yes	2	10
Between Ashmore and Bogard (this section of Bogard is on new Bogard Capacity project.) Also roundabout project coming/Engstrom	Possible fit for completing match project for TIP 23 project	25852	Local	Green Forest Drive	Unsignalized	No	No		No	2	Not in a City Bou	3	0	2		0	2	Yes	2	10
West of Lucille	Sidewalks both sides and TWLTL. Midblock crossings or Lucille intersection enhancements? Consider corridor on Lucille or Swanson for similar.	29661	Local	Swanson Avenue	Unsignalized	No	No	34	Yes		Wasilla	3	3	0		0	1	Yes	2	10
Intersection with Parks	Parks corridor rec, look at intersection rec	31253	Major Collector	Church Road	Signalized	Yes	No	479	Yes		Wasilla	3	3	0	2	2	1	Yes	0	10
Parks SB offramp to Glenn/Palmer	Access controlled off-ramp. Possible new lighting, but sight distance appears good.	731	Interstate	Parks SB Off-Ramp (Glenn N	Unsignalized	No	No	20	No		Not in a City Bou	3	0	0	1	1	3	Yes	0	9
West of Financial Drive, Parks influence	Skip	1029	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	Yes	No	25	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
At Johnson's Road	Check TIP24 project/intersection improvements: lighting, right/left turn lane, intersection warning	1241	Major Collector	Hollywood Road	Unsignalized	No	No	100	Yes		Not in a City Bou	0	3	0	1	1	3	No	0	9
	Parks corridor	1698	Interstate	Parks Highway SB Matsu	Unsignalized	No	No	54	No		Not in a City Bou	3	0	0	1	1	3	Yes	0	9
	Parks corridor	2316	Interstate	Parks Highway SB Matsu	Signalized	No	No	32	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
	Parks corridor	2421	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	451	Yes		Wasilla	3	3	0	1	1	1	Yes	0	9
Intersection with KGB	Skip	3058	Local	Dewlap Circle	Unsignalized	Yes	No	222	No		Not in a City Bou	3	0	0	1	1	2	No	2	9
At Hollywood Int, STIP Project	Skip but check if Big Lake project addressing	3177	Minor Arterial	Big Lake Road	Unsignalized	Yes	No	56	Yes		Not in a City Bou	0	3	0	1	1	3	Yes	0	9
At intersection with Green Forest Dr (east side)	See 25852	3335	Local	Ashmore Avenue	Unsignalized	No	No		No	1	Not in a City Bou	3	0	1		0	2	Yes	2	9
Glenn/Parks interchange	See 731	3838	Interstate	Glenn Highway	Unsignalized	No	No		No	1	Not in a City Bou	3	0	1		0	3	Yes	0	9
	Parks corridor	4515	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	90	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
	Parks corridor	4528	Interstate	Parks Highway	Signalized	Yes	No	113	Yes		Wasilla	3	3	0	1	1	1	Yes	0	9
	Parks corridor	4850	Interstate	Parks Highway SB Matsu	Signalized	Yes	No		Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
	Parks corridor	5219	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	87	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
Near Parks	Parks corridor	5480	Minor Arterial	Seward Meridian Parkway	Unsignalized	Yes	No	33	Yes		Not in a City Bou	0	3	0	1	1	3	Yes	0	9
KGB Project, on HIN	Skip	5518	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No		No	1	Not in a City Bou	3	0	1		0	3	No	0	9
	Parks corridor	5966	Interstate	Parks Highway	Signalized	Yes	No	90	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
At intersection with Shotgun Dr	Consider intersection warning, turn lanes, illumination. Preservation project advertising April 2025	6254	Minor Arterial	Big Lake Road	Unsignalized	Yes	No	73	Yes		Not in a City Bou	0	3	0	1	1	3	No	0	9
At intersection with Bogard	Skip, part of intersection improvements	6263	Minor Collector	Engstrom Road	Unsignalized	No	No		No	18	Not in a City Bou	3	0	3		0	2	Yes	0	9
At N. Skip Circle	Two way center left turn lane just added, skip	6796	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	No	124	No		Not in a City Bou	3	0	0	1	1	3	No	0	9
At KGB	Skip, recent project	7136	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No	81	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
At intersection with Peck, no project	See 29498	7720	Minor Arterial	Bogard Road	Signalized	Yes	No		Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
	Parks corridor	7767	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	194	Yes		Wasilla	3	3	0	1	1	1	Yes	0	9
West of Peck	Skip, roundabout project	7837	Minor Arterial	Wasilla/Fishhook Road	Unsignalized	Yes	No	101	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
At Hollywood & Int with Johnsons Road	See 1241. Check Johnsons Road TIP project if addressing intersection. Possible lighting, right/left turn lane. Or roundabout for overall speed calming on Hollywood.	7859	Local	Andrea Drive	Unsignalized	No	No		Yes	1	Not in a City Bou	0	3	1		0	2	No	2	9
	Parks corridor	8014	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	70	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
South of Parks/ Lucas Road Int, at RR tracks	Parks corridor	10498	Local	Hallea Lane	Signalized	No	No	77	Yes		Wasilla	3	3	0	1	1	0	Yes	2	9
South of Parks, intersection	Parks corridor	10812	Minor Arterial	Seward Meridian Parkway	Signalized	No	No	130	Yes		Wasilla	3	3	0	1	1	1	No	0	9
Near Hurley, Parks influence	Skip	11064	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No	197	Yes		Wasilla	3	3	0	1	1	1	Yes	0	9
Near Hurley, Parks influence	Skip	11065	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	Yes	No	32	Yes		Wasilla	3	3	0	1	1	1	Yes	0	9
First left turn coming south on Big Lake Rd from Parks	Consider intersection warning, left turn lane, illumination. Preservation project advertising April 2025	11483	Local	Padre Pio Road	Unsignalized	No	No		Yes	1	Not in a City Bou	0	3	1		0	2	No	2	9
West of Fishhook, roundabout project	Skip	12233	Major Collector	Spruce Avenue	Unsignalized	Yes	No	287	Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
North leg at Spruce, roundabout project	Skip	14147	Minor Arterial	Wasilla/Fishhook Road	Unsignalized	Yes	No		Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
Parks	Parks influence, skip	15101	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No		Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
	Skip	15296	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	201	Yes	4	Wasilla	3	3	3		0	0	Yes	0	9
North of Parks,	Parks corridor	15905	Local	Weber Drive	Signalized	Yes	No	181	Yes		Wasilla	3	3	0	1	1	0	Yes	2	9
Parks	Parks influence, skip	16005	Major Collector	Sun Mountain Avenue	Unsignalized	Yes	No		Yes	1	Wasilla	3	3	1		0	1	Yes	0	9
Near Birch Lake Dr	See 6254/11483	17123	Minor Arterial	Big Lake Road	Unsignalized	Yes	No		Yes	1	Not in a City Bou	0	3	1		0	3	No	0	9
Bogard Greyling to Grumman project	Parks	17832	Interstate	Parks Highway SB Matsu	Signalized	Yes	Yes		No	4	Not in a City Bou	3	0	3		0	2	Yes	0	9
Bogard Greyling to Grumman project	Skip	18137	Minor Arterial	Bogard Road	Unsignalized	No	No	60	No		Not in a City Bou	3	0	0	1	1	3	Yes	0	9
Bogard Greyling to Grumman project	Traffic calming in residential neighborhood?	19494	Local	Cottonwood Loop	Unsignalized	No	No		No	1	Not in a City Bou	3	0	1		0	2	Yes	2	9

Notes	CSAP Possible Rec	OBJECTID	Functional Class	Route Name	Intersection Type	Pathway	Public Facility	Crash w/ Injury Density	DisadvantagedArea	City Boundary	Community Feedback Score	HIN Non-Motorized	TotalRFScoreActual	Proximity to VRU Dest Score	Public Facility within 3/4 mile	Equity Score Bike Ped	Priority Non-Motorized Total Score
North of Parks/influence		11068	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No		Yes	Wasilla	3	3	1	3	Yes	5	19
South of Parks/Parks influence		15100	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No	53	Yes	Wasilla	3	3	1	3	Yes	5	19
North of Parks/influence		11066	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	No	95	Yes	Wasilla	1	3	1	3	Yes	5	17
South of Parks/influence		15101	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No		Yes	Wasilla	1	3	1	3	Yes	5	17
East of P-W		4516	Interstate	Parks Highway SB Matsu	Not an intersection	Yes	No	63	Yes	Wasilla	3	3	1	3	Yes	5	16
Parks		11067	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No	173	Yes	Wasilla	0	3	1	3	Yes	5	16
Parks		15098	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No		Yes	Wasilla	0	3	1	3	Yes	5	16
Parks		15099	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No		Yes	Wasilla	0	3	1	3	Yes	5	16
Off KGB, on Main St project	Possible rec for marked crosswalk at KGB. Mat-Su Central School relocating, so skip	22020	Minor Collector	Railroad Avenue	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	16
Parks frontage	Skip	1027	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No		Yes	Wasilla	0	3	1	3	Yes	4	15
at Seward-Meridian	Project, skip	1098	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No	67	No	Not in a City Bou	3	0	2	3	Yes	4	15
East of Tait, no project except Tait Rehab	See same rec for 29498	1858	Minor Arterial	Bogard Road	Unsignalized	No	Yes		No	Not in a City Bou	3	0	3	3	Yes	4	15
Between Trinity and Apalachian, north of Hollywood, no project	Path, intersection improvements	2838	Minor Arterial	VINE ROAD	Unsignalized	No	No	34	No	Not in a City Bou	0	3	3	3	Yes	4	15
Parks	Skip	4515	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	90	Yes	Wasilla	1	3	1	3	Yes	5	15
Parks	Skip	8014	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	70	Yes	Wasilla	1	3	1	3	Yes	5	15
Main St project	Skip	12532	Principal Arterial	Main Street	Unsignalized	No	No	18	Yes	Wasilla	2	0	1	3	Yes	5	15
Parks	Skip	23056	Local	Financial Drive	Signalized	No	No	61	Yes	Wasilla	1	3	0	3	Yes	5	15
At Palmer-Wasilla	Skip	1375	Major Collector	West Evergreen Avenue	Signalized	No	No		No	Palmer	0	3	0	3	Yes	3	14
Arctic Avenue	Crosswalks/paths	2392	Minor Arterial	Old Glenn @ Palmer	Unsignalized	No	Yes		No	Palmer	3	0	1	3	Yes	3	14
Arctic Avenue	Crosswalks/paths	2793	Minor Arterial	Old Glenn @ Palmer	Signalized	No	Yes	41	No	Palmer	3	0	0	3	Yes	3	14
Near N. Caribou, PJ	Skip	2911	Minor Arterial	Bogard Road	Unsignalized	No	No	94	No	Not in a City Bou	3	0	3	2	Yes	4	14
	Skip	4108	Interstate	Parks Highway	Signalized	Yes	No	66	Yes	Wasilla	0	3	1	3	Yes	5	14
	Skip	5991	Interstate	Parks Highway SB Matsu	Signalized	Yes	No		Yes	Wasilla	3	0	1	3	Yes	5	14
	Project, skip	6485	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	33	Yes	Wasilla	1	0	1	3	Yes	5	14
East of Wasilla St, Main St PJ	Skip	6997	Local	Susitna Avenue	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	14
At KGB	Skip	7136	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No	81	Yes	Wasilla	1	0	1	3	Yes	5	14
South of Susitna Ave, check Main St PJ	Skip	7602	Local	South Susitna Avenue	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	14
Near Peck	Project recommended in overall	7720	Minor Arterial	Bogard Road	Signalized	Yes	No		Yes	Wasilla	1	0	1	3	Yes	5	14
	Skip	7765	Interstate	Parks Highway SB Matsu	Unsignalized	Yes	No	80	Yes	Wasilla	0	3	2	3	Yes	5	14
	Skip	8015	Interstate	Parks Highway SB Matsu	Signalized	Yes	Yes		Yes	Wasilla	0	3	1	3	Yes	5	14
	Skip	9134	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	31	Yes	Wasilla	1	0	1	3	Yes	5	14
At Parks	Skip	9150	Major Collector	Church Road	Signalized	Yes	No		Yes	Wasilla	2	0	1	2	Yes	5	14
Main St project	Skip	15127	Local	Yenlo Street	Unsignalized	No	No	33	Yes	Wasilla	0	3	1	3	Yes	5	14
	Skip	15296	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	201	Yes	Wasilla	3	0	0	3	Yes	5	14
Near Parks	Overlap with Crusey/Westpoint rec.	17026	Minor Arterial	Crusey Street	Signalized	Yes	No	218	Yes	Wasilla	0	3	0	3	Yes	5	14
Main St project	Skip	19203	Principal Arterial	Main Street	Signalized	Yes	No	602	Yes	Wasilla	3	0	0	3	Yes	5	14
Main St project	Skip	19204	Principal Arterial	Main Street	Signalized	No	No		Yes	Wasilla	1	0	0	3	Yes	5	14
West of Crusey	Near Wasilla High School, path?	21644	Minor Arterial	Bogard Road	Signalized	Yes	Yes		Yes	Wasilla	1	0	1	3	Yes	5	14
		22836	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No		Yes	Wasilla	1	0	1	3	Yes	5	14
Main St project	Mat-Su Central school moving	23344	Local	Wasilla Street	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	14
		24219	Interstate	Parks Highway SB Matsu	Signalized	Yes	No	138	Yes	Wasilla	0	3	1	3	Yes	5	14
		24343	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	No	6	Yes	Wasilla	1	0	1	3	Yes	5	14
Parks influence		24604	Local	Financial Drive	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	14
East of Main/Wasilla-Fishhook, Main St PJ		26368	Minor Arterial	Bogard Road	Signalized	Yes	No		Yes	Wasilla	1	0	1	3	Yes	5	14
		26646	Interstate	Glenn Highway	Signalized	No	No	158	No	Palmer	3	3	1	3	Yes		14
Main St project	Skip	27163	Local	Susitna Avenue	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	14
		29065	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	1	0	2	3	Yes	5	14
		29126	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No	730	No	Palmer	3	3	1	3	Yes		14
	Project recommended in overall	29600	Major Collector	Big Lake Road	Unsignalized	Yes	No		Yes	Not in a City Bou	1	0	3	3	Yes	5	14
Main St project	Skip	30974	Local	Wasilla Street	Signalized	No	No		Yes	Wasilla	0	3	0	3	Yes	5	14
Separated path project area	Skip	1722	Minor Collector	Outer Springer Loop	Unsignalized	No	No		No	Palmer	2	0	1	3	Yes	3	13
		1857	Minor Arterial	Bogard Road	Unsignalized	No	No		No	Not in a City Bou	1	0	3	3	Yes	4	13
Arctic Ave west of Denali		2389	Minor Arterial	Old Glenn @ Palmer	Unsignalized	No	No		No	Palmer	2	0	1	3	Yes	3	13
		3177	Minor Arterial	Big Lake Road	Unsignalized	Yes	No	56	Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		3689	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		3868	Interstate	Parks Highway	Signalized	Yes	No		Yes	Wasilla	0	3	0	3	Yes	5	13
	Path for Houston High	4109	Minor Collector	Hawk Lane	Unsignalized	No	Yes		Yes	Houston	0	0	1	3	Yes	5	13
		4112	Minor Collector	Hawk Lane	Unsignalized	No	No		Yes	Houston	0	0	1	3	Yes	5	13
		4234	Minor Collector	King Arthur Drive	Unsignalized	No	No		Yes	Houston	1	0	1	2	Yes	5	13
Main St project	Skip	4247	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
Main St project	Skip	4248	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		4517	Interstate	Parks Highway SB Matsu	Not an intersection	Yes	No	50	Yes	Wasilla	3	0	1	3	Yes	5	13
Main St project	Skip	4585	Minor Arterial	Yenlo Street	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
Main St project	Skip	4587	Minor Arterial	Yenlo Street	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13

Notes	CSAP Possible Rec	OBJECTID	Functional Class	Route Name	Intersection Type	Pathway	Public Facility	Crash w/ Injury Density	DisadvantagedArea	City Boundary	Community Feedback Score	HIN Non-Motorized	TotalRFScoreActual	Proximity to VRU Dest Score	Public Facility within 3/4 mile	Equity Score Bike Ped	Priority Non-Motorized Total Score
		5354	Minor Collector	Hawk Lane	Unsignalized	No	Yes		Yes	Houston	0	0	1	3	Yes	5	13
		5482	Minor Arterial	Seward Meridian Parkway	Unsignalized	Yes	No		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		6481	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No	34	Yes	Wasilla	0	0	2	3	Yes	5	13
		6484	Principal Arterial	Knik-Goose Bay Road	Not an intersection	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
At reconstructed Glenn section		6827	Major Collector	West Evergreen Avenue	Signalized	No	No	24	No	Palmer	2	3	0	3	Yes		13
		7130	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	Yes	42	Yes	Wasilla	0	0	2	3	Yes	5	13
		7131	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	No	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		7132	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		7133	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		7134	Principal Arterial	Palmer/Wasilla Highway	Signalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		7135	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		7137	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		7635	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		8039	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	36	Yes	Wasilla	0	0	1	3	Yes	5	13
		8040	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		8997	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		8999	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		9137	Principal Arterial	Knik-Goose Bay Road	Not an intersection	No	No	28	Yes	Wasilla	0	0	1	3	Yes	5	13
		9138	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No		Yes	Wasilla	0	0	2	3	Yes	5	13
At Parks Intersection, Houston to Willow project		9736	Minor Collector	Armstrong Road	Unsignalized	No	Yes	107	Yes	Houston	0	0	1	3	Yes	5	13
At Parks Intersection, Houston to Willow project		9738	Minor Collector	Armstrong Road	Unsignalized	No	Yes		Yes	Houston	0	0	1	3	Yes	5	13
		9898	Minor Arterial	Big Lake Roundabout	Roundabout	No	No		Yes	Not in a City Bou	0	0	1	3	Yes	5	13
		10162	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No	67	Yes	Wasilla	0	0	1	3	Yes	5	13
		10833	Major Collector	Big Lake Road	Unsignalized	Yes	Yes		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		10834	Major Collector	Big Lake Road	Unsignalized	Yes	Yes		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		10835	Major Collector	Big Lake Road	Unsignalized	No	Yes		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		11064	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No	197	Yes	Wasilla	0	0	1	3	Yes	5	13
		13000	Interstate	Parks Highway SB Matsu	Unsignalized	No	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		14941	Minor Collector	Railroad Avenue	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
		14942	Minor Collector	Railroad Avenue	Signalized	No	Yes		Yes	Wasilla	0	0	0	3	Yes	5	13
		14944	Minor Collector	Railroad Avenue	Unsignalized	No	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		15528	Minor Arterial	Big Lake Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		15529	Minor Arterial	Big Lake Road	Not an intersection	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		15531	Minor Arterial	Big Lake Road	Roundabout	Yes	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
Main St project	Skip	15617	Principal Arterial	Main Street	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
At Parks		15905	Local	Weber Drive	Signalized	Yes	No	181	Yes	Wasilla	0	3	0	3	Yes	5	13
		15922	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		15923	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	No	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		15924	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		15925	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	No	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		15926	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		16241	Minor Arterial	Big Lake Road	Roundabout	Yes	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		16363	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		16365	Minor Collector	Railroad Avenue	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
		16366	Minor Collector	Railroad Avenue	Signalized	Yes	No		Yes	Wasilla	2	0	0	3	Yes	5	13
		16500	Minor Collector	Railroad Avenue	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
		16502	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		16656	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		16657	Principal Arterial	Knik-Goose Bay Road	Signalized	Yes	No	68	Yes	Wasilla	0	0	1	3	Yes	5	13
		16660	Principal Arterial	Knik-Goose Bay Road	Not an intersection	No	No	15	Yes	Wasilla	0	0	1	3	Yes	5	13
		16910	Interstate	Parks Highway	Unsignalized	No	No		Yes	Houston	0	0	2	3	Yes	5	13
		17946	Minor Arterial	Bogard Road	Signalized	Yes	No	261	Yes	Wasilla	0	0	1	3	Yes	5	13
		17948	Minor Arterial	Bogard Road	Unsignalized	Yes	No	33	Yes	Wasilla	0	0	2	3	Yes	5	13
		18748	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		18750	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		18807	Minor Arterial	Bogard Road	Signalized	Yes	Yes	168	Yes	Wasilla	0	0	1	3	Yes	5	13
		18809	Minor Arterial	Bogard Road	Not an intersection	No	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		18811	Minor Arterial	Bogard Road	Not an intersection	No	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		18812	Minor Arterial	Bogard Road	Unsignalized	No	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		19206	Principal Arterial	Main Street	Unsignalized	No	No	33	Yes	Wasilla	0	0	1	3	Yes	5	13
		19503	Major Collector	Big Lake Road	Unsignalized	No	Yes		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		19504	Major Collector	Big Lake Road	Not an intersection	No	Yes		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		19990	Minor Arterial	Lucille Street	Signalized	No	No	122	Yes	Wasilla	0	0	0	3	Yes	5	13
		19992	Minor Arterial	Lucille Street	Unsignalized	No	No	33	Yes	Wasilla	0	0	1	3	Yes	5	13
At KGB		20296	Major Collector	Fern Street	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
		20515	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No	33	Yes	Wasilla	0	0	2	3	Yes	5	13
At Hawk Lane		20878	Minor Collector	Kenlar Road	Unsignalized	No	Yes		Yes	Houston	0	0	1	3	Yes	5	13

Notes	CSAP Possible Rec	OBJECTID	Functional Class	Route Name	Intersection Type	Pathway	Public Facility	Crash w/ Injury Density	DisadvantagedArea	City Boundary	Community Feedback Score	HIN Non-Motorized	TotalRFScoreActual	Proximity to VRU Dest Score	Public Facility within 3/4 mile	Equity Score Bike Ped	Priority Non-Motorized Total Score
At Hawk Lane		20880	Minor Collector	Kenlar Road	Unsignalized	No	Yes		Yes	Houston	0	0	1	3	Yes	5	13
		21358	Minor Arterial	Bogard Road	Unsignalized	No	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		21359	Minor Arterial	Bogard Road	Not an intersection	No	Yes	13	Yes	Wasilla	0	0	1	3	Yes	5	13
		21360	Minor Arterial	Bogard Road	Not an intersection	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		21361	Minor Arterial	Bogard Road	Signalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		21417	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No	30	Yes	Wasilla	0	0	2	3	Yes	5	13
		21604	Minor Arterial	Big Lake Road	Unsignalized	No	No	58	Yes	Not in a City Bou	0	3	3		No	5	13
		21642	Minor Arterial	Bogard Road	Unsignalized	Yes	Yes	34	Yes	Wasilla	0	0	2	3	Yes	5	13
		21966	Principal Arterial	Main Street	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		21968	Principal Arterial	Main Street	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		22017	Minor Collector	Railroad Avenue	Unsignalized	No	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		22835	Principal Arterial	Knik-Goose Bay Road	Not an intersection	No	No	15	Yes	Wasilla	0	0	1	3	Yes	5	13
		22968	Minor Arterial	Big Lake Road	Roundabout	Yes	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		23363	Principal Arterial	Knik-Goose Bay Road	Unsignalized	Yes	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		23825	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		23827	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		24341	Principal Arterial	Palmer/Wasilla Highway	Signalized	Yes	No	35	Yes	Wasilla	0	0	1	3	Yes	5	13
		24344	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	No	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		24345	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		24676	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	No	43	Yes	Wasilla	0	0	2	3	Yes	5	13
		24677	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	No	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		24678	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	No	15	Yes	Wasilla	0	0	1	3	Yes	5	13
		24679	Principal Arterial	Palmer/Wasilla Highway	Not an intersection	No	Yes		Yes	Wasilla	0	0	1	3	Yes	5	13
		24680	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	No	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		24681	Principal Arterial	Palmer/Wasilla Highway	Unsignalized	Yes	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		25005	Minor Collector	Kenlar Road	Unsignalized	No	Yes		Yes	Houston	0	0	1	3	Yes	5	13
		25685	Minor Collector	King Arthur Drive	Unsignalized	No	No		Yes	Houston	0	0	1	3	Yes	5	13
		26109	Major Collector	Nelson Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		26365	Minor Arterial	Bogard Road	Signalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		26366	Minor Arterial	Bogard Road	Not an intersection	No	No	48	Yes	Wasilla	0	0	1	3	Yes	5	13
		26367	Minor Arterial	Bogard Road	Signalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		26647	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		26649	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		26870	Minor Arterial	Big Lake Road	Roundabout	Yes	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		28190	Local	Swanson Avenue	Unsignalized	No	No	35	Yes	Wasilla	2	0	1	3	Yes	5	13
		28582	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		28584	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
		28788	Minor Arterial	Bogard Road	Unsignalized	Yes	No		Yes	Wasilla	0	0	2	3	Yes	5	13
		28789	Minor Arterial	Bogard Road	Unsignalized	Yes	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		28791	Minor Arterial	Bogard Road	Unsignalized	Yes	Yes		Yes	Wasilla	0	0	2	3	Yes	5	13
		29056	Minor Collector	Railroad Avenue	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		29058	Minor Collector	Railroad Avenue	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
		29063	Major Collector	Hollywood Road	Unsignalized	No	No		Yes	Not in a City Bou	0	0	2	3	Yes	5	13
At Swanson		29482	Minor Arterial	Lucille Street	Unsignalized	No	No	135	Yes	Wasilla	0	0	1	3	Yes	5	13
At Swanson		29484	Minor Arterial	Lucille Street	Signalized	No	No		Yes	Wasilla	0	0	0	3	Yes	5	13
		29603	Major Collector	Big Lake Road	Unsignalized	Yes	Yes		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		29604	Major Collector	Big Lake Road	Unsignalized	Yes	No		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		29760	Minor Arterial	Lucille Street	Unsignalized	No	No		Yes	Wasilla	0	0	1	3	Yes	5	13
		29762	Minor Arterial	Lucille Street	Unsignalized	No	No	66	Yes	Wasilla	0	0	1	3	Yes	5	13
		30841	Minor Collector	Hawk Lane	Unsignalized	No	No		Yes	Houston	0	0	1	3	Yes	5	13
		31416	Major Collector	Big Lake Road	Unsignalized	Yes	No		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		31418	Major Collector	Big Lake Road	Unsignalized	Yes	No		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
		31419	Major Collector	Big Lake Road	Unsignalized	Yes	Yes		Yes	Not in a City Bou	0	0	3	3	Yes	5	13
TIP project planned, project underway and mostly funded		269	Major Collector	49th State Street	Signalized	No	No		No	Not in a City Bou	0	0	3	3	Yes	4	12
		271	Major Collector	49th State Street	Unsignalized	No	No		No	Not in a City Bou	0	0	5	3	Yes	4	12

Appendix D: Safety Toolkit

Mat-Su Borough Safety Toolkit

Introduction

This safety toolkit features design treatments known to reduce crashes involving people driving, walking, bicycling, or rolling (using a wheelchair or other mobility assistive devices) It is intended as a guideline for roadway engineers, transportation planners, and other agency officials to aid decision-making during the planning and design of roadway improvement projects. This toolkit is not an all-inclusive list, and other treatments may be relevant and applicable for safety improvements.

For each countermeasure, recommended locations for treatment, considerations for implementation, and a relative cost range are provided, along with relevant references for more background. These treatments were primarily selected from FHWA's Proven Safety Countermeasures as appropriate for Mat-Su Borough's roads.

It is important to understand that there are a variety of types of speed, volume and context for Mat-Su's roads, and not all treatments are appropriate for every road or circumstance. To achieve the principle of redundancy in the Safe System Approach, multiple treatments should be considered for each location or corridor as appropriate. Where applicable, some treatments are denoted as recommended as a systemic improvement. Systemic safety countermeasures are treatments that should be applied on all roads across a region regardless of the road's crash history.



Relative cost ranges are provided, but costs will vary based on scale of application and other circumstances. For example, installing crosswalk visibility enhancements may be low cost for one location, but moderate cost if applied to multiple locations. In that case, the total project cost will be higher, but the cost per location would likely be less. In the same example, adding lighting to the intersection will add more cost. Cost ranges provided are offered in the context of low, medium, moderate, or high in consideration of typical capital improvement project budgets. Additional maintenance cost considerations are not included and should be considered as appropriate for the jurisdiction, particularly for new facilities such as sidewalks, separated pathways, or new lighting.

$ **Cost:** Low	**Less than $150K**
$ $ **Cost:** Medium	**$150K - $500K**
$ $ $ **Cost:** Moderate	**$500K-$1M**
$ $ $ $ **Cost:** High	**$1+M**

MAT-SU BOROUGH SAFE STREETS FOR ALL

SPEED MANAGEMENT

Appropriate Speed Limits for All Road Users

Speed is a leading contributing factor to many fatal and serious injury crashes. The faster a vehicle is traveling the more likely that motorists, and especially vulnerable road users are to be seriously injured or killed in a crash. The Mat-Su Borough has the authority to control speed limits on its roads.

Where can this be implemented?

All Mat-Su Borough managed roads, emphasis on roads with vulnerable road users.

Things to keep in mind

- Simply setting a new speed limit might not be enough to get drivers to adhere to posted limits. Consider other speed management solutions like traffic calming, self-enforcing roadways, and other strategies.
- Non-statutory limits must be set in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), however FHWA also encourages the use of speed limit setting tools (see "Resources").
- Consider how the newly posted speed limits will be enforced. Some areas have utilized a phased approach to change speed limits incrementally to avoid shocking drivers.
- The Mat-Su Borough may not have the designated authority to set non-statutory speed limits on roads in the area that are under another agency's jurisdiction, for example, State of Alaska roads. Additional collaboration may be necessary.

Resources

- https://highways.dot.gov/sites/fhwa.dot.gov/files/Safe_System_Approach_for_Speed_Management.pdf
- https://safety.fhwa.dot.gov/uslimits/
- http://www.trb.org/Main/Blurbs/182038.aspx

Speed Feedback Signs

Speed feedback signs incorporate radar detection to communicate a driver's speed compared to the posted speed limit. A flashing indication is given when they are over the speed limit.

Where can this be implemented?

Locations of known speed issues, or areas where a speed limit is changing, such as ahead of school zones or within a city center.

Cost: Both are low cost



Things to keep in mind

- Speed feedback signs need a power source, but solar power is an option.
- Over time, their effectiveness may wear for regular drivers who grow accustomed to their presence. Still, studies show most sites decrease mean speed and show a 3 mph reduction in 85th percentile speed.[1]
- Install in accordance with the MUTCD.

Resources

- https://highways.dot.gov/safety/speed-management/methods-and-practices-setting-speed-limits-

[1] https://highways.dot.gov/public-roads/marchapril-2016/spotlighting-speed-feedback-signs

Speed Safety Cameras

As discussed under "Appropriate Speed Limits for All Road Users," setting appropriate speeds can help increase the chance for all users, but especially vulnerable road users, to survive a vehicle collision. However, simply setting new speed limits often isn't enough to change driver behavior. Speed safety cameras (SSCs) can help enforce speed limits and alter driver behavior. SSCs detect speeding and capture photo evidence of the violation.

Where can this be implemented?

All roads, consider conducting an analysis of speed-related crashes to identify locations. Decide if it's best to use a fixed unit at one location, a point-to-point unit to measure average speed over a certain distance, or a mobile unit at different locations.

