



Alaska Department of Transportation & Public Facilities

Highways, Aviation & Facilities Results Delivery Unit
House Finance Subcommittee

Jason Sakalaskas, Northern Region Maintenance Chief
Amanda Holland, Administrative Services Director

February 9, 2017

Keep Alaska Moving through service and infrastructure



Mission Statements

DOT&PF

“Keep Alaska Moving through service and infrastructure”

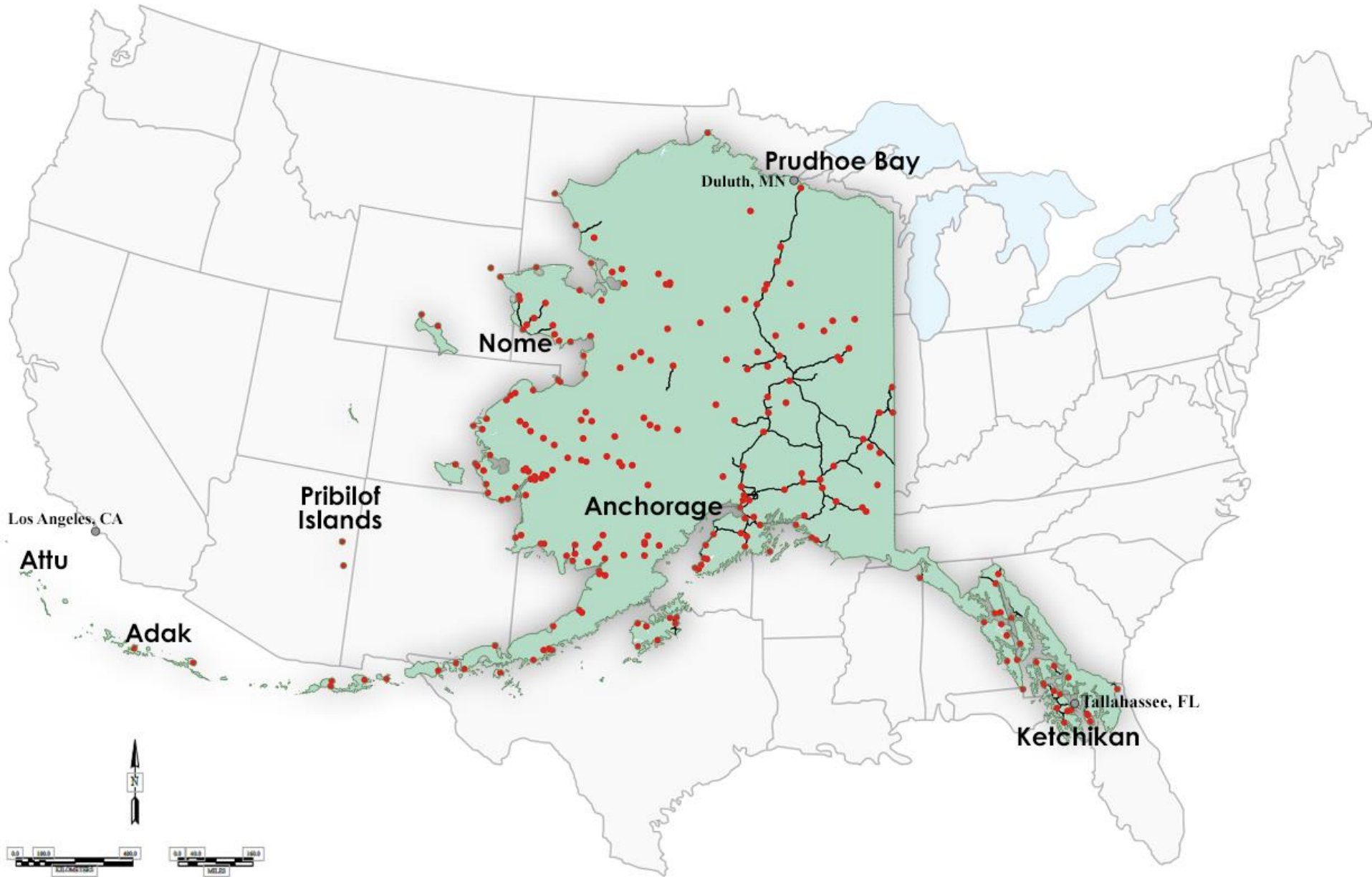
Highways, Aviation & Facilities Results Delivery Unit

“Operate, maintain, safeguard, and control the state's infrastructure system of highways, airports, harbors and public facilities.”

SOURCE INFORMATION:

- Maintenance & Operations: dot.alaska.gov/stwdmno
- Winter Road Maintenance Priority Map: dot.alaska.gov/wintermap
- Road Conditions: 511.alaska.gov
- Winter Season Resources: dot.alaska.gov/winter

