AK LEGISLATURE SPECIAL COMMITTEE FILES SCOMM 155 3296

TC Alaska Project Is Likely to Succeed

AGIA
The Alaska Gasline Inducement Act

Contingent Liability Issue

- Risk of litigation is significantly overstated.
- Potential legal claims by withdrawn partners are, at best, weak and unlikely to succeed.
- Not a reasonable basis for the Major North Slope Producers to refrain from partnering with TC Alaska or contracting with the Project.

TC Alaska Project Comparisons

AGIA
The Alaska Gasline Inducement Act

- Producer Project (Denali)
- LNG Options

Denali Project Is More Risky For the State

AGIA
The Alaska Gasline Inducement Act

- Lack of commitments create risks for state
- No certainty on project schedule
  - Likely Anti-trust Challenges
- Undefined tariff terms
  - Example, 50/50 debt to equity increases the tariff by $1 compared to 75/25, costing the state over $8 billion in NPV
- Undefined state fiscal concessions needed for Denali
  - SGDA concessions worth over $10 billion
- No Certainty on Expansion Provisions
  - Producer Incentives to exercise basin control
  - Stifles North Slope basin development
  - Loss of long-term jobs and careers
  - Loss of Potential LNG development

Producer Pipeline Considerations

AGIA
The Alaska Gasline Inducement Act

- Even if TC Alaska License is issued, Producers can proceed with Denali, commit gas to it, and build it without any additional state concessions
- State has significant interest in attracting Producers to commit gas to TC Alaska's project
  - Expansion Provisions
  - Lowest reasonable tariff - Highest Netback
- State Needs to Use Power of Competition to Protect Alaskans Interests

LNG Analysis

AGIA
The Alaska Gasline Inducement Act

- Extensive Analysis of LNG economics and likelihood of success
  - Asian market price
  - LNG project costs and schedule
  - How LNG projects are developed
  - Potential hurdles for LNG projects

29

LNG Economic Analysis

AGIA
The Alaska Gasline Inducement Act

- Ran economics on both a 2.7 bcf/d and 4.5 Bcf/d projects
- Alaskan LNG is economical and viable
- Confirmed Asian market premium price
- Liquefaction plant costs create an economic drag
- LNG does not provide time or cost savings over TC Alaska project
- State and Producer NPV lower under all stand-alone LNG options than under TC Alaska project

30

LNG Likelihood of Success

AGIA
The Alaska Gasline Inducement Act

- LNG is viable, but less likely to succeed without TC Alaska Project
  - Entire project stream, from gas supply, to pipeline, to liquefaction, to tankers, to re-gasification, to gas sales must be negotiated and executed nearly simultaneously
  - Expansions are more difficult because of size
  - Export authorization is a challenge

Opportunity for "Y line" LNG

AGIA
The Alaska Gasline Inducement Act

- If gas is committed, TC Alaska will transport gas from Delta Junction to Prince William Sound
- LNG project will benefit from TC Alaska's financial and technical capabilities
- State will benefit from supplying gas to both LNG and North American markets
- "Y line" is the best LNG option for the state

Additional Considerations

AGIA
The Alaska Gasline Inducement Act

- Treble Damages Exposure
- Competition

Treble Damages Exposure

AGIA
The Alaska Gasline Inducement Act

$Millions

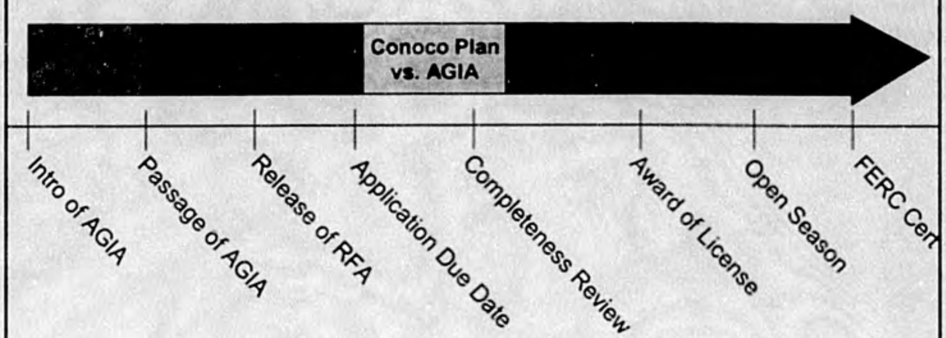
Year	Annual Spend	State Expenditure	TC Alaska Expenditure	3x TC Alaska Expenditure	Cumulative State Exposure
2008	$41	$21	$21	$62	$82
2009*	**$42**	**$21**	**$21**	**$63**	**$166**
2009	$34	$31	$3	$10	$207
2010	$141	$127	$14	$42	$376
2011	$144	$130	$14	$43	$549
2012	$147	$132	$15	$44	$726
2013	$75	$39	$36	$109	$874
Total	**$625**	**$500**	**$125**	**$374**	**$874**

***Scheduled Open Season**

Expenditure Schedule Based on TC Alaska Application

Competition

AGIA
The Alaska Gasline Inducement Act



Summary

AGIA
The Alaska Gasline Inducement Act

- TC Alaska's Project Maximizes Benefits to Alaskans
  - Best Chance to Get a Pipeline
  - Expansion Provisions Provide Best Chance for Jobs and Long-Term Careers for Alaskans
  - Increases Alaskans Opportunity of Affordable Energy
  - Maximizes State Revenue
- TC Alaska's Project is Better for the State than LNG Options and the Producer Project (Denali)

Presentation Schedule & Participants

(Please note schedule subject to change at Chairman's discretion)

June 12 – Fairbanks 10 a.m.to 5 p.m.
Carlson Center **In-State Gas**
(ALL 3 DAYS) AK Gasline Port Authority – Bill Walker
AK Natural Gas Dev. Authority – Harold Heinze
Enstar – Curtis Thayer
Evening Event @ Pike's Greenhouse 6 – 7:30 p.m.

June 13 – Fairbanks 10 a.m. to 5 p.m.
TransCanada – Tony Palmer
Administration
Evening Event @ UAF 5 – 7 p.m.

June 14 – Fairbanks 10 a.m. to 5 p.m.
TransCanada – Tony Palmer
Administration
(continuation of 6/13 if needed)
PUBLIC TESTIMONY

June 16 – Anch. 9 a.m. to 5 p.m.
Howard Johnsons **Regulatory Agencies**
4th & C Streets FERC – Mark Robinson – Director
(ALL WEEK) Office of Energy Projects
Federal Energy Regulatory Commission Regulatory
Comm. Of Alaska - Anthony Price
Commissioner, Chair

June 17 – Anch. 9 a.m. to 5 p.m.
Point Thomson Unit
Nan Thompson – DNR / Div. O&G @ 9a.m.
Cathy Foerster – AOGCC Commissioner @11a.m.
ExxonMobil – Craig Haymes
Chevron – John Zager

June 18 – Anch. 9 a.m. to 5 p.m.
TransCanada – Tony Palmer
Administration
6 p.m. to 8 p.m. PUBLIC TESTIMONY

June 19 – Anch. 9 a.m. to 5 p.m.
TransCanada – Tony Palmer
Administration
6 p.m. to 8 p.m. PUBLIC TESTIMONY

June 20 - Anch. 9 a.m. to 5 p.m.
In-State Gas
AK Natural Gas Dev. Authority – Harold Heinze
Enstar – Curtis Thayer,Gene Dubay,Andrew White
AK Natural Res. to Liquids – Richard Peterson
EconOne – Barry Pulliam
AK Gasline Port Authority, Bill Walker
Craig Richards

June 24 – Mat Su 1 p.m. to 5 p.m.
Palmer Train Depot TransCanada – Tony Palmer
Administration
6 p.m. to 8 p.m. PUBLIC TESTIMONY

June 26 – Kenai 1 p.m. to 5 p.m.
Soldotna Sports Center TransCanada – Tony Palmer
Administration
6 p.m. to 8 p.m. PUBLIC TESTIMONY

June 30 – Barrow Community Celebration Event

July 1 – Barrow Times To Be Determined
Hopson Middle School TransCanada – Tony Palmer
Administration
PUBLIC TESTIMONY

July 8 – Ketchikan 1 p.m. to 4 p.m.
Ted Ferry Civic Center TransCanada – Tony Palmer
Administration
5 p.m. to 7 p.m. PUBLIC TESTIMONY

- The TC Alaska Project will not preclude construction of a smaller pipeline from the North Slope to Southcentral Alaska. Issuing a license to TC Alaska may increase the likelihood that plans for a "bullet line" or "spur line" will become reality.
- Similar to the failed SGDA contract, the Producer Project is not guaranteed to continue to advance the project to construction or even FERC certification and will likely require undefined concessions from the state. Similar to TAPS, the Producer Project will likely result in commercial terms that do not protect Alaska's interests.
- The TC Alaska Project provides opportunities for significant Producer ownership. If the state determines that additional concessions are needed, they can be added to the TC Alaska Project to ensure that any concessions result in a pipeline that maximizes benefits for Alaskans.

Determination

The commissioners found TC Alaska's application to be complete and in compliance with the AGIA statute and Request for Applications. Following an extensive evaluation process, the commissioners determine that the natural gas pipeline project from the North Slope to Canada proposed by TC Alaska is the project that will sufficiently maximize the benefits to the people of this state. The commissioners further determine that the TC Alaska Project merits the award of a license under AGIA. These Findings and Determination will be submitted to the presiding officers of each house of the Alaska Legislature for approval of the license.

The license will be issued to TC Alaska as soon as practicable after the effective date of a bill approving the license proposed by the commissioners. If a bill is not passed within 60 days of the date that the legislative presiding officers receive this Determination, the commissioners may not issue the proposed license and may request new applications.

This Executive Summary presents an overview of the Written Findings and Determination by the Commissioners of the Alaska Departments of Natural Resources and Revenue for issuance of a License under the Alaska Gasline Inducement Act (AGIA). It summarizes the commissioners' process for evaluating TC Alaska's proposed natural gas pipeline project and the commissioners' determination as provided by AGIA. This Executive Summary is part of the commissioners Written Findings and Determination that is anticipated to be published on May 28, 2008. This document is a summary only, and is not the commissioners' final determination under AGIA and is not a final agency action.

