

**Access, Equity, and Safety in Rural Road Development: Historical Evidence from  
the Dalton Highway, 1974-2024**

**FINAL PROJECT REPORT**

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## SI\* (MODERN METRIC) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
<b>LENGTH</b>				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
<b>AREA</b>				
in <sup>2</sup>	square inches	645.2	square millimeters	mm <sup>2</sup>
ft <sup>2</sup>	square feet	0.093	square meters	m <sup>2</sup>
yd <sup>2</sup>	square yard	0.836	square meters	m <sup>2</sup>
ac	acres	0.405	hectares	ha
mi <sup>2</sup>	square miles	2.59	square kilometers	km <sup>2</sup>
<b>VOLUME</b>				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft <sup>3</sup>	cubic feet	0.028	cubic meters	m <sup>3</sup>
yd <sup>3</sup>	cubic yards	0.765	cubic meters	m <sup>3</sup>
NOTE: volumes greater than 1000 L shall be shown in m <sup>3</sup>				
<b>MASS</b>				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
<b>TEMPERATURE (exact degrees)</b>				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
<b>ILLUMINATION</b>				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m <sup>2</sup>	cd/m <sup>2</sup>
<b>FORCE and PRESSURE or STRESS</b>				
lbf	poundforce	4.45	newtons	N
lbf/in <sup>2</sup>	poundforce per square inch	6.89	kilopascals	kPa
APPROXIMATE CONVERSIONS FROM SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
<b>LENGTH</b>				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
<b>AREA</b>				
mm <sup>2</sup>	square millimeters	0.0016	square inches	in <sup>2</sup>
m <sup>2</sup>	square meters	10.764	square feet	ft <sup>2</sup>
m <sup>2</sup>	square meters	1.195	square yards	yd <sup>2</sup>
ha	hectares	2.47	acres	ac
km <sup>2</sup>	square kilometers	0.386	square miles	mi <sup>2</sup>
<b>VOLUME</b>				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m <sup>3</sup>	cubic meters	35.314	cubic feet	ft <sup>3</sup>
m <sup>3</sup>	cubic meters	1.307	cubic yards	yd <sup>3</sup>
<b>MASS</b>				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
<b>TEMPERATURE (exact degrees)</b>				
°C	Celsius	1.8C+32	Fahrenheit	°F
<b>ILLUMINATION</b>				
lx	lux	0.0929	foot-candles	fc
cd/m <sup>2</sup>	candela/m <sup>2</sup>	0.2919	foot-Lamberts	fl
<b>FORCE and PRESSURE or STRESS</b>				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in <sup>2</sup>

\*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.  
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## EXECUTIVE SUMMARY

Access and lack of access have defined the modern development of Alaska. While transportation infrastructures have been key to facilitating resource extraction, the expansion of these systems, especially automobile-focused road systems, have had an outsized impact on rural, isolated, tribal and indigenous communities (RITI) in Alaska. While these communities historically had limited opportunities to shape rural road construction and their multifaceted impacts, RITI communities have sought to mitigate perceived threats to sovereignty, subsistence activities, and traditional lifeways.

This study investigates the historical example of the construction of the Dalton Highway—the most significant new Alaskan road since 1971—to analyze how historical changes in access (both new infrastructures and access policies) and equity (who decides, who benefits) have impacted safety, broadly defined, in RITI communities throughout Interior and Northern Alaska.

The James Dalton Highway is the only surface transportation corridor connecting the Alaska road system with the Arctic and North Slope regions of the state. It is a vital transportation and logistics corridor for the Trans-Alaska Pipeline System (TAPS), the North Slope oil fields, and various communities and stakeholders throughout the region. Constructed in 1974 as a critical precursor infrastructure of the Trans-Alaska Pipeline System, the “Haul Road” has simultaneously facilitated the export of raw materials and game from the area and enabled greater access for local communities. This study is particularly interested in understanding the effects of the Dalton as a spine road—an infrastructure which permits, facilitates, and contours development beyond the road corridor.

This purpose of this study was threefold. First, document the changing legal status of the Dalton Highway. Second, investigate the extent to which the Dalton Highway has facilitated secondary transportation corridor development. Lastly, provide a quantitative summary of motor vehicle crashes along the highway corridor for the data available between 2000 and 2021.

The study finds that access has cut both ways, bringing greater market opportunities and potentially threatening traditional subsistence areas. As such, rural communities and their regional associations moved to either stop new road construction, or limit access to these new infrastructures. Roads were not just infrastructures of connection, they were contested projects that raised serious issues of access, control, and safety. Additionally, motor vehicle crashes, and more notably those resulting in fatality and serious injury, occur most heavily in the first 56 miles of highway before the Yukon River bridge.

Despite concern that the Dalton Highway would facilitate widespread development along the road corridor, by and large this has not happened. The road itself is still surrounded by what one might rightly call “wilderness”. There are a variety of interconnected reasons why the highway has remained largely undeveloped and has induced relatively few secondary roads and infrastructures. These include: agency and action of local communities, land ownership and management, climate and natural resources of the region, and the political economy of North Slope oil development.

The 50<sup>th</sup> Anniversary of the formal approval and construction of the Dalton Highway occurs simultaneously with the publication of this report, making this an incredibly opportune moment to reflect on the fascinating and fraught history of *The Haul Road*.



## CHAPTER 1. INTRODUCTION

### 1.1 Overview and Methodology

The Dalton Highway, or “Haul Road” as it is referred to colloquially, is one of the most consequential and iconic highways in North America and the circumpolar North (see Figure 1). The construction and realization of the overland road was by no means inevitable. Alaskans endeavored to build a series of transportation systems—winter trails, railroads, and an ice road— before the well-financed oil industry funded the construction of the modern-day highway. Even as it came to be a reality, the manner in which settler Alaskans and the oil industry made the highway manifest sparked widespread concern from within and beyond Alaska.

The impact of the roadway was contested from its inception. Alaskan Natives, settler Alaskans and Americans throughout the Lower 48 were torn over what impact the highway would have on the wilderness of Arctic Alaska, over whether or not the road should be opened to the public (and for what purposes), and over the safety impacts it may have for the highways users and on rural, isolated, tribal, and indigenous (RITI) communities.



Figure 1. The Dalton highway looking south, April 2023. Photo by Philip Wight.

The net effects of road construction, especially through rural regions, are multifaceted and cumulative, underscoring the importance of analyzing multi-decadal historical impacts. This study pays particular attention to the cumulative impact of road systems, especially the feedback effect of spine roads, whereby a singular new transportation system can create a cascade of second and third order infrastructures. From the perspective of the 50<sup>th</sup> Anniversary of the creation of the modern-day highway, this study examines several key historical questions and controversies.

### *Legal Status of the Dalton Highway*

When State and Federal authorities permitted the Alyeska Pipeline Service Company to construct the Haul Road in 1973 and 1974, the post-construction status of the road was unclear. While Alyeska said this would be an industrial road with limited access, major questions hung in the air: How far could Alaska residents travel? Who would control access? Would rural villages have access? When access is promised, how does this turn out? Who benefits? Who loses?

This study offers a first full investigation into history of the intent of the Dalton Highway and how these fights over access played out over time. This paper investigates the tumultuous inception of the Dalton Highway, its 17-year history as a “private industrial road”, and how lawsuits eventually “cracked open” the road to the public in 1994. The nature of the Dalton (public, private, industrial, etc.) very much contoured future access plans and offers a fascinating historical comparison for contemporary road controversies.

### *Secondary Transportation Corridors Facilitated by the Dalton Highway*

This study investigates to what extent the Dalton Highway as a “spine road” induced or facilitated the creation of secondary roads and infrastructures. This study pays particular attention to the character and nature of these roads, including seasonality of access. This study answers the question by cataloging and analyzing three categories: 1) pre-existing trails 2) proposed roads that were never constructed 3) new roads or infrastructures emanating from the Dalton Highway corridor.

Examples of secondary corridors include:

- Winter Road to Bettles
- Winter trail to Stevens Village
- North Slope oil access roads
- Proposed Ambler Road

### *Characteristics and Frequency of Crashes*

Finally, this study investigates safety on the Dalton Highway by using recorded and documented crash data obtained through the Alaska Department of Transportation and Public Facilities (DOT&PF) Highway Safety Office for the period of 2000-2021. The PIs seek to better understand the characteristics and contributing factors as well as areas that may be of concern due to spatial and temporal distributions.

To answer these key questions, this case study utilizes a variety of methods—namely primary source analysis, geographical data, oral interviews, and groundtruthing. This combination of quantitative data and historical qualitative analysis offers a detailed picture of the 50-year history of the Haul Road for which there were five primary objectives. First, researchers completed a comprehensive literature review, sorting sources and noting prominent gaps in the literature. Second, researchers conducted and listened to dozens of oral history interviews—primary archived via UAF’s Project Jukebox—to understand the historical context surrounding Haul Road controversies from the 1960s-1990s. Then, researchers traveled the haul road from Livengood to Happy Valley. The study team spent 7 days exploring historic, contemporary and proposed secondary infrastructures along the Dalton corridor. As part of this trip, they interviewed residents and observed historical changes in the landscape of the Dalton Highway corridor (see Figure 2). They paid particular attention to historic and induced secondary surface transportation corridors, including mining roads and ice roads. Fourth, researchers obtained and

filtered relevant safety data associated with the road and its reroutes. This case study utilized a variety of historical primary sources and modern crash data to form its conclusions. Fifth, the PIs synthesized quantitative and qualitative data and formed a series of conclusions in response to the research questions. The results of this work are presented herein.



Figure 2. View looking north along Dalton Highway, April 2023



Figure 3. The Dalton Highway near Toolik Field Station, April 2023. Photo by Philip Wight.

## 1.2 Literature Review

While histories of Alaska have by no means neglected roads, relative to their importance to the state's population, these arteries have not received the attention they should. There are perhaps hundreds of books in Alaska about airplanes—airplane adventures, crashes, wrecks. But the majority of the state's inhabitants experience much of Alaska through their windshield. Also, far more pressing public policy



debates involve roads rather than aircraft or airport infrastructure. Therefore, in many ways, a history of roads and their discontents, is a more democratic history of the 20<sup>th</sup> Century Alaskan experience.

The history of the Dalton Highway has suffered from notable neglect considering its importance economy, tourism, and access to subsistence and recreational activities for state of Alaska. Most of the highway's history is found in newspaper articles, court records, DOT files, and other primary sources. Very few secondary sources or monographs have been written about the construction, operation, maintenance, and endurance of the road. Amongst these few sources, historian Christopher Allan's "The Brief Life and Strange Times of the Hickel Highway: Alaska's First Arctic Haul Road" stands out as one of the finest.<sup>1</sup>

The vast majority of Dalton primary sources are news articles written in the 1970s, during the controversy and construction of TAPS and the Haul Road. Beyond news articles, Dalton highway primary sources primarily fall into several categories:

- Legal documents pertaining to Dalton Highway access, specifically the Alaska National Interest Lands Conservation Act (ANILCA) and a series of court cases.
- DOT documents pertaining to the maintenance, upkeep, and improvement of the road, including geotechnical investigations, engineering reports, and material site reports.<sup>2</sup>
- BLM and other agency papers pertaining to the Master Plans, Corridor Plans, and other planning studies.<sup>3</sup>
- Environmental reviews, including the NEPA EIS for TAPS and ecological baseline investigations
- The Dalton Highway is also used as a regional scientific marker, since it provides easy access for scientific expeditions. Thus, there are numerous reports which look at permafrost, pollen, vegetation, birds, ice wedges, CO<sub>2</sub> efflux, etc. along the Dalton Highway corridor.<sup>4</sup>

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<sup>1</sup> Chris Allan, "The Brief Life and Strange Times of the Hickel Highway: Alaska's First Arctic Haul Road," *Alaska History* 24, no. 2 (Fall 2009): 1–29.

<sup>2</sup> A small selection of such reports include: Tim Tannenbaum, "Geotechnical Report, Dalton Highway MP 109-144" (Fairbanks, AK: State of Alaska, Department of Transportation and Public Facilities, Northern Region, 2021); D.S.P. Stevens, *Engineering-Geologic Map of the Dalton Highway from Galbraith Lake to Slope Mountain, Southern Arctic Foothills, Alaska* (Fairbanks, AK: Alaska Division of Geological & Geophysical Surveys, 2013); *Material Site Investigation Report, Dalton Highway, Milepost 175-209 Reconstruction*, prepared by Ronald A. Brooks (Alaska: State of Alaska, Dept. of Transportation and Public Facilities, Northern Region, 2004).

<sup>3</sup> *Dalton Highway Master Plan*, prepared by the Dalton Highway Advisory & Planning Board (Dalton Highway Advisory and Planning Board, [1998]); *Dalton Highway Recreation Area Management Plan [Microform]: Summary*, prepared by the Bureau of Land Management, Arctic District (Fairbanks, AK: BLM, 1991); *Dalton Highway Airports Land Use Plans*, prepared for the State of Alaska, Department of Transportation & Public Facilities, by Quadra Engineering, Inc. (Juneau, AK: Alaska Department of Transportation and Public Facilities, 1987).

<sup>4</sup> See, for instance: Tony Waltham and Peter Fookes, "Ice Wedges of the Dalton Highway, Alaska," *Quarterly Journal of Engineering Geology and Hydrogeology* 34 (2001): 65–70. Geological Society of London; James T. Fish, *Stock Assessment of Arctic Grayling in the Jim River and Other Streams Adjacent to the Dalton Highway, 1995-1997* (Anchorage: Alaska Dept. of Fish and Game, Division of Sport Fish, Research and Technical Services, 1997); Y. Kim, "Effect of Ablation Rings and Soil Temperature on 3-Year Spring CO<sub>2</sub> Efflux along the Dalton Highway, Alaska," *Biogeosciences* 11, no. 23 (2014): 6539–6552. Copernicus Publications; SK Short, JT Andrews, and PJ Webber, "Pollen, Vegetation, and Climate Relationships along the Dalton Highway, Alaska, U.S.A.: A Basis for Holocene Paleoecological and Paleoclimatic Studies," *Arctic and Alpine Research* 18, no. 1 (1986): 57–72; Peter D. Spatt,

One exception source that does not fall into these categories is a diary by a female road engineer named Edna Arend Witcher. In *Alaska's Last Great Gold Rush: 1974 Haul Road Diary, Alaska's Arctic Road*, Witcher offers an extensive perspective into the process, politics, and daily events constructing the Haul Road. Her work seeks to counteract the “unreal propaganda in videos exclaiming the project.” For those interested in the history and construction of the road, her account is indispensable.<sup>5</sup>

Additionally, it is worth noting travel guides, tourist literature, and constitute a significant fraction of Dalton highway literature, especially amongst the in-print literature. While some of these sources are high-caliber academic and government publications offering pertinent safety information, many of them do not provide special insights into the history and influence of the highway.

Finally, the Dalton Highway has loomed large in popular culture and memory. Perhaps most famously, the Haul Road has been the site for the TV show *Ice Road Truckers* (Season 3).<sup>6</sup> Due to these sources of popular culture, the Haul Road has attracted tens of thousands of tourists. Yet these popular culture sources have often mythologized or mischaracterized the nature of the road, and have not led to a greater understanding of the road's impact on rural communities in interior and northern Alaska.

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"Growth Conditions and Vitality of Sphagnum in a Tundra Community along the Alaska Pipeline Haul Road," *Arctic* 34, no. 1 (1981): 48–54.

<sup>5</sup> Edna Witcher, *Alaska's Last Great Gold Rush: 1974 Haul Road Diary, Alaska's Arctic Road* (Phoenix, AZ: E.A. Witcher, 2001).

<sup>6</sup> Jennifer Schell, "The Dangers of Driving the Dalton: The Paradoxical Industrial and Environmental Aesthetics of *Ice Road Truckers*," *Western American Literature* 47, no. 2 (Summer 2012): 132–151.

## CHAPTER 2. HISTORICAL CONTEXT

### 2.1. High-Level History of Alaskan Surface Transportation

Natural transportation corridors have been used for time immemorial. Many of these routes were old game trails and have been used by the Indigenous peoples of Alaska for tens of thousands of years. Essential trade routes like the Copper River Valley and Chilkat Pass were closely guarded and lucrative for their local inhabitants.

Throughout modern Alaskan history, trails and roads were crucial access corridors which permitted the movement of people, goods, raw materials, and communication. Following the United States' purchase of Alaska in 1867, industrialization and mechanized transportation transformed the landscape of Alaska. While Railroads were highly celebrated in the early 20<sup>th</sup> Century, automobile roads and aircraft ultimately proliferated throughout Alaska. Surface transportation corridors were increasingly interconnected, giving settlers and residents greater access to frontier and remote areas. Put simply, roads begat roads.

Following the construction of the first major road system in Alaskan history—the Richardson Highway—the Alaska Road Commission (ARC) and federal government worked to create additional surface arteries. The Steese Highway was constructed to give access to crucial mining areas like Chatanika and communities like Circle. The Elliot highway was then added onto this to connect Livengood and Eureka. During World War Two, the Alaska Highway and Glenn Highway connected the existing Fairbanks-Valdez corridor to Anchorage and the lower 48. Following World War II, the Denali Highway permitted automobile access to Mt. McKinley National Park, which was especially desired by Alaska's large military population.

This was a period when the federal government, territorial administrators, and most Euro-American Alaskans wanted greater road access for automobiles and a better-connected road network. Commissioner of Highways Bruce Campbell recalled that there was a “clamor for roads” in the 1950s and 1960s. Alaskans wanted highways to connect their cities together, to facilitate trade and mining, and to provide access for hunting, fishing and recreation. Because of this, the Department of the Highways had the largest budget of any State department—perhaps even as large as all other departments combined.<sup>7</sup> Reflecting this vision, in 1971 Campbell told the Fairbanks Chamber of Commerce that he envisioned roads branching outwards from Fairbanks, extending to the North Slope as well as to Nome.<sup>8</sup>

This was the existing historical context before the discovery of oil, indigenous and environmental revolutions, and environmental-regulatory state transformed Alaska's transportation landscape. The saga of building a road to the North Slope, especially the optics of the Hickel Highway, thrust Alaska into a new era where new road construction was increasingly questioned and contested.