Vast and Geographically Diverse Responsibility



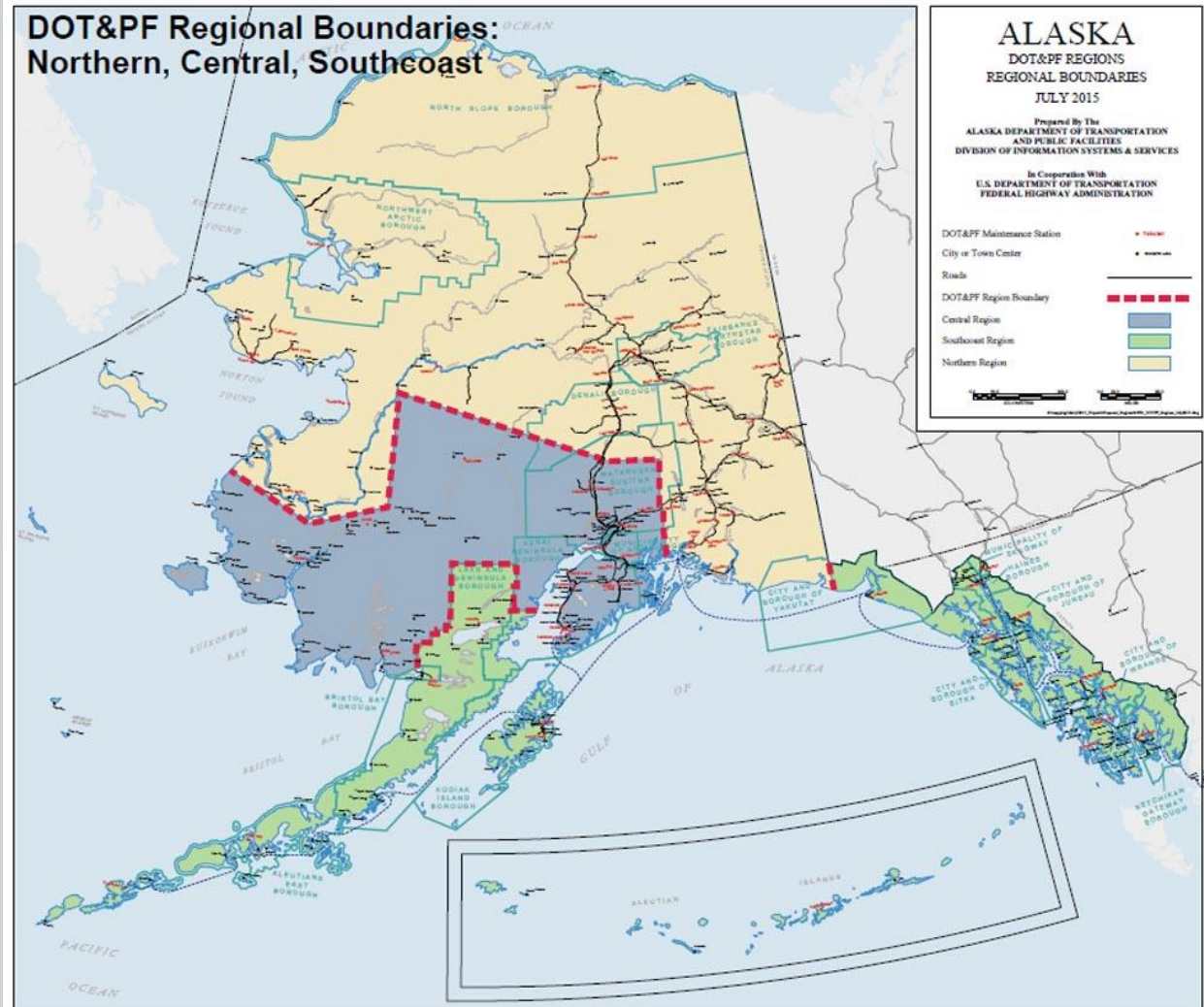
Regional Organization

Three Regions

- Northern
- Central
- Southcoast

13 Maintenance & Operation Districts

79 Staffed Maintenance Stations



What We Operate & Preserve

- 5,612 center line miles of highways
- 822 DOT&PF owned bridges
- 242 State Airports
- 731 Public Facilities Occupied by 17 state and local agencies



What We Do

- Airport Management
- Aircraft Rescue and Fire Fighting
- Airport Security
- Airport Lighting Maintenance
- Asphalt Repairs: Hi-Float, pavement, Potholes, Crack Sealing, etc.
- Avalanche Mitigation
- Blading and Gravel Resurfacing
- Bridge Maintenance and Repair
- Drainage: Thaw and clean culverts, drainage ditch maintenance, and Erosion Control
- Paint Striping / Pavement Marking
- Signs, Delineation, Guardrail, and Markers
- Snow and Ice Control, Snow Plowing and Removal, Anti-icing and Deicing, Sanding
- Traffic Signal and Light Maintenance
- Vegetation Management
- *And more...*



