

National Strategic Infrastructure Corridor Initiative

Volume II

A Comprehensive Policy Proposal

A Governance Framework for the Long-Term Stewardship of Alaska's Most Strategically Significant Transportation Corridor

Publication No. NSICI-2

Version 1.0

Working Draft

July 2026

Prepared for:

State of Alaska

Alaska Department of Transportation & Public Facilities

Alaska State Legislature

Governor of Alaska

Transportation and Infrastructure Stakeholders

Prepared by:

Roger Brown

Fairbanks, Alaska

National Strategic Infrastructure Corridor Initiative

Volume II - Dalton District Infrastructure & Maintenance Authority

Publication Information

Publication Number: NSICI-2

Volume: II

Version: 1.0

Publication Date: July 2026

Document Status: Working Draft

Prepared by:

Roger Brown

Fairbanks, Alaska

Document Description

This publication presents a comprehensive policy proposal for establishing the **Dalton District Infrastructure & Maintenance Authority (DDIMA)** as a dedicated governance and funding entity within the Alaska Department of Transportation & Public Facilities. The proposal outlines a framework for the long-term stewardship, maintenance, operation, and strategic investment of Alaska’s Dalton Highway Corridor while providing a scalable model for other transportation corridors of national significance.

Recommended Citation

Brown, Roger. *Dalton District Infrastructure & Maintenance Authority (DDIMA): A Comprehensive Policy Proposal*. National Strategic Infrastructure Corridor Initiative, Volume II. Publication No. NSICI-2. Fairbanks, Alaska. July 2026.

Distribution Statement

This publication is intended for federal, state, tribal, and local government officials, transportation agencies, policymakers, industry stakeholders, infrastructure planners, and the public.

Revision History

Version	Date	Description
1.0	July 2026	Initial Working Draft

Letter of Transmittal

National Strategic Infrastructure Corridor Initiative Volume II – Dalton District Infrastructure & Maintenance Authority A Comprehensive Policy Proposal

July 2026

To the Members of the Alaska State Legislature, the Governor of Alaska, the Commissioner of the Alaska Department of Transportation & Public Facilities, the Department of Revenue, the Department of Law, Alaska Native organizations, local governments, transportation professionals, industry stakeholders, and the citizens of Alaska:

I am pleased to transmit **Volume II of the National Strategic Infrastructure Corridor Initiative**, *Dalton District Infrastructure & Maintenance Authority (DDIMA): A Comprehensive Policy Proposal*. This volume presents a governance framework for the long-term stewardship, maintenance, operation, financing, and strategic development of Alaska’s Dalton District—one of the nation’s most strategically significant transportation corridors.

The proposal contained within this publication builds upon the national policy framework established in **Volume I** by addressing a fundamental question: *How should Alaska organize itself to effectively manage infrastructure whose importance extends well beyond traditional transportation?* While the Dalton Highway and Elliott Highway have historically been managed as components of Alaska’s statewide highway system, the increasing demands placed upon the corridor by energy production, critical mineral development, Arctic operations, national defense, emergency response, and interstate commerce warrant consideration of a governance model specifically tailored to its unique mission.

The Dalton District Infrastructure & Maintenance Authority is proposed as a public corporation and instrumentality of the State of Alaska, administratively attached to the Alaska Department of Transportation & Public Facilities. Rather than replacing the Department’s existing responsibilities, DDIMA is intended to strengthen them by providing dedicated leadership, specialized expertise, long-term asset management, diversified funding opportunities, and strategic planning focused exclusively on the Dalton District. This approach reflects successful governance models already employed throughout Alaska, including the Alaska Railroad Corporation and the Alaska Industrial Development and Export Authority, while preserving legislative oversight and public accountability.

This proposal recognizes that transportation infrastructure should be managed as a long-term public investment rather than a series of annual maintenance decisions. The corridor faces extraordinary challenges, including Arctic operating conditions, permafrost degradation, increasing freight demand, aging infrastructure, climate resilience, workforce shortages, and rising maintenance costs. Addressing these challenges requires an institution capable of integrating engineering, finance, operations, strategic planning, and interagency coordination

into a unified governance framework that looks decades into the future rather than budget cycle to budget cycle.

The framework presented in this volume is intended to encourage discussion rather than prescribe a final organizational structure. It provides policymakers with a comprehensive policy foundation for evaluating whether a dedicated public corporation can improve the preservation, reliability, resilience, and financial sustainability of Alaska's most strategically important transportation corridor. As such, this publication is offered as a **working draft** for continued review by legislators, transportation professionals, legal counsel, industry representatives, Alaska Native organizations, local governments, federal partners, and the public.

This volume should be read alongside the other publications in the National Strategic Infrastructure Corridor Initiative. **Volume I** establishes the strategic justification for recognizing nationally significant transportation corridors; **Volume III** translates the concepts presented here into proposed Alaska statutory language establishing DDIMA; **Volume III-A** provides a detailed section-by-section legislative analysis; **Volume IV** proposes complementary amendments to federal law; and **Volumes V and VI** provide the supporting technical data, implementation strategy, and long-term roadmap necessary for successful execution.

It is my sincere hope that this proposal contributes to a constructive dialogue regarding the future governance of the Dalton District and provides Alaska with a practical framework for preserving infrastructure that supports the State's economy, strengthens America's Arctic presence, advances national security, and serves future generations through responsible stewardship and strategic investment.

Respectfully submitted,

Roger Brown

Author, *National Strategic Infrastructure Corridor Initiative*

Fairbanks, Alaska

July 2026

Foreword

The Dalton Highway is one of the most strategically significant transportation corridors in the United States. It provides the only year-round overland access to Alaska's North Slope energy resources, supports domestic energy production, enables critical mineral development, strengthens Arctic security, and sustains the communities and industries that depend upon reliable transportation in one of the world's most demanding operating environments.

Despite its national importance, the corridor is managed under the same funding and administrative framework applied to transportation facilities whose missions, operating conditions, and strategic value differ substantially. Increasing maintenance demands, extreme environmental conditions, deferred infrastructure needs, and expanding national interests require a governance model that provides dedicated leadership, stable funding, and long-term strategic planning.

This volume presents the Dalton District Infrastructure & Maintenance Authority (DDIMA) as a proposed governance framework to meet those needs. Rather than replacing existing state responsibilities, DDIMA is intended to strengthen them by providing a dedicated organizational structure focused exclusively on preserving, operating, and improving Alaska's most strategically important transportation corridor.

Although developed specifically for the Dalton Highway, the principles presented in this proposal may serve as a model for other transportation corridors whose importance extends beyond traditional transportation planning and into the broader national interest.

Roger Brown

Fairbanks, Alaska

July 2026

Preface

Volume II presents the comprehensive policy proposal for establishing the **Dalton District Infrastructure & Maintenance Authority (DDIMA)** within the Alaska Department of Transportation & Public Facilities. It expands upon the strategic vision introduced in Volume I by translating broad policy concepts into a practical governance framework for the Dalton Highway Corridor.

The proposal examines the responsibilities, organizational structure, funding authorities, operational functions, and long-term objectives of a dedicated corridor authority. It also explores the relationship between DDIMA, existing state agencies, federal partners, local governments, tribal organizations, industry stakeholders, and the public.

While the recommendations focus on the Dalton Highway—from approximately Milepost 32 to Deadhorse—they are intended to demonstrate how dedicated governance can improve the stewardship of transportation corridors that serve national defense, domestic energy production, critical mineral development, Arctic operations, emergency response, and interstate commerce.

This volume should be read in conjunction with the remaining publications in the **National Strategic Infrastructure Corridor Initiative**. Together, the six-volume series presents a comprehensive framework for identifying, designating, governing, funding, and sustaining transportation corridors of national strategic importance.

The objective of this proposal is not to create an additional layer of government, but to provide a focused governance model capable of preserving one of Alaska’s most important transportation assets while supporting the long-term economic, security, and strategic interests of both the State of Alaska and the United States.

Table of Contents

Contents

Letter of Transmittal.....	ii
Foreword.....	iv
Preface.....	v
Table of Contents.....	vi
Acronyms.....	vii
Definitions.....	viii
Chapter 1 - Purpose and Vision.....	1
Chapter 2 - Historical Background.....	3
Chapter 3 - Why the Dalton District Matters.....	5
Chapter 4 - Current Governance Structure and Emerging Challenges.....	7
Chapter 5 - Future Demand and Strategic Importance.....	10
Chapter 6 - National Security, Energy Security, and Arctic Readiness.....	12
Chapter 7 - Climate Resilience and Long-Term Asset Management.....	15
Chapter 8 - The Dalton District Infrastructure & Maintenance Authority.....	17
Chapter 9 - Governance Structure.....	20
Chapter 10 - Funding Strategy and Financial Sustainability.....	24
Chapter 11 - Operations, Maintenance, and Corridor Management.....	28
Chapter 12 - Strategic Partnerships and Interagency Coordination.....	32
Chapter 13 - Implementation Strategy.....	35
Chapter 14 - Performance Measurement, Accountability, and Expected Outcomes.....	38
Chapter 15 - Legal Framework and Statutory Authority.....	41
Chapter 16 - Financial Analysis and Economic Benefits.....	45
Chapter 17 - Case Studies, Best Practices, and Lessons Learned.....	48
Chapter 18 - Conclusions and Recommendations.....	52

Acronyms

Purpose

This section identifies abbreviations and acronyms used throughout the *National Strategic Infrastructure Corridor Initiative*. Unless otherwise noted, acronyms are defined at their first use in each volume and are included here for quick reference.