Things to keep in mind

- Public perception and education about SSCs will be critical to consider if they are implemented. An SSC program would be the first in the state which is sure to garner attention. Some jurisdictions have implemented on a pilot basis to show the extent of a speeding problem. Others have implemented trials in locations the public will be more accepting of, such as in school zones.
- Currently there are no state laws prohibiting SSC use, nor are there laws permitting SSC use.

Resources

- https://highways.dot.gov/sites/fhwa.dot.gov/files/Speed%20Safety%20Camera%20Program%20Planning%20and%20Operations%20Guide%202023.pdf
- https://highways.dot.gov/safety/proven-safety-countermeasures/speed-safety-cameras



SPEED MANAGEMENT

Other Speed Management Tactics

Narrow Travel Lanes

On roads with striping, narrowing travel lanes makes drivers feel more constrained and may encourage slower speeds due to perceived lack of margin. Using a "road diet" concept, leftover space can be provided for bicyclists and pedestrians. Standard lane widths are 12-ft but can be as narrow as 9-ft on low volume rural local roads (AASHTO GB7, 2018, Table 5-5).

Cost: Low if re-striping only

Mini Roundabouts

These can lower speeds at minor intersections and provide improved bicycle and pedestrian crossing opportunities. Due to their smaller size, they can often be installed without major impact to roadway footprint.

Cost: Medium

- https://nacto.org/docs/usdg/fhwa-mini-roundabouts-technical-report.pdf
- https://toolkits.ite.org/uiig/treatments/62%20Mini-Roundabout.pdf
- https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-3-part-1#3.8

Speed Humps

These are elongated mounds in the roadway that extend across the travel lanes and cause driver discomfort over certain speeds, encouraging motorists to slow down before encountering them. **Speed tables** function similarly but extend longitudinally in the direction of travel and allow for slightly faster speeds than a speed hump.

Cost: Low

- https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-3-part-2#3.10
- https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-3-part-2#3.12

Optical Speed Bars

Optical speed bars or speed reduction markings are transverse pavement markings that are spaced at gradually decreasing distances to increase a driver's perception of speed and prompt them to slow down. For greatest effectiveness, these should be used in conjunction with other warning devices, and sparingly in a region where slow speeds are more urgently needed, such as ahead of horizontal curves.

Cost: Low

- https://toolkits.ite.org/uiig/treatments/36%20Speed%20Reduction%20Markings.pdf

Other General Speed Management Resources

- https://safety.fhwa.dot.gov/local_rural/training/fhwasa010413spmgmt/speedmanagementguide.pdf

Bicycle Lanes

These facilities make space for bicyclists and alert motorists to anticipate the presence of bicycles adjacent to the travel lane, improving safety for bicyclists.

Where can this be implemented?

In areas where local land use suggests multiple modes may be using the roadway.



Things to keep in mind

- Existing shoulders of adequate width[2] generally serve the same function as a separate bicycle lane, but adding stripes and signs provide more emphasis to motorists.
- More separation from travel lanes is needed as speeds (>30 mph) and volumes (>3000 vehicles/day) increase.
- Accommodation through intersections needs to be considered to give cyclists space as right-turn lanes separate from through lanes.

Resources

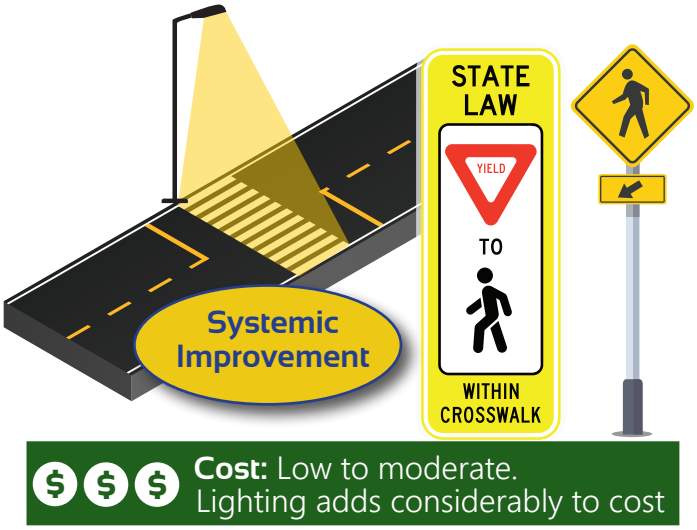
- https://highways.dot.gov/safety/proven-safety-countermeasures/bicycle-lanes

Crosswalk Visibility Enhancements

These enhancements include ladder-style crosswalks, enhanced signs and markings, and improved lighting at crosswalks to make the crosswalk more visible to approaching motorists.

Where can this be implemented?

Focus on uncontrolled intersections and mid-block crossings in areas that connect key pedestrian generators. They can be used on any classification of roadway.



Things to keep in mind

In school zones, accompany with appropriate school zone markings and signs. Ensure spacing of crosswalks is appropriate in higher-density pedestrian areas, as appropriate for the context, to avoid pedestrians crossing mid-block where motorists may be less likely to anticipate them. Design in conjunction with Americans with Disabilities Act requirements for curb ramps.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements

[2] See AASHTO's Guide for Development of Bicycle Facilities, 2012

Leading Pedestrian Invervals

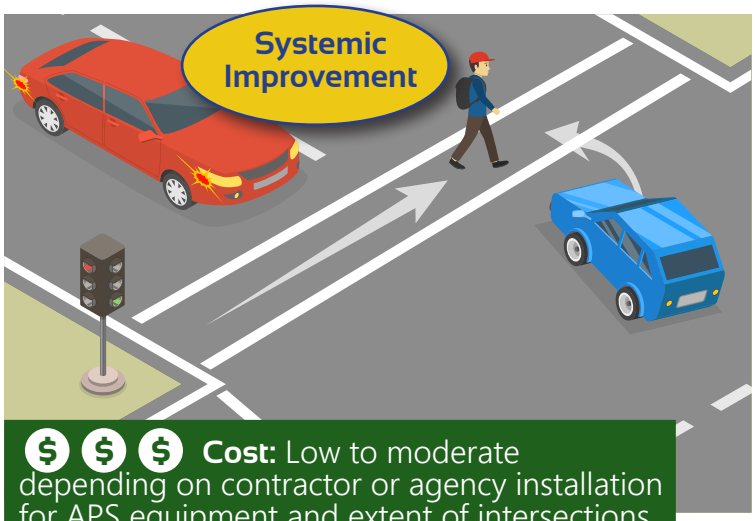
A leading pedestrian interval gives pedestrians the opportunity to enter the crosswalk at an intersection 3 to 7 seconds before vehicles are given a green indication, improving their visibility in the crosswalk before turning vehicles approach the crosswalk.

Where can this be implemented?

At any signalized intersection, particularly ones with higher turning volumes.

Things to keep in mind

Implementation requires adjusting signal timing. Longer lead times of up to 10 seconds may be appropriate in higher density pedestrian corridors. The new MUTCD (11th Edition, 2023) requires installation in conjunction with Accessible Pedestrian Signals (APS), which are required under Public Right-of-Way Accessibility Guidelines: https://www.access-board.gov/prowag/



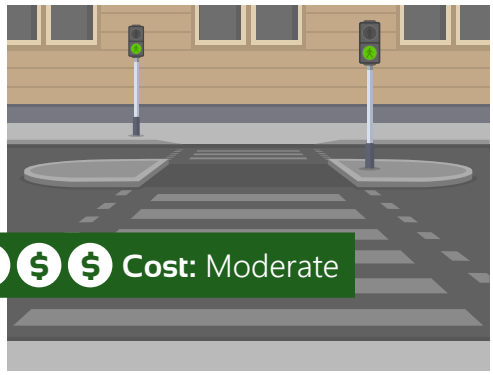
$ $ $ **Cost:** Low to moderate depending on contractor or agency installation for APS equipment and extent of intersections where deployed. Consider suggesting as an eligible systemic safety improvement in the next round of DOT&PF Highway Safety Improvement Program nominations.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/leading-pedestrian-interval

Medians & Pedestrian Refuge Islands

Pedestrian refuge islands are curbed sections in the center of a roadway that separate opposing directions of general-purpose lanes. They provide a space for pedestrians crossing the street to cross one direction of traffic at a time, with a place to wait in the median.



$ $ $ **Cost:** Moderate

Where can this be implemented?

Consider in urban or suburban roadways where speeds are 35 mph or higher and volumes 9,000 vehicles per day or more, but are still effective at lower volume crossings. They should especially be considered on wide, multi-lane intersections to give pedestrians more time to make their crossing in stages. Segments such as the Parks Highway should consider them in situations where signal timing may not afford pedestrians with mobility impairments enough time to safely cross.

Things to keep in mind

For pedestrian comfort, refuges should be four to eight feet wide.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/medians-and-pedestrian-refuge-islands-urban-and-suburban-areas
- https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/pedestrian-safety-islands/

Rectangular Rapid Flashing Beacons

These pedestrian-activated flashing beacons increase awareness of pedestrian crossings at uncontrolled marked crosswalks by providing pedestrian activated (as needed) beacons.

Where can this be implemented?

Mid-block crossings on roads with speeds of 40-mph or less that have high pedestrian activity, such as near schools or other vulnerable road user destinations.

Things to keep in mind

- Implement in accordance with the MUTCD.
- Do not install at stop- or yield-controlled intersections, and reserve for the highest activity pedestrian areas so as not to diminish effectiveness.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/rectangular-rapid-flashing-beacons-rrfb



Walkways & Shared Use Paths

Sidewalks and shared-use paths separate non-motorized users from the roadway.

Where can this be implemented?

Any roadway where vulnerable road users are anticipated, ranging from residential local roads to higher speed arterials. Risk to vulnerable road users without a separated facility increases as vehicle volume and speeds increase.

Things to keep in mind

- Separated facilities may introduce new right-of-way or utility impacts.
- Due to differences in speed, combining pedestrians and bicycles on the same facility may not always be desirable depending on context and mix of use in the area.
- Intersections with driveways and side streets need to be considered in design.



Resources

AASHTO's Guide for the Planning, Design of Pedestrian Facilities, 2021, AASHTO's Guide for Development of Bicycle Facilities, 2012, https://highways.dot.gov/safety/proven-safety-countermeasures/walkways

Road Diets (Roadway Reconfiguration)

Road diets convert four-lane roadways to three-lane, or three-lane roadways to two-lane depending on context and capacity, and apply the space previously used by vehicles for bicycle and pedestrian accommodations. Some roads constructed decades ago may no longer need all the vehicular lanes considering shifts in transportation modes and build-outs of other road networks.

Where can this be implemented?

Roadway corridors where capacity needs have diminished due to build-out of other roads in the network, or a shift in transportation modes has decreased traffic.

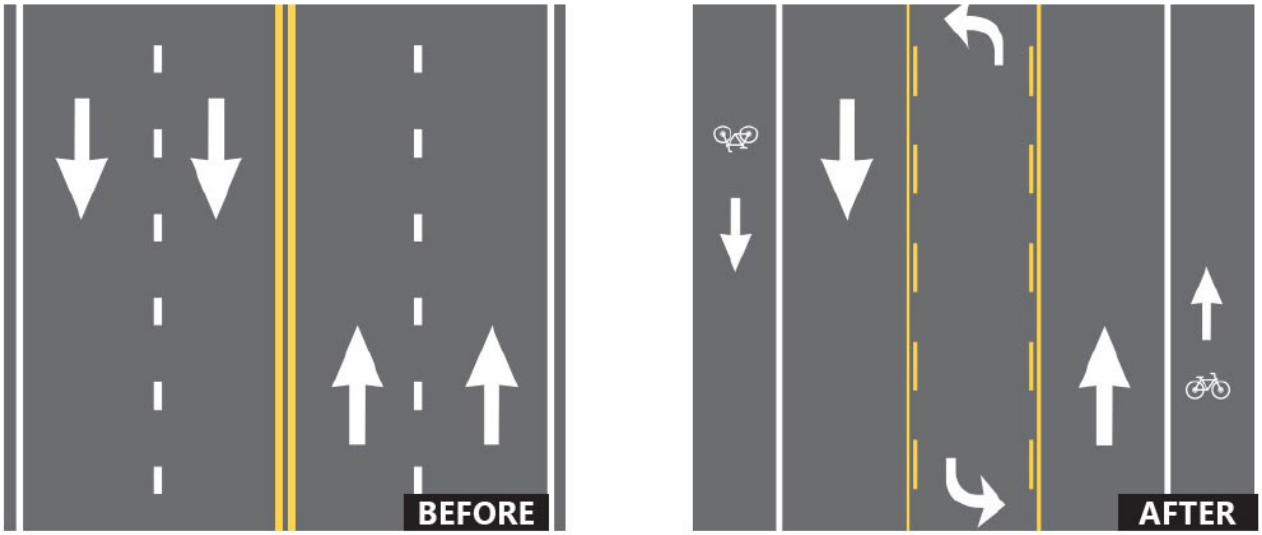
Things to keep in mind

- Traffic analysis should be conducted to ensure road reconfiguration does not unacceptably degrade operations (capacity) in a reasonably forecasted design year.
- Implementation should accompany advance public outreach to communicate these findings.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/road-diets-roadway-reconfiguration

Image Credit: FHWA



$$$ **Cost:** Low to moderate. Depending on on extent of re-striping (low cost) or if sidewalk facilities are widened (medium to moderate).

Enhanced Delineation for Horizontal Curves

Improves conspicuity of horizontal curves and enhance advanced warning to prevent run-off-the-road crashes on high-speed roadways. Includes installing delineators, chevron signs, larger fluorescent and/or retroreflective sign panels, dynamic curve warning signs including speed radar feedback signs, and in-lane curve warning through pavement markings.

Where can this be implemented?

Roadways with horizontal curves with or without a roadway departure crash history and independent of degree of curvature. Consideration should be given for frequency of curves relative to driver expectancy, roadway speed, and presence of lighting.



Things to keep in mind

- Install features ahead of and through curves as appropriate and in accordance with the MUTCD.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/enhanced-delineation-horizontal-curves

Roadside Design Improvements at Curves

These improvements provide additional clear zone through slope flattening and/or shoulder widening on roads near horizontal curves to provide a more traversable or recoverable area for vehicles that leave the roadway. Where clear zone may not be cost-effective to achieve and a curve hazard is present based on risk analysis, evaluate installing roadside barriers such as concrete barrier or metal-beam guardrail.

Where can this be implemented?

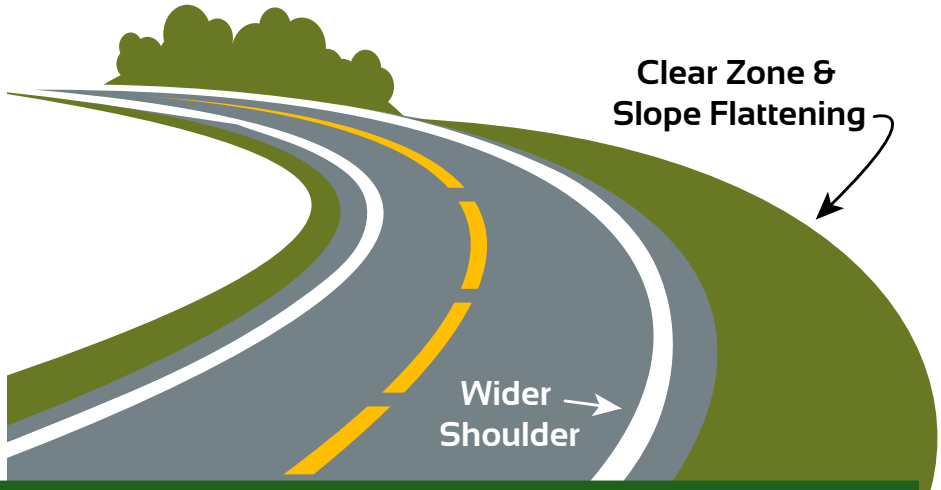
Roads with history of road crashes in horizontal curves. Consider on rural high speed (40 mph or greater) roadways independent of crash history.

Things to keep in mind

Design roadside safety features, barrier length of need and clear zone in accordance with adopted agency standards.

Resources

AASHTO's Roadside Design Guide, 2012 with errata, https://highways.dot.gov/safety/proven-safety-countermeasures/roadside-design-improvements-curves



$$$ **Cost:** Low to moderate. Depends on extent of earthwork or roadside barrier

ROADWAY DEPARTURE

Wider Edge Lines

Wider edge lines stripe 6-inch roadway edge lines instead of the standard 4-inch edge line (or fog line) to emphasize the roadway edge. They enhance the visibility of travel lane boundaries compared to traditional edge lines and increase driver's perception of the location of the edge of the travel lane.

Where can this be implemented?

Any roadway as a systemic improvement, but especially beneficial when risks for roadway departure crashes are present, such as on two-lane rural roads, roads with no lighting, roads with limited or no shoulder, and roads with a presence of more horizontal curves.

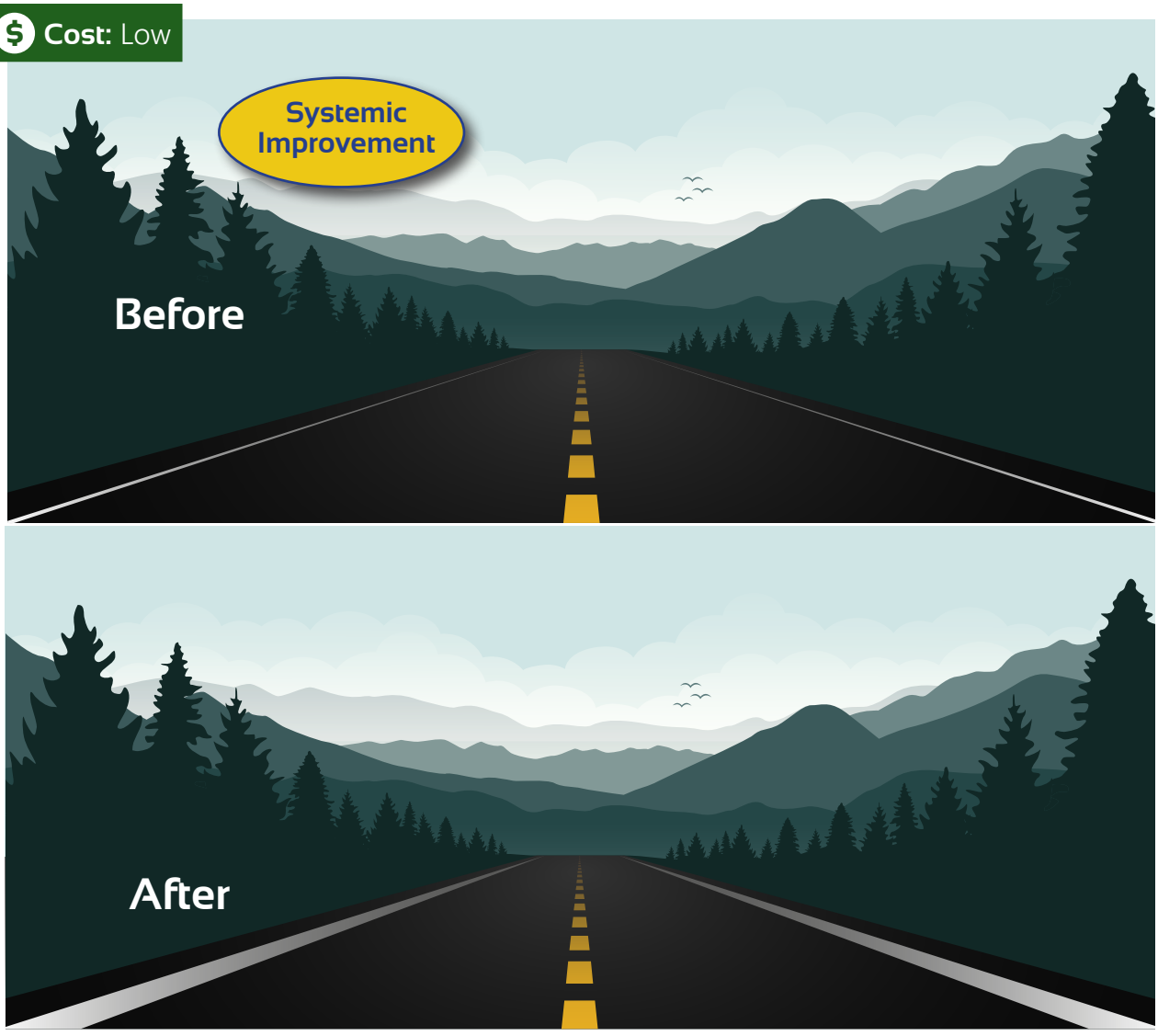
Things to keep in mind

- Install in accordance with the MUTCD.
- Consider implementing as part of normal roadway striping maintenance, and in conjunction with higher-durability striping (methyl methacrylate) on larger capital projects.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/wider-edge-lines

Cost: Low



ROADWAY DEPARTURE

Longitudinal Rumble Strips and Stripes

Rumble strips are milled or raised elements on the pavement that create vibration and sound when driven over by a motor vehicle to alert a driver they have traveled outside of the lane or roadway. They can be installed on the shoulder, edge line, or on the center line of an undivided roadway. Rumble stripes are edge line or center line rumble strips where the pavement marking is placed over the rumble strip. This can increase the visibility and durability of the pavement marking during wet, nighttime conditions, and can improve the durability of the marking on roads with snowplowing operations.

Where can this be implemented?

High-speed and especially rural roadways, roadways with a history of run-off the road or head-on crashes.

Things to keep in mind

- Milled rumble strips are most common in Alaska due to difficulties raised features present during snow removal.
- Milling is not recommended if a roadway is frequently patched with asphalt, or is has gravel, chip seal, or high float aggregate surface.
- In residential areas and areas with more turning traffic to driveways or approach roads, consider use of mumble strips to reduce noise impacts.
- Consider bicycle traffic using a shoulder with a milled rumble strip to ensure they have adequate remaining space and are not forced to ride on the milled sections.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/longitudinal-rumble-strips-and-stripes-two-lane-roads
- https://dot.alaska.gov/stwddes/dcstraffic/rumble/rumble_faqs-temp.shtml#rumble_question13
- https://dot.alaska.gov/stwddes/dcspubs/assets/pdf/directives/09/071309_rumble_strip_pol.pdf
- https://www.dot.state.mn.us/trafficeng/safety/rumble/index.html



Safety Edge℠

SafetyEdge℠ technology shapes the edge of the pavement at approximately 30 degrees from the pavement cross slope during the paving process, eliminating the vertical drop-off at the pavement edge and increasing the potential that a departing vehicle can safely return to the roadway.

Where can this be implemented?

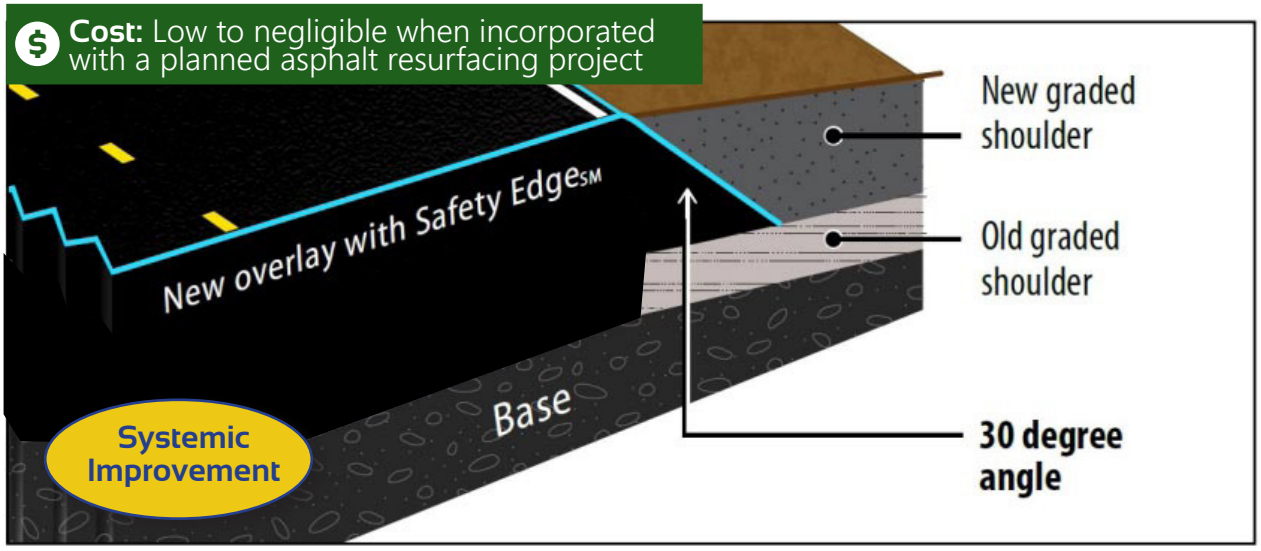
Any roadway with asphalt surfacing, but particularly effective for high-speed rural roadways where run-off-the road crashes are more common.

Things to keep in mind

Can provide an additional benefit of improved pavement durability by reducing edge raveling of asphalt.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/safetyedgesm



Cross section view of an overlay with the Safety Edge℠

Image credit: FHWA-SA-17-044

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Dedicated Left- and Right Turn Lanes at Intersections

Auxiliary lanes, or turn lanes, separate stopped or turning traffic from through-traffic movements at the approaches to intersections to help reduce turning related crashes.

Where can this be implemented?

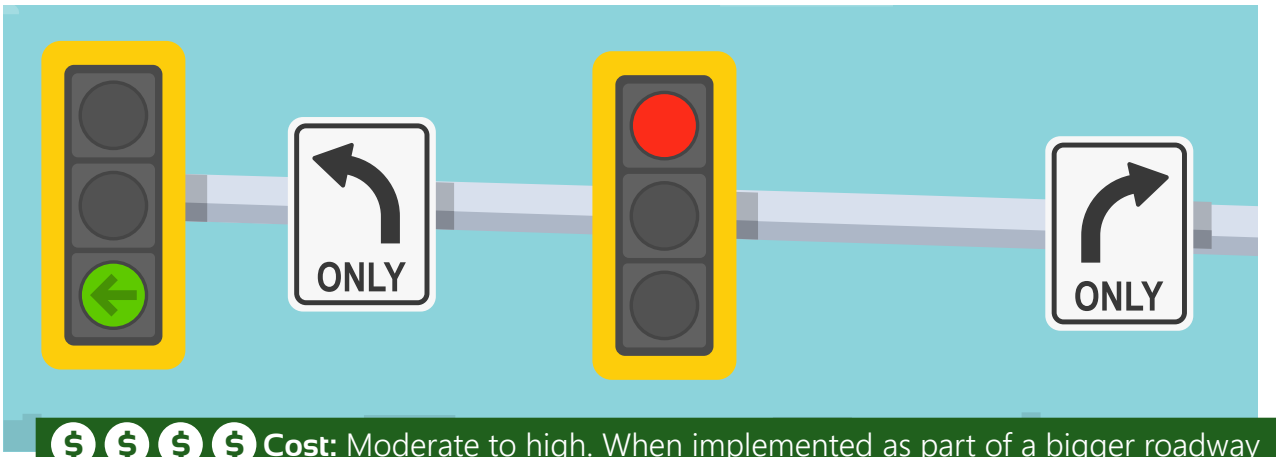
On the major road approach of three- or four-leg intersections where higher turning volumes exist, especially as speed and volume increases on the major road.

Things to keep in mind

- Design turn lanes with sufficient deceleration length for the speed of the approach road, and with adequate storage based on anticipated queued traffic.
- Due to cost and potential right of way impacts, it is impractical to install turn lanes at every intersection, so guidelines for warranting conditions[3] are used by most transportation agencies.
- If installing turn lanes in areas where design guidance would not typically recommend, it is suggested to document the reasoning, particularly if other contextual factors[4] led to the decision.
- Consider the need to add highway lighting in conjunction with turn lanes, and consider where their installation may increase the distance over which pedestrians have to cross the major approach roadway.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/dedicated-left-and-right-turn-lanes-intersections



$$$$ **Cost:** Moderate to high. When implemented as part of a bigger roadway paving project, costs will be lower than as stand-alone projects. Left-turn lanes will generally cost more due to extent of roadway impacts.

[3] AASHTO's A Policy on Geometric Design of Highways and Streets, 2018, Tables 9-24 and 9-26 for left turns is guidance used by Alaska DOT&PF. For right turn lane warrants, see NCHRP Report 279, Figure 4-23, 1985, referenced by the Alaska Highway Preconstruction Manual.

[4] https://dot.alaska.gov/nreg/precon/Design_Directives/ See 19-02, Turn Lanes for examples of roadway context considerations.

Corridor Access Management

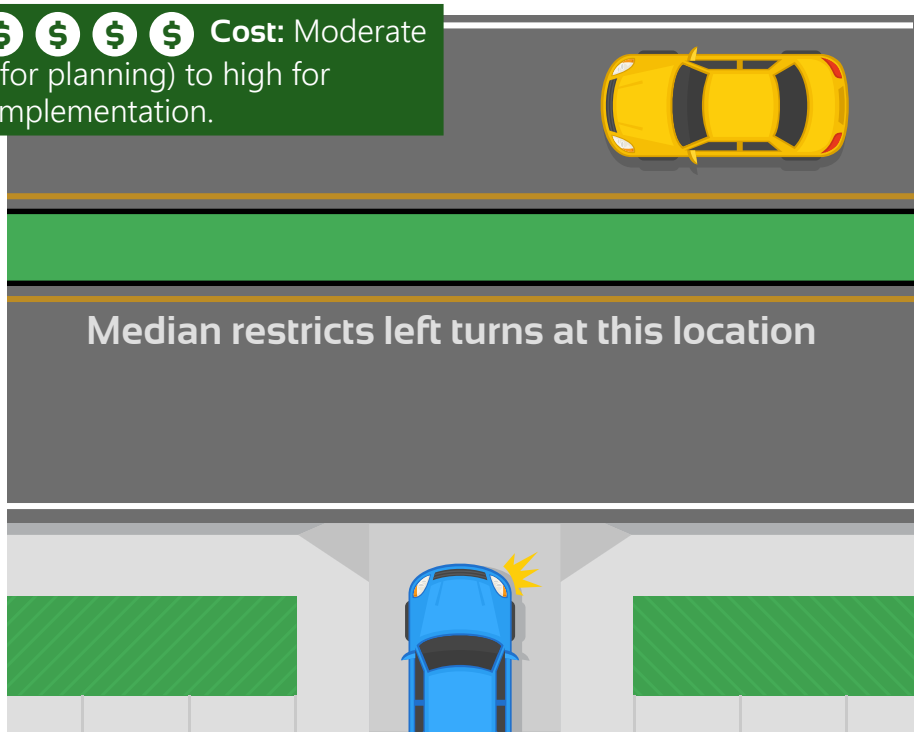
Access management refers to the design, implementation, and control of entry and exit points along a roadway. This includes intersections with other roads and driveways. Careful access management along a corridor enhances safety for all modes, can facilitate walking and biking, and reduces congestion and delay. Implementation tactics, combined with a development management policy include:

- Reducing or consolidating access points (driveways)
- Managing spacing of future driveways to limit density and reduce conflicts
- Implementing raised medians to reduce left turning and cross-traffic conflicts
- Implementing roundabouts or intersections designed reduce to left-turn conflicts (such as restricted crossing U-turns, also known as RCUTs, or median U-turns, also known MUTs).
- Providing auxiliary turn lanes with adequate deceleration and storage
- Developing frontage or backage off-arterial roads (one way or two way) that are lower speed and keep local traffic off the main higher speed artery

Where can this be implemented?

