

Western Alaska Access Planning Study (WAAPS)

**2010 Northern Region
Transportation Forum**

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**Fairbanks, Alaska
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www.westernalaskaaccess.com

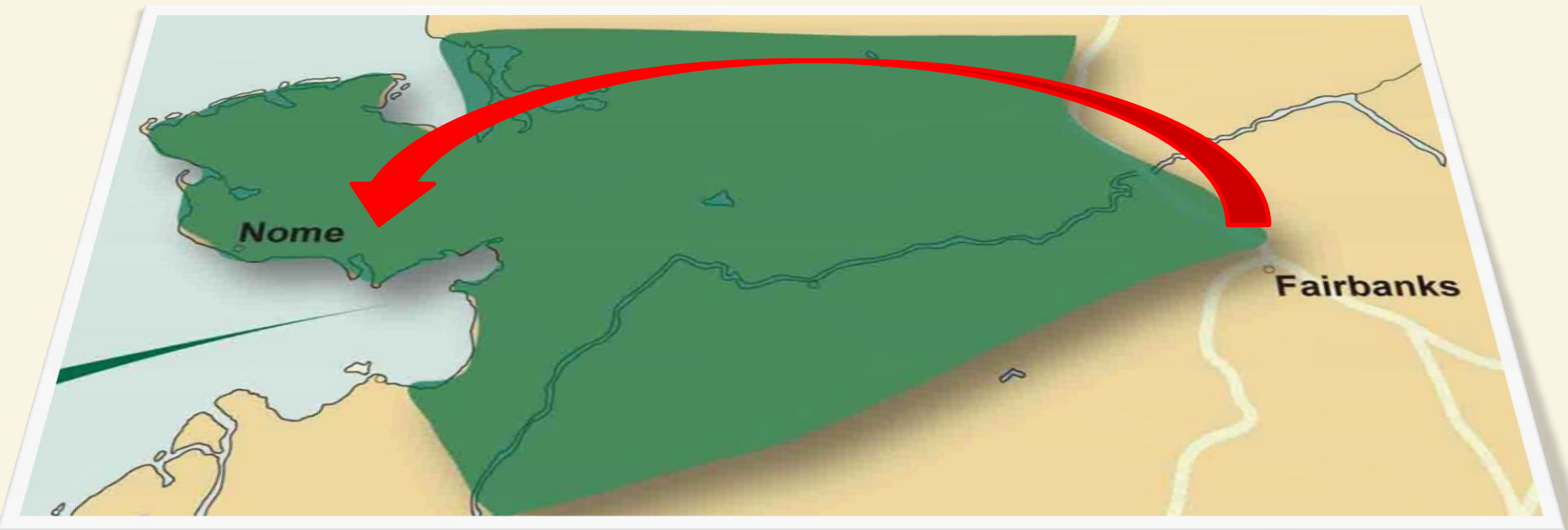


**Alaska Department
of Transportation &
Public Facilities**



WAAPS Project Purpose

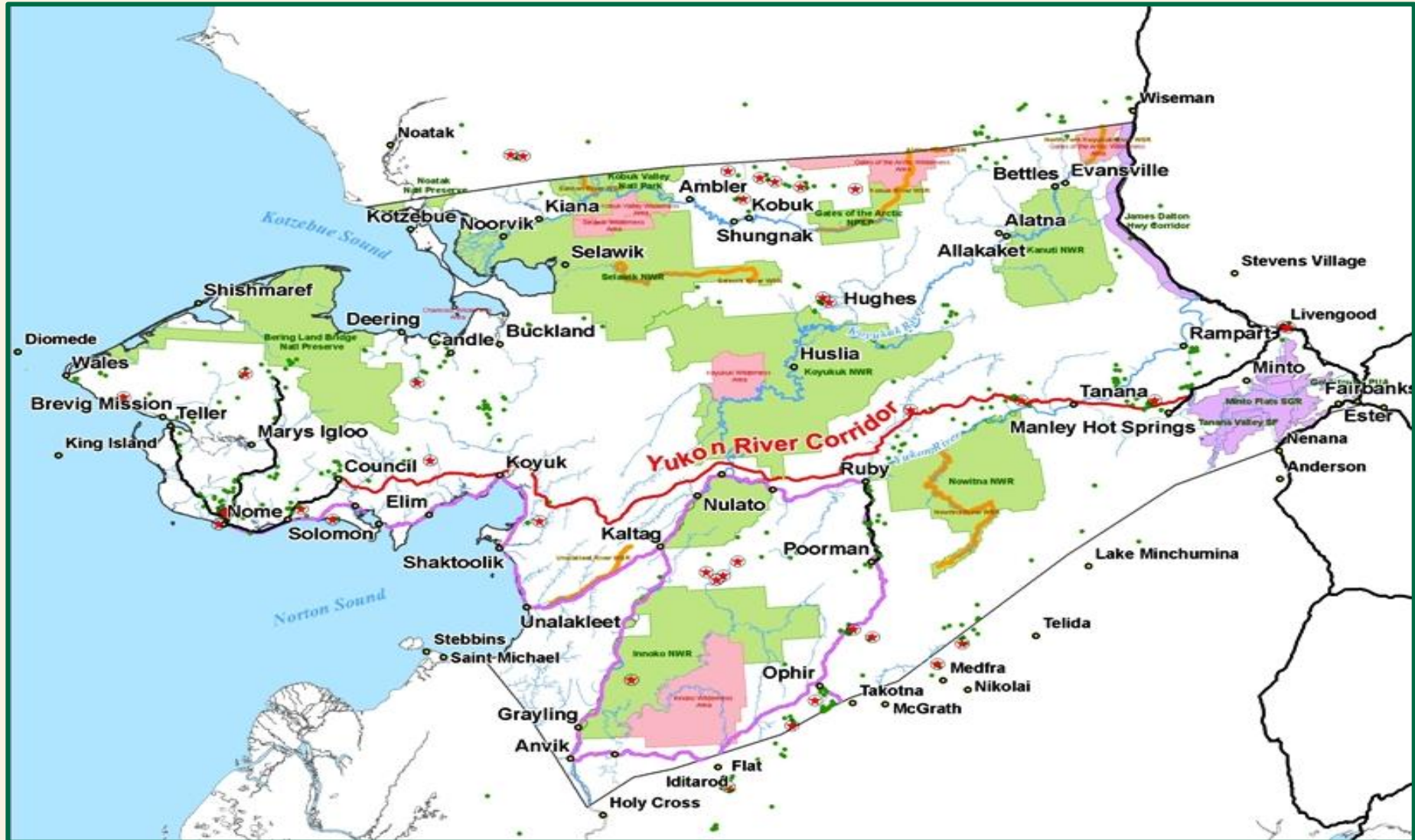
- Connect State's existing highway system with Seward Peninsula highways
- Facilitate regional community and resource development





