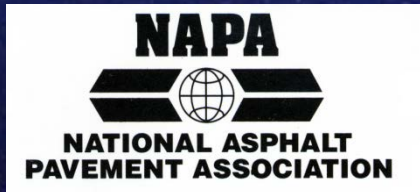


National Asphalt Roadmap

Kent Hansen
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A photograph of a two-lane asphalt road stretching into the distance under a dramatic sky. A vibrant rainbow arches across the upper half of the frame, set against a deep blue, stormy sky. The road is flanked by green fields, and the perspective draws the eye toward the horizon.

A Commitment to the Future

Asphalt Pavement
Research and Technology

CART

- Roadmap builds on significant effort for last 10 years by NAPA's committee

VISION:

Develop improved asphalt pavement technologies that ensure the continued delivery of safe and economical pavements to satisfy our Nation's needs.

Asphalt Community

- Government agencies
- Industry
- Academia

All understand importance of HMA to the nation's transportation system

Overarching Themes

- Safety
- Environmental Stewardship
- Pavement Performance
- Economics

Roadmap

- 69 Projects
- 2 to 3 page “problem statement” for each
 - Introduction
 - Background
 - Overview of research topic
- Wide variety of general subject areas
- Various research approaches may be used
 - Other research may be in progress

Program Areas

1. Workforce Development
2. Long-life Pavements and Pavement Performance
3. Improved Design of Pavements
4. Materials Characterization and Mix Design
5. Construction Practices and Quality Management
6. Innovative Contracting Practices
7. Surface Characteristics



Program 1

Workforce Development

Develop strategies to recruit, retain and develop the HMA workforce.



Program 2

Long-Life Pavements and Pavement Performance

Verify and improve technology for long-life pavement structural design, materials optimization, life cycle cost analysis and data collection techniques for pavement evaluation.



Program 3


Improved Structural Design of Pavements

Develop improved design methods which will optimize HMA pavements to accommodate future changes in traffic and materials while accounting for environmental effects.

Program 4

Materials Characterization and Mix Design

Develop test methods, specifications, and performance relationships which will lead to optimization of materials and mix design for asphalt pavements.



Program 5

Construction Practices and Quality Management Systems

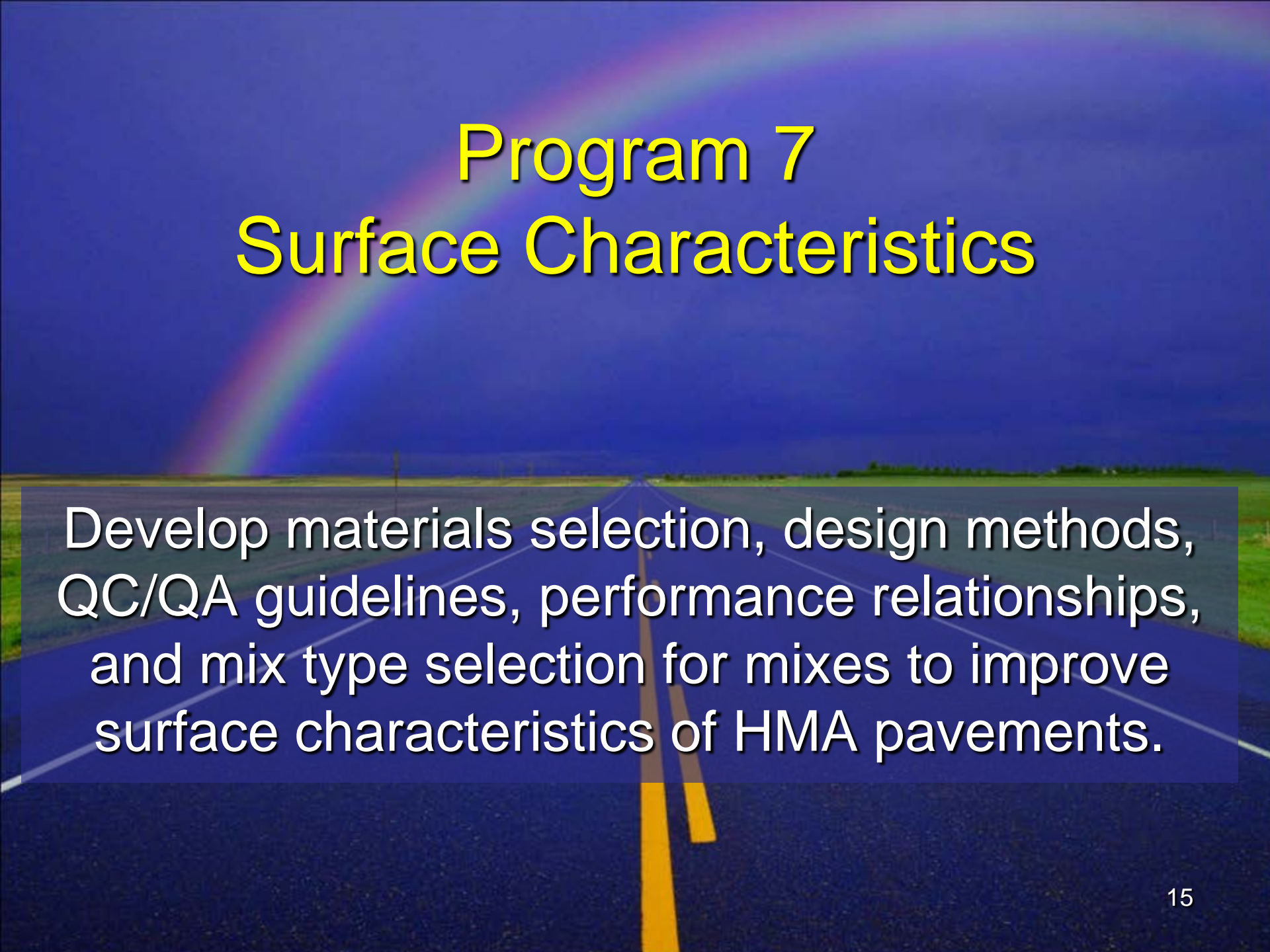
Develop construction practices to improve quality, increase productivity, improve safety, and extend pavement life