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<sup>7</sup> Bruce Campbell, interview by Marie Mitchell, December 20, 2006, Anchorage, Alaska.

<sup>8</sup> Fairbanks Daily News Miner, August 18<sup>th</sup>, 1971. [https://www.newsminer.com/news/looking\\_back/looking-back-august-18-2021/article\\_cb5cf3a2-fb08-11eb-b2cd-6f1c9384721c.html](https://www.newsminer.com/news/looking_back/looking-back-august-18-2021/article_cb5cf3a2-fb08-11eb-b2cd-6f1c9384721c.html)

## 2.2. History of the North Slope “Haul Road”

Euro-American Alaskans have been dreaming of all-weather transportation corridors between Alaska’s Interior and the North Slope decades before Alaska became a State in 1959. With new technologies, like the bulldozer and the airplane, came new efforts to create new transportation corridors in the north.<sup>9</sup> The end result has been a layered landscape of overlapping, connected, and disparate surface transportation corridors. Understanding these various transportation corridors which pre-dated the construction of the Haul Road, is essential in analyzing new infrastructures which were induced from the road’s construction.

A series of industrial winter trails existed prior to the blazing of the Hickel Highway. In the 1950s, new technologies like the LeTourneau “overland train” permitted larger volumes of materials to be transported overland.<sup>10</sup> The construction of the Distant Early Warning (DEW) Line fueled this preliminary postwar transportation activity to the North Slope. At the same time, increased oil exploration—first by the US Navy’s exploration of the North Slope between 1944 and 1953, and later after 1958 by private industry—increased the demand for transportation corridors and logistical connections from the Interior to the North Slope.<sup>11</sup> People like “Tennessee” Miller, James Dalton, and John Clarke utilized caterpillar tractors and sleds to haul freight to the North Slope for drilling and military operations. Miller blazed a trail north in 1964 and again in 1969. These were not ice roads, but rather temporary winter trails.<sup>12</sup>

Even before the discovery of oil at Prudhoe Bay, many Alaskans sought a year-round surface transportation corridor to the North Slope to facilitate resource development. Alaska’s truckers were amongst the loudest advocates for an access road in the early 1960s. They supported Senate Bill 217, also known as the 1966 “Roads to Resources” bill, which called for \$500,000 for the construction of “a winter trail to mineral and oil areas” in northern Alaska.<sup>13</sup> The legislature then created the NORTH Commission in 1967 to study and develop transportation corridors from the Interior to the North Slope (see Figure 4).

Governor Walter Hickel (1966-1970) promoted the NORTH Commission and envisioned this transportation corridor would be an extension of the Alaska Railroad. This railroad would connect the existing “Railbelt” of Seward-Fairbanks with the Ambler mining district and Gubic gas fields on the North Slope. Hickel told the NORTH Commission that the goal, as he saw it, was to “to explore and develop ways to open up America’s vast Arctic for wise utilization”.<sup>14</sup> To appease all parties, the NORTH Commission concluded by calling for both a railroad and a “winter resources trail”. The question of who would build such a road soon became clear with the discovery of Prudhoe Bay and the rush to construct overland transportation infrastructures, namely a pipeline, to export the oil.

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<sup>9</sup> Mardy Murie, *Two in the Far North* (New York: Viking Press, 1978).

<sup>10</sup> Mark Moore, “R.G. LeTourneau’s Overland Trains: A Complete History,” Independently Published, September 2022.

<sup>11</sup> Philip A. Wight, “Petroleum Development and the State, 1941-1977”, Adrian Howkins and Peder Roberts, Eds. *Cambridge History of the Polar Regions* (Cambridge University Press, 2023)

<sup>12</sup> Allan, “The Brief and Strange Times of the Hickel Highway”, 1. Also see Bruce Campbell interview

<sup>13</sup> Allan, “The Brief and Strange Times of the Hickel Highway”, 3.

<sup>14</sup> “Alaska at Crossroads where money, conservation tangle”, *Fairbanks Daily News-Miner*, June 3<sup>rd</sup>, 1969.

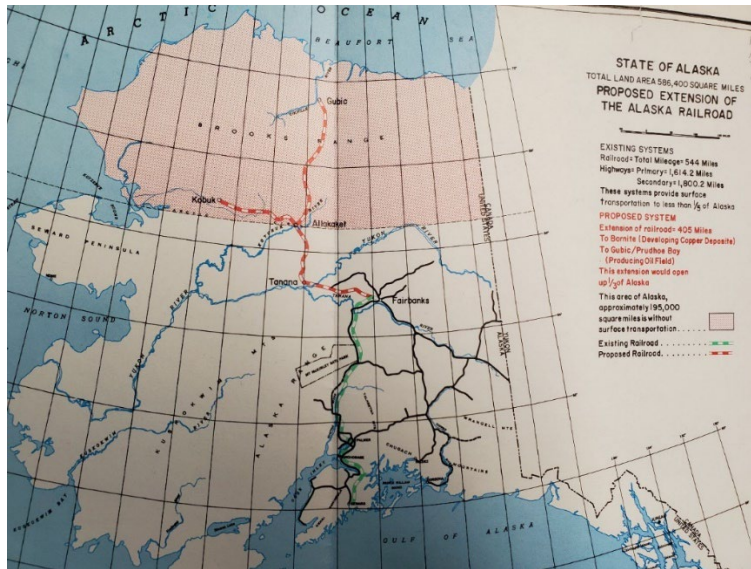


Figure 4. NORTH Commission Map, 1969.

There has been significant confusion about the nature of the haul roads before the formal construction of what would become the Haul Road in 1974.<sup>15</sup> There were numerous often overlapping infrastructures that were discrete.

- 1968-1974: Hickel Highway
- 1969: Livengood- Yukon River Road (Yukon Highway or TAPS Road)
- 1974: Yukon River- Deadhorse Road (Haul Road)
- 1981: James Dalton Highway

This narrative will offer a brief history of the Dalton Highway through these various segments.

### 2.3. Hickel Highway, 1968-1974

Facing pressure from the trucking industry, in the fall of 1968, Governor Hickel requested that the State's Department of Transportation develop plans for a winter trail between Livengood and the North Slope.

The state wanted the road built faster and cheaper than private industry could provide, so the Governor directed Alaska's department of highways to take control of the project. Rather than taking the time required to construct a proper winter road, the Department of Highway's huge D-9 bulldozers scraped away the tundra and its sensitive top layer of permafrost. When the permafrost thawed that spring, the \$700,000 road became a watery ditch that earned the ignominious nickname the "Hickel Canal". One University of Alaska professor called the road was "the biggest screw-up in the history of mankind in the Arctic."<sup>16</sup>

<sup>15</sup> For confusion, see John Cook, interview by Marie Mitchell and William Schneider, November 20, 2006.

<sup>16</sup> Jack Anderson with James Boyd, *Fiasco: The Real World Story Behind the Disastrous Worldwide Energy Crisis – Richard Nixon's "Oilgate"* (New York: Times Books: 1983), 118.



As National Park Service historian Christopher Allan summarizes, “this makeshift winter trail...became Alaska's most controversial roadway and a potent symbol of pioneering innovation, of ecological destruction, and of rapid cultural change for some of Alaska's most isolated indigenous people.”<sup>17</sup>

Not only was the Hickel Highway ecologically destructive, but it also only facilitated the movement of a mere eight tons along the road that winter— less than three C-130 flights. The next winter, the State paid to redo much of the road and operate for that season, but afterwards the State refused to pay for maintenance and abandoned the road. It was used one final season, in the early months of 1974, by Alyeska and its contractors to stage equipment for the construction of the Yukon River- Deadhorse haul road.

This first haul road played an important logistical and symbolic role for the coming of the second—the permanent haul road now known as the Dalton Highway. Conservationists were especially incensed at the Hickel Highway. Not only had it caused unwarranted ecological harm, but they also perceived the road as a psychological insult to the dream of a roadless Arctic. Famed Wiseman resident and Wilderness Society co-founder Bob Marshall first advocated for a roadless Arctic (other than Nome) in the 1930s. He recommended that all of Alaskan lands north of the Yukon River, with the exception of Nome, “should be zoned as a region where the federal government will contribute no funds for road building and permit no leases for industrial development.”<sup>18</sup>

#### **2.4. Livengood-Yukon River Road (TAPS Road or Yukon Highway), 1969**

The oil companies and their contractors constructed the highway from Livengood north to the Yukon River crossing from the fall of 1969 to the winter of 1970. Congress approved the construction of in July 1969 and the oil companies quickly moved to construct the road.<sup>19</sup>

At the time, it was called the “TAPS Road” by the oil companies who constructed it. The Alaska Department of Highways designated it the “Yukon Highway”.<sup>20</sup> While the Yukon Highway was constructed in 1969, the Haul Road was not constructed until 5 years later because of lawsuits blocking the road and pipeline. Between the Spring of 1969 and Spring of 1974, one could travel on Alaska’s highway system as far as the bridge-less Yukon River, but no further.

#### **2.5. Illegal Staging Road, Winter 1970**

Beyond the Yukon River, oil companies continued the tradition of the Hickel Highway and blazed their own trail north. In the winter of 1970, oil companies did not have permission from the federal government to continue constructing roads north. Despite the lack of permits, oil company contractors used bulldozers to create a winter road from the Yukon River to the Brooks Range. This road emerged from the Four Corners region near Bettles, then came up the valley towards the historic gold mining

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<sup>17</sup> Allan, “The Brief and Strange Times of the Hickel Highway”, 1-2

<sup>18</sup> Bob Marshall, quoted in Richard Watt, “The Recreational Potential of the Arctic National Wildlife Refuge,” thesis (M.S., University of Alaska Fairbanks, 1966).

<sup>19</sup> Jack Roderick, *Crude Dreams: A Personal History of Oil and Politics in Alaska* (Fairbanks AK and Seattle WA: Epicenter Press, 1987), 256.

<sup>20</sup> Jerry Brown, “Ecological Baseline Investigations Along the Yukon River-Prudhoe Bay Haul Road” (Hanover, NH: Cold Regions Research and Engineering Lab, 1978).

communities of Coldfoot and Wiseman. Jack Reacoff recalls witnessing the lights of the bulldozers coming into their valley in the spring of 1970.<sup>21</sup>

Politicians and environmentalists were outraged at oil companies for creating a road into the Alaskan wilderness without a federal permit. When environmentalists filed suit against the Secretary of the Interior to stop the TAPS project and its associated haul road in *Wilderness Society v Hickel*, the complaint explicitly referenced the environmental harm done by this illegal road: “In fact the action of TAPS in allowing road crews to emplace equipment prior to the issuance of permits has already begun to cause the irreparable harm which will be accelerated and far more extensive if the work proceeds”.

The legacy of this illegal winter staging road is manifold. It helped to galvanize national public and political opinion against the TAPS project. Actions such as these also demonstrated the importance of an environmental impact statement (required with the passage of the National Environmental Policy Act of 1969), which detailed how infrastructure projects would impact the natural environment. The purpose of NEPA was to anticipate any environmental harm and to avoid any such harm before construction and operations began. Finally, the illegal staging road continues to play an important, if unrecognized role, in contemporary Alaskan road politics. The path of the illegal 1970 road is now the location of where the proposed Ambler Road intersects with the Dalton Highway.

## **2.6. “The Haul Road”: Yukon River- Deadhorse, 1974**

Before Congressional approval of the TAPS project, the State of Alaska worked across numerous Governors to secure a permanent surface transportation corridor from the Yukon River to the North Slope. Governor Miller tried unsuccessfully to have the state construct the highway and be reimbursed by the oil companies. Originally the pipeline owners planned to construct a rudimentary road just to facilitate oil pipeline construction, then abandon the road. The TAPS consortium told the Department of the Interior in 1969 that they planned to resupply the pipeline pump stations via aircraft. As the complexities of the TAPS project mounted, Alyeska ultimately abandoned this “airlift” plan and came to an agreement with the state about a permanent road.

Ultimately, Governor Egan signed an agreement with Alyeska that would have the Haul Road be constructed to secondary state highway standards. Under this agreement, Alyeska would construct and utilize the highway during pipeline construction, then gift it to the state.

In November 1973, after four years of pitched legal battles, Congress approved the most controversial infrastructure project in the United States—the Trans-Alaska Pipeline System. The Trans-Alaska Pipeline Authorization Act (TAPA), authorized the Secretary of the Interior to issue rights of way and permits necessary for the construction, operation, and maintenance of a trans-Alaska oil pipeline, as well as roads and airstrips associated with the project.<sup>22</sup>

Alyeska and its owner companies rushed into action to finally construct their pipeline haul road—and a future secondary highway for the State of Alaska. In early 1974, the Bureau of Land Management granted a right of way for the construction of the highway to the State of Alaska.

Haul Road construction officially began on 29<sup>th</sup> April 1974, although much equipment was brought north

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<sup>21</sup> Jack Reacoff, Interviewed by Philip Wight, April 2023. Wiseman, Alaska.

<sup>22</sup> Trans-Alaska Pipeline Authorization Act, 43 U.S.C. § 1652(b). 1974

of the Yukon River over the old Hickel Highway before the spring thaw. C-130 Hercules aircraft also airlifted critical equipment after airstrips had been built along the route. Ultimately 2,000 pieces of equipment, including 700 heavy earthmoving machines, were mobilized and deployed for road construction.<sup>23</sup>

Twelve construction camps (see Table 1) provided necessary facilities for 3,400 workers and airstrips for crucial supplies along the route (see Figure 5). Trucks carried 31 million cubic yards of gravel and another 1 million cubic yards of rock to bring the 28ft wide road to state secondary standards. It cost roughly \$500,000 dollars per mile. The 358.6 mile “Haul Road” extending north from the Yukon River crossing (which is now Milepost 56 of the Dalton Highway), included 19 temporary “baily bridges”, 20 permanent bridges totaling 3,462 linear feet, and over 1,000 culverts.<sup>24</sup>

Table 1. Construction camps between the Yukon River and Deadhorse.

<b>Segment Number</b>	<b>Construction Camp</b>	<b>Associated Miles</b>
Segment 1	Five Mile & Oldman Camp	58 miles
Segment 2	Prospect Camp	42 miles
Segment 3	Coldfoot Camp	33 miles
Segment 4	Dietrich & Chandalar Camp	58 miles
Segment 5	Atigun Camp	29 miles
Segment 6 South	Galbraith & Toolik Camp	38 miles
Segment 6 North	Happy Valley Camp	47 miles
Segment 7	Franklin Bluffs Camp	53 Miles

<sup>23</sup> Bechtel, “Special Report: Alaska’s Road to the Future”, October 1974, p23.

<sup>24</sup> Bechtel, “Special Report”, p23-25.



Figure 5. Segments associated with construction camps along the Dalton highway.

The keystone of the Haul Road proved to be the bridge across the Yukon River. The five-pier, steel-box girder bridge hosted both the highway and the 48-inch oil pipeline. It was the first bridge built across the Yukon River and the largest ever constructed in Alaska (at the time).<sup>25</sup> Crucially, Federal DOT funds paid for a large part of the \$26.5 million bridge. The wearing surface (i.e., decking) of is entirely made of wood and runs at 6% grade over the entirety of its span, making it a full percent steeper than the

<sup>25</sup> Bechtel, "Special Report", p25.

Rainbow Bridge in Texas that connects Port Neches and Bridge City, which many claim to be the steepest bridge in the United States.

Work crews completed an important milestone on 29<sup>th</sup> September 1974. Crews from Coldfoot camp working south met up with contractors from Prospect Camp working north. The road was completed in just 154 days and was opened for continuous traffic to the Arctic in September 1974.<sup>26</sup> While the official link-up ceremony (photographed in the style of the 1869 link-up of the Trans-Continental Railroad) was held on September 29<sup>th</sup>, work continued grading and sloping the road. While the Alyeska contractor Bechtel considered the Haul Road 91 percent complete in October 1974, only 13% of the overall TAPS project was considered complete.<sup>27</sup>

Alyeska paid \$258 million dollars for the road, with the federal government contributing an additional \$27 million—mostly for the bridge over the Yukon River.

## **2.7. “The Dalton Highway”: 1981- Present**

The 414-mile Dalton Highway stretches from Livengood to Deadhorse. It includes the TAPS Road/ “Yukon Highway” and the Yukon River-Deadhorse “Haul Road”. Most Alaskans do not recall that these had been separate roads and now refer to entire highway (and often the Elliot Highway from Fox) as the Haul Road or Dalton Highway.

In 1981, the state officially named the highway the James Dalton Highway. An Alaskan engineer and influential oil explorer who helped the U.S. Navy discover oil on the North Slope in the 1940s, Dalton’s name and legacy were a fitting title for a highway which had facilitated the opening of the largest conventional oilfield in North American history. When ARCO discovered Prudhoe Bay in 1968, the editor of the *Fairbanks News-Miner* suggested that the road that would need to be built to this new development be named after James Dalton. This finally became a reality 13 years later.<sup>28</sup>

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<sup>26</sup> Bechtel, “Special Report,” p28.

<sup>27</sup> Bechtel, “Progress Report: Trans Alaska Pipeline and Roads Project”, October 1974, p1.

<sup>28</sup> Terrance Cole, *Fighting for the 49<sup>th</sup> Star: C.W. Snedden and the Crusade for Alaskan Statehood* (Fairbanks: University of Alaska Press, 2010), 195.

## CHAPTER 3. PUBLIC ACCESS AND THE PRIVATE INDUSTRIAL ROAD

When State and Federal authorities permitted the Alyeska Pipeline Service Company to construct the Haul Road in 1973 and 1974, the post-construction status of the road was unclear. While Alyeska said this would be an industrial road with limited access, major questions hung in the air: How far could Alaska residents travel? Who would control access? Would rural villages have access?

### 3.1. Emerging Fault Lines

The fault lines over access to the Haul Road were drawn even before Alyeska constructed the highway in 1974. Because the status quo prior to 1968 had been overwhelmingly pro-road development, at least among Euro-American Alaskans (see chapter 2), this section will detail the growing opposition to northern road development.

