Warranty Contracting
What does the world have in store for us?

John D’Angelo
FHWA
Office of Pavement Technology
Action Drivers

• What is the driver behind all our actions?
  – Highway systems that perform well.
Rutting
Fatigue Cracking
Low Temperature Cracking
What is the cost of poor performance?
Vehicle Operating Costs

- Driving on roads in need of repair and improvement cost motorists additional vehicle operating costs (VOC).

- Nationally, motorists pay $222 each in extra VOC per year.

- $41,500,000,000 per year!

The Road Information Program (TRIP)  
April 2001
Highways are More Congested

AVERAGE DAILY VEHICLES PER LANE

<table>
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<tr>
<th>Year</th>
<th>Average Daily Vehicles (Thousands)</th>
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States Reduce DOT Employees

- IOWA – Last 20 Years
- 18.5% Reduction in Employees
- Highway Spending Triples
CONTRACTING METHODS MUST CHANGE

- Fewer State DOT Employees
- More $$
- Higher Public Expectations
  - More Congestion
  - Still too Many Fatalities
Contract Administration “Before 1990”

• One Size Fits All
  – 100% Complete Plans, Specifications, & Engineering
  – All Qualified Bidders
  – Award to Lowest Bidder
  – No Warranties
Evolution of Alternative Contracting in the US

- FHWA Special Experimental Project - 14 (1990)
- FHWA “Main-Streams” most AC methods (1995)
Alternative Contracting in 1990s

Warranties

Design-Build
Alternative Contracting in US TODAY

Cost-Plus-Time Bidding Evaluation States

Lane Rental Evaluation States

Warranty Evaluation States

States Currently Using Design-Build Under SEP-14
Current Contract type in U.S.

- Alternative Contract: 9%
- Low Bid Award: 91%
- A&B: 1½%
- Lane Rental: ½%
- Design/Build: 5%
- Other: 2%
How do we make the needed changes?

- Learn from the experience of others.
- Create trial projects.
- Give up our old ways.
WHY EUROPE?

- Benefit from their expertise
- Learn new methods
- Learn how to improve “old methods”
- Share experiences
Drivers for Change in Europe

- Inadequate Public Funding
- Claims Environment
- Cost Overruns
- Slow Delivery/Delays
- Growing Needs
- Adversarial Relationships
- Inadequate Staff
- Perceived Lack of Maintenance Efficiency
- Political Discontent
- User Frustration
- EU Relationships
- Create Innovation in Delivery
New Ideas from European

Alternative Financing

Contracting Techniques

Design-Build

Performance Contracting

Concessions

Active Asset Management
European System

• Program
  • Shadow Tolls for DBOM & DBFO
  • Public Private Partnership projects
  • Numerous Private Financing Initiatives
  • Many Long Term Concession Contracts
European System

- Combined Network and Maintenance Contract
- High Use of Incentives
- Very Strong Performance Contracting program in the Building Sector
- Innovative Asset Management System
Primary Findings

• Europe is Better Leveraging the Private Sector Efficiencies and Strengths
• User Focus with Equitable Transfer of Risk
• A Higher Level of Trust Exists Between Public and Private Sectors
• Most Tools Are Directly and Immediately Implementable
Contracting Techniques

Procurement

- Transparent Uniform Process Enhances Competition
- Use of Best Value in All Types of Procurement
- Business Culture and Quality More Important than Technical Qualifications and Cost
- Confidential Negotiation Process - BAFO
Contracting Techniques

Contract Types

- DB, DBFO, & DBM
- AMPM
- Joint Development
- Concessions
- Target Pricing
- Two Phase Contracts
- Framework Contracts
- Strategic Partnering
- Alliancing
- Integrated Supply Chain Management
- Managing Agent Contract (MAC)
- Private Finance MAC
Design-Build

• Standard Method in Europe
• Outcome (Value) Specifications
• Early Contractor Involvement
• Higher Level of Partnering
• Life Cycle Cost Award (ROI & NPV)
• Maintenance
  – 30-year Concessions to Owners
  – 5-10 year Product Warranties in DB
Concessions

- Strategic Construction Plan through Concessions Program
- Operations through Concession Program
- Concession through Public, Quasi-Public or Private Company
- Variable Private Sector Equity Required
- Private Finance Initiatives
Performance Contracting

Warranty/Maintenance Contract Issues

• Materials and Workmanship Warranted for at Least 1-year w/some longer 5-years
• Widespread Use of 10-year Maintenance Contracts without Additional Warranties
• 30 Years Concessions in lieu of Warranties
Performance Contracting

Quality Control/Quality Assurance
- Contractor QC Alone with Some Owner Contracted QA
- Use of Stop or Control Points
- Use of Penalty Points and Quality Audits in Lieu of Heavy Owner Inspection
- Use of Penalty Card System Based Upon Failure to Respond to Warning Notices
Performance Contracting

Performance Specifications

• Used Most Widely in Maintenance Contracts
  – Operating and Turn-back Levels Specified

• Concessions Agreements Exclusively Use Operating and Turn Back Performance Levels
Asset Management

Techniques Used

• 2-year Assessment of Maintainable Items
• Annual Condition of Pavement and Bridges
• Condition Assessment Is Used in Budget Development

Asset Valuation

• Depreciation Standards are Not Used
• Assets Valued at Replacement Cost
Asset Management

Outcomes of Asset Management

• Move to Outsourcing as a Predominant Method
• Managing Agent Contract (MAC)
• Long-term Contracts (5-10 Years)
• Concessionaire Developing Asset Management Program in Lieu of the Owner
European Asphalt Warranty Scan planned for Sept. 2002

• Scan goals to determine:
  
  – Methodologies used to determine risk assessment for the government agency and contractor.
  – Methodologies for administration of warranty contracts.
  – Methodologies to select criteria to account for traditional performance indicators of rutting, fatigue cracking and low temperature cracking.
European Warranty Scan planned for Sept. 2002

• Scan goals to determine:
  – Practices to maintain prescribed levels of asphalt pavement smoothness and skid resistance.
  – Criteria used in successful asphalt pavement warranties.
  – Pavement performance prediction tools.
Not Every Day is a Good Day!
Or even half good
I know it’ll hold just one more TON!
Conclusions

• US Highways Agencies Should Better Utilize Private Sector Efficiencies & Strengths

• A Higher Level of Trust Must Be Established in Our Industry

• Pilot Projects Should be Implemented to Test the Tools & Techniques Uncovered on the Scan
Thank You