Results Based Alignment Consistent Levels of Service

Roadway Priorities and Performance Targets

Priority 1

High volume, high-speed roadways, such as expressways and safety corridors

Priority 2

Major highways and arterials connecting communities

Priority 3

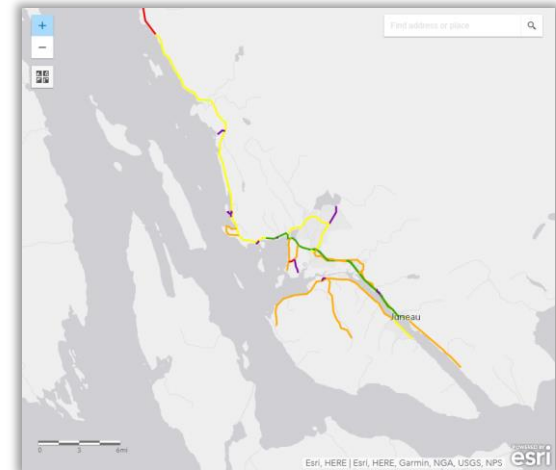
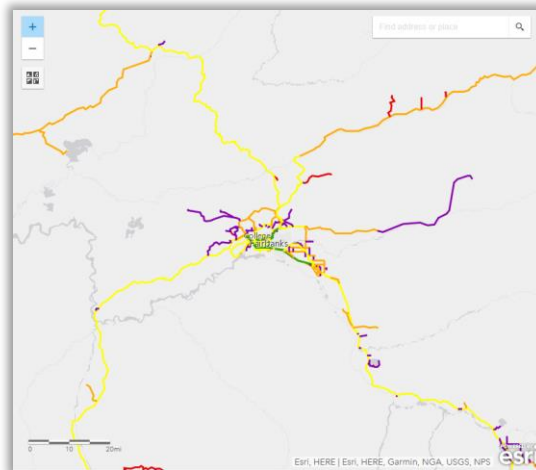
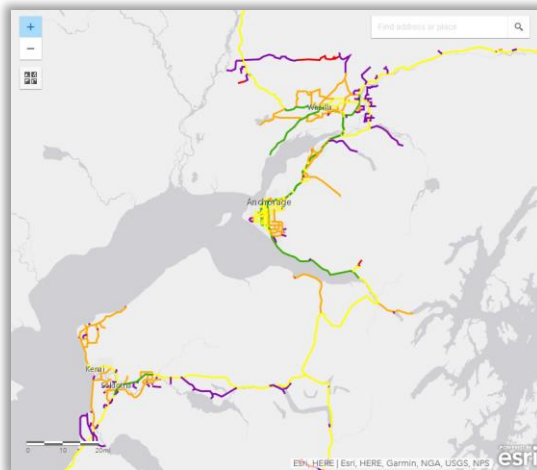
Major local roads or collector roads

Priority 4

Minor local roads that primarily provide residential or recreational access






Priority 5

Roadways that are designated as “No Winter Maintenance” routes, such as Denali Highway and Taylor Highway




Screenshots of interactive Winter Road Maintenance Priority Map for Anchorage, Fairbanks, and Juneau


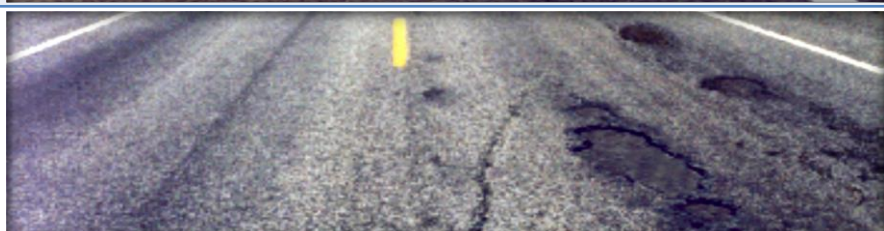

Highway Winter Performance Targets

| Performance Target | Performance Target Description | |
|---|--|---|
| A Good Winter Driving Conditions |  | <p>Bare pavement is the primary goal. Good winter driving conditions exist when snow and ice have been removed from the driving lanes and excessive loose snow has been removed from the shoulders and centerline of the highway. Short sections of ice and packed snow are acceptable and can be expected within the driving lanes between the wheel paths, as well as on centerline. Bare pavement may not be possible in the Northern and Central Region's during periods of extreme cold weather. Generally loose snow has been cleared and traction is good for most vehicles properly equipped for winter driving. If required for traction, 100% of roadway has sand present.</p> |
| B Fair to Good Winter Driving Conditions |  | <p>Roads are passable with varying conditions. Drivers may encounter some standing water, packed snow and icy patches covering the surface. Generally loose snow has been cleared from the travel way and traction is adequate for most vehicles properly equipped for winter driving. If required for traction, sand applied to hills, curves, intersections, and bridge decks. LOS B represents a fair to good level of service, which ranges from targets of bare pavement as much as possible on higher-standard or highly traveled highways to snow-pack or icy conditions on northern region roads as well as on lower-standard or low-volume roads. Traffic moves at reduced speed, with isolated slowdowns or delays.</p> |
| C Fair to Poor Winter Driving Conditions |  | <p>Roads are generally passable with varying conditions. Drivers may encounter some standing water, loose snow, some snow drifts, packed snow and icy patches covering the surface. Patches of snow or ice exist even on the highest-standard roads, and these conditions may degenerate to predominately snow-packed or icy conditions throughout, with accompanying slowdowns or delays. On lower-standard or low-volume roads the surface is snow-covered (up to 2") with substantial traffic delays.</p> |
| D Poor Winter Driving Conditions |  | <p>Travel is challenging for most vehicles properly equipped for winter driving. Moderate snow accumulation on roads: up to 4". LOS D represents a marginal level of service where traffic moves slowly with substantial delays. Traction is marginal even for vehicles properly equipped for winter driving.</p> |
| F Hazardous Winter Driving Conditions |  | <p>Travel is not advised. Considerable snow accumulation on roads: 4" or more. Drivers may encounter snow drifts, berms, freezing rain, and glare ice. Traction is extremely poor even for vehicles properly equipped for winter driving.</p> |

