Two – Lift Construction
KS Demonstration Project
Two–lift

• Concept is not new
  ➢ MI - 1993
  ➢ KS - 1998
  ➢ FL - 2001

• In this case
  ➢ Proof of concept
  ➢ Improved life
Why Bother

• Lower cost system below
• Improved system above
• Changing demands on mixture
• Improved life cycle cost
• Improved environmental impact
Sustainability

The use of practices and materials in concrete pavement that provides a durable pavement, and that
- minimizes the use of energy and non-renewable resources
- while generating a minimum of pollutants
- in the most cost effective manner possible
- while maximizing the benefits to society.
Sustainability Track

- A Track Leadership Group has been Identified
  - Includes 24 people from:
    - PCA, ACPA, WCPA, ACAA, SCA, NMRCA
    - APWA, AASHTO, CAC, FHWA, EPA, CalTrans, MnDOT, KSDOT, VDOT,
    - Lafarge, Holcim, Duit Construction,
    - Consultants (ReVisions, The Right Environment),
    - Academia (UNH, MTU)
- First meeting was held on July 23, 2008
Track Vision

To identify, quantify and implement characteristics of concrete pavements that lead to greater sustainability in terms of economic, environmental, and societal needs.
Track Objective

Use research to improve:
• Materials and processes
• Quantification
• Decision making process
• Condition monitoring
• Innovative designs
• Innovative restoration, and rehabilitation
What the Track is NOT

- Rating Systems are not a focus
- Activities generic to all types of pavements are not a focus
- Bashing the other party is not a focus
Tools-Quantifying Gaps

We need

- To figure out what to measure
- And how to measure it
  - w.r.t. construction, operation and removal
- In terms of
  - Life cycle cost
  - Life cycle analysis
  - Technical acceptability
- For changes in design, materials and construction
Environmental Assessment

Use internationally recognized approach (ISO) to assess environmental impact

- LCA approach that includes emissions, energy and other factors (water, particulate, etc.)
- Must be honest, factual, and transparent
- Requires long-term commitment
- Likely not a single tool but a toolkit
- Not a rating system
Some Low Hanging Fruit

• Briefing document
• Best Practices manual
• Filling research gaps
• Conference
• Demonstration projects
Desktop Study

- To compare “sustainability” of different hypothetical cases
- Theoretical
- Similar serviceability
- Addressing some local issues
- Work conducted by Tom VanDam and Joep Meijer