The Road to Implementation
Case Studies and Tools
“Someone should be waiting to see the results of the research.” Dick Sullivan
Indicators for Success

- Involvement with customers throughout process
  - Districts, counties, cities, industry, FHWA, MnIT, contractors, suppliers, manufacturers, consultants, public, special interest groups, academia, etc.
- Does it make the customer’s job easier?
- Complexity increases the difficulty and failure rate.
  - Technical
  - Number of effected groups
- Level of technology required
- Return on investment
What we've got here is, failure to communicate
Some Mini–Case Studies

- Seasonal Load Limits
- Whitetopping
- Intelligent Compaction
- Disc–shaped Compact Tension Test
Seasonal Load Limits

- Spring Load Restrictions
- Winter Overloads

Documented savings of about $14 Million annually since 1996
Project Specifics

- Well Defined Need
- Limited Number of groups involved
- Technically solid (Washington DOT)
- Limited complexity
- Low tech (weather forecasts)
- Much less work for customers
Whitetopping
Project Specifics

• Defined Need

• Several groups involved

• Technically challenging – very recent design guide

• Very complex failure mechanisms

• New design software

• More work for customers
Intelligent Compaction
Project Specifics

- Well Defined Need
- Large number of diverse groups involved
- Technically challenging
- Very complex
- High tech
- Much more work for customers and requires more skill levels
Disk-Shaped Compact Tension Test

- Pooled fund study started in 2003
What is the DCT?

- Low-temperature performance test for asphalt mixtures
- Thermal cracking is major distress in MN
- Low-temperature cracking PFS recommended DCT to measure thermal fracture resistance of asphalt-aggregate mixtures
Project Specifics

• Well defined need with huge potential

• Many groups involved

• Technically solid (Pooled fund)

• Complex (Equipment, labs, sample, etc)

• High tech (Totally new equipment)

• More work for customers
Some Tools
Materials Advisory Committee

- Maintenance
- Pavement design
- Construction
- Geotechnical
- Diverse group
  - Maintenance Superintendent
  - ADE’s
  - DE’s
  - Soils and Materials Engineers
  - County Engineer and State-aid
  - 6 former Resident Engineers
Technical Working Groups

- Small, focused, customer represented
- Responsible for the full circle
  - Initial idea through full implementation and feedback
- PCC, HMA, Grading and Base, Pavement Preservation, Geotechnical, Pavement Design, and New Technology
- Lead change
- Enhance creativity
- Communication
Thank you!