

SHRP II

# Performance Specifications

Virginia Concrete Conference  
Ted Ferragut, P.E.

SHRP II PS

Presentation

- Present concept
- Discuss national activities
- Discuss specifications
- Look ahead

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STRATEGIC HIGHWAY RESEARCH PROGRAM

## SAFETEA-LU

\$150 Million

- Safety
- Reliability
- Capacity
- Renewal*

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## Renewal

- Goal: to renew aging infrastructure through rapid design and construction methods that cause minimal disruption and produce long-lived facilities.
- Integrated approach involving engineering, finance, contracting, planning, safety, maintenance, customer relations.

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## Heart of Renewal

Renewal "Environment" Demands New Methods and Approaches

- "True" Performance Specifications
- Longer Term Warranties
- Risk Management and Risk Sharing
- Improved Partnerships

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## SHRP II R07

- Assure work performance properly
- Reduce prescriptive measures
- Define performance factors
- Develop measurement approaches
- Develop clear language
- Apply to all contract types
- Evaluate and adopt

**5 years - \$3M**

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## SHRP II R07 Benefits

- Reduced completion time
- Improved quality
- Creative innovation
- Improved service life
- Clarity in roles and responsibilities between contractor-DOT

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## SHRP II R07 Team

Trauner Consulting Services, Inc

- Sid Scott, Co-PI
- Ted Ferragut, Co-PI (TDC Partners, Ltd)

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## SHRP II R07

Major Subcontractors

- The Transtec Group, Inc.
  - Rob Rasmussen
- Michael Baker, Jr.
  - Steve Wilson
- Virginia Transportation Research Council
  - Mike Sprinkel

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Consultants

- Gerry Huber, Heritage
- Mike Loulakis, A/E/C Training Technologies, LLC
- Bill Roberds, Golder Associates
- Keith Molenaar, U of Colorado
- Stu Anderson, TTI

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## SHRP II PS

### Performance Specifications - TRB ec074

Specifications that describe how the finished product should perform over time.

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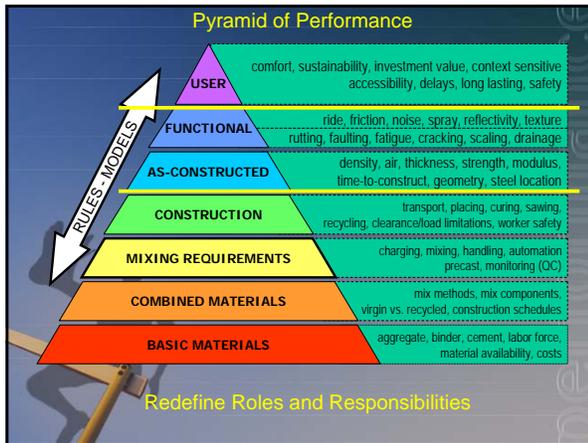
## SHRP II PS

### Performance Specifications - DOD

A performance specification states requirements in terms of the required results with criteria for verifying compliance, *but without stating the methods for achieving the required results.*

A performance specification defines the functional requirements for the item, the environment in which it must operate, and interface and interchangeability characteristics.

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### SHRP II PS

#### Performance Specifications

- End Result
- Performance-related
- Performance-based
- Warranty

### SHRP II PS

#### Performance Specifications - Products

- Embankment
- Geotech
- Structures
- Pavements
- Miscellaneous

(with many subsets)

### SHRP II PS

#### Performance Specifications - Project

- Time Management
- Public Relations
- Utility Management
- Work Zone Management
- Total Quality Index
- Total Project Goals

### SHRP II PS

#### Performance Specifications - Project

- Time Management
- Public Relations
- Utility Management
- Work Zone Management
- Worker / Public Safety
- Total Quality Index
- Total Project Goals

### SHRP II PS

#### Approach

1. Work Categories
2. Goals
3. Performance Measures
4. Measurement Strategy
5. Measurement Values
6. Specification Language

Example - Bridge SHRP II PS

Work Category	Goals	Performance Measures
Entire Bridge	Longevity Quality Functionality	Loading Deflection Vibration
Deck	Longevity Quality Functionality	Smoothness Cracking Corrosion

Example - Pavements SHRP II PS

Work Category	Goals	Performance Measures
Pavement (new)	Longevity Quality Life Cycle \$\$ Environment	Loading Smoothness Noise Sustainability

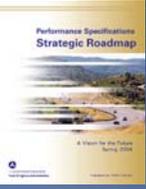
- Approach SHRP II PS
1. Work Categories
  2. Goals
  3. Performance Measures
  4. Measurement Strategy
  5. Measurement Values
  6. Specification Language

- Performance Specification – Best Fit SHRP II PS
- Low Bid
  - Design Build
  - Design – Build - Maintain
  - Design – Build – Maintain - Operate
- End Result
- Performance-related
  - Performance-based
  - Warranty

- Additional Tasks SHRP II PS
1. Risk Analysis
  2. Application Guide
  3. Contract Type Guide
  4. Experimental Plan

- Concrete Pavements SHRP II PS
- PRS Expert Task Group
  - NCHRP 10-68, Pavement Warranties
- National Ready Mixed Concrete
- Prescription to Performance (P2P)
- Concrete Bridges
- PPP

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NPHQ – FHWA TWG  
PS Strategic Road Map  
*Establish Performance Specifications  
as a  
Viable Contract Option*

<http://www.fhwa.dot.gov/construction/pssr04tc.htm>




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Technical Challenges

- Garner technical knowledge on performance factors
- Garner ways to measure key properties




SHRP II PS

Business Challenges

- "It's new – It's no!!"
- Mix/match method with performance
- Inability of DOT to 'let go' control
- Inability of industry to respond
- Reduced industry competition
- Loss of consistency from one job to another




SHRP II PS

Performance Specification

- What do we want?
- How do we order it?
- Did we get what we wanted?
- What do we do if we don't?

And is the product better?




SHRP II PS

Let's Begin the Journey!!!!




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For further information

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