Overview

• State of Georgia’s Bridge Condition
• Funding – Maintaining Bridge Infrastructure
• Bridge Programs and Benefits
## The State of Georgia’s Bridges

### Bridge Conditions in Georgia for All Structures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Count</th>
<th>% by Deck Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Structures</td>
<td>14,689</td>
<td>100</td>
</tr>
<tr>
<td>All Structures in Good Condition</td>
<td>6,212</td>
<td>46</td>
</tr>
<tr>
<td>All Structures in Fair Condition</td>
<td>8,103</td>
<td>52</td>
</tr>
<tr>
<td>All Structures in Poor Condition</td>
<td>374</td>
<td>1.6</td>
</tr>
</tbody>
</table>
# The State of Georgia’s Bridges

## Bridge Conditions in Georgia for All National Highway System

<table>
<thead>
<tr>
<th>Condition</th>
<th>Count</th>
<th>% by Deck Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>All NHS Structures</td>
<td>4,300</td>
<td>100</td>
</tr>
<tr>
<td>NHS Structures in Good Condition</td>
<td>1,997</td>
<td>47</td>
</tr>
<tr>
<td>NHS Structures in Fair Condition</td>
<td>2,285</td>
<td>52</td>
</tr>
<tr>
<td>NHS Structures in Poor Condition</td>
<td>18</td>
<td>1</td>
</tr>
</tbody>
</table>
# Inventory Growth

<table>
<thead>
<tr>
<th>Year</th>
<th># Bridges</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>14,603</td>
<td>--</td>
</tr>
<tr>
<td>2016</td>
<td>14,640</td>
<td>37</td>
</tr>
<tr>
<td>2017</td>
<td>14,668</td>
<td>28</td>
</tr>
<tr>
<td>2018</td>
<td>14,689</td>
<td>121</td>
</tr>
</tbody>
</table>

Net Increase 86

1 Does not include 38 bridges on NWC
National Bridge Inspection Standards (NBIS)

Condition Evaluation
Condition Rating for Bridges

Good Condition

• 9 – Excellent
• 8 – Very Good
• 7 – Good (some minor problems)
Condition Rating for Bridges

Fair Condition

• 6 – Satisfactory (structural elements show minor deterioration)
• 5 – Fair (all primary structural elements are sound but may have minor section loss)
Condition Rating for Bridges

Poor Condition

• 4 – Poor (advanced section loss)
• 3 – Serious (loss of section, affecting primary structural members, local failures possible)
• 2 – Critical (advanced section loss, without close monitoring structure may need to be closed)
• 1 – “Imminent” Failure
• 0 - Failed
Element Level Data

- Introduced in early 1990s
- Required for all NHS Bridges in 2013
- Captures information about bridge elements by use of Four Condition States and the amounts of each element in each state
- Allows better manipulation of data to make management decisions than use of one code for an entire Bridge Component (Deck, Super, Sub, etc.)
## Element Level Decision Matrix

### Bridge Deck Evaluation

<table>
<thead>
<tr>
<th>Defect</th>
<th>Condition States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>Delamination/Spall</td>
<td>None</td>
</tr>
<tr>
<td>Exposed Rebar</td>
<td>None</td>
</tr>
<tr>
<td>Cracking</td>
<td>Insignificant cracks or moderate width cracks that have been sealed</td>
</tr>
</tbody>
</table>
Degradation Curve

Bridge ID: 13900050

- Estimated CR (Deck)
- Estimated CR (Super-structure)
- Estimated CR (Sub-structure)
- NBI CR (Deck)
- NBI CR (Super-structure)
- NBI CR (Sub-structure)
- Projected CR (Deck)
- Projected CR (Super-structure)
- Projected CR (Sub-structure)

Year Constructed

NBI 1992-2017 -> Projected Depreciation (over the next 75 years)
Bridge Funding
FY 2015 thru FY 2019

The Bridge Projects chart shows historical trends and a future projection based on projected readiness.
Bridge Funding

- $30 million – Interstate Maintenance
- $15 million – Non-Interstate Maintenance
- $130 million – Bridge Replacement and Rehabilitation
- $21 million – LIBP
- $30 million – State Funded Local Bridge
- $100 million – Bridge Bonds