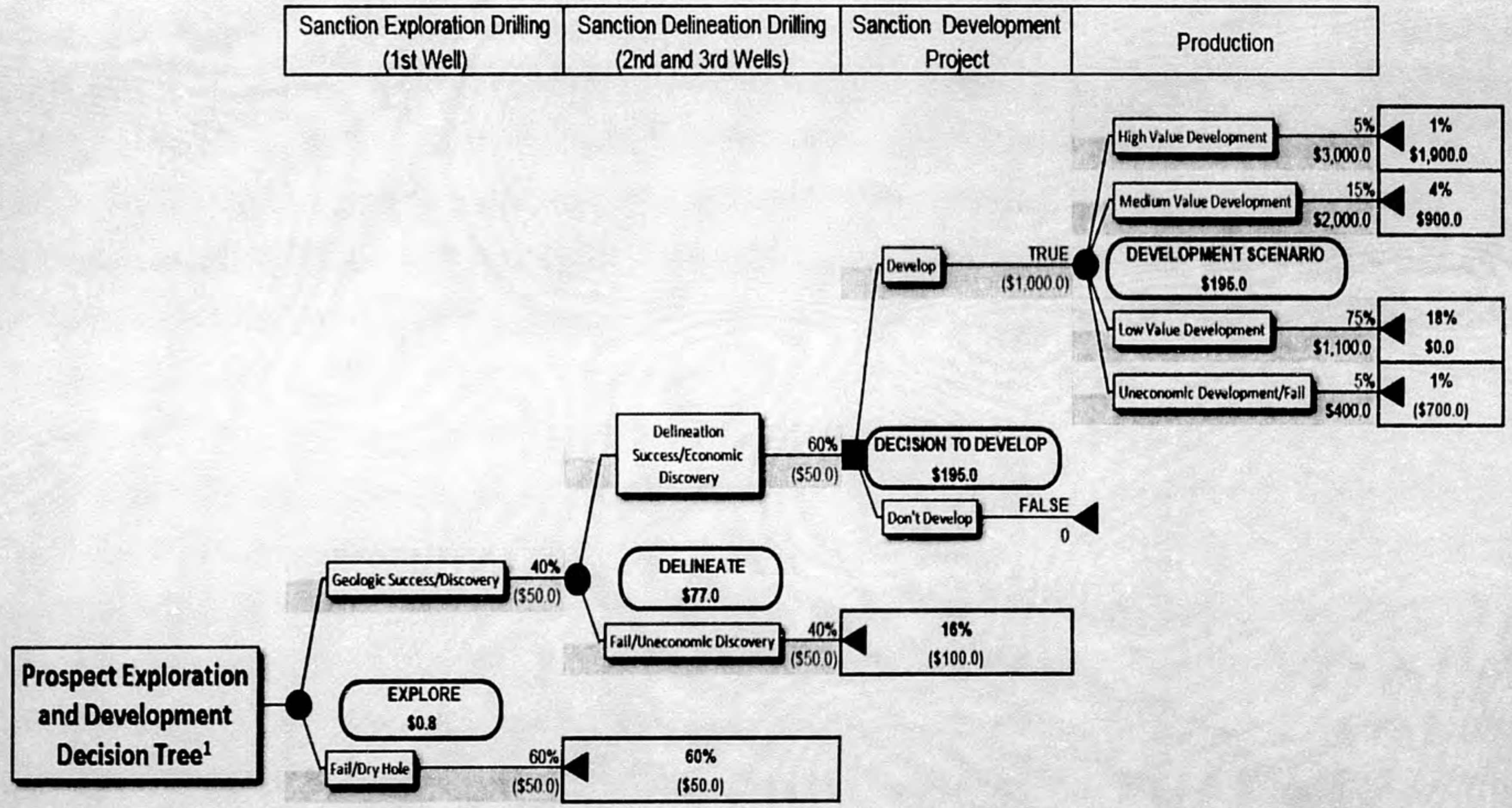
An Explorer's View of Gas Pipeline Issues

Alaska Division of Oil & Gas
June 7, 2008

Alaska Department of
Natural
Resources

http://www.dog.dnr.state.ak.us/oil/

Explorer's Decision Tree



[1] Assumes land position already established and prospect is identified and ready to drill.

Key Lessons From the Model

- Exploration is risky: big chance of big spend but no payoff
- Need big payoff from the success leg to pay for the large probability of failure
- If payoff from the success leg isn't sufficiently large, initial exploration never occurs

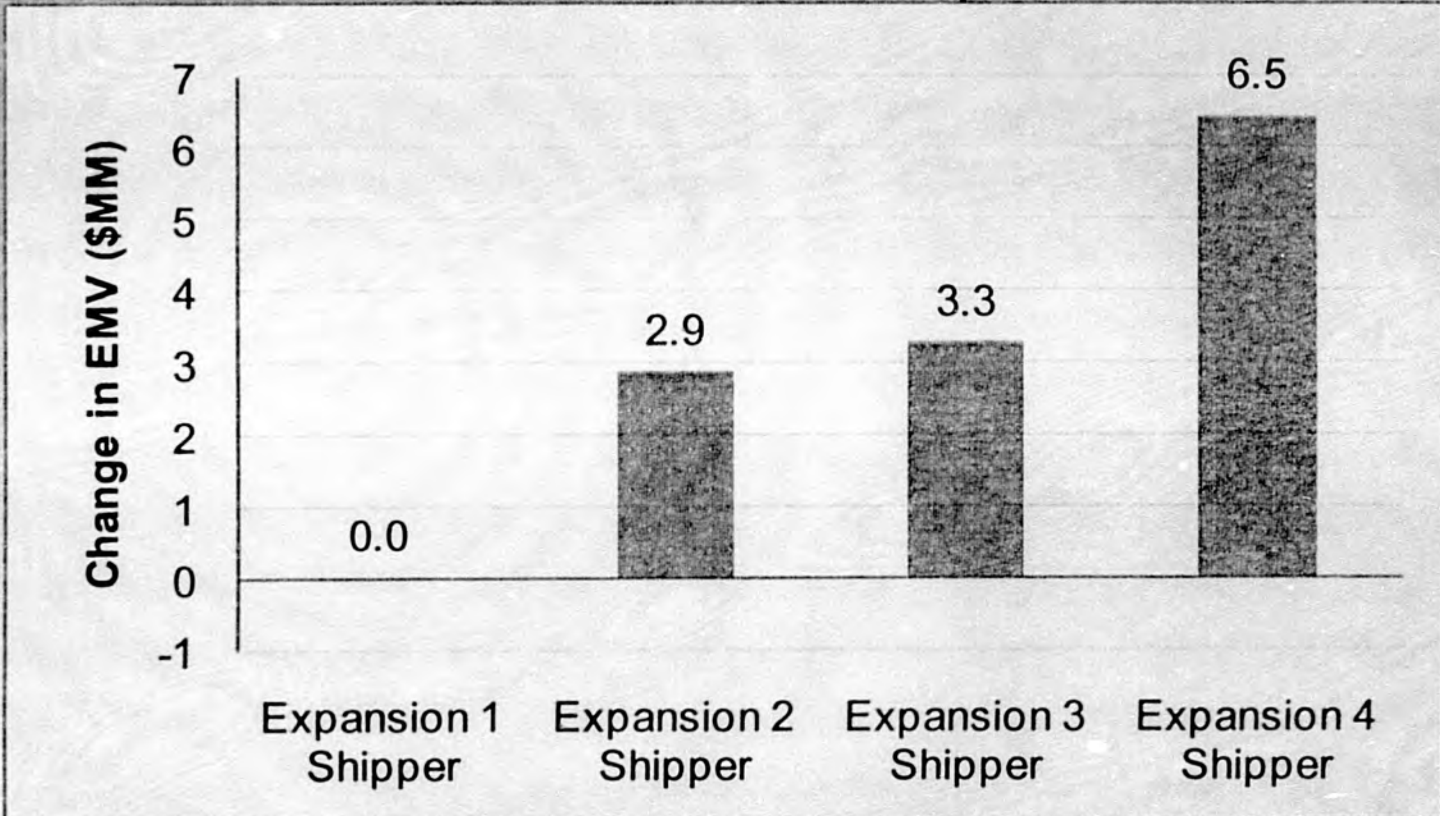
How AGIA Boosts the Success Leg Payoff

- Lower base tariffs (75/25 debt/equity ratio) increase netbacks
- Lower tariffs through Rolled-in rates also increase netbacks
- Expeditious and predictable timeline, from first spend to first gas, raises *discounted* value of eventual gas sales

Tariff Provisions

Effect of Rolled-in vs. Incremental

EMV Benefits of AGIA versus FERC Open-Season Rules*



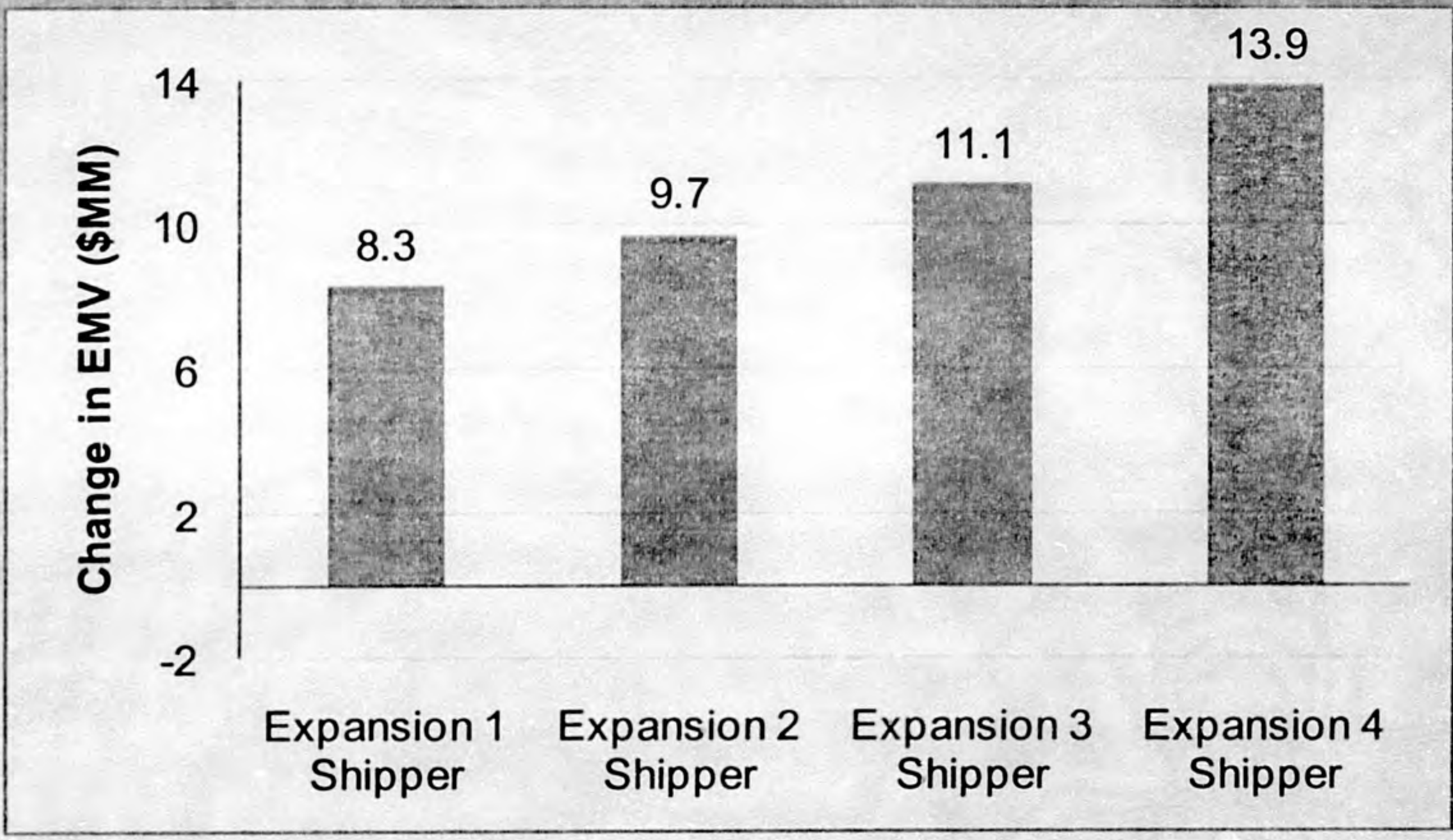
*Expected monetary value (EMV) of a generic North Slope stand-alone gas prospect; 75/25 D/E capital structure for base tariffs, 60/40 for expansions; $8.00 AECO gas price, flat, real