Brush Cutting Performance Targets

| Performance Target | Performance Target Description |
|-------------------------------------|--|
| A Excellent Brush Cutting |  <p>Road appearance is excellent. Clear zone is mowed and with well tended vegetation and absence of noxious weeds. There are no obstructions in the clear zone, or vegetation blocking regulatory, warning and advisory signs or blocking sight lines to ditch lines, guardrail, guidepost and private approaches.</p> |
| B Good Brush Cutting |  <p>Road appearance is very good, with only infrequent or minor instances of unkempt vegetation requiring mowing. There are very minor obstructions in the clear zone, or vegetation blocking regulatory, warning and advisory signs or blocking sight lines to ditches, guardrail, guideposts and private approaches.</p> |
| C Fair Brush Cutting |  <p>Road appearance is good. Clear zone has up to 1' high trees, brush or grass requiring mowing. There are minor obstructions in the clear zone, or vegetation blocking regulatory, warning and advisory signs or blocking sight lines to ditches, guardrail, guideposts and private approaches.</p> |
| D Poor Brush Cutting |  <p>Road appearance is fair. Clear zone has up to 2' high trees, brush or grass requiring mowing. Vegetation is beginning to encroach on the edge of roadway. There are obstructions in the clear zone, or vegetation blocking regulatory, warning and advisory signs or blocking sight lines to the ditches, guardrail, guideposts and private approaches.</p> |
| F Failing Brush Cutting |  <p>Road appearance is poor. Clear zone is full of 2' or higher trees and brush. Vegetation has encroached on the edge of roadway. Clear zone is full of obstructions or vegetation blocking regulatory, warning and advisory signs or blocking sight lines to ditches, guardrail, guideposts and private approaches.</p> |

Pavement Performance Targets

| Performance Target | | Performance Target Description |
|---|--|--|
| A Excellent Pavement condition |  | <p>The structure, smoothness, and durability of the pavement surface are excellent. The surface is free of potholes and exhibits little or no cracking. Past repairs like patches and crack seals are in excellent condition. There are small or no drop-offs at pavement edges. Pavement condition has not degraded.</p> |
| B Good Pavement condition |  | <p>The pavement is in overall good structural condition and offers a satisfactory ride. Pavement exhibits sound material quality. Occurrences of distress such as cracking, potholes, rutting, and pavement materials problems are infrequent and minor. Past repairs are in good condition with limited need for rework. Pavement edge drop-offs are infrequent.</p> |
| C Fair Pavement Condition |  | <p>Pavement shows moderate problems with structural deterioration like cracking, pot-holes and past repairs that are affecting the ride quality. Pavement is showing oxidation of surface, flushing/bleeding, or loss of material through raveling.</p> |
| D Poor Pavement Condition |  | <p>Pavement deterioration is significant, with up to half of the pavement area exhibiting one or more types of serious distress: structural deterioration like large numbers of cracks or potholes and or repairs, ride quality from rutting or surface roughness or large sections of pavement edge drop-offs. Surface condition may affect speed and vehicle handling.</p> |
| F Failing Pavement Condition |  | <p>Pavement is deteriorated over more than half its area. The integrity of the pavement and the ride quality it offers are degraded by extensive damage like potholes, cracking, rutting or surface roughness from failing pavement or repairs. Extensive edges drop-offs. Speed and vehicle handling likely affected.</p> |

Performance Targets in Alaska's Extreme Environment

The Department of Transportation and Public Facilities manages the State's transportation infrastructure in one of the most extreme and challenging environments in the planet.



An aerial photograph showing a wide, muddy river flowing through a forested area. On the right bank, a large section of the hillside has collapsed, exposing dark brown soil and roots. A concrete retaining wall is visible at the base of the landslide. The surrounding forest consists of dense evergreen trees. The text "Temperatures ranging from 100°F to -80 °F" is overlaid in white on the upper part of the image.

**Temperatures ranging from
100°F to -80 °F**



**Snowfalls as
deep as 974
inches at
Thompson Pass**



**Ice-rich permafrost
underlying
80% of the state**

Geographically diverse climate...



**...ranging from maritime
to arctic.**



Alaska's extreme geography and weather conditions create maintenance challenges faced by no other state transportation department.



Emergency Response in Extreme Conditions



Facilities

The Facilities component serves Alaskans by:

