



# Alaska Department of Transportation & Public Facilities

## Pave IR Demonstration Project Summary

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# Testing Philosophy

- Shifting away from Random Testing
- Why?
- Less than a 1% chance of finding defects



# Testing Philosophy

- Moving toward 100% testing coverage
- Why?
- We want longer-life pavements
- Less maintenance
- Lower life-cycle cost



# Available Methodology

- Subgrade/subsurface improvement
- Intelligent Compaction of embankment layers
- Pave IR mapping of Thermal Segregation



# Near Future Methodology

- GPR Mapping of %Voids



# Goal

- Defect-Free Pavement



# Pave IR Benefits

- Real-time thermal mapping with color display on paver provides immediate feedback to crew



# Pave IR Benefits

- The dump man can see cold spot created when loads are not tied together





# Pave IR Benefits

- A truck driver can be shown the effect of cold crust from an untarped truck



# Pave IR Benefits

- The paver operator can see the cold spots created by stopping or dumping the wings of the paver
- Malfunctions of the paver will show as streaking in the mat



# Incentive

- \$20 Bonus for each 150' segment with No Thermal Segregation (0-25<sup>0</sup> F variation)



## No Incentive

- No bonus for 150' segments with Moderate Thermal Segregation (25-50<sup>0</sup> F)



# Penalty or Disincentive

- \$20 Penalty for each 150' segment with Severe Thermal Segregation ( $>50^{\circ}$  F)



# Carrot and Stick

- Pave IR is an objective tool for rewarding best practices such as:
  1. Tarping all loads
  2. Steady delivery of material to project with a minimum number of paver stops
  3. Tying loads together when dumping
  4. Use of Material transfer vehicle to smooth out flow to paver and maintain constant temperature

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"A" MAST BASE  
"B" MAST EXTENSION  
"C" MAST ARM



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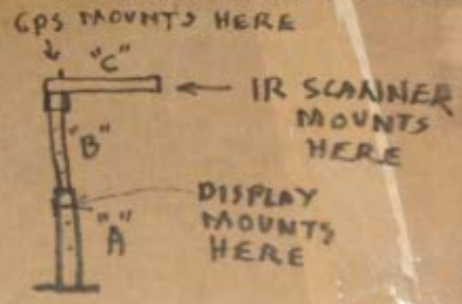


- C**  
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**S**
- MOUNTING HARDWARE
  - CABLES
  - GPS UNIT
  - IR SCANNER
  - DISPLAY / COMPUTER
  - WHEEL SENSOR
- TOOLS NEEDED (NOT INCLUDED)  
 • 8, 12, 19 mm WRENCHES  
 • ZIP TIES  
 • DIKES



**C**  
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