Federal Agencies

DOT — U.S. Department of Transportation

FEMA — Federal Emergency Management Agency

FHWA — Federal Highway Administration

Transportation Planning

NSICI — National Strategic Infrastructure Corridor Initiative

Transportation & Infrastructure

AI — Artificial Intelligence

GIS — Geographic Information System

ITS — Intelligent Transportation Systems

Alaska-Specific Examples

AIDEA — Alaska Industrial Development and Export Authority

DDIMA — Dalton District Infrastructure and Maintenance Authority

Definitions

Purpose

The following definitions establish a common vocabulary for the National Strategic Infrastructure Corridor Initiative. Unless otherwise specified by Federal statute or regulation, these definitions apply throughout this publication.

Asset Management

A systematic process for maintaining, upgrading, operating, and replacing infrastructure in a cost-effective manner throughout its lifecycle.

Corridor

A transportation route or interconnected network of transportation facilities that supports the movement of people, freight, energy, resources, military assets, or other nationally significant activities.

Lifecycle Asset Management

A comprehensive approach to planning, preserving, maintaining, rehabilitating, and replacing transportation infrastructure to maximize long-term value while minimizing total lifecycle costs.

National Interest

The collective economic, security, energy, defense, emergency preparedness, environmental, and societal objectives supported by transportation infrastructure.

National Strategic Infrastructure Corridor

A transportation corridor designated by the Secretary of Transportation because of its exceptional contribution to one or more national interests, including national defense, domestic energy production, critical mineral development, interstate commerce, emergency preparedness, Arctic operations, or long-term economic resilience.

Preventive Maintenance

Planned maintenance activities performed to preserve infrastructure condition, extend service life, improve reliability, and reduce long-term lifecycle costs.

Resilience

The ability of transportation infrastructure to prepare for, withstand, recover from, and adapt to natural hazards, technological changes, cyber threats, operational disruptions, and other adverse events.

Stewardship

The responsible planning, operation, preservation, maintenance, and improvement of transportation infrastructure to ensure its continued service for present and future generations.

Sustainability

The ability to manage transportation infrastructure in a manner that supports long-term economic, environmental, and operational performance while preserving resources for future generations.

Interpretation

Unless specifically defined by Federal law or regulation, terms used throughout this publication should be interpreted in a manner consistent with the objectives of the National Strategic Infrastructure Corridor Initiative. Where conflicts exist between these definitions and applicable statutes or regulations, the statutory or regulatory definitions shall govern.

Chapter 1 - Purpose and Vision

Purpose

The purpose of the Dalton District Infrastructure & Maintenance Authority (DDIMA) is to establish a permanent governance structure dedicated exclusively to the stewardship, preservation, financing, maintenance, operation, and long-term improvement of Alaska's Dalton District.

The Dalton District consists of Elliott Highway Milepost 28 through Milepost 152 and Dalton Highway Milepost 0 through Milepost 414, and the Tofty Road.

The Elliott Highway from Milepost 28 through Milepost 73 and the Dalton Highway together form a single, continuous transportation corridor connecting Interior Alaska with the North Slope and Arctic. The Elliott Highway from Milepost 73 through Milepost 152 and the Tofty Road, while part of the Dalton District, are separate spur segments that provide access to interior mining districts and Yukon River villages rather than carrying through-corridor traffic.

Unlike other highway corridors in Alaska, the Dalton District exists primarily to support nationally significant infrastructure and industries while simultaneously providing access for residents, emergency responders, commercial freight, scientific research, tourism, and military operations.

The corridor's unique strategic importance requires a governance model specifically designed to address its operational, environmental, financial, and national security challenges.

Vision

The Dalton District will become North America's premier Arctic transportation corridor by providing safe, reliable, resilient, and sustainable infrastructure supporting national defense, domestic energy production, critical mineral development, Arctic communities, and future economic growth.

Mission

DDIMA exists to preserve and strengthen the Dalton District through dedicated maintenance, long-term asset management, strategic investment, infrastructure resilience, public-private partnerships, responsible financial stewardship, innovation, and accountability.

Guiding Principles

The Authority shall operate under the following principles:

Safety First

Protect motorists, commercial operators, maintenance personnel, and emergency responders.

Stewardship

Protect public investment through proactive maintenance and lifecycle asset management.

Reliability

Maintain uninterrupted year-round access whenever practical.

Resilience

Prepare infrastructure for changing Arctic conditions.

Accountability

Operate transparently through measurable performance standards.

Partnership

Coordinate with federal, state, tribal, local, and private-sector stakeholders.

Innovation

Promote new technologies, construction techniques, and maintenance practices appropriate for Arctic infrastructure.

Chapter 2 - Historical Background

The Dalton Highway was constructed during the 1970s to support construction of the Trans-Alaska Pipeline System (TAPS).

Originally intended as an industrial haul road, the corridor has evolved into one of the most strategically significant transportation systems in North America.

Today it supports North Slope oil production, the Trans-Alaska Pipeline System, commercial freight, Arctic communities, tourism, resource development, emergency response, and scientific research.

The Elliott Highway provides the only highway connection between the Dalton Highway and Alaska's primary highway network, making both highways inseparable components of the Dalton District.

Evolution of the Corridor

The importance of the Dalton District has expanded dramatically since construction.

Emerging projects expected to rely on the corridor include the Willow Development, the Pikka Development, Alaska LNG, the Ambler Mining District, the Livengood Gold Project, Arctic critical mineral development, expanded military operations, fiber optic infrastructure, and utility transmission corridors.

This increasing demand requires governance extending beyond traditional highway maintenance.

Why a New Governance Model

The Dalton District is unlike any other transportation corridor managed by the State of Alaska.

It experiences Arctic temperatures below -60°F, continuous permafrost, remote logistics, limited emergency response capability, high heavy-truck percentages, significant bridge inventory, extensive gravel maintenance, and increasing climate impacts.

Despite these unique conditions, the corridor is managed within the same statewide framework as hundreds of other highways competing for limited maintenance resources.

A dedicated authority would allow Alaska to develop specialized expertise, stable funding, and long-term planning focused exclusively on the Dalton District while remaining fully coordinated with DOT&PF.

Core Objectives

DDIMA seeks to:

- Preserve the Dalton District as a reliable year-round transportation corridor.
- Reduce lifecycle maintenance costs through proactive investment.
- Improve public safety.
- Increase infrastructure resilience.
- Coordinate federal, state, and private investment.
- Support responsible resource development.
- Strengthen national security.
- Protect Alaska's economic competitiveness.
- Improve long-term asset management.
- Ensure future generations inherit a sustainable transportation system.

Chapter 3 - Why the Dalton District Matters

America's Arctic Transportation Corridor

The Dalton District is far more than a remote highway system serving northern Alaska. It is the only year-round overland transportation corridor connecting Interior Alaska to the North Slope and Arctic Ocean, providing critical access to some of the nation's most important energy, resource, defense, and research assets.

Unlike most state highways, the Dalton District serves interests that extend well beyond state boundaries. The corridor supports domestic energy production, national security objectives, critical mineral development, emergency response, scientific research, and Arctic sovereignty. Its continued reliability directly affects Alaska's economy while contributing to broader national strategic objectives.

As federal attention increasingly focuses on Arctic security, supply chain resilience, and domestic resource development, the Dalton District has become infrastructure of both statewide and national importance.

Economic Importance

The Dalton District is the principal freight corridor supporting Alaska's North Slope economy.

The corridor provides year-round access for North Slope oil and gas production, commercial trucking and logistics, fuel distribution, heavy equipment transport, construction materials, utility maintenance, pipeline operations, aviation fuel delivery, community resupply, and tourism.

The economic activity supported by the corridor generates billions of dollars annually through resource development, employment, transportation services, and state revenues.

Reliable transportation is essential to maintaining these industries. Even short-term disruptions can delay projects, increase operating costs, interrupt supply chains, and reduce economic productivity.

Energy Security

Few transportation corridors in the United States have a more direct relationship to domestic energy production than the Dalton District.

The corridor serves as the primary land transportation route supporting the Prudhoe Bay Oil Field, the Kuparuk River Unit, the Alpine Field, the Willow Development, the Pikka Development, Point Thomson, Trans-Alaska Pipeline System operations, and future Alaska LNG infrastructure.

These facilities contribute significantly to domestic energy production and national energy resilience.

Maintaining dependable access to these assets is therefore a matter of both state and national interest.

Critical Minerals

Federal policy increasingly emphasizes domestic production of critical minerals necessary for advanced manufacturing, national defense, renewable energy technologies, and semiconductor production.