WAAPS Project Overview

- 3 routes identified/evaluated – routes 1, 2a, 2b, 3
- Routing largely driven by:
 - Access to communities and minerals
 - Avoiding federal protected lands
 - Minimizing crossings through environmentally sensitive areas – caribou, wetlands, threatened and endangered species, rivers/streams
 - Avoiding steep terrain
- Recommended 2b – **Yukon River Corridor**
- Report published January, 2010

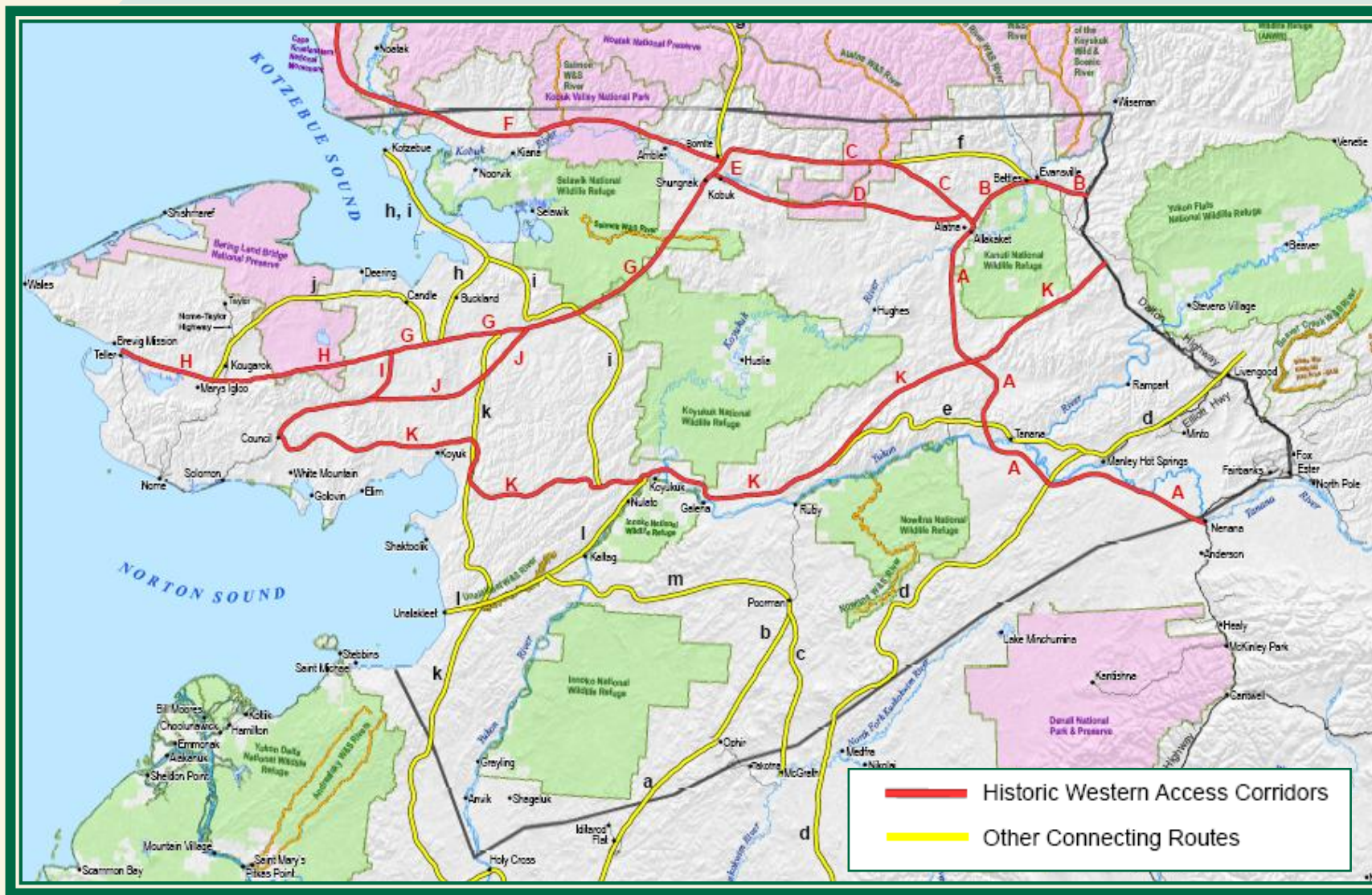




WAAPS Project Schedule

- September 2008 – March 2009 ✓
 - Review prior studies/routes
 - Evaluate regional economic resources
- March 2009 – January 2010 ✓
 - Develop/evaluate preliminary routes – 1, 2a, 2b, 3
 - Select/evaluate two final routes – 1, 2b
 - Recommend 2b - Yukon River Corridor
 - Document economic benefits
- September 2010 – May 2011
 - Conduct public/stakeholder meetings on Yukon River Corridor and other routes considered
 - Evaluate staging, construction methods, next steps
 - Report results to DOT&PF and others

