Advance Warning for End-of-Green System (AWEGS)

Srinivasa Sunkari, P.E.
Texas Transportation Institute

AWEGS Objectives

- Provide advance warning (≈ 6 sec) for end of green
- Improve dilemma zone protection
- Reduce red light running
- Improve safety
**TxDOT Projects**

  - Develop a prototype
  - Implement in two sites
  - Improve algorithm
  - Implement at new site
  - Implement improvements at previous sites
- **5-5113 – (2007-2008)**
  - Implement at four sites

---

**Potential Benefits**

![Cumulative Percentile Approach Speed](chart.png)
AWEGS System Concept

AWEGS Methodology

• Will not take away existing dilemma zone protection
• Predicts controller operations
  – Predicts most cases
  – Accounts for all cases
• Minimum impacts on controller operation
  – Occasional Phase Hold
  – 1 second delay for side street detector
  – 1 second delay for arterial left turn detector
Development and Testing

Flashing Panel
Advance Warning Distribution

0-4260 Sites

Waco  Brenham

Transportation Operations Group
Algorithm Improvements

- **Detector failures**
  - Advance detectors
  - Dilemma zone detectors
- **Phasing sequences**
  - All types of left-turns
- **Standardized implementation**
  - Single lane or two lane
- **Failure notification**
  - Phone line to communicate
Queue Treatment

Sign Design

BE PREPARED TO STOP WHEN FLASHING
Stutter Flash

College Station Site
Red-Light-Running

<table>
<thead>
<tr>
<th>Reduction</th>
<th>Northbound</th>
<th>Southbound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Lubbock Site

Transportation Operations Group
Questions