The Dalton District is expected to support transportation associated with several emerging mineral development projects, including the Ambler Mining District, the Livengood Gold Project, Brooks Range mineral exploration, and future critical mineral discoveries.

These projects have the potential to substantially increase heavy freight movements while strengthening domestic supply chains for strategically important minerals.

Planning for these future transportation demands should begin well before production reaches full scale.

National Defense and Arctic Security

The Arctic has become an increasingly important region for national defense, homeland security, and strategic competition.

Alaska occupies a unique geographic position as America's Arctic gateway.

The Dalton District supports military logistics, homeland defense, Arctic mobility, emergency response, telecommunications infrastructure, fuel distribution, and strategic infrastructure maintenance.

As Arctic operations expand, transportation reliability becomes increasingly important to both civilian and military missions.

A resilient corridor enhances national preparedness while supporting cooperation among federal, state, and local agencies.

Community Connectivity

Although commonly associated with industrial transportation, the Dalton District also serves residents, visitors, researchers, and emergency responders.

The corridor provides access for Yukon River communities, Wiseman, Coldfoot, Deadhorse, emergency medical response, search and rescue operations, wildland fire response, tourism, scientific research, and recreational access.

Maintaining safe and reliable transportation benefits all corridor users regardless of industry.

A Corridor of National Significance

The Dalton District performs functions that extend well beyond traditional highway transportation.

It is simultaneously an economic corridor, an energy corridor, a defense corridor, a freight corridor, a utility corridor, a communications corridor, a research corridor, and a strategic national asset.

Its governance should reflect these multiple responsibilities through an organization capable of coordinating long-term planning, maintenance, investment, and partnerships across jurisdictions and sectors.

Chapter 4 - Current Governance Structure and Emerging Challenges

Existing Governance

Today, responsibility for the Dalton District rests primarily with the Alaska Department of Transportation & Public Facilities (DOT&PF).

DOT&PF has successfully maintained the corridor for decades under some of the most challenging environmental conditions in North America. Maintenance personnel, equipment operators, engineers, and emergency responders have consistently demonstrated exceptional professionalism in keeping the corridor operational despite extreme weather, remote logistics, and limited resources.

The creation of DDIMA is not intended to replace or diminish the role of DOT&PF. Rather, it is intended to provide additional organizational capacity and long-term financial tools to support the Department's mission.

A Different Type of Highway

Most highways within Alaska's transportation system were designed primarily to connect communities and support regional travel.

The Dalton District serves a fundamentally different purpose.

The corridor experiences exceptionally high heavy-truck percentages, seasonal industrial traffic surges, oversized and overweight freight, Arctic operating conditions, continuous permafrost, remote maintenance logistics, limited construction seasons, significant bridge and drainage infrastructure, and long distances between maintenance facilities.

These characteristics make maintenance substantially different from most other state highways.

Increasing Maintenance Demands

The Dalton District is experiencing increasing maintenance requirements resulting from multiple factors.

These include aging infrastructure, increased freight volumes, more frequent freeze-thaw cycles, permafrost degradation, river erosion, flooding, extreme precipitation events, higher construction costs, equipment replacement needs, and workforce recruitment challenges.

Collectively, these factors have increased both the frequency and cost of maintenance activities.

Deferred Maintenance

Like many transportation agencies across North America, Alaska faces ongoing challenges balancing maintenance needs with available resources.

Deferred maintenance can result in higher long-term repair costs, increased emergency repairs, reduced roadway reliability, greater risk of closures, shorter infrastructure life, and increased operating costs for roadway users.

Addressing maintenance needs early is generally more cost-effective than responding after infrastructure has significantly deteriorated.

Funding Limitations

Current transportation funding mechanisms are largely structured around statewide formulas and capital improvement programs.

While these systems provide important benefits, they offer limited flexibility for developing corridor-specific funding strategies tailored to the Dalton District's unique operational requirements.

In addition, opportunities for partnerships with agencies such as the U.S. Department of Defense, Department of Energy, and other federal programs may require dedicated administrative capacity beyond traditional highway management.

A specialized authority could improve Alaska's ability to pursue diverse funding sources while maintaining legislative oversight and public accountability.

Why Governance Matters

Transportation infrastructure requires more than periodic construction projects.

It requires continuous planning, asset management, lifecycle investment, risk assessment, and coordination among numerous public and private stakeholders.

The Dalton District's growing strategic importance suggests that its long-term management should evolve accordingly.

Creating DDIMA would allow Alaska to retain DOT&PF's engineering and operational expertise while adding a dedicated governance framework focused exclusively on preserving and strengthening one of the state's—and the nation's—most strategically important transportation corridors.

Chapter 5 - Future Demand and Strategic Importance

Planning for the Next Fifty Years

The Dalton District was originally constructed to support construction and operation of the Trans-Alaska Pipeline System. While that mission remains essential, the corridor's role has expanded considerably and is expected to continue evolving over the coming decades.

Transportation planning should not be based solely on current traffic volumes, but on the infrastructure required to support future economic development, national security, and long-term public investment. Decisions made today will determine whether the corridor is capable of meeting Alaska's future transportation needs or whether future development is constrained by inadequate infrastructure.

The Dalton District should therefore be planned as a strategic corridor whose capacity, resilience, and reliability are designed for future demand rather than historic conditions.

Projected Freight Growth

Several major projects currently under development or in advanced planning stages are expected to significantly increase commercial traffic within the Dalton District.

These include the Willow Development, the Pikka Development, Alaska LNG, the Ambler Mining District, the Livengood Gold Project, continued North Slope oil development, future critical mineral projects, Arctic telecommunications infrastructure, utility transmission corridors, and military infrastructure investments.

Each project independently represents a meaningful increase in freight movement. Collectively, they could substantially increase demand for year-round transportation capacity, maintenance, emergency response, and corridor management.

Planning should evaluate the cumulative effects of these projects rather than considering each independently.

The Ambler Example

The Ambler Mining District illustrates the importance of long-term corridor planning.

Current transportation studies anticipate substantial freight movement associated with mine construction, operations, fuel deliveries, consumables, and concentrate shipments. These projected traffic increases would be added to existing North Slope industrial traffic rather than replacing it.

Accommodating this level of freight will require not only targeted capital improvements, but also sustained maintenance, asset management, and operational coordination over the life of the project.

Without a dedicated governance structure capable of planning beyond traditional capital project cycles, it will become increasingly difficult to ensure the corridor can support future demand efficiently and safely.

A Shift from Reactive to Strategic Planning

Historically, many transportation improvements have been initiated in response to immediate operational needs.

The Dalton District requires a different approach.

Long-term planning should anticipate increased freight volumes, changing vehicle configurations, oversize and overweight transport, emerging industries, military requirements, climate adaptation, new technologies, and utility corridor expansion.

A strategic governance model enables Alaska to prepare for future demand rather than reacting after infrastructure limitations have become apparent.

Lifecycle Infrastructure Management

Infrastructure investments should be evaluated over their entire service life.

Proactive maintenance, timely rehabilitation, and strategic capital improvements often reduce long-term costs while improving safety and reliability.

DDIMA would emphasize lifecycle asset management by integrating engineering, maintenance, financial planning, and performance monitoring into a unified decision-making process.

Supporting Sustainable Economic Growth

Transportation infrastructure does not create economic development by itself, but it enables it.

Reliable infrastructure provides confidence for private investment by reducing uncertainty regarding freight movement, construction schedules, operating costs, and long-term accessibility.

By providing consistent corridor management and predictable maintenance, DDIMA would help strengthen Alaska's competitiveness for future resource development while supporting responsible stewardship of public infrastructure.

Chapter 6 - National Security, Energy Security, and Arctic Readiness

Strategic Importance Beyond Alaska

The Dalton District is more than a state transportation corridor.

It is an essential component of the nation's Arctic infrastructure network.

As geopolitical competition in the Arctic increases, transportation systems supporting northern operations have become increasingly important to national security, homeland defense, energy resilience, and emergency preparedness.

Maintaining reliable year-round access to Alaska's North Slope is therefore an issue of both state and national interest.

Arctic Security

The Arctic is experiencing rapid geopolitical change.

Growing international interest in Arctic shipping routes, natural resources, and military presence has elevated the strategic importance of northern infrastructure.

The United States has identified the Arctic as a region requiring increased investment in transportation, logistics, communications, and resilience.

The Dalton District provides the only highway connection supporting these objectives.

Military Mobility

Reliable transportation infrastructure is fundamental to military readiness.

The Dalton District supports movement of fuel, heavy equipment, construction materials, communications infrastructure, emergency supplies, specialized vehicles, and contractors supporting federal installations.

Future military investments in Alaska are expected to increase demand for dependable transportation infrastructure capable of supporting rapid deployment and sustained operations in Arctic conditions.

Homeland Security

The corridor also supports numerous homeland security functions, including emergency response, disaster recovery, wildland fire response, hazardous material transportation, pipeline response, search and rescue, and public safety operations.

Maintaining reliable access during emergencies enhances Alaska’s overall resilience while supporting coordination among state and federal agencies.

Energy Security

The Dalton District is inseparable from America’s domestic energy infrastructure.