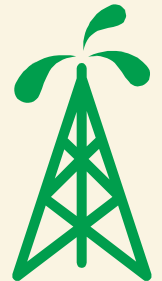
Historical Routes from Past Studies





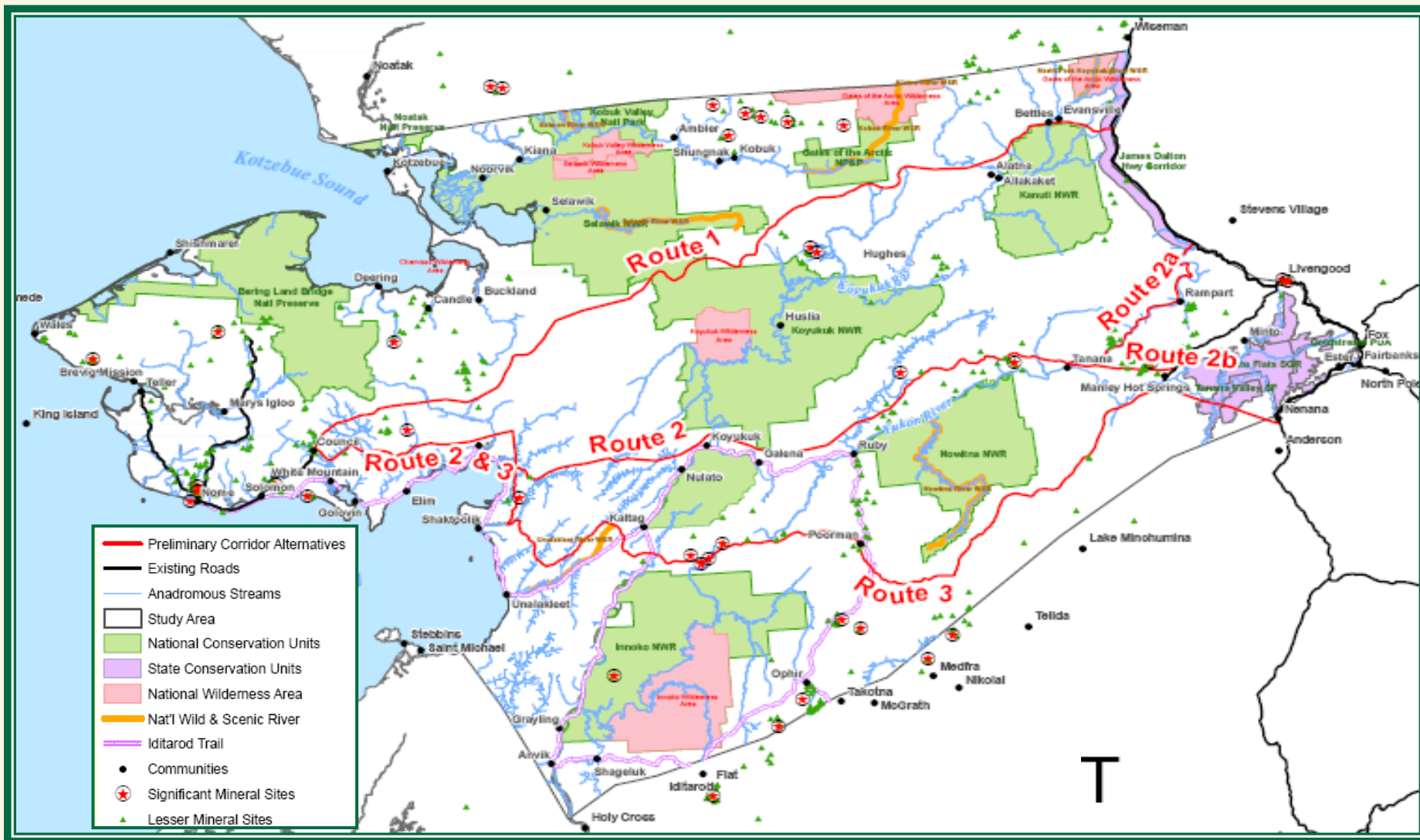
Regional Economic Resources

- Fisheries
- Tourism & Recreation
- Timber / Forestry
- Agriculture
- Oil & Gas
- Renewable Energy
- Minerals - \$50 B Unmined Value





Preliminary Corridor Alternatives





Preliminary Corridor Alternatives

- Route 1 – 450 miles; begins at Dalton Highway; access to northern communities and rich Ambler mining district
- Route 2 – Access to communities & resources along Yukon River
 - Route 2a: 510 miles; begins at Dalton Highway, just north of Yukon River; no new Yukon River crossing
 - Route 2b: 500 miles; begins near end of Elliott Highway, at Manley Hot Springs; new Yukon River crossing
- Route 3 – 620 miles; begins at Nenana on Parks Highway; access to southern communities and resources; rail belt connectivity



Corridor Evaluation Criteria

- Community Access
- Mineral Resource Access
- Land Management and Environment
- Engineering and Costs



Corridor Evaluation Results

Category	Route 1	Route 2a	Route 2b	Route 3
Communities	—	+	+	0
Resources	+	0	0	0
Land Ownership / Management	—	0	0	0
Environment	0	0	0	—
Engineering & Costs	+	—	0	—

+ = data showed clear advantage of alternative

0 = data showed no clear advantage or disadvantage relative to other alternatives

— = data showed clear disadvantage of alternative



Planning Level Cost Estimates

Route	Route 1	Route 2a	Route 2b – Yukon River Corridor	Route 3
Proposed Road Length	450 Miles	510 Miles	500 Miles	620 Miles
Construction Cost	\$2.1 Billion	\$2.9 Billion	\$2.7 Billion	\$3.2 Billion
Annual M&O Costs	\$14 Million	\$12 Million	\$15 Million	\$15 Million