Access management principles should be considered on all roadways, as even low-volume, local roads can benefit, for example, from reducing frequency of driveways. As traffic volumes and access demand increase through surrounding development, the need for access management becomes more critical. Local examples of the need for access management include the Parks Highway corridor through Wasilla, and the Seldon-Bogard corridor.

$ $ $ $ Cost: Moderate (for planning) to high for implementation.



Things to keep in mind

Access management should be accompanied by a sound public involvement approach, as changes to access and adverse travel can be alarming to businesses. Access management principles should be incorporated into standards for roadway design projects and for developer activities.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/corridor-access-management
- https://safety.fhwa.dot.gov/intersection/cam/fhwasa15005.pdf
- FHWA's "Safe Access is Good for Business" brochure (recommend conducting web search)

Roundabouts

Modern roundabouts are circular intersections that safely and efficiently move traffic. They are designed to reduce conflict points and control speeds through an intersection, thereby reducing the frequency and severity of crashes. Converting a two-way stop controlled intersection to a roundabout can reduce fatal and serious injury crashes by up to 82%, and by 78% when converting a traffic signal to a roundabout[5]. Pedestrian crossing safety can be improved over a two-way stop controlled intersection by allowing stages of crossing through all channelized approaches to the roundabout.



Cost: High

Where can this be implemented?

Four-way stop-controlled, two-way stop controlled, and signal controlled intersections, especially to mitigate angle crashes.

Things to keep in mind

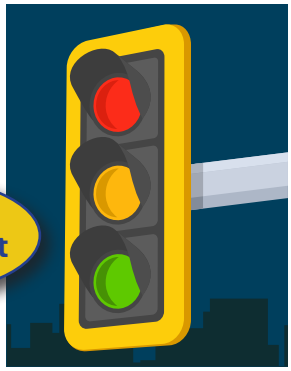
- Circulation needs to accommodate the design vehicle, so consideration needs to be given to expected freight vehicles and movements.
- A traffic study needs to evaluate whether single-lane or multi-lane roundabouts are necessary to handle capacity for the future design year.
- Roundabouts can improve crossing opportunities for vulnerable road users (VRUs) by allowing crossing in shorter stages than a traditional or signalized intersection. Approach design needs to consider sight distance for these VRUs

Resources

- https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-3-part-2#3.9

Backplates with Retroreflective Borders

Retroreflective borders of one to three inches are applied to the border of a signal backplate, promoting traffic signal visibility, conspicuity, and orientation for older drivers, and color vision deficient drivers, and all drivers in the dark.



Systemic Improvement

Where can this be implemented?

Any traffic signal.

Things to keep in mind

- Install in accordance with MUTCD.
- Louvered (slatted) backplates may be more desirable in high-wind environments like Mat-Su, as has been done at select locations in Anchorage.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/backplates-retroreflective-borders

Cost: Low, estimated at $200 per signal face during a new installation based on recent installation costs in Fairbanks. Could be incorporated into any new traffic signal project or as part of traffic signal systemic upgrade eligible under DOT&PF's Highway Safety Improvement Program.

[5] https://highways.dot.gov/safety/proven-safety-countermeasures/roundabouts

Transverse Rumble Strips

Transverse rumble strips alert drivers to a need to slow down or a stop condition ahead that may not be anticipated. They are placed in the travel lane perpendicular to the direction of travel to warn drivers and are milled in the pavement similar to longitudinal rumble strips.

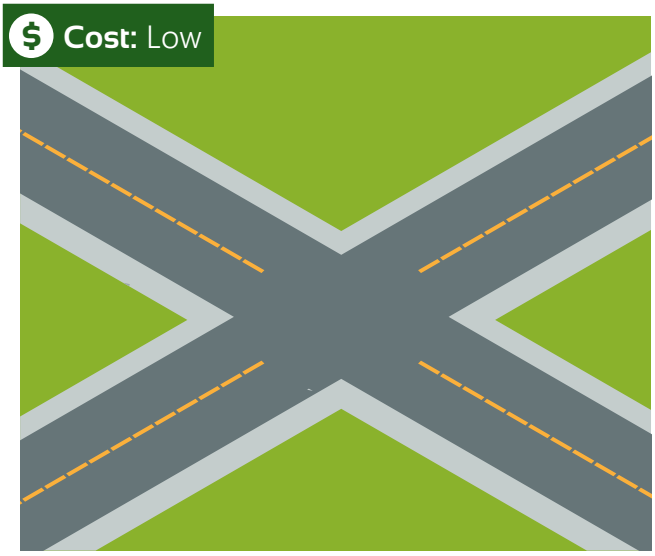
Where can this be implemented?

Unsignalized intersection approaches, especially with a history of vehicles running stop signs. Transverse rumbles are not typically used to reduce roadway departure crashes.

Things to keep in mind

- Milling is not recommended if a roadway is frequently patched with asphalt, or is has gravel, chip seal, or high float aggregate surface.
- Over time drivers may adjust their lane placement to avoid driving over the transverse rumbles, but this is still achieving the desired effect if the driver has awareness of the condition the rumbles are there to provide warning for.

Cost: Low



Resources

- Search this countermeasure at https://cmfclearinghouse.fhwa.dot.gov/index.php
- https://mnltap.umn.edu/ltapnews/2023/september/transverserumble

Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections

This is a systemic intersection improvement that includes enhanced signing and pavement markings within a corridor or across a jurisdiction. The goal is to increase driver awareness and recognition of the potential to encounter a pedestrian or other VRUs at these locations. Features include oversizing stop signs, adding retroreflective sheeting to sign posts, double (both sides of roadway) stop signs or intersection warning signs, and stop bars.

Where can this be implemented?

Any stop-controlled intersection.

Things to keep in mind

Rural areas with lack of highway lighting may particularly benefit from these low-cost improvements.

Resources

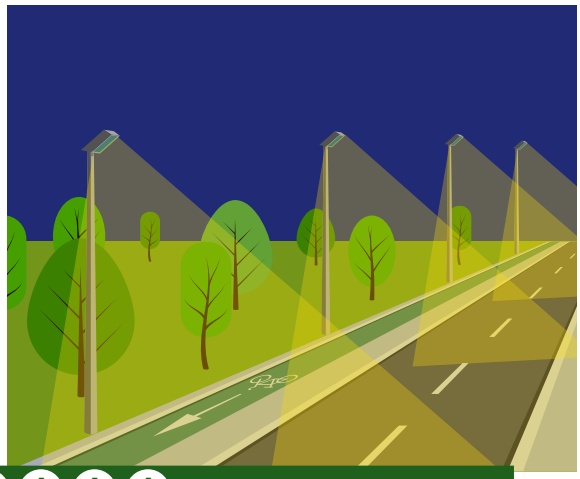
- https://highways.dot.gov/safety/proven-safety-countermeasures/systemic-application-multiple-low-cost-countermeasures-stop

Cost: Low

Systemic Improvement

Lighting

Roadway lighting helps mitigate nighttime crashes occurring in the dark by helping drivers see hazards or changing road conditions. It provides additional benefits to safety and security of vulnerable road users who travel along and across roadways.



Cost: Moderate to high

Where can this be implemented?

Lighting can be implemented at spot locations, such as intersections or pedestrian crossings, or continuously along a corridor. It should be considered especially in locations with a history of nighttime crashes.

Things to keep in mind

- Even with improvements to energy consumption with use of LED fixtures, highway lighting adds to electricity costs for the operating agency.
- Light poles must also be provided on break-away bases to maintain crashworthiness, and as a consequence, can add other maintenance burdens.
- Pedestrian light poles are generally shorter and lower in cost but more closely spaced.

Resources

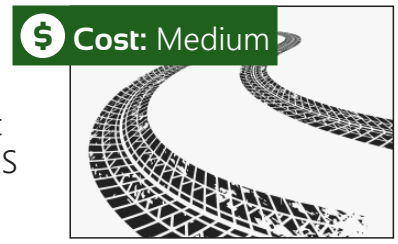
- https://highways.dot.gov/safety/proven-safety-countermeasures/lighting
- https://highways.dot.gov/safety/other/fhwa-lighting-handbook-2023
- https://highways.dot.gov/safety/other/visibility/roadway-lighting-resources (Note, Alaska DOT&PF uses ANSI/IES RP-8-22, which can be found at that site)

High Friction Surface Treatment

High friction surface treatment consists of a durable layer of polish-resistant aggregate over a thermosetting polymer resin binder that locks aggregate into place to improve friction or skid resistance.

Where can this be implemented?

Any location where vehicle traction is anticipated to be of concern such as: horizontal curves, approaches to intersections, approaches to crosswalks, or through roundabouts. Apply to existing pavement or to new pavement in these locations where anecdotal or crash data indicates difficulty with vehicle traction.



Cost: Medium

Things to keep in mind

- Some applications have not been successful in Alaska, but it has been used with success recently in Fairbanks at the GARS intersection, Chena Hot Springs Roundabouts and on fully superelevated curves on Badger Road.
- DOT&PF's evaluation of Anchorage (and two in Mat-Su) applications in 2016 indicated that studded tire, snow plowing, and high traffic volumes reduce the friction considerably within three years. Consideration should be given for the value offered if friction is expected to erode in a short time.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/pavement-friction-management
- https://dot.alaska.gov/stwddes/research/assets/pdf/000S-882-a.pdf

Local Road Safety Plans

Local Road Safety Plans provide a framework for identifying and prioritizing safety improvements on local roads. These plans are tailored to the specific needs of the local area, and can result in a prioritized list of issues, risks, actions and improvements to reduce fatal and serious injury crashes.

Where can this be implemented?

Across a jurisdiction or in a subregion of a large jurisdiction.

Things to keep in mind

Areas like the Mat-Su Expanded Core Area with a Comprehensive Safety Action Plan may already have many tools applicable to local roads, but a focused Local Road Safety Plan would focus only on local roads.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/local-road-safety-plans

Road Safety Audit

Road Safety Audits are conducted by multi-discipline teams of independent reviewers to consider all road user needs for a given corridor. These audits generate a formal report and require a response from the agency for whom the audit is being conducted.

Where can this be implemented?

Consider Road Safety Audits at the outset of a new project design for an independent evaluation or as part of planning effort for roads with known capital project needs.

Things to keep in mind

Road Safety Audits can focus on any or all of the following users: motorized users, bicyclists, pedestrians, wheelchair users or those who use a mobility-assistive device, or motorcyclists.

Resources

- https://highways.dot.gov/safety/proven-safety-countermeasures/road-safety-audit



Separate ATV Users With Their Own Trail or Facility

All-terrain vehicles (ATVs, also interchangeably referred to as all off-road vehicles or all-purpose vehicles) and snowmachines are used as a mode of transportation and for recreation throughout the Mat-Su Borough Expanded Core Area. A separate trail or facility such as a flat-bottom ditch can provide a space for ATV use and remove user conflicts on separated pathways, where motor vehicles are prohibited by law, and on the roadway. In the MSB, some off-road vehicles are the same size, or larger, than street legal vehicles and should be considered in the width of the trail.

Where can this be implemented?

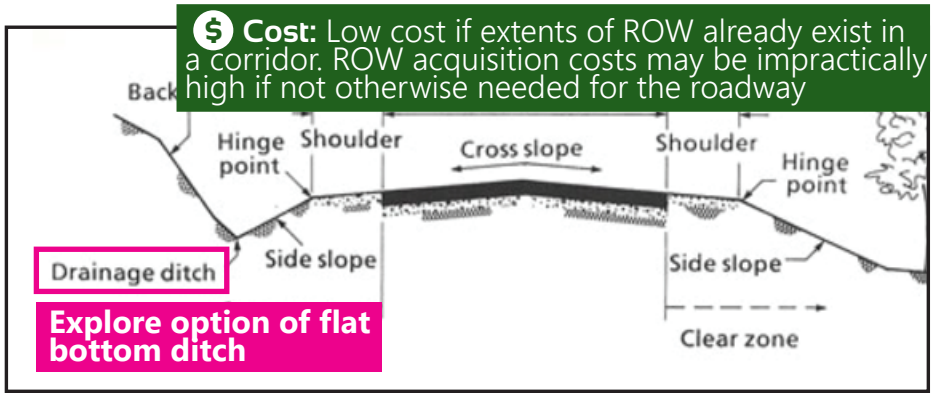
It is recommended to plan for ATV trail space when considering widening of a corridor along with roadway embankment and utility needs.

Things to keep in mind

- Driveways and intersections still present a conflict for ATV and snowmachines who may operate on or along the roadway. Their presence should be anticipated on most Mat-Su roads even if a specific space isn't designated, so intersection sight distance principles at these locations still apply to them.
- If designing a space for ATVs, consider potential conflicts with overhead utility guy wires or ground pedestals.

Resources

- https://www.fhwa.dot.gov/environment/recreational_trails/publications/conflicts_on_multiple_use_trails/conflicts03.cfm#way



Install "NO MOTOR VEHICLES" Signs Along Separated Pathways

Snowmachines and ATVs are prohibited on sidewalks or locations intended for pedestrian or non-motorized traffic.[6] The presence of these regulatory signs promote compliance, especially for younger riders who may not be aware of the law.

Where can this be implemented?

Periodically along a separated path, especially near intersection approaches or other places riders may be inclined to enter the path.

Things to keep in mind

These should be part of any capital project addressing signs in a corridor with a separated path.

Resources

MUTCD and Alaska Sign Design Specifications



[6] Alaska Administrative Code 02.455(g)

Appendix E: Meeting Notes and Public Involvement Documentation

MAT-SU BOROUGH
SAFE STREETS FOR ALL

SAPT Meeting #1 – Sign-In Sheet

Matanuska-Susitna Borough | Michael Baker International | R&M Consultants | Fehr & Peers
Thursday, July 25, 2024 (11:30 a.m. – 1 p.m.)
Mat-Su College Library

Name	Organization	Email
Todd Moehring	AST	todd.moehring@alaska.gov
Rusty Belenger	MSBSD	rusty.belenger@matsuk12.us
Julie Spackman	MSB	julie.spackman@matsugov.us
Kim Sollien	MVP for Transportation	kim.sollien@fastplanning.us
Jamie Taylor	MSB	jamie.taylor@matsugov.us
Avry Antonio	MSB	Avry.Antonio@matsugov.us
TRACEY LOSCAR	MSB	TRACEY.LOSCAR@MATSUGOV.US

SAPT Meeting #1 – Minutes

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Thursday, July 25, 2024 (11:30 a.m. – 1 p.m.)
Mat-Su College Library and Virtually on ZOOM

Attendees

a. Todd Moehring (Alaska State Troopers)
b. Rusty Belanger (MSB School District)
c. Julie Spackman (MSB Planning)
d. Kim Sollien (Mat-Su Valley Planning)
e. Tracey Loscar (MSB Emergency Services)
f. Jamie Taylor (MSB Public Works)
g. Avry Antonio (MSB Public Works)
h. Adam Bradway (Alaska Department of Transportation)
i. Karin McGillivray (MBI)
j. Joni Wilm (MBI)
k. Alex Hutcheson (MBI)
l. Beth McKibben (R&M Consultants)

Agenda

a. Welcome and Introductions
    i. Joni introduced the project and introduced the project team and their roles.
b. SAPT Role
    ii. Joni discussed roles of the SAPT, including providing technical oversight during plan development, providing insight into specific transportation safety issues in the Mat-Su Borough, and helping to promote the plan and increase outreach capabilities through their representative agencies. She presented a graphic showing the plan timeline and four scheduled SAPT meetings.
c. Overview, Outcomes and Schedules
    iii. Joni presented the plan overview including a map of the MSB Expanded Core Area, a brief background of the Safe Streets and Roads for All (SS4A) program, Safety Action Plan Components, SS4A Grant Opportunities, MSB Crash data (2013-2022), and the Plan schedule.
d. Safe Systems Approach
    iv. Joni gave a brief overview of the Safe Systems Approach, including the core elements and principles. She highlighted two examples of Safe Systems approaches in Alaska with the Alaska Strategic Highway Safety Plan and the AMATS Safety Plan.

e. Next Steps

v. Joni explained next steps and upcoming opportunities for participation in the Plan. These included upcoming focus group meetings (TBD), the second virtual public workshop (September), the three in-person open houses (winter 2024), several August Mat-Su Borough Agency meetings (Transportation Advisory Board, MVP Technical and Policy Boards, Local Road Service Area Advisory Board and the Mat-Su Borough Planning Commission). She also talked about three pop-up events scheduled for August including Friday Fling in Palmer, the Houston Founder's Day, and the Wasilla Farmer's Market. She encouraged attendees to visit the project website, take the safety survey, and help promote the survey through their respective agencies.

f. Group Questions

vi. The meeting moved into group questions to answer the following:

1. What is working to improve transportation safety in the Mat-Su Borough?
2. What is not working to improve transportation safety in the Mat-Su Borough?
3. What ideas (programs/policies) do you have to improve transportation safety?

What is working to improve transportation safety in the MSB.

- **Julie -** The MSB Safe Routes to Schools (SRTS) plan is being implemented. Information is being distributed throughout the community. Better/safer routes and street crossings have been identified. The program could be better with more funding. This program may be eligible for supplemental planning grant money. Separated paths generally improve safety. Need more follow up (data collection) to know if SRTS is working. This year they are advertising the recommended routes to the elementary schools – release being timed to just before school starts.
- **Brad** – MSB had a web page (Problem Reporter) where people can identify transportation/road issues. Many of the complaints that are logged are about speeding. The MSB follows up to see if the road identified as having a speeding problem has speed limit signs. If not, signs are posted.
- **Brad** - Many MSB roads are constructed with a flat bottom ditch parallel to the roadway (primary use is drainage) for ATVs to drive, which helps to keep ATVS off the roadways and improved pedestrian ways (wide shoulders/sidewalks/separated pathways)
- **Rusty -** MSB -has good data and staff.
- **Jamie** - There have been many recent bond packages for building new roads/alternative routes. This improves transportation safety by providing people with updated information so they can take different roads to avoid bad intersections/dangerous roads.
- **Brad** – There could be more coordination with developers to make sure the public has adequate space to walk – wide shoulders/sidewalk which leaves people walking in travel way. Also, there is a need for turning lanes.

What is NOT working to improve transportation safety in the MSB?

- **Brad -** Need for wider shoulders, turning lanes, lighting. More education for pedestrians for dressing appropriately to be seen, especially in the dark and during the winter.
- **Rusty -** Subdivisions are not installing safe areas for children to wait for the school bus.
- **Julie -** Vehicles queue up waiting for bus which creates problems at intersections. Vehicles backing up in streets during school pick up/drop off. School site design for buses not private individual vehicles. Fewer busses and more individual drop offs post pandemic.
- **Todd** – ATVs on roadways and pedestrian pathways
- **Kim** - MSB need to do better job of educating policy/decision makers (if they don't ask staff can't inform) There is a need to strengthen relationship – acknowledge staff are subject matter experts. The subdivision and road construction requirements need to be changed to require improvements because this is the least expensive way to improve safety because government won't have to pay for it.
- **Adam** – Driver behavior. People still drive the same as when there wasn't as many vehicles on the road. Drivers need to drive for the current conditions. Additionally, infrastructure hasn't caught up to the traffic volume (center turn lane on Parks example). Speed and driver behavior – MSB needs more enforcement. Borough doesn't have police force to do enforcement. Winter maintenance -need more snow clearing -especially for bike and ped routes.
- **Jamie** –turn lane methodology language is outdated. Would like to see updated language for when turn lanes are warranted/required. The plan should identify more current methodologies. Can/will the plan identify specific changes to code? Specific recommended changes would be helpful to MSB staff. Other plans make vague recommendations which makes it challenging to implement.
- **Kim** - Stop using "recommendation" in the Pre-Construction Manual. The manual should say this is how it must be done (shall not should).
- **Julie -** In other places the property owner is required to clear sidewalk in front of their property.
- **Rusty** - Areas where we want transit should have safe stops and safe parking to encourage transit use.
- **Brad -** The Parent Teacher Association in Fairbanks used to provide reflective stripes to be sewn onto jackets/backpacks. MSB could do more low-cost things like this.
- **Tracey -** The plan needs to recognize motorcycle safety. There are a lot of recreational riders during the good weather months.

What ideas (programs/policies) do you have to improve transportation safety?

- **Brad** – Transitioning from signals to roundabouts -what are the actual numbers? There appears to be fewer fatalities. Some type of performance measure could help with educating the public on whether these are working and should be included in the plan.

Live Mapping Exercise

The group moved into a mapping exercise to identify:

- Where are your 5 biggest transportation safety concerns in the Mat-Su Borough expanded core area?
- Please describe your concern. Examples (unsafe road design/unsafe intersections/unsafe speed/enforcement needed, etc.)

- Results from this live mapping exercise will be uploaded onto the Experience Builder platform and integrated into overall responses from the community.

Mapping results will be uploaded onto project website.

The meeting adjourned at approximately 1:15pm.

MAT-SU BOROUGH
SAFE STREETS FOR ALL

SAPT Meeting #2 – Sign-In Sheet

Matanuska-Susitna Borough | Michael Baker International | R&M Consultants | Fehr & Peers
Wednesday, October 2nd, 2024 (11am-1pm)
Mat-Su College Library

Name	Email
Joni Wilm	joni.wilm@mbakerintl.com
Jamie Taylor	jamie.taylor@matsugov.us
Julie Spackman	julie.spackman@matsugov.us
Kam McGillivray	kmcgillivray@mbakerintl.com
Kim Sollien	kim.sollien@fastplanning.us?
Adam Bradley	adam.bradley@alaska.gov
Todd Moehring	todd.moehring@alaska.gov

SAPT Meeting #2 – Minutes

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Wednesday, October 3, 2024 (11:30 a.m. – 1 p.m.)
Mat-Su College Library and Virtually on ZOOM

Attendees

MSB
Jamie Taylor, Project Manager

Consultants
Joni Wilm, Project Manager, MBI
Malia Walters MBI
Alex Hutcheson, MBI
Karin McGillivray, MBI
Beth McKibben, R&M

SAPT Members
Tracey Loscar, MSB EMS
Rusty Belanger, MSB SD
Tom Morgan
Adam Bradway, AKDOT
Julie Spackman MSB Planning
Kim Sollien MSB MPO

Agenda

1. Introductions
2. Meeting goals
3. Survey results analysis
4. Collect feedback on survey results
5. Promote Virtual Public Workshop 2

Survey Results

- 912 responses
- Open June 26-Sept 13 on website (promoted on MSB Facebook and reached to community Facebook groups.
- Paper surveys -Houston City Hall, Wasilla Museum Visitors Center, Wasilla Public Library, Palmer Public Library, Palmer Museum Visitor Center, and various community events.

- Wilm provided overview of survey demographic responses.
- Wilm presented survey response summaries.

Collect committee feedback on findings?

To collect SAPT feedback on survey and survey responses a series of menti.com exercises (polls) were completed. The questions are summarized below. Responses for open ended questions are generally summarized.

Menti questions 1 & 2:
Feasibility of set of solutions (high to low):

1. all season maintenance of sidewalks
2. safe conveniently located sidewalks
3. off street multi use paths
4. Better lighting
5. more destinations w/in walking distance.

What are the biggest barriers to the above listed solutions? Open ended response.

1. Funding
2. Budget, buy in, and common sense
3. Land use patterns create ingrained issues and increased infrastructure costs
4. All season maintenance is costly
5. Intersections are already congested

Menti questions 3 & 4:
Feasibility set of solutions (high to low)

1. Off street multi-use paths
2. More marked crossing opportunities
3. All season maintenance of paths/bike lanes
4. Better visibility between drivers and people on bikes at intersections
5. Better lighting

What are biggest barriers to above listed solutions? Open ended response.

1. Maintenance costs
2. Funding -need to find a way to prioritize
3. Funding
4. Cost, education; political support that prioritizes biking as valued means of transportation
5. Funding
6. Struggle sharing if multi-user.

Menti questions 5 & 6:

How much do these priorities for investment resonate with you? (high to low)

1. Better winter maintenance of roads and sidewalks
2. Strong traffic enforcement for speeding, impaired driving, and distracted driving
3. Redesigning and reconstructing roads to increase safety for everyone
4. Adding and maintaining sidewalks
5. Adding to and maintaining the trail network

Open response – did we miss any investment priorities?

1. Further public educations/community education and awareness
2. Separated pathways/widen shoulders
3. School zone safety higher priority
4. Connect gaps in existing networks; access management
5. Partnership w/public health to prevent impaired driving
6. Implement safe routes to schools.
7. Incidents including wildlife and how they can be reduced/avoided

Hutcheson presented crash data and dashboard.
SAPT asked where does data come from? AKDOT 2018-2022.
Comment – accidents just off the roadway is not collected.

Wilm opened discussion about crash data. Does anything about the crash data surprise the SAPT or is there any other information they would like to see?

- Good data – will inform action plan.
- Survey responses don't always "match" the data. Disconnect and should be looked at some more. Straight line crashes not surprising – lots of rear end accidents, maybe due to texting or not paying attention. Is data about distracted driving available? And maybe we didn't look at (distracted driving). Response – data not available. Additionally, most data is self-reported and its expected that distracted driving wouldn't be self-reported.
- Would like to see data associated with insurance company data. Insurance rates are high in AK and maybe insurance companies have more robust data. Will investigate it but we anticipate insurance companies will not want to share their data.
- Noted that one way to get policy makers on board is to explain how recommendations can save money.
- Look at crash conditions/types and contributing factors around crashes w/in one mile of a school.
- Looking at impairment mass campaign may not be affective as a more focused campaign focused on treatment. How much does improper passing contribute to accidents?

Wilm asked group what bold commitment they want to make toward reducing roadway KSI crashes.

Recommending goal of 3.5% annual reduction in KSIs. Is this ambitious enough? Too ambitious?

SAPT asked will SS4A implementation funding be withheld if goals not met? Answer – no. SS4 wants plan to have goal and metrics for tracking progress.

SAPT asked about State goals(metrics) for safety? Noting that MPOs must adopt state targets. Maybe the CSAP targets should align with state targets? Joni will send a clarifying email to SAPT to better explain the 3.5 % reduction goal.

SAPT would like to know if they select strategy "a" we can expect X reduction in KSIs. Do not feel they have that information now. To provide more detail here: Julie Spackman asked if they commit to specific countermeasures, have those countermeasures been proven in other areas to reduce serious crashes by a consistently measured percentage?

Wilm presented map of upcoming transportation projects that may positively impact crash data (reduce crashes and increase safety). AKDOT has over 30 projects in expanded core area.

Wilm provided overview of next steps. Virtual public workshop 2; Focus Group meetings; SAPT meetings (Nov and Dec). Open house (3).

Hutcheson provided overview of project website and dashboard.

Break out for group activity. Menti for online participation. Posters for in person.

Menti – potential solutions (**bolded** answers were selected). Only one participant was participating online.

1. education (combine countermeasures deployment with promotional)
2. **improved pedestrian crossings**
3. **improved lighting**
4. establish zero vision webpage with continued monitoring by SAPT
5. **enforcement**
6. **policy (design guideline update, speed management, submittal checklist for developers)**
7. **fixed object (pole) removal/relocation**
8. **sidewalks with all season maintenance**
9. **infrastructure**
10. access management
11. high friction surface treatment signs, retroreflective sheeting for curves on roadway
12. **separated pathways with all season maintenance.**

Open response -thoughts/comments to add?

1. Effective and feasible depend on funding.
2. Solutions may require additional staffing.
3. Hiring creates additional challenges if new staff is required.
4. Feasibility studies should account for this.

Drop a pin on # 1 priority location.

1. Bogard corridor
2. KBG/Settlers Bay
3. Parks and Main and surrounding area

Please list any other high priority areas.

1. Downtown Wasilla
2. Colony Way
3. Trunk Rd

How much money would you spend on: (high to low)

1. Post crash care
2. Safe roads
3. General
4. Safe Road Users
5. Safe Vehicles
6. Safe Speeds

Open ended question: Thoughts/comments to add about how to prioritize funding?

1. Other areas outside Alaska have same issues and weather/seasonal challenges.
2. Look to those areas for examples and ideas.
3. However, Alaska factor needs to be added including wildlife.
4. SAPT asked if data was collected on accidents (KSIs) that included wildlife.
5. Yes, dashboard will show number crashes caused by wildlife.

The meeting adjourned at approximately 1:15pm.

Focus Group Meeting #1 – Sign-In Sheet

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Wednesday, November 6, 2024 (11am-12:00pm)
Mat-Su College, Room 205

Name	Email
Rusty Belanger	rusty.belanger@matsuk12.us
Jamie Taylor	jamie.taylor@matsugov.us
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Crystal Smith	Crystal.Smith@matsuk12.us
Heidi Whipple	heidi.whipple@matsugov.us
Julie Spackman	julie.spackman@matsugov.us
MIKE CAMPFIELD	mike.campfield@matsugov.us

Planning Commission Meeting
March 3, 2025
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Project:	Matanuska Susitna Borough SS4A Comprehensive Safety Action Plan
Meeting Subject:	Safety Action Plan Team Focus Group: School Safety Zone & Safety Campaigns
Meeting Date/ Time:	Wednesday, November 06, 2024 10:00 – 11:00 AM
Location:	Mat-Su College 8295 College Drive, Room FM205 Palmer, AK 99654
Project Staff Attendees:	PROJECT TEAM
	Jamie Taylor, MSB Heidi Whipple, GIS Specialist, MSB Joni Wilm, MBI Sarah Schacher, MBI Karin McGillivray, MBI Beth McKibben, R&M
Attendees **(attended in bold):**	Angela Calcaterra, Wasilla Behavioral Health **Crystal Smith Mat-Su Borough School District** Desire Shepler, Alaska Family Services Erich Schaal City of Wasilla-Public Works Jessie Doherty, Alaska Department of Health Jim Beck, Mat-Su Health Foundation **Julie Spackman, Long Range Planner, MSB Planning** Kim Brown, CSS Early Learning Head Start Lisa Wade, Chickaloon Native Village Transportation Dept Lorea Gudget, Mat-Su Services for Children and Adults Marcia Howell, Center for Safe Alaskans **Mike Campfield MSB Public Works** Nicole Jenkins, Benteh Nuutah Paul Cornils, Alaska Youth and Family Network **Steve "Rusty" Belanger, MSB School District** Sue Brogan, Alaska 211 William Hurr Boys and Girls Club of Mat-Su William Hurr Youth Services of Mat-Su

On Wednesday, November 06, 2024, the MSB SS4A CSAP project team hosted an in person focus group meeting to discuss school safety zones and safety campaigns with the purpose of discussing safety in school zones, to include safety solutions and barriers as well as safety campaign ideas. The meeting was held from 10:00 AM – 11:00 AM at the Mat-Su College Fred Machentanz Building in Wasilla, Alaska. Sarah Schacher from Michael Baker International presented on crash data collected, crash data trends, and safety concerns noted by the public.