The corridor supports transportation associated with Prudhoe Bay, Kuparuk, Alpine, Willow, Pikka, Point Thomson, the Trans-Alaska Pipeline System, and future Alaska LNG development.

Reliable transportation directly supports continued energy production, facility maintenance, construction activities, and emergency response.

Protecting transportation reliability therefore contributes directly to national energy resilience.

Critical Minerals

Federal policy increasingly emphasizes domestic production of strategic and critical minerals essential for defense manufacturing, electronics, renewable energy, aerospace, telecommunications, and advanced manufacturing.

Several of Alaska’s largest prospective mineral developments rely directly or indirectly on the Dalton District for transportation access.

Long-term corridor planning should recognize this growing national priority.

Infrastructure Resilience

Transportation resilience has become an essential component of national security.

Extreme weather, permafrost degradation, flooding, erosion, and natural hazards can interrupt transportation and increase maintenance costs.

DDIMA would emphasize resilience by integrating climate adaptation, engineering innovation, risk management, and proactive maintenance into long-term infrastructure planning.

Building resilience before failures occur is generally more cost-effective than repeated emergency repairs.

A National Investment

Although owned and maintained by the State of Alaska, the Dalton District serves interests extending far beyond state boundaries.

Its continued reliability benefits the State of Alaska, the United States economy, national energy production, domestic critical mineral supply chains, Arctic defense, scientific research, rural communities, commercial transportation, and future generations of Americans.

For these reasons, the Dalton District should be viewed not only as a state highway system, but as nationally significant infrastructure deserving coordinated state and federal investment.

Chapter 7 - Climate Resilience and Long-Term Asset Management

Preparing the Dalton District for the Next Century

The Dalton District operates in one of the world's most challenging transportation environments. Unlike most highway systems, its long-term performance is influenced as much by changing environmental conditions as by traffic volumes.

Continuous permafrost, seasonal flooding, river migration, erosion, wildfire, freeze-thaw cycles, and extreme weather create maintenance challenges that require specialized engineering, long-term planning, and sustained investment.

Maintaining the corridor over the coming decades will require a shift from reactive maintenance to proactive asset management focused on resilience and lifecycle performance.

Changing Arctic Conditions

Across northern Alaska, transportation infrastructure is increasingly affected by permafrost degradation, thermokarst development, increased precipitation, more frequent freeze-thaw cycles, riverbank erosion, culvert failures, slope instability, wildfire impacts, and changing hydrology.

These conditions accelerate roadway deterioration while increasing both construction and maintenance costs.

Traditional maintenance practices alone cannot fully address these evolving challenges.

A Lifecycle Management Approach

DDIMA would adopt a comprehensive asset management philosophy emphasizing the entire lifecycle of transportation infrastructure.

Rather than focusing primarily on repairing failures after they occur, the Authority would prioritize early intervention, preventive maintenance, condition monitoring, risk-based investment, predictive maintenance, engineering innovation, and performance measurement.

This approach improves long-term reliability while reducing total ownership costs.

Climate Resilience as Infrastructure Stewardship

Climate resilience should not be viewed solely as an environmental objective.

For the Dalton District, resilience means protecting transportation reliability despite changing environmental conditions.

Examples include raising roadway grades where necessary, improving drainage capacity, stabilizing embankments, strengthening bridge foundations, utilizing improved gravel and aggregate materials, dust suppression strategies, permafrost protection techniques, and remote monitoring technologies.

These investments improve reliability while reducing future maintenance costs.

Technology and Innovation

The Authority should actively evaluate new technologies appropriate for Arctic transportation, including remote roadway monitoring, bridge health monitoring systems, automated weather stations, avalanche detection, drone inspections, digital asset inventories, Intelligent Transportation Systems (ITS), AI-assisted maintenance planning, and predictive pavement management.

Innovation should complement—not replace—the experience and expertise of Alaska’s transportation professionals.

Engineering Research

Because the Dalton District presents engineering challenges unlike those found elsewhere in the United States, DDIMA should encourage partnerships with the University of Alaska, the Federal Highway Administration, the U.S. Army Corps of Engineers, the Cold Regions Research and Engineering Laboratory (CRREL), national laboratories, and industry partners.

Applied research can improve construction techniques while reducing long-term maintenance costs.

Preserving Public Investment

The Dalton District represents billions of dollars in public infrastructure.

Protecting that investment requires more than periodic reconstruction.

It requires continuous monitoring, strategic maintenance, long-range planning, sustainable funding, institutional knowledge, and performance evaluation.

DDIMA would provide the organizational framework necessary to preserve these assets for future generations.

Chapter 8 - The Dalton District Infrastructure & Maintenance Authority

Purpose of the Authority

The Dalton District Infrastructure & Maintenance Authority (DDIMA) is proposed as a public corporation and instrumentality of the State of Alaska, established within the Department of Transportation & Public Facilities (DOT&PF) while exercising independent powers as provided by law.

The Authority would provide dedicated leadership for planning, financing, maintaining, preserving, and improving the Dalton District while coordinating closely with existing state and federal agencies.

Its purpose is not to replace DOT&PF, but to provide specialized governance for a transportation corridor whose strategic importance and operational requirements exceed those of a traditional highway.

Why an Authority?

Public authorities have long been used to manage infrastructure requiring specialized expertise, dedicated funding, and long-term decision-making.

Examples include airport authorities, port authorities, bridge authorities, and public development corporations.

The Dalton District shares many of these characteristics: dedicated users, specialized maintenance, long asset life, significant capital requirements, multiple funding partners, national strategic importance, and complex stakeholder relationships.

A dedicated authority allows these issues to be managed through focused governance while maintaining accountability to the State.

Core Responsibilities

DDIMA would be responsible for:

DDIMA's infrastructure management responsibilities include roadway maintenance, bridge preservation, drainage systems, gravel operations, slope stabilization, dust control, and snow and ice management.

The Authority's capital improvement responsibilities include corridor modernization, capacity improvements, safety enhancements, rest areas, pullouts, maintenance facilities, and equipment replacement.

Asset management responsibilities include infrastructure inventories, lifecycle planning, condition assessments, performance monitoring, risk management, and preventive maintenance scheduling.

Strategic planning responsibilities include freight forecasting, corridor master planning, climate adaptation, utility coordination, emergency preparedness, and long-range investment planning.

Partnership development responsibilities involve coordination with federal agencies, Alaska Native organizations, local governments, industry, utilities, research institutions, and military partners.

Guiding Philosophy

DDIMA would operate under a simple principle:

Maintain first. Improve second. Expand when justified.

Transportation systems provide the greatest public value when existing infrastructure is preserved before major reconstruction becomes necessary.

This philosophy encourages disciplined investment while maximizing the useful life of public assets.

Relationship with DOT&PF

DDIMA is intended to strengthen—not duplicate—the work of DOT&PF.

DOT&PF would remain Alaska's lead transportation agency responsible for statewide planning, engineering standards, and project delivery.

DDIMA would provide dedicated corridor planning, alternative financing strategies, specialized asset management, stakeholder coordination, long-term maintenance planning, federal partnership development, and performance reporting.

This relationship allows each organization to focus on its comparative strengths while working toward shared transportation objectives.

Authority Powers

Subject to legislative authorization, DDIMA may be empowered to:

- Receive state appropriations
- Accept federal grants
- Enter cooperative agreements
- Issue revenue bonds where authorized
- Execute public-private partnerships
- Acquire and manage property necessary for corridor operations
- Collect authorized user fees and service revenues
- Enter maintenance agreements with public and private entities
- Conduct research and pilot projects
- Employ professional staff
- Contract for engineering, construction, maintenance, and operational services

All powers would be exercised under Alaska law with appropriate legislative oversight, public transparency, and independent financial auditing.

A Long-Term Institution

Transportation infrastructure is measured in decades, not budget cycles.

The Dalton District requires an institution capable of looking beyond annual appropriations and election cycles to ensure continuous stewardship of one of Alaska's most valuable public assets.

DDIMA is intended to become that institution—providing stable governance, responsible financial management, and coordinated planning so the Dalton District continues to serve Alaska and the nation for generations to come.

Chapter 9 - Governance Structure

Governance Philosophy

The Dalton District Infrastructure & Maintenance Authority (DDIMA) shall operate under a governance model that balances public accountability, technical expertise, regional representation, and private-sector experience.

The Authority's Board of Directors shall provide strategic direction, establish policy, approve budgets, oversee long-term planning, and ensure that the Dalton District is managed in accordance with its statutory mission.

Board members shall serve as fiduciaries of the Authority and the public interest, recognizing that the Dalton District is a transportation asset of statewide and national significance.

Board of Directors

DDIMA shall be governed by a Board of Directors appointed by the Governor and confirmed by the Alaska Legislature.

The Board should consist of 11 voting members, representing the diverse interests that rely upon the Dalton District.

