

Problem Statement

- Selection and properties of pavement construction materials vary and this variation affects pavement performance.
- Development of laboratory/specification performance predictive tests and models need to be correlated with actual field performance of pavements.

Approach

- Construct pavement sections with material variability.
 - State/county/local DOT's
 - Accelerated load facilities
 - MnRoad
 - Tx A&M/TTI
 - NCAT?
 - Others

VALIDATION

ARC & FP III

Approach (cont)

- Collect construction materials
- Monitor sections (at least) annually
 - distress mapping & classification
 - transverse profiles
 - photos
- Core samples obtained post construction and after 1, 2, and 5 years of service
- Pavement distress may trigger the need for core samples in off years

Expected Outcomes

- Short Term
 - Field sections are expected to show little performance difference
 - Accelerated test sections expected to show performance difference
- Long Term
 - All sections are expected to show performance difference

Accomplishments

- Albin WY site constructed in 1999
 - 2 asphalt sources. (cold-dry site)
- Nevada I-15 site constructed September 2001
 - 4 asphalt sources. (hot-dry site)
- Arizona U.S. 93 site constructed November 2001
 - 4 asphalt sources. (hot-dry site)
- Kansas U.S. 77 site constructed May 2002.
 - 4 asphalt sources. (hot-wet site)
- Minnesota CR 112 site constructed August 2006.
 - 4 asphalt sources (5 sections). (cold-wet site)

VALIDATION

ARC & FP III

- Yellowstone National Park WMA Site

- PG 58-34 asphalt SBS-modified
- Advera 0.3%
- Sasobit 1.5%

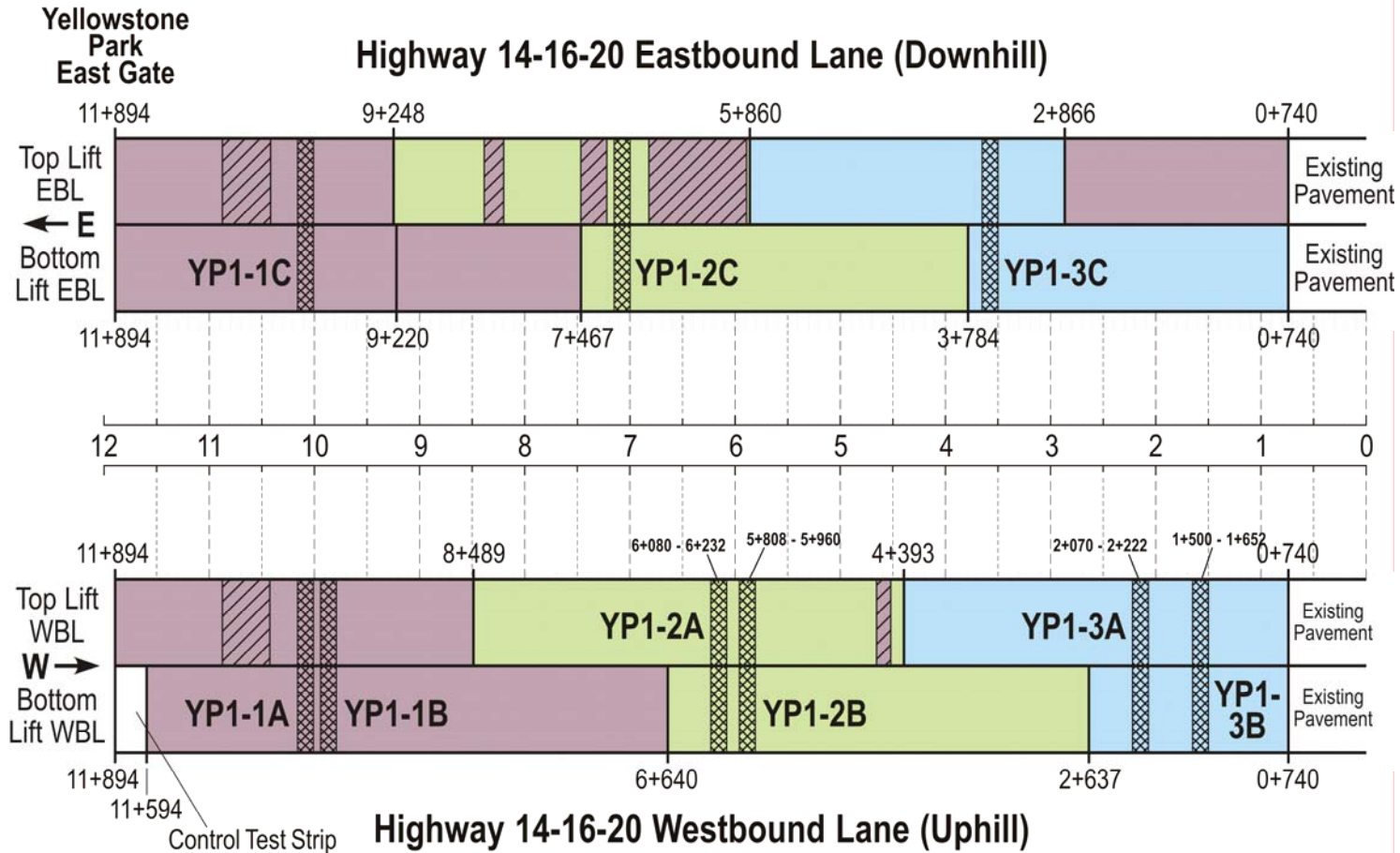


- MnRoad PPA Sections

- 2% SBS
- 1% SBS + 0.3% PPA + 0.5% phosphate ester antistrip
- 0.75% PPA + 0.5% Antistrip
- 1.1% Elvaloy + 0.3% PPA + 0.5% Antistrip

VALIDATION

YELLOWSTONE WMA TRIAL (2007) LONG-TERM TEST MONITORING SECTIONS



- Test Monitoring Section (TMS)
- Rotomill Section (Replaced with HMA)

Planned/Possible Activities

- Material variation sites. (FPIII & ARC)
- Sections to evaluate warm mix mix-design procedures. (E1c-1)
- Cold mix mix-design sections? (E1c-2)
- RAP field sections. (E2b)
- Identify/use sections with thermal cracking. (E2d)
- Identify/use LTPP sections. (V3b-3)
- MEPDG sections with states. (V3b-1)