Alaskans were not in agreement concerning the construction of the road. “Psychologically, the haul road proved devastating to environmentalists,” historian Roxanne Willis argues. “Alaska had been split in two, and from their point of view, it could never be made whole again.”<sup>29</sup> Fairbanks conservationist Ginny Wood called the pipeline and road “a broad and pretentious scar across an empty and innocent land.”<sup>30</sup>

For Jim Kowalsky, who worked for the Fairbanks Environmental Center (now Northern Alaska Environmental Center) and the Alaska Center for the Environment (now Alaska Center), the road—and the decision to construct a permanent secondary highway—was as serious a social and environmental issue as the pipeline itself. “There was no input or discussion from the general public, and most importantly, from the Native people living north of the Yukon River whose subsistence lifestyles will be affected in an overwhelming way.”<sup>31</sup>

Athabascan and Inupiaq peoples also worried about the consequences of the road. In a July 1973 letter, the native corporation Doyon Ltd. explained that its 41 villages in Interior Alaska were “opposed to the construction of the Trans-Alaska pipeline and the construction of all road systems west and north of Fairbanks that would connect our villages with urban centers.”<sup>32</sup> While Doyon would come to change many of its views with the passage of time, this early sentiment reveals how many Alaska Native Peoples felt about the pipeline and road.

Conservationists like Bob Weeden also expressed that the road was not simply an environmental issue, but one of land use planning and rational development. In a letter to Governor Bill Egan in July 1971, Weeden communicated that he and conservationists felt that “the most important single feature of this road project is to tie it to, and make it part of, a land use plan for the area through which the road would go.” Weeden wanted to ensure Governor Egan, in planning the future of the road, considered adjacent

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<sup>29</sup> Roxanne Willis, *Alaska's Place in the West: From the Last Frontier to the Last Great Wilderness* (Lawrence KS: University of Kansas Press), 124.

<sup>30</sup> Karen Brewster, ed. *Boots, Bikes, Bombers: Adventures of Alaska Conservationist Ginny Hill Wood* (Fairbank AK: University of Alaska Press, 2012), p361.

<sup>31</sup> Jim Kowalsky, “What Wasn’t Told about the pipeline”, August 12<sup>th</sup>, 1974.

<sup>32</sup> Doyon, Ltd. Letter to Friends of the Earth, July 23<sup>rd</sup>, 1973.

lands, pedestrian access to popular outdoor areas, and other concerns beyond the industrial utility of the road for oil and gas operations.<sup>33</sup>

To add insult to injury, the final congressional approval of the pipeline exempted any Environmental Impact Assessment of the Haul Road as a public highway. Put another way, there was no public assessment of the consequences of constructing a public highway from the Yukon River to the Arctic Ocean. “It is not even the highway itself which is so objectionable,” Environmentalist Jim Kowalsky argued. “It is the process whereby it was slipped past public scrutiny guaranteed by the law of the land, and right under the noses of Congress, that was so rotten.”<sup>34</sup> Indigenous peoples, who would be especially affected, “never had a word” in the creation of this public policy. Many assessments of the pipeline and road’s construction conclude that more environmental impacts stemmed from the construction of the road than the pipeline itself.<sup>35</sup>

While it not surprising that environmentalists opposed a public road, and perhaps not surprising that many Alaska Native organizations were likewise opposed, these two groups were joined by an unlikely ally: Alyeska and its owner companies. The owner companies of TAPS were opposed to opening the road to public traffic—fearing the additional traffic would hinder crucial truck traffic from supplying the North Slope oil fields, permit vandals or saboteurs to access the pipeline, and generally hinder pipeline operations.

This opposition did not stop many Alaskans or federal officials who wanted to open up access to the north country. On the other side of the ledger were hunting organizations, miners and resource development groups, and others who wanted unfettered access to the Haul Road and its adjacent resources. One contemporaneous newspaper account summarized, “Sportsmen wanted access to remote fishing and hunting areas. Business interests thought opening it might help the state’s economy. Miners wanted to get to their claims.”<sup>36</sup>

Even before the road was transferred to the State of Alaska, national environmental leaders met with oil company officials in Anchorage and asserted that keeping the road private was a major priority and of paramount importance to “prevent destruction of the northern part of the state.” The President of the Sierra Club said the road use was not a local issue; it was a national issue because federal funds were used to build the road and it was a federal offense to blow up the pipeline.<sup>37</sup>

### **3.2. Limited Access under Governor Jay Hammond**

Advocates of restricting access to the Haul Road found an ally at the highest levels of Alaskan state government under the Governorship of Jay Hammond. During the lead up to the 1974 election, Hammond campaigned on “healthy growth” and ensuring Alaskan’s “quality of life” and was elected at a moment when the intensity and social disruption of the pipeline construction dominated the State. An “avowed conservationist”, Hammond believed that Alaskans had to choose between “whether our

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<sup>33</sup> Bob Weeden to Bill Egan, July 1971.

<sup>34</sup> Jim Kowalsky, “What Wasn’t Told about the Pipeline”, August 12<sup>th</sup>, 1974.

<sup>35</sup> For instance, see Peter Coates, “The Trans-Alaska Pipeline’s Twentieth Birthday: Commemoration, Celebration, and the Taming of the Silver Snake,” *The Public Historian* 23, no. 2 (Spring 2001): 63–86.

<sup>36</sup> Wallace Turner, “Use of Haul Road By All Traffic Stirs Alaska Dispute”, *The New York Times*, June 10<sup>th</sup>, 1981.

<sup>37</sup> “The Road Not Taken”, OMAR Resource Review, August 1978

money feeds an unhealthy cancerous growth in Alaska, or sustains a more reasonably healthy, smaller-scale economy.”

Governor Hammond railed against former road projects which he saw as unwise and ecologically destructive.

Hammond and others actually considered, and at times advocated for, abandoning the Haul Road. The arguments for this position were grounded in concerns about maintenance costs and access. “If the state had to pay back every cent of money that had been expended on this road,” Anchorage attorney and environmentalist Hugh Fleischer, “we would be in far better economic shape than having to maintain the outrageous costly road for the foreseeable future.”<sup>38</sup> Early in his governorship, Hammond shocked many when he proposed abandoning the Haul Road after it was used to construct the pipeline. Instead, he wanted a railroad on top of haul road—which he believed would open up areas for mineral extraction but leave wilderness areas untouched.<sup>39</sup> [This kind of thinking foreshadowed the kind of limited access that many Alaskans would come to express a preference for.]

Yet ultimately this position was untenable. Alyeska and the oil industry needed the road to continue oil production and TAPS operations. Even before the completion of the pipeline and the revocation of the State income tax in 1980, the State desperately needed revenues from oil production. And even if the state could reimburse the federal government for the approximately \$24 million it spent on the Yukon River bridge, there remained the thorny question of if the state would also have to reimburse Alyeska for the quarter-billion dollars it spent on the Haul Road.<sup>40</sup>

Road advocates were especially incensed at Hammond. Road Commissioner Bruce Campbell claimed that Hammond’s main goal was to stop highway construction throughout the state. While the evidence does not support this view, there is no doubt Hammond wanted to change Alaska’s existing road-centric paradigm and introduce other elements into the decision matrix for road construction.

For Hammond, the question of what to do with the Haul Road was not simply a question of transportation policy. Rather, echoing the concerns of Conservationists like Bob Weeden (who served as Hammond’s Commissioner of DEC), the Haul Road was “really about what to do with the northern half of the state.”<sup>41</sup> He believed the opening of the Haul road to the public might have bigger long term impacts than TAPS.<sup>42</sup> The road will have “profound effects on future of our state”, he argued; “once opened, would likely never be able to modify that access.”<sup>43</sup>

Hammond’s administration spent considerable time considering the question of the Haul Road Access. In September 1976, Governor Hammond made the interim decision to keep the road closed to the public. The State restricted access via permit system to resident miners and owner-users for the

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<sup>38</sup> John Hanrahan and Peter Gruenstein, *Lost Frontier: The Marketing of Alaska* (New York: W.W. Norton, 1977), 267.

<sup>39</sup> “Alaska Governor Seeks Railway to Arctic”, Jan 22<sup>nd</sup>, 1975.

<sup>40</sup> Hanrahan, *Lost Frontier*, 267.

<sup>41</sup> Jay Hammond Papers (JHP), Folder 42: North Slope Haul Road

<sup>42</sup> Speech: National Audubon Society, June 17th, 1978, JHP, Folder 78.

<sup>43</sup> “North Slope Haul Road: Policy Statement”, September 1976, JHP, Box 3, Folder 7.



development of the Arctic oil field. Hammond also wanted some kind of toll or user fee. Yet because federal funds had been used, the State of Alaska was barred from charging any kind of toll on the road.

In 1977, the administration published an important policy document outlining their position. “North Slope Haul Road: An Analysis of the Issues” by the Governor’s Division of Policy Development and Planning. “The symbolism of the Haul Road is most important,” explained Walt Parker, Hammond’s Commissioner of Transportation. “It is the first time an Alaskan administration has attempted to slow down and balance that drive and determination to rush headlong into the future which has been so strong in an element of our history and in our national character.”<sup>44</sup>

The State of Alaska assumed control of the road from Alyeska in 1978, soon after naming it after James Dalton. The State Department of Transportation (ADOT) took over maintenance and access management. In October 1978, under the purview of the Hammond Administration, ADOT adopted regulations which closed the highway to use by any vehicle which did not have a permit. Permits were made available for requisite state, industrial, and commercial vehicles.<sup>45</sup> The *New York Times* reported in 1981 that this effectively limited traffic to roughly 200 trucks a day carrying supplies.<sup>46</sup>

Despite the Hammond Administration limiting access, some groups wanted to ensure these limitations were codified in law. The Fairbanks Environmental Center (now Northern Alaska Environmental Center), The Tanana Chiefs Council (TCC), and Rural Community Action Program (RuralCAP) organized people to permanently limit public access.<sup>47</sup> Other groups, like the international organization “Yukon Flats People Speak”, were staunchly opposed to public use of the Dalton and Dempster highways (in Canada) and called for restricted use to protect the porcupine caribou herd.<sup>48</sup>

Eben Hopson, Mayor of the recently-formed North Slope Borough (NSB), was especially concerned about the impact of the Haul Road on his people and lands. Hopson spoke of the industrialization of the Arctic, and he argued that industrial roads like the Dalton could be opened up to the public. According to Earl Finkler, who worked for Hopson and the NSB on road issues, the Borough wanted to limit development and control access. In particular, the NSB wanted clusters or nodes of development—namely around Prudhoe, Chandalar, and somewhere in the middle—where they could centralize services and environmental disruption.<sup>49</sup> For the NSB, tour buses did not pose a major issue since they were regulated and controlled.

Those who sought to preserve the limited-access nature of the Dalton Highway succeeded in getting the Alaska Legislature to pass a law limiting public access. In 1980, the legislature enacted AS 19.40.100 “The James Dalton Highway Act” which limited access beyond the Yukon nine months of the year, and only as far as MP 206 in the Brooks Range for the summer months.<sup>50</sup>

Pro-development and pro-access forces won an important victory in 1981 which overturned this status quo. After nearly four years of disputes between various parties concerning the fate of the highway

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<sup>44</sup> Dan W. Lufkin, “Alaska’s Future: Riding on the Haul Road”, *Washington Post*, Dec 27, 1975.

<sup>45</sup> *Turpin v. North Slope Borough*, 879 P.2d 1009 (1994).

<sup>46</sup> Wallace Turner, “Use of Haul Road By All Traffic Stirs Alaska Dispute”, *The New York Times*, June 10, 1981.

<sup>47</sup> TCC consistently opposed use of the Haul Road for public purposes. See TCC Resolution 78-15.

<sup>48</sup> Yukon Flats People Speak, November 16<sup>th</sup>, 1978

<sup>49</sup> Earl Finkler, interviewed by William Schneider and Marie Mitchell, Fairbanks, Alaska, December 8, 2006.

<sup>50</sup> *Turpin v. North Slope Borough*, 879 P.2d 1009 (1994).

after the completion of the pipeline, a Superior Court judge ordered the highway opened to Disaster Creek (Dalton MP 211), 150 miles north of the Yukon River, year-round. “I resisted it being thrown wide opened...I wanted it opened in stages,” Governor Hammond lamented. On Midnight of April 31<sup>st</sup>, Alaskans could travel the Dalton to Disaster Creek without a permit.<sup>51</sup> Throughout the 1980s and early 1990s, the road remained partially open to the public, but limited access beyond MP 211. Ultimately this northerly line limiting access would not be permanent.

### **3.3. Full Public Access following *Turpin v. North Slope Borough***

The reelection of Wally Hickel as Governor—reelected governor with two decades between his terms—changed this status quo. In early June, 1991, Governor Hickel’s DOT Commissioner, Frank Turpin, issued a notice that his department intended to revoke 17 AAC 30, which required vehicles accessing the Dalton Highway to obtain a permit. This policy decision effectively opened the northern part of the Dalton Highway to unrestricted public use. In 1992, DOT stopped checking travel permits for access to the Dalton.

In the midst of Governor Hickel’s reelection and the court fight over the Dalton Highway, environmental organizations once again sought to intervene. In February of 1991, a coalition of environmental organizations published “Alaska in the 21st Century”, which outlined the need for a new management plan for the “Utility Corridor”. “This is a particularly sensitive area,” the organizations argued, “where three national wildlife refuges and one wilderness national park flank the narrow haul road and pipeline corridor.” Beyond the fight to make the Dalton Highway public, these organizations claimed the State’s goal was to take control of the corridor from the federal government. The document concluded, “Environmentalists must defend against management changes which would result in land disposal, strip development, excessive off-road vehicle use, squatting, mining, and other uses that are incompatible with wildlife and wilderness values.”<sup>52</sup>

Native organizations and corporations—namely the Tanana Chiefs Conference (TCC) and North Slope Borough (NSB)—sued to prevent the opening of the road. In the resulting court case, *Turpin v. North Slope Borough* (1994), the organizations sought an injunction to keep the road limited access while they brought their suit. TCC and NSB argued that ADOT had not permitted enough time to hear public testimony, weigh the evidence, respond to public comments—effectively disregarding public procedure. They also argued that opening the Dalton Highway to unlimited public use violated Alaska Statute.<sup>53</sup>

Environmental organizations also remained opposed to the Haul Road becoming public north of the Brooks Range. Organizations like the Wilderness Society worried that opening the road would significantly increase both legal and illegal hunting and therefore “severely affect subsistence resources”.<sup>54</sup>

TCC and NSB were able to secure a preliminary injunction, with the Superior Court judge ruling that Alaska Statute restricted access to the Dalton Highway and that ADOT had violated the Administrative Procedure Act. Commissioner Turpin responded by issuing a written decision addressing the various

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<sup>51</sup> Wallace Turner, “Use of Haul Road By All Traffic Stirs Alaska Dispute”, *The New York Times*, June 10<sup>th</sup>, 1981.

<sup>52</sup> “Alaska in the Twenty-First Century”, Feb 1991

<sup>53</sup> *Turpin v. North Slope Borough*, 879 P.2d 1009 (1994).

<sup>54</sup> Cochran to Blazer, Hession, et al., April 7<sup>th</sup>, 1993, Box 28, Edgar Wayburn Papers.

issues raised by the public and litigating parties, and then repealing 17 AAC 30. TCC and NSB responded by asking the Superior Court to affirm that the preliminary injunction was still in effect. The Superior Court held that “the Dalton Highway may not be opened to unrestricted public traffic . . . unless . . . the Alaska Legislature amends or repeals the restrictions set forth in the statutes.” The State appealed and took the case to the Alaska Supreme Court.<sup>55</sup>

Ultimately, the Court found in favor of the Hickel Administration and opening the road to the public. The case centered around several key issues.

First, the Alaska Supreme Court cited the federal right of way provisions found in the Trans-Alaska Pipeline Authorization Act (TAPAA). The initial grant specifically provides that “the right of the right-of-way shall be used only for the construction, operation, and maintenance . . . [by] the state of a *public road* and related public facilities” (Emphasis added). The court also referenced the Declaration of Policy section at the outset of TAPAA.

The court found that DOT had a broad array of powers regarding planning, construction, and control of the Dalton Highway, and that DOT “has the general authority to open the entire length of the highway to unrestricted travel by the general public.”

On a minor issue, the Supreme Court agreed with the Superior Court that DOT had erred in not properly calculating the costs of opening the road to the public. Increased public usage of the road could very likely cost the state tens of millions of dollars per year. The court held that DOT “act arbitrarily and capriciously in failing to substantially comply with the fiscal note requirements” of the Alaska legislature.

Thus, in January 1995, the Dalton Highway became an unrestricted public road. Between 1995 and 2001, anyone could traverse the highway all the way to the Arctic Ocean.

Following September 11<sup>th</sup>, the state closed the northernmost section of the road, preventing access to the Arctic Ocean. Officially, this was a security measure to protect the oil fields. The state also created security checkpoints along the highway. But budget problems soon forced the state to only operate these checkpoints 12 hours per day.<sup>56</sup> Soon they were abandoned all together, but the state continued to limit access through the oil fields to the Arctic Ocean. Travelers could journey from Livengood to Deadhorse year-round. Thus, by the early 21<sup>st</sup> Century, the Haul Road was effectively cracked open and made public.

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<sup>55</sup> *Turpin v. North Slope Borough*, 879 P.2d 1009 (1994).

<sup>56</sup> Tim Egan, *New York Times*, “Talk of New Drilling Raises Doubts on Alaska Pipeline”, March 11th, 2002

## CHAPTER 4. SAFETY

Safety along the Dalton Highway is analyzed here using geolocated data available through the Alaska DOT&PF Highway Safety Office. The available data include reported crashes, either through self-reporting or trooper reports, for the period of 2000 through 2021. Figure 6 shows the yearly distribution of crashes on the Dalton Highway for that period with the lowest crash rates being in the period of 2003-2007 and 2012. The highest yearly rates of crashes were in 2013 and 2014.