The following questions were posed to the focus group with their responses:

Planning Commission Meeting
March 5, 2025
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1. Which of these solutions is most important to safe school zones?

A. Off-street multi-use paths
B. All season maintenance of paths and bike lanes
C. Improved lighting
D. More marked crossing opportunities
E. Better visibility between drivers and pedestrians/bicyclists

Crossings

- Improve lighting at crossings.
- Little to no lighting around cross walks
- No crossing guards

School Zones

- Inconsistencies in marked crossings
    - Flashing/speed limits not consistent within the school zones
        - The state says if there isn't a crosswalk then a school zone isn't necessary
    - Consistency would improve communication
    - Issue is different road owners
        - State, city, borough
        - DOT has criteria for when you can have a reduced speed zone. If there is no pedestrian facilities, there is no need for a reduced speed (is the thinking) Ex. In Sutton
- Speed zone
    - Speed zones: should be consistent throughout the borough.
    - All elementary schools should probably have lighted school zones and flashing ambers.
        - This is a minimum standard.
        - This might be under revision with ADOT.
        - Push for consistency.

All season maintenance

- Sidewalks
    - Not accessible in wintertime
    - Plowing is periodic.
    - Last year inaccessible the whole winter
- Sidewalks around school
    - Sidewalks around school are maintained well by school custodial staff.
    - Priority on snow days
    - School grounds maintained better than city sidewalks.
    - Fewer schools with sidewalks and pathways, ATV trails are more common
    - Peds use edge of the road vs. ATV trails
        - No lighting
- Pathways
    - DOT M&O - will do roads first vs pathways
    - Usually takes 72-96 hours to plow separated pathways
    - Snow berms can also be an issue
    - Separated lighted pathways preferred

Bus Stops

- Insufficient lighting

- Bus riding is back up to pre-COVID numbers.
- Policy is needed about where school bus will go to pick up kids.
- Committee has done work around trying to map walking routes.
- Policy is needed about where school bus will go to pick up kids.
- District policy on distance a school bus will not pick up:
    - State rule - 1.5 mile, for all ages

Funding

- Low priority in M&O budgets

Congestion

- Issues with queuing - pick up and drop off times
- If we could improve walkability, reduce amount of drivers
- Queuing causes crashes

2. Let's talk about solutions to potential barriers:

A. Campaign to mitigate speeding/distracted driving
B. Increased funding to improve safety in school zones
C. All season maintenance
D. Reducing speed/congestion around schools
E. Encouraging compatible land use development around schools

Campaign

- District has a campaign for "being seen"
    - Thirty second PSA
    - Released in fall during bus safety week (October) when it's beginning to get dark
        - Linked on website and message sent to parents - Communicate it through Blackboard (with parents) and
- Paid advertising.
- Opportunities for PSAs:
    - short videos or online videos
    - work with local radio stations as well as Spotify and Pandora
    - utilize local streaming vs basic network TV
    - Facebook posting
    - Social media, middle schoolers, ad targeted at specific age groups.
        - Ads on YouTube or Hulu

Funding

- Lack of funding is biggest barrier
- Already dipping into general budget by $3M for bussing
- If funding were not an issue:
    - Maintenance would be most effective as well as reduce speed/congestion
    - Distracted driving

Planning Commission Meeting
March 3, 2025
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Land use development

- Tricky (sub area solutions study) there might be compatible recommendations coming out)
- Depends on school, who owns the property
- land use development vs. redevelopment
    - these would not be triggered until the property was sold.

3. What are some ideas for safety campaigns targeting these groups?

A. Younger drivers (14-25), especially males
B. People who are speeding or engaging in distracted driving.
C. New drivers
D. Schools (students/staff/teachers/parents)
E. Age-appropriate walking/biking guidance
F. Parent education
G. Teachers/staff/bus drivers
H. General population driving through school zones

Distracted driving (issue)

- Texting, Snapchat (females)
- Speeing (males)

Research

- What messages are showing impact?
    - Benefit to "proecting your friend"
    - Car crashes work both ways
    - We think about it from adult brain
    - Brains not fully developed until 25
- Work with PIO
    - Use social media platforms
    - Principal posts, teacher posts, (John Nottestein) MSB School District
- Research shows the most impactful things on teen behavior is parental guidance
- School swag?

Players for carrying campaigns forward could include:

- Mat-Su Health Foundation
- Mat-Su College
- Red Cross
- Central MSB Emergency Services
- Smaller Private Clinics (Healthstone)
- State Troopers
- Click it or Ticket
- PTA/PTO organization
-

MAT-SU BOROUGH
SAFE STREETS FOR ALL

Focus Group Meeting #2 – Sign-In Sheet

Matanuska-Susitna Borough | Michael Baker International | R&M Consultants | Fehr & Peers

Wednesday, November 6, 2024 (1:00pm-2:00pm)

Mat-Su College, Room 205

Name	Email
Bobby Rader	brader@cityofwasilla.gov
DAN TUCKER	ANTIQUETUCK@GMAIL.COM
Jamie Taylor	
TRACEY LOSCAR	TRACEY.LOSCAR@MATSUGOV.US.
Shayne La Croix	srlacroix@palmerpolice.com

Planning Commission Meeting
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Project:	Matanuska Susitna Borough SS4A Comprehensive Safety Action Plan
Meeting Subject:	Safety Action Plan Team Focus Group: Enforcement
Meeting Date/ Time:	Wednesday, November 06, 2024 1:00 – 2:00 PM
Location:	Mat-Su College 8295 College Drive, Room FM205 Palmer, AK 99654
Project Staff Attendees:	PROJECT TEAM
	Jamie Taylor, MSB Joni Wilm, MBI Sarah Schacher, MBI Karin McGillivray, MBI Beth McKibben, R&M
Attendees **(attended in bold):**	**Lt. Bobby Rader, Wasilla Police Department** **Commander Shanye LaCroix, City of Palmer** Lt. Mike Lopez, Wasilla Police Department Todd Moehring, Alaska State Troopers **Dan Tucker, MVP Technical Committee** **Tracey Loscar, MSB Emergency Services** Mike Danz, Valley Mountain Bikers and Hikers Dmitri Fonov, MSB Assembly Jared Eison, City of Houston - Public Works

On Wednesday, November 06, 2024, the MSB SS4A CSAP project team hosted an in-person focus group meeting to discuss enforcement challenges, solutions, and actions. The meeting was held from 1:00 PM – 2:00 PM at the Mat-Su College Fred Machentanz Building in Wasilla, Alaska. Sarah Schacher from Michael Baker International presented on crash data collected, crash data trends, and safety concerns noted by the public.

The following questions were posed to the focus group with their responses:

1. What are the biggest challenges to enforcement in MBS:

Staffing

- City of Wasilla to conduct enforcement.
  - Staffing is the biggest challenge.
  - It is not adequate to conduct enforcement, manage calls, rest of borough is just too big to have enforcement make an impact.
- Size of the Borough, difficult to make an impact due to its sheer size.
- Support from Wasilla:
  - Wasilla backs up troopers, but officers do not enforce traffic outside city limits.

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    - Same for Palmer and Wasilla
    - Houston lacks a police department.
    - Officers will not go much outside the city limits. Palmer has about a 5-mile grace area outside the city.
- Trail System Complexity:
    - Vehicles can move in many directions, almost hidden.
- Unlicensed Drivers/ATVs
    - Quantifying unlicensed drivers, especially ATVs, is challenging.
    - No licensing required for ATVs.
    - ATVs Enforcement of driver's license regulations, legal knowledge.
    - Age Requirements: sixteen for ATVs on roadways; no age requirement on trails.
    - Regulations on how far off the surface vehicles can be.
    - Shoulders are okay unless impeding traffic.
    - How far off the road surface is considered off the road? If they are not using the lane of travel. If they are right next to the road then they could compromise the safety of the road.

Enforcement Consequences

- Decriminalized infractions lead to citations, but court system overload results in lack of follow-through, leading to high-risk behavior.
- Inconsistent levels of enforcement.
- What comes after the enforcement?
    - They have decriminalized traffic laws, now it is just a citation.
    - When it does become criminal, there is no follow through in the courts there is no consequence.
- How does this translate directly to the crashes?
    - **Community Needs:** Enforcement is a community priority, but smaller agencies give more discretion to officers.
    - **Effective Enforcement:** Highway speeding and targeted enforcement around school zones are more effective.
        - Is there targeted enforcement around school zones? Yes.
    - **Driving in General:** Is there a policy to not pursue ATVs because of safety risk? State has more policies than guidelines.
    - **Repercussions for Criminal Behavior:** Immediate repercussions are important. Big believer in writing tickets when it was clear compliance was not going to be gained. Immediate repercussions for their actions were the best policy.

2. Potential solutions:

Red Light Running/Speed Monitoring

- Implementation and follow-through of technology like citations based on license plate photos.
- School zones might work, construction zone.
    - Subject is a non-starter in the borough.

Insurance Data and Distracted Driving:

- Challenges in identifying distracted driving unless witnessed or admitted.

- Distracted driving: only way is to see it.
- REDDI reports you can report someone who is swerving or driving erratically.

Speed Data Utilization:

- Palmer PD uses speed data to determine enforcement hotspots.
- City of Palmer collects speed data:
  - Break it down by hour: how many vehicles were going the speed limit? Where are the hot spots? Where do we need to do more traffic enforcement?
  - This is helpful, also we have residents do patrol watches for speeding and stop sign violations.
- Conditions:
  - Data on conditions like light and dark periods, and their impact on driving behavior.
  - Passing is a BIG issue. RVs and slower vehicles, passing on the two-lane road, large cause of crashes.

Warning Signs/Signals:

- Effective use of warning signs for speed changes and signals.
- Sign that has speed change flashing.
- Timed flashers. Certain spacing requirements.
- Walk/Do not Walk sign Lights and warning can be beneficial.

Legislative Changes:

- A lot of laws are driver specific; legislature would have to make changes. Also, what is the follow through?

3. What can be done right now to reduce crashes for these groups:

A. Young Drivers (14-25 years old), especially males
B. People involved in crashes related to substance abuse.
C. Motorcyclists
D. ATV riders

Young drivers and motorcyclists:

- Palmer PD offers driver's education through schools, especially before prom season.
- Schools have drivers ed through the school.
  - It used to be required.
  - Job Corps used to offer drivers ed course.
  - Today's 14-year-olds in Alaska have more time in the seat because of ATVs.
  - Every 15 minutes program - done right before prom season.
- Motorcyclists:
  - Visibility issues, reckless driving, and evading officers can be felonies.
  - They are much smaller.
  - The operators are wearing dark clothing; a lot of them drive recklessly; riding sports bikes; people who are buying these bikes are more likely to take risks.

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- less helmet wearing; fast; gravel and sand issues.

Additional Concerns:

- Left-hand turns across highways
  - Big concern; we need hard controls.
  - Turning left cruising on Main Street; suicide lane; people drive down the shoulder.
  - They have a purpose so you can get out of the main lane of travel and make a left turn.
  - Enforcement and education issue.
- Trooper Detachment:
  - Staffing issues and the need for MSB to create its own police force.
  - Resources
    - We do not have enough officers, but from a general overall borough perspective, the troopers can barely keep up with their calls.
    - The Troopers get trained here and then get stationed somewhere else.
    - They do not have enough troopers to do traffic enforcement, it would not be enough even if they were fully staffed.
    - The impetus has been put on the borough to do something.
    - Traffic violations are considered small on the totem pole in the courts.
      - If it is not a misdemeanor or higher, it gets dismissed.
      - They do not have the personnel positions.
- Decommissioning Safety Corridors
  - Joint decisions between DPS and DOT, such as on Parks Hwy near Willow.
  - Old Glenn MP 1-10 coming off the parks to be made a safety corridor.
    - Requested from Mat-Su Borough at the last Assembly meeting.
    - Safety Corridors for the borough.

Focus Group Meeting #3 – Sign-In Sheet

Matanuska-Susitna Borough | Michael Baker International | R&M Consultants | Fehr & Peers
Wednesday, November 6, 2024 (2:30pm-3:30pm)
Mat-Su College, Room 205

Name	Email
Jamie Taylor	jamie.taylor@matsugov.us
Adam Bradley	adam.bradley@alaska.gov

Planning Commission Meeting
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Project:	Matanuska Susitna Borough SS4A Comprehensive Safety Action Plan
Meeting Subject:	Safety Action Plan Team Focus Group: Safety Policies
Meeting Date/ Time:	Wednesday, November 06, 2024 2:30 – 3:30 PM
Location:	Mat-Su College 8295 College Drive, Room FM205 Palmer, AK 99654
Project Staff Attendees:	PROJECT TEAM
	Jamie Taylor, MSB Joni Wilm, MBI Sarah Schacher, MBI Karin McGillivray, MBI Beth McKibben, R&M
Attendees **(attended in bold):**	Richard Porter, Knik Tribal Council Dan Tucker, LRSAA Samantha Brown, Alaska Trucking Association Jude Bilafer, City of Palmer - Public Works Crystal Nygard, City of Wasilla-Planning Tani Schoneman, City of Houston - Public Works Tom Adams, MSB Public Works Jennifer Busch, Valley Transit Kelly Crawford, Mat-Su Health Services Taylor Raftery, Mat-Su Parks and Trails **Adam Bradway, ADOT&PF** Kim Sollien, MVP

On Wednesday, November 06, 2024, the MSB SS4A CSAP project team hosted an in-person focus group meeting to discuss safety policy challenges, solutions, and actions. The meeting was held from 2:30 – 3:30 PM at the Mat-Su College Fred Machentanz Building in Wasilla, Alaska. Sarah Schacher from Michael Baker International presented on crash data collected, crash data trends, and safety concerns noted by the public.

The following questions were posed to the focus group with their responses:

1. Which of these solutions is most important to transportation policy?

A. Managing speeds
B. Multi-use paths/separation of users
C. All season maintenance of paths and bike lanes
D. Intersection improvements (turn lanes, lighting, marked crossing opportunities)
E. Something else?

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Managing Speeds

- Complete streets approach is useful here:
  - Narrower lanes, using design speeds, giving space for more users to give them a reason for slowing down traffic.
- To ask for speed reduction, you must show how you will get people to reduce the speed.
- Context set speed limits if it's an urban collector.
- Subdivision developers balk at wider shoulders. A lot of things make maintenance more costly or more difficult, so how do we balance that?
- Make drivers drive the roadway the speed you intend them to.

Intersection Improvements

- Intersection crashes – audience could be developers or designers and planners. Guidelines that trigger when you would have to do an analysis.
  - Thresholds for right turn lanes are very high. Raising the threshold of when those requirements are triggered.
    - Raising or lowering the threshold for warranting a turn lane is a good idea.
  - The issue will be to get developers to follow a better than minimum standard. Developers need a flow chart.
- The Mat-Su doesn't pick up incremental development very well.
  - There are TIA requirements but not for subdivisions.
    - No driveway permit required for subdivision, the state will ask the borough for a traffic impact analysis. The borough is like a middleman trying to manage this and it doesn't work very well.
      - A large commercial complex would need a TIA. The state could require it.
    - Mat-Su Borough is grappling with this especially with residential development.
    - Impact fees spread this around more.
      - Stricter TIA requirements.
- Development incentives, economic development incentives, tax reduction, for adding walkable facilities, smaller lots, additional density, greenspace, community water systems are granted ½ acre lot.

Multi-use paths/separation of users.

- Complete streets plan would be the policy for this bullet.
- Borough is more focused on through-put.
- FHWA guide - NACTO.
- Subdivision developers want to build wider shoulders or separated path, but MSB doesn't have design criteria or M&O balk at that - how do they pay for that maintenance?
- Biggest industry here - homebuilding.
- Economic development incentive - a couple "end code" but hasn't been used for subdivision development.

Improving Lighting and More Marked Crossings

- Improved lighting will help.

- All season maintenance does have sidewalks, but they are not accessible.
- Sidewalks around schools are well taken care of by custodians; they do a good job.
- School grounds are taken care of by custodians, this is much better than what is found in the cities.
- Fewer kids walk the 4-wheeler trail as winter goes on. No lighting.
- Not sufficient lighting around school bus stops. There's no lighting on streets. Walking route mapped around schools. Little to no lighting around crosswalks. No crossing guards.
- Policy is needed about where school bus will go to pick up kids.
- If there were separated/lighted pathways that would be better.
- Unmaintained paths are unpredictable.
    - It takes usually (76-92) hours to plow separated pathways.
- Snow berms can also be an issue.
- Marked crossings, there are inconsistencies with what those markings are (flashing/speed limits) not consistent within all the school areas.
    - Need consistent signage.
    - Consistency would improve communication. Inconsistent communication.
    - This is an issue because there are different school road owners.
    - DOT has criteria for when you can have a reduced speed zone.
    - If there are no pedestrian facilities, there is no need for a reduced speed (is the thinking) Ex. In Sutton.
- Congestion and queuing at pick up and drop off at schools
    - Improve the walkability there would be fewer parents who have to drive.
    - Queuing causes crashes.
    - This happens at bus stops as well. Bus numbers are back up to pre-COVID numbers.
- Speed zones: should be consistent throughout the borough. All elementary schools should probably have lighted school zones and flashing ambers. This is a minimum standard. This might be under revision with ADOT. Push for consistency.

2. Solutions to potential barriers:

A. Community buy-in for more funding to improve safety
B. All season maintenance
C. Complete Streets Policy
D. Developer policy for new subdivision roads or impacts to existing roads

Funding

- Federal options, such as discretionary grants and SS4A funds, are available, but capital funds are limited.
    - MSB is limited in its ability to raise funds as a second-class borough.
- A policy decision to dedicate more funding to maintenance is necessary.
- Raising the mill rate or revisiting gas taxes could provide additional funding.
    - This could be revisited as part of the safety plan.
    - Other options:
        - The MVP Complete Streets Policy should be a recommendation.

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- RSA models: Consolidating RSAs could create a larger pool of funds, though it may face resistance.

3. What are some ideas for policies that will have a meaningful impact on safety for all road users?

Challenges:

- Implementing policy faces many hurdles. A Complete Streets policy could be beneficial, and better maintenance policies are valuable.
- State law prohibits new RSAs from being established.

Community Involvement:

- Community members often do their own maintenance, which raises liability issues. Programs like Snow Trek (Willow Trail Community) require organized community efforts.
- The borough contracts out most pathway maintenance due to limited in-house staff.
- Community members in KPB do road maintenance through programs like the Legion of Grampies.

Maintenance Costs:

- Notifying facility owners of maintenance costs is important. Service contracts have turnaround times, and AKDOT has levels of service (LOS) and priorities.
- MSB contracts out maintenance yearly but has additional maintenance projects during summer months.

Land Use and Development:

- Connecting land use and development with safety can be more effective. Impact fees should be proportional to the impact of development.
- Developer perspective: It's 35% cheaper to build in the valley, and no permits are required.
- Alaska construction incentive?

Parks:

- Parks do not want to be responsible for maintenance.
- HOAs may take over park maintenance once developed.
- Private gated subdivisions do their own road maintenance but still pay RSA tax.

Impact Fees:

- Jess Hall supports impact fees. Developers' impact on roads is already on the RSA list to be upgraded, but there is no mechanism for pooling funds between entities.

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Traffic Calming Policy:

- The Mat-Su Borough needs a traffic calming policy with a rubric to determine when and where it's needed, along with associated capital costs.

Meeting ID	Topic	Host	Email
870 7467 8179	MSB CSAP Safety Analysis - Special Meeting	Michael Baker Intl.	kmcgillivray@mbakerintl.com

Participant	User Email	Location
Adam Bradway (Guest)	adam.bradway@alaska.gov	San Jose (US)
Alex Hutcheson (Guest)	alexander.hutcheson@mbakerintl.com	San Jose (US)
Jamie Taylor (Guest)	jamie.taylor@matsugov.us	Wasilla (US)
Joni Wilm (Guest)	joni.wilm@mbakerintl.com	Anchorage (US)
Julie Spackman (Guest)	julie.spackman@matsugov.us	Wasilla (US)
Michael Baker Intl.	kmcgillivray@mbakerintl.com	Anchorage (US)
Mwasi Mwamba (Guest)	mwasi.mwamba@mbakerintl.com	San Jose (US)
Sarah Schacher (Guest)	sarah.schacher@mbakerintl.com	Anchorage (US)
Todd Moehring (Guest)	todd.moehring@alaska.gov	Seattle (US)
Tracey Loscar (Guest)	tracey.loscar@matsugov.us	Wasilla (US)

Start Time	End Time
11/8/2024 11:51	12:59:02 PM

SAPT Meeting #3 – Minutes

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Friday, November 08, 2024 (12:00 p.m. – 1 p.m.)
Virtually on ZOOM

Attendees

MSB
Jamie Taylor, Project Manager

Consultants
Joni Wilm, Project Manager, MBI
Sarah Schacher, Engineer, MBI
Karin McGillivray, MBI
Alex Hutcheson, MBI
Mwasi Mwamba, MBI

SAPT Members
Rusty Belanger, MSB SD
Adam Bradway, DOT&PF
Julie Spackman MSB Planning
Todd Moehring, Alaska State Troopers
Tracey Loscar, MSB EMS

Meeting Purpose

1. To discuss the high injury network for the MSB Expanded Core Area.
2. To walk through the risk factors and criteria our team is using to assess priority locations for safety improvement recommendations in the MSB CSAP.
3. To provide an opportunity to the SAPT to comment on these methods before we proceed to recommend projects and priority locations.

Meeting Summary

On November 8, 2024, the SAPT met to review the methodology included in the Safety Analysis in a special work session. This included an analysis of high injury networks within the MSB Expanded Core

Area, an assessment of priority locations and systematic improvements highlighted in the analysis, and potential countermeasures that respond to safety issues identified. This meeting also included a brief overview of potential projects under consideration for inclusion in the MSB CSAP. MBI Transportation Engineer, Sarah Schacher led the meeting, with a brief introduction given by MBI Planner, Joni Wilm. The purpose of the meeting was to provide an early opportunity to review the above elements and provide comment to the project team before finalizing project selection criteria. SAPT comments included general comments on project selection, inclusion of the Quarter Access Management Plan, coordination with the Alaska DOT Highway Safety Improvement Plan, implementing proposed improvements along Bogard, and other local MSB road projects, inclusion of corridor studies in recommendations, specifics on the Safety Toolkit, including safety campaigns.

MAT-SU BOROUGH
SAFE STREETS FOR ALL

SAPT Meeting #3 – Sign-In Sheet

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Wednesday, November 20, 2024 (11:00am-1:00pm)
Mat-Su College, Room 205

Name	Email
Joni Wilm	joni.wilm@mbakerintl.com
Kann McGillivray	kmcgillivray@mbakerintl.
Adam Bradley	adam.bradley@alaska.gov
Julie Spackman	julie.spackman@matsugov.us
Jamie Taylor	jamie.taylor@matsugov.us

SAPT Meeting #4 – Minutes

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Wednesday, November 20, 2024 (11:00 a.m. – 1 p.m.)
Mat-Su College Library and Virtually on ZOOM

Attendees

MSB
Jamie Taylor, Project Manager

Consultants
Joni Wilm, Project Manager, MBI
Sarah Schacher, Engineer, MBI
Karin McGillivray, MBI
Beth McKibben, R&M

SAPT Members
Rusty Belanger, MSB SD
Adam Bradway, DOT&PF
Julie Spackman MSB Planning

Agenda

1. Introductions
2. Meeting Goals
3. Review Project Recommendation Scoring Criteria
4. Review Draft Recommendations & Proposed Countermeasures
5. Feedback from Committee

Meeting Goals

1. Review final scoring criteria for project selection and suggested countermeasures.
2. Review draft recommendations for prioritized projects in the MSB CSAP
3. Provide feedback on draft project recommendations and proposed countermeasures.

Introductions

- Wilm opened the meeting with an overview of what will be covered and what feedback the team is looking for from the Committee. This last SAPT meeting before draft plan is presented to Committee.

Review Project Recommendation Scoring Criteria

- Schacher explained how the draft plan will be organized for recommendations. The goal is to retain flexibility while showing priority locations.

- Reviewed high injury network for vehicles and non-motorized.
- Developed risk factor profiles: speeds over 45 mph, unsignalized intersections; outside city limits; non-motorized not on separated pathway; any intersection; collectors and arterials.

- Draft Priority Area Scoring for all criteria was presented. Includes community feedback score and local road.
- Noted – 75% of crashes are on the Parks Highway.

- Resulted in priority locations for all users, priority locations for non-motorized

Review Draft Recommendations and Proposed Countermeasures

Parks Highway Corridor:

Sarah -Recommend supplemental plan (Corridor Review of Parks Highway for Access)

Can we confirm Church-Seward Meridian end points?

Jamie – everything from Church on has been recently updated and access consolidated where they could so this makes sense.

Brad – west of church, the issues fall off, so this is good. Call out bubble around Palmer/Wasilla Hwy could be extended further.

Sarah - Systemic improvements that can be implemented? Northern region is doing this. This corridor would be a good candidate for this. Palmer/Wasilla Hwy is wide, so putting pedestrian refuges may be helpful (tool) that can be used.

Sarah - Anything that you think public might bring up?

Adam – some systemic improvements will be a balance between cars and people. There will be a reckoning that needs to happen to bring businesses into this to add to the discussion.

Jamie – no right turn on red, could this be a tool?

Julie – this would take a lot of public education.

Jamie - somewhere where there is a lot of pedestrian activity.

Adam - the biggest issue would be enforcement.

Sarah – even if you got 50% compliance that would help.

- **Action items for map:**
  - SAPT suggested expanding the bubble at the intersection w/Palmer/Wasilla Hwy, should bump out at all intersections as well since they are influenced by Parks
  - SAPT noted for intersection improvements impacting signal timing will be a balance between moving vehicles and providing pedestrian safety.

49th State Street Separated Path

Sarah - This one is already in the TIP and the need is straightforward. What is the state of the funding?

Adam - It only has 1 million, so it was undershot. DOT&PF planning to transfer 49th to the MSB.

Jamie – it is at least at 35% design. Cole would know about this.

Sarah-we should get a status.

Julie - asked about separated path.

Jamie - the path will be on the East side, which is also where all the utilities are.

Sarah- is there a need for a mid-block crossing? Is there a need for lighting?

Adam – it's a pretty well-lit area.

Rusty – there is incoming lighting on all driveways, lighting along the roadway, parking lot lighting is on a timer/schedule and the whole parking lot lights up.

- **Action items for map:**
  Proposed crosswalk at southern school driveway, possibly Rectangular Rapid Flashing Beacon (RRFB). Students unlikely to walk up to the roundabout to cross and walk back.

Arctic Avenue Bicycle and Pedestrian Improvements

Adam- the main issue here is crossings.

Julie- the school walking routes committee looked at this recently and they thought crossing along Valley Way would make sense. Gaulkana has a lot of car traffic going to and from during school times.

Adam – this could also have its own supplemental corridor plan as well. We really need to nail down what the answer is. DOT&PF is leaving this up to Palmer since it is a state road going right

through downtown Palmer. Clark-Wolverine to Glenn Hwy would be a good end points for a supplemental planning study.

Julie – portion between Valley Way and the Glenn is an access management nightmare.

Jamie – the light is terrible at Alaska Way, very congested.

Adam – AADT is 12,000 but will continue to grow. There needs to be a reckoning with Palmer on what they want this to be like. One or two intersection treatments would help pedestrian issues, but there needs to be further study on which ones we need to choose.

Sarah – do charter schools get bussing?

Julie -Yes, they do, and they are very popular. Also, MSB has school choice, so you can go wherever you want. Academy Charter planning to expand.

Jamie – large subdivision going in in Butte, who will use this road.

- **Action items for map:**
  Supplemental corridor plan to address access management and multi-modal needs between Glenn Highway and Clark-Wolverine

Big Lake Road Intersection Improvements

Adam – DOT did a pedestrian study for Big Lake road (R&M did the study) check with R&M to find out more about this study.

Adam – there was a larger project at some point.

Sarah – there was a larger STIP project for this area.

- Big Lake Road Intersection Improvements, Parks Highway to Beaver Creek Rd. Current resurfacing project does not include turn lanes or lighting. AKDOT did a pedestrian study for this road and it may have intersection locations. Enhanced lighting and signage, turn lanes.

Bogard Road Intersection Improvements and Separated Path

Sarah – this one has a resurfacing project. The idea is to add a continuous separated path. The bicycle/ped path included a separated path from Seldon to Peck.

Julie – on the south side of Bogard there is no pathway.

Adam – you'll probably get a comment about the mini roundabout. Which intersections are slated for improvements?

Sarah/Jamie – Tate, Williwaw, Copper Creek, Helen.

Adam – there is not a whole lot of development potential in here.

Sarah – this corridor could also benefit from some lighting.

Jamie – there is an unconstructed ROW just east of…there is a project shown for Bogard to ?

Sarah – how to do people like mini-roundabout?

Jamie – people love it but think it needs to be bigger/upgraded.

Julie -People think it's too small, it feels mini. Some people drive right over it.

Sarah – we could add an upgrade to this roundabout.

Julie – from a pedestrian point of view there might be a design that is more pedestrian/bike friendly. **Sarah** – we are looking long term, and round abouts can outgrow themselves.

Jamie – it was a 4-way stop. Because it's so small, there is a sight issue and maybe it needs to upgraded (validated).

Sarah – there is no harm in putting it in there, it will help it score better for any funding program. We'll include the modern roundabout.

Julie – it is also in the corridor access management plan.

- Bogard Road Intersection Improvements and Separated Path, Seldon Road to Peck Street OR Seldon to Wasilla-Fishhook. Intersection improvements, increased lighting, turn lanes, and separated path. Current resurfacing project does not include lighting, path or turn lanes. SAPT recommends project through to Wasilla-Fishhook due to proximity to schools. SAPT add project (where?) Roundabout.

Clapp Street Curve Delineation and Lighting Improvement

Adam – yes, seems like a good low cost project.

Jamie – the gravel pit is done. She anticipated there will be development of lots that were recently subdivided in the area. Julie – it doesn't look like there are any turn lanes on Mack.

Sarah – there is not a lot of turning activity there.

Julie – if the gravel pit is turning into the subdivision, would there be a benefit to having a turn lane there?

Jamie – not sure this makes sense because there is nothing there right now.

Julie – we don't know what they are actually going to be putting in there.

Jamie – the corner is in RSH27 but then it goes into the city of Wasilla. The site distance at Laurie avenue is not great.

Sarah – do you think lighting would help?

- **Jamie** – not sure. A beef that she has with DOT is that they use stopping site distance instead of intersection site distance. Along Klapp, there are a lot of intersections with very short site distance. It is not comfortable for people. Recommendation to DOT to use intersection for site distance. For a subdivision road this would work better.

Sarah – what do you think of lighting through here?

Julie – as a driver, it always helps to see animals.

Sarah – we could put turn lane recommendations through here too. You could do a little or a fair bit to make things better.

- Clapp Street Curve Delineation and Lighting Improvements, Curtis Menard Sports Center to Laurie Avenue. Brush clearing, curve delineation, increased lighting. SAPT asked if turn lanes were proposed. No, road doesn't have a lot of traffic volume, but can offer as a solution. Gravel pit may benefit from added turn lane. Adding turn lane to nothing might be weird.