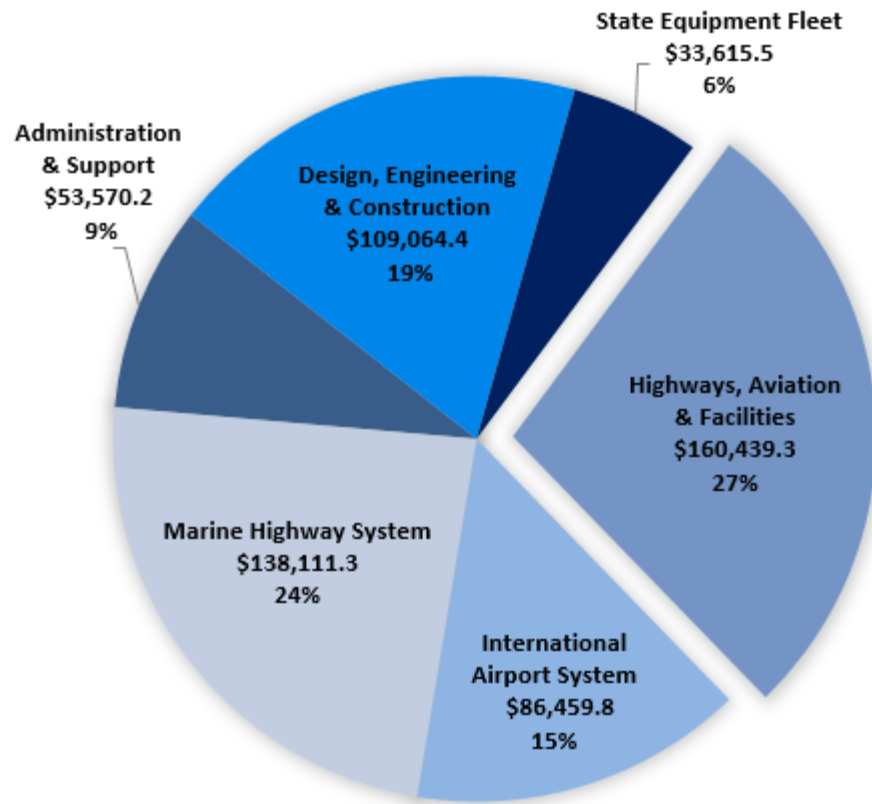
- Providing clean and safe public facilities
- Extending the life of equipment (e.g., graders) that provide services such as plowing
- Protecting materials such as sand to maximize their usefulness



Chandalar DOT&PF Maintenance Shop. Photo by Chuck Eldridge, Alaska DOT&PF

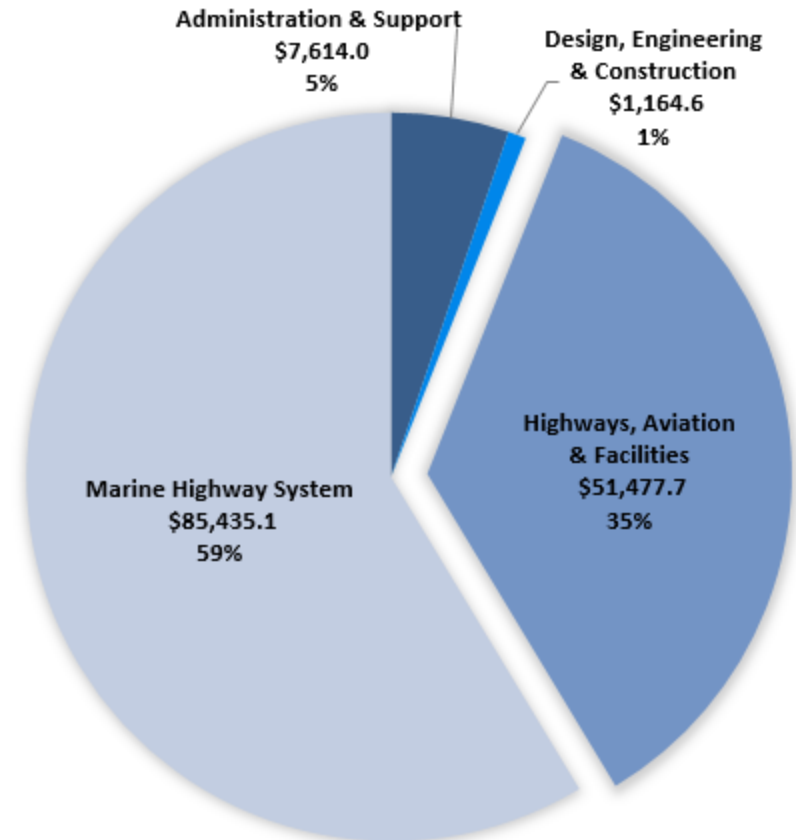
FY2018 Governor's Proposed DOT&PF Results Delivery Units (RDU)