Recommended membership includes:

- Commissioner of DOT&PF (or designee)
- Commissioner of Revenue or Commerce (or designee)
- Commissioner of Military & Veterans Affairs (or designee)
- Commissioner of Public Safety (or designee)
- One representative of the North Slope Borough
- One representative of Interior Alaska local government
- One representative of Alaska Native organizations with interests along the corridor
- One representative of the trucking and logistics industry
- One representative of Alaska's resource development industries (oil, gas, or mining)
- One representative of engineering, construction, or infrastructure
- One public member with expertise in finance, transportation, or public administration

This composition ensures that decisions reflect technical expertise, operational experience, public accountability, and the interests of communities and industries served by the corridor.

Executive Director

The Board shall appoint an Executive Director responsible for the day-to-day administration of DDIMA.

The Executive Director shall:

- Implement Board policy.
- Prepare annual budgets.
- Administer contracts.
- Coordinate with DOT&PF.
- Pursue state and federal funding opportunities.
- Oversee strategic planning.
- Supervise Authority personnel.
- Prepare annual reports.

The Executive Director should possess substantial experience in transportation, engineering, infrastructure management, public administration, or related fields.

Advisory Committees

The Board may establish advisory committees to provide technical expertise and stakeholder input.

Potential committees include:

Engineering and Infrastructure

Providing recommendations regarding roadway design, bridges, permafrost, drainage, construction standards, and research.

Freight and Industry

Providing guidance regarding commercial transportation, resource development, oversize freight, supply chain planning, and economic trends.

Public Safety and Emergency Response

Providing recommendations regarding emergency management, search and rescue, hazardous materials, avalanche response, wildfire coordination, and incident management.

Community and Tribal Relations

Providing ongoing consultation with Alaska Native organizations, local governments, rural communities, tourism interests, and public stakeholders.

Board Responsibilities

The Board shall:

- Adopt strategic plans.
- Approve annual budgets.
- Establish financial policies.
- Approve major capital investments.
- Adopt maintenance priorities.
- Monitor performance metrics.
- Ensure financial accountability.
- Oversee audits.
- Evaluate the Executive Director.
- Submit annual reports to the Governor and Legislature.

The Board should remain focused on long-term policy and strategic oversight while delegating day-to-day operations to professional staff.

Transparency

Public confidence requires transparent governance.

Accordingly, DDIMA should conduct public meetings consistent with Alaska's Open Meetings Act, publish annual budgets, publish annual performance reports, conduct independent financial audits, maintain publicly available strategic plans, and provide opportunities for stakeholder participation.

Transparency strengthens accountability while building public trust.

Ethics

Board members and employees shall comply with Alaska ethics laws and conflict-of-interest requirements.

Members shall disclose financial interests affecting Authority business and recuse themselves when appropriate.

The Authority should maintain the highest standards of professional integrity.

Long-Term Governance

Transportation infrastructure requires decisions extending decades into the future.

Accordingly, DDIMA should emphasize stability, continuity, professional expertise, long-range planning, fiscal responsibility, and evidence-based decision-making.

Its governance structure should remain insulated from short-term political pressures while remaining fully accountable to the people of Alaska through legislative oversight.

Chapter 10 - Funding Strategy and Financial Sustainability

Introduction

The long-term success of the Dalton District depends upon a funding strategy that is stable, diversified, and resilient.

Historically, the corridor has relied primarily on annual state appropriations and traditional federal highway funding. While these funding sources remain essential, the corridor's expanding strategic importance presents opportunities to pursue additional partnerships and revenue streams.

DDIMA is intended to complement—not replace—existing funding mechanisms by improving Alaska's ability to coordinate investments from multiple public and private sources.

Funding Principles

The Authority shall operate under five guiding financial principles:

Sustainability

Funding mechanisms should support predictable long-term maintenance rather than relying primarily on emergency appropriations.

Diversification

No single funding source should be expected to support the entire corridor.

Instead, DDIMA should pursue a balanced portfolio of state, federal, and partnership funding.

Accountability

All expenditures should be transparent, measurable, and directly tied to the Authority's mission.

Stewardship

Investments should maximize lifecycle value while protecting public resources.

Flexibility

The Authority should be capable of responding quickly to emerging opportunities, emergencies, and changing transportation needs.

State Funding

Potential state funding sources include annual legislative appropriations, capital budget appropriations, designated transportation revenues, general fund appropriations, infrastructure bonds authorized by the Legislature, state grant programs, and cost-sharing agreements with state agencies.

The Legislature shall retain authority over state appropriations and major financial decisions.

Federal Funding

DDIMA should aggressively pursue funding opportunities through multiple federal agencies, recognizing that the Dalton District serves national interests extending beyond traditional highway transportation.

Potential federal partners include:

U.S. Department of Transportation

- National Highway Freight Program
- INFRA Grants
- Rural Surface Transportation Grant Program
- PROTECT Program
- Bridge Investment Program
- Emergency Relief Program

Department of Defense

- Arctic infrastructure initiatives
- Strategic mobility projects
- Military logistics partnerships

Department of Energy

- Critical minerals infrastructure
- Energy corridor development
- Grid resilience initiatives

Federal Emergency Management Agency

- Hazard mitigation
- Disaster recovery
- Infrastructure resilience

Additional opportunities should be pursued as new federal programs become available.

Public-Private Partnerships

Because the Dalton District directly supports industries benefiting from reliable transportation, DDIMA should be authorized to enter voluntary public-private partnership agreements.

Potential partners include oil and gas producers, mining companies, utility providers, telecommunications companies, pipeline operators, commercial freight carriers, and tourism operators.

Such partnerships may include cooperative maintenance agreements, joint infrastructure investments, shared research initiatives, equipment sharing, and emergency response coordination.

These agreements should supplement—not replace—the State’s responsibility for maintaining a public highway.

User Fees

The Legislature may authorize reasonable user fees where appropriate and consistent with state and federal law.

Examples could include oversize and overweight permits, commercial access agreements, utility corridor occupancy, special use permits, facility leases, and communications infrastructure agreements.

Any user fee program should be transparent, equitable, and directly related to corridor operations and maintenance.

Financial Oversight

DDIMA shall maintain rigorous financial controls, including independent annual audits, multi-year financial planning, capital improvement programming, asset management accounting, public reporting, and legislative oversight.

Strong financial management is essential to maintaining public confidence and ensuring the Authority fulfills its mission efficiently.

Investing in Reliability

Maintenance should be viewed as an investment rather than simply an expense.

Every dollar invested in preventive maintenance has the potential to reduce future reconstruction costs, improve public safety, minimize disruptions to commerce, and extend the useful life of infrastructure.

By diversifying funding sources and emphasizing lifecycle asset management, DDIMA can provide a more predictable and sustainable approach to preserving one of Alaska's most strategically important transportation corridors.

Chapter 11 - Operations, Maintenance, and Corridor Management

Introduction

The primary mission of the Dalton District Infrastructure & Maintenance Authority is to ensure the Dalton District remains safe, reliable, and operational throughout the year.

Unlike many transportation agencies whose primary focus is capital construction, DDIMA places equal emphasis on preserving existing infrastructure through proactive maintenance, operational excellence, and lifecycle asset management.

Maintaining the Dalton District is not simply a transportation function—it is essential to supporting public safety, economic development, national security, and the uninterrupted movement of goods and services throughout Alaska’s Arctic.

Maintenance Philosophy

DDIMA shall operate under a maintenance philosophy centered on **preservation before reconstruction**.

This philosophy recognizes that preventive maintenance costs less than emergency repair, well-maintained infrastructure lasts significantly longer, reliable transportation improves public safety, consistent maintenance reduces long-term lifecycle costs, and planned investments minimize disruptions to commerce.

Maintenance decisions should be driven by engineering data, asset condition, operational performance, and long-term financial stewardship.

Routine Maintenance

Routine maintenance activities include:

Roadway Maintenance

- Grading
- Gravel replacement
- Surface stabilization
- Dust suppression
- Pothole repair
- Shoulder maintenance

- Vegetation management

Winter Operations

- Snow removal
- Ice control
- Drift management
- Avalanche monitoring
- Road condition reporting
- Winter weather response

Drainage

- Culvert inspection
- Culvert replacement
- Ditch maintenance
- Erosion repair
- Flood mitigation
- Water crossing maintenance

Bridge Maintenance

- Structural inspections
- Deck maintenance
- Bearing replacement
- Corrosion control
- Scour monitoring
- Preventive rehabilitation

Traffic Safety

- Sign maintenance
- Delineators
- Guardrail repair

- Pullout maintenance
- Rest area maintenance
- Pavement markings where applicable

Emergency Operations

The Dalton District routinely experiences conditions requiring immediate response.

DDIMA shall maintain emergency response capabilities for:

- Flood damage
- Washouts
- Wildfires
- Avalanches
- Hazardous material incidents
- Bridge emergencies
- Major collisions
- Pipeline-related emergencies
- Natural disasters

Emergency response plans shall be coordinated with:

- DOT&PF
- Alaska State Troopers
- Department of Public Safety
- North Slope Borough
- Alaska Department of Environmental Conservation
- Federal agencies
- Pipeline operators
- Local emergency responders

Maintenance Facilities

DDIMA should maintain and modernize maintenance facilities strategically located throughout the Dalton District.