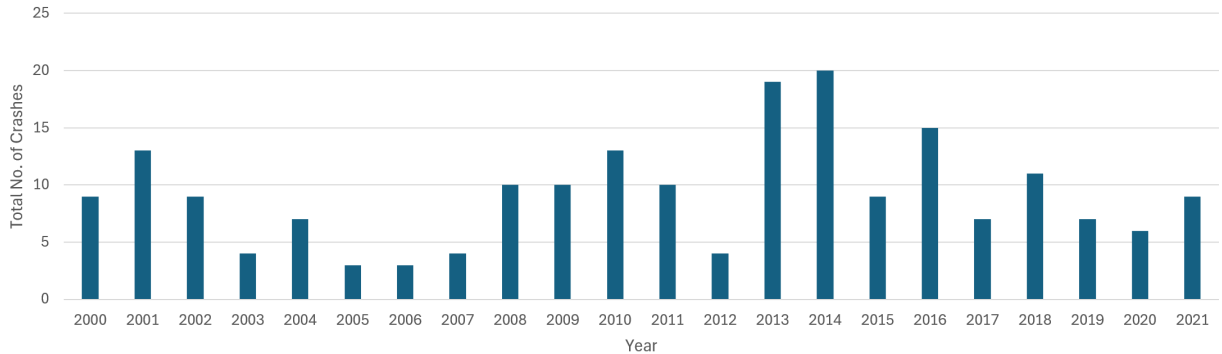


Figure 6. Total number of crashes on the Dalton Highway by year, 2000-2021.

The monthly distribution of crashes for all crashes during the 2000-2021 period is shown in Figure 7. The months of February and May exhibit the lowest rate of crashes while July and August exhibit the highest rate of crashes. To further explore the relationship between month and year, Figure 8 shows the monthly distribution by year for the period of 2010 through 2015 as to bound the years of 2013 and 2014 which had the highest yearly crash rates. July 2011, November 2013, and January 2014 stand out as having the highest monthly crash rates. While July 2011 appears to be an outlier, the winter season coupling of November 2013 and January 2014 suggest something related to environmental and climatic variables for that season.

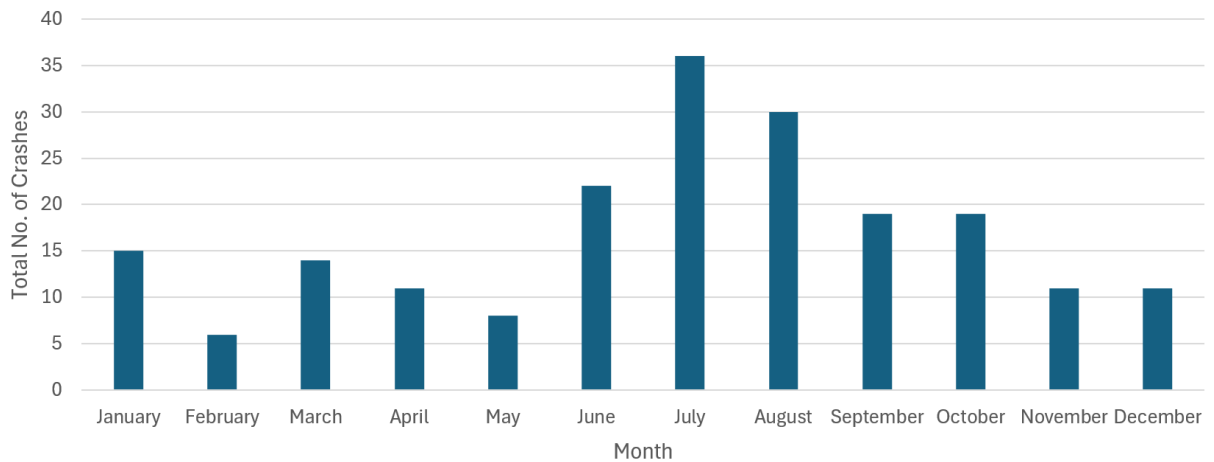


Figure 7. Total number of crashes on the Dalton Highway by month, 2000-2021.

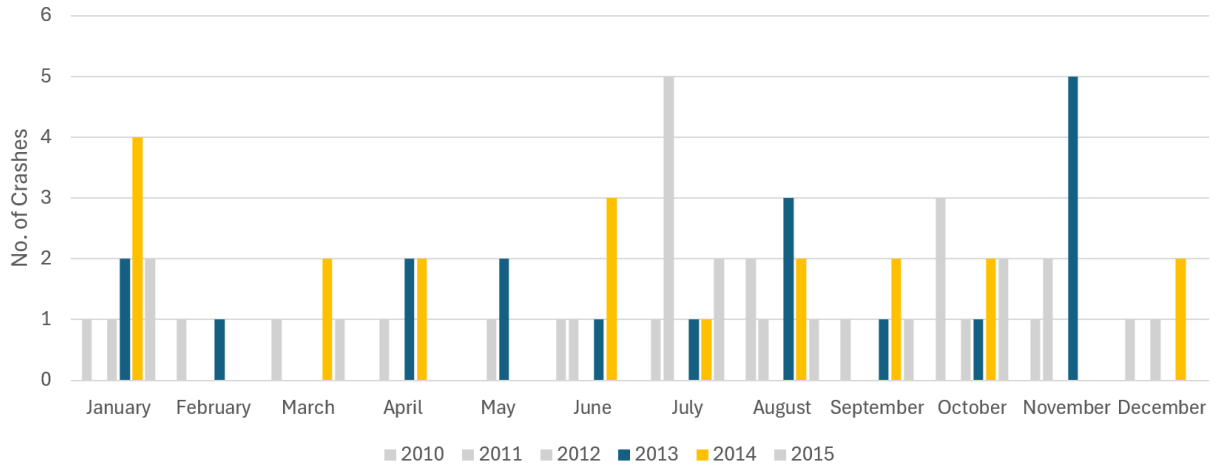


Figure 8. Total number of crashes on the Dalton Highway by month, 2010-2015.

Figure 9 shows the number of crashes categorized by injury severity level for each year of the study period. Again, 2013 and 2014 show a higher rate of crashes but that these crashes resulted in no apparent injury, or otherwise referred to as property damage only (PDO) crashes. Crashes resulting in fatality appear to be evenly distributed over the study period as to crashes resulting in severe injury with the exception of 2001 and 2009. While there was a significant amount and anecdotal evidence to suggest that a large proportion of crashes are of “run-off-the-road” type (RTOR), Figure 10 suggests that on-roadway crashes are most prevalent and that these are likely to involve more than one vehicle or animal-vehicle collisions. Figure 11 indicates that semi-trailers and tractor-trailer type vehicles are more likely to be involved in crashes on the Dalton Highway than other vehicle types. However, Figure 11 also suggests that many crash records did not classify the at-fault vehicle type, particularly in the years preceding 2013.

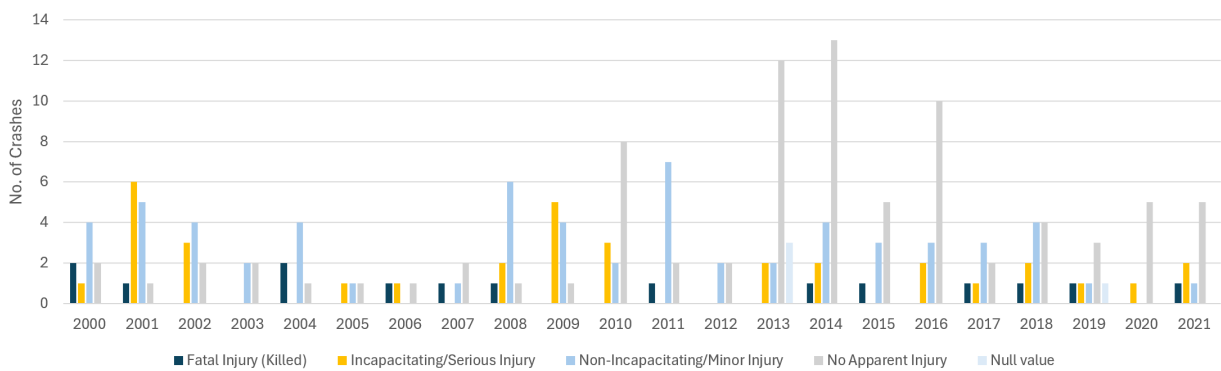


Figure 9. Total number of crashes on the Dalton Highway by injury severity, 2000-2021.

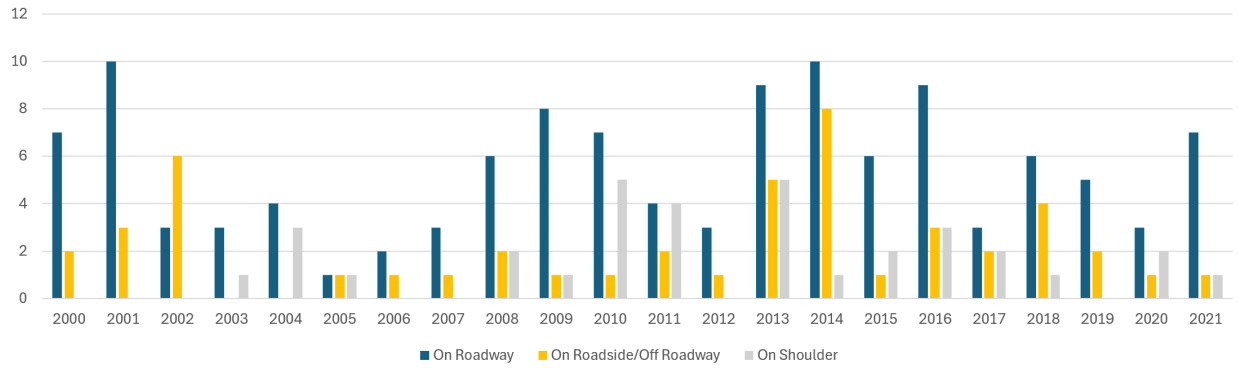


Figure 10. Total number of crashes on the Dalton Highway by relationship to roadway, 2000-2021.

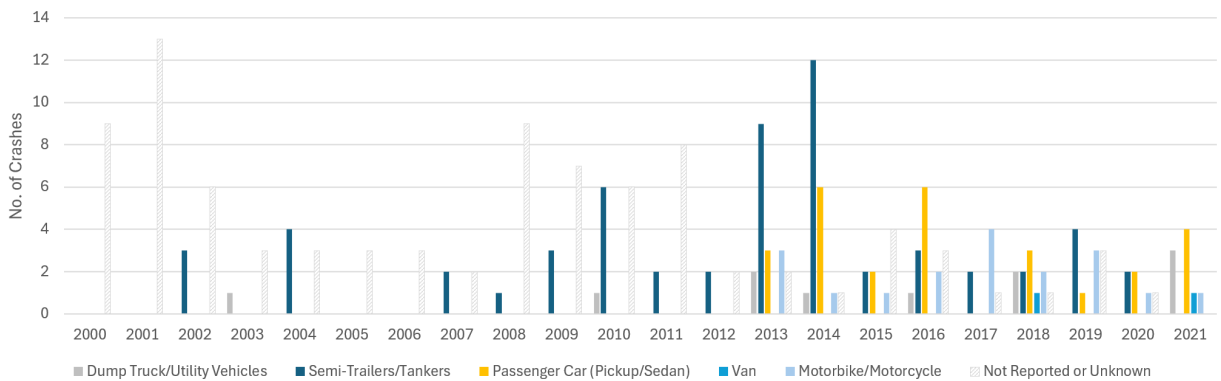


Figure 11. Total number of crashes on the Dalton Highway by at-fault vehicle type, 2000-2021.

Figure 12 depicts the number of crashes by year and road surface condition. The most prevalent surface conditions present for record crashes are “Dry”, “Snow/Ice/Frost”, and “Mud/Dirt/Gravel”. While the latter condition is not surprising given that much of the Dalton highway is unpaved and gravel, the higher rate of “Snow/Ice/Frost” suggest that winter travel on the Dalton highway presents unique challenges that result in a higher likelihood of being involved in a crash. While it could be assumed that this may be related to drivers being inexperienced with winter driving, such as a tourist, Figure 13 shows the residence of the at-fault driver, suggesting that Alaskan residents are more likely to be at-fault in crashes on the Dalton highway.

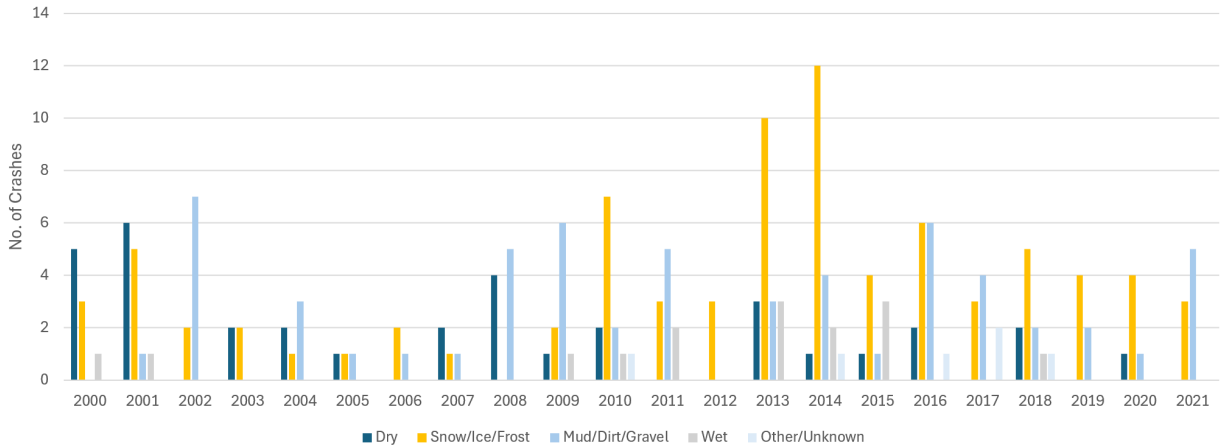


Figure 12. Total number of crashes on the Dalton Highway by road surface condition, 2000-2021.

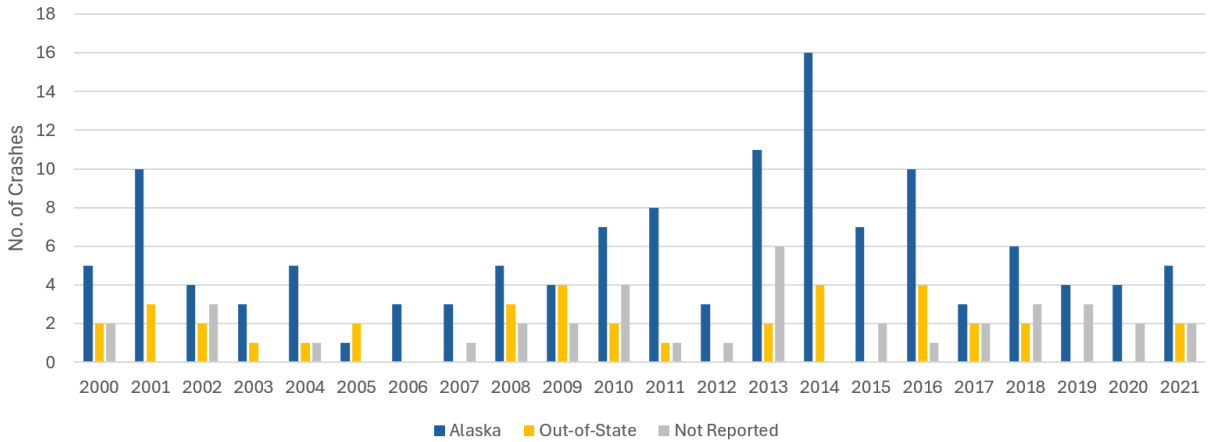


Figure 13. Total number of crashes on the Dalton Highway by residence of at-fault driver, 2000-2021.

To further explore trends in crashes on the Dalton Highway, a spatial analysis of crash locations was conducted. Figure 14 depicts the spatial distributions of all crashes occurring between 2000 and 2021 along the Dalton Highway corridor. To further explore this spatial relationship, Figure 15 shows the “sliding window” of summed total crashes along five-mile segments of the Dalton Highway corridor. Both Figure 14 and Figure 15 indicate that the first 56-mile portion of the Dalton Highway, the segment south of the Yukon River bridge crossing experiences the highest concentration of crashes; the second most being in the vicinity of MP114, as depicted in Figure 16, and then followed by the area surrounding Toolik Field Station.

Figure 17 shows a more refined image of fatal and serious injury related crashes along the entirety of the corridor and further supports the assertion that the more critical segment from a safety perspective is the first 56 miles of the corridor. Figure 18 then provides more detailed representation of the highway segments with greater crash frequency when normalized based on average daily traffic.

Appendix A and Appendix B also provide depictions of crash location and severity as well as normalized crashes based on ADT for each construction camp segment over the 2000-2021 study period, respectively.



Figure 14. Geographic location of crashes on the Dalton Highway, 2000-2021.