East Seldon Road Safety Improvements

Adam – so your recommendations are separated pathway, increased lighting, and add turn lanes? I think these three are all good implementation projects for SS4A.

Jamie – the stretch between Church and Seldon are pretty well connected.

Julie – Schrock goes up in there. An access point up there, there was someone who said that Loon was very narrow.

Adam – this is outside the scope of the access management plan.

Julie – not sure how this applies, but the intersection at Church Road and the intersection by Mat-Su Career Tech (by Seward Meridian).

Adam – this one will get a light.

Jamie – what will STIP project do?

Adam – this will add shoulders and reconstruct. The MSB wants to take this one on by themselves.

Sarah – I think a path an lighting was in there too. Adam – the price included (30 million) taking down curves, adding shoulder.

<u>Seldon Road and Church Road Intersection Improvements</u>

Jamie – bubble should go all the way over to Windy Bottom.

Adam – this has an access management plan already.

Jamie – might use a turn lane at Windy Bottom. Maybe pedestrian scale lighting would be an option?

Sarah – we will take another look at this.

- Seldon Rd and Church Rd Intersection, Roundabout (single lane) OR flashing beacon? Crosswalks, increased lighting. SAPT thinks intersection is good as it is (w/recent improvements). AKDOT noted MHTL that may be developed for housing in future. Suggest pedestrian lighting.

Traffic calming? People are running stop signs because they don't see them. Have tried bigger. Maybe need LED stop signs or rumble strips before stop? Do rumble strips work in winter. They fill up but people seem to still respect them. Solar/battery can work but concerns about liability if not operating and there is an accident.

Seldon Road and Church Road Intersection Improvements

Adam – we can look at HSIP to improve this one.

Sarah – there is a crash pattern, I think this would score well for SS4A.

Jamie - would a four way stop be warranted?

Sarah – it does seem like lighting would be a good solution here.

Jamie – people are running stop sign because they don't see it. Could we do LED signs? Rumble Strips as you approach the intersection? This could be done by the RSA pretty quickly. Might be a good interim solution. There were 5 crashes in 2023 which meets the minimum threshold for a 4-way stop.

Sarah- you could even put-up retro-reflective sheeting

Jamie - this is already installed.

Sarah – will look into this. Julie – they did this in Oregon (rumble strips and LED lighting) and it was very effective.

Jamie - I have solar powered radar signs and they have worked continuously. Is worried about a stop sign and if it stopped working there would be a liability issue. Likes the idea of rumble strips and it wouldn't require any coordination with DOT.

- Seldon Rd and Church Rd Intersection, Roundabout (single lane) OR flashing beacon? Crosswalks, increased lighting. SAPT thinks intersection is good as it is (w/recent improvements). AKDOT noted MHTL that may be developed for housing in future. Suggest pedestrian lighting. Traffic calming? People are running stop signs because they don't see them. Have tried bigger. Maybe need LED stop signs or rumble strips before stop? Do rumble strips work in winter. They fill up but people seem to still respect them. Solar/battery can work but concerns about liability if not operating and there is an accident.

Green Forest Drive Improvements

Sarah - Attached path (for complete street) and mini roundabout.

Adam - ROW constraints -not space for separated path. Current STIP -upgrade to collector standards.

10-ft lanes does work as traffic calming. Thru traffic to Birch.

Jamie – likes the idea of making this a fully curbed (with sidewalks) we wouldn't need parking lanes. **Sarah** – who is managing this project?

Jamie – talk to Cole.

- Green Forest Drive Improvements, Attached path (for complete street) and mini roundabout. ROW constraints -not space for separated path. Current STIP -upgrade to collector standards. 10-ft lanes does work as traffic calming. Thru traffic to Birch. Likes adding?? To slow people down.

Hollywood Road Safety Improvements

Julie – tomorrow is the school walking route meeting, there is a recommended school crossing between Connie lane and Vine road.

Jamie – there are couple marked crosswalks between Knik and Goose Bay but they are not visible, so they need upgrading.

Julie – when she meets tomorrow, she'll have a bigger discussion and talk about it.

Adam – this would be a very long separated pathway (6 miles) so that would be very expensive.

Sarah – a roundabout at Hollywood and Big Lake seems likely.

Adam – what would our interest be in doing an improvement here. It would be interested to see in terms of prioritizing a project, how much this would rise to the top.

- Hollywood Rd Safety Improvements. Big Lake Rd to Vine Rd. Resurfacing project planned. Big Lake/Hollywood intersection improvements, enhanced curve delineation near transfer station, add separated path Big Lake Rd to Connie Lane, add shoulders Big Lake Rd to Connie, add turn lanes. There are a few marked crosswalks on this road, maybe not safe. Are they located across from school? Roundabout planned for Where?. AKDOT owns this section of road, maybe interested in looking for grant funding.

Swanson Avenue Complete Street

Julie – this more complete street would make it feel more like it was planned.

Jamie – I really like this idea, Swanson avenue is a strange place to do this.

Jamie – there is access to the parks, access to performing arts. Draw some of those attractions out and show people what it might look like.

Sarah – what else is down there (library, restaurants, performing arts center, music in the park) this might be good demonstration project example.

- Swanson Ave- complete street project, parks Hwy to Crusey – install 6-ft sidewalks, remove 2 way center turn lane, retain shoulder/bike lanes, enhanced crosswalks (striping, signage, stop controlled). Discussion about 2-way cycle track vs bike path. Discussion, will complete street bring more businesses (if more walkable?) Doesn't expect proposed changes to impact traffic

flow or delivery vehicles. This may be a good location for a demonstration project to show what a project might look like and allow for buy in. Suggested describing what complete street looks like – how it would function so people can picture what it might be like.

Vine Road Separated Path

Adam – this project was tied to the roundabout, then it fell out of the STIP. In previous conversations with the Borough, there were ROW issues with trying to put a separated path in there. There was some scheme with going through all these neighborhoods to do a pathway. Nothing that money wouldn't help remedy.

- Vine Rd Separate Path (Parks Hwy to Knik-Goosebay Rd. Project fell out of the STIP but may have been added back. Maybe some ROW issues -not enough for separated path.

Westpoint Drive & Crusey Street Pedestrian Improvements

Julie – on school walking routes they identified a crossing on Lakeshore. There are residential areas on the east side that need to get to the school north of the Library.

Adam – would be hesitant to cross Crusey street.

Julie – thinks a signalized crossing is merited.

Adam – the one at Westpoint drive also backs up into traffic as well. There needs to be more discussion about what function Crusey serves. It is 5 lanes.

Adam – I get the need, but question how effective striping changes would be.

Sarah – do we give them a reason to slow down. It might need a RFB.

Jamie – what about an RFB at Swanson? That might work.

Julie – can we make this a pedestrian friendly connector.

Jamie – does Crusey need the center left turn lane? If we removed these, we could add medians (ped refuge).

Adam – I think Crusey is overbuilt.

- Westpoint Dr. and Crusey St Pedestrian Improvements, at intersection and crosswalk at Crusey and Lakeshore Avenue. On southside of Westpoint, new crosswalks, marked crosswalks. Residential areas on east side that need to be able to walk to library and school. Suggested crosswalk WHERE? Roundabout? Park on one side and waterfront on the other side. Pedestrian friendly connected needed between the 2. Tell the story of what it could look like. Does Crusey need 2-way center turn lane? Maybe a road diet on Crusey?

Area-wide Projects

Jamie – we put speed humps on Beverly and after that there was a motorcycle fatality. SRTS plans are all eligible for funding. N. Crusey to Wasilla Fishhook. There is a gap to the west.

Jamie – there is a pathway along parkender? It goes through the woods south of the Wasilla Police, north east corner of Bogard and Wasilla-Fishhook there is a pathway on the northeast corner. Runs on the north side of the church.

Sarah- what is the need? The pathway is more for the schools. We've talked about adding a pathway on the south side of Bogard.

Jamie - will send more notes on this to Sarah tomorrow.

- Areawide school project – Safe Routes to Schools Plan, Equitable Walking Routes to Schools, No Motor Vehicles signs, Local Speed Management Plan – all schools w/in expanded core area. Are there SRTS plans that need updating? MSB is adding schools, need to continually review/update. Candidates for traffic calming that involve physically changing the road in some way, including narrowing lanes and speed feedback signs (examples). Lots of projects in SRTS plan, but funded as …? Path on southside …where? North Wasilla…bogard to Wasilla Highschool. Northside to Wasilla Fishhook. OK to recommend separated path….where? Asked committee to let team know if there are more specific projects to be added for schools.

MSB CSAP Supplemental Planning Meeting Notes Summaries

August 2024

MVP Technical Committee (8/13/24)

12850 Archie Rd, Palmer AK 99645 -Musk Ox Farm

Tuesday, August 13, 2024 – 2 PM to 3:30 PM

Safety Concerns

What:

- ATVs are a safety concern on roadways
- The plan should be more rural focused to reflect the MSB area.
- Unofficial frontage trails/speed/intersections
- Data may not reflect real issues -there are many near misses.
- Under aged users driving ATVs

Where:

- Trunk Rd
- KGB
- Any road w/ATV is a user conflict area.

Local Road Service Area Advisory Board (8/15/24)

Safety Concerns

- Church road and Seldon
- People making a left turn out of Arctic across the parks highway
- Safe walking and bicycle paths, winter maintenance, Butte have family members that live off KGB, would like speed bumps on
- Fairview loop is very long and there are no shoulders
- 2 90-degree corners on Fairview Road and people fly off of the corner right there
- Safety concerns in school zones. A lot of congestion. Residential streets that are designed long and paved.
- Outer and inner Springer loop have no shoulders, and this is a speed concern. Children couldn't walk to the schools in the winter. Academy charter needs a turn lane.
- Career tech has no walking. Seldon is being widened. Seward Meridian is a 3-year project.
- Sheldon past the salvation army, it's a windy road and there is a cut off and people speed through that area. Is there a way to get temporary speed bumps there during the summer months? That is on Lake View Road. It extends to Wasilla Fishhook Rd.
- Any road w/ATV is a user conflict area

MSB Planning Commission (8/19/24) – No comments

MVP Policy Board (8/20/2024) – No comments

North Lakes Community Council (8/29/24)

Safety Concerns

- Enforcement, road design, inadequate road design, high speeds, education, walking and bicycling corridors or lack of such, winter maintenance, roundabout at the intersection of Bogard and Seldon, people don't know how to use that roundabout.
- Backlog of projects because of population growth, issue with current projects, there are pedestrian and bicycle access at the end of the projects, but during project construction it is unsafe to navigate (Seward Meridian), would like to see mid project and pre project approaches address.
- David Wiliker (traffic and safety committee) asphalt quality develops potholes, need higher quality asphalt.
- Road design- some guardrails are in place, there is a specific type of guardrails that are prohibited, we would like to see those guardrails. (Installed near bridges and waterways) All over, typically square shaped with yellow and black.
- When a road project is done, tore up road and redid it thought they were going to do a pedestrian bike path.
- Seeing eye dog user, very concerned about education and design of roundabouts. The crosswalks are right at the entrance to the roundabout, it is very difficult to get across. Design needs to bring crosswalk further away from the circle.

September 2024

Transportation Advisory Board (9/20/24)

Questions by the committee:

- Will ATVs be covered? Our team said they were looking into including ATVs in the crash data analysis.
- Are most accidents on state or borough roads? Team responded that they would be back in the future to present crash data and survey data and we could answer that questions then.

Other items addressed:

- One TAB member said they took the survey but elected to not answer some of the questions and was prevented from completing the survey. She was directed to email the PM (Joni Wilm) with the information she felt was important for the project.
- Another member said he took the survey and there was nothing to prevent him from taking it multiple times. He suggested that be prevented in the future.

- One of the members said he found the dashboard on the project website but couldn't filter to see what crashes were occurring on state roads vs. borough roads. He suggested that as a filter option as well as by accident type.

October 2024

MVP Technical Committee (10/8/24)

Questions by committee:

How would you answer the question indicating that this plan is focused primarily on bicyclists?

Responses:

The MSB CSAP does pay special attention to bicyclists and pedestrians because they are recognized in the Safe Streets for All Program as the most vulnerable road users and the most likely to suffer a serious injury or fatality in a crash. However, this plan is a safety plan for ALL road users and will include the needs of all users in its analysis.

Joint Planning/Assembly (10/8/24)

Matanuska Susitna Borough SS4A Comprehensive Safety Action Plan
Joint Assembly/Planning Commission Meeting
October 8, 2024, at 6:00 PM
Mat-su Borough Assembly Chambers, 350 East Dahlia Avenue, Palmer, AK
Link to agenda and meeting recording

Assembly

Tim Hale	District 1
Stephanie Nowers	District 2
Dee McKee	District 3
Maxwell Sumner	District 4
Bill Gamble	District 5
Dmitri Fonov	District 6
Ron Bernier,	District 7

Planning Commission

Doug Glenn	District 1
Richard Allen	District 2
CJ Koan	District 3
Andrew Shane	District 4
Linn McCabe	District 5
Wilfred Fernandez	District 6
Curt Scoggin	District 7

Mike Brown, Borough Manager to Assembly
This is in planning stages with SS4A – goal is to qualify for future federal dollars for implementation.

Assembly Member Fonov
Concerned about cost $500K. We have a problem (accidents); how are we addressing it?
This isn't the "capital" of walking and biking; they only account for 7% of accidents.
This is a small number in reality for ATV accidents; is there a different agenda for this plan?
Q: Why was this study on biking and walking instead on other things equally?

J. Wilm, A: This study is Safe Streets for All; which includes all modes, not limited to bikes and pedestrians. SS4A wants to make sure the plan addresses bikes and peds, it's for all road users

Assembly Member Fonov
Equal amount of attention should have been brought to ATV users; this is skewed in one direction to focus on certain grants. ATV is an essential mode of transportation. Would have preferred there was equal amount of attention on ATV

Assembly Member Sumner
Q: Where does data come from?
A: DOT, police reports do show up on data, however, some crashes are non-reported.
Q: Do you get data from insurance companies?

Local Road Service Area Advisory Board (LRSAA) (10/17/24)

Questions by committee:

1. Is the crash data reported by the police to DOT&PF crossed checked with EMS reporting?
2. Do all the 82 motorcycle crashes represent people who are properly registered and have a license to operate a motorcycle. There was some thought that maybe some of these were dirt bikes or other ATVs that are operating without a license.

Team response (sent 10/23/24):

1. Is the crash data reported by the police to DOT&PF crossed checked with EMS reporting? We asked MSB Emergency Services' representative on our Safety Action Plan team about whether they had concerns our crash data may not have captured all crashes EMS responded to in the analysis period. Their response was that in almost all cases, if a fire truck or ambulance is responding to a crash, then law enforcement will be involved and complete a crash report. They went on further to say that our crash data may be more comprehensive than what EMS responses would track, since not every crash has an EMS response, and more have a law enforcement only response. Our takeaway from this is that our data is representative of serious injury and fatal crashes in the MSB Expanded Core area—but that is not to say we have captured all crashes, as not every crash results in a crash report. Serious ones are far more likely to, though.

2. Do all the 82 motorcycle crashes represent people who are properly registered and have a license to operate a motorcycle? There was some thought that maybe some of these were dirt bikes or other ATVs that are operating without a license. Our crash data is stripped of personally identifiable information such as driver's license data and vehicle license plates, so we cannot answer questions about licensure However, we think you may be interested in what may be occurring with on-road vs. off-road motorcycles so we looked at that. Of 82 motorcycle crashes, our data says:
    a. 10 involved a motorbike, which we interpret to be an off-road motorcycle, or dirt bikes. The age of drivers involved in these crashes skews to those aged 12-19 which reinforces this belief.
    b. We believe due to age involved (12-15) and location (i.e. on more minor/local roads, not Parks and Glenn Highways) another 4 crashes involved off-road motorcycles. This would bring the total to 14. Seven of those involved a driver under the age of 16 which partially answers your question about licensure. Instructional permits are allowed for drivers aged 14 and 15 but only for less than 50cc engines. It is possible to make off-road motorcycles street-legal with turn signals and license plates, but we don't have that information.
    c. Using that information- 17% of motorcycle crashes we believe involved dirt bikes. Of those dirt bikes, half were unlikely licensed drivers, but we have no way of knowing for certain. It is likely not a lot less but could be more. Also, of those dirt bike crashes, half (7 of 14) resulted in serious injury, but no fatalities.

    Regarding ATVs, those are tracked separately. There were 9 recorded ATV crashes in the analysis period, only one of which was a serious crash (fatality).
    d. Only one serious crash occurred, and it was a fatality on S. Clapp. Alcohol was involved, and the driver hit a guardrail face.

Thanks so much, please let me know if you have any further questions. For more crash details, please visit the project website to view the crash analysis dashboard and participate in the virtual public workshop.

Local Road Service Area Advisory Board (10/17/24)

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Regarding ATVs, those are tracked separately. There were 9 recorded ATV crashes in the analysis period, only one of which was a serious crash (fatality).

    d. Only one serious crash occurred, and it was a fatality on S. Clapp. Alcohol was involved, and the driver hit a guardrail face.

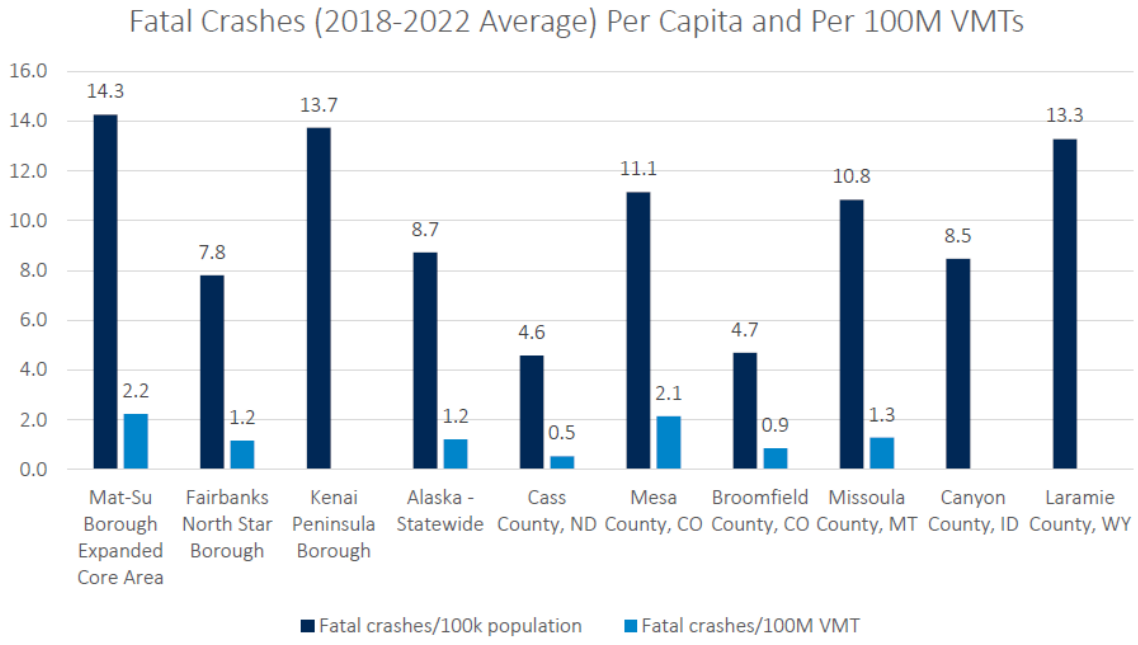
November 2024

MVP Policy Board (11/19/24) – no comments

Transportation Advisory Board (11/15/24) – Joni Wilm gave a presentation updating the TAB on the project status and directing board members to the project website to review the virtual public workshop, crash data dashboard, and talk about next steps. Questions included asking if the crash data could be determined by population or per/capita to show recent population growth. See project team response, below:

Crashes per capita is one way of looking at a crash problem but it's only meaningful if you're comparing it to other communities. The project team looked at the below analysis. These are FATAL crashes only. Crashes by VMT is a better comparison to another community as VMT (vehicle miles traveled) factors in average daily traffic on a network.

A lesser populated area could have more crashes per capita than Mat-Su. 55 fatal crashes in MSB is what we want to decrease, regardless of the rate compared to any other community or per capita, or per VMT.



SAPT Meeting #5 – Minutes

Matanuska-Susitna Borough | Michael Baker International |R&M Consultants| Fehr & Peers
Thursday, January 16, 2025 (11:30 a.m. – 1 p.m.)
Mat-Su College Library and Virtually on ZOOM

Attendees

MSB
Jamie Taylor, Project Manager

Consultants
Joni Wilm, Project Manager, MBI
Sarah Schacher, Engineer, MBI
Karin McGillivray, MBI
Beth McKibben, R&M
Michael Bell, R&M

SAPT Members
Rusty Belanger, MSB SD
Adam Bradway, DOT&PF
Julie Spackman MSB Planning
Todd Moehring, AST
Kim Sollien, MVP
Tracey Loscar, MSB Emergency Services
Kaylan Wade, Chickaloon Native Village

Agenda

1. Introductions
2. Plan Chapters Overview
3. Review Projects for Prioritization in SS4A Grant Applications

Introductions

- Wilm opened the meeting with an overview of what will be covered and what feedback the team is looking for from the Committee.

Plan Chapters Overview

- Wilm presented an overview of the plan chapters and next steps

Review Projects for Prioritization in SS4A Grant Applications

#1. Parks Hwy Corridor

- Corridor Access Management Plan as a SS4A Supplemental Plan is a good candidate, but not the other recommendations, which are likely eligible for funding under HSIP.

#2. Safe, Equitable Walking Routes to School (most competitive for SS4A) SAPT approves

#3. Separated Pathway Regulatory Signs

- maybe loop into a larger safety campaign project, this could be a complementary approach to the other projects like the pending Design Criteria Manual. Maybe integrating these into new MSB projects too as a strategy.

#4. Westpoint Drive & Crusey Street Pedestrian Improvements

- Good candidate for a road diet (potential demonstration project for SS4A)

#5. Bogard Road Intersection Improvements and Separated Path (maybe not top priority)

- The legislature is interested in improving this corridor so match potential may be good, but, not in disadvantaged area
- High priority but maybe not SS4A

#6. Vine Road Separated Path

- Good candidate for SS4A (4 million)
- MSB has tried to fund project before this might be higher interest at the MSB level

#7. Seldon Road and Church Road Intersection Improvements (high priority for implementation)

- A charter school will be going in on the top west corner, will increase traffic flow, DOT could partner with the MSB on match (Church is DOT's road, Seldon MSB's.
- Good example of proactive approach of SSA – crashes not yet severe, but they are happening

#8. Arctic Avenue Bicycle and Pedestrian Improvements (Glenn Hwy to Palmer Airport Rd)

- Supplemental Plan SS4A for area project or Demonstration Project for some recommendations. Not in disadvantaged area, but several schools/VRU destinations in the area.

#9. Hollywood Road Safety Improvements (Big Lake Road to Vine Road)

- Several elements in here, west end may be good candidate for SS4A. Legislative interest in upgrading.

#10. Clapp Street Safety Improvements (Curtis Menard Sports Center to Laurie Avenue)

- Could be bundled into another project, pretty low cost for curve delineation

#11. Seldon Road Safety Improvements (not a good SS4A project – too expensive)

- Is mostly included just to identify a gap.
- Between Lucille and windy bottom, this was recently done. Maybe MVP can chip away at this one.

#12. Swanson Avenue Complete Street (Parks Highway to Crusey Street)

- Could be a demonstration project or even implementation (High Equity Area)

#13. Green Forest Drive Improvements

- Not in a disadvantaged area, mostly funded already.

#14. 49th State Street Separated Path

- More competitive given proximity to schools and there is local support for it (2.8million), but not in disadvantaged area. However, current TIP funding could serve as matching funds.

#15. Big Lake Road Intersection Improvements

- Doesn't have vulnerable road user benefit tied but is in disadvantaged area.

#16. Local Road Speed Management Plan – supplemental plan candidate and likely would have broad support.

Summary of priority projects for supplemental plans, demonstration projects, and implementation projects

Supplemental Plans

#1. Parks Hwy Corridor

#2 Continue safe routes to school

#8. Arctic Avenue Bicycle and Pedestrian Improvements (Glenn Hwy to Palmer Airport Rd)

#16 Local Road Speed Management

Demonstration Projects

#4. Westpoint Drive & Crusey Street Pedestrian Improvements –

#8. Arctic Avenue Bicycle and Pedestrian Improvements (Glenn Hwy to Palmer Airport Rd)

#12. Swanson Avenue Complete Street (Parks Highway to Crusey Street)

#12. Swanson Avenue Complete Street (Parks Highway to Crusey Street)

Implementation Projects

#2. Safe, Equitable Walking Routes to School

#6. Vine Road Separated Path – good candidate for SS4A (4 million)

#7. Seldon Road and Church Road Intersection Improvements (high priority for implementation)

MAT-SU BOROUGH
SAFE STREETS FOR ALL

SAPT MEETING #5 January 16, 2025
Mat-Su College, Palmer/Wasilla

Name	Email
Adam Bradley	adam.bradley@alaska.gov
Jamie Taylor	
Julie Spackman	julie.spackman@matsugov.us

Planning Commission Meeting
March 5, 2025
498 of 555

Public Meeting Sign in Sheet

Meeting: MSB Safe Streets for All Comprehensive Safety Action Plan Open House

Date & Time: Thursday, January 16, 2025, 4:30 PM – 6:30 PM

Location: ~~Wasilla Museum & Visitor Center, 391 N Main St, Wasilla, AK 99654~~ Houston City Hall

This information is voluntary. Its purpose is to ensure fair and equal representation by the public in all projects and programs administered by the Matanuska Susitna Borough.

Name/Email/Phone	Company/Address/Signature	Please check all that apply:	
Esther Huddleston		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Laura Calandra		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Richard Gaffney		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White

Planning Commission Meeting
March 5, 2025
499 of 555

Dalton Vardini		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Walk-in		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White

Planning Commission Meeting
March 5, 2025
500 of 555

Public Meeting Sign in Sheet

Meeting: MSB Safe Streets for All Comprehensive Safety Action Plan Open House

Date & Time: Wednesday, January 15, 2025, 4:30 PM – 6:30 PM

Location: ~~Houston City Hall, 13878 W. Armstrong Rd, Houston, AK 99694~~ Wasilla Museum & Visitor Ctr

This information is voluntary. Its purpose is to ensure fair and equal representation by the public in all projects and programs administered by the Matanuska Susitna Borough.

Name/Email/Phone	Company/Address/Signature	Please check all that apply:	
Bethany Buckingham Follett bethbuckingham@gmail.com	P.O. Box 871276 Wasilla, AK 99687	(Female)	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? Work@Museum			(White)
Janice Norman	Wasilla AK	Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? Online			White
		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White

Public Meeting Sign in Sheet

Meeting: MSB Safe Streets for All Comprehensive Safety Action Plan Open House

Date & Time: Thursday, January 16, 2025, 4:30 PM – 6:30 PM

Location: Pioneer Peak Elementary (Library), 1959 N Stringfield Rd., Palmer, AK 99654

This information is voluntary. Its purpose is to ensure fair and equal representation by the public in all projects and programs administered by the Matanuska Susitna Borough.