Facilities should support equipment storage, materials management, employee housing, emergency response, communications, fleet maintenance, and fuel storage.

Future facility investments should consider long-term operational efficiency and changing transportation demands.

Equipment Management

The Authority shall maintain specialized Arctic equipment appropriate for year-round operations.

Fleet planning should emphasize reliability, standardization, lifecycle replacement, operator safety, fuel efficiency, and Arctic performance.

Equipment replacement schedules should be based on condition and operational requirements rather than age alone.

Technology Integration

DDIMA should integrate modern technology throughout corridor operations.

Examples include remote weather stations, road surface sensors, bridge monitoring systems, satellite communications, UAV (drone) inspections, GIS asset management, GPS fleet management, digital maintenance records, and AI-assisted predictive maintenance.

Technology should improve decision-making while supporting—not replacing—the experience of field personnel.

Operational Coordination

The Authority shall coordinate closely with DOT&PF, Alaska State Troopers, the Department of Military & Veterans Affairs, pipeline operators, utility companies, commercial carriers, mining companies, oil and gas operators, tourism organizations, and Alaska Native organizations.

This coordination ensures maintenance priorities align with corridor users while preserving public safety and infrastructure reliability.

Success Measures

Operational success should be evaluated using measurable indicators, including corridor availability, emergency response times, road closure duration, maintenance completion rates, infrastructure condition, safety performance, customer satisfaction, and cost efficiency.

These measures should be reported publicly through an annual performance report.

Chapter 12 - Strategic Partnerships and Interagency Coordination

Introduction

The Dalton District supports an unusually diverse group of stakeholders.

Unlike traditional highway systems, the corridor serves state agencies, federal agencies, local governments, Alaska Native organizations, private industry, research institutions, military organizations, utilities, and the traveling public.

Effective management requires continuous coordination among these partners.

DDIMA is intended to serve as the central coordinating organization that aligns these interests while preserving the Authority's core mission of maintaining and improving the Dalton District.

State Partnerships

The Authority shall work closely with:

Alaska Department of Transportation & Public Facilities

Coordination shall include engineering standards, project delivery, maintenance support, statewide transportation planning, and capital improvement programming.

DOT&PF remains Alaska's lead transportation agency, while DDIMA provides corridor-specific governance and long-term strategic planning.

Department of Revenue

Coordination should also address financial management, dedicated funds, bond administration, revenue forecasting, and investment management.

Department of Commerce, Community, and Economic Development

Additional coordination should address economic development, resource industries, tourism, public-private partnerships, and community engagement.

Department of Military & Veterans Affairs

Coordination should further address Arctic readiness, emergency planning, military mobility, homeland security, and infrastructure resilience.

Department of Public Safety

Coordination should also cover emergency response, incident management, search and rescue, hazardous materials, and traffic safety.

Federal Partnerships

Because the Dalton District serves national interests, DDIMA should maintain active partnerships with the Federal Highway Administration, the U.S. Department of Transportation, the U.S. Department of Defense, the U.S. Department of Energy, the Federal Emergency Management Agency, the Bureau of Land Management, the National Park Service, the U.S. Fish & Wildlife Service, the U.S. Army Corps of Engineers, and the Cold Regions Research and Engineering Laboratory (CRREL).

These partnerships strengthen Alaska's ability to leverage federal expertise and funding while ensuring compliance with applicable federal requirements.

Alaska Native Organizations

The Authority recognizes the importance of meaningful consultation and collaboration with Alaska Native organizations whose traditional lands, communities, and cultural resources are connected to the Dalton District.

Coordination should include early consultation, traditional knowledge, subsistence considerations, cultural resource protection, workforce development, and economic opportunities.

Respectful engagement strengthens project outcomes and long-term relationships.

Private Industry

Reliable transportation is essential to numerous industries operating along the corridor.

DDIMA should establish formal working relationships with oil and gas producers, mining companies, commercial trucking companies, pipeline operators, telecommunications providers, electric utilities, tourism operators, and construction contractors.

Industry collaboration should focus on improving safety, efficiency, and long-term infrastructure performance while preserving the public character of the corridor.

Research and Education

The Authority should promote applied research through partnerships with the University of Alaska, the FHWA Turner-Fairbank Highway Research Center, CRREL, national laboratories, engineering consultants, and industry research organizations.

Research priorities should address Arctic engineering challenges, infrastructure resilience, transportation innovation, and lifecycle asset management.

Public Engagement

Public confidence requires meaningful engagement throughout planning and implementation.

The Authority should provide opportunities for public meetings, community workshops, Tribal consultation, stakeholder advisory groups, annual reports, public comment periods, and online project information.

Open communication promotes transparency, accountability, and informed decision-making.

Building Lasting Partnerships

No single agency or organization can successfully manage the Dalton District in isolation.

The corridor's long-term success depends upon sustained cooperation among public agencies, private industry, Alaska Native organizations, local communities, researchers, and the traveling public.

DDIMA is intended to provide the institutional framework that brings these partners together around a shared objective: preserving and strengthening one of America's most strategically important Arctic transportation corridors for the benefit of Alaska and the nation.

Chapter 13 - Implementation Strategy

Introduction

Establishing the Dalton District Infrastructure & Maintenance Authority (DDIMA) should be accomplished through a deliberate, phased approach that minimizes disruption to existing operations while providing a clear path toward long-term success.

The objective is not to replace existing transportation institutions, but to build upon the strengths of DOT&PF by creating a specialized organization capable of addressing the Dalton District's unique operational, financial, and strategic requirements.

Implementation should occur over several years, allowing the Authority to mature while maintaining uninterrupted transportation services.

Phase I — Legislative Authorization

The first phase consists of legislative action establishing DDIMA in Alaska statute.

Legislation should create the Authority, establish the Dalton District Infrastructure Fund, define the Authority's powers and responsibilities, create the Board of Directors, authorize appointment of an Executive Director, establish reporting requirements, authorize the Authority to pursue state and federal funding, and define its relationship with DOT&PF and other state agencies.

Following enactment, the Governor would appoint the initial Board of Directors subject to legislative confirmation.

Phase II — Organizational Development

Following legislative authorization, the Authority would begin organizational development.

Initial activities should include hiring executive leadership, developing administrative policies, establishing financial systems, creating operating procedures, preparing a five-year Strategic Plan, developing an Asset Management Plan, conducting a comprehensive corridor condition assessment, and identifying immediate maintenance priorities.

During this phase, DOT&PF would continue performing maintenance responsibilities while providing technical support to the Authority.

Phase III — Strategic Planning

Once organizational capacity is established, DDIMA should prepare several foundational planning documents.

These include:

Dalton District Master Plan

A long-term vision for corridor development.

Asset Management Plan

Comprehensive inventory and condition assessment of all transportation assets.

Capital Improvement Program

Identification and prioritization of long-term capital investments.

Maintenance Management Plan

Preventive maintenance schedules, operational standards, and lifecycle planning.

Emergency Response Plan

Coordination procedures for natural disasters, infrastructure failures, hazardous materials, and other emergencies.

Climate Resilience Strategy

Identification of vulnerabilities and recommended adaptation measures.

Research and Innovation Strategy

Priorities for applied research and technology deployment.

Phase IV — Funding Development

The Authority should immediately begin pursuing diversified funding opportunities.

Priority actions include applying for federal grants, developing cooperative agreements, establishing public-private partnerships, identifying dedicated revenue sources authorized by law, and coordinating with congressional and federal agency partners.

A diversified funding portfolio improves long-term financial stability while reducing dependence upon annual appropriations.

Phase V — Operational Maturity

As the Authority matures, it should expand its capabilities through advanced asset management systems, improved performance measurement, enhanced emergency preparedness, corridor-wide engineering standards, expanded research partnerships, workforce development, and continuous improvement initiatives.

The objective is to establish DDIMA as a nationally recognized leader in Arctic transportation management.

Transition Principles

Throughout implementation, the following principles should guide decision-making: no interruption of transportation services, close coordination with DOT&PF, fiscal responsibility, transparent governance, public accountability, incremental organizational growth, and evidence-based decision-making.

Implementation should remain flexible to accommodate future legislative direction, funding opportunities, and changing transportation needs.

Long-Term Vision

The creation of DDIMA should be viewed as a generational investment.

Just as the Trans-Alaska Pipeline System transformed Alaska's economy, a dedicated governance structure can help ensure the Dalton District continues supporting future generations through reliable infrastructure, responsible stewardship, and strategic investment.

Chapter 14 - Performance Measurement, Accountability, and Expected Outcomes

Introduction

Public infrastructure requires public accountability.

DDIMA shall establish measurable performance standards to evaluate operational effectiveness, financial stewardship, infrastructure condition, and customer service.

Performance measurement promotes transparency while ensuring investments produce meaningful public benefits.

Annual reporting should provide the Governor, Legislature, stakeholders, and the public with a clear understanding of the Authority's progress.

Performance Objectives

The Authority's performance management system should be guided by six primary objectives: safety, reliability, stewardship, financial responsibility, resilience, and customer service.

Each objective should include measurable performance indicators evaluated annually.