Other projects include Bridge Work
Benefits of Bridge Bond Projects

- 72 Projects Affected (85 Bridges)
- NEPA and GEPA Documents not Required
- Key Projects with Higher Cost
## Notable Bridge Bond Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007037 SR 135 @ ALTAMAHA RIVER - TIA</td>
<td>$ 20,111,765</td>
</tr>
<tr>
<td>0007042 SR 128 @ WHITEWATER CREEK 4 MI N OF OGLETHORPE - TIA</td>
<td>$ 5,267,423</td>
</tr>
<tr>
<td>0007174 SR 3 @ PEACHTREE CREEK</td>
<td>$ 12,149,319</td>
</tr>
<tr>
<td>0011688 SR 158 @ SATILLA RIVER; OVERFLOW &amp; FULLWOOD CREEK</td>
<td>$ 9,390,615</td>
</tr>
<tr>
<td>731865- SR 92 @ PROCTOR CREEK/LAKE ACWORTH IN SW ACWORTH</td>
<td>$ 16,615,438</td>
</tr>
<tr>
<td>442951- SR 234 @ CHICKASAWHATCHEE CREEK 8 MI NE OF LEARY</td>
<td>$ 10,807,586</td>
</tr>
<tr>
<td>0007050 SR 26 @ OCMULGEE RIVER IN HAWKINSVILLE</td>
<td>$ 17,700,591</td>
</tr>
<tr>
<td>122064- SR 11 @ CHATTahooCHEE RIVER</td>
<td>$ 22,400,463</td>
</tr>
<tr>
<td>122066- SR 11 @ EAST FORK LITTLE RIVER</td>
<td>$ 13,445,258</td>
</tr>
<tr>
<td>0007049 SR 36 @ YELLOW RIVER 14 MI S OF COVINGTON</td>
<td>$ 14,914,637</td>
</tr>
<tr>
<td>0010413 SR 43 @ SOAP CREEK 4 MI E OF LINCOLNTON</td>
<td>$ 8,823,589</td>
</tr>
<tr>
<td>0001216 SR 4/US 1 @ ALTAMAHA RIVER; OVERFLOW &amp; WILLIAMS CREEK - TIA</td>
<td>$ 12,297,222</td>
</tr>
<tr>
<td>0009864 SR 120 @ BEACH CREEK E OF TALLAPOOSA</td>
<td>$ 5,934,814</td>
</tr>
</tbody>
</table>
## Transportation Asset Management Plan (TAMP)

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Description</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of NHS Bridges in Poor condition as a percentage of total NHS bridge deck area</td>
<td>Bridge Conditions are based on the results of inspections on all Bridge structures. Bridges rated as “Poor” are safe to drive on; however, they are nearing a point where it is necessary to either replace the bridge or extend its service life through substantial rehabilitation investments.</td>
<td>&lt; 10% (NHS) in Poor Condition</td>
</tr>
<tr>
<td>Percent of NHS Bridges in Good condition as a percentage of total NHS bridge deck area</td>
<td>Bridges rated as “Good” will be evaluated as to cost of to maintain Good condition. Bridges rated as “Fair” will be evaluated as to cost of replacement vs. rehabilitation to bring the structure back to a condition rating of Good.</td>
<td>≥ 60% (NHS) in Good Condition</td>
</tr>
</tbody>
</table>
Building the Bridge Program

State Owned Bridges

• Rehabilitation and Preservation of State Owned Structures
• Replacement of Deficient State Owned Structures

Locally Owned Bridges

• Support for Local Agencies Replacing Posted / Deficient Bridges
Bridge Maintenance

Rehabilitation and Preservation
Building the Bridge Replacement Program

Other Contributing Factors

• Posting
• Capacity
• Critical Features
• Temporary Shoring
• Priority Routes / Freight Corridors
Bridge Program Management

• Extension of GDOT’s Office of Program Delivery
• OPD sub-program for bridge replacements
• Statewide includes
  • Federal Program
  • State Funded
  • Local Bridges
• 377 Bridges in Program
• $1.7b cap-ex value
• Programmatic Risk Assessments
Local Bridges

Focus on Posted / Deficient Bridges

• 8,538 off-system bridges
• 1,309 Posted Bridges
• 29 Closed Bridges

Bridge Programs
LIBP

Low Impact Bridge Program

• 55 Bridges
• Streamlined Environmental
• Typically closed 6 to 9 months
• No Cost to Local
• $21 million Program
SFLB

State Funded Local Bridge Program

• 55 Bridges
• GEPA Document Not Required
• Similar to LIBP
• $30 million Program
LOCBR

Local Bridge Program

- 92 Bridges
- Selected Bridges using Data Driven Approach
- Solicited Support from Local Governments
Innovation / Technology

- LIBP – Low Impact Bridge Program
- ABC – Accelerated Bridge Construction
- A+B+C – Minimizing Traffic / Community Disruptions
- UHPC – Ultra High Performance Concrete
Questions?