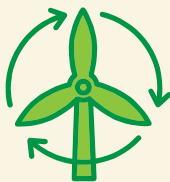
Yukon River Corridor Advantages and Challenges

Route 2b - Yukon River Corridor	
Advantages	Challenges
Access to Yukon River communities and resources – greatest population served	Significantly less mineral value in proximity to route as compared to Route 1
Uses 70 miles of Elliott Highway/Shortest Fairbanks – Nome travel distance	Higher construction cost than Route 1
Potential intermodal transportation benefits (Yukon barges)	Topography (steeper grades, mountainous terrain) than Route 1
Fewest land and environmental impacts	New Yukon River Crossing needed



Yukon River Corridor Economic & Social Benefits

- Studied savings to:
 - Communities of **Tanana, Ruby, Galena, Koyukuk, Koyuk, and Nome**
 - Mines at **Ambler, Donlin Creek, Illinois Creek, and 10 large placer mines**
- Identified cost savings or benefits from road versus other transportation modes
 - ***Lower Passenger Transportation Costs***
 - ***Lower Fuel, Freight and Mail Delivery Costs***
 - ***Lower Energy and Power Infrastructure Costs***
 - ***Lower Mining/Resource Development Costs***
 - ***Increase in Jobs, Income, Access to Services***





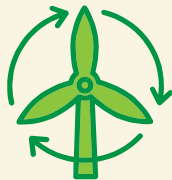
Economic & Social Benefits

Lower Passenger Transportation Costs

- Travel between villages and Nome/Fairbanks
- Cost savings greater for longer trips with more passengers

Sample Passenger Travel Cost Savings (per passenger)

	Ruby to Nome	Koyuk to Nome	Galena to Fairbanks	Koyukuk to Fairbanks
One-way air	\$195	\$158	\$182	\$266
One way drive (2 passengers)	\$143	\$65	\$154	\$171
One way drive (4 passengers)	\$71	\$32	\$77	\$86





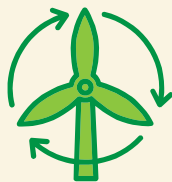
Economic & Social Benefits

Lower Fuel, Freight and Mail Delivery Costs

- Road would enable delivery by truck



- Estimated **average per capita savings of \$3,900 per year** for Tanana, Ruby, Galena, Koyukuk, Koyuk, and Nome
- **Annual cost savings of \$19.1 million** for these communities alone

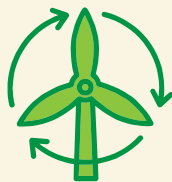




Economic & Social Benefits

Lower Energy & Power Infrastructure Costs

- Conversion from barged diesel to trucked propane
- Estimated average per capita savings of \$2,700 per year for Tanana, Ruby, Galena, Koyukuk, Koyuk, and Nome
- Annual cost savings of \$13.5 million for these communities alone

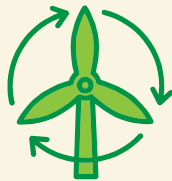




Economic & Social Benefits

Lower Mining/Resource Development Costs

- Hauling freight and fuel to mine sites and mineral concentrate from mine site
- Considers Ambler, Donlin, Illinois Creek, and 10 major placer mines
- Transportation cost savings of \$120 million/year
- Road would reduce costs of extending fuel or power lines by 30% - 50%, a benefit to mines and communities
- Savings to other mines and resource development not estimated

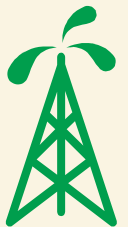
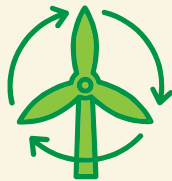




Economic & Social Benefits

Increase in Jobs, Income, Access to Services

- Mining employment – **1,590 jobs** = 1 / 4 of region's workforce
- Average **mining wage of \$7,000/month**
- Potential jobs and income in other sectors such as tourism
- Road access for medical transport, disaster relief, waste removal, construction materials, and inter-community visits
- Community sustainability/affordability

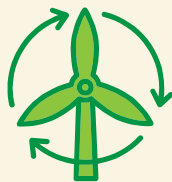




Economic & Social Concerns

➤ Potential positive and negative effects on:

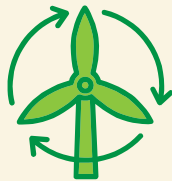
- Village lifestyle
- Environment
- Subsistence resources
- Village population levels





Current WAAPS Study Efforts

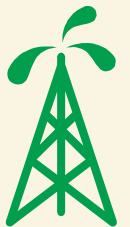
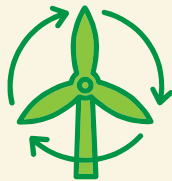
- Public meetings in most villages in the region – October 2010 to March 2011
- Questionnaire – on website and paper copies
- Project phasing – construction methods and next steps being defined
- Report to DOT&PF, Governor and Legislature by mid-2011





Sample of Public Comments to Date

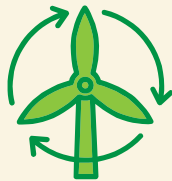
- Meetings held in Nome, Elim, White Mountain, Koyuk, Unalakleet
- In written Questionnaire, 61% favor a road and 63% favor Yukon River Corridor over other corridor options





Sample of Public Comments to Date

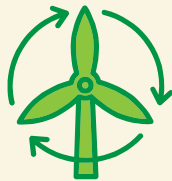
- Primary **Advantages** of Western Alaska Access Corridor
 - *“lower cost of living like food, fuel, and travel”* **White Mountain**
 - *“opportunity for a wide range of economic opportunities for Alaskan communities, including development of tourism across the State”* **Shaktoolik**
 - *“open opportunities for renewable resources pertaining to energy; increased economic opportunities for tourism”* **Unalakleet**
 - *“lowering costs for travel and shipping freight”* **Elim**
 - *“easier extraction of resources”* **Nome**