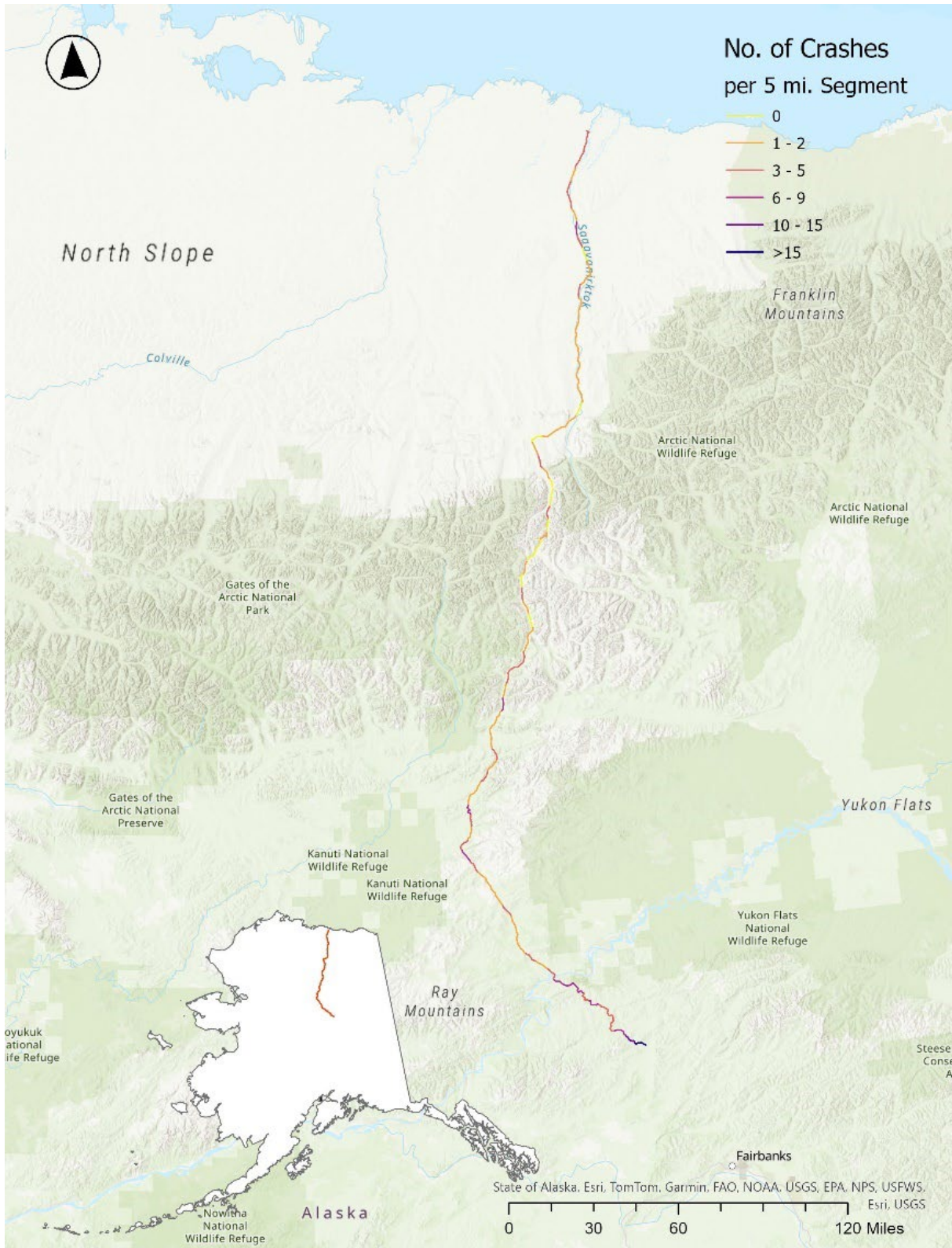


Figure 15. Number of crashes along the Dalton Highway (2000-2021) using a five-mile “sliding window” method.

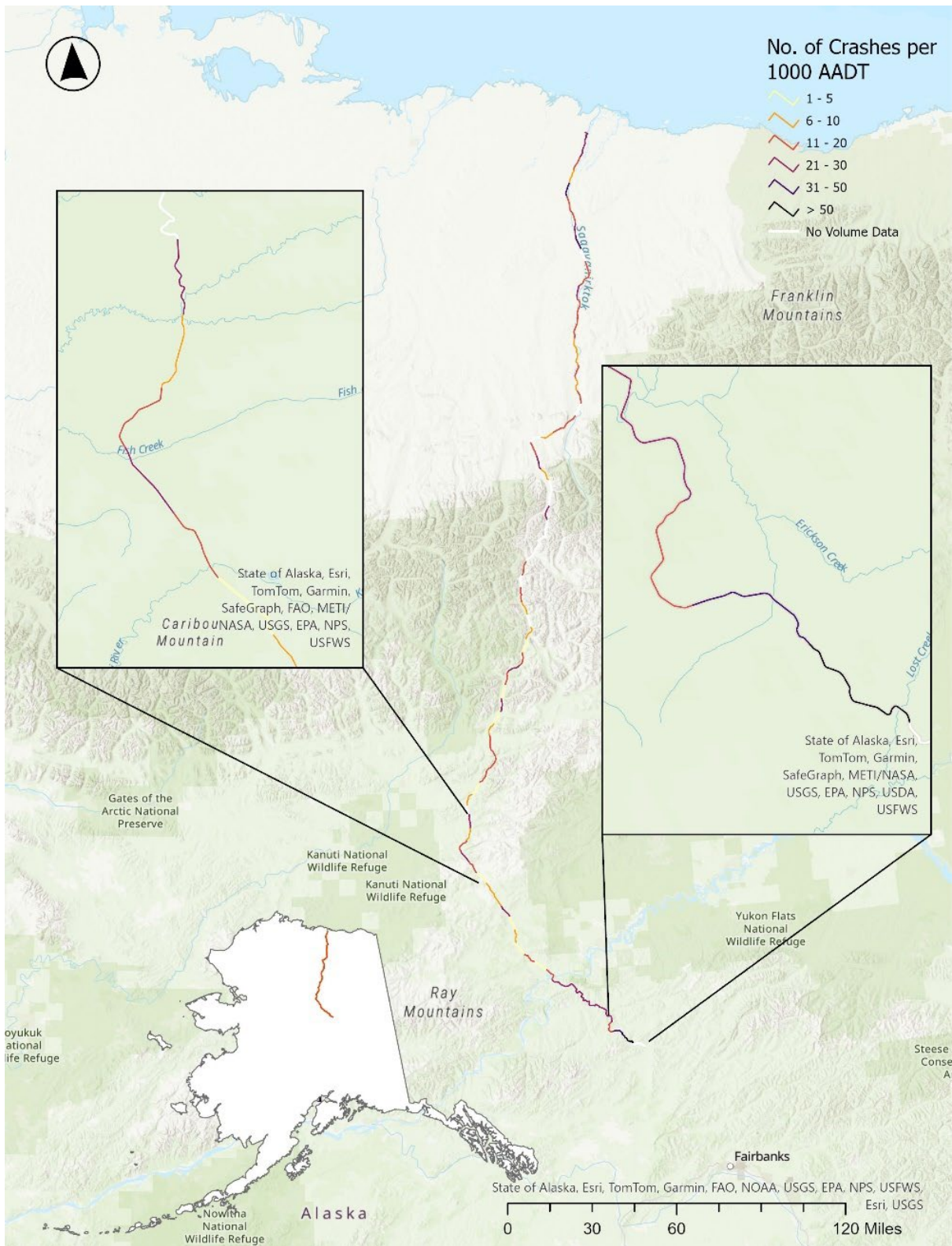


Figure 16. Number of crashes per 1000 ADT along the Dalton Highway, 2000-2021.



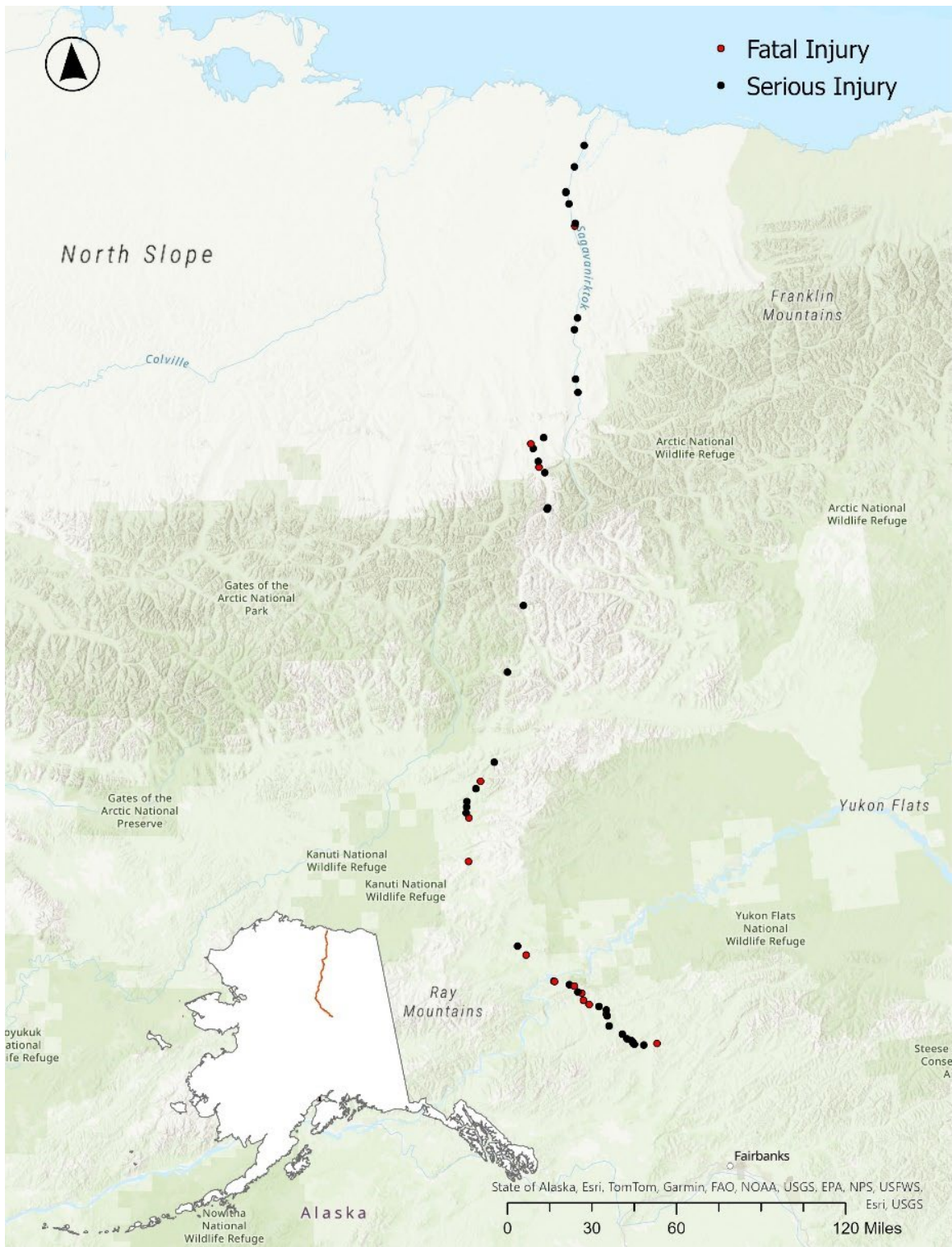
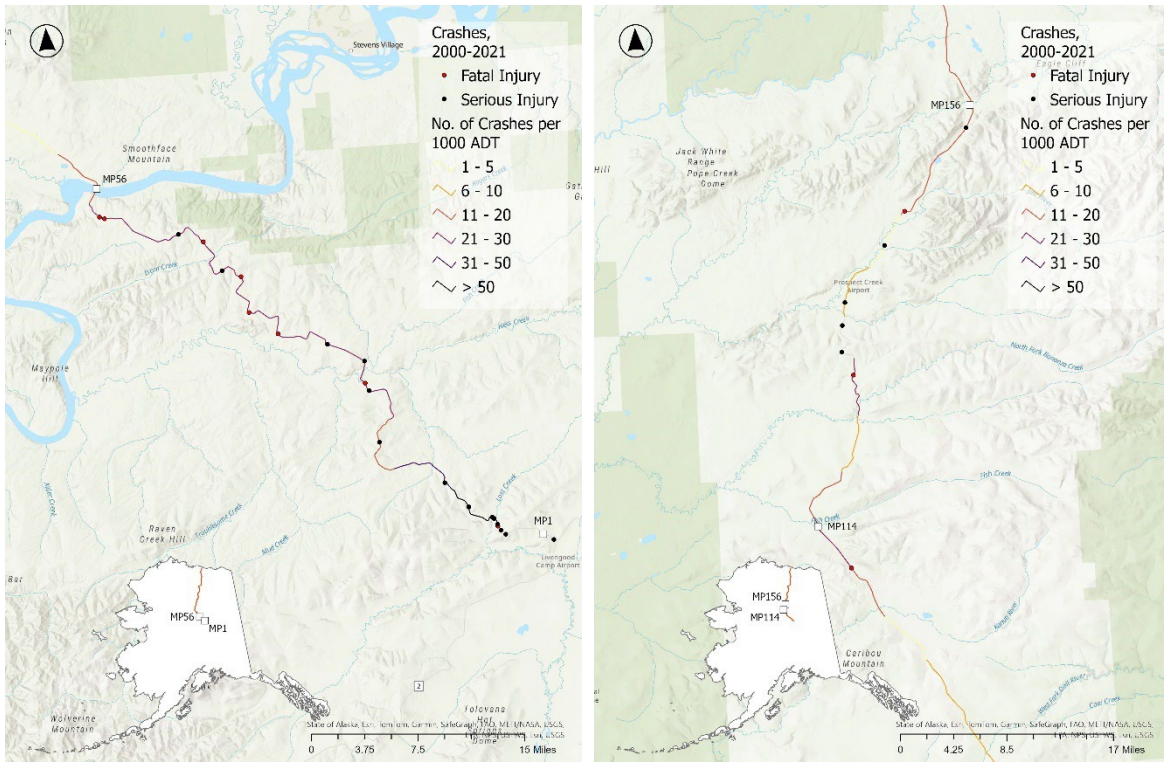
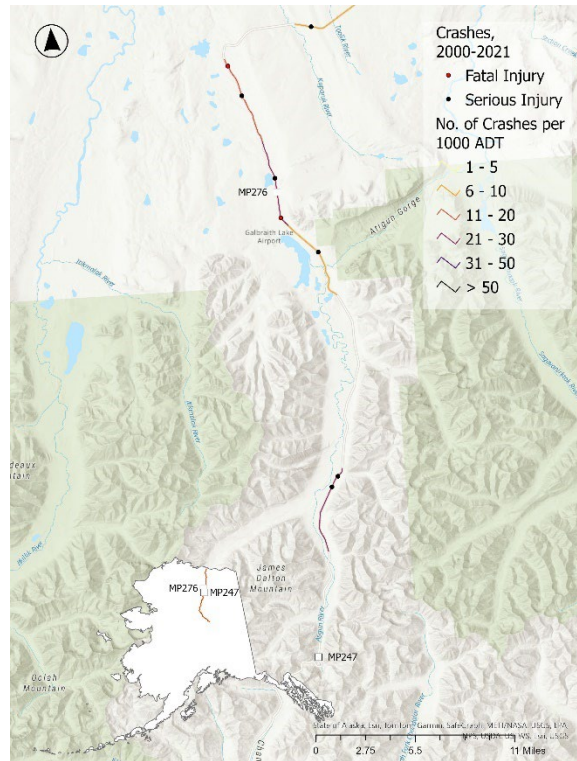


Figure 17. Geographic location of fatal and serious injury crashes on the Dalton Highway, 2000-2021.



(a)

(b)



(c)

Figure 18. Crash characteristics for MP1-MP56 (a), MP114-MP156 (b), and MP247-MP256 of the Dalton Highway, 2000-2021.

## CHAPTER 5. THE FEEDBACK EFFECT

One of the central questions of this research study asked: To what extent did the Dalton spur secondary transportation corridors? Or put more simply, to what extent does infrastructure beget infrastructure?

As discussed in the methodology, this study answers the question by cataloging and analyzing three categories: 1) pre-existing trails 2) proposed roads that were never constructed 3) new roads or infrastructures emanating from the Dalton Highway corridor.

The corridors this study observed as of the Spring of 2023 are important markers of what has been realized. Yet these corridors also exist at a certain moment in time. There are almost certainly other corridors that have been utilized from the Dalton that were not observed by the research team. Furthermore, as discussed in the conclusions, while these realized corridors may not reflect proposed transportation routes, numerous potential future corridors remain. The Dalton is very much a living, flexing spine road.

### 5.1. Pre-existing Trail or Road Corridors

Below is a selected inventory of major trails throughout Alaska's northern Interior that existed prior to the construction of the Haul Road.

- Tanana-Allakaket Trail

The Tanana-Allakaket winter trail is a roughly 130-mile route connecting the villages of Tanana, Hughes, and Allakaket. This transportation route dates back centuries and has long been used by local Athabascan peoples. During the early 20<sup>th</sup> Century gold rushes throughout Interior and Northern Alaska, the trail served as key transportation corridor for gold miners, supplies, and mail carriers. Some have referred to this trail as the predecessor to the haul road.<sup>57</sup>

- Coldfoot to Chandalar and Coldfoot to Caro Trails

The Coldfoot-Chandalar and Caro-Coldfoot Trails were part of a larger trail system constructed by miners in the early 1900s and later maintained by the Alaska Roads Commission (ARC). These were crucial access corridors for the people in the Chandalar and Koyukuk mining districts. Most of the travel occurred by sled during the winter, miners and the ARC improved and maintained these trails by clearing trees and brush. Both trails are visible from aerial photos taken in 1955.

In 1977, BLM envisioned that the Coldfoot to Chandalar trail might be upgraded to a road or more significant trail to permit greater access to the Chandalar mining region. While both trails predate the construction of the Dalton Highway, the highway facilitated greater use of these historic transportation corridors.<sup>58</sup>

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<sup>57</sup> Robin Mills, interviewed by Marie Mitchell, Fairbanks, Alaska, December 18, 2006.

<sup>58</sup> Rolfe G. Buzzell, "History of the Caro-Coldfoot Trail (RST 262) and the Coldfoot-Chandalar Trail (RST 9)," Office of History and Archeology Report Number 117 (2007).

- Caterpillar Trails to the North Slope

As discussed in Chapter Two, several cat trails were blazed from the Interior to the North Slope of Alaska between 1945 and 1969. While these were not permanent ice roads, some of these trails were utilized multiple times and created transportation corridors. Several notable expeditions created and utilized cat trails from Interior Alaska (typically Fairbanks) to the Umiat or Barrow areas.

- Hickel Highway

Hastily constructed to support the oil rush of 1968-1969, the Hickel Highway left the clearest transportation corridor from the Interior to the North Slope. It was utilized again in the winter of 1970 and 1974, for a total of 3 seasons. The route of the highway can still be seen from aircraft and satellite photographs.

- Hess Creek Trail

Located in the Yukon-Koyukuk region, gold miners used the Hess Creek Trail during the late 19<sup>th</sup> and early 20<sup>th</sup> Centuries. The trail was named for prospector “Mike” Hess, who discovered Gold in 1892. It is roughly 50 miles in length.

- Nolan-Branch Sled Trail

This was a 5.5 mile trail built and maintained by the Alaska Road Commission.