Program 6

Innovative Contracting Approaches

Evaluate advantages and disadvantages of non-traditional financing and contracting approaches used for HMA projects.



Program 7

Surface Characteristics

Develop materials selection, design methods, QC/QA guidelines, performance relationships, and mix type selection for mixes to improve surface characteristics of HMA pavements.

CART Priorities 2008

- Pick top 10 projects & rank
- Summary
 - 1st ranked by total responses received
 - 2nd ranked by top 5 responses
 - 3rd ranked by average score

2008 Priorities Identified by CART

- Develop High RAP Content Mix Design Procedure
- Warm Mix Asphalt
- Document Performance to Date of Perpetual Pavements
- Recycled Materials (Other than RAP)
- Real-time Process Control for Asphalt Plant Operations
- Improved Rehabilitation of Pavements to Achieve Long-Life Pavement Criteria
- Field Versus Laboratory Volumetrics and Mechanical Properties
- Recycling Technologies
- Remaining Service Life on In-Place Asphalt Pavements
- Economics of Pavement Smoothness

High RAP Content (4.09)

- NCAT Test Track RAP Study
 - 0, 20, and 45% RAP test sections
- FHWA RAP Cooperative Study
 - High RAP content field projects, best practices, binder bumping, RAP heating, RAP-virgin blending
- NCHRP 09-46
 - Mix design for high RAP content mixes
- RAP ETG

Warm Mix Asphalt (4.07)

- NCHRP
 - 9-43 Mix Design Practices for WMA
 - 9-47 Engineering Properties, Emission and Field Performance
- FHWA, State DOT, and Industry Sponsored
 - Feasibility of using new WMA technologies
 - Evaluation of moisture susceptibility
 - Monitoring performance
 - Evaluation of performance
 - Effects on plant

Document Performance (2.03)

- Some test track sections meet perpetual pavement definition
 - Test Track Monitoring
 - Rutting, cracking, texture
 - Regular weekly and monthly evaluations

New Publications for 2008!

- WARM-MIX ASPHALT: BEST PRACTICES
- BOLD INITIATIVES IN THE ASPHALT INDUSTRY
- ENERGY CONSERVATION IN HMA PRODUCTION
- PAVING THE WAY - IMAGES FROM THE HISTORY OF HMA

News and Events

COLORADO
July 28-30
Sponsorship Opportunities
Still Available!

Join us in Colorado Springs for NAPA's Midyear Meeting. Complete schedules are now available and online registration is open. [Learn more.](#)

NAPA's research and education foundation is conducting a raffle to benefit equipment purchases at [NCAT](#). The winner will receive the beautiful custom chopper, the Asphalt Smooth Rider. [Click here](#) to purchase tickets.

and you could WIN THIS...

NAPA's online store open for business! Order the latest publications, Tool Box Talks, online training, videos/DVDs, and other products. [Visit the store.](#)

Online training powered by Pevic Systems is now available. These high-quality training programs tailored for the asphalt pavement construction industry are available at any time, from anywhere. [Click here](#) to see the online training courses that are available.

Work Zone Safety information is available in downloadable form, thanks to NAPA's partnership with OSHA, FHWA, ARTBA, the unions, and other groups.

The NAPA **Scholarship Program** gives students a boost toward their higher education while encouraging young engineers to study asphalt.

NAPA introduces a new tool for workforce development -- **skills assessments** in the areas of HMA production, QC/QA, HMA placement, and management.

[Click here to subscribe to HMAAT](#)

The **NAPA Awards Program** provides recognition for Hot Mix Asphalt companies and related businesses.

Proven asphalt pavements are a tool for stormwater management with both environmental and economic benefits.

The FAA's **Airfield Asphalt Pavement Technology Program** at Auburn University is focusing on improving quality, reducing costs, improving

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APRIL 2009 - SPB Impact Meeting

 Jan. 2009 - 14 - Deeping the Pavement

HMAAT Online

beyondRoad.com

World of Asphalt 2009 SHOW & CONFERENCE



HMA Roadmap

The National Asphalt Roadmap is the result of *public-private partnership* and presents the shared vision of the *Asphalt Community* for research and technology in the field of asphalt pavement and material technologies. To download the Roadmap please [click here](#).

Purpose of the Roadmap...

- This document is the result of public-private partnership and encapsulates the **shared vision** of the Asphalt Community for research and technology.



Asphalt Roadmap

**Shared Vision
“Living Document”**