Name/Email/Phone	Company/Address/Signature	Please check all that apply:	
Malia Walters	Michael Baker International	✓ Female	Male
		Non-Binary	Other
		Hispanic/Latino	✓ Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? WORK			✓ White
Kevin McGillivray	Michael Baker International	✓ Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? WORK			✓ White
Tom Ohls		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White

Name	organization	Demographics	
Cris Tyree		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Karl Lawalter		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? Facebook.			White
GREG LAWALTER		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? FACEBOOK			White
Rod Henson	North Lakes Community Council	Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? NLCC			White
Caitlin Frye	Michael Baker Int'l	Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting? Work			White

Name	Organization	Demographics	
Mike Buck	Alaska Safe Riders	**Female**	**Male**
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Ken Huckeba		Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
NEWS			White
How did you hear about this meeting?			
Tom Adams	MSB PW	Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Clint Adler	DOT + PF	Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White
Desiree Terry	Resident MSB	Female	Male
		Non-Binary	Other
		Hispanic/Latino	Not Hispanic/Latino
		AK Native	Asian
		Native American	Pacific Islander
		Black	Other
How did you hear about this meeting?			White

Appendix F: Public Comments

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
1	Camden	Yehle	Meadow Lakes Community Council	general	I really like the readability and formatting of the document.	Thank you.	No change requested
2	Judith	Ritenburgh	Trapper Creek Community Council	general	Fund walking and biking paths in trapper creek from school to public library and community park!	Unfortunately, the study area for the Plan does not extend to Trapper Creek, but this comment is noted for consideration for other MSB projects or future safety assessment/needs outside of the Expanded Core Area.	No change recommended
3	Esther	Huddleston	Resident	general	In the Safe Street for All, the Comprehensive Plan extends the core area past Houston. There were 4,802 crashes total in the Mat Su Borough from 2018-2022. Motor vehicles were involved at 78% of the crashes, Motorcycles were at 15%, pedestrians were at 4% (30 pedestrian crashes total), bicycle crashes were at 3% (22 bicycle incidents), and ATVs were the least percentage with 9 accidents total, and one of the ATV accidents was a fatality. Safe Streets for All wants to spend $160,000 of tax payer's money to install Non-Motorized signs throughout the Mat Su Borough and to have an ATV campaign. The Safe Streets for All wants to add bicycle paths on both sides of the road system and has no plans to create a multi-use trail systems on one side of the road for ATV and snowmobile usage. A survey for Safe Streets for All showed that the majority of the people who participated in the survey supports a multi-use trail system.	•We will clarify in Chapter 1 that the Mat-Su 'Expanded Core Area' is a study area for the plan, which includes the city limits of Houston, Palmer, and Wasilla, and is not a proposal to change the boundary of the Mat-Su Core Area • To clarify, the crash numbers listed in this comment are citing percentages for motor vehicles, motorcycles, bicycles, and pedestrians as a breakdown of fatal and serious injury crashes (216 total), not total crashes (4,802). • The "No Motor Vehicle Signs" on pathways (page 83) was a steering committee recommendation to increase awareness of state laws about motorized vehicles' prohibited use on facilities intended for non-motorized users. • The ATV campaign mentioned (SP13, page 111) is intended to promote safe use of ATVs: "Evaluate the feasibility of a local ATV and snowmachine safety program, working with local dealerships and trail rider group(s.) Focus on education and outreach for safe and legal ATV and snow machine operations." • There are no specific recommendations for bicycle paths on both sides of the road system except in one place along Bogard between Wasilla-Fishhook and N. Crusey, which has Wasilla Middle and High on each side of the road, and along Arctic Avenue where paths or sidewalks already exist on both sides of the road. The plan's Safety Toolkit, page D20, recommends planning for ATV trail space in new road designs. • We understand the concern that ATV trail use needs may not be emphasized enough in plan recommendations, and are amending projects #6, Hollywood Road Safety Improvements to include consideration for ATV trail use, as well as Project #9, Vine Road Separated Path.	Clarify in Chapter 1 that the Expanded Core Area is not a proposed boundary change and is a study area, inclusive of the cities of Houston, Palmer and Wasilla. Change Projects #6 and #9, Vine Road and Hollywood Road to note consideration is needed for ATV trail use space on one side of the road.
4	Esther	Huddleston	Resident	91, 83	The Safe Streets for All Comprehensive Plan wants to eliminate all ATV usage from the Glenn Highway to Clark-Wolverine Road (pg. 91). The Safe Streets Plan also, wants to create a non-motorized task force (pg.83, B 85, 212/312). The extended core area heavily targets ATV and snowmobile usage in the Safe Streets for All; however, ATVs have the least accidents in the 4 year period. Safe Streets for All wants to add smaller roundabouts throughout the Mat Su Borough; which isn't tractor trailer friendly. Another issue with smaller sized roundabouts brings disadvantages to vehicles not in the dominate flow of traffic; therefore, making it impossible during rush hour to enter into the small roundabout and it creates frustration with drivers on the road. Safe Streets for All wants bicycle lanes in the road ways and this creates a danger between vehicles and bicyclist, takes away room from the road system, during winter months and drivers are unable to see the bicycle lanes because of snow and ice in the roads. Pages of Interest in the Safe Streets for All Comprehensive Plan Pg. 21, 30, 35, 36, 55, 62, 64, 65 (bike lanes), 67, 81, 82, 91, 111, 170/312 (pg. 41), 190/312 (pg. 63), 193/312 (pg. 64), 206/312 (pg. 77), 207/312 (pg. 78), 208/312 (pg. 79), 209/312 (pg. 80), 212/312 (pg. 83), 247/312 (pg. 4), 262/312 (pg. 19), 305/312 (pg. 1)	• The text states a recommendation for a "Supplemental plan for access management and non-motorized facility needs from Glenn Highway to Clark-Wolverine Road, or other eastern boundary as determined by DOT&PF and the City of Palmer." Nothing on this page discusses eliminating ATV usage. • Regarding creation of a non-motorized task force, this is not a recommendation of this Plan, this was included in a summary of other plans reviewed. This was a recommendation of the 2023 MSB Bicycle and Pedestrian Plan. • The plan is not recommending limiting ATV use where they are legally allowed to operate. The plan acknowledges the user conflicts between the different modes of travel (ATV, vehicular, bicycle, and pedestrian) and offers a recommendation in the Safety Toolkit (page D20) to make specific considerations for ATV use in new roadway design projects. • Regarding the roundabouts, it is accurate that roundabouts are shown as a proven Safety Countermeasure in the plan, and that there are some proposed as projects. However, there is no recommendation to make new or existing roundabouts smaller. One mini-roundabout is proposed on Green Forest Drive for traffic calming (Pages 101-102), but is a local residential road, and mini-roundabouts would not be appropriate for more major/higher volume roads with truck traffic. The size roundabouts should be designed for are unique to the location, and, as noted in the plan (Page D-16), need to consider freight movements in the area for the design vehicle. They also need to account for anticipated future design traffic volumes so they have adequate capacity. We are proposing to make the mini-roundabout bigger (modern roundabout size) at Bogard and Seldon (Page 85). Important considerations for roundabout design are also discussed in Appendix D, Safety Toolkit (Page D16) and actual crash data at a few Mat-Su roundabouts are discussed on Pages B47 and B48. • Regarding bicycle lanes proposed on Arctic Avenue (pages 90/91), we understand your concern specific to Alaska winter conditions and are taking that under advisement. They do provide a space adjacent to traffic (just like a road shoulder) that is usable for at least half the year, and some cyclists feel safer with this dedicated space even if it is not separated as a path because it removes conflicts with slower moving pedestrians and younger bicyclists. There are ways to build more separation into them to address the vehicle/pedestrian conflict concern that can be considered.	No change recommended.
5	Anna	Bosin	DOT&PF	7	Page 7: Please redo the graphs- these appear to show more crash reduction than the actual very slight improvement of a couple of crashes over a 5 year rolling average. Conflicts visually to the page 12 graphs and the graphs in the appendices.	Agree	Graphic will be adjusted or trend line removed.
6	Anna	Bosin	DOT&PF	13	Page 13: Consider adding an arrow to (street) locations named on the map to make it clear where these are occuring	Agree	Listed roads will be labeled.

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
7	Anna	Bosin	DOT&PF	15	Page 15 Consider changes out the moose visual to a multicar visual as moose crashes seem to be far lower than the multicar crash situation and may lead to misunderstanding the types of crashes to advocate for funding towards mitigation.	Agree	Icons will be changed.
8	Anna	Bosin	DOT&PF	15	Page 15: In general, are these statistics over representative when compared with statewide or other statistics? For example, are these age groups tracking with the age of the population in the MSB or are these higher?	The plan reflects estimated population data given the custom boundary of the MSB Expanded Core Area, which doesn't adhere to municipal or census tract boundaries. Age ranges represented for contributing unit drivers are 13 through 87. Also, age ranges for people 25-34 is a preset from the crash data. We did not define these age ranges, but identified the most affected single age for all crashes and serious crashes.	No change recommended.
9	Anna	Bosin	DOT&PF	23	Page 23: What is "Active monitoring" for red light running? Enforcement? Reviewing crash data?	We can change "Active monitoring" to "camera monitoring for red light running." Boulder's practice is enforcement, but camera monitoring at a minimum, to show the extent of a problem, which gives decision makers information. Then, there is the option to proceed to automatic enforcement if laws in the jurisdiction allow.	Change text to read "camera monitoring for red light running"
10	Anna	Bosin	DOT&PF	23	Page 23: What is "Explore a change?" look like for an action item.	This table is not a recommendation/action list, it is a compilation of safety strategies from peer cities reviewed, which set the stage for recommendations in Ch 6-8.	No change recommended
11	Anna	Bosin	DOT&PF	22	Page 22: I recommend tying the above graphs from AK crash patterns to which strategies listed in the national best practices and peer review section would target our crash patterns. Right now, I wouldn't know how these strategies will help MSB with their crash reduction goals through targeted investments. For example, there are relatively very few signalized intersections in the MSB to warrant a strategy of "active monitoring redlight running." The crash data doesn't mention anything regarding overrepresentation of crash history at signalized intersection that involved red light running	This table is not a recommendation/action list, it is a compilation of safety strategies from peer cities reviewed, which set the stage for recommendations in Ch 6-8.	No change recommended
12	Anna	Bosin	DOT&PF	23	Table 3, Page 23: I recommend more robust review of infrastructure change recommendations. For example, the crash data for pedestrian crashes showed they happened at night and where no lighting was present yet there is no discussion about increase roadway lighting	This table is not a recommendation/action list, it is a compilation of safety strategies from peer cities reviewed, which set the stage for recommendations in Ch 6-8.	No change recommended
13	Anna	Bosin	DOT&PF	23	Table 3, Page 23: Leading pedestrian intervals will also require Audible Pedestrian Signals (PROWAG requirement) and therefore there are some infrastructure costs associated (not just signal timing adjustments). Also should be implemented with no-turn on red.	This table is not a recommendation/action list, it is a compilation of safety strategies from peer cities reviewed, which set the stage for recommendations in Ch 6-8. The project team included this in our Safety Toolkit and the APS requirement is addressed. Costs for implementation were acknowledged in Parks Highway Corridor Project #1 (Page 75). We defer to DOT&PF on no right on red on Parks. The new signals going in on Main Street (and new Yenlo signal) may be a good time to evaluate all of this. However, we will add "consider using in conjunction with no turn on red light" under "Things to Keep in Mind" for this strategy in our Safety Toolkit (page D7)	No change to this page, but will add recommendation for no turn on red will be carried to the Safety Toolkit, in Appendix D.
14	Anna	Bosin	DOT&PF	23	Table 3, Page 23: Adding right turn pockets at signalized intersections in an urban area are not necessarily better for non-motorized crashes and may exacerbate the crash pattern documented in the previous section regarding drivers failing to yield to non-motorized users.	This table is not a recommendation/action list, it is a compilation of safety strategies from peer cities reviewed, which set the stage for recommendations in Ch 6-8. However, we agree and VRU concerns were addressed in Safety Toolkit under 'things to consider' for dedicated turn lanes (page D14). We will add "At signalized intersections, consider whether right turn lanes will reduce safety for vulnerable road users due to motorist's failure to yield" to this Toolkit recommendation.	No change recommended on this page, but mentioned changes will be made to the Safety Toolkit.
15	Anna	Bosin	DOT&PF	25	Table 4, page 25: Very supportive of all these items!	Thank you. While these aren't specific recommendations/action items, all of them are incorporated in some manner in Ch 6-8 recommendations.	No change requested
16	Anna	Bosin	DOT&PF	31	Page 31: Great summary of public comments. Top 5 all are non-motorized related. How do the action items be reflective of the public request? I think the action items show increased infrastructure, but comfort and accessibility of the increased infrastructure will still need to be addressed in order to make people feel safe using the facilities.	Thank you. We believe that we have addressed comfort and accessibility in infrastructure recommendations and with Toolkit recommendations. One example is Swanson Avenue Complete Streets, which recommends wider sidewalks, even though sidewalks exist on both sides of the road currently.	No change requested
17	Anna	Bosin	DOT&PF	36	Page 36: Re: Alaska Traffic Manual and school zones. We are in the throes of updating the ATM so now is a great time to address this! Please send any details you have directly to me and I can share those with the ATM rewrite team.	Noted and shared with MSB Public Works	No change requested
18	Anna	Bosin	DOT&PF	36	Page 36: School zone crashes during school drop off and pick up times are not showing up in severe crash data analysis. I recommend clarifying that these concerns are congestion related and not a safety hazard. Instead, circulation and site selection need to be coordinated with the roadway authority to better address queueing and traffic congestion during drop off/pick up times. When schools choose to expand, this has a direct impact on congestion for the road authority.	This will be shared with MSB Public Works as a member of MSB Safe Routes to School team. These are presented as conclusions from discussions with the Safety Action Plan Team, so we don't want re-word their statements even if they are based in opinion.	No change recommended this page. We can add a clarification to address this concern on page 61 to include Safe Routes to School ("What's already working") planning and that continued growth/school expansions have impacts to the road network just as any other development.

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
19	Anna	Bosin	DOT&PF	46	Page 46, Figure 27: Appreciate focused approach to the highest impact locations	Thank you.	No change requested
20	Anna	Bosin	DOT&PF	50	Page 50: Consider defining clearly “Vulnerable Populations” for this context. Vulnerable Road Users is a specific term by FHWA, so we want to distinguish this definition from VRU	We have defined VRUs within the plan (page 73 provides a definition, and in more detail in Appendix C, C3.) We had a specific risk profile developed just for VRUs (Appendix C). We believe this addresses the VRU definition (taken from the Strategic Highway Safety Plan.)	No change recommended
21	Anna	Bosin	DOT&PF	54	Page 54: Recommend removing the term “reduce congestion” from the bulleted list. Congestion is not a symptom of a safety concern, and in fact some congestion in urban areas is a safer for slower operational speeds. Reducing congestion is not a safety funding eligible action item.	Will remove. Note, no plan recommendations are trying to suggest congestion mitigation as a means of safety improvements.	Remove "Reduce congestion" from goals list carried forward from other plan reviews.
22	Anna	Bosin	DOT&PF	54	Page 54: Consider rewording bullet that states “improve pedestrian and vehicle connections adjacent to the glenn highway” not sure what this is recommending…	Agree	Will reword (from City of Palmer Comprehensive Plan) to: “improve pedestrian and vehicular links between east and west side of the Glenn Highway.”
23	Anna	Bosin	DOT&PF	55	Page 55 re: other plan key findings for installing more pedestrian crossing infrastructure: As an FYI, unless this is only suggesting grade separated bridge/tunnel crossings, marked crosswalks will need to be compliant with the ATM. It is HEAVILY limited based on roadway speeds and volumes so integrating a network approach with speed limit reductions, roadway diets, etc will be necessary to meet this goal.	Noted, thank you.	Will review plan recommendations to make note as appropriate where Alaska Traffic Manual warrants need review prior to implementation.
24	Anna	Bosin	DOT&PF	71	Page 71: I really like this visual and layout! Isn’t the risk factor for VRU crashes supposed to be at 35MPH, not 45MPH (same for page 73)? There is international data, and more recent national data, indicating that risk dramatically increases beyond the 50/50 chance of survival at 35MPH and higher	While we agree speeds slower than 45 mph present a VRU risk, this risk profile was selected as part of systemic analysis and aligns to what are considered high speed roadways. In hindsight, we agree we should have profiled any road over 35 mph as a risk for VRUs for the systemic analysis. However, only four of 52 recorded VRU crashes occurred on roads posted at 35 mph or 40 mph, so specific to MSB Expanded Core Area, we believe we still accurately captured the VRU risk profiles, and do not believe the resultant VRU priority list would have changed significantly.	No change recommended
25	Anna	Bosin	DOT&PF	94	Page 94, Hollywood Road Safety Improvements: Recommend speed reduction as well if the desire is to provide separated pathway and users will need to cross the road to access the pathway.	Agree	Will add ‘If separated path built, evaluate a speed limit reduction to consider users crossing the roadway.” Will carry same comment to Vine Road project.
26	Anna	Bosin	DOT&PF	101	Page 101, Green Forest Drive Improvements: Is it suggesting the separated pathway and C&G would only add $1M to existing project budget? I recommend relooking at that cost	Yes. This is within the range of a planning level estimate and will need more detailed review with design specifics. With adjustments where appropriate, we have generally assumed $600k/mile for a separated path and $141/SY for 6” thick concrete sidewalk, plus additional for curb ramps, C&G and drainage. MSB advised a recent path constructed in the area (E. Nelson Road) was $400k/mile, and we found $141/SY for sidewalk (which would be about $500k in this case) was the highest price in a range of recent sidewalk construction projects in Anchorage. This is about a mile long, so costs should be covered by $1M which also includes adding a mini roundabout (cost of that assumed low), in conjunction with a road reconstruction project already happening.	No change recommended
27	Anna	Bosin	DOT&PF	107	Page 107, Local Road Speed Management Plan (Area Wide): I support including DOT roads too if MSB requests. Comprehensive look at networks and roadway classifications to adjust as development has increased is a great!	Noted, thank you. The intent is for this project to focus on roads functionally classed as local, and DOT has some of those. The reason being is they don’t have the volume or the crashes generally, but we needed a way to acknowledge the high extent of road network they make up.	No change requested
28	Anna	Bosin	DOT&PF	110	Page 110: I see demonstration projects are listed, but there wasn’t discussion about where or in what priority those would be implemented. I fully support just curious if those were included in the cost estimates and project lists, or if those are separate action items outside this plan.	We don’t have any specific demonstration projects recommended, but some of the projects in Ch 7 may be good candidates, like Swanson Avenue Complete Streets. Will discuss with MSB or remove from Implementation Matrix.	Project team will discuss with MSB or remove mention.

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
29	Anna	Bosin	DOT&PF	D5	Page D5: Speed management tool kit is great! I don't recall seeing any of the treatments in the project specific recommendations…narrow lanes, speed feedback signs, in locations where non-motorized user infrastructure is being added/enhanced. Consider calling out these treatments to show that speed risk and non-motorized user facilities need to be done in conjunction.	Thank you, we agree and will work some of these in. The project team would like to avoid being overly prescriptive in the specific project recommendations, but your other comments have us considering where we should make some specific comments about recommended speed limit reductions, or opportunities in the short term for narrower lanes such as the upcoming resurfacing projects for Church, Hollywood and Vine. That would be a perfect time to re-stripe to 11-ft lanes at no additional cost.	Project team will incorporate treatments from speed management toolkit where appropriate.
30	Anna	Bosin	DOT&PF	D7	Page D7: I didn't see medians or refuge islands recommended, did they make the cut?	They did, see Parks Highway Corridor Project #1 (page 75) and Westpoint/Crusey Project #4, page 83	No change recommended
31	Anna	Bosin	DOT&PF	F	Page F: I didn't see the public comment appendix. Not that I need to, just saying it may be missing?	This is a placeholder for the final plan to incorporate public comments on the draft. Public comments will be incorporated after the close of the public comment period, January 19, 2025.	No change recommended
32	Jerry	Henry		General	I see no point in wasting more money on new garbage.It's about time you fix the roads that should have been fixed 10 years ago.For instance Horizon dr off of kgb, was told it was going to be fixed last year as the road is falling apart.2 of your road repair guys came out and tossed 3 shovel full of asphault into 2 holes and called it good when the road is absolute shables there.You paved twilight because it was a bus route, well starlight and polaris are also busy routes.I wonder which one of you own property on Twilight.It's never about fixing what the majority needs it's what pads your pockets or does favors for your friends.I am sick of the absolute (expletive) you people say we need but actually don't. We need our damn roads fixed!	Thank you for your comment. We recommend contacting the Road Service Area 17 (Knik) board, or attending their next meeting.	No change recommended
33	Jim	Mills	Point MacKenzie Community Council		Great work but I wish that the project team had taken the KGB survey to at least the intersection of KGB and Point MacKenzie Rd and preferably to Mile 8 of Point MacKenzie Rd. Much of the traffic that flows down KGB originates from the two correctional facilities plus local residents. The Point MacKenzie Community Council is also in the beginning stages of coming up with suggestions on road safety. If there any want that we can include that work with the project teams work?	Thank you for your comment. The intersection of KGB and Point MacKenzie Rd to mile 8 of Point MacKenzie road is unfortunately outside the project study area for this plan. However, this comment is noted for consideration for other MSB projects or future safety assessment/needs outside of the Expanded Core Area.	No change recommended
34	Jim	Mills	Point MacKenzie Community Council		At the December 12, 2024 PM Community Council Meeting, Sarah Angol, the Superintendent of the Goose Creek Correctional Facility and Harry Moore, the Superintendent of the Point MacKenzie Correctional Farm discussed Point MacKenzie Road safety concerns. Several possibilities were suggested to increase road safety: • Increase Alaska State Trooper enforcement • Create rumble strips along the centerline and edges of roadway • Install radar speed monitoring at several locations along the roadway • Make Point MacKenzie Rd. a safety corridor which will double fines for speeding and other driving infractions. • Install Report Every Dangerous Driver Immediately (REDDI) signs • Install reflectors along the entire length of the road to delineate the edges of the roadway • Create several pull-out locations when reconstructing Point MacKenzie Road such that vehicles can pull over to let vehicles pass	Thank you for your comments. Your requests for Safety Corridor designation is noted. The MSB CSAP advocates for increased enforcement (see Table 7: Safe Speeds - SSA Recommended Policies and Practices for MSB Expanded Core Area on page 63 and Table 19: Enforcement Performance Measures on page 118). Rumble strips and speed monitoring are included in Appendix D, Safety Toolkit, and Chapter 6: Policy & Process Changes, respectively.	No change recommended.
35	Camden	Yehle	Meadow Lakes Community Council	General	The membership supports adoption of the following specific recommendations (cut and pasted below) that are in and around the Meadow Lakes community. There was one recommended addition shown at the end of the list. We also appreciate the comprehensive approach of the document as a whole.	Thank you for your support.	No change recommended
36	Camden	Yehle	Meadow Lakes Community Council	75	#1 Parks Highway Corridor (Church Road to Seward Meridian Parkway), pg. 75 o A comprehensive look at access in the corridor is necessary to understand the operational considerations of various access management methods, including partial or full restriction of access and development of parallel access roads. Short-term improvements at 10 signalized intersections in this corridor would benefit pedestrians.	Thank you for your support.	No change recommended
37	Camden	Yehle	Meadow Lakes Community Council	77-78	#2 Safe, Equitable Walking Routes to School (Area Wide), pg. 77-78 o Meadow Lakes Elementary: Add path along east side of Pittman Road between Zehnder Circle and Meadow Lakes Loop. o Houston Middle and High Schools: Build a path connecting Pepper Street to the school parking lot. o Construct a separated pathway along Hawk Lane for Houston Middle and High Schools.	Thank you for your support.	No change recommended

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
38	Camden	Yehle	Meadow Lakes Community Council	87	#6 Vine Road Separated Path, pg. 87 o Construct a separated pathway on the west side of Vine Road as a continuation of the proposed Vine Road: KGB to Hollywood Road project.	Thank you for your support.	No change recommended
39	Camden	Yehle	Meadow Lakes Community Council	89	#7 Seldon Road and Church Road Intersection Improvements, pg. 89 o Roundabout and add intersection lighting. Accommodate crosswalks on the south side of the intersection to connect pathways.	Thank you for your support.	No change recommended
40	Camden	Yehle	Meadow Lakes Community Council	97	#11 E. Seldon Road Safety Improvements (Windy Bottom Road to Lucille Street & Wasilla-Fishhook Road to Bogard Road), pg. 97 o Initiate a project to reconstruct Seldon Road between Bogard Road and Wasilla-Fishhook Road, and from Lucille Street to Church Road. Construct left-turn lanes at Schrock Road, Tait Drive, and Northgate Place, as recommended in the Bogard-Seldon Corridor Access Management Plan. Add lighting and a separated pathway between Wasilla-Fishhook Road and Bogard Road. o Add pedestrian lighting on the path from Church Road to Windy Bottom Road.	Thank you for your support.	No change recommended
41	Camden	Yehle	Meadow Lakes Community Council	105	#15 Big Lake Road Intersection Improvements, pg. 105 o Add lighting and right- and left-turn lanes to up to three intersections for increased conspicuity. Suggested intersections include Shotgun Drive, Kenlar Road, Birch Lake Drive, Beaver Lake Road, and Pedro Pio Drive.	Thank you for your support.	No change recommended
42	Camden	Yehle	Meadow Lakes Community Council	107	#16 Local Road Speed Management Plan (Area Wide), pg. 107 o Prepare a supplemental plan focused on local roads that are identified for needing traffic calming, in accordance with a policy for establishing when traffic calming is warranted.	Thank you for your support.	No change recommended
43	Camden	Yehle	Meadow Lakes Community Council	51	Equitable Distribution of Safety Investments, pg. 51 o Expanding local transit operators. o Expanding commuter/service providers.	Thank you for your support.	No change recommended
44	Camden	Yehle	Meadow Lakes Community Council	51	One item we recommend adding to page 51 Equitable Distribution of Safety Investments, Recommendations is “adding additional signage for existing park and ride lots.”	Agree. There may be restrictions through the MUTCD/Alaska Traffic Manual with the extent/distance from the park and ride that signs can be placed, but we can make this general recommendation.	Will add "consider additional directional signs where appropriate to guide road users to existing park and ride lots" to Safety Investment Recommendations on page 51.
45	Camden	Yehle	Meadow Lakes Community Council	98-99	A member asked why the section of Seldon Road from Lucille Street to Wasilla-Fishhook appears to be missing.	The proposed project on Seldon addresses gaps of Seldon not already addressed by planned DOT&PF projects. See DOT&PF STIP project 34243.	No change recommended
46	Adam	Bradway	DOT&PF	12	Fatal and serious injuries appear to be switched on this graph.	Good catch, thank you.	Figure 9 will be adjusted to switch the legend.
47	Adam	Bradway	DOT&PF	63	“Systematically install low-cost safety countermeasures at priority locations identified in the MSB CSAP and throughout the region.” Why only low-cost countermeasures. Shouldn’t all countermeasures be on the table?	The intent was to incorporate low-systemic countermeasures (as identified in Safety Toolkit, Appendix D). System-wide application is the idea, to do as appropriate over time (for example, wider edge lines, rumble strips, enhanced curve delineation, as operating funds permit or as opportunities arise in capital projects.) Of course, all countermeasures are on the table, but we are trying to assign realistic timelines and relative priorities so are not presuming everything can be done quickly/all at once.	Change text to "systemic" and phrase accordingly on pages 63, 110, 112, and 114

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
48	Adam	Bradway	DOT&PF	79	SRTS plan exists. Do you mean update, or implement SRTS plan?	The narrative on page 77 preceding says "The MSB, MSB School District, and DOT&PF have a working group that regularly meets to discuss and prioritize recommended school walking routes, but they do not have outside resources to support this work. Additional support would help keep walking route maps current and provide regular updates to priority lists for capital project needs. The MSB has been funding all SRTS projects through its TIP program since exhausting the SRTS funding offered through DOT&PF." Short term recommendation is "Supplemental plan to sustain and build the SRTS program for a three-year period" so acknowledges it is an ongoing effort. The intent is to support the working group's work with more resources, particularly given the SAPT's desire to have consistency among school zones, and the pending updates to the Alaska Traffic Manual section for school zones. The last update was in 2017.	Re-word page 77 narrative to be clear the short term recommendation is a supplemental plan, and that an SRTS plan exists but is an ongoing effort.
49	Adam	Bradway	DOT&PF	83-84	RRFB is probably spelled out somewhere in the plan but not here. I would assume most readers will skip right to the projects, so it is probably worth spelling out at least once on these pages.	Agree, it is an unfamiliar term to most.	Spell out Rectangular Rapid Flashing Beacon on all projects where recommended in Chapter 7.
50	Adam	Bradway	DOT&PF	88	Vine road KGB to Hollywood road pathway is funded.	Thank you, we missed this change from original STIP to Amendment 1	Page 88, remove ", however it is not currently funded."
51	Adam	Bradway	DOT&PF	91-92	No discussion of pedestrian crossings. There is currently a striped crossing at Academy Charter, but crossings will likely need more infrastructure, RRFB, ped island, signal or roundabout. Please add more guidance/information on solutions if you can. Thanks.	After follow-up, we understand you'd like more narrative on considerations that may be in play for these crossings, particularly warranting conditions for RRFBs. We will adjust.	Review all projects (and this one, 91-92) with potentially warranting condition requirements and adjust narrative summaries.
52	Josh	Rupe	Resident	general	It seems to me is that all this will do is limit the responsible drivers and not do anything to address the real problem lately which is cell phones in the drivers seat. Finding ways to use the government to limit speeds, photographically traffic intersections, make atv users be licensed is just a typical government approach to raise taxes with zero results. This entire plan seems like a waste of money and will not fix any issues. Sounds like we are headed towards Californifation which we all just recently learned is not a great path!	Thank you for your comment. Many of the proposed countermeasures provided in the Safety Toolkit have been shown to reduce fatal and serious injury crashes, as well as improve overall safety on the roadway.	No change recommended.
53	Gary	Gudz	Resident	general	Off-road vehicles have always been a means of transportation in the matsu valley. I am 100% against banning any use of the vehicles in any part of the matsu. This is Alaska not California quit trying yo take away alaskans rights.	Thank you for your comment. The plan is not recommending limiting ATV use where they are legally allowed to operate. The plan acknowledges the user conflicts between the different modes of travel (ATV, vehicular, bicycle, and pedestrian) and offers a recommendation in the Safety Toolkit (page D20) to make specific considerations for ATV use in new roadway design projects. In response to this concern, we are also noting consideration for ATV space on two projects, Vine and Hollywood Roads	Change Projects #6 and #9, Vine Road and Hollywood Road to note consideration is needed for ATV trail use space on one side of the road.

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
54	Tabitha	Nardini	Resident	general	Why are you moving the core area boundary? How come you don't have multi use trails in the plan when survey results states the majority wanting multi use trails?Why are you spending $160,000 non motorized signs and campaign when you aren't providing multi use trails for ATVs? More people ride ATVs, then bike, or walk. How come you put the bike path on the ATV trail? Utility companies use ATVs and snowmobiles to maintain their power lines. Why are you putting bike lanes in the road when we have 78% motor vehicle crashes? You can't even see the stripes in the road majority of the year, plus icy roads. Why do you put in smaller roundabouts when they cause the most accidents. How come you don't enlarge the roundabouts to separate all of the cars from all directions, so cars don't collide? What's the ATV task force?	•This plan is not changing the core area boundary. We will clarify in Chapter 1 that the Mat-Su 'Expanded Core Area' is a study area for the plan, which includes the city limits of Houston, Palmer, and Wasilla, and is not a proposal to change the boundary of the Mat-Su Core Area • The plan's Safety Toolkit, page D20, recommends planning for ATV trail space in new road designs, and we are making changes, based on public input to add that ATV trail space needs to be considered on both the Hollywood Road (Project #6) and Vine Road (Project #9) projects • The "No Motor Vehicle Signs" on pathways (page 83) was a steering committee recommendation to increase awareness of state laws about motorized vehicles' prohibited use on facilities intended for non-motorized users. The plan's Safety Toolkit, page D20, recommends planning for ATV trail space in new road designs. • We understand the concern that ATV trail use needs may not be emphasized enough in plan recommendations, and are amending projects #6, Hollywood Road Safety Improvements to include consideration for ATV trail use, as well as Project #9, Vine Road Separated Path. cts. • Regarding the roundabouts, it is accurate that roundabouts are shown as a proven Safety Countermeasure in the plan, and that there are some proposed as projects. However, there is no recommendation to make new or existing roundabouts smaller. One mini-roundabout is proposed on Green Forest Drive for traffic calming (Pages 101-102), but is a local residential road, and mini-roundabouts would not be appropriate for more major/higher volume roads with truck traffic. The size roundabouts should be designed for are unique to the location, and, as noted in the plan (Page D-16), need to consider freight movements in the area for the design vehicle. They also need to account for anticipated future design traffic volumes so they have adequate capacity. We are proposing to make the mini-roundabout bigger (modern roundabout size) at Bogard and Seldon (Page 85). Important considerations for roundabout design are also discussed in Appendix D, Safety Toolkit (Page D16) and actual crash data at a few Mat-Su roundabouts are discussed on Pages B47 and B48. • Regarding bicycle lanes, your concern for them in winter conditions is noted. They do provide a space adjacent to traffic (just like a road shoulder) that is usable for at least half the year, and some cyclists feel safer with this dedicated space even if it is not separated as a path because it removes conflicts with slower moving pedestrians and younger bicyclists. There are ways to build more separation into them to address the vehicle/pedestrian conflict concern that can be considered. • Regarding creation of a non-motorized task force, this is not a recommendation of this Plan, this was included in a summary of other plans reviewed. This was a recommendation of the 2023 MSB Bicycle and Pedestrian Plan.	Clarify in Chapter 1 that the Expanded Core Area is not a proposed boundary change and is a study area, inclusive of the cities of Houston, Palmer and Wasilla. Change Projects #6 and #9, Hollywood Road and Vine Road to note consideration is needed for ATV trail use space on one side of the road.
55	Ken	Huckeba			This is decarbonization re-branded as safety. Not one dime should be allocated to global decarbonization initiatives until even one pot hole exists. The DOT is not the parks and welfare department.	Thank you for your comment. This plan is a Comprehensive Safety Action Plan to reduce serious injuries and fatalities on the roadway. It is not a plan to reduce carbon emissions.	No change recommended.
56	David	Zimmer			This plan is a good idea and a good start to making the Mat-Su Borough a more livable place. The focus of my comment is on improving safety for pedestrians and bicyclists on Engstrom Road particularly near Bogard Road. There is an increasing number of bicycles and pedestrians using the Bogard Road-Engstrom Road intersection. A roundabout is planned to be built here by D.O.T. Their plan does not include a safe passage for cyclists and pedestrians. Engstrom Road has no useable shoulder. To compound this, the owners of the Havemeister dairy are planning to turn the property into a commercial gravel pit and operate large gravel carrying trucks all day. Their permit application contains no provision whatsoever for pedestrian and cyclist safety along their property. It is imperative to build a path with a barrier for pedestrians and cyclists to pass safely by this 150+ acre property along Bogard and Engstrom Roads.	Thank you for your comment. The proposed Bogard/Engstrom roundabout (DOT HSIP Project CFHWY00453) will provide marked crossing opportunities for bicycles and pedestrians that do not exist currently. The other surrounding area of Bogard was not included as a plan recommendation because there are also DOT plans to address it. STIP Need ID 34342/CFHWY01234: Bogard Road Safety and Capacity Improvements "will upgrade Bogard Road between Grumman Circle and Trunk Road to an arterial highway standard to address safety and capacity issues. The full project length is Bogard Road from Trunk Road to Grumman Circle" and will include a raised median and separated pathway. Your concern regarding Engstrom is noted for the MSB anas well as concerns with the pending development.	In Project #11, E. Seldon, note other pending projects in Bogard/Seldon corridor and consider on narrative for Bogard project as well
57	Janice	Taxpayer		general	With the growing numbers of "covid vaccine-injured" people and migrants from other countries moving to the Mat-Su Borough, there are more accidents due to medical conditions and lack of knowledge about the U.S. rules of the roads and/or lack of skill to drive on snowy/icy roads. This SS4A plan, which I refer to as Nazi "Secret Service" for ALL plan is not the answer to our problems. Mat-Su Borough needs to refuse this government money. We gave up rights due to 9-11-2001 "terrorism." We gave up rights during the implementation of the Affordable Care Act. We gave up rights during the 2021-to-now plandemic. This plan is a false sense of security that is grooming MSB residents for 15-20 minute cities. No Thank You! Globalist Agendas are being destroyed around the world and they should not be allowed here in Alaska.	Thank you for your comment. This plan is a Comprehensive Safety Action Plan to reduce serious injuries and fatalities on the roadway.	No change recommended.
58	Michael	Crume	Resident	general	We need better roads & less mass transit. When I go to Anchorage I don't have an extra 3hours(5hours total) for a 2 hour pickup using mass transit. If a rail service is added, need more parking at the rail yards so folks can get to work in South Anchorage	Thank you for your comment. Access to transit provides mobility options for people who choose to ride the bus for convenience, to save money, because of a disability, or simply do not have access to a vehicle. The Safe Streets for All program recognizes that access to safe, reliable transportation options helps to improve the safety and health of a community. This plan recommends adding small, incremental increases to transit facilities and providers over time.	No change recommended.
59	Rod	Hanson	North Lakes Community Council	general	The North Lakes Community Council (NLCC) appreciated the earlier opportunity to provide comments in the planning process. We were very pleased to see that over 100 residents from our community council took the opportunity to review and provide input!	Thank you for your participation and support.	No change requested.