All Funds



Total: \$581,260.5

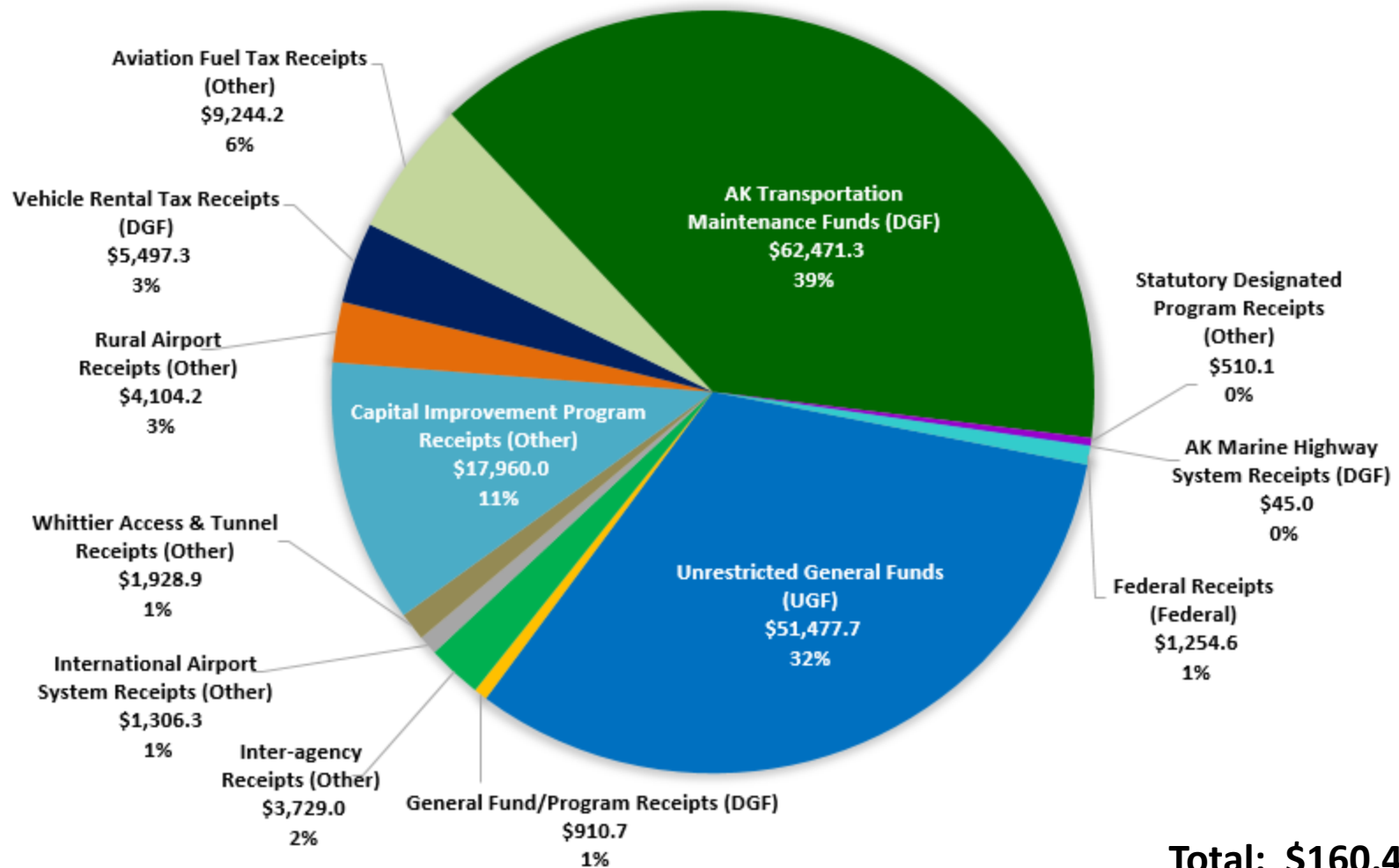
Unrestricted General Funds



Total: \$145,691.4

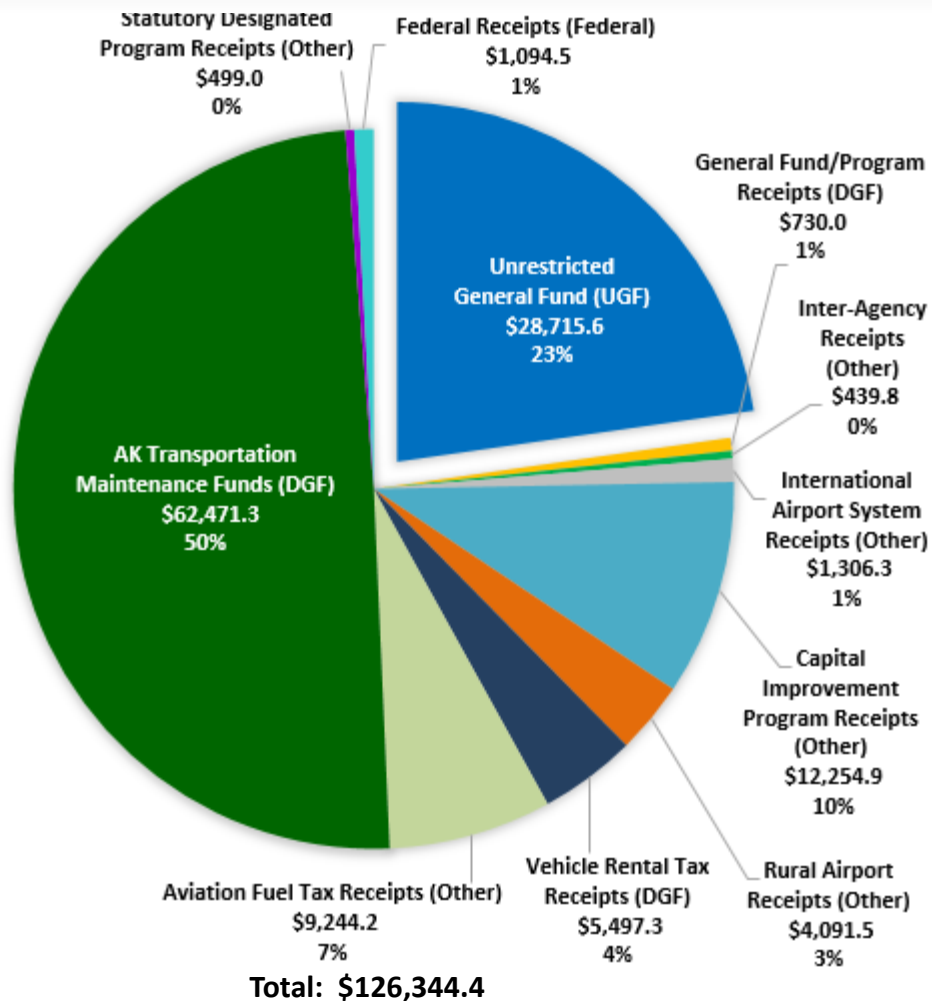
FY2018 Governor's Proposed Highways, Aviation, and Facilities RDU