tjr: Prospect Analysis_080513b Regional Exploration Scenarios.xlsm

Tariff Provisions

Effect of Rolled-in, 75/25 D/E vs. Incremental, 50/50 D/E

EMV Benefits of AGIA versus FERC Open-Season Rules*



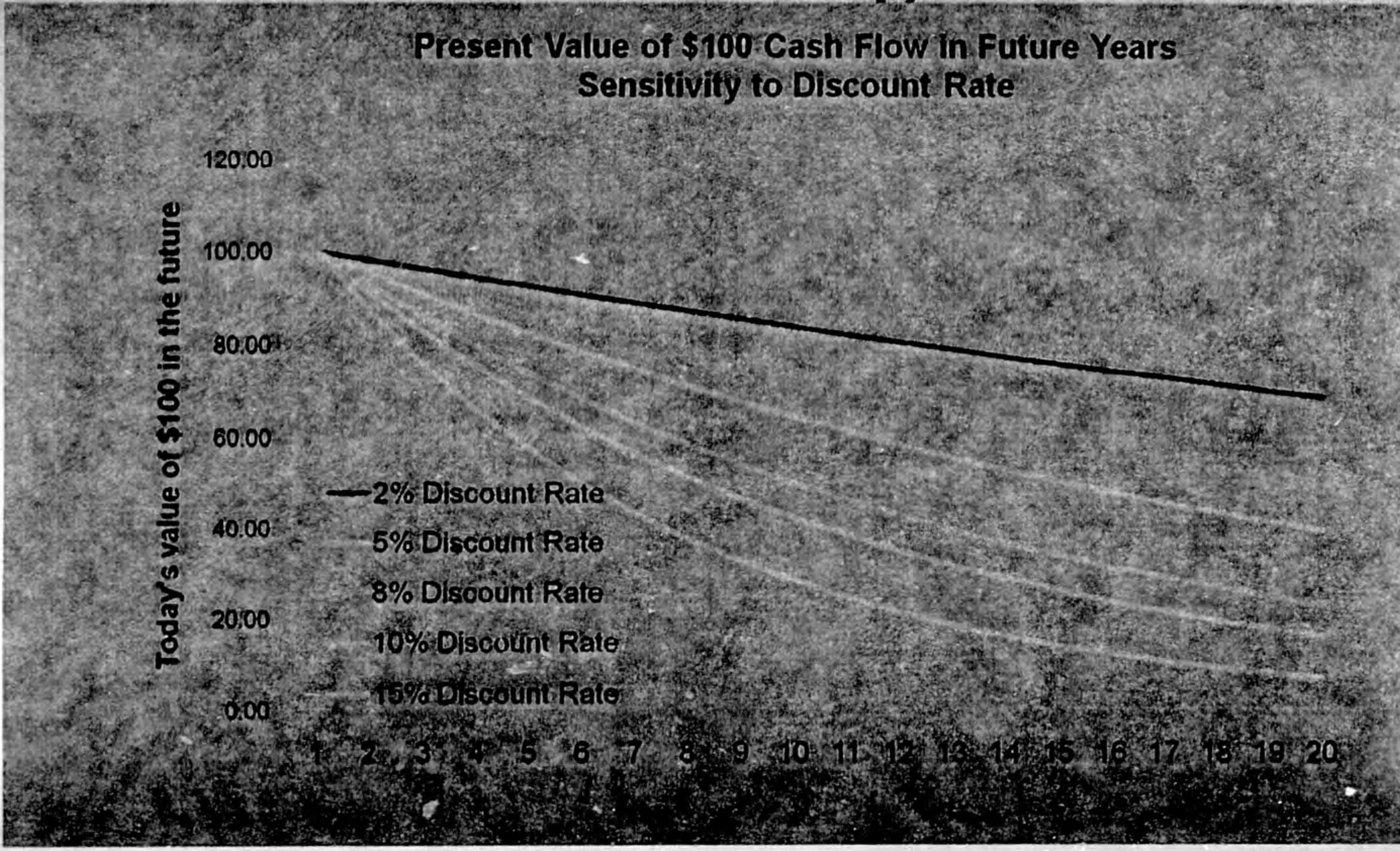
*Expected monetary value (EMV) of a generic North Slope stand-alone gas prospect; $8.00 AECO gas price, flat, real

tjr: Prospect Analysis_080513b Regional Exploration Scenarios.xlsm

Critical Results on Access Delays

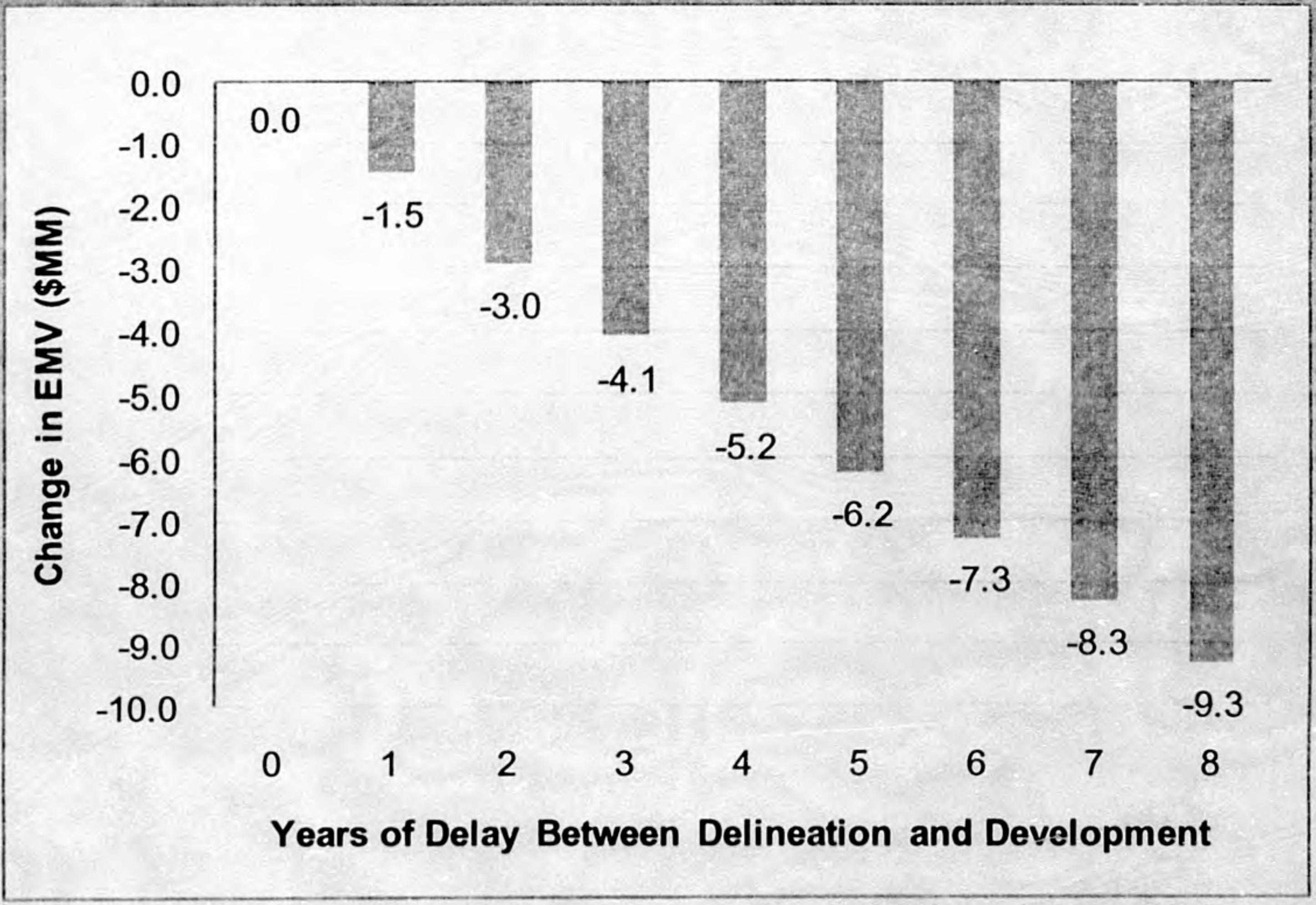
1. Up-front investment for seismic acquisition, exploration drilling, and delineation drilling really hurts the economics of oil and gas projects that risk being delayed for many years
2. Every year of delay in access to a gas pipeline after money has already been invested reduces the expected monetary value (EMV) of projects materially

How Discounting Works



Prospect Economics*

Effect of Delay: AGIA vs. FERC Open-Season Rules



*Expected monetary value (EMV) of a generic North Slope stand-alone gas prospect

tjr: Prospect Analysis_080513b Regional Exploration Scenarios.xlsm

End
(Appendix Follows. For full model details see AGIA Finding, Appendix L)