Sample of Public Comments to Date

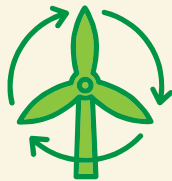
- Primary **Advantages** of Western Alaska Access Corridor
 - *“it would bring in a lot of resources and employment opportunities”* **Shaktoolik**
 - *“I think young people can see that there are job opportunities out there”* **Koyuk**
 - *“we need this road!”* **White Mountain**
 - *“unless some type of change comes along, I will not be able to afford to stay living in Western Alaska”* **Shaktoolik**
 - *“we hunt on our grounds”* **Elim**





Sample of Public Comments to Date

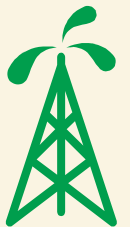
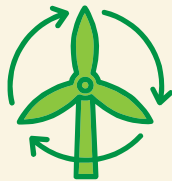
- Primary **Disadvantages** of Western Alaska Access Corridor
 - “subsistence, drugs & alcohol, accidents” **Koyuk**
 - “disruption of land animal migration routes and/or calving grounds” **Shaktoolik**
 - “brings rapid development to a culture that is easily damaged by it” **Nome**
 - “this may bring a lot more people to the region which may be a positive or negative thing” **Shaktoolik**





Sample of Public Comments to Date

- Primary **Disadvantages** of Western Alaska Access Corridor
 - *“cost of upkeep and safety are unsustainable”* **Fairbanks**
 - *“impact on subsistence and environment”* **Nome**
 - *“gives access to fish and game, and our limited resources”*
White Mountain
 - *“I would prefer a more restricted transportation system, such as a railroad – the initial higher cost is worth keeping people off the land”* **White Mountain**





Western Alaska Access Planning Study Project Contacts

www.westernalaskaaccess.com

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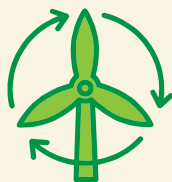
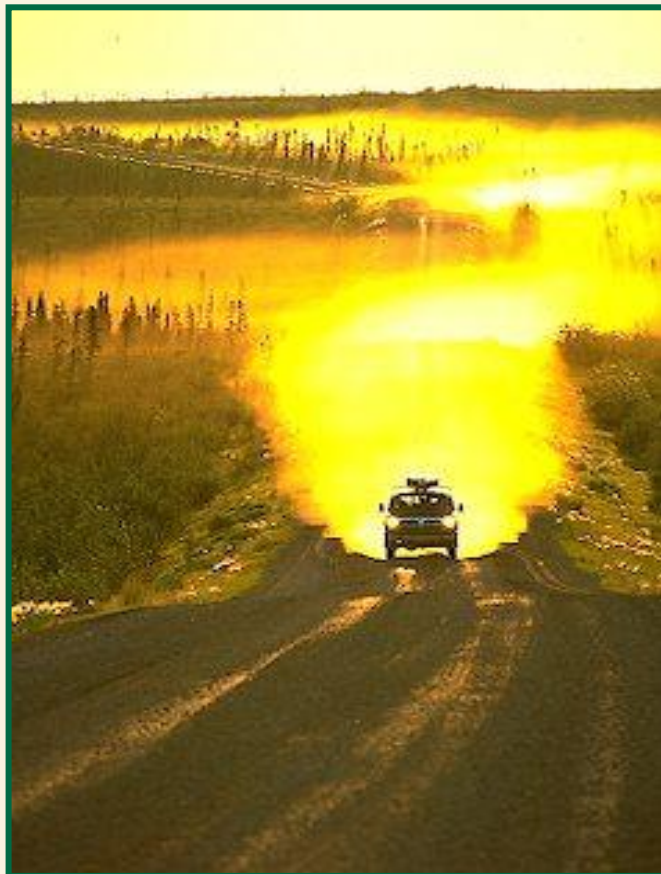
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Thank You for Being Here!





Preliminary Screening Criteria

➤ Types of data collected and analyzed:

Communities	Mineral Resources	Environment
Number of communities	Estimated gross value	Caribou and T&E habitat
Population	Number of mineral occurrences	Wetlands
Distance from communities to corridor	Distance from mineral occurrences to corridor	Anadromous stream & total stream crossings
Distance from Fairbanks to Nome		Subsistence
		Cultural / historical sites
Land Ownership		Engineering & Costs
Wilderness Areas	Federal-owned Lands	Length of corridor
Wild & Scenic Rivers	Native-owned Lands	Construction costs
National Parks, Preserves, Monuments, Wildlife Refuges	State-owned Lands	Maintenance & Operations (M&O) costs



Preliminary Alternatives Screening

Route 1	
Advantages	Challenges
Access to northern communities in study area	Crosses through Koyukuk National Wildlife Refuge
Proximity to rich Ambler mining district	Crosses through Nulato Hills Area of Critical Environmental Concern
Fewest topographic challenges	Start Point is furthest from Fairbanks
Least cost to construct and maintain	

Route 2a	
Advantages	Challenges
Access to Yukon River communities and resources	Significantly less mineral value in proximity to route as compared to Route 1
No new Yukon River crossing required	Higher construction cost than Routes 1 and 2b
Potential intermodal transportation benefits (Yukon barges)	Topography (steeper grades, mountainous terrain) than Route 1
	Longer travel distance between Fairbanks and Nome than Route 2b