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
60	Rod	Hanson	North Lakes Community Council		It is clear that the planning team took our input seriously. A great example is the section in the updated draft that specifically addresses the need for a “Local Road Speed Management Plan”. We strongly support the recommendation to create such a plan and consider traffic calming potential countermeasures such as mini roundabouts, speed humps, speed tables, and more. The plan also includes policy recommendations for evaluating when roads warrant traffic calming and suggests several routes requiring action, including: Serendipity Loop, Hart Lake Loop, Charley Drive, Lakeview Loop, and Cottonwood Loop. The NLCC strongly recommends that each of these routes also include safe pedestrian walkways and lighting at side street intersections. Many of these routes are “shortcuts” between major collector roads and because of the volume of non-local traffic, residents need safer pedestrian features incorporated into improvement projects. The same applies to Engstrom Road.	Thank you for your comment and your support. Your comment about safe pedestrian walkways and lighting at side street intersections for the listed facilities are noted for MSB planning consideration and could be part of a local speed management plan for area roads to help build future recommendations for MSB TIP projects. In addition to developing a process for evaluating the extent to which speeding is a problem, a local road speed management study would need to evaluate what physical changes need to happen for a given roadway, beyond evaluating a change to speed limit (if applicable/appropriate.)	No change recommended.
61	Rod	Hanson	North Lakes Community Council	general	At first glance, the NLCC was quite concerned that the notorious 3-mile section of Bogard Road from Trunk Road to Seldon Road was NOT included in the Priority Locations and Project recommendations. During discussion with planning staff at the Open House on January 16th, we learned that this section of road was indeed considered a high priority location, but that the planning team was assured that there were already existing DOT projects scoped and funded to pursue safety improvements in this area. We suggest this be more clearly stated in the planning document and highlighted in presentations to stakeholders and public story boards. It would be a shame for any stakeholder (or member of the public) to get the impression that nothing further needs to be done in this unsafe corridor. Those DOT projects should also be held to the same standards for transparency and performance reporting that the planning team recommends for other critical safety priorities. Additionally, NLCC would like to ensure the pedestrian walk area between Trunk Road and Seldon-Bogard roundabout is clearly stated in the planning document.	Thank you for your comment. See DOT&PF STIP project 34243 for the area of concern between Lucille and Wasilla-Fishhook (the project is mentioned on lower right corner of this project map, page 99, which we find will be more clear than if we stated on narrative pages.) Also, page 72 mentions in the project priority area methodology that some areas with projects already planned were screened out. if they addressed safety concerns. However, we recognize there is a lot underway in this corridor so will include: STIP Need ID 34342/CFHWY01234: Bogard Road Safety and Capacity Improvements "will upgrade Bogard Road between Grumman Circle and Trunk Road to an arterial highway standard to address safety and capacity issues. The full project length is Bogard Road from Trunk Road to Grumman Circle" and will include a raised median and separated pathway.	In Project #11, E. Seldon, note other pending projects in Bogard/Seldon corridor and consider on narrative for Bogard project as well
62	Rod	Hanson	North Lakes Community Council		At the far West end of this section of Bogard, there is a mini-roundabout connecting Bogard, Seldon and Grumman roads. As noted in the presentation materials at the Open House, there is a plan recommendation to update the unsafe mini-roundabout to a modern roundabout. Although this recommendation appears to be included in the Safe Streets for All Plan, it does not seem to be adequately prioritized. This is a dangerous intersection because traffic flowing east and west does not slow down adequately. The speed limit is shown at 15 mph, but the majority of east and westbound traffic drives through the intersection at over 40 mph. Additionally, there are no provisions for pedestrian crossings in the current configuration. With the convenience store located to the Southeast of the intersection, there is quite a bit of pedestrian traffic crossing in this area from the airport subdivision to the North. The NLCC requests that this project be re-evaluated for a higher prioritization.	Thank you for your concern. We understand this is a high priority for you. As required for the Comprehensive Safety Action Plans, we followed a methodology that developed priority locations. This considered a variety of factors as shown on Page 72and 73 in the plan, and is discussed in more detail in Appendix C, specifically pages C18, C19 and C20. Please also note page 74 states "(the projects) are provided in ranking order of score, but this is not necessarily what is a required order of implementation. This is particularly true for area-wide recommendations that are multi-location (School Project #2 and Local Speed Management Program #16), and so were not scored collectively. Several priority locations had identical scores." We understand the scoring matrix may not have worked out according to everyone's priority, but hope any mention in the Safety Plan gives project locations a priority consideration. North Lakes Community Council priorty for the mini-roundabout noted for future MSB capital improvement planning, in coordination with DOT&PF and MVP as appropriate.	No change recommended.
63	Rod	Hanson	North Lakes Community Council	78	Another potential for misunderstanding would be the fact that the Shaw Elementary School is not included in the list of disadvantaged school locations. The current road and pedestrian access to Shaw Elementary is inadequate. The School District plans to eventually reset the school boundaries to include portions of the Shaw’s Tri Lakes subdivision to the east of the school property. There is a project being developed to connect E. Paradise Lane to E. Foxtrot. It will be important that this connection include safe pedestrian walkways and adequate lighting to allow school children to walk to school from the East. Please assure the final Safe Streets for All Plan includes mention of the importance of this project and safe pedestrian access.	The mentioned project should address vehicle circulation issues at Shaw, which is a Title 1 school, but not in the identified disadvantaged area. This project was likley why the Safe Routes to School working group did not bring it forward.	Will add improvements at Shaw pathway along Foxtrot and both segments of Paradise to project #2.

#	First Name	Last Name	Organization	Page #	Comment	Project Team Response	Proposed Action
64	Rod	Hanson	North Lakes Community Council		NLCC strongly supports the recommended policies and practices as listed in Tables 5-9. We would like to have a higher priority placed on updating development standards for new subdivisions as listed in SP7, SR5, SR7, and SR8. We would also recommend an additional Safe Vehicle policy to modify state standards to reduce current maximum low beam light. Our residents have identified problems with bright lights people installed on many vehicles and the safety hazard that creates for oncoming traffic.	Thank you for your comment. The policies and practices in Tables 5-9 are not prioritized but your priorities for development standards for new subdivisions are noted. SP 7/developer standards was included in Table 11, page 112 as 2-10 year recommendation, but MSB agreed it can be prioritized higher. In regards to reducing current maximum low beam light, this requires a change in state law and while we understand the safety concern, some drivers will feel equally strongly about the safety concern for brighter lights, or "moose lights."	Under safe vehicles, will add action for Safety Working Group to explore what changes to state law would look like for vehicle lighting standards and whether the Department of Public Safety would support a change to administrative code. We will move the mentioned strategies related to subdivisions up to the near term (0-2 years) in Table 11, Page 112.
65	Rod	Hanson	North Lakes Community Council	general	We again appreciate the opportunity to provide feedback and look forward to the next update of the plan and the ultimate approval and acceptance of the plan by State and Local government entities.	Thank you for your support.	No change requested.
66	Karella	Walter	resident	n/a	Concerns regarding the gravel pit going in at 8901 E Palmer-Wasilla Highway between N Midtown Drive and E Westside Drive. Was hoping to speak with someone from the Borough about concerns regarding truck traffic/control.	Thank you for your comment. We will give your comment to Mat-Su Borough Public Works, who can reach out to you.	No change requested.
67	Mike	Buck	Alaska Safe Riders	n/a	Alaska Safe Riders -Offers ATV, Side by Side, and Snowmachine Education - 907.831.0493	Thank you for bringing us your business card. We are excited to see someone offering safe riding classes in the Mat-Su Borough. We will forward this card to Mat-Su Borough Public Works staff.	No change requested.
68	Jamie	Taylor	MSB Public Works	Safety Toolki	Should footnote 3 refer to Tables 9-24, **9-25**, and 9-26? There are also figures that go along with those tables.	Yes. The charts say the same thing as they tables but visualize the information differently. The accompanying text is important too, so will adjust.	Will simplify this reference to generally refer to GB7 Section 9.7.3 "Design Treatments for Left Turn Manuevers."
69	Jamie	Taylor	MSB Public Works	23	Table 3. Roadside design improvements at curves, "Providing a clear zone of 30 feet from 16.7 feet..."This is confusing - should it say "increasing" instead of "Providing"?	Thanks you for your comment. We agree	Rephrase to read "increase distance to road side features (clear zone area) from 16.7 feet to 30 feet..." per the FHWA countermeasures website.
70	Jamie	Taylor	MSB Public Works	85	#5 Bogard Road Improvements: Recommend and Access Management Plan be done for this portion of Bogard Road	Thanks you for your comment. We agree.	Change per comment, add narrative and cost estimate
71	Jamie	Taylor	MSB Public Works	87	#6 Vine Road - increase shoulder width to 8 feet.	Per follow up, will amend this project to recommend wider shoulder or bicycle path and will include narrative discussion about benefits/challenges with each.	Change per comment
72	Jamie	Taylor	MSB Public Works	91	#8 Arctic Avenue Bicycle and Pedestrian Improvements - There is already a crossing at Academy Charter School/Palmer Airport Road. Probably crossing not necessary at Gulkana	Intent was enhancing crosswalk at Academy.	Change per comment to remove Gulkana and clarify enhancements at Academy.
73	Jamie	Taylor	MSB Public Works	93	#9 Hollywood Road Safety Improvements - Add roundabout at Big Lake Road & Hollywood Road (this was in the 2011 Bond Package but didn't happen because there wasn't enough money budgeted.)	Thank you for your comment. We agree	Change per comment, needs narrative discussion and cost estimate.
74	Jamie	Taylor	MSB Public Works	97	#11 Seldon Road Safety Improvements - Add consolidate/eliminate access points as recommended by the CAMP	Thank you for your comment. We agree.	Change per comment.

Safe Streets for All
Matanuska-Susitna Borough
Comprehensive Safety Action Plan

North Lakes Community Council Comments
January 19, 2025

The North Lakes Community Council (NLCC) appreciated the earlier opportunity to provide comments in the planning process. We were very pleased to see that over 100 residents from our community council took the opportunity to review and provide input!

It is clear that the planning team took our input seriously. A great example is the section in the updated draft that specifically addresses the need for a "Local Road Speed Management Plan". We strongly support the recommendation to create such a plan and consider traffic calming potential countermeasures such as mini roundabouts, speed humps, speed tables, and more. The plan also includes policy recommendations for evaluating when roads warrant traffic calming and suggests several routes requiring action, including: Serendipity Loop, Hart Lake Loop, Charley Drive, Lakeview Loop, and Cottonwood Loop. The NLCC strongly recommends that each of these routes also include safe pedestrian walkways and lighting at side street intersections. Many of these routes are "shortcuts" between major collector roads and because of the volume of non-local traffic, residents need safer pedestrian features incorporated into improvement projects. The same applies to Engstrom Road.

At first glance, the NLCC was quite concerned that the notorious 3-mile section of Bogard Road from Trunk Road to Seldon Road was NOT included in the Priority Locations and Project recommendations. During discussion with planning staff at the Open House on January 16th, we learned that this section of road was indeed considered a high priority location, but that the planning team was assured that there were already existing DOT projects scoped and funded to pursue safety improvements in this area. We suggest this be more clearly stated in the planning document and highlighted in presentations to stakeholders and public story boards. It would be a shame for any stakeholder (or member of the public) to get the impression that nothing further needs to be done in this unsafe corridor. Those DOT projects should also be held to the same standards for transparency and performance reporting that the planning team recommends for other critical safety priorities. Additionally, NLCC would like to ensure the pedestrian walk area between Trunk Road and Seldon-Bogard roundabout is clearly stated in the planning document.

At the far West end of this section of Bogard, there is a mini-roundabout connecting Bogard, Seldon and Grumman roads. As noted in the presentation materials at the Open House, there is a plan recommendation to update the unsafe mini-roundabout to a modern roundabout. Although this recommendation appears to be included in the Safe Streets for All Plan, it does not seem to be adequately prioritized. This is a dangerous intersection because traffic flowing east and west does not slow down adequately. The speed limit is shown at 15 mph, but the majority of east and westbound traffic drives through the intersection at over 40 mph. Additionally, there are no provisions for pedestrian crossings in the current configuration. With

the convenience store located to the Southeast of the intersection, there is quite a bit of pedestrian traffic crossing in this area from the airport subdivision to the North. The NLCC requests that this project be re-evaluated for a higher prioritization.

Another potential for misunderstanding would be the fact that the Shaw Elementary School is not included in the list of disadvantaged school locations. The current road and pedestrian access to Shaw Elementary is inadequate. The School District plans to eventually reset the school boundaries to include portions of the Shaw's Tri Lakes subdivision to the east of the school property. There is a project being developed to connect E. Paradise Lane to E. Foxtrot. It will be important that this connection include safe pedestrian walkways and adequate lighting to allow school children to walk to school from the East. Please assure the final Safe Streets for All Plan includes mention of the importance of this project and safe pedestrian access.

NLCC strongly supports the recommended policies and practices as listed in Tables 5-9. We would like to have a higher priority placed on updating development standards for new subdivisions as listed in SP7, SR5, SR7, and SR8. We would also recommend an additional Safe Vehicle policy to modify state standards to reduce current maximum low beam light. Our residents have identified problems with bright lights people installed on many vehicles and the safety hazard that creates for oncoming traffic.

We again appreciate the opportunity to provide feedback and look forward to the next update of the plan and the ultimate approval and acceptance of the plan by State and Local government entities.

Sincerely,

Rod Hanson
President, North Lakes Community Council
rod@nlakes.cc

Point MacKenzie Community Council
Point MacKenzie Road Safety Improvement Suggestions

At the December 12, 2024 PM Community Council Meeting, Sarah Angol, the Superintendent of the Goose Creek Correctional Facility and Harry Moore, the Superintendent of the Point MacKenzie Correctional Farm discussed Point MacKenzie Road safety concerns. Several possibilities were suggested to increase road safety:

- Increase Alaska State Trooper enforcement
- Create rumble strips along the centerline and edges of roadway
- Install radar speed monitoring at several locations along the roadway
- Make Point MacKenzie Rd. a safety corridor which will double fines for speeding and other driving infractions.
- Install Report Every Dangerous Driver Immediately (REDDI) signs
- Install reflectors along the entire length of the road to delineate the edges of the roadway
- Create several pull-out locations when reconstructing Point MacKenzie Road such that vehicles can pull over to let vehicles pass

Contacts to discuss issues with:

Mat-Su Borough Roads

Mat-Su Borough Road Maintenance non-emergency: 1-907-861-7755 <-This number is only monitored M – F from 8 AM to 5 PM

Andrew Strahler – MSB PMR Reconstruction Project Manager – Phone 1-907-861-7710
Email: andrew.strahler@matsugov.com

Brad Sworts - MSB Pre-Design & Engineering Div. Manager - Phone: 1-907-861-7715
Email: bsworts@matsugov.us

Alaska State Troopers

Alaska State Trooper Dispatch – 1-907-352-5401 Option 2
Alaska REDDI Reports are filed by calling 911 according to the Alaska Department of Public Safety

Alaska Department Of Transportation –

Local DOT Maintenance (DOT maintains KGB) – 1-907-745-2159

Alask DOT - Justin Shelby - Administrative Operations Manager
Phone: 1-907-269-6323

Alaska DOT - **Pam Golden, P.E.** - Statewide Traffic & Safety Engineer
Phone: 1-907-451-2283

Alaska Department of Fish and Wildlife- Palmer

Report a Wildlife Violation - **1-800-478-3377**

Lieutenant Dan Dahl, Deputy Commander – Palmer Direct Line – 1-907-373-8308

Palmer Headquarters phone – 1-907-745-4247

1801 South Margaret Way, Suite 4, Palmer, AK 99645

Pt. Mac Correctional Facility

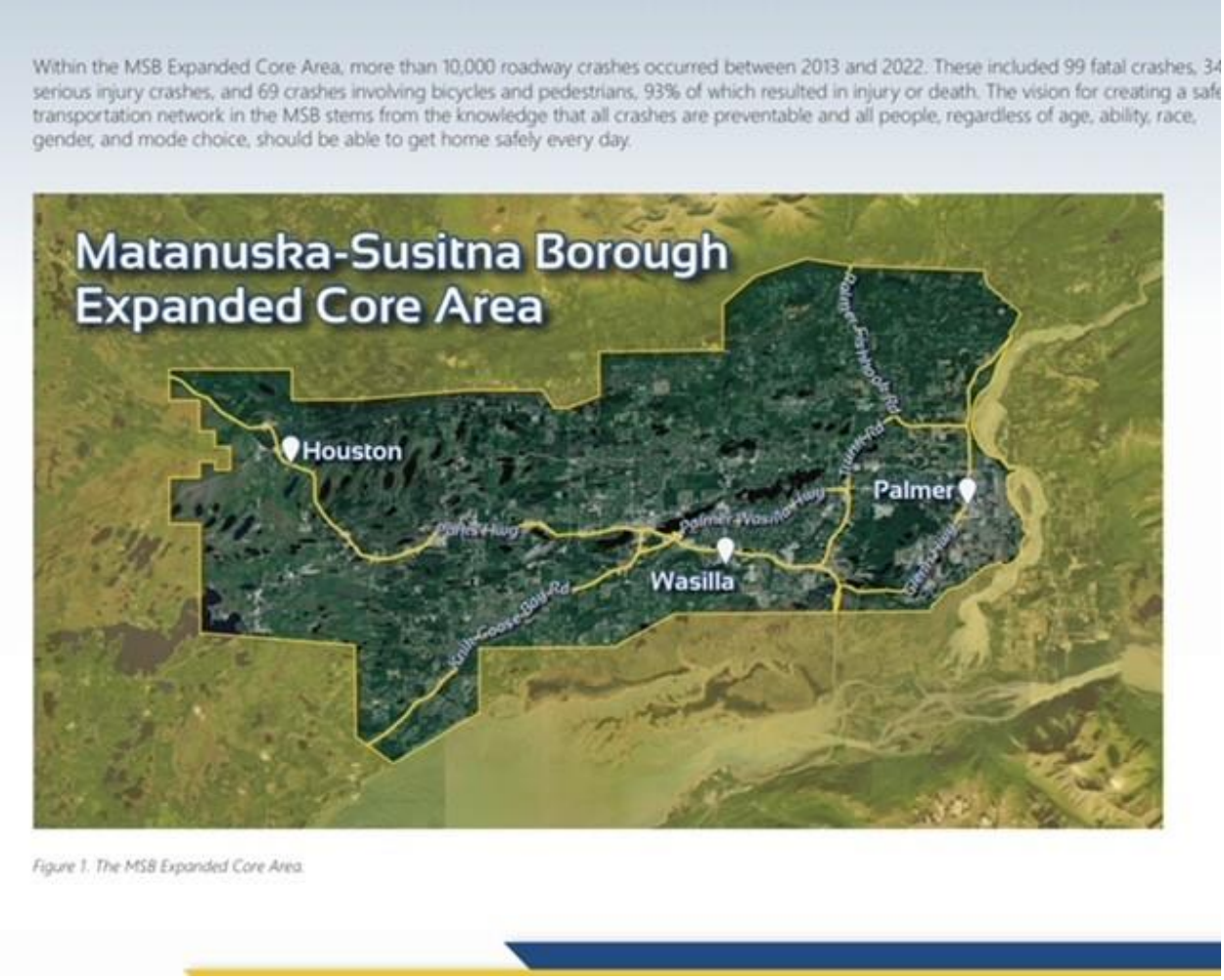
Superintendent Harry Moore – 1-907-376-2976

Goose Creek Correctional Facility

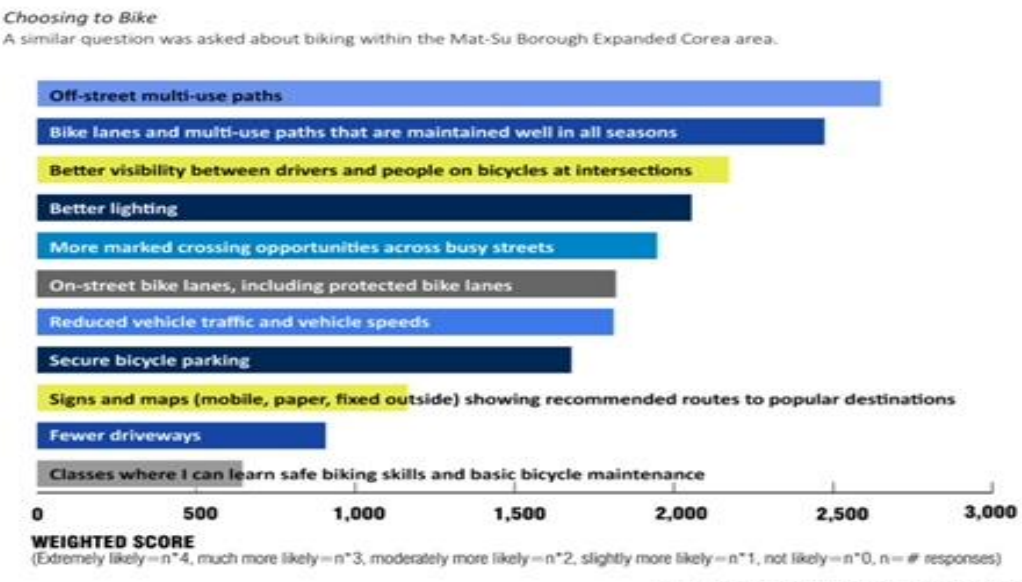
Superintendent Sarah Angol – 1-907-864-8134

Comments for the Mat Su Borough Safe Streets for All Comprehensive Plan

In the Safe Street for All, the Comprehensive Plan extends the core area past Houston.



There were 4,802 crashes total in the Mat Su Borough from 2018-2022. Motor vehicles were involved at 78% of the crashes, Motorcycles were at 15%, pedestrians were at 4% (30 pedestrian crashes total), bicycle crashes were at 3% (22 bicycle incidents), and ATVs were the least percentage with 9 accidents total, and one of the ATV accidents was a fatality. Safe Streets for All wants to spend $160,000 of tax payer's money to install Non-Motorized signs throughout the Mat Su Borough and to have an ATV campaign. The Safe Streets for All wants to add bicycle paths on both sides of the road system and has no plans to create a multi-use trail systems on one side of the road for ATV and snowmobile usage. A survey for Safe Streets for All showed that the majority of the people who participated in the survey supports a multi-use trail system.



The Safe Streets for All Comprehensive Plan wants to eliminate all ATV usage from the Glenn Highway to Clark-Wolverine Road (pg. 91). The Safe Streets Plan also, wants to create a non-motorized task force (pg.83, B 85, 212/312). The extended core area heavily targets ATV and snowmobile usage in the Safe Streets for All; however, ATVs have the least accidents in the 4 year period. Safe Streets for All wants to add smaller roundabouts throughout the Mat Su Borough; which isn't tractor trailer friendly. Another issue with smaller sized roundabouts brings disadvantages to vehicles not in the dominate flow of traffic; therefore, making it impossible during rush hour to enter into the small roundabout and it creates frustration with drivers on the road. Safe Streets for All wants bicycle lanes in the road ways and this creates a danger between vehicles and bicyclist, takes away room from the road system, during winter month's drivers are unable to see the bicycle lanes because of snow and ice in the roads.

Pages of Interest in the Safe Streets for All Comprehensive Plan

Pg. 21, 30, 35, 36, 55, 62, 64, 65 (bike lanes), 67, 81, 82, 91, 111, 170/312 (pg. 41), 190/312 (pg. 63), 193/312 (pg. 64), 206/312 (pg. 77), 207/312 (pg. 78), 208/312 (pg. 79), 209/312 (pg. 80), 212/312 (pg. 83), 247/312 (pg. 4), 262/312 (pg. 19), 305/312 (pg. 1)

MATANUSKA-SUSITNA BOROUGH
TRANSPORTATION ADVISORY BOARD
RESOLUTION SERIAL NO. TAB 25-02

A RESOLUTION OF THE MATANUSKA-SUSITNA BOROUGH TRANSPORTATION ADVISORY BOARD SUPPORTING ASSEMBLY ADOPTION OF THE MATANUSKA-SUSITNA BOROUGH SAFE STREETS FOR ALL COMPREHENSIVE SAFETY ACTION PLAN.

WHEREAS, the Matanuska-Susitna Borough Transportation Advisory Board advises the Assembly on transportation-related issues; and

WHEREAS, from 2018 through 2022, 4802 crashes were recorded in the expanded core area of the Matanuska-Susitna Borough, 216 (4.5%) of which resulted in one or more fatality or serious injury; and

WHEREAS, of those crashes, a disproportionate percentage of motor vehicle crashes involving pedestrians (30%), bicyclists (27%), and motorcyclists (39%) resulted in a fatality or serious injury; and

WHEREAS, the U.S. Department of Transportation and the Alaska Department of Transportation and Public Facilities (DOT&PF) have adopted the Safe System Approach as the guiding paradigm to address roadway safety; and

WHEREAS, the Safe System Approach recognizes that death and serious injuries on our roads are unacceptable, people will make mistakes, people are vulnerable, redundancy is crucial, safety is proactive, and responsibility is shared; and

WHEREAS, a Comprehensive Safety Action Plan, utilizing the Safe System Approach, provides a framework of innovative strategies and implementation actions intended to reduce transportation-related fatalities and serious injuries; and

WHEREAS, the Matanuska-Susitna Borough Safe Streets for All Comprehensive Safety Action Plan (CSAP) presents a list of recommended policies and practices, to be implemented by the Matanuska-Susitna Borough and other transportation safety stakeholders, to eliminate barriers to safer streets and help foster a culture of roadway safety; and

WHEREAS, an analysis of five years of crash data was utilized to identify high-injury segments and systemic serious crash risk factors on roadways within the expanded core area of the Matanuska-Susitna Borough, based on which, the CSAP presents a prioritized list of projects which utilize proven countermeasures and strategies to improve safety for all road users; and

WHEREAS, development of the was guided by a Safety Action Plan Team, which consists of representatives from Alaska DOT&PF, Matanuska-Susitna Borough Planning, Public Works, and Emergency Services departments, Matanuska-Susitna Borough School District, Mat-Su Valley Planning for Transportation, and Alaska State Troopers; and

WHEREAS, a robust public outreach and engagement program was utilized to encourage public participation in the CSAP, including

a project website, a public-facing crash data dashboard, a safety survey, focus group meetings, virtual public workshops, in-person open house events, pop-up events, a Mat-Su Transportation Fair booth, agency meeting presentations, social media posts, and radio and news advertisements; and

WHEREAS, the draft CSAP was open for public review from December 20, 2024, through January 19, 2025, during which 74 written comments were received; and

WHEREAS, Alaska DOT&PF has adopted the Toward Zero Deaths initiative with the goal of reaching zero fatalities on Alaska's roadways by 2050; and

WHEREAS, adoption of the CSAP by the Assembly will allow the Matanuska-Susitna Borough and other local road authorities to apply for implementation grant funds through the Safe Streets and Roads for All discretionary program.

NOW, THEREFORE, BE IT RESOLVED, the Transportation Advisory Board recommends the Assembly commit to a goal of reducing the five-year rolling average of fatal and serious injury crashes by 3.5% annually, with an eventual goal of eliminating all fatal and serious injury crashes, and to adopt the Matanuska-Susitna Borough Safe Streets for All Comprehensive Safety Action Plan.

BE IT FURTHER RESOLVED, the Transportation Advisory Board encourages continued collaboration among government entities, planning agencies, community stakeholders, and the public to

ensure the successful implementation of the CSAP.

ADOPTED by the Matanuska-Susitna Borough Transportation Advisory Board this 14th day of February, 2025.

Randy Durham, Chair

ATTEST:

Bianca Zibrat, Long Range Planner

MATANUSKA-SUSITNA BOROUGH
PLANNING COMMISSION RESOLUTION NO. 25-03

A RESOLUTION OF THE MATANUSKA-SUSITNA BOROUGH PLANNING COMMISSION SUPPORTING ASSEMBLY ADOPTION OF THE MATANUSKA-SUSITNA BOROUGH SAFE STREETS FOR ALL COMPREHENSIVE SAFETY ACTION PLAN.