The Exploration Model
Base Case Assumptions

1. 10% discount rate for operator (5% for SOA)
2. Land is already leased over attractive prospect
3. Seismic data is already owned over prospect
4. Prospect is sanctioned for exploration drilling
5. 1st exploration well cost = $38 MM* in Year 1 of the project
6. 2 well delineation program cost = $25 MM* each in Year 2 and Year 3 of the project
7. Pad and facilities construction begins in Year 4, cost is scaled to production
8. Pipeline construction begins in Year 5, cost is scaled to production
9. Base Case (no delay) = 1st gas sale in Year 8, 6 years after delineation drilling

*Undiscounted expense in today's dollars, before any tax credits or incentives

Defined Variables

1. Gas price = $8.00/Mcf*
2. OpEx = scaled based on annual production rate

*Fixed value or rate for every year of the model

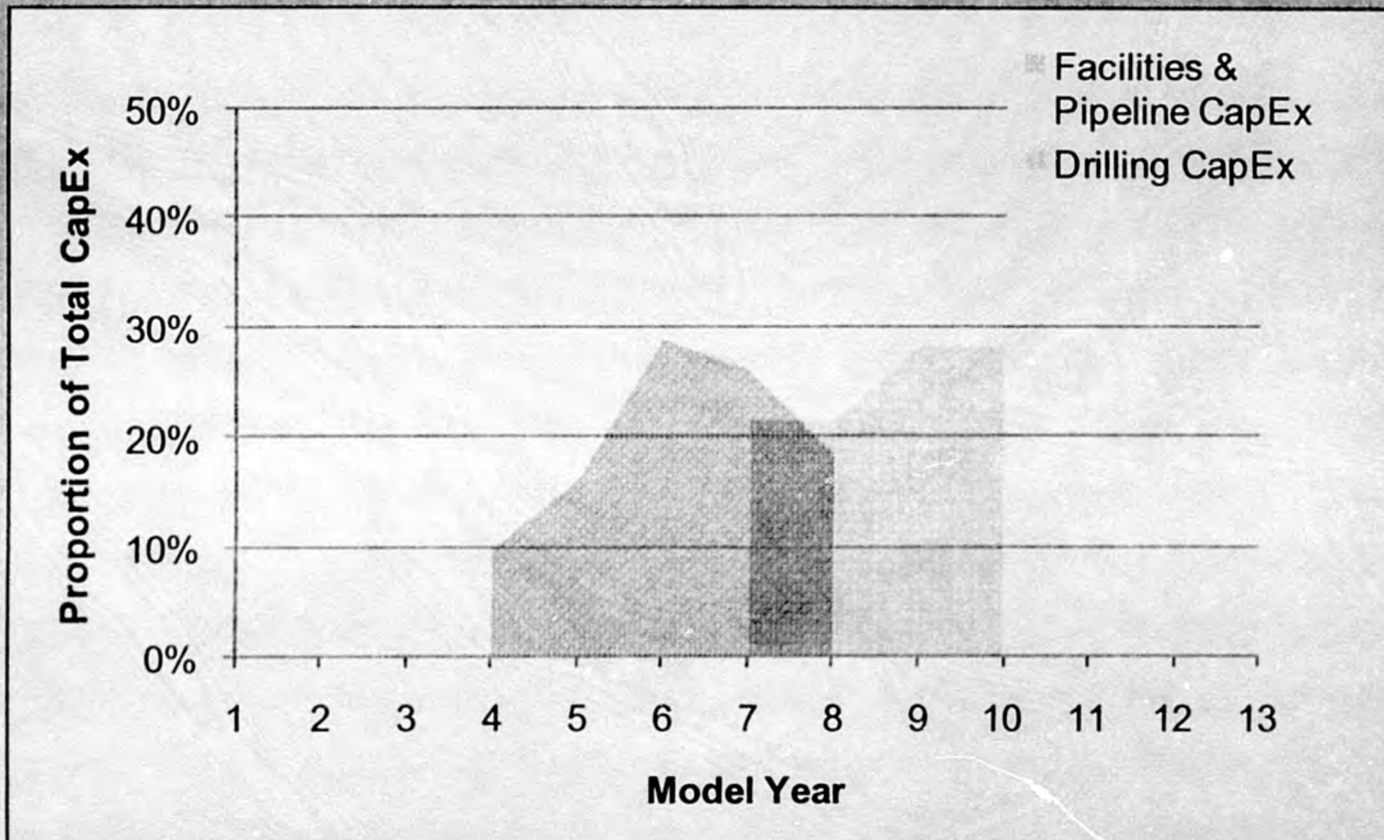
Drilling Success Probabilities

1. 40% = Probability 1st exploration well finds gas (geologic success)
2. 60% = Probability delineation drilling program is success

Development Scenario Probabilities

1. High reserves case = 1,800 BCF (5% probability *after* delineation)
2. Medium reserves case = 800 BCF (15% probability *after* delineation)
3. Low reserves case = 400 BCF (75% probability *after* delineation)
4. Uneconomic reserves case = 80 BCF (5% probability *after* delineation)

Base Case Expenditure Profiles for Facilities and Drilling



Note: Baseline production is assumed to begin in Year 8 after one year of development drilling.

Infrastructure Improvements Needed to Support Gas Pipeline Construction

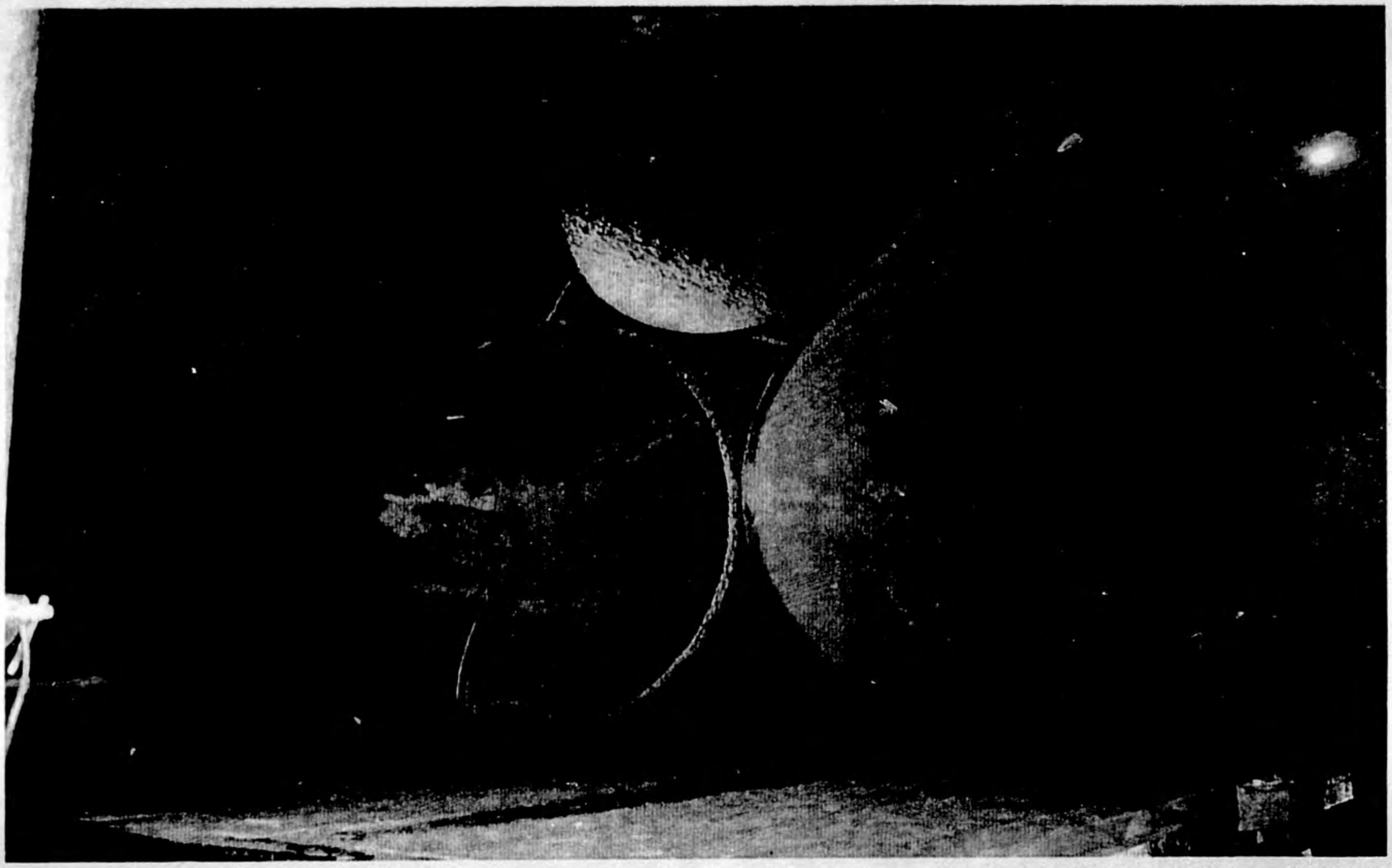
Legislative Briefing - June 13, 2008

GAS PIPELINE CORRIDOR

Prudhoe Bay To Canadian Border

BASIC TRANSPORTATION ISSUES

- Gas pipeline will be different than TAPS
  - Buried construction, more earthwork truck loads
  - Heavier pipe (0.5” v. 1.25”)
  - Greater use of large “modules” (compressor stations
  - More ports of entry
  - More air freight traffic
  - Higher background traffic
  - More pavement at risk
  - “Just in time” delivery approach likely



80' sections of pipe

50,000 truck loads

(3600 vehicles)

885,000,000 vehicle trips

3

WHY NOW?