Preliminary Alternatives Screening

Route 2b - Yukon River Corridor

Advantages	Challenges
Access to Yukon River communities and resources – greatest population served	Significantly less mineral value in proximity to route as compared to Route 1
Uses 70 miles of Elliott Highway/Shortest Fairbanks – Nome travel distance	Higher construction cost than Route 1
Potential intermodal transportation benefits (Yukon barges)	Topography (steeper grades, mountainous terrain) than Route 1
Fewest land and environmental impacts	New Yukon River Crossing needed

Route 3

Advantages	Challenges
Access to communities along Norton Sound and southern study area	Significantly less mineral value in proximity to route as compared to Route 1
Proximity to resources in southern study area – Donlin mining district	Highest cost to construct and maintain (longest route length)
	Crosses Iditarod Trail 3 times
	Crosses through spectacled eider critical habitat
	Longest Fairbanks – Nome travel distance

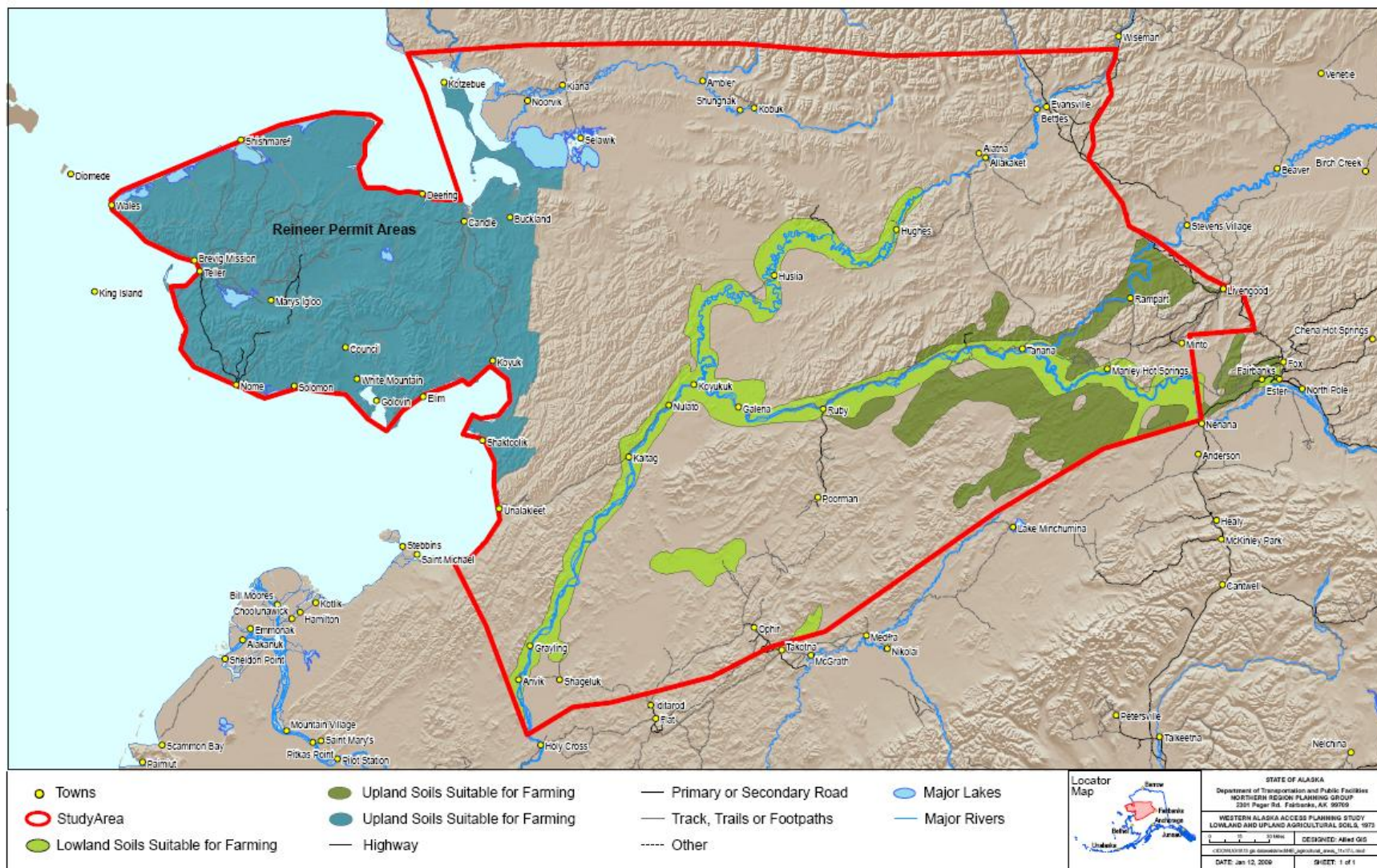


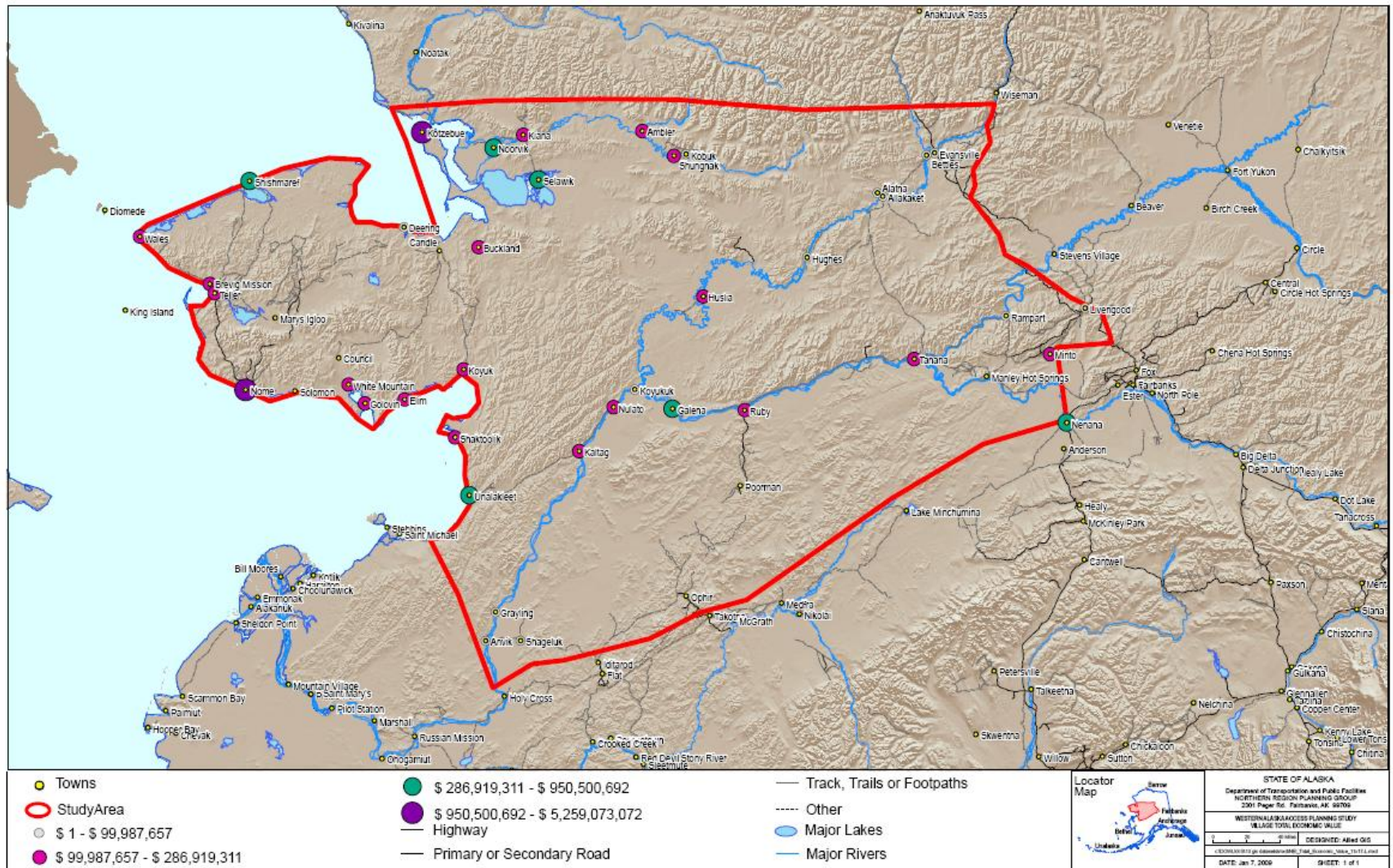
Refined Cost Estimates

Route	Route 1	Route 2b
Estimated Construction Costs		
Proposed new length of road (mi)	450	500
Road Construction Cost (\$B)	\$2.06	\$2.90
Bridge Construction Cost (\$B)	\$0.22	\$0.40
M&O Facilities Capital Cost (\$B)	\$0.12	\$0.14
Total Construction Cost (\$B)	\$2.4	\$3.4
Average Cost per Mile (\$M)	\$5.3	\$6.8
Estimated Annual M&O/Rehab Costs		
Routine Maintenance (\$M)	\$11	\$12
Facilities Maintenance (\$M)	\$2.6	\$2.9
Resurfacing & Rehabilitation (\$M)	\$22.5	\$25
Total Annual M&O/Rehab Cost (\$M)	\$36.1	\$39.9