WHEREAS, from 2018 through 2022, 4802 crashes were recorded in the expanded core area of the Matanuska-Susitna Borough, 216 (4.5%) of which resulted in one or more fatality or serious injury; and

WHEREAS, of those crashes, a disproportionate percentage of motor vehicle crashes involving pedestrians (30%), bicyclists (27%), and motorcyclists (39%) resulted in a fatality or serious injury; and

WHEREAS, the U.S. Department of Transportation and the Alaska Department of Transportation and Public Facilities (DOT&PF) have adopted the Safe System Approach as the guiding paradigm to address roadway safety; and

WHEREAS, the Safe System Approach recognizes that death and serious injuries on our roads are unacceptable, people will make mistakes, people are vulnerable, redundancy is crucial, safety is proactive, and responsibility is shared; and

WHEREAS, a Comprehensive Safety Action Plan, utilizing the Safe System Approach, provides a framework of innovative strategies and implementation actions intended to reduce transportation-related fatalities and serious injuries; and

WHEREAS, the Matanuska-Susitna Borough Safe Streets for All Comprehensive Safety Action Plan (CSAP) presents a list of recommended policies and practices, to be implemented by the Matanuska-Susitna Borough and other transportation safety stakeholders, to eliminate barriers to safer streets and help foster a culture of roadway safety; and

WHEREAS, an analysis of five years of crash data was utilized to identify high-injury segments and systemic serious crash risk factors on roadways within the expanded core area of the Matanuska-Susitna Borough, based on which, the CSAP presents a prioritized list of projects which utilize proven countermeasures and strategies to improve safety for all road users; and

WHEREAS, development of the CSAP was guided by a Safety Action Plan Team, which consists of representatives from Alaska DOT&PF, Matanuska-Susitna Borough Planning, Public Works, and Emergency Services departments, Matanuska-Susitna Borough School District, Mat-Su Valley Planning for Transportation, and Alaska State Troopers; and

WHEREAS, a robust public outreach and engagement program was utilized to encourage public participation in the CSAP, including a project website, a public-facing crash data dashboard, a safety survey, focus group meetings, virtual public workshops, in-person open house events, pop-up events, a Mat-Su Transportation Fair booth, agency meeting presentations, social media posts, and radio

and news advertisements; and

WHEREAS, the draft CSAP was open for public review from December 20, 2024, through January 19, 2025, during which 74 written comments were received; and

WHEREAS, Alaska DOT&PF has adopted the Toward Zero Deaths initiative with the goal of reaching zero fatalities on Alaska's roadways by 2050; and

WHEREAS, adoption of the CSAP by the Assembly will allow the Matanuska-Susitna Borough and other local road authorities to apply for implementation grant funds through the Safe Streets and Roads for All discretionary program.

NOW, THEREFORE, BE IT RESOLVED, the Planning Commission recommends the Assembly commit to a goal of reducing the five-year rolling average of fatal and serious injury crashes by 3.5% annually, with an eventual goal of eliminating all fatal and serious injury crashes, and to adopt the Matanuska-Susitna Borough Safe Streets for All Comprehensive Safety Action Plan.

BE IT FURTHER RESOLVED, the Planning Commission encourages continued collaboration among government entities, planning agencies, community stakeholders, and the public to ensure the successful implementation of the CSAP.

ADOPTED by the Matanuska-Susitna Borough Planning Commission this 17th day of March, 2025.

_____
CJ Koan, Chair

ATTEST:

_____
Lacie Olivieri, Planning Clerk

CORRESPONDENCE & INFORMATION

(Pages 528 - 554)

MATANUSKA-SUSITNA BOROUGH

BOARD OF ADJUSTMENT AND APPEALS

IN RE:	)	
	)	
Appeal the denial of a conditional use	)	
Permit for Shoreline Cannabis located	)	
At 4200 East Snider Drive, Wasilla	)	
	)	
Justin Benson	)	BOAA Case No. 24-01
Appellant	)	
	)	

CERTIFICATE OF SERVICE

1. I am the staff support for the Board of Adjustment and Appeals.

2. I certify that on November 20, 2024, I served true and accurate copies of the following documents:

NOTICE OF RIGHT TO APPEAL AND FINAL DECISION

To: BOAA Members
Via Email
Terry Nicodemus
Tina Crawford
Jay Van Diest
Larry Schmidt

Justin Benson, Appellant
C/O Jana Weltzin, Attorney
Via Email
jana@jdwcounsel.com
And Via Email @ justin.benson121@yahoo.com
JDW, LLC.
901 Photo Avenue
Second Floor
Anchorage, AK 99503

Nick Spiropoulos, Borough Attorney
hand delivery

Alex Strawn, Planning and Land Use Director
Hand delivery

Interested Parties:

1. Morgan Hall
   Via Email @ misssanthropy@gmail.com
2. Yvonna Williamson
   Via Email @ Yvonnavae@gmail.com
3. Josh Boots
   Via Email @ joshbootsak@gmail.com
4. Matt Niessink
   Via Email @ matthewniessink@hotmail.com
5. Loren Means
   Via Email @ plko@yahoo.com

DATED at Palmer, Alaska, this 20 day of November, 2024.

MATANUSKA-SUSITNA BOROUGH
BOARD OF ADJUSTMENT AND APPEALS

BRENDA J. HENRY, MMC
Assistant Borough Clerk

MATANUSKA-SUSITNA BOROUGH

BOARD OF ADJUSTMENT AND APPEALS

IN RE:	)	
	)	
Appeal the denial of a conditional use Permit for Shoreline Cannabis located At 4200 East Snider Drive, Wasilla	)	
	)	
Justin Benson Appellant	)	BOAA Case No. 24-01

NOTICE OF RIGHT TO APPEAL AND FINAL DECISION

NOTICE IS HEREBY GIVEN, that the Matanuska-Susitna Borough Board of Adjustment and Appeals, on November 20, 2024, rendered the following final decision regarding the appeal filed in the above captioned matter. This final decision may be appealed within 30 days of the date of this decision, pursuant to MSB 15.39.250 and the Alaska Rules of Appellate Procedure, Part 600.

FINDINGS

1. This appeal was filed in a timely manner.
2. The appellant's CUP application is to operate a retail Marijuana facility at 4200 East Snider Drive, in Wasilla. R. 1, 35
3. The appellant's retail facility license was approved by delegation by the Alaska State Alcohol and Marijuana Control Office, which means that as soon as the appellant

secures the CUP from the Borough, that he can open the retail marijuana facility to the public. R. 37

4. On February 12, 2024, the appellant filed his application for a conditional use permit (CUP) from the Borough for a retail marijuana facility. The appellant submitted the application along with the nonrefundable $1,500 application fee. R. 3, 6

5. On June 5, 2024, staff provided their recommendation in support of the CUP for the subject parcel. R. 36

6. The subject parcel is identified in the staff report as being in the core area. The subject parcel is part of the Midway Estates Subdivision and within an area where the local community council (South Lakes Community Council) was inactive at the time of the application. R. 36-37

7. The subject parcel is 1.18 acres in size and situated south of, and adjacent to, the Palmer/Wasilla Highway. The structure for the proposed use has been used commercially since approximately 2001. R. 37

8. The area around the subject parcel is a mix of commercial, residential, and industrial properties. R. 37

9. There are commercial properties to the north, which include but are not limited to a telecommunication company, a restaurant, and lumber sales. *[Clerk's Note: As of the writing of this final decision, the telecommunication*

company is no longer there. At the time of the staff report, the signs for the telecommunication company were still in place.] R. 37

10. To the west is a commercial storage rental facility; to the south and the east, there are a mix of residential uses, an industrial equipment storage yard, a dog boarding facility, and a veterinarian's office. Most of the businesses within a mile of the subject parcel, heading in both directions on the Palmer/Wasilla Highway, are commercial land uses. R. 37

11. The area of the Palmer/Wasilla Highway in which the retail marijuana facility is located is a State-maintained major arterial roadway. East Snider Drive is a Borough-maintained residential roadway. R. 37

12. In the staff report, staff provided 27 findings that the retail marijuana facility would not detract from the value, character, and integrity of the surrounding area. R. 39-40

13. On May 10, 2024, Borough Staff sent out public notices and requests for comments as required by code. Comments that were received back, as noted in the staff report, spoke to concerns with increased traffic, availability of on-site parking, ADA compliant parking spaces, potential of decreased property values, and the proximity of other marijuana retail facilities. R.37, 39

14. The record reflects that a public notice mailout was sent to the Knik Tribal Council, but there is no evidence in the record that they responded to the request for comment. R. 65

15. The staff report contains 22 findings, stating that granting the CUP would not be harmful to the public health, safety, convenience, and welfare. R. 39-40.

16. The staff report contains five findings that the proposed use has sufficient setback, lot area, buffers, or other safeguards being provided to meet conditions required by code. R. 40

17. The staff report contains one finding that the proposed use for the CUP fulfills all other requirements of Borough code. R. 41

18. The staff report contains nine findings to support the fact that the retail marijuana facility use will not negatively impact other properties due to factors such as noise and odor. R. 41-42

19. The staff report contains 19 findings that the retail marijuana facility is compatible with the character of the surrounding area. R. 42-43

20. The staff report also found that the appellant provided written documentation that all applicable licenses have been obtained; that the retail marijuana facility is in

full compliance with applicable fire code; and that it is located on a parcel that is appropriate for commercial use. R. 44-46

21. Of note, the staff report contains a finding that the nearest school is Cottonwood Creek Elementary, which is approximately 2,910 feet from the subject parcel. R. 43-44

22. The maps in the record reflect the lot at 720 North Shoreline Drive as commercial. R. 48-51

23. At the public hearing held before the Planning Commission on June 17, 2024, staff recommended approval of the CUP. R. 497

24. After recommending approval in the staff report, a Planning Commissioner queried, "Was the Knik Charter School considered when you looked at schools?" Staff stated, "It was not." The same member queried, "Is it within 1,000 feet?" Staff stated, "That I'd have to - I can't verify the exact distance for the - from the Knik School." R. 497-498.

25. At the June 17, 2024, public hearing, the Planning Commission conducted audience participation during which members of the public spoke in opposition to marijuana facilities. R.489-492

26. Next, the staff report was provided by Planning Staff. During the report, a commissioner asked questions that

staff couldn't answer. The body then decided to postpone the resolution to July 15, 2024. R. 493-497

27. At the July 15, 2024, Planning Commission meeting, Jason Ortiz, Development Services Manager, stated that, "Well, the other thing I wanted to add is just a little bit more context is - and we have corrected or asked our GIS to correct, but some of our maps that we load internally didn't recognize this as a school. The other thing is on the mailing list it didn't - it went out to the Knik Tribe. I'm not familiar of other charter schools that are owned by someone else, but like, for instance, when you look up Academy Charter, it shows the Borough owning the parcel, so this parcel they did actually get a mailer and went to Knik Tribe. I did visit the location just to see, because I wanted to see how to see how this error - because I didn't even know the school existed there, and I did not see anything with my eye. Even when I went onto Shoreline *(the road)* and then down from that, you still cannot - were not able to see that it was a school, until I drove into the property and then saw something. So, it was obscured from view, so I did want to just make that known." R. 511

28. During the Planning Commission meeting, after a member of the public spoke against marijuana businesses during audience participation, Assistant Borough Attorney Shannon

Bodolay advised the Planning Commission, "And I just want to mention to the Planning Commission while the media folks are here for public testimony, that to the extent that that was related to a CUP that will come before you, the evidence for that needs to be heard at the night that the CUP is before you, and that that is noticed for that night so the applicant is present. So, the Planning Commission really can't take evidence for that tonight and can't consider it in the future, but there will be an opportunity specifically to speak for that later. And I just wanted to mention that." R. 491 *[Clerk's Note: this page of the record was inadvertently marked up with red squiggly lines indicating it was not part of the Shoreline Cannabis portion of the Planning Commission meeting. That was an error, and it should be considered by anyone reading this final decision.]*

29. The Planning Commission was notified that the appellant was not able to be present at the July 15, 2024, hearing due to previously paid for and scheduled travel. The Commission then took a vote to postpone the resolution to August 5, 2024, a time at which the appellant would have been available to attend. The Planning Commission voted 4 to 2 against postponement. R. 508-509

30. The BOAA finds that when the question of "Oh wow, there is a school there?" arose, that the next logical question should have been "when was the school established?"

31. The BOAA finds that staff erroneously recommended denial of the CUP without all the information that is pertinent to this CUP. It was in no one's best interest to make a recommendation to deny the CUP, based on an assumption that just because there is a school, that the school was there first. Should a marijuana facility have been previously established, a school would not get to move within the 1,000-foot buffer and require the marijuana facility to cease operations.

32. The BOAA finds that the allegations that the Planning Commission violated parliamentary procedure by assigning the same number to both the approval and the denial resolution, to be outside of their purview. This is addressed due to the appellant having listed it as a point on appeal as noted in the appellant's notice of appeal and request for record, page 2 of the attachment dated August 2, 2024.

33. The BOAA finds that the crux of the issue is the definition of "established" and who was established first, the school or the retail marijuana facility. Title 17 does not define "established" but refers to the *Illustrated Book of*

Development Definitions, when a word is not defined by code. R. 510

34. Lake Landing Investments is dba Shoreline Cannabis. Lake Landing Investments received their certificate of organization from the Alaska State Department of Commerce, Community, and Economic Development, Divisions of Corporations, Business, and Professional Licensing on June 5, 2020, Entity No. 10134482. *(from the website: Department of Commerce, Community, and Economic Development)*

35. In the spring of 2019, the Knik Tribe received a grant to develop and establish a tribal education agency. The application was not signed and agreed to until July 20, 2020. The term of the agreement was from July 1, 2020, through June 30, 2021.

Knik STEC demonstation STEC Application.pdf (alaska.gov)

36. The Matanuska-Susitna Borough School District approved the Knik Cultural Charter School's initial application on December 15, 2021.

https://education.alaska.gov/State Board/june-2022/4.1%20Knik%20Charter%20School%20Executive%20Summary%202022%20ht.pdf

37. The *Illustrated Book of Development Definitions* does not define "established" but does define "establishment" as "an

economic unit where business is conducted, or services or industrial operations are performed." It then comments: "an establishment is generally at a single location, but not necessarily so. An establishment may include, for example, one or more manufacturing plants and several retail sales outlets." The legal annotation added states: "But if, as we believe, Congress used the word "establishment" as it is normally used in business and in government - as meaning a distinct physical place of business - petitioners' enterprise is composed of 49 retail establishments and a single wholesale establishment." AH Phillips, Inc. v. Walling (U.S., 1949). *Page 188-189 of Illustrated Book of Development Definitions*

38. If the definition of a word is not in code and not in the *Illustrated Book of Development Definitions*, the next reference is *The Zoning Dictionary*.

39. *The Zoning Dictionary* does not have a definition of "established." Code then refers readers to *Webster's New Universal, Unabridged Dictionary*.

40. *Webster's New Universal, Unabridged Dictionary 2003, 2nd Edition*, defines "established" as 1) To found, institute, build, or bring into being on a firm or stable basis 2) to install or settle in a position, place, business, etc.: *to establish one's child in business.* 3) to show to be valid

or true; prove: *to establish the facts of the matter.* 4)to cause to be accepted or recognized: *to establish a custom; She established herself as a leading surgeon. 5) to bring about permanently: to establish order. 6) to enact, appoint, or ordain for permanence, as a law: fix unalterably 7) to make (a church) a national or state institution. 8) Cards. To obtain control of (a suit) so that one can win all the subsequent tricks in it. Webster's New Universal, Unabridged Dictionary 2003, 2nd Edition, page 663*

41. Although not referenced in Borough code, *Black's Law Dictionary, 11th Edition*, defines "established" as an adjective (17c) 1) Having been brought about or into existence <newly established courts>. 2) Having existed for a long period: already in long-term use <an established legal rule>. 3) Proven; demonstrated beyond a doubt <an established fact>. 4) Known to do a particular job well because of long experience with good results <an established legal author>. 5) (of a church or religion) Officially recognized and sponsored by the government. *(Black's Law Dictionary, 11th Edition, page 688)*

42. The BOAA finds that under the definition provided by *Webster's New Universal, Unabridged Dictionary 2003, 2nd Edition* above, that Lake Landing Investments, dba Shoreline

Cannabis, was established, from and including 06/05/20 to, but not including 07/01/20, **26 days before** Knik Charter School's initial application for a grant for development of an educational program and **558 days before** the Matanuska-Susitna Borough School District approved their application. The State of Alaska approved the charter application for 10 years in June of 2022, **726 days after** (using the date of 06/01/22 as the date the state approved their application) Lake Landing Investments was established. *(dates calculated from website: timeanddate.com from the count days tab)*

43. The BOAA finds that the appellant made every reasonable effort to ensure that there were no sensitive land uses that would impact his application for the CUP.

44. The BOAA finds that Mr. Benedict and Mr. Aschenbrenner both opened the door to the appeal hearing being a De Novo hearing during their testimony. Both speakers introduced new information that was not included in the record and that was not presented to the Planning Commission.

45. As a result, the BOAA sought new evidence to assist them in making the determination of who was established first. The testimonial evidence introduced at the appeal hearing could not have been obtained prior to the deadline for evidence submittal and the evidence is relevant and it is in the interest of justice that it be considered.

CONCLUSIONS

Based upon the above findings, the Board of Adjustment and Appeals makes the following conclusions:

1. The Board of Adjustment and Appeals has jurisdiction over this matter pursuant to MSB 15.39.030(A)(2).
2. MSB 15.39.220, Decision, states in part, "the BOAA may affirm, reverse, or modify in whole or in part, the appealed determination, decision, or order, or remand pursuant to MSB 15.39.150."
3. MSB 15.39.180(B) states in part,"... New evidence may be submitted at the time of hearing if the BOAA determines that the evidence was not discovered or could not have been obtained prior to the deadline for evidence submittal, or if the evidence is relevant and it is in the interest of justice that it be considered."
4. Pursuant to MSB 15.39.210(A), the BOAA may exercise its independent judgment on matters that relate to the interpretation or construction of ordinances or other provisions of law.
5. The BOAA concludes that MSB 15.39.150, remand is not applicable, as the definition of established was readily available and could have been established before a decision of the Planning Commission was made.

6. Which party was "established" first was readily available, but neither were sought out by staff, nor did the Planning Commission request that information. It appears that it was assumed that because there was a school in proximity to the cannabis facility, that the school held priority.

7. Borough code does not establish that schools automatically have location priority over a cannabis facility unless the school is established first.

8. If a cannabis facility existed and a school moved in within the 1,000-feet distance requirement, code would not require the cannabis facility to shutter its business at that location.

9. The BOAA concludes that it is in the best interests of all parties to this appeal to consider when the school and the appellant's business were established.

10. The BOAA concludes that the Planning Commission erred by not seeking out substantial information on the definition of "established." Because the Planning Commission failed to consider when the school and the retail marijuana facility were each established and therefore MSB 15.39.210(B) is not applicable.

11. Based on the findings above and testimony at the appeal hearing, the BOAA concludes that Lake Landing Investments, LLC. dba Shoreline Cannabis was established 26 days prior to Knik Charter School.

12. Pursuant to MSB 17.60.100(B)(1), the proposed use will not detract from the value, character, and integrity of the surrounding area.

13. The BOAA concludes that the application for the CUP meets the general standards required for approval, pursuant to MSB 17.60.100(B)(1) through (4).

14. The BOAA concludes that that the application for the CUP meets the additional standards set forth in MSB 17.60.150 (A) through (D).

15. The BOAA concludes that the application for the CUP meets the standards set forth in MSB 17.60.170(A) through (D).

16. The BOAA concludes that MSB 17.61.020(A)(1) through (4) are not applicable as the facility is not a commercial or industrial use that generates noises beyond the boundaries of the lot line of the site on which it is located; it will not generate traffic in excess of what is required by code; nor will it process, manufacture, or store hazardous materials.

17. The BOAA concludes that Lake Landing Investments, LLC. dba Shoreline Cannabis meets the definition of "established" as written in *Webster's New Universal, Unabridged Dictionary 2003, 2nd Edition* and was established 26 days prior to Knik Charter School and is therefore not subject to the distance requirements of MSB 17.60.150(B)(1).

18. The BOAA concludes that MSB 15.39.210(B) does not apply and require the BOAA to defer to the judgment of the Planning Commission in this case, regarding findings of fact because they are not supported in the record by substantial evidence. The Planning Commission sought no definition of "established" from one of the references cited in Borough code as the authority on definitions.

19. The BOAA concludes that Staff offered an opinion of the definition of "Establishment", but it differs from the definition in the Webster's new Universal Unabridged Dictionary, 2nd Edition.

FINAL DECISION

Based upon the above Findings and Conclusions, the Matanuska-Susitna Borough Board of Adjustment and Appeals reverses in full, the denial of the conditional use permit for Lake Landing Investments, LLC. dba Shoreline Cannabis and hereby

approves the CUP for the operation of a marijuana retail facility, with the following conditions:

1. Prior to operating, the applicant shall remove one proposed parking space on the westernmost portion of the parking lot to accommodate emergency vehicles. Parking spaces shall conform to the minimum requirements of MSB 17.60.170(B)&(C).
2. Prior to operating, the ADA parking space shall be painted, and the ADA van-accessible sign be mounted to indicate its location. The applicant shall provide the Planning Department proof of completion in the form of photographs in color.
3. The operation shall comply with all applicable federal, state, and local regulations.
4. All aspects of the operation shall comply with the description detailed in the application material and with the conditions of this permit. An Amendment to the conditional use permit shall be required before any expansion of the conditional use.
5. Borough Staff shall be permitted to enter the premises subject to this permit to monitor compliance with permit requirements. Such access will, at minimum, be allowed on demand when activity is occurring, or with prior verbal or

written notice, or other times as necessary to monitor compliance.

6. On-site consumption of marijuana and marijuana products is prohibited.

7. The hours of operation shall be:

Sunday through Thursday, 10 a.m. to 10 p.m.; and

Friday through Saturday, 10 a.m. to Midnight.

RECOMMENDATION TO THE PLANNING AND LAND USE DEPARTMENT:

The BOAA recommends that the Planning and Land Use Department consider establishment of a pre-application site visit process that would ensure that PRIOR to accepting an application for a marijuana CUP, that a thorough in-person visit of the subject parcel and any business or service within 1,000 feet be performed.

Whether a location is appropriate for either a cultivation or retail marijuana facility CUP should be the first and most important determination before an application for a CUP is accepted to be presented to the Planning Commission.

The BOAA recommends that Borough code, specifically concerning Marijuana CUP's, be amended to include a definition of "established" to provide a fair and equitable process and prevent a moving timeline target for new businesses.

The Borough is the fastest growing area in Alaska and the potential for this type of conflict to occur again is great.

Dated this 20 day of November, 2024.

MATANUSKA-SUSITNA BOROUGH
BOARD OF ADJUSTMENT AND APPEALS

TERRY NICODEMUS, Chairperson

Attest:

BRENDA J. HENRY, MMC
Assistant Borough Clerk

YES: Nicodemus, Rongitsch, Van Diest, and Schmidt

NO: Crawford

SOUTH KNIK RIVER COMMUNITY COUNCIL CORRESPONDENCE

Outlook

Re: South Knik River Community SpUD Resolution

From Mike Bowles <mbowles13@gmail.com>
Date Thu 2/13/2025 11:14 AM
To JANET CRAIG <sitesea@mtaonline.net>
Cc Secretary Anne SKRCC <skrcc.sec@gmail.com>; MSB Planning Commission <msb.planning.commission@matsugov.us>; Edna DeVries <edna.devries@matsugov.us>; Planning <planning@matsugov.us>; TimHaleDistrict1@gmail.com <TimHaleDistrict1@gmail.com>

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Craig,

Thank you for adding the resolution to the agenda for the February 20th meeting. The urgentcy behind this came from you reaching out to applicant(s) asking them to rescind their application for being on the SpUD committee based on their reservations over zoning laws. That is not a Democratic process as you have claimed. Also, when you informed me that a SpUD draft had also already been written and ready for the committee to consider before the committee had already been formed, that added concerns. In your previous email you told me that you were not going to add the resolution to the February 20th agenda. I asked for justification for not adding it to the agenda and did not receive a response. I will admit, maybe I could have waited a little longer, but due to things already in motion happening outside of the purview of the public many of us in the community have concerns.

I appreciate and understand the amount of work and responsibility involved in volunteering. I volunteer with various organizations myself, and I guide volunteers for the board I administrate. That being said, I would like to go ahead and put my name on the roster for consideration of SKRCC president and/or vice president for the April and May agendas.

Like I have previously stated, I am still committed to the SpUD committee as the chairperson and will appropriately move this committee forward as the community desires if the resolution does not pass.

Mike Bowles
(907) 355-1355

On Feb 13, 2025, at 8:47 AM, JANET & CRAIG <sitesea@mtaonline.net> wrote:

Good morning Mike
I received an email regarding your resolution on 2/11. I spoke to the secretary yesterday morning the 12th regarding finalizing the agenda for our regular scheduled meeting. When a final draft agenda was completed your resolution was included. Later that same day I was forwarded your email below. I saw that email below last night Now while I am having my morning coffee on 2/13. I am replying to you. It's disappointing you feel I'm being uncooperative in my response, although respect your right to express that opinion.

I understand and am hearing your insistence to express concerns. We are returning to our regular schedule meetings after winter break and already had items on our agenda for a full meeting 2/20/25. My preference would have been to address this at the special 2-hour SKRCC meeting for the spud committee selection, which you know we have scheduled instead of this1 hour regular council business meeting on 2/20 since this topic will undoubtably displace some if not all of the rest of the agenda. But at your insistence this was scheduled. I am under no obligation to do that but still have accommodated this request.

You have made accusations in your recent communications that should concern anyone who is reading your opinions. Yes let's them out public for the community to hear.

You know we are volunteering to do this work, and we have lives. It takes time to work on schedules respond to all of your emails in the last couple of days. There is essentially only 2 of us volunteers that do the bulk of regular SKRCC work. You don't know what may be going on in our life schedules and couldn't because you have not asked. I would greatly appreciate in the future **asking** about what could be scheduled for public meetings Instead of what you are doing here. A little patience for response before you make public statements about me being uncooperative would also be much appreciated.
In closing I would like to invite any you to our 2/20/25 at 7pm 17958 E Knik river Rd.. We welcome one and all to any of our meetings.

Craig Price
SKRCC president.

Subject: Fwd: South Knik River Community SpUD Resolution

FYI

---------- Forwarded message ---------
From: **Michael Bowles** <mbowles13@gmail.com>
Date: Wed, Feb 12, 2025 at 12:15 PM
Subject: South Knik River Community SpUD Resolution
To: <msb.planning.commission@matsugov.us>
Cc: Edna Devries <edna.devries@matsugov.us>, <planning@matsugov.us>, <TimHaleDistrict1@gmail.com>, SKRCC Secretary <skrcc.sec@gmail.com>

Good morning, Commissioners,
On January 27, 2025, I was voted and approved to be the chairperson of the SpUD committee for the South Knik River Community Council (SKRCC). I wanted to bring to your attention that a SpUD resolution has been requested to be placed on the February 20, 2025 SKRCC meeting agenda for a vote. There are many concerns in our community that the officers of the SKRCC have not been representing the best interests of our community in various ways outlined in the attached resolution. The majority of residents in our community did not learn of action on a SpUD until May of 2024 when a concerned resident posted about it on a local social media site. The officers of the SKRCC have done no community outreach other than request the planning department staff mail out a SpUD committee application in October 2024 after already beginning the process of pursuing the SpUD. Most residents in our community have been caught off guard by the pursuit of a SpUD and see this as a property dispute between officers of the SKRCC and the helicopter operation at the end of Knik River Road. Please be aware that I have requested this resolution be brought before the entire community at the February 20 meeting for a vote and am not receiving cooperation by the SKRCC president on this request. I have provided a copy of the attached resolution to Mr Strawn at the planning department for his

awareness and he informed me that he intends to let Tim Hale know of our concerns. I greatly appreciate your consideration of the issues outlined in the attached resolution.

Michael Bowles
(907) 355-1355

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Anne
Secretary, SKRCC
SKRCC.Sec@gmail.com

SOUTH KNIK RIVER COMMUNITY COUNCIL
RESOLUTION SERIAL NO. 1-2025

A RESOLUTION

OF THE SOUTH KNIK RIVER COMMUNITY COUNCIL REQUIRING THE OFFICERS OF THE SOUTH KNIK RIVER COMMUNITY COUNCIL AND MATANUSKA-SUSITNA BOROUGH TO IMMEDIATELY STOP PURSUING A SPECIAL USE DISTRICT DESIGNATION FOR THE SOUTH KNIK RIVER COMMUNITY.

WHEREAS a majority of members of the South Knik River Community Council object to designating the community as a Special Use District; and

WHEREAS South Knik River Community Council by laws do not allow all owners of property and/or land within the South Knik River Community Council area to vote at community council meetings; and

WHEREAS a majority of members of the South Knik River Community have stated concerns of not being properly informed of the South Knik River Community Council officers pursuing designation as a Special Use District; and

WHEREAS borough code and a comprehensive plan are already established to address subdividing property and noise concerns which started the process of the South Knik River Community Council officers pursuing Special Use District designation; and

WHEREAS legal precedent exists for residents of the South Knik River Community to pursue legal action addressing noise pollution caused by helicopter operations in residential areas; and

WHEREAS a majority of members of the South Knik River Community Council object to creating any new zoning laws within the boundaries of the South Knik River Community.

NOW THERFORE, BE IT RESOLVED that the officers of the South Knik River Community Council immediately end all work and pursuit of a Special Use District designation; be it

FURTHER RESOLVED that the Matanuska-Susitna Borough immediately end all work and pursuit of a Special Use District designation of the South Knik River Community.

Resolved and affirmed by the South Knik River Community Council this _____ day of _____, 2025.

_____
Craig Price, President South Knik River Community Council

ATTEST:

_____
Anne Housel, Secretary South Knik River Community Council

COMMISSION BUSINESS

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
www.matsugov.us

MEMORANDUM

DATE: February 21, 2025

TO: Planning Commission

FROM: Alex Strawn, Planning and Land Use Director

SUBJECT: Tentative Future PC Items

Upcoming PC Actions

Quasi-Judicial

- Houdini's Herbs – Marijuana Retail Facility; 8164B01L001A (Staff: Peggy Horton)
- The Aardvark – Alcoholic Beverage Dispensary; 1454000L001 (Staff: Peggy Horton)
- Craft Cannabis Cabin – Marijuana Retail Facility; 1842B01L007 (Staff: Rick Benedict)
- Ficklin Gravel Products LLC – Earth Materials Extraction; 16N04W03A009 (Staff: Rick Benedict)
- Butte Land Co. – Earth Materials Extraction; 17N02E35A024 (Staff: Peggy Horton)
- Fort Green Alaska – Marijuana Retail Facility; 1818000L001 (Staff: Peggy Horton)
- Silly Bear – Marijuana Retail Facility; 2760B02L002 (Staff: Rick Benedict)
- Harman Northeast – Earth Materials Extraction; 18N01W15B015 (Staff: Peggy Horton)
- Magic Flower – Marijuana Retail Facility; 3209B08L006 (Staff: Rick Benedict)
- Williams – Variance; 6272000L007 (Staff: Peggy Horton)

Legislative

- Historic Preservation Plan (HPP) (Staff: Maggie Brown)
- MSB Borough-Wide Comprehensive Plan (Staff: Jason Ortiz)
- Corridor Studies (Staff: Julie Spackman)
- Transit Development Plan (Staff: Jason Ortiz)
- Amending MSB 17.59 Standardize Definitions for Lake Management Regulations (Staff: Alex Strawn)
- Fuller Lake Management Plan (Staff: Jason Ortiz)