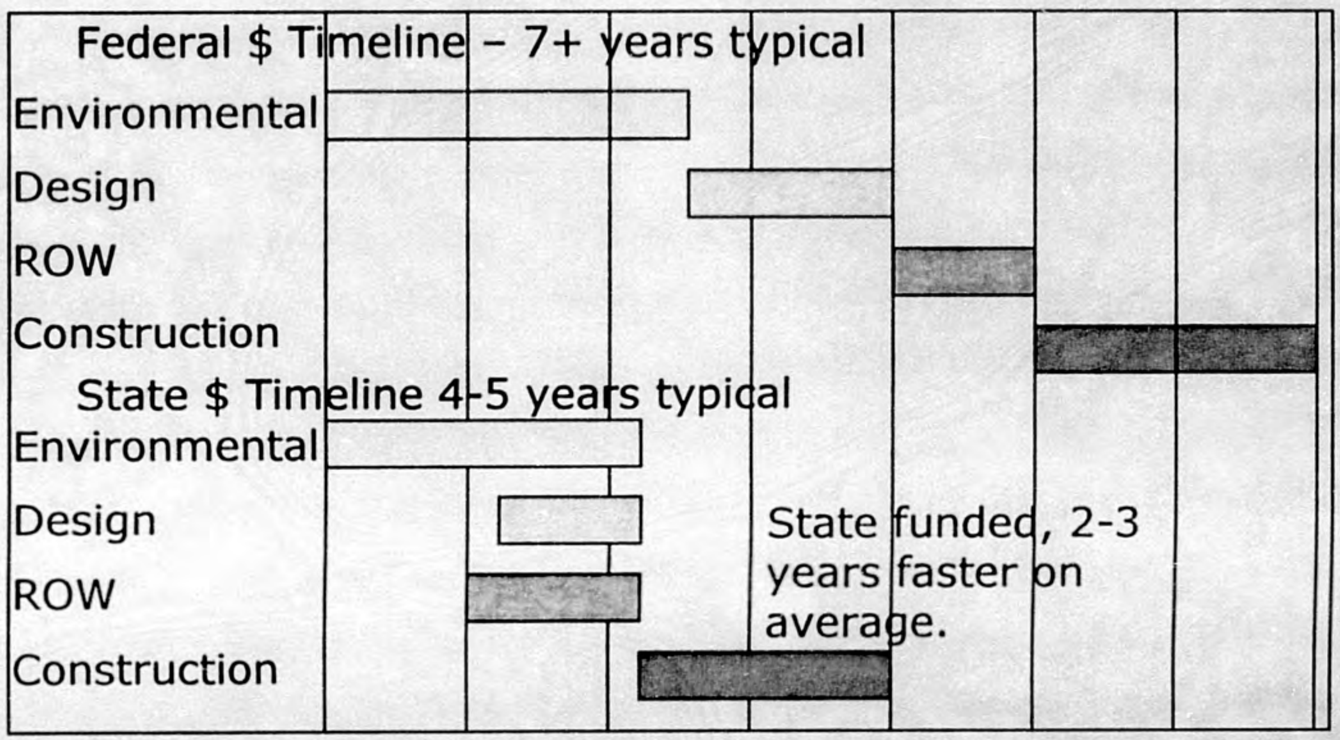
- Only 6 Construction Seasons (including FY09) Until Gasline Construction
- Too Much Work to be Compressed into a 2 to 3 Year Construction Window
- Bad Roads = Slower Gasline Construction and Increased Costs
- Bid Ready Projects Save Future Inflation as well as Maintenance Costs by Doing Projects Now

WHY NOW? CONTINUED

- Insufficient Federal Highway Funds and Timeline for Federal Projects
- Don't Want Roads Under Construction During Gasline Construction
- Projects will be Training Ground for Trades Needed for Gasline
- Reduce Accidents / Save Lives

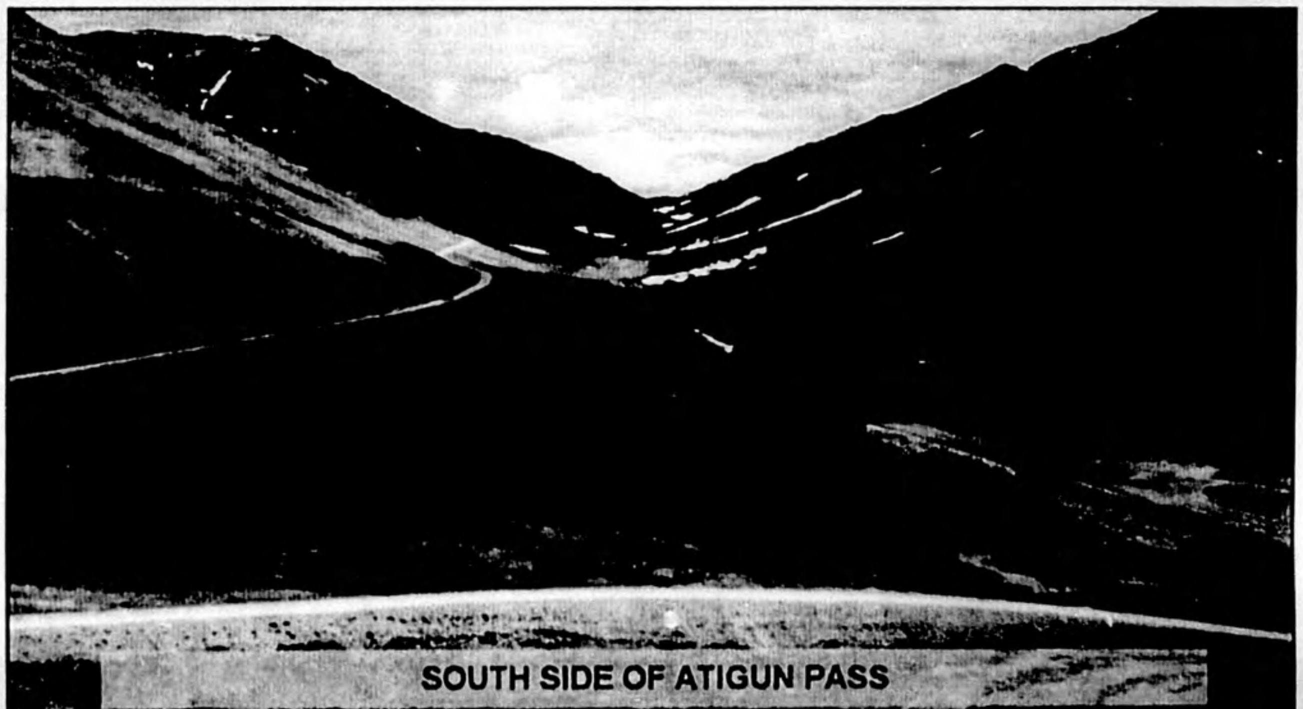
STATE FUNDS ADVANTAGES

Years



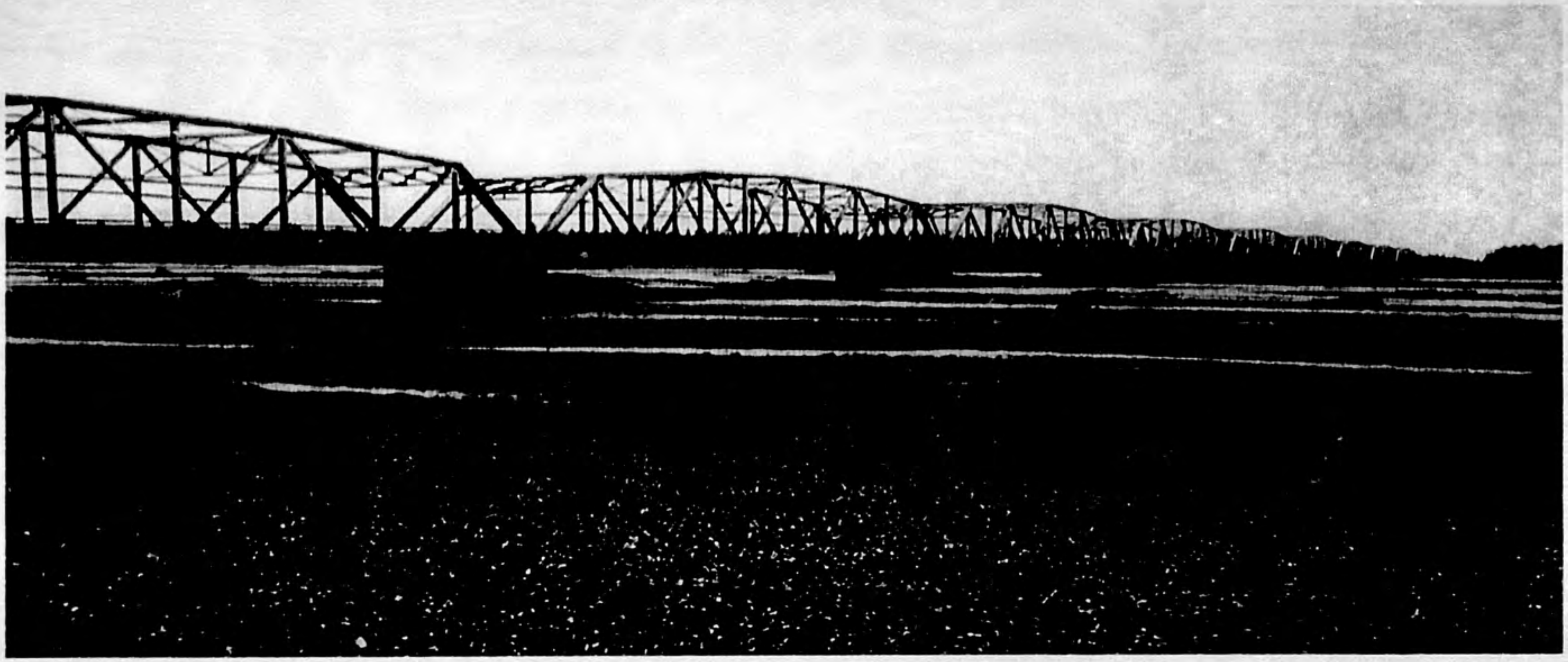
KEY CHOKEPOINTS

- Atigun Pass
- Yukon River Bridge
- Fairbanks, North Pole, Delta Junction
- Alaska Range and Thompson Pass
- Haines and Haines Highway
- Anchorage to Wasilla