## **5.2. Proposed but Not Constructed Roads**

Since the construction of the Dalton Highway, dozens of different surface transportation corridors have been proposed or constructed. This section details those roads or trails which were proposed, but have not been constructed. This section is particularly illuminating as it shows the wide variety of proposed corridors.

- Road to Stevens Village

Located on the north bank of the Yukon River, Stevens Village is a predominately Athabascan community. The Village witnessed the impact of road construction when contractors blazed the Hickel Highway through the community in the winters of 1968-1969 and 1969-1970. Stevens Village played a pivotal role in filing suit against the TAPS project in early 1970 and stalling the project over right of way concerns.<sup>59</sup> Residents of the village have long been concerned about the impact of road corridors on their community.

Early in the construction of the Haul Road, the BLM showed a potential year-round road corridor from the Yukon River Crossing to Stevens Village. The BLM noted that there had been an “old winter trail” on the north bank of the Yukon that could be turned into a road.<sup>60</sup>

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<sup>59</sup> On April 1<sup>st</sup>, 1970, Judge Hart granted an injunction on the TAPS road project for 19.8 miles of road claimed by Stevens Village. See Armand C. Spielman and Michael D. Travis, *The Landmen: How They Secured the Trans-Alaska Right of Way* (Anchorage AK: Publication Consultants, 2016).

<sup>60</sup> U.S. Bureau of Land Management, “The Utility Corridor: Proposed Land Uses”, November 3, 1978

Efforts to construct a road were part of a larger plan to construct a permanent settlement at Yukon Crossing. BLM's Utility Corridor Report recommended such a settlement, and University of Alaska's Institute for Social and Economic Research (ISER) published a study recommending the establishment of a large community in the banks of the river.<sup>61</sup> Like the Haul Road itself, the establishment of Yukon Crossing sparked controversy. In its final Utility Corridor report, BLM referred to the founding of Yukon Crossing as one of the two biggest controversies (along with opening the road to public use).<sup>62</sup> While such a community (certainly not as "large" as was often envisioned) evolved from an old pipeline camp and came into existence, it did not precipitate a road to Stevens Village.

Ultimately, only a winter trail and/or ice road was constructed from the Dalton to Stevens Village. The ice of the Yukon River can serve as an effective medium to construct a seasonal ice road. While the full story of this proposed corridor is beyond the purview of this study, it is likely that its story mirrors that of Bettles and Anaktuvuk Pass. Residents of Stevens Village sought access to the Dalton to lower the cost of fuel, food, and supplies, but did not want unlimited access from outsiders to their village or subsistence resources.

- Happy Valley to Umiat

In the BLM's preliminary "The Utility Corridor" study (1977), the agency identified a secondary transportation corridor from Happy Valley to Umiat. Umiat had been the historical locus of North Slope oil and gas exploration before the discovery of Prudhoe Bay. Even after 1968, Umiat served as an important base for exploring the Naval Petroleum Reserve Number 4 (renamed National Petroleum Reserve Alaska in 1976). While no permanent year-round corridor has been established, over the decades there have been multiple ice roads to connect the Dalton with Umiat and other prospective petroleum sites in the region.

- Access to Gates of the Arctic National Park

At one time, the National Park Service considered multiple public access routes from the Haul Road to the proposed/ incipient Gates of the Arctic National Park. One of the access points would have been from the village of Wiseman. In BLM's preliminary study of the "Utility Corridor" (1977), the agency envisioned a potential road corridor to Glacier River, west of Wiseman.

None of these proposed corridors came to be. The management plan of Gates of the Arctic National Park today is that no roads, buildings, or formal trails are permitted within the Park itself. The goal is that the park will look the same a century from now as it does today. Today, the only road that would access Gates of the Arctic National Park is the proposed Ambler road (see below).

- Road to Allakaket and Hughes

With the example of the Bettles Ice Road (see section 5.3), some residents of Allakaket and Hughes have expressed an interest in a road which would connect their communities with Bettles. This would permit

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<sup>61</sup> Tanana Chiefs Conference to David Wickstrom. ISER prepared a Yukon Crossing Study for BLM in October 1976.

<sup>62</sup> U.S. Bureau of Land Management, "The Utility Corridor: Proposed Land Uses", November 3<sup>rd</sup>, 1978.



seasonal transportation from the Dalton Corridor to their communities. According to the Allakaket Community Plan, the Bettles ice road “cuts down on the cost of freight in Allakaket”.<sup>63</sup>

- Road to Kaktovik

There have been numerous attempts to construct a road from the Dalton Corridor and/or North Slope oil roads to the community of Kaktovik in northeastern Alaska. Some of the earliest plans involved the Arctic Gas project of the 1970s. The Kaktovik road would be an extension of the sprawling North Slope oil field road system (see Section 5.3). Many of these attempts have been bound up with attempts to drill for oil in the Arctic National Wildlife Refuge (ANWR), although some have been presented as independent of this political issue. In 2021, Alaska Governor Dunleavy requested \$15 million from the federally funded Denali Commission for work on road projects, including Kaktovik to the Dalton Highway.<sup>64</sup> The most likely scenario in which a surface transportation corridor—either an all-weather or an ice road—were constructed to Kaktovik is if the Coastal Plain (1002 area) of ANWR were leased and developed for oil drilling.

- Road to Bob Johnson Lake (AKA Big Lake)

In BLM’s preliminary study of the “Utility Corridor” (1977), the agency envisioned a potential road corridor to Bob Johnson Lake, east of Wiseman.

- Foothills West Transportation Access (AKA “The Road to Umiat”)

Beginning near MP 276 of the Dalton, the proposed Foothills West Transportation Access, or road to Umiat, would provide access to the petroleum basins of the Umiat and Gubik areas. Roughly due west of Happy Valley, the petroleum fields have been known petroliferous areas since the 1940s and were thoroughly explored by the federal government between 1976 and 1981. However, despite the presence of some hydrocarbons, the economics of these deposits have been challenged by a lack of infrastructure and access. The original Hickel Highway Route entered this region, came close to Umiat, and provided supplies to Sagwon.

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<sup>63</sup> Allakaket Community Council and Jordanna David, “Allakaket Community Plan”, 2018. <https://www.tananachiefs.org/wp-content/uploads/2022/07/Allakaket-Community-Plan-2018-Final.pdf>.

<sup>64</sup> Dermot Cole, “It’s Federal Cash to the Re-election Rescue”, *Fairbanks Daily News-Miner*, May 19<sup>th</sup>, 2021



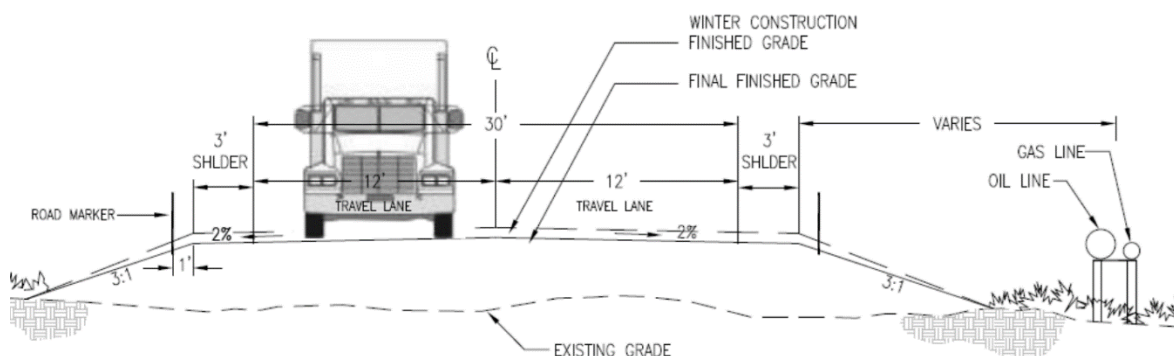


Figure 19. Alaska DOT drawing for a proposed road to Umiat, 2010.

The State DOT plan to construct the Road to Umiat detailed the development of “a transportation corridor from the Dalton Highway to Umiat that included material sites.” DOT proposed a 30-foot wide gravel road with turnouts every 5 miles and design speeds of 50 MPH. Five different corridors for such a potential road were identified, but no road was ever constructed. One of the main barriers was the high cost of such a project, as it needed to cross multiple rivers, namely the Itkilik, Anaktuvuk, Chandler, and Colville—rivers which mostly did not have available hydrology data. While detailed plans were proposed in the late 2000s, with construction intended for 2013 at the earliest, no road has been approved or built.<sup>65</sup>

This road was likely but one of dozens that have been proposed to the Umiat area, or areas adjacent to the Haul Road, since the late 1960s.

- Roads into the Yukon Basin and Kanuti Basin

In BLM’s preliminary study of the “Utility Corridor” (1977), the agency envisioned a potential road corridor to mineral rich areas adjacent to the corridor. BLM noted that in the case of successful oil or gas discovery, “pipelines to the Corridor could be constructed.”<sup>66</sup>

- Ambler Road

Of all the proposed transportation corridors from the Dalton, none have been as controversial as the Ambler Road. The proposed road would stretch 211 miles from the Dalton Highway to the Ambler mining district. The Ambler mining district contains copper, zinc, and other rare earth minerals that have long been coveted by mining companies and the State of Alaska. While the full details of this project are beyond the purview of this study, as a major proposed secondary transportation corridor with parallels to the Dalton Highway public access controversy, several pertinent areas of this road project will be briefly analyzed.

The dreams of accessing the mineral resources of the Ambler mining district stretch back decades. In World War II, military planners investigated transportation corridors to Western Alaska, including the

<sup>65</sup> Ryan Anderson, “Foothills West Transportation Access: ‘The Road to Umiat’” (Alaska Department of Transportation, 2010), <https://dot.alaska.gov/nreg/forum/files/nrf-012-foothills.pdf>.

<sup>66</sup> U.S. Bureau of Land Management, “The Utility Corridor (Preliminary)”, 1977.

region near Ambler. Prospectors and mining companies discovered vast copper and metal deposits in the 1950s. When Governor Hickel envisioned a railroad to the North Slope of Alaska in the late 1960s, his proposal also included a spur line to Ambler (see Section 2). The political importance of this transportation corridor is reflected in federal statute.

In 1980, Congress passed and President Jimmy Carter signed the Alaska National Interest Lands Conservation Act (ANILCA). For the past decade, conservationists, Alaska Natives, and pro-development forces had been battling over the language and scope of the legislation. For the Dalton Highway and Ambler Road, one provision proved especially central. ANILCA declared that: “Congress finds that there is a need for surface access across the Western (Kobuk River) unit of the Gates of the Arctic National Preserve from the Ambler Mining District to the Alaska Pipeline Haul Road and the Secretary shall permit such access in accordance with the provisions of this subsection.”

Since 1980, private industry and the State of Alaska have been trying to construct a road. The current road is being promoted by the Alaska Industrial Development and Export Authority (AIDEA). In 2009, state transportation planners identified an initial route and in 2013, AIDEA took over as the lead agency. AIDEA hoped to replicate its success with the DeLong Mountain Transportation System, an industrial haul road built by AIDEA which permits access from Kotzebue to the Red Dog Mine.

To assuage concerns about the negative impacts of access, AIDEA has proposed making the road private and only open to industrial traffic and local users. “Access would be restricted to industrial and commercial uses. While it would be closed to the general public, the road would allow deliveries of commercial goods to local communities and access for emergency responders.”<sup>67</sup>

Most of the nearby villages, from Bettles to Alatna, Hulisa and Kobuk, have offered resolutions in opposition to the project. Widespread opposition is one reason that the proposed Ambler Road does not follow the Bettles-Evansville Road corridor (see 5.3).

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<sup>67</sup> Corri Feige, “A Stable economic future follows the Ambler Road”, *Fairbanks Daily News-Miner*, May 12<sup>th</sup>, 2020.



Figure 20. “Welcome to the James Dalton Highway” Sign at MP2.  
*Photo Credit: Alena Naiden, Fairbanks Daily News-Miner, September 20<sup>th</sup>, 2021*

The issue of the Ambler Road one day becoming public has emerged as a major issue. The residents of the Southern Brooks Range, according to John Gaedeke, “have already seen an originally ‘private’ road built to the North Slope become the now-public Dalton Highway.”<sup>68</sup>

### 5.3. Induced Road Corridors

Since the Haul Road was constructed between 1969-1974, a small number but significant new secondary transportation corridors have been constructed.

- Ice Road to Bettles and Evansville

While founded in 1898 during the Gold Rush, the community of Bettles grew in significance during and after World War Two. The U.S. Navy constructed a large airstrip in the community to support its oil operations on the North Slope.<sup>69</sup> Nearby to Bettles is the village of Evansville, which is home to both Athabascan and Inupiat peoples.

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<sup>68</sup> John Gaedeke, “Ambler Road: Listen when the region says ‘no’.” *Fairbanks Daily News-Miner*, November 6<sup>th</sup>, 2019.

<sup>69</sup> Dan Berriochoa, “Pistons to Pipelines: The Relationship Between Aviation, Oil, and the Development of the North”, M.A. Thesis, University of Alaska Fairbanks (2023).

In the mid-1970s, the people of Evansville were hesitant about the impacts of the Dalton on their community. In particular, they expressed uncertainty about the proposed development of a community at Prospect, near Pump Station 5. Likewise, the people of Bettles were concerned about hunters entering the area with the opening of the Haul Road.<sup>70</sup>

There was also the prospect that this corridor would not only extend to Bettles and Evansville, but could continue West to other communities, and perhaps even as far as Nome. A 1975 *Washington Post* article recorded one government official saying, “I can see a major trunk road from Prospect Camp to Bettles, the Brooks Range, and Kobuk and Nome.”<sup>71</sup>

In BLM’s final 1978 Corridor Study, the agency proposed to “maintain the Arctic transportation corridor from Dahl Creek to Bettles/Evansville, with its connecting branch to Prospect. Permit use, both North and South, of the old winter trail which crosses the Haul road at Fish Creek.”<sup>72</sup>

Ultimately the people of Bettles and Evansville settled on a compromise: an ice road. Every year a 27-mile ice road is carved and maintained on an existing right of way. The road extends from MP 135 of the Dalton Highway, near Prospect and Pump Station 5, to Bettles and Evansville. Road construction typically commences in January and takes a month each year.

Bettles road and trails chief estimated the road cost the city between \$25,000 and \$50,000 (in 2016 dollars) to build each year. It is estimated to save more than \$600,000 per year.<sup>73</sup>

This is probably the best established and maintained secondary transportation infrastructure emanating from the Dalton Corridor, with the exception of the oil roads of the North Slope. The Bettles Ice Road perfectly encapsulates the desire of local communities to access the benefits of the Dalton Highway while limiting the negative impacts of outside access.

- North Slope Road System

The construction of the Haul Road, and the Hickel Highway before it, facilitated oil drilling operations throughout the North Slope. This influenced the dynamics of both oil drilling and new secondary road construction. Project financing for mining is much more economic near the road. The Dalton has precipitated the development of exploration roads, enabled sprawl in the arctic, and incentivized additional development.

The road system grew tremendously due to the growth of Prudhoe Bay and oilfield related transportation corridors. While the original 1972 Trans-Alaska Pipeline System Environmental Impact Assessment estimated that oilfield development would comprise 550 square miles, by 1987 this area had increased to 800 square miles. Total road miles exceeded initial expectations by 30%.<sup>74</sup> Since 1987, the North Slope oil fields and its associated service roads has grown considerably. These roads were

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<sup>70</sup> U.S. Bureau of Land Management, “The Utility Corridor (Preliminary)”, 1977.

<sup>71</sup> Dan W. Lufkin, “Alaska’s Future: Riding on the Haul Road”, *Washington Post*, Dec 27, 1975

<sup>72</sup> BLM, “The Utility Corridor”, 1978

<sup>73</sup> Mike Spindler, “Ice Road to Bettles a Lifeline for Residents”, *Fairbanks Daily News-Miner*, March 20<sup>th</sup>, 2016.

<sup>74</sup> U.S. Fish and Wildlife Service, “Comparison of Actual and Predicted Impacts of the Trans-Alaska Pipeline System and Prudhoe Bay Oilfields on the North Slope of Alaska” (Washington, D.C.: Government Printing Office, December 1987).

limited access, providing access for industrial purposes and to a select number of location residents, namely those of Nuiqsut.

According to the North Slope Borough, the growth of industrial infrastructure—including roads and pipelines—has followed a “predictable pattern.” This has entailed a “dendritic form”, or a pattern the resembles a tree branch. In 2017, the NSB estimated that there were approximately 222 miles of oil field road system stemming from the Haul Road. “This spine and spur road system connects the Greater Kuparuk Area, approximately 30 miles west of Deadhorse in the Greater Prudhoe Bay Area, with the Duck Island Unit, approximately 15 miles to the northeast,” according to one NSB report.<sup>75</sup> Since 2017, this road system has continued to grow with new oil development, namely the Willow and Pikka oil projects.

- Winter Community Access Trails (WCAT)

Winter Community Access Trails (WCAT) are a series of winter and snow roads on the North Slope and in the Brooks Range. Created by the North Slope Borough, the program is intended to create access corridors for local residents in Utqiagvik, Atqasuk, Wainwright, Nuiqsut, Point Pay, and Anaktuvuk Pass. The network of snow roads permitted residents hundreds of miles away to access the Dalton Highway. According to the NSB’s plan, the WCAT “provides access to predominantly Alaska Native communities that have been isolated by the federal lands that surround the named communities.” The NSB put a fine point on the importance of these roads: “Access would allow the Alaska Native residents to enjoy transportation rights commonly enjoyed by the majority of Alaskans.”

First created in 2018, the prime contractor on the project—Eskimo Inc.—focused on creating and maintaining useable trails for residents. In the seasons since, the winter or ice roads have enabled limited traffic throughout the North Slope. The North Slope Borough also facilitated roads across the sea ice during years when conditions (typically low snow) did not permit the construction of on-shore roads.

In 2022, a caravan of vehicles traversed from the Dalton Highway, beyond Galbraith Lake, and to Anaktuvuk Pass. Six cars traveled for more than 10 hours to make the journey.<sup>76</sup> This is a striking comparison to the winter of 1969, when the Hickel Highway came through Anaktuvuk Pass without the consent of local peoples.