Infrastructure Performance

Key infrastructure indicators may include roadway condition ratings, bridge condition ratings, gravel surface quality, drainage system performance, dust control effectiveness, pavement preservation where applicable, maintenance backlog, and infrastructure lifecycle trends.

These measures help prioritize future investments while documenting long-term improvements.

Operational Performance

Operational indicators should include corridor availability, unplanned road closures, emergency response times, snow and ice response, maintenance completion rates, equipment availability, project delivery performance, and workforce safety.

Reliable operations are fundamental to public confidence and economic activity.

Financial Performance

Financial indicators should include budget adherence, cost per lane-mile maintained, preventive versus corrective maintenance expenditures, federal funding secured, return on capital

investments, administrative efficiency, asset replacement funding, and long-term financial sustainability.

These measures ensure responsible stewardship of public resources.

Economic Performance

The Authority should evaluate its contribution to Alaska's economy through indicators such as freight reliability, commercial corridor usage, transportation cost trends, infrastructure support for resource development, investment leveraged through partnerships, and economic activity supported by corridor improvements.

While DDIMA cannot directly control economic growth, reliable infrastructure is an essential enabling factor.

Public Accountability

Transparency shall remain a defining characteristic of the Authority.

DDIMA should publish annual reports, five-year strategic updates, financial audits, performance dashboards, board meeting materials, capital improvement plans, and asset condition summaries.

Public access to information strengthens confidence in the Authority and supports informed legislative oversight.

Continuous Improvement

Performance measurement is intended not only to document results but to improve future decision-making.

DDIMA should regularly evaluate maintenance practices, engineering standards, technology deployment, organizational efficiency, workforce development, financial strategies, and stakeholder engagement.

Lessons learned should be incorporated into future planning and operations.

Expected Outcomes

Successful implementation of DDIMA is expected to produce measurable long-term benefits, including improved infrastructure reliability, reduced lifecycle maintenance costs, increased public safety, enhanced emergency preparedness, greater climate resilience, improved coordination among agencies and stakeholders, expanded access to federal funding, stronger support for energy production, critical minerals, and national defense, increased investor

confidence through predictable infrastructure management, and preservation of Alaska's most strategically significant transportation corridor for future generations.

Conclusion

The Dalton District Infrastructure & Maintenance Authority represents an investment in governance as much as infrastructure. By establishing a dedicated organization focused on long-term stewardship, Alaska can move beyond a reactive maintenance model toward a comprehensive strategy that emphasizes preservation, resilience, accountability, and strategic investment.

The success of DDIMA should ultimately be measured not only by the condition of the roadway, but by its ability to ensure that the Dalton District continues to safely and reliably support Alaska's economy, its communities, and the national interests it serves.

Chapter 15 - Legal Framework and Statutory Authority

Introduction

The Dalton District Infrastructure & Maintenance Authority (DDIMA) is intended to provide a durable legal framework for the long-term governance of Alaska's most strategically significant transportation corridor.

Rather than creating an entirely new transportation agency, the Authority would be established as a public corporation and instrumentality of the State of Alaska within the Department of Transportation & Public Facilities (DOT&PF), exercising independent powers as authorized by the Legislature.

This governance model allows DDIMA to benefit from DOT&PF's technical expertise while providing the flexibility necessary to pursue innovative financing, long-term planning, and multi-agency coordination.

Legislative Findings

The Legislature may find that:

- The Dalton District is essential to Alaska's economy.
- The corridor supports infrastructure of national significance.
- Long-term stewardship requires specialized governance.
- Existing transportation funding mechanisms are insufficient to address future maintenance demands alone.
- Dedicated corridor management improves efficiency, accountability, and resilience.
- Coordinated state and federal investment serves the public interest.

These findings establish the legal basis for creating DDIMA.

Establishment of the Authority

The Dalton District Infrastructure & Maintenance Authority shall be established within the Department of Transportation & Public Facilities as a public corporation and instrumentality of the State of Alaska.

The Authority shall possess perpetual succession unless otherwise provided by law.

Its powers shall be exercised independently except where specifically limited by statute.

The Authority shall not diminish the constitutional or statutory responsibilities of DOT&PF but shall complement the Department through specialized corridor governance.

Jurisdiction

The Authority shall exercise responsibility over the Dalton District, consisting of Elliott Highway Milepost 28 through Milepost 152 and Dalton Highway Milepost 0 through Milepost 414, and the Tofty Road.

Additional transportation facilities may be incorporated into the District by future legislative action.

General Powers

Subject to legislative authorization, DDIMA may:

- Adopt bylaws.
- Adopt regulations consistent with Alaska law.
- Enter contracts.
- Accept grants.
- Receive appropriations.
- Acquire, lease, and dispose of property.
- Employ staff.
- Retain consultants.
- Conduct research.
- Execute cooperative agreements.
- Administer maintenance agreements.
- Manage dedicated funds.
- Acquire equipment.
- Enter public-private partnerships.
- Initiate legal actions necessary to protect Authority interests.

Financial Authority

The Authority may be authorized to:

- Receive legislative appropriations.

- Accept federal assistance.
- Accept gifts and donations.
- Receive reimbursements.
- Administer dedicated revenue accounts.
- Issue revenue bonds when specifically authorized by the Legislature.
- Establish reserve funds.
- Invest funds consistent with Alaska law.

All revenues shall remain subject to legislative oversight and public accountability.

Rulemaking Authority

The Authority may adopt regulations necessary to implement its statutory responsibilities.

Regulations shall be adopted in accordance with the Alaska Administrative Procedure Act.

Procurement

DDIMA should utilize procurement procedures emphasizing transparency, competition, best value, public accountability, and ethical conduct.

Whenever practical, procurement policies should remain consistent with existing State procurement statutes while allowing flexibility appropriate for specialized Arctic infrastructure projects.

Ethics and Public Accountability

The Authority shall comply with:

- Alaska Executive Branch Ethics Act.
- Open Meetings Act.
- Public Records Act.
- State financial disclosure requirements.
- Legislative audit requirements.

Board members and employees shall avoid conflicts of interest and conduct Authority business solely in the public interest.

Coordination with Existing Law

Nothing within this proposal is intended to:

- Reduce the authority of DOT&PF.
- Transfer ownership of state highways.
- Alter existing state ownership of transportation infrastructure.
- Affect the authority of local governments except through voluntary agreements.

Instead, DDIMA provides an additional governance structure specifically designed for long-term corridor stewardship.

Legislative Intent

The Legislature intends DDIMA to become a permanent institution dedicated to preserving the Dalton District through responsible financial management, transparent governance, strategic planning, and coordinated public investment.

The Authority should evolve alongside the transportation needs of Alaska while remaining accountable to the people of the State.

Chapter 16 - Financial Analysis and Economic Benefits

Introduction

Transportation infrastructure should be viewed not solely as a public expense, but as a long-term investment supporting economic productivity, public safety, and national security.

The Dalton District generates economic value far exceeding the direct costs of maintaining the roadway. Its continued reliability enables billions of dollars in annual economic activity while supporting industries fundamental to Alaska's prosperity.

The purpose of DDIMA is to improve the efficiency, predictability, and sustainability of those investments.

The Cost of Deferred Maintenance

Deferred maintenance often appears to reduce expenditures in the short term but generally increases long-term costs.

When routine maintenance is postponed, gravel deterioration accelerates, drainage systems fail, permafrost damage expands, bridges require larger repairs, emergency projects become more frequent, construction costs increase, and freight disruptions become more likely.

Preventive maintenance typically delivers substantially greater value than emergency reconstruction.

Lifecycle Cost Management

DDIMA emphasizes lifecycle asset management.

Rather than focusing on annual maintenance expenditures, investment decisions should consider expected service life, future rehabilitation costs, risk of failure, freight impacts, safety, climate resilience, and total ownership cost.

This approach maximizes return on every transportation dollar invested.

Leveraging Federal Investment

One of DDIMA's greatest advantages is its ability to pursue funding opportunities beyond traditional highway programs.

A dedicated authority can coordinate applications across multiple federal agencies while maintaining consistent project priorities.

Potential funding partners include the U.S. Department of Transportation, the Federal Highway Administration, the Department of Defense, the Department of Energy, the Federal Emergency Management Agency, infrastructure resilience programs, and future congressional appropriations.

This diversified approach reduces dependence upon any single funding source.

Supporting Private Investment

Transportation reliability is a critical factor in investment decisions.

Companies considering long-term resource development evaluate infrastructure reliability, transportation costs, project risk, regulatory certainty, and emergency response capability.

A well-managed transportation corridor improves investor confidence while supporting responsible economic development throughout Alaska.

Economic Multipliers

Investment in the Dalton District supports economic activity far beyond the transportation sector.

Benefits extend to oil and gas production, mining, commercial trucking, construction, tourism, equipment suppliers, engineering firms, rural communities, small businesses, and state revenues.

Reliable transportation strengthens every industry depending upon the corridor.

Public Return on Investment

The value of DDIMA should not be measured solely by dollars spent.

Public benefits include improved roadway reliability, reduced travel disruptions, lower long-term maintenance costs, increased public safety, better emergency preparedness, enhanced national security, greater climate resilience, expanded access to federal funding, improved coordination among agencies, and protection of critical public infrastructure.