SOUTH SIDE OF ATIGUN PASS

EXAMPLE OF LIMITING BRIDGE GERSTLE RIVER - ALASKA HIGHWAY



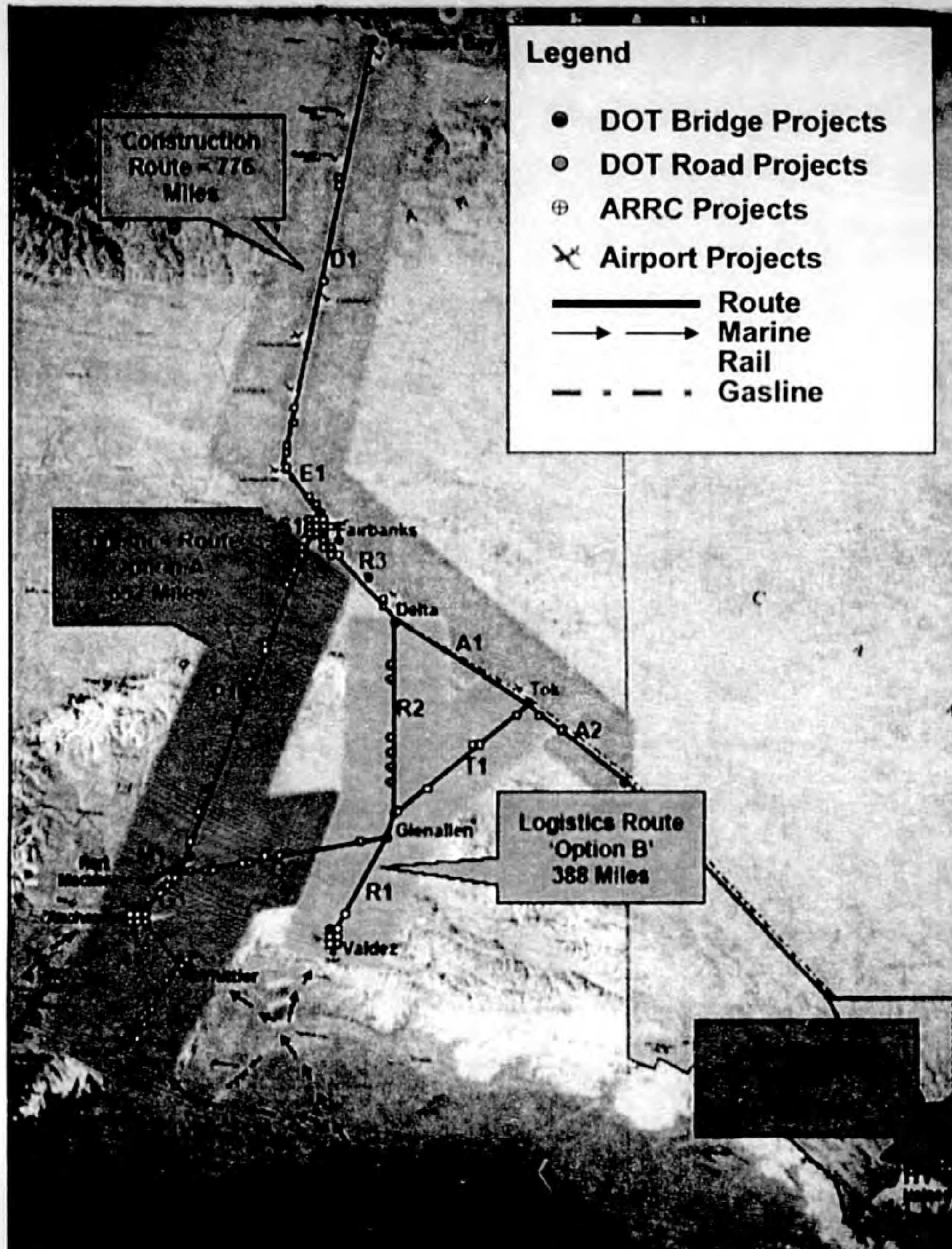
Multi-span, with height and width restrictions on module movements. Estimated Cost to Replace >$50 M

GAS PIPELINE TRANSPORTATION CORRIDOR DESCRIPTION

- Upgrade Bridges, Highways, Material Sites and Maintenance Camps
- Improve Safety and Drivability
  - Width
  - Alignment
  - Grades
  - Embankment
  - Surfacing Improvements
- Improve Maintainability

Transportation Corridors Identified for Ongoing Analysis

ROUTE KEY			
ID	ROUTE	MP START	MP END
A1	Alaska	1422	1315
A2	Alaska	1314	1221
D1	Dalton Hwy	0	415
E1	Elliott	0	68
G1	Glenn Hwy	0	34
G2	Glenn Hwy	35	180
H1	Haines	0	44
K1	Klondike	0	66
M1	Pt. MacKenzie	0	10
P1	Parks Hwy	0	323
PG1	Portage Glacier	0	5
R1	Richardson Hwy	0	117
R2	Richardson Hwy	118	268
R3	Richardson Hwy	269	362
S1	Steese Hwy	0	11
SE1	Seward Hwy	0	78
SE2	Seward Hwy	79	125
T1	Tok Cutoff	0	121



GAS PIPELINE TRANSPORTATION CORRIDOR DESCRIPTION

- Part 1
  - Dalton/Elliott Highways – Prudhoe Bay to Fairbanks
- Hub in Fairbanks
- Part 2
  - Richardson Highway - Fairbanks to Delta
  - Alaska Highway - Delta to Canadian Border

DALTON HWY CORRIDOR COST SUMMARY

- **Scope:** 36 Projects Along 415-Mile Corridor
  - 24 Highway projects
  - 3 Airports
  - 2 Bridges
  - 7 Facilities
- **Schedule:** July 2008 – December 2014
- **Cost:** $1.0 Billion – Average $167 Million a Year for 6 Years
- **Initial Funding Request:** $100 Million GF

DALTON HWY CORRIDOR PROJECTS

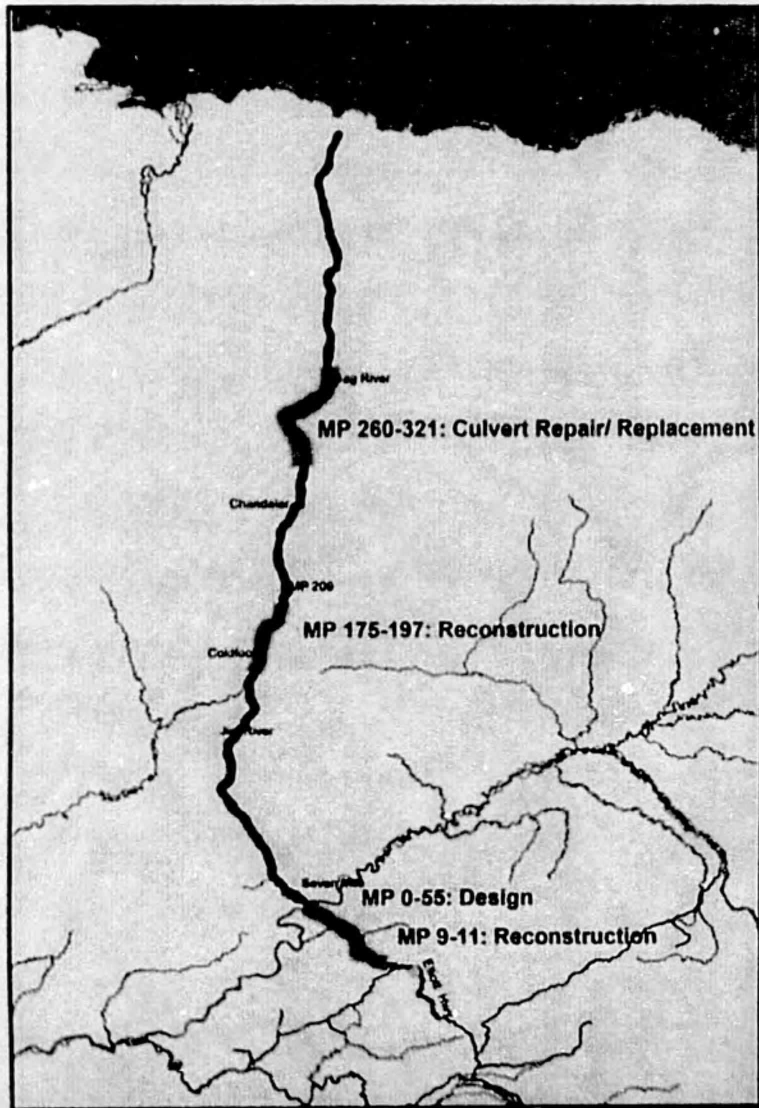
<u>Initial $100M Request</u>

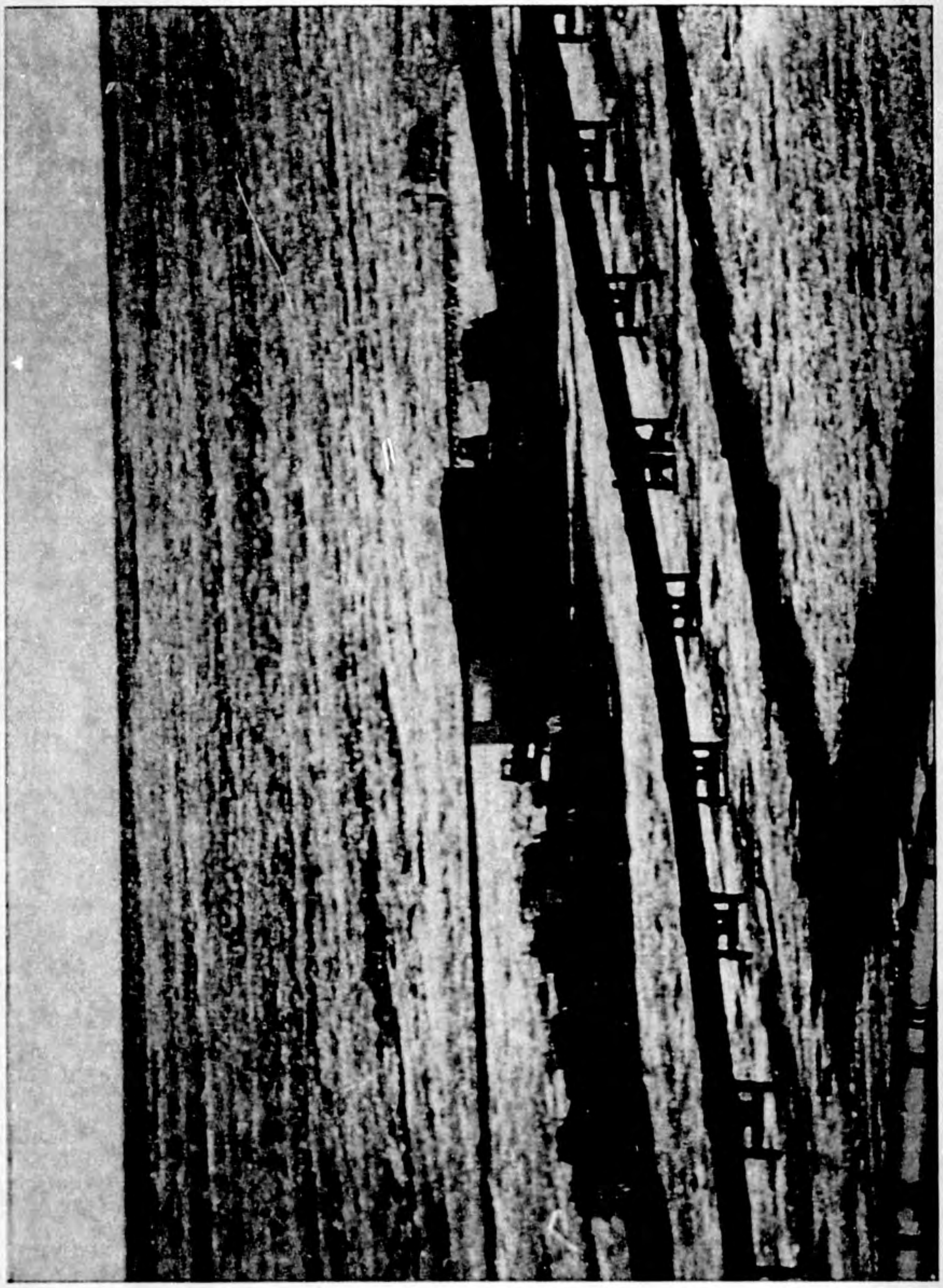
Construction $75.5M

- Dalton MP 9-11: Reconstruction
- Dalton MP 175-197: Reconstruction Includes Bridge Replacement
- Dalton MP 260-321: Culvert Repairs, Replace with Bridge

