Georgia’s Operational Improvement Program

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How do you address Capacity?

- We can’t build our way out of the congestion problem...
- Widening projects cost $$$$ and take years to design & construct.
- In the long term, widening creates more demand on the transportation network.

Georgia needs a different approach to address Capacity...

**Optimization**: Limited Scope, Delivery Time, and Budget
Operational Improvement Program

- Lump Sum Funding allotted for “Quick Fix” projects to improve operations for a low cost (ideally <$1 million)
- Scope consists mainly of geometric improvements to existing intersections, freeway ramps or minor ITS projects on state routes
- **10-20 projects per year** selected by Operational Benefit
- *Candidate location does not have a high Safety priority*
- *Consideration of Innovative Intersection alternatives strongly encouraged*
- *Preconstruction Schedule Fits 6-18 months*
Operational Improvement Project Types

- Bypass Projects
- Corridor Widening
- Interchange Reconstruction
- Ramp Improvements
- Intersection Improvements
- Ramp Meters
- Minor ITS Deployment
- Restriping
- Turn Lane Extensions
- Add Turn Lanes
- Freeway Auxiliary Lanes
- HOV & HOT Lanes

Operational Improvement Projects

“QUICK” Projects
Operational Improvements all start with an idea to fix or improve the operation or function of some aspect of a roadway facility.
Operational Improvement
Project Selection

Proposals Must Include:
• Description of Problem
• Proposed Improvements
• Potential Impacts
• Traffic Summary & Analysis (HCM, Synchro, VISSIM, or Queue Study accepted)
• Cost Estimate
• Location Map
• Proposed Design

**Crash Data is not necessary, as high crash areas are handled as a Traffic Operations Safety Project**
Once an Operational Improvement Idea has been recognized, analyzed, and considered to be a viable improvement, it passes through the OPERATIONAL IMPROVEMENT COMMITTEE for approval

**Voting Members:**
- Director of Operations
- Director of Engineering
- Chief Engineer
- Director of Field Districts
- State Traffic Engineer

**Sit-In Members:**
- Office of Roadway Design
- Office of Utilities
- Office of Engineering Services
- Office of Right of Way
- Office of Financial Management
- FHWA
Operational Improvement Project Selection

Operational Improvement Committee Meeting Outcomes

- Denial
- Tabled for further study or special study
- Approved

What makes a project more likely to be approved?

- Does the idea have big benefit for a comparatively low cost?
- Are there any other projects in the STIP that are close to letting?
- Are there any significant Environmental or ROW impacts of this idea?
- Can this be completed using Quick Response Maintenance Funds or another fund source?
Strategies for Successful Program Delivery

- Minimize Impacts (Consider PCE, Utilities, Survey)
- Eliminate or minimize ROW Acquisition
- Get Priority from Management
- Simplify Plan Development
- Limit Scope to immediate Operational Problem
- Partner with Local Governments for Quality Ideas
- Agency needs a Champion to shepherd projects through snags in project development

The Operational Improvement Program is designed to make operational improvements rapidly; streamlining the PDP is imperative for the success of the program.
**Program Overview**

Total Projects: **80**
(2009-2014)

LET to Construction: **39**

**Average Delay Reduction:** 49%

**Funding:**
- Yearly Budget: $12 million
- Average CST phase: $690,040.32

**Program Goal:** At or Below $1 million

**Delivery Time:**
- Average: 18-24 months
- Program Goal: 12-18 months
Operational Improvement Program

Sample Project
I-95 at SR 144 Interchange (Savannah area)

- Proposed Operational Improvements

- Remove Striping
- Add Thru Lane
- Install Traffic Signal
- Add outside lane for Dual Left Config
- Add inside through lane from existing grass median
I-95 at SR 144 Interchange (Savannah area)

- **Expected Capacity Improvement**

<table>
<thead>
<tr>
<th>PM Peak Base Year Delay (LOS)</th>
<th>No Build</th>
<th>Build</th>
<th>% Reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Intersection</td>
<td>128 sec (LOS F)</td>
<td>28 sec (LOS C)</td>
<td>78%</td>
</tr>
<tr>
<td>I-95 Southbound Ramps</td>
<td>132 sec (LOS F)</td>
<td>36 sec (LOS D)</td>
<td>73%</td>
</tr>
<tr>
<td>SR 144 Eastbound</td>
<td>172 sec (LOS F)</td>
<td>36 sec (LOS D)</td>
<td>79%</td>
</tr>
</tbody>
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The traffic volumes at this intersection met Warrants 2 and 3B at 100% Thresholds for signalization (MUTCD, 2009)
## Operational Improvement Program

### Project Cost Comparison

<table>
<thead>
<tr>
<th>Location</th>
<th>Standard Project</th>
<th>Operational Improvement Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-95 @ SR 21 Interchange (Savannah)</td>
<td>Interchange Reconstruction w/Flyover Ramp $58 million est.</td>
<td>DDI Interchange Retrofit $4 million est.</td>
</tr>
<tr>
<td>I-85 from SR 140 to Indian Trail Blvd (Gwinnett Co.)</td>
<td>Add Full Auxiliary Lane or GP Lane $8+ million est.</td>
<td>Add Parallel Accel &amp; Decel Lane and FLEX Shoulder $2 million est.</td>
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</table>
Other Notable Projects

• I-285 Variable Speed Limit Sign Project
• SR 400 and Holcomb Bridge Ramp Widening Projects
• DDI interchange project (I-95/SR 21)
• Ramp Meters at I-75 @ Hudson Bridge Road
• SR 6 - Camp Creek Road Turn Lane Extension near I-285
What’s to come?

Increase Local Engagement
Benefit Cost Prioritization
Before – After Studies
More **Innovative** Operational Improvement Projects
  DDIs, Median U-Turns, VSLS Expansion
“Quick” Safety Projects
  • High Friction Surface Course
  • Sign Upgrades and Installations
Thank you

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