All Funds

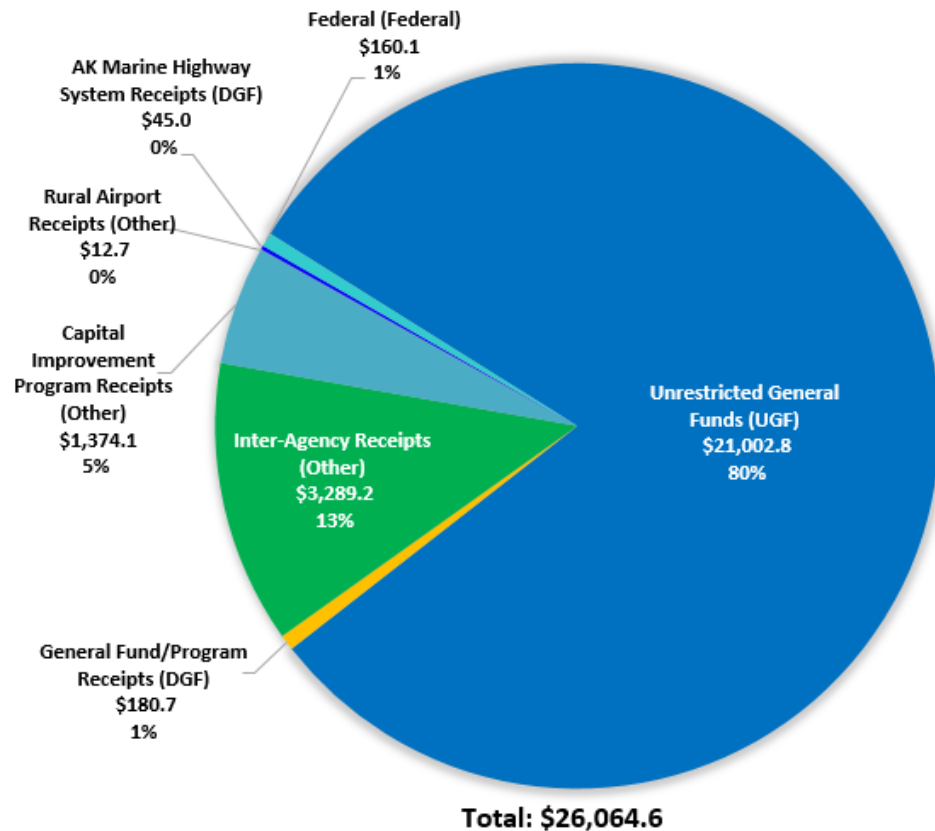


FY2018 Governor's Proposed Highways & Aviation and Facilities Component Funding

Highways & Aviation All Funds

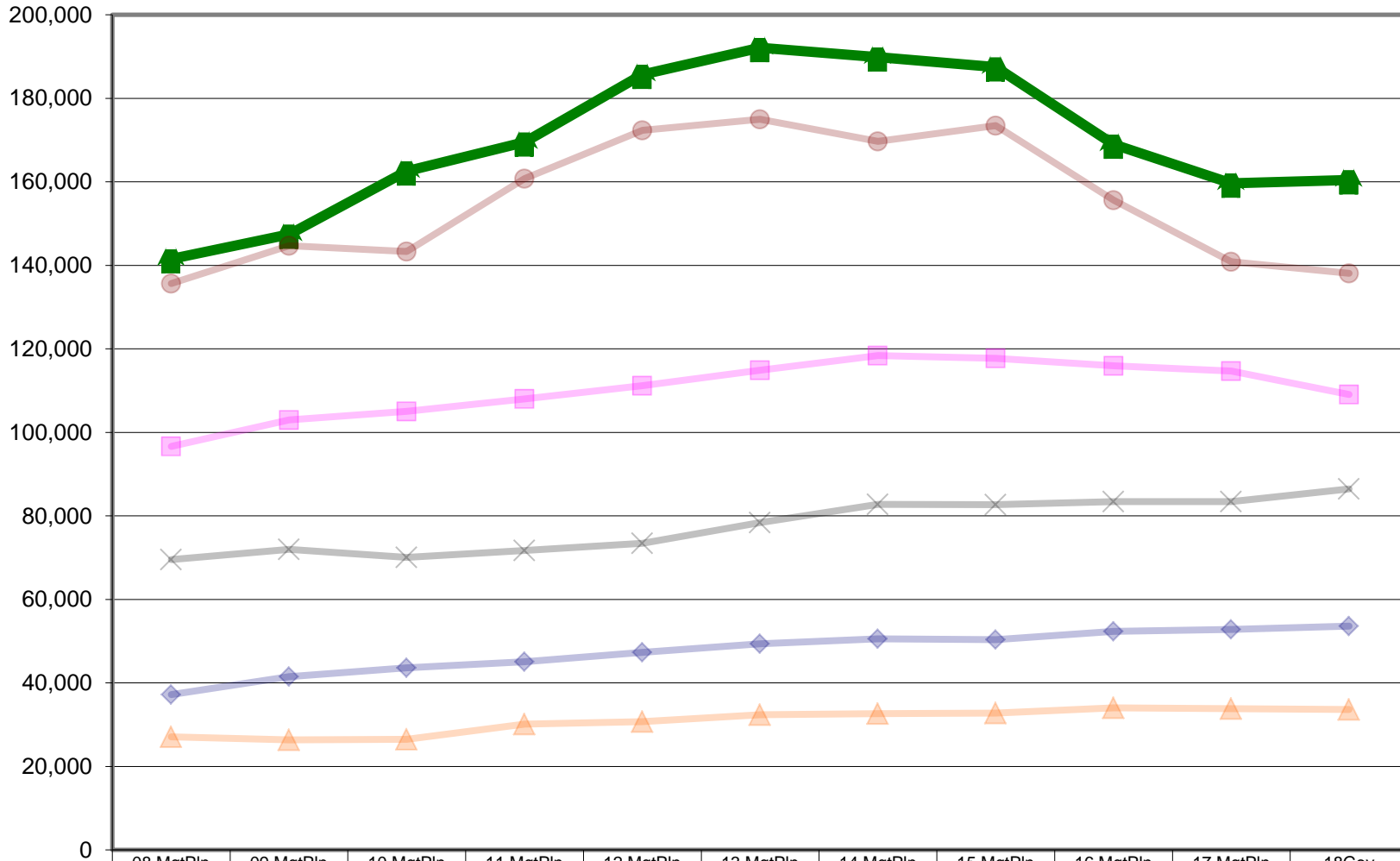


Facilities All Funds



Appropriations within the Department of Transportation & Public Facilities

(All Funds)
(\$ Thousands)



When counting all funding sources, **Highways, Aviation and Facilities** nudges **AMHS** in size (28% versus 24%).

Design, Engineering and Construction rounds out 3rd at 19%. CIP Receipts via the capital budget (primarily federal) comprise this appropriation.

The **International Airport System** comes in 4th at 15% of the budget.

| | 08 MgtPln | 09 MgtPln | 10 MgtPln | 11 MgtPln | 12 MgtPln | 13 MgtPln | 14 MgtPln | 15 MgtPln | 16 MgtPln | 17 MgtPln | 18Gov |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Highways/Aviation & Facilities | 141,508.1 | 147,437.3 | 162,569.7 | 169,529.3 | 185,707.4 | 192,121.5 | 189,879.0 | 187,515.9 | 168,983.8 | 159,654.6 | 160,439.3 |
| Marine Highway System | 135,666.2 | 144,702.0 | 143,347.5 | 160,774.2 | 172,331.0 | 175,012.6 | 169,730.9 | 173,499.2 | 155,590.8 | 140,897.2 | 138,111.3 |
| Design, Engineering & Constr. | 96,640.4 | 102,996.3 | 105,018.7 | 108,007.7 | 111,209.6 | 114,880.3 | 118,369.4 | 117,722.0 | 115,919.1 | 114,661.3 | 109,064.4 |
| International Airports | 69,559.8 | 71,967.4 | 70,053.4 | 71,694.7 | 73,439.1 | 78,401.3 | 82,758.3 | 82,665.5 | 83,402.8 | 83,441.2 | 86,459.8 |
| Administration and Support | 37,166.4 | 41,498.1 | 43,593.6 | 45,046.8 | 47,325.1 | 49,361.3 | 50,520.7 | 50,367.8 | 52,330.8 | 52,791.8 | 53,570.2 |