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<sup>75</sup> North Slope Borough, “Oil and Gas Resource Base of the North Slope Borough”, 2017, 52.

<sup>76</sup> Alena Naiden, “Residents drove their cars to Anaktuvuk Pass for the first time”, *Arctic Sounder*, April 1<sup>st</sup>, 2022.

## CHAPTER 6. CONCLUSIONS

The Dalton Highway has been a pivotal transportation corridor for rural isolated and indigenous (RITI) communities and the State of Alaska for the past 50 years. At the same time, the highway has been amongst the most controversial surface transportation corridors in the state and modern Alaskan history. Rural Alaskans along the Dalton Corridor, as well as environmental and tribal interest groups throughout the state, did not want unlimited access to villages, communities, and local ecosystems.

Many RITI communities sought to limit access by outsiders, especially for subsistence reasons, while permitting local residents' access to the Dalton and the state's surface transportation system. For many communities along the Dalton Corridor, providing limited access was primarily accomplished by means of ice roads or winter trails. These seasonal and temporary surface transportation infrastructures provided limited seasonal access for residents. These ice roads or winter trails—Bettles ice road, CWAT, Steven's Village ice road, etc. —ensured that local communities could gain access to the Dalton Highway and the lower-priced commodities of Alaska's road system while not facilitating the unwanted influx of outsiders. The humble ice road thus serves as an exemplar for Alaska's new paradigm of limited but effective access for RITI communities.

The controversy over opening the Dalton Highway to year-round public travel reflected the deep-seated concerns of RITI communities. While the Dalton Highway was ultimately made public, this was not the desire of many of the local communities, stakeholder organizations, and even industrial interests.

Even with the public opening of the highway, the road did not facilitate a string of secondary and tertiary infrastructure projects. Other than the Prudhoe Bay complex road system (discussed below), permanent all-weather secondary infrastructures off the Dalton have been more limited than planned or expected. Furthermore, fewer permanent settlements along the Dalton were constructed than expected. There are multiple reasons for this limited development, including:

- Agency and opposition of regional associations (Tanana Chiefs Conference) and the North Slope Borough.
- Inclement climate and local weather patterns
- Management of the Dalton Highway corridor – namely strict management protocols by the federal government
- Land status and ownership within and beyond the Dalton Highway corridor
- Local population dynamics and wealth of local communities

Although it did not directly create many new corridors outside of the North Slope, the construction and operation of the Dalton encouraged use of a variety of transportation corridors. It lowered the cost of fuel and freight and made remote operations more economic. The Dalton Highway continues to be a lifeline for many RITI communities in central and northern Alaska.

The largest addition to the road system is the complex of North Slope oil roads. The road system grew tremendously due to the growth of Prudhoe Bay and oilfield related transportation corridors. While the original 1972 Trans-Alaska Pipeline System Environmental Impact Assessment estimated that oilfield development would comprise 550 square miles, by 1987 this area had increased to 800 square miles.

Total road miles exceeded initial expectations by 30%.<sup>77</sup> Since 1987, the North Slope oil fields and associated service roads have grown considerably. These roads were limited access, providing access for industrial purposes and to a select number of location residents, namely those of Nuiqsut. While quantifying the full extent of these roads is beyond the scope of this report, it is clear that the growth of the oil field road system constitutes the largest secondary surface infrastructure emanating from the Dalton Highway. One North Slope Borough report estimated this road system at 222 miles.<sup>78</sup> Despite the profound growth of North slope oil infrastructure, it is remarkable that this is the exception, not the rule, when it comes to the history of the Dalton Highway.

What continues to define the highway corridor is remoteness. It remains the most remote highway in the United States. Despite fears, the Dalton has remained a wilderness highway. According to Brett Carlson, the owner of the Northern Alaska Tour Company (NATC), the 240 miles between Coldfoot and Deadhorse are the longest stretch of road from South America to Prudhoe Bay that does not have commercialism. For Carlson, the Dalton is an example of how resource development is compatible with tourist development.<sup>79</sup>

Interestingly, the crash data reveals certain trends which were counter to the initial hypotheses based on personal experiences and anecdotal evidence. In general, crashes are well distributed across all months of the year and most frequently involve large vehicles such as semi-trailers and tractor-trailer trucks as the contributing vehicle. At-fault drivers are more likely to have residence in Alaska even though it was expected that they would be more familiar with the highway than tourists. The data suggests a higher frequency of crashes in July and August as well as in the years of 2013 and 2014, the reasons for which are unknown.

While the crash data support prevalence of certain crash types and potential clustering on certain segments, notably the 56-mile portion south of the Yukon River bridge, contributing factors related to the higher rate on this segment of the Dalton Highway south of the Yukon River bridge may only be ascertained through additional studies such as driver intercept surveys, additional case studies, or manual inspection of crash report forms (often there are crash narratives that accompany crash reporting that does not end up in the database).

One must recognize the limitations associated with the derived crash data which includes, but is not limited to, non-reporting, under-reporting, as well as the inherent bias associated with crash data as it generally does not include crashes resulting in property damage less than \$2000 or does not result in personally injury unless one of the involved parties submits a self-report form which is not common in rural and remote areas.

Stemming from the findings of this research, the authors suggest that follow on work be focused on deeper case studies of how the Dalton Highway has affected communities connected to but not directly on the Dalton Highway. Additionally, work that seeks to quantify the extent to which proposed and constructed as well as proposed but not constructed networks came into being. Research that also

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<sup>77</sup> U.S. Fish and Wildlife Service, "Comparison of Actual and Predicted Impacts of the Trans-Alaska Pipeline System and Prudhoe Bay Oilfields on the North Slope of Alaska" (Washington, D.C.: Government Printing Office, December 1987).

<sup>78</sup> North Slope Borough, "Oil and Gas Resource Base of the North Slope Borough", 2017, 52.

<sup>79</sup> Brett Carlson, interviewed by Marie Mitchell, Coldfoot, Alaska, November 17, 2006.

further explores the nature of correlations in safety-related variables is warranted given the relationships that exist at broad levels demonstrated in this work.



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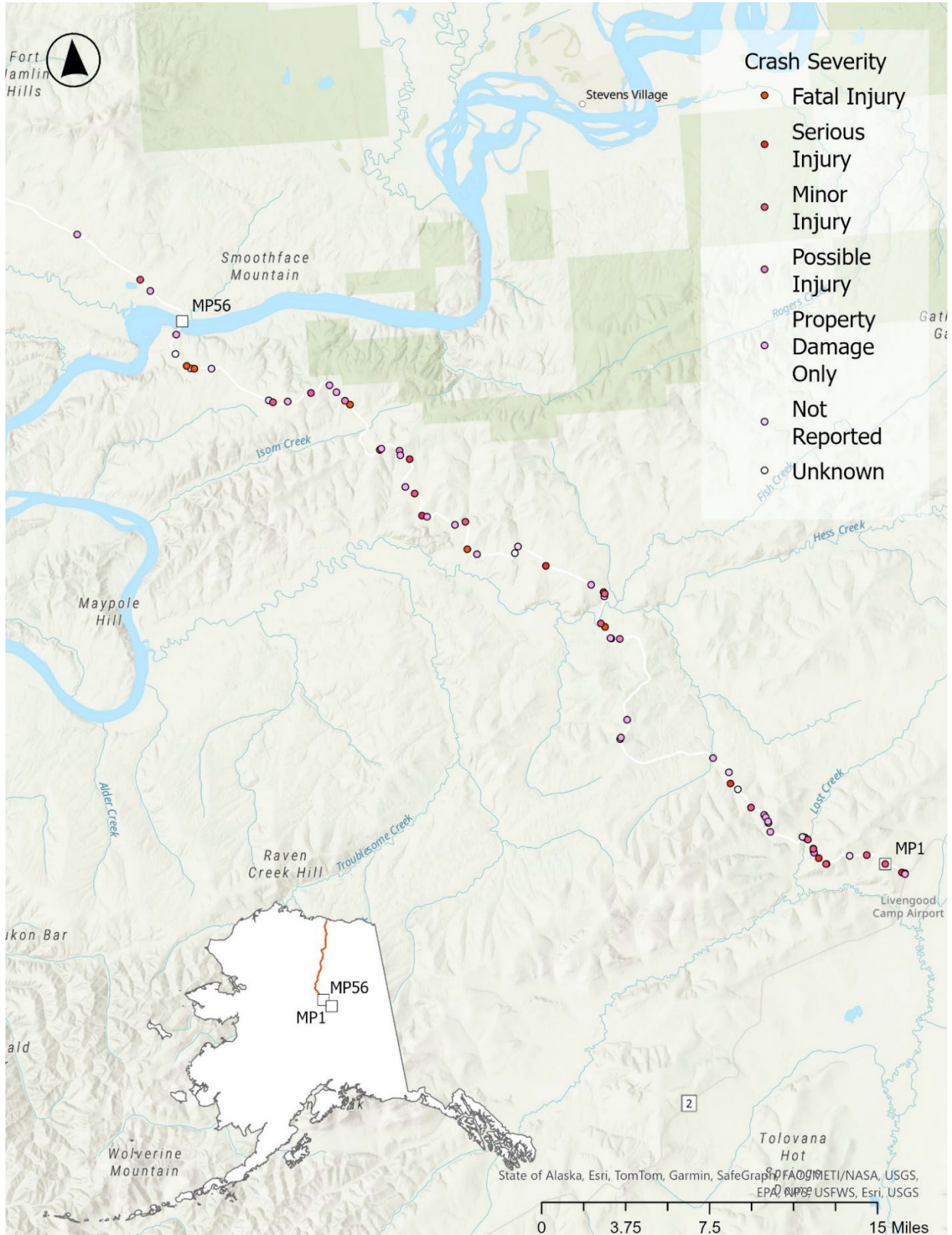
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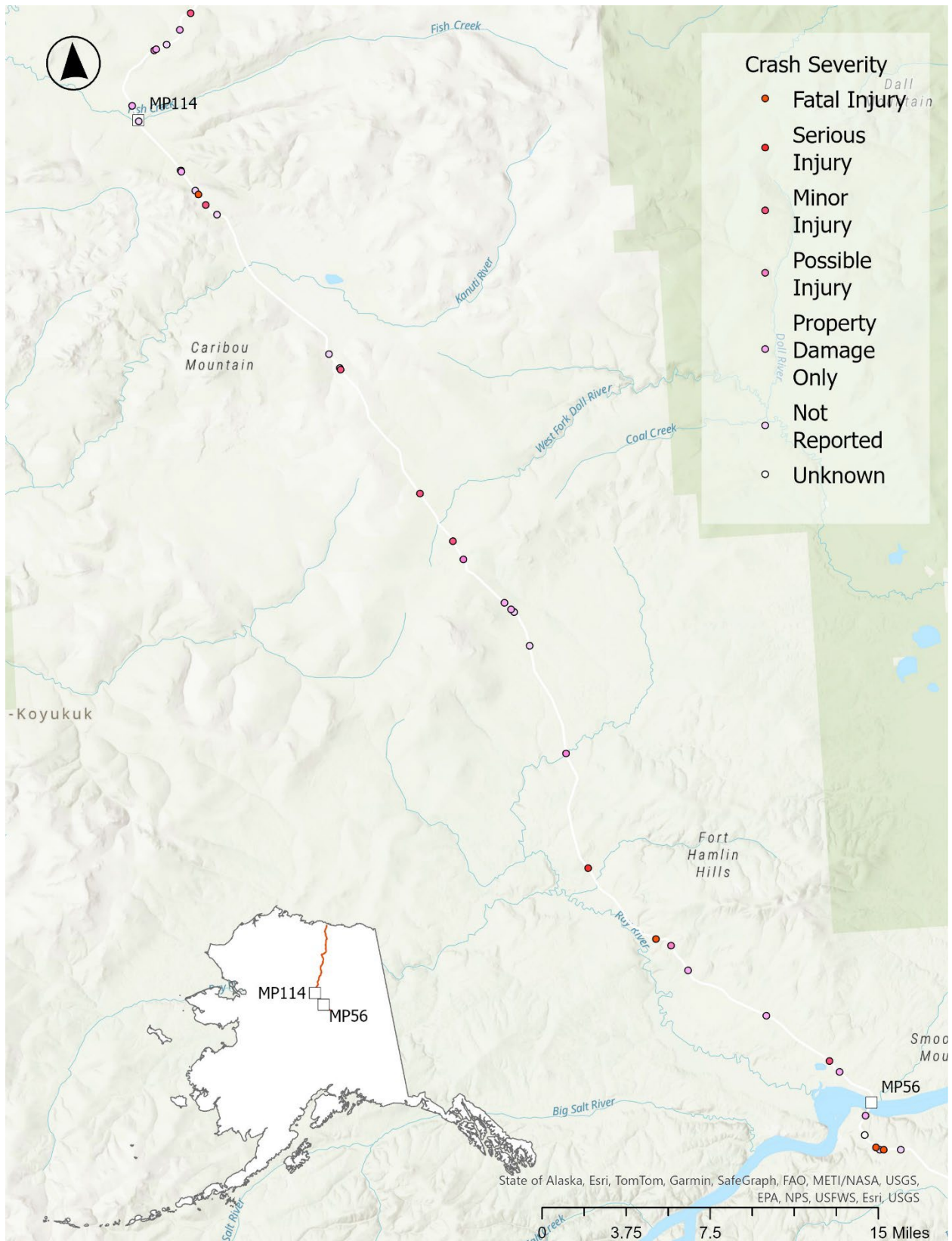
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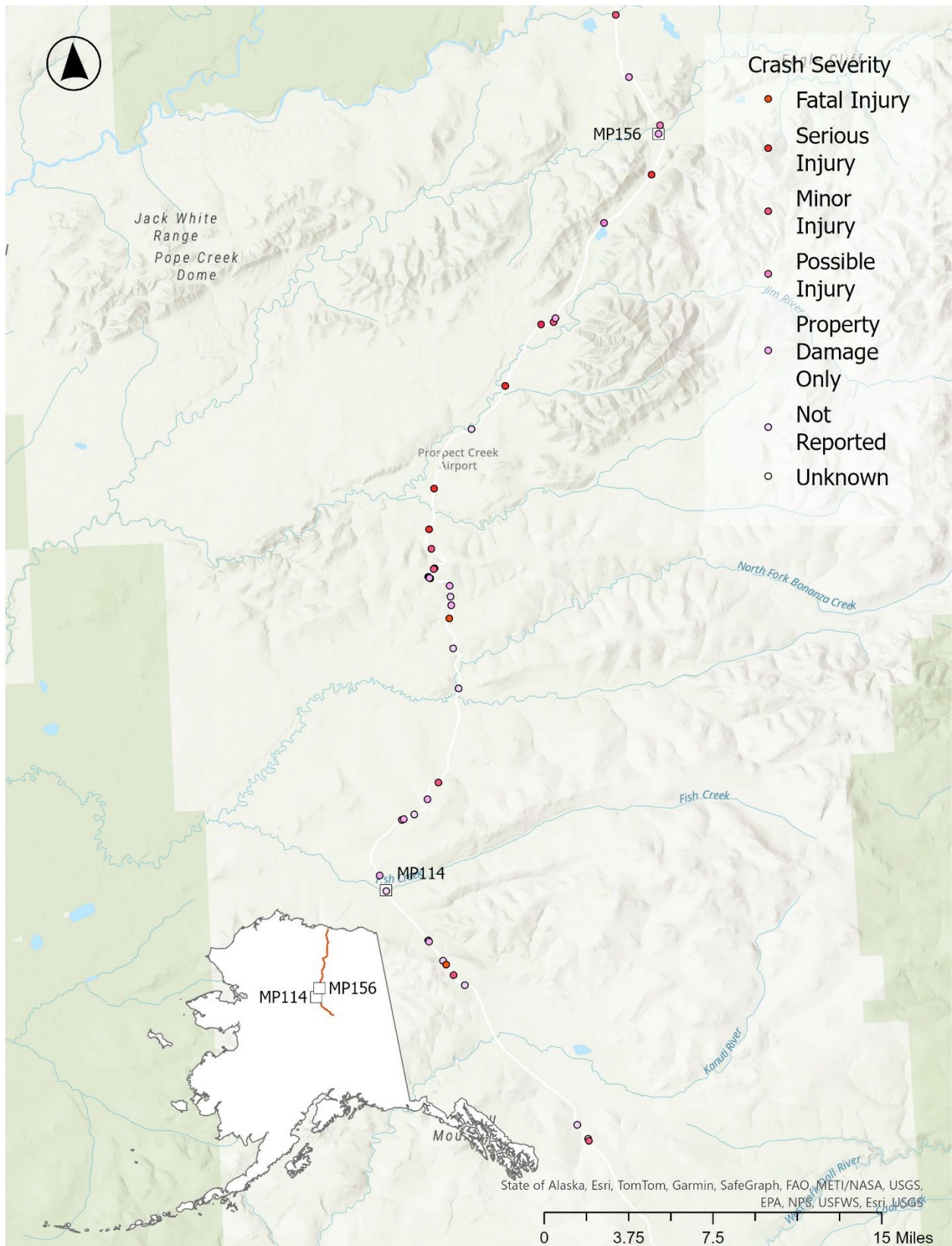
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## APPENDIX A CRASH LOCATIONS BY SEVERITY AND SEGMENT ON THE DALTON HIGHWAY, 2000-2021

