



**Rapid Bridge Repair Workshop**  
**“Practice Changes”**  
May 21, 2009

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**Practice Changes**

**Regarding the Overall Bridge Program:**

**“There has been a significant change in the way we do business in the past 10 years and I anticipate an even bigger change within the next few years.”**

Author: Unknown

## Practice Changes

### What has Changed in the Bridge Program?

- Federal Money Utilized in Bridge Maintenance Program
- Beginning FY 2009 – All Maintenance Bridge Contract will have UPC numbers and will be in the SYP
- Beginning FY 2010 – Dedicated Bridge Fund
- Operations Planning Division, Asset Management Division, Innovative Project Delivery Division, Project Management Division, Regional Operations
- Responsible Charge, Signing and Sealing Plans, TMP, PTD
- Accountability, Performance Measures, Dashboard
- Procurement Guidelines, Partnering, Site Manager
- Manpower Reduction, Funding, Aging Inventory .....

**Just to Name a Few**

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## Practice Changes

### The Million Dollar Question-

**How do we change to keep up with all the changes and maintain a high quality bridge inventory?**

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## Practice Changes

- Structure Inventory
- Bridge Management
- Contract Management
- Traffic Management



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## Structure Inventory

- Structure Inventory
- Bridge Management
- Contract Management
- Traffic Management



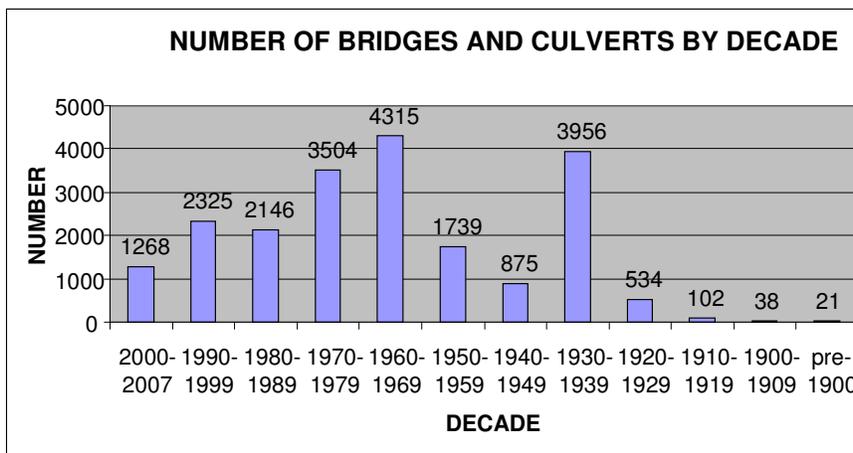
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## Structure Inventory

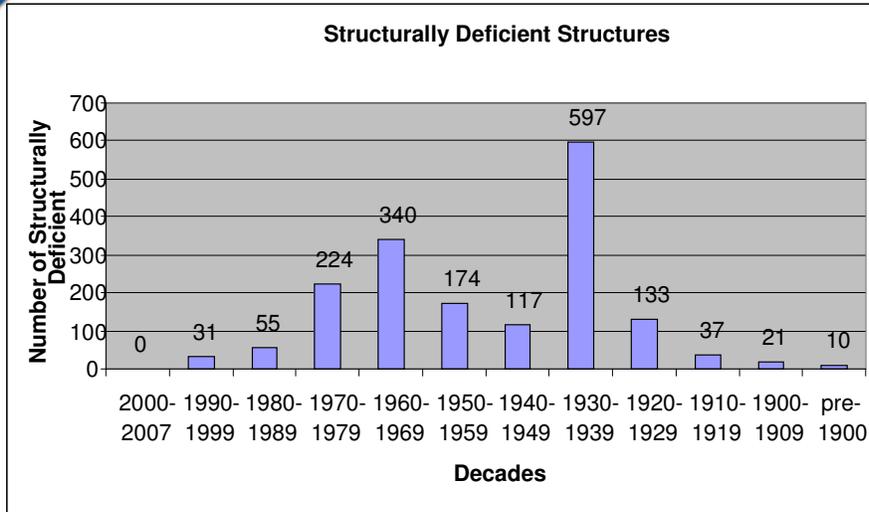
- NBI = National Bridge Inventory
- NBI structures include bridges and culverts that are more than 20 feet long
- Non-NBI structures include bridges that are equal to or less than 20 feet long and culverts that have an opening  $\geq 36$  SF
- Of the 20,823 structures, 12,838 are bridges ( 5th largest state-owned Bridge Inventory in the US )

| DISTRICT       | No. of Structures |              |               |
|----------------|-------------------|--------------|---------------|
|                | NBI               | Non-NBI      | Total         |
| Bristol        | 1,846             | 1,430        | 3,276         |
| Salem          | 1,802             | 1,246        | 3,048         |
| Lynchburg      | 1,392             | 739          | 2,131         |
| Richmond       | 1,964             | 681          | 2,645         |
| Hampton Roads  | 1,390             | 321          | 1,711         |
| Fredericksburg | 519               | 286          | 805           |
| Culpeper       | 1,023             | 670          | 1,693         |
| Staunton       | 1,834             | 1,647        | 3,481         |
| NOVA           | 1,348             | 685          | 2,033         |
| <b>Total =</b> | <b>13,118</b>     | <b>7,705</b> | <b>20,823</b> |

