

Modified Asphalt Issues: Some things to consider...

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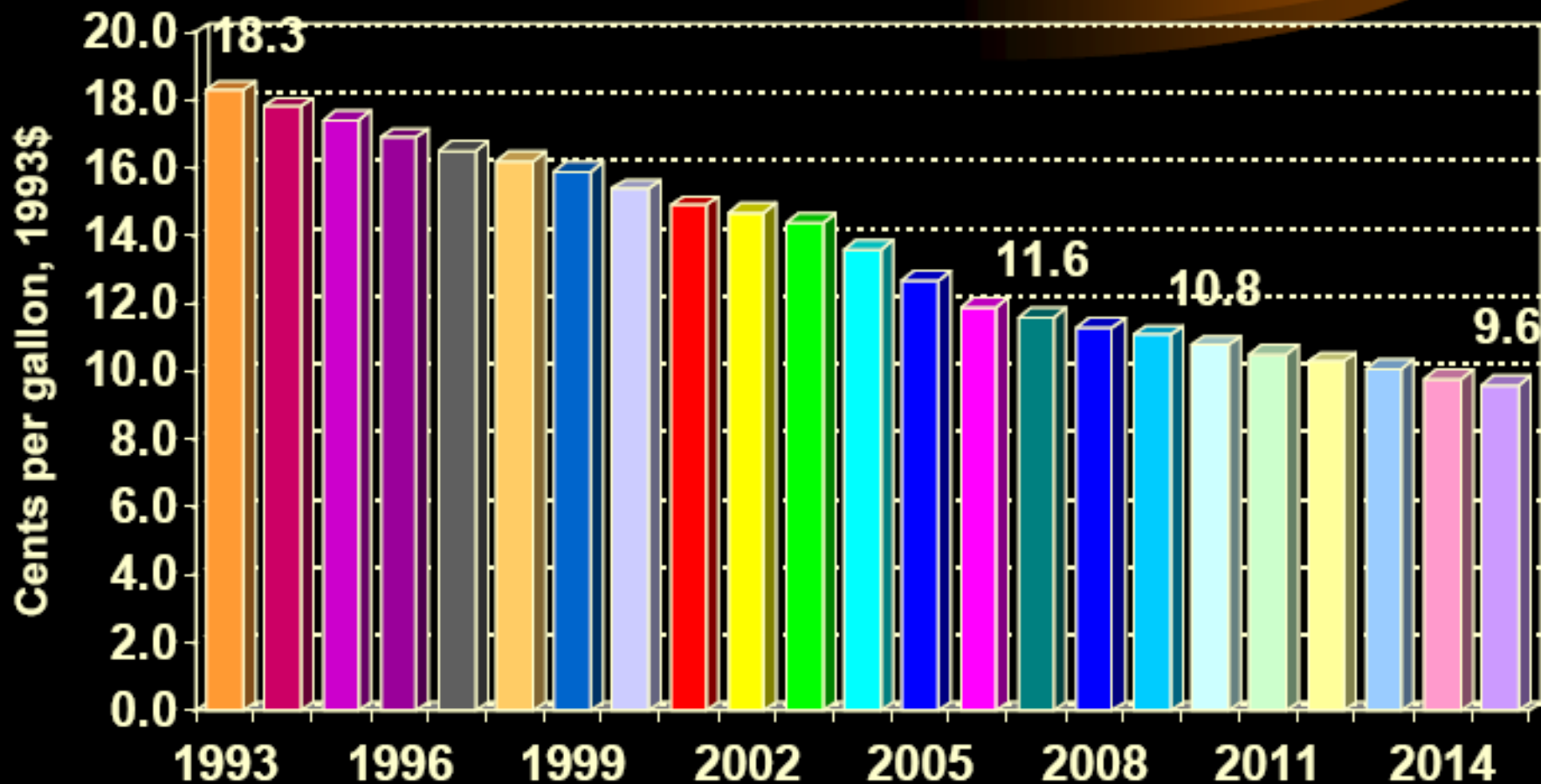


Trends

- Reduction in available funding
 - Federal rescissions
- Increase in materials/construction costs
 - 30 years of inflation compressed into five years
- Emphasis on pavement preservation
 - *“As a result of these changes, TxDOT’s goals to reduce congestion, expand economic opportunity, and improve air quality will take a back seat to specifically enhancing safety and maintaining the value of our transportation system.”* Keep Texas Moving e-Newsletter, Nov 2007

Changes in Purchasing Power-Fuel Tax

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Source: ARTBA calculations from BLS data

ARTBA American Road & Transportation Builders Association

From presentation by Dr. William Buechner, ARTBA, 11 Sept 2007

How might this affect us?

New Construction

- Asphalt isn't the "cheap alternative" anymore!
- Modified binders should play a key role

Pavement Preservation

- Emphasis on maintaining value of existing infrastructure
- Modified asphalt binders and emulsions are key components of preventive maintenance

The Future

- We must place greater emphasis on the value of asphalt paving materials compared to others
 - Performance (ride quality, safety, reduced noise)
 - Ability to construct and maintain-under traffic when necessary
 - Completely recyclable
 - Can readily recycle other reclaimed materials
- Modified asphalt technology must incorporate these benefits

Performance, Constructability

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- Go hand-in-hand
 - Proper compaction is essential for good performance
- More night work, thin-lift applications
- Warm mix technologies should enhance modified asphalt performance, particularly for thin, cool weather applications



Recycling-Two Big Issues

- Selecting appropriate modified binder to provide the desired effect in HMA that includes high percentages (>25%) of RAP
- Recycling pavements that initially used PMA or CRM
 - Already an issue in Florida

Binder Selection, >25% RAP

- If a virgin mix requires PG 76-22, what binder grade should be selected for high RAP percentages?
- If extraction/recovery/blending are necessary, are the current test procedures adequate?
- If not, what mixture test requirements should be set to assure a sufficiently elastic mixture?

Recycling Mixtures containing Modified Binders

- Conventional (Hot Plant Recycling)
 - Extraction/recovery procedures
 - New binder selection
 - Rejuvenator
 - Modifier?
- In place recycling
 - Can hot in-place recycling procedures (remixing or repaving) be used with modern PFC/OGFC types of wearing courses that include polymer or CRM?
 - How are these materials evaluated and any new material selected for these conditions?

Other “Warm” Applications for Modified Asphalts

- “Warm” applied tack coats and chip seals
 - Benefits of hot applications without as many problems
- Warm roofing applications
 - Lower temperatures for mopping applications

Education-a Continuing Issue

- While state DOT materials engineers are generally familiar with asphalt binder spec's, this often is not true of local governments, consultants, airport authorities, etc
- If the PG spec changes to reflect recent recommendations, how will this information be effectively transferred?

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