Track Updates

Executive Committee Meeting
Chicago, Illinois
September 11, 2007

Ted Ferragut, TDC, et al.
Dale Harrington, S&A,
CP Tech Center
Track Management Approach

1. Framework
2. Funding Collaborative
3. Focus on Innovations
4. “Low-Hanging Fruit”
5. Research Plan
6. Implementation / Technology Transfer
   3 to 5 years from initiation

[from Ch 8, Research Management Plan, pp 75-96, CP Road Map Vol I]
Track 4. Surface Characteristics (example)
Funding Collaborative

ISU, FHWA, ACPA, and pooled-fund states have developed a comprehensive program related to noise.
Innovation

RoboTex Texture Device
1/8" Deep Longitudinal 3/4" Spacing + Burlap (Long Section)

Transverse Texture Profile

102.3 dBA
Low-Hanging Fruit
Research Plan

Part 1
- Strategic Plan/Framework
- US and European Experience

Part 2
- Field Data Collection
- Preliminary Data Analysis

Part 3
- Data Analysis
- Data Collection
- Construction Best Practices
## Test Sections – Part 2

<table>
<thead>
<tr>
<th>Type 1 New</th>
<th>IOWA</th>
</tr>
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<tbody>
<tr>
<td>Type 2 Existing</td>
<td>CO, ND, KS, IA, GA, WI</td>
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<tr>
<td>(2 – 3 years)</td>
<td></td>
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<tr>
<td>Type 3 Existing</td>
<td>CO, ND, MN, IA, AL**, GA, NC, VA, OH, IN, MI, Quebec, NY, MO, (TX, CA, AZ)</td>
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<tr>
<td>(identify characteristics)</td>
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</tbody>
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** NCAT
Test Sections – Part 2

395 Unique Textures Tested

- 140 Transverse Tining (incl. 12 skewed and 2 cross-tined)
- 104 Longitudinal Tining (incl. 2 sinusoidal)
- 39 Diamond Ground
- 16 Grooved (4 longitudinal, 12 transverse)
- 59 Drag (Burlap, Turf, Broom, Belt, Carpet)
- 10 Shot Peened
- 5 Exposed Aggregate
- 2 Milled
- 20 HMA and Surface Treatments

Over 1,000 unique test sections

Over 45 miles of total length!
Part 2 OBSI Results

Average OBSI Level and Variability (4+1 Avg, PWL=95%) (dBA)

Nominal Texture

- Diamond Grinding
- Drag
- Longitudinal Tining
- Transverse Tining
- Longitudinal Grooving
- Transverse Grooving
- Exposed Aggregate
- Shot Peened
- Other
Something Here about 3-5 years

Construction guide
Model specifications
Advanced testing sections to continue
Real-time scenarios
Status

• **Part 1**: Strategic Plan  Complete 2005  $325,000
• **Part 2**: Field Measurements  Complete 2007  $718,700
  - Data Collection
  - Expert Task Group
  - Formal Report
• **Part 3**: Data Analysis / Innovative Surfaces  $1,475,000
  - 2007 through 2010
    - Model Specs
    - Real Time Scenarios
    - Acoustical Durability
    - Construction Guidelines
    - Build innovative/advanced test sections
to minimize noise

Total  $2,518,000
Track 1: Mix Design and Analysis

- Mix & Materials Lab
- Mix Design & Analysis
- Long-term Monitoring & Analysis
- Mix Verification
- Real-Time Mix Adjustment & Quality Control
- Construction
Funding Collaborative

Phase 1: $2.1 million (3-5 years)

- FHWA $525,000
- Industry $525,000
- States $525,000
- CP Tech Center $525,000
Framework (1 of 6 initial projects)

Framework for Development and Integration of Mixture Design System
Low-Hanging Fruit

5 initial projects completed in 1-3 years
1. Design and Control of Concrete Pavement Mixtures Manual
2. Mixture Test and Analysis Manual
3. Evaluation of Emerging Laboratory Equipment and Test Procedures
Innovation

4. Modeling: State of the Practice and Future Advancements
5. Implementation and Outreach
Track 7: High-Speed Concrete Pavement Rehabilitation and Construction

Not yet a track

Fast-tracking technology transfer re overlays
CP Tech Center Overlays: Phase 1

Overlay Solutions Guide

- 28 pages
- New terminology
- Illustrated
- Introduced at paving workshops throughout 2007
- 2nd edition in December ’07
- Partner 1st edition: ACPA
Phases 2 & 3

Technical Advisory Committee

Phase 2
Field Application Program
Eight State DOT’s Consortium
Four Expert Teams
• Team Leader
• ACPA Representative
• Contractor
• State DOT
• Overlay Author

Phase 3
Comprehensive Overlay Manual
Five Technical Authors

Partners:
FHWA, ACPA, and the CP Tech Center