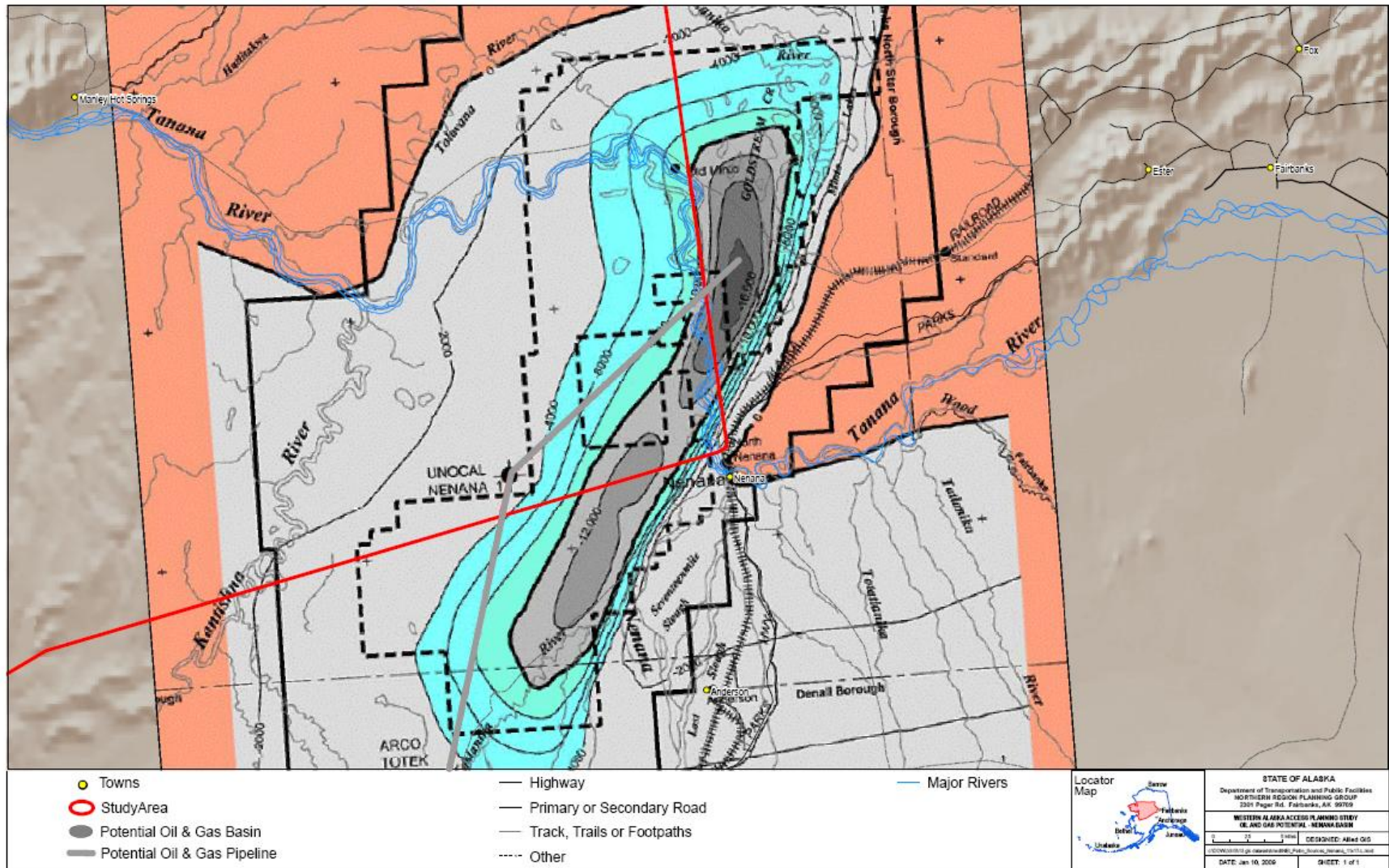


Economic Analysis – Agriculture





Economic Analysis – Oil & Gas



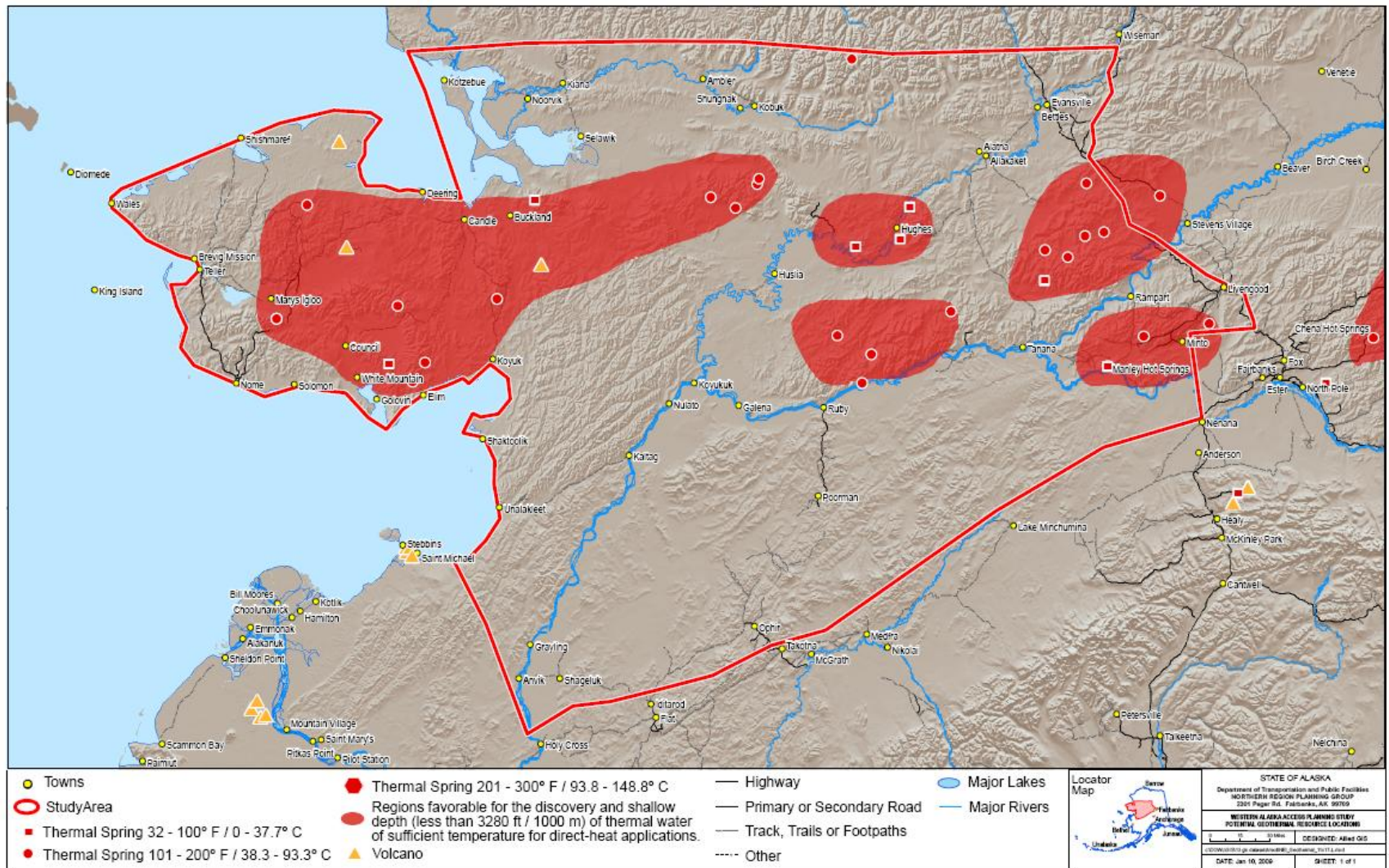


Economic Analysis – Renewable Energy Potential



- Geothermal
- Wind Power
- Hydroelectric
- Biomass

Renewable Energy – Geothermal Energy Potential



Renewable Energy – Wind Power Resource Potential