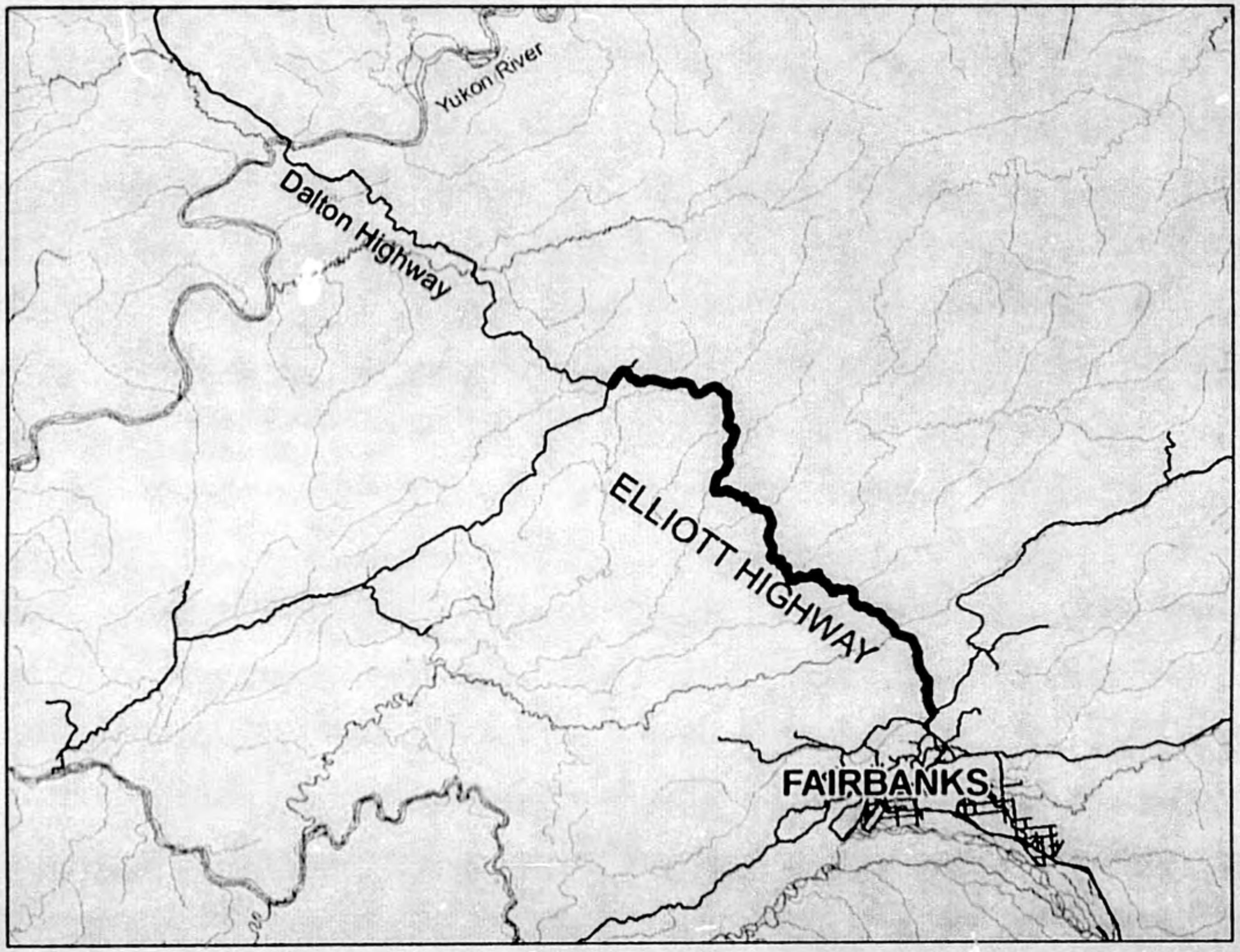
Design $24.5M

- Dalton MP 0-55:
- 100% Design
- Material Site Study: Entire Corridor





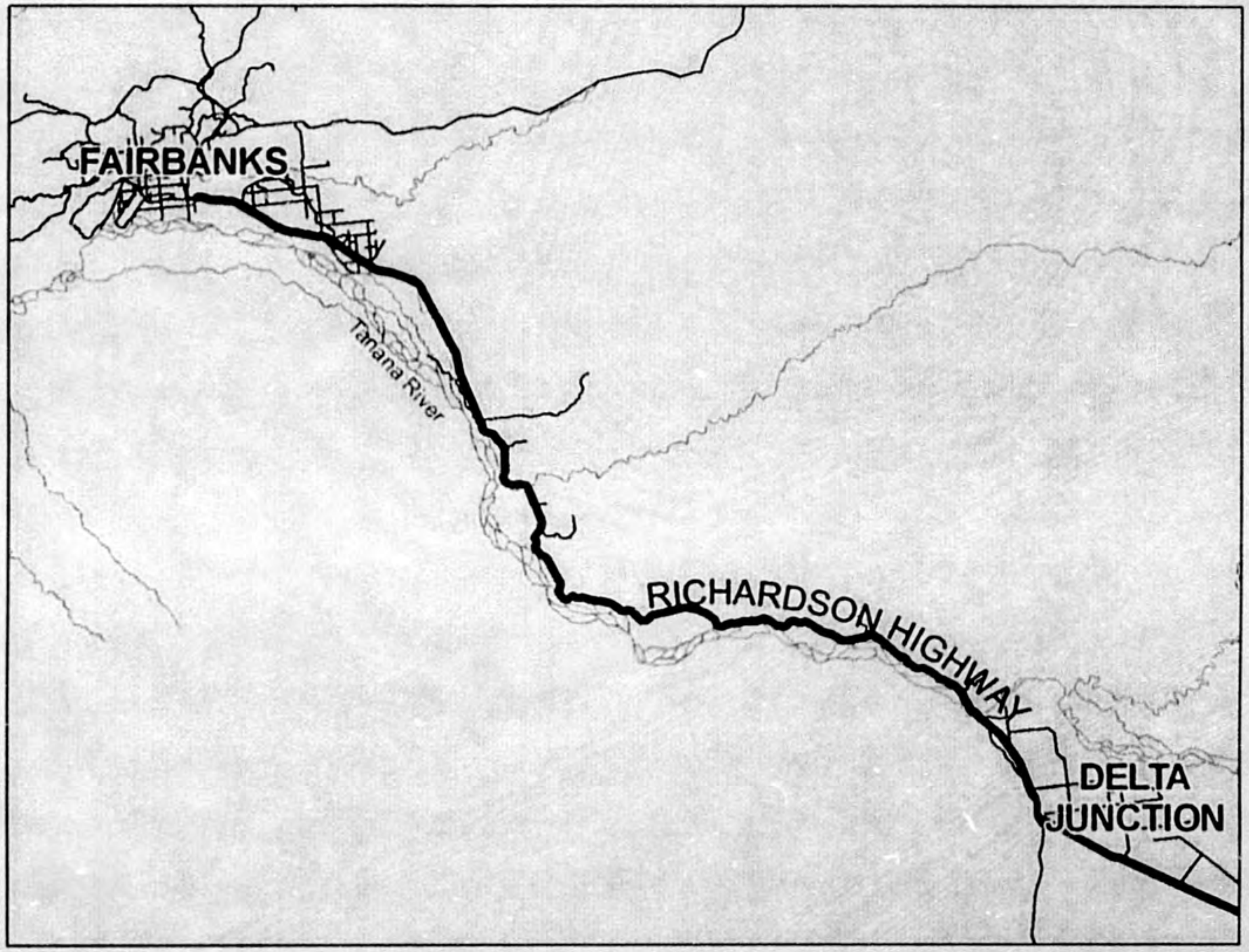
ELLIOTT HWY CORRIDOR



ELLIOTT HWY CORRIDOR COST SUMMARY

- **Scope:** 6 Projects Along 73-Mile segment
  - 3 Highway projects
  - 1 Airport
  - 1 Bridge
  - 1 Facility
- **Schedule:** June 2009 – December 2014
- **Cost:** $100 million