These benefits accumulate over decades, producing value well beyond annual budgets.

Measuring Financial Success

Financial performance should be evaluated using objective indicators, including federal dollars leveraged for every state dollar invested, reduction in deferred maintenance backlog, percentage of maintenance performed proactively versus reactively, infrastructure condition trends, administrative efficiency, return on capital investment, long-term financial sustainability, and corridor reliability.

Transparent reporting allows legislators and the public to evaluate whether DDIMA is fulfilling its mission.

Investing in Alaska's Future

The Dalton District is one of Alaska's most valuable public assets.

Maintaining that asset requires more than annual appropriations, it requires disciplined financial management, long-term planning, and a governance structure capable of aligning public investment with future transportation needs.

By emphasizing lifecycle stewardship, diversified funding, and strategic investment, DDIMA seeks to reduce long-term costs while ensuring that Alaska's Arctic transportation corridor remains reliable, resilient, and capable of supporting economic opportunity and national interests for generations to come.

Chapter 17 - Case Studies, Best Practices, and Lessons Learned

Introduction

The concept of a dedicated transportation authority is neither new nor experimental. Across Alaska and the United States, legislatures have established public authorities to manage infrastructure requiring specialized governance, dedicated funding, long-term planning, and operational flexibility.

These organizations demonstrate that infrastructure with unique operational or economic significance often benefits from governance structures tailored to its specific mission rather than administration through broader government agencies alone.

DDIMA follows this well-established model by applying proven governance principles to Alaska's most strategically significant transportation corridor.

Alaska Examples

Alaska Railroad Corporation

The Alaska Railroad Corporation operates as a state-owned public corporation responsible for managing a transportation system critical to Alaska's economy.

Its governance structure allows long-term capital planning, business partnerships, federal coordination, and operational flexibility while remaining publicly accountable.

Like the railroad, the Dalton District serves statewide and national interests extending beyond traditional transportation.

Alaska Industrial Development and Export Authority (AIDEA)

AIDEA demonstrates how a public authority can leverage public resources to encourage economic development through infrastructure investment.

The Authority coordinates financing, public-private partnerships, and long-term investment strategies that would be difficult to administer through traditional agency structures alone.

DDIMA would similarly support transportation infrastructure that enables long-term economic growth.

Knik Arm Bridge and Toll Authority (KABATA)

Although the Knik Arm Bridge project was ultimately not constructed, KABATA illustrates how Alaska has previously recognized the value of establishing specialized authorities for complex transportation infrastructure.

The governance framework created for KABATA provides several organizational concepts applicable to DDIMA, including dedicated leadership, financial flexibility, and focused statutory responsibilities.

National Examples

Across the United States, specialized transportation authorities successfully manage toll highways, major bridges, port facilities, airports, transit systems, freight corridors, and infrastructure financing.

These organizations share common characteristics: dedicated governance, stable funding, long-term planning, specialized expertise, public accountability, and independent financial management.

DDIMA applies these proven governance principles to Alaska's Arctic transportation infrastructure.

International Examples

Northern Canada provides valuable examples of transportation systems operating under conditions similar to those found in Alaska.

Remote highways supporting mining, energy development, Indigenous communities, and Arctic operations often require specialized maintenance practices, seasonal logistics, and close coordination between governments and industry.

Although governance structures differ, these examples reinforce an important lesson:

Remote Arctic transportation corridors require management approaches distinct from conventional highway systems.

Lessons Learned

Successful infrastructure authorities consistently demonstrate several best practices:

Dedicated Mission

Organizations perform best when focused upon clearly defined responsibilities.

DDIMA's mission is limited to stewardship of the Dalton District.

Stable Governance

Long-term infrastructure investments require continuity extending beyond annual budget cycles and changing administrations.

Financial Flexibility

Authorities capable of coordinating multiple funding sources are generally better positioned to respond to changing infrastructure needs.

Public Accountability

Independent governance must be balanced by strong transparency, financial oversight, legislative reporting, and public engagement.

Technical Expertise

Infrastructure decisions should be guided by engineering, operations, finance, and long-term asset management rather than short-term priorities alone.

Stakeholder Collaboration

The most successful authorities maintain strong partnerships with government agencies, industry, local communities, and infrastructure users.

Why DDIMA Is Different

While DDIMA incorporates proven governance principles, its mission is unique.

No existing authority in North America is responsible for managing a transportation corridor that simultaneously supports Arctic energy production, domestic critical minerals, national defense, rural access, scientific research, commercial freight, pipeline infrastructure, telecommunications, tourism, and future Arctic economic development.

For this reason, DDIMA should not simply replicate another authority but rather incorporate best practices while addressing the unique challenges of Alaska's Arctic transportation system.

A Proven Model Applied to a New Challenge

The question is not whether infrastructure authorities work.

They have demonstrated their value for decades.

The question is whether the Dalton District has grown sufficiently important to warrant its own governance structure.

This proposal concludes that it has.

Chapter 18 - Conclusions and Recommendations

Introduction

The Dalton District is one of Alaska’s greatest public assets.

Originally constructed to support development of the Trans-Alaska Pipeline System, it has evolved into a transportation corridor of statewide, national, and international significance.

Today, the corridor supports domestic energy production, Arctic communities, commercial freight, scientific research, tourism, military readiness, and emerging critical mineral development.

Its strategic importance will continue to grow throughout the coming decades.

The Challenge

The Dalton District now faces challenges far different from those existing when the highway was originally constructed.

These include aging infrastructure, deferred maintenance, increasing freight demand, permafrost degradation, climate-related impacts, rising maintenance costs, expanding national security responsibilities, and growing resource development.

Although DOT&PF has successfully maintained the corridor for decades under extraordinarily difficult conditions, these emerging challenges suggest that additional governance tools will be necessary to preserve the corridor for future generations.

The Opportunity

Rather than waiting until infrastructure limitations become crises, Alaska has an opportunity to establish a governance model capable of anticipating future transportation needs.

The Dalton District Infrastructure & Maintenance Authority provides that opportunity.

By combining dedicated governance with diversified funding, strategic planning, and public accountability, DDIMA offers a long-term solution that complements the work of DOT&PF while strengthening Alaska’s transportation system.

Recommendations

This proposal recommends that the State of Alaska:

1. Establish DDIMA by statute.

Create the Dalton District Infrastructure & Maintenance Authority as a public corporation within DOT&PF.

2. Establish the Dalton District Infrastructure Fund.

Create a dedicated fund within the Department of Revenue to receive appropriations, grants, authorized revenues, and other lawful receipts supporting the Authority's mission.

3. Develop a Long-Term Corridor Master Plan.

Prepare a comprehensive strategy integrating maintenance, capital improvements, climate resilience, freight forecasting, public safety, emergency response, and future resource development.

4. Pursue Diversified Funding.

Coordinate state, federal, and private investment while pursuing opportunities across multiple federal agencies consistent with the corridor's national significance.

5. Strengthen Federal Partnerships.

Work closely with Congress, FHWA, the Department of Defense, the Department of Energy, FEMA, and other federal agencies to recognize the Dalton District as nationally significant infrastructure deserving long-term partnership.

6. Support Federal Legislative Action.

Encourage Alaska's congressional delegation to pursue amendments to **Title 23 of the United States Code** establishing a **National Strategic Infrastructure Corridor** designation for transportation corridors supporting nationally significant energy production, critical mineral development, and Arctic defense.

7. Measure Performance.

Establish transparent performance standards ensuring public accountability and continuous improvement.

Looking Forward

Transportation infrastructure shapes economic opportunity for generations.

The decisions made today regarding the Dalton District will influence Alaska's ability to support domestic energy production, national defense, Arctic communities, and responsible resource development well into the twenty-first century.

Creating DDIMA is not simply about building or maintaining roads.

It is about establishing a governance structure capable of preserving one of America's most strategically important transportation corridors.

Final Thoughts

The Dalton District represents far more than 538 miles of highway.

It is the backbone of Alaska's Arctic economy, the gateway to the North Slope, the principal overland route supporting America's largest oil fields, and the transportation foundation for future critical mineral development and Arctic operations.

Its importance has outgrown the governance model under which it was originally developed.

The Dalton District Infrastructure & Maintenance Authority represents an opportunity to modernize that model—not by replacing the Alaska Department of Transportation & Public Facilities, but by strengthening it with dedicated leadership, diversified funding, long-term planning, and focused stewardship.

By acting now, Alaska can preserve the Dalton District as a resilient, reliable, and strategically significant transportation corridor capable of supporting the state's economy, the nation's security, and the opportunities of the Arctic for generations to come.

Author's Note

This proposal is intended to serve as a foundation for discussion among the Governor, the Alaska State Legislature, the Alaska Department of Transportation & Public Facilities, Alaska's congressional delegation, federal agencies, local governments, Alaska Native organizations, industry stakeholders, and the public.

Its purpose is to encourage thoughtful consideration of a governance model that reflects the Dalton District's unique role in Alaska's future and its growing importance to the United States.