Remote Bridges in Alaska

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Bridge Locations
What is a "Remote Location"?

- Off the road system
- Maybe 1 barge per year or air cargo only
- No maintenance
- No detours
Design Considerations

- Bridge is usually lifeline
- Multiple users (ATV, peds, snow machine)
- No overweight vehicle enforcement
- Economy vs. durability
Design Definition of Remote Bridge

- No mining or heavy industry
- ADT \leq 50, ADTT \leq 10
- No change in loads expected
Increased Construction Costs

- No concrete plants
- Shipping costs
- Fuel costs
- Lack of labor, maybe lack of worker housing
Design of Remote Bridges

• Cannot sacrifice safety!
• 1-lane vs. 2-lane
• Can modify load modifiers, live load factors, and limit states according to Dept. Policy
Detailing for Remote Bridges

- Shipping length determines splice location
- Rolled shapes may be preferable
- Rebar length (splices) @ 40’ instead of 60’
Plan Ahead!

• Precast/prefab as much as possible
• Concrete: Pre-batch, ship in sacks & truck mix
Village of Grayling

• Bridge is critical link to airport
Grayling Creek Bridge

- Old Bridge: 92’ long x 13’ wide
- New Bridge: 149’ long x 28’ wide
Transport to Grayling

River Barge: 425 miles
Rail: 300 miles
Ocean Barge: 1300 miles
Abutment
Steel Superstructure
Erection Challenges
Deck Panel Placement
Grout Placement
Grout Problems
Old and New Grayling Cr Bridges
Questions?

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