## Age of Inventory



## Number of Structurally Deficient Structures per Decade Inventory



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## Bridge Inventory

| Type Deck                           | Count         | Sq. Ft.            |
|-------------------------------------|---------------|--------------------|
| Bare Concrete Deck                  | 3,126         | 43,200,538         |
| Concrete Deck w/<br>Thin Overlay    | 681           | 10,377,605         |
| Concrete Deck w/<br>Rigid Overlay   | 890           | 10,888,605         |
| Concrete Deck w/<br>Asphalt Overlay | 1,133         | 4,285,032          |
| Timber Decks                        | 3,056         | 2,377,170          |
| Concrete Slabs                      | 3,044         | 3,163,605          |
| Other                               | 908           |                    |
| <b>Totals</b>                       | <b>12,838</b> | <b>~90,000,000</b> |

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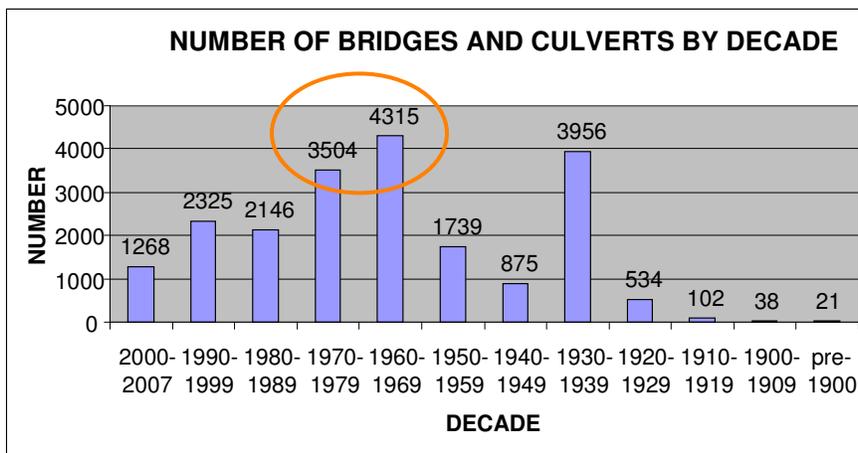
## Bridge Inventory

What is 90,000,000 square foot of Bridge equivalent to?

- 3.23 Square Miles
- 2,066 Acres
- 1,562 Football Fields
- 1,420 Lanes Miles

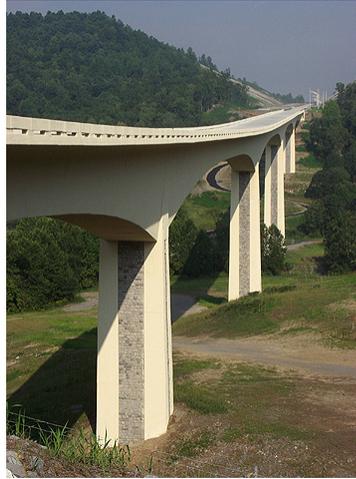


## “Practice Changes” Bridge Inventory



## Bridge Management

- Structure Inventory
- **Bridge Management**
- Contract Management
- Traffic Management



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## Bridge Management

**With a statewide inventory of over 20,000 structures, a sound comprehensive bridge management system needs to be a critical part of our overall asset management program.**



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## **Asset Management Division Mission Statement**

**“Maximize the use of our resources through an integrated asset management program designed to increase our output through innovation techniques, best practices, improved lifecycle cost analysis, and optimum resource utilization.”**

## **Innovative Techniques**



## Innovative Technique



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## Bridge Management “Practice Changes”

- Strong Preventative Maintenance Program
- Better Utilize Bridge Management System
- Replace or Close Bridges that are not Economical to Maintain
- Small Bridge Program Initiative
- Develop a Comprehensive Long Term Bridge Management Plan

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## Bridge Management "Practice Change"

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## Contract Management

- Structure Inventory
- Bridge Management
- Contract Management**
- Traffic Management



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## Contract Management “Practice Changes”

- Group Work to Make Contracts More Attractive
- Group Bridges within a Corridor to Minimize Mobilization
- Reduce Construction Time to Minimize Inconvenience to Traveling Public
- Project Time Determination
- Lump Sum Traffic Control
- Incentives and Disincentives Provisions in Contracts
- A+B Bidding
- No-Excuse Bonus
- Design-Build
- Construction Inspection
- Others ??????

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## Traffic Management

- Structure Inventory
- Bridge Management
- Contract Management
- Traffic Management



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## Traffic Management

**“Fixing Bridges is easy, maintaining traffic is hard!”**

**Author: Unknown**

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## Traffic Management ( True or False )

- **Traffic Control can easily account for more than 50% of the cost for a Bridge Maintenance Contract**
- **Traffic Control often controls the type and method of Bridge Repair**
- **Traffic volumes often control if needed bridge repairs are made**
- **More emphasis is placed on inconvenience to the traveling public than properly maintaining the Bridge Asset**

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## “Practice Changes”

- Structure Inventory
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## “Practice Changes” Summary

- Innovative traffic control is a **MUST**
- Reducing User Cost is a **MUST**
- Innovative bridge repairs are a **MUST**
- Strategic contracting methods are a **MUST**
- Communication with the public is a **MUST**



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