

# Montana Department of Transportation

## In-Place Recycling Presentation

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Denver, CO

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# Montana Demographics

- State Highway System Description
  - 11,357 Total Centerline Miles (not including gravel)
- Construction Program
  - Average # Annual Projects: 100 – 120
  - Budget
    - Avg Total Annual Letting: ~\$350M (CN \$ only)
    - Pavement Preservation: \$48M in 2015
- Pavement Preservation Treatments
  - Seal and Cover
  - Overlay
  - Mill – Fill
  - Microsurfacing
  - In-Place Recycle

# State Animal

- Is: Grizzly Bear



- Should Be: Bobcat



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# In-Place Methods

- Pulverizing (FDR)
- Cold In-Place
- Hot In-Place



# Pulverizing

- MDT's most common in-place recycle method
- 72 projects, beginning in mid 90's
  - 25 in the past 5 years
  - 10 stabilized with cement
- Design standards greatly limit when we pulverize
  - Primarily road width restrictions & existing pavement thickness
- Spec states that final product has max 50% PMS



# Cold In-Place

- 16 projects
  - 6 in the past 5 years
- Cracking Concerns
  - Reflective cracking – sometimes immediate, sometimes not
  - When immediate, it leaves us wondering
- Currently – Always overlay over a CIPR
  - Is CIPR beneficial at this point (compared to a mill-fill?)



# Hot In-Place Recycle

- 2 Projects, ~ 20 years ago
- 2013, MDT met with Pave Over to discuss HIPR
- 2014, MDT with Dustrol and Gallagher Asphalt
- 2014, MDT Maintenance Division has potential candidate
  - Moving forward with HIPR, but as an Alternate

# How is it Working?

- Pulverize
  - Good/Continued success
  - Need proper project, quality survey
  - Biggest C.O. history of MDT was a pulverization project
  - Formed Subgrade Stabilization Team (creating formal process)
- CIPR
  - Varied success
  - Must question if it's worthwhile and cost effective
  - Mill/Fill will produce a smoother ride and isn't much more expensive
  - Increased risk to MDT
- HIPR
  - Minimal experience
  - Learning more about it
  - Need a successful project to help "sell the process"
  - Maintenance likely moving forward with bidding alternate