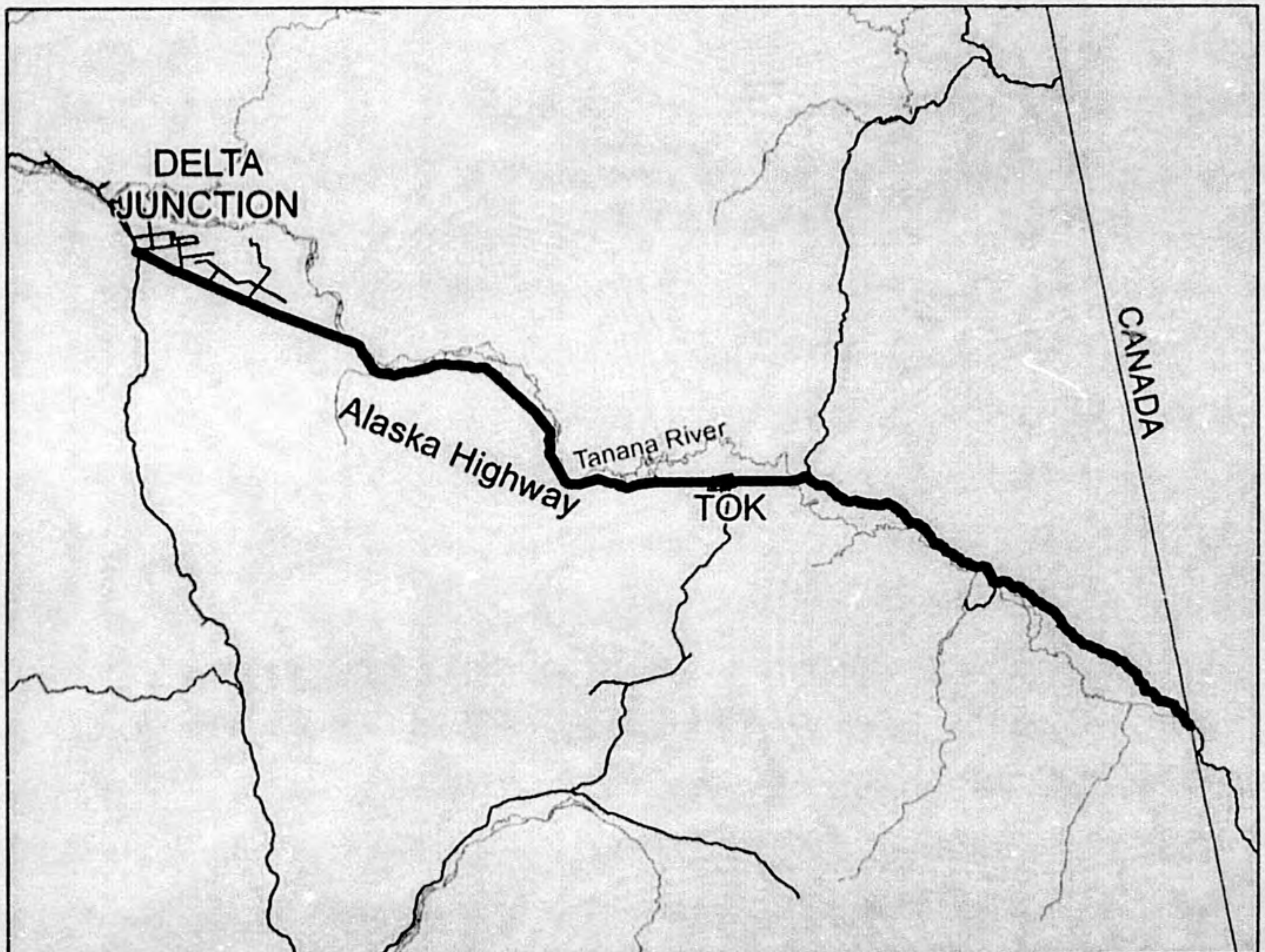
RICHARDSON HWY CORRIDOR



RICHARDSON HWY CORRIDOR COST SUMMARY

- **Scope:** 21 Projects along 95-mile segment
  - 15 Highway projects
  - 2 Bridges
  - 4 Facilities
- **Schedule:** June 2009 – December 2014
- **Cost:** $300 million

ALASKA HWY CORRIDOR



ALASKA HWY CORRIDOR COST SUMMARY

- **Scope:** 23 Projects along 200-mile segment
  - 9 Highway projects
  - 2 Airports
  - 9 Bridges
  - 3 Facilities
- **Schedule:** June 2009 – December 2014
- **Cost:** $600 million

WHY START WITH DALTON HWY CORRIDOR

- Dalton Hwy is Alaska's major industrial highway
  - Construction Projects Will be Ready for Bid in Early 2009
  - Start Design on the Worst Sections, Proceed to Environmental with Goal of Bid Ready in 2010/2011 – Completing Construction in 2014
  - Material Sites are Depleted in This Corridor; New Sites Need to be Identified, Permitted and Developed

ISSUE OF FINANCIAL RESPONSIBILITY

- Who pays?
  - Some road work needed regardless
  - FERC ruled in 1980's pipeline traffic part of ordinary highway use (cannot penalize or treat pipeline differently)
  - Yet, the past tells us pavements will be obliterated!
  - Will FERC see it differently this time?

FINANCIAL RESPONSIBILITY (2)

- STIP funds 'tapped' out
  - Funding levels decline in 2009
  - New earmarks less likely
  - Urban and other needs are great
  - STIP $$ <u>cannot</u> be diverted to gas pipeline on wholesale basis
- Status of Shakwak Funds
  - Will Yukon Roads/Bridges be able to handle construction loads and traffic

FINANCIAL RESPONSIBILITY (3)

- Financial responsibility issues to be discussed:
  - Major activity site access such as turn lanes (camps, pipe staging yards)
- Weigh station bypass technology
  - May improve state and carriers efficiencies
- Safety features needed
  - Truck pull outs to allow passing
  - Module movements safety pull out areas at bridges
  - More passing lanes

DOT&PF PROGRESS TO DATE

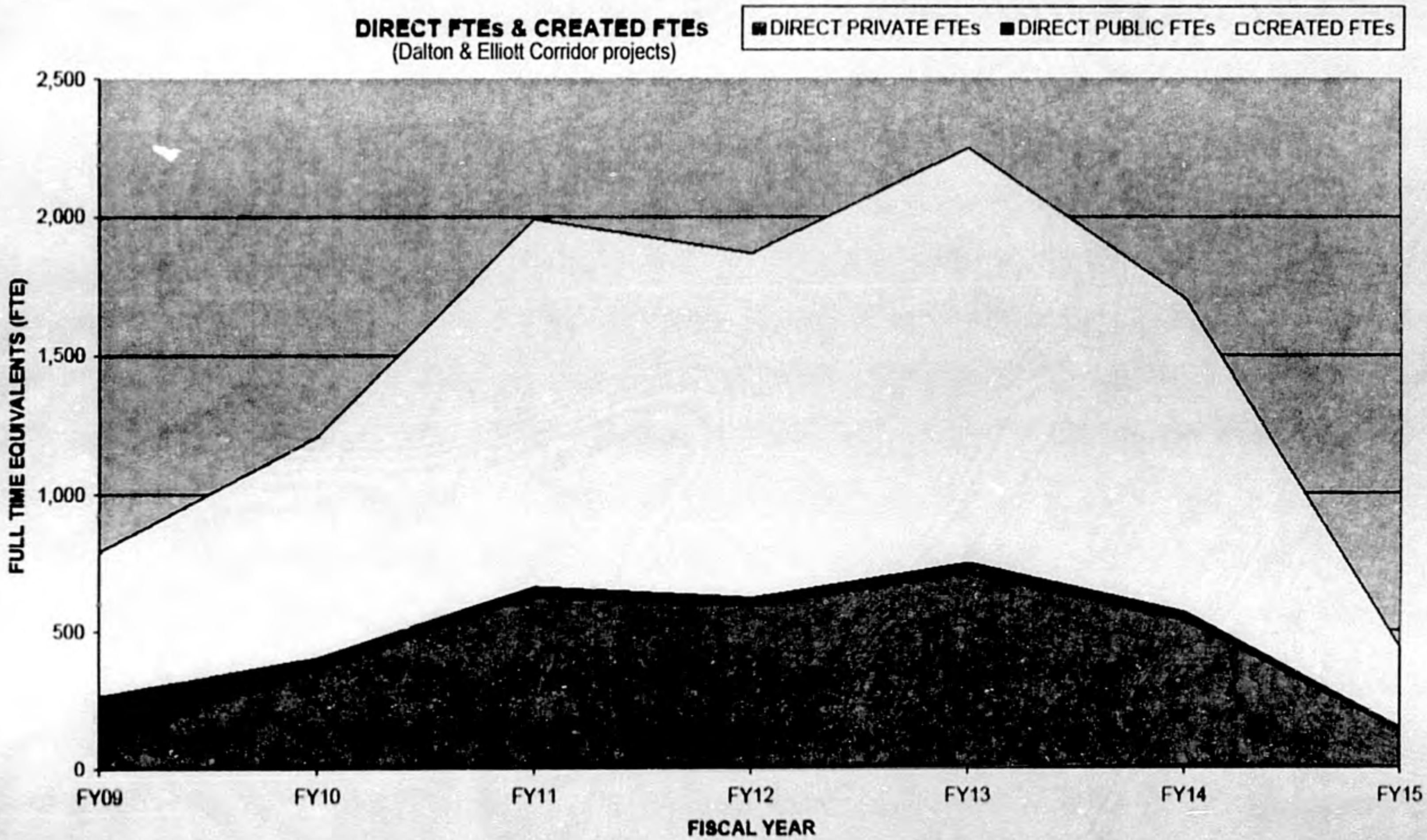
- Full time coordinator in place
- Key work identified (bridges, passing lanes, highway reconstruction)
- Federal funded projects underway
- GO bond projects – November election
- Started Conversations with Prospective Builders

VISIBLE PROGRESS

2007 Elliott Highway: New Washington Creek Bridge and realignment

2007 Dalton Highway: Grade heightening at MP 241 to 242 to alleviate snow drifting, and aufeis.

NEW JOBS CREATED



FTE = Full Time Equivalent; 1.0 FTE = 1 full-time worker

NEXT STEPS

- Begin work on Dalton Highway - $100M
- Evaluate Needs for FY10 Budget
- Create State Gasline Permit Office
  - Streamline State Permit Process
  - Increase Federal Permitting Efficiencies
- Establish Apprenticeship Programs
- Establish MOU w/ Canadian Counterparts

OTHER ISSUES

- Size and weight issues
- Extra maintenance and operations support during construction
- Safety and law enforcement
- Aviation needs
- ROW for TC Alaska
- ROW for Bullet Line
  - Denali Park and ANILCA
- Construction Impact on Tourism

QUESTIONS

Contact:

Frank Richards, P.E.
Deputy Commissioner
Alaska DOT&PF
(907) 465-3900
frank.richards@alaska.gov

ALASKA STATE LEGISLATURE

Senator Charlie Huggins, Chair
Senate Special Committee on Energy
State Capitol, Room 119
Juneau, AK 99801
Phone: 465-3878
Fax: 465-3265

Representative John Harris, Chair
House Rules Subcommittee on AGIA
State Capitol, Room 208
Juneau, AK 99801
Phone: 465-4859
Fax: 465-3799

Third Special Session
Twenty-Fifth Legislature

Carlson Center, Fairbanks Alaska

Saturday June 14 2008

10:00-5:00 p.m.

Joint Meeting AGENDA

Presentations: Review of AGIA Findings and Determination; Natural Gas Pipeline Project as proposed by TransCanada Alaska Company, LLC and Foothills Pipelines Ltd. (TC Alaska) to the State of Alaska.

- **TransCanada's AGIA Application**

  Tony Palmer, Vice President, Alaska Gas Development

- **Public Testimony**

Testimony – Time Limit May Be Set

Teleconference

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Administration

- -<u>AGIA Training Strategic Plan</u>

  Clark "Click" Bishop, Commissioner, DOL
  Guy Bell, Administrative Services Director, DOL

- <u>Employment Modeling</u>

  Conrad Mulligan, Senior Scientist for ARCADIS

- <u>Infrastructure Needs for an Alaska Gas Pipeline Project</u>

  Frank Richards, Deputy Commissioner, DOT

- <u>Explorer View</u>

  Kevin Banks, Acting Director, Division of Oil & Gas, DNR

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