ROADWAY MAINTENANCE
BEST PRACTICES
“The Alberta Transportation Perspective”
ALBERTA TRANSPORTATION NETWORK

- AT is responsible for all numbered highways
- 31,150 two-lane kilometres of highway
- 27,517 two-lane kilometres of pavement
- 2010/2011 provincial highway maintenance budget $308 million
- $19 million spent on pavement surface maintenance
- Additional $11 million for Corrective /Preventative Maintenance Program
CONTRACT MAINTENANCE AREAS

- All highway maintenance is “outsourced”
- 30 Contract Maintenance Areas
- 6 highway maintenance contractors
SPECIFICATIONS

• Version 5 (2010)
• Available on AT’s website
• Typical contract will have more than 350 bid items
• Scope does include work not captured in the bid items (handled on an “extra work” basis)
• Many bid items have a “premium payment” when earlier than usual completion is required.
CONTRACT ADMINISTRATION MANUAL

- Version 3 (2010)
- Available on AT’s website
PAVEMENT MAINTENANCE

- 53.4 Asphalt Pavement Crack Sealing
- 53.5 Asphalt Pavement Crack Routing and Sealing
- 53.6 Asphalt Pavement Surface Sealing – Fog Coat
- 53.7 Asphalt Pavement Surface Crack Repair – Spray Patch
- 53.10 Asphalt Pavement Pothole Patching
- 53.13 Asphalt Pavement – Surface Patching
- 53:14 Asphalt Pavement – Deep Patching
53.4 Asphalt Pavement Crack Sealing

- Spec allows cold or hot pour
- Sealant must be on AT’s “Product List”
- Entire road width is treated
- Typically require completion by June 30 each year
- Amount done depends on budget (varies from 10% to 100%)
- Payment is by the metre of crack sealed
53.5 Asphalt Pavement Crack Routing and Sealing

- AT initiated a route and seal program in the late 90’s
- Many failures early on. Lessons learned:
  - Workmanship is key
  - Recommended for newer pavements
- Much more effective seal, but considerably more expensive
- Administered similarly to conventional crack seal
- One year warranty
53.6 Asphalt Pavement Surface Sealing – Fog Coat

- Common use of fog surface seal is on shoulders
- SS-1 @ 0.2 to 0.3 kg/m² (undiluted)
53.7 Asphalt Pavement Surface And Crack Repair – Spray Patch

- Used for:
  - Crack repair (by the metre)
  - Surface repair (by the square metre)
- Very popular treatment with field staff
- Use has increased over the years to approximately $5 million annually
- “Working” cracks will reappear; recommended practice is to conventional crack seal the following year
- Roughness issues
53.7 Asphalt Pavement Surface And Crack Repair – Spray Patch

- 2007 study “Performance Based Specification Spray Patch Trial Project
- Uses IRI data before and after spray patching
- IRI was not improved; subjective ride quality felt to have improved
53.10 Asphalt Pavement Pothole Patching

- Two bid items:
  - Pot Hole Patching ASBC/ACP
  - Pot Hole Patching Proprietary Mix
- Unit price is by the kg
53.13 Asphalt Pavement – Surface Patching

- Numerous bid items:
  - Paver laid
  - Machine laid
  - Hand laid
  - ACP
  - ASBC
  - Proprietary Mix
  - Contractor Supply
  - Department Supply

- Graduated payment scale
53.13 Asphalt Pavement – Surface Patching (Continued)

- Grader patching can be inconsistent
- AT use of paver patching increasing
- May also use milling on major highways
Asphalt Pavement – Deep Patching

• Some failures require more than a surface patch
• Paid by the square metre
• Includes excavation to 750 mm depth
CORRECTIVE/PREVENTATIVE MAINTENANCE PROGRAM

• Various delivery methods:
  – Existing maintenance contract
  – Tie in with nearby construction
  – Separate tender

• Corrective program:
  – Heavy patching
  – Thin overlay
  – Mill and inlay
  – Spray patch

• Preventative program
  – Seal coat
  – Microsurfacing
  – Spray patch
  – Fog coat