| State Equipment Fleet | 27,100.2 | 26,343.0 | 26,494.2 | 30,102.8 | 30,736.4 | 32,380.7 | 32,648.6 | 32,743.3 | 34,040.6 | 33,841.7 | 33,615.5 |

Highways, Aviation & Facilities Results Delivery Unit

| Component | Funding (in thousands) | # of PFT/PPT/NP Positions | # of Alaskans Served | % Cost Through Fees | Rating of Importance to Mission | Rating of Effectiveness | Constitution Requirement | Federally Required | Required by Statute |
|--|---|---------------------------------|----------------------------|------------------------|---------------------------------------|----------------------------|-----------------------------|-----------------------|------------------------------|
| Regional Facilities Components | \$26,064.6: \$21,002.8 UGF; \$225.7 DGF; \$160.1 Fed; \$4,676.0 Other | 85 | | 0% | Critical | Effective | No | Yes | Yes-AS 35, 36, 44 |
| Traffic Signal Management | \$1,770.4: \$1,759.3 UGF; \$11.1 Other | 0 | | 0% | Critical | Effective | No | Yes | Yes-AS 44 |
| Regional Highways and Aviation Components | \$126,344.4: \$28,715.6 UGF; \$68,698.6 DGF; \$1,094.5 Fed; \$27,835.7 Other | 606 | | 4.1% | Critical | Effective | No | Yes | Yes-AS 02, 19, 30, 38, 44 |
| Whittier Access and Tunnel | \$6,259.9: Other | 1 | | 30.8% | Critical | Effective | No | Yes | Yes-AS 37, 19 |

Thank you

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Highways, Aviation & Facilities mission is to *Operate, maintain, safeguard, and control the state's infrastructure system of highways, airports, harbors and public facilities."*

Impacts *daily quality of life*

- Safety
- Mobility
- Connectivity



Dalton Highway 2015 Flooding