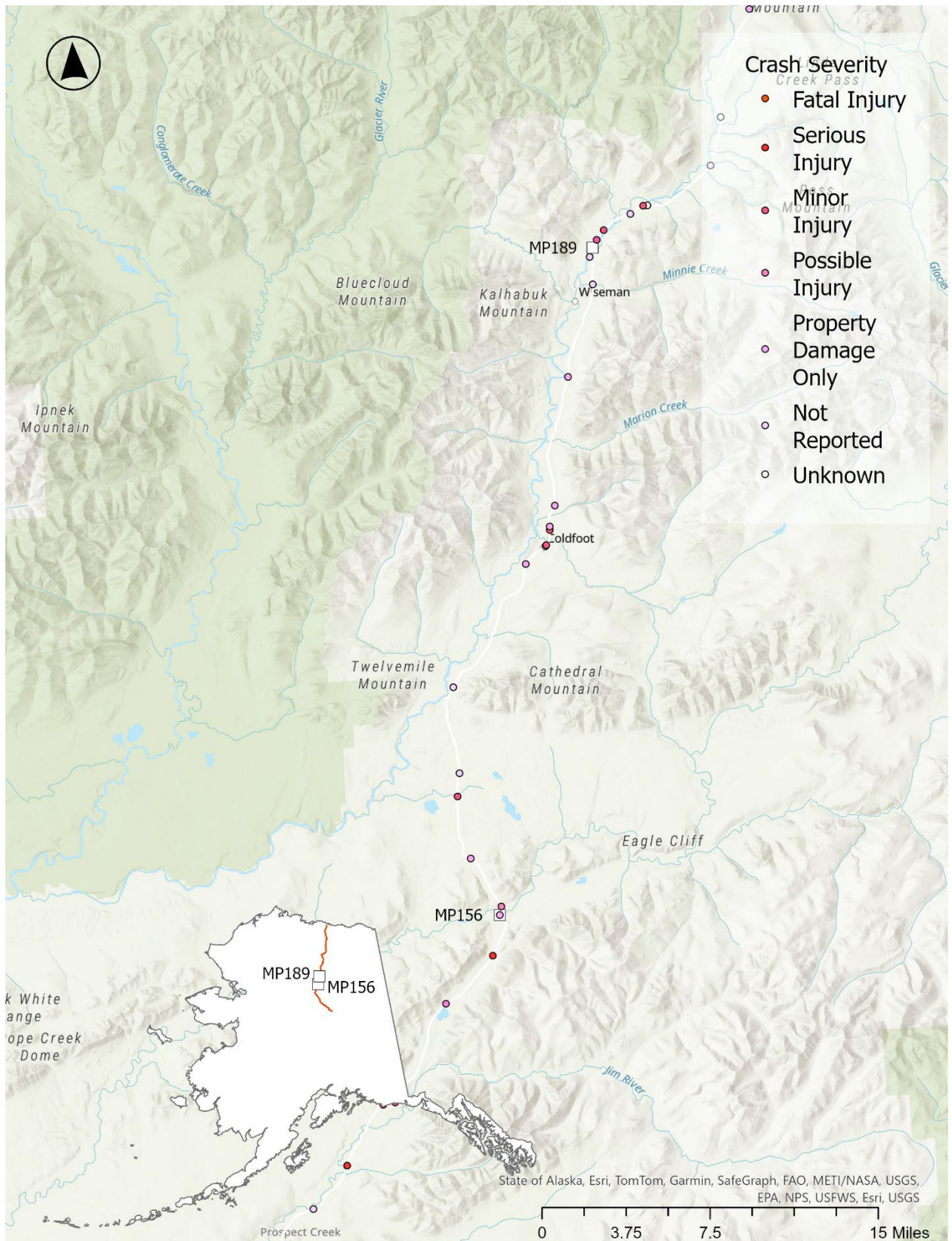




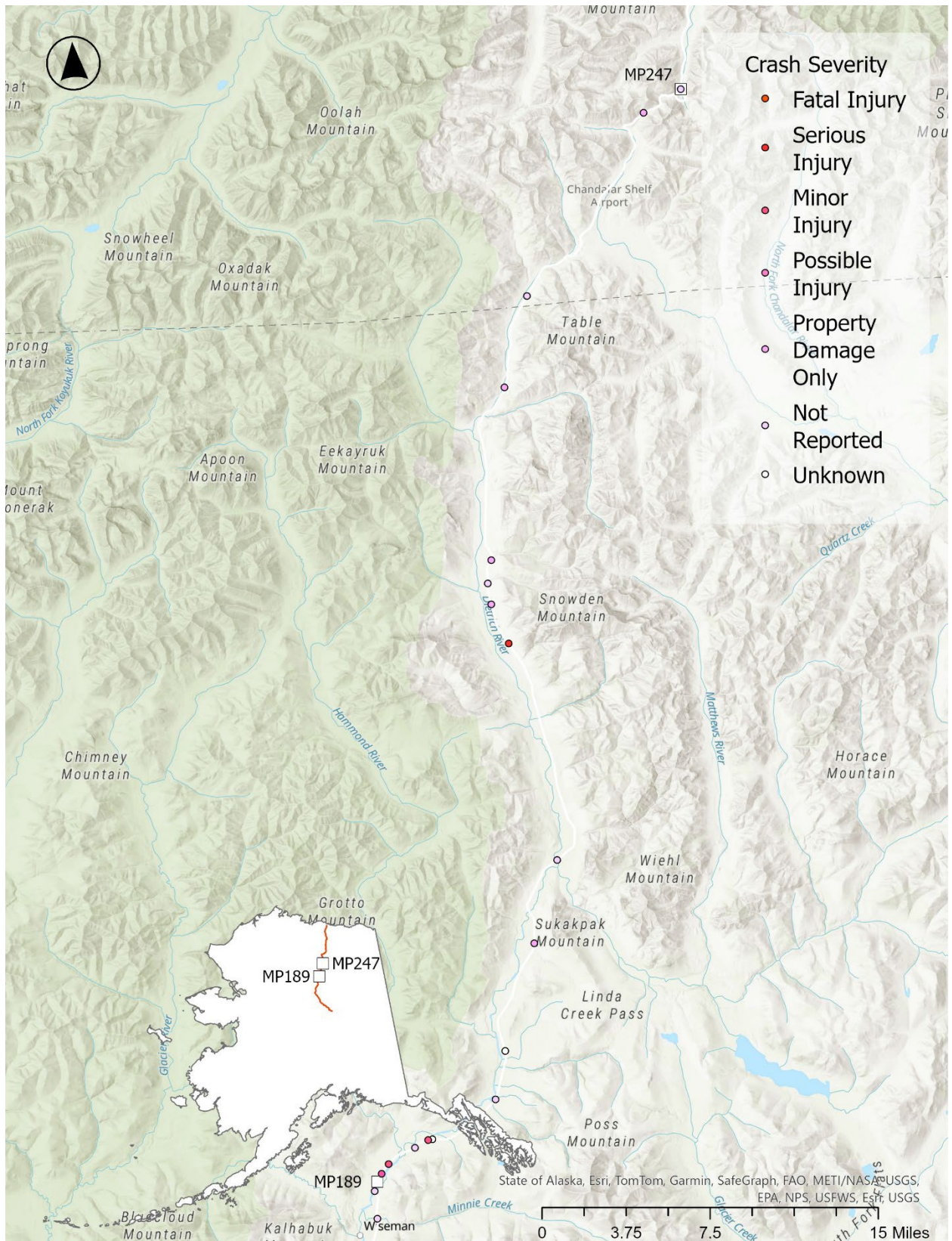




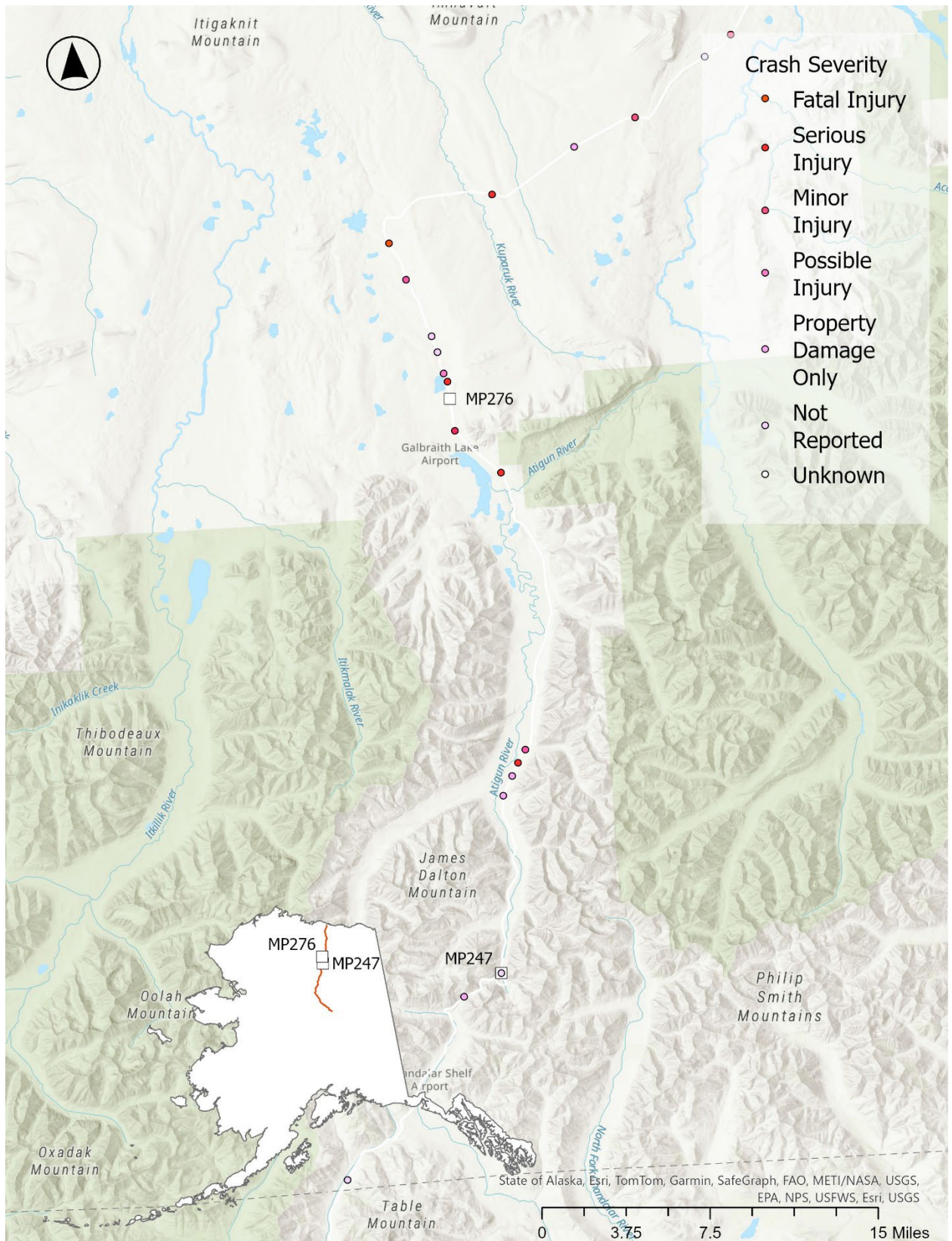


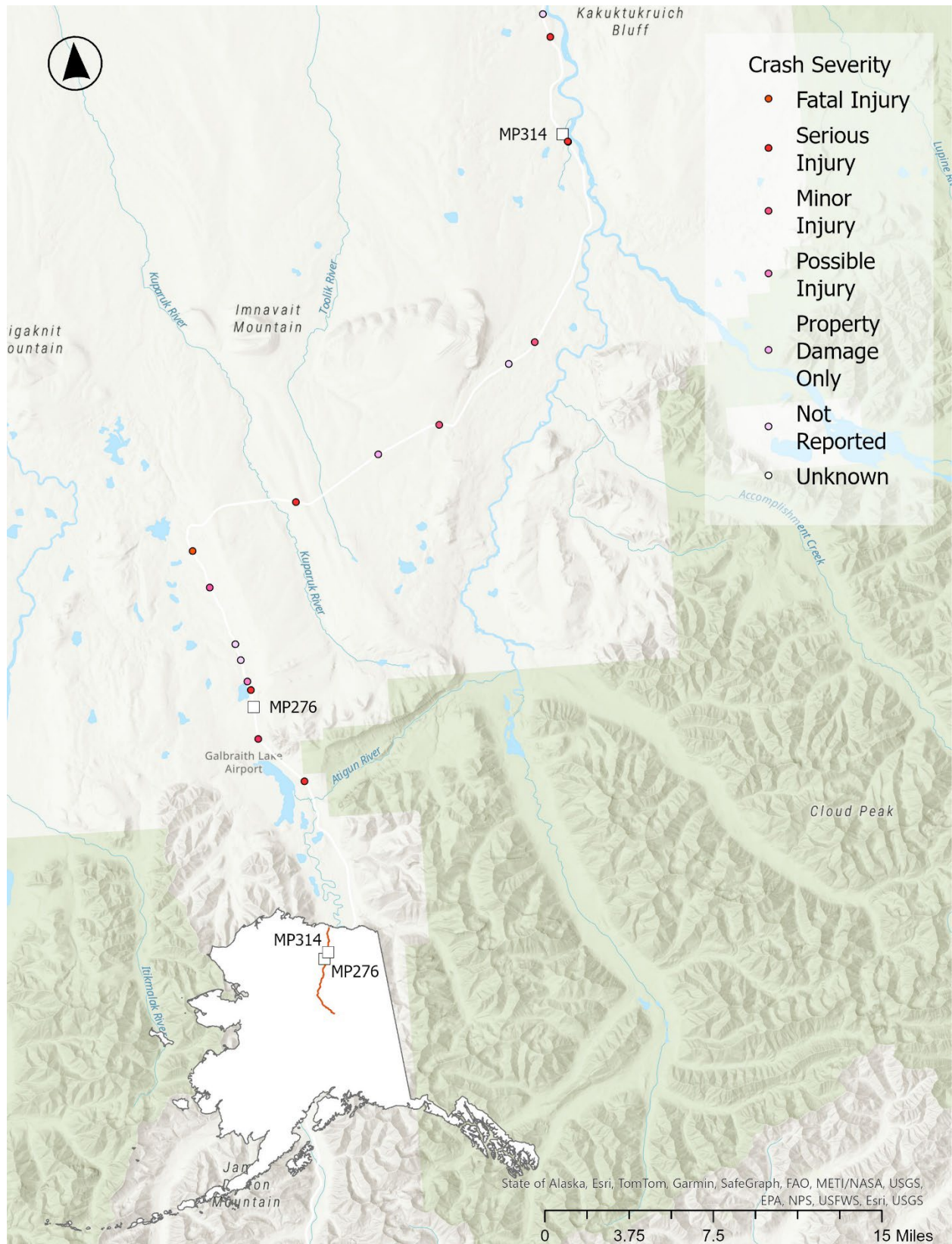






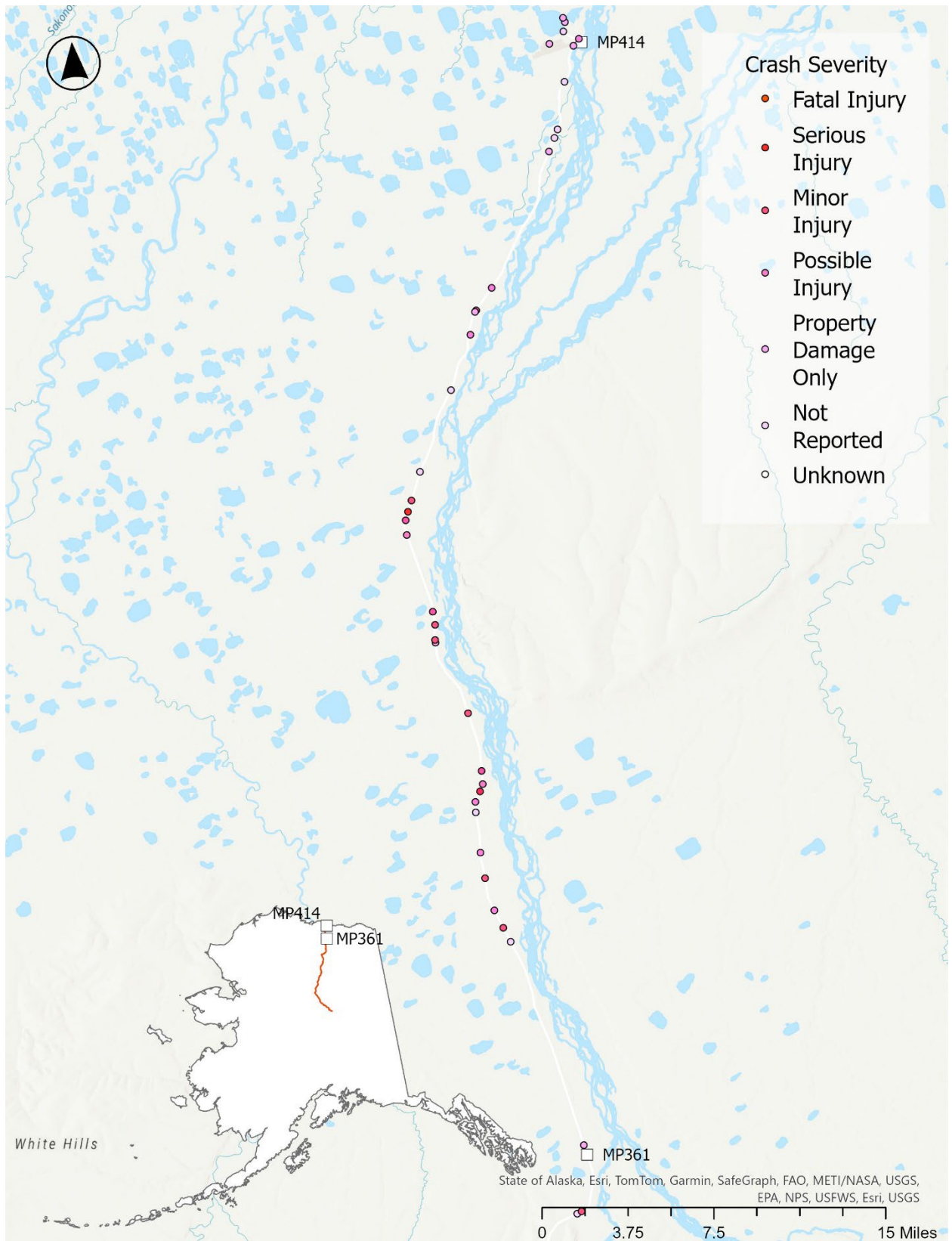












**APPENDIX B**  
**TOTAL CRASH RATE PER 1000 ADT BY SEGEMENT ON THE DALTON HIGHWAY, 2000-2021**

