PREEMPTION
COLLISIONS WITH NON-EMERGENCY VEHICLES

PREEMPTION
COLLISIONS BETWEEN EMERGENCY VEHICLES

PREEMPTION
SECONDARY CRASHES
PREEMPTION

TYPES

• Hard Wire Push-Button
• Sonic
• Infrared
• Radio
• GPS

PREEMPTION

• TYPES
  • HARD WIRE PUSH BUTTON

PREEMPTION

• TYPES
  • AUDIBLE
PREEMPTION

OBLIGATIONS

• Abuse
• Disruption of Traffic

PREEMPTION

SYSTEM
• Push-Button
• Sonic
• Infrared
• GPS
• Radio

PROS
• Reliable, Inexpensive, Easy to use
• No cost for emitter, Easy to use
• Mutual Aid, Inexpensive emitters, Reliable
• Reliable, Line of Sight not required, Dual emitters for infrared
• Reliable, Line of Sight not required, Vehicle to vehicle detection

CONS
• Limited to a static location
• Buildings, block the sound, or sound can bounce and activate wrong direction
• Need line of sight, fog and snow can blind detector
• Cost
• Cost

SIGNAGE / EDUCATION

PROCEED THRU INTERSECTION ON SOLID BEACON
STOP
WHEN FLASHING
## PREEMPTION COSTS

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>Push-Button</th>
<th>Sonic</th>
<th>Infrared</th>
<th>GPS</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$3,000</td>
<td>$4,000</td>
<td>$5,000</td>
<td>$6,000</td>
<td>$6,500</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EMITTERS</th>
<th>Push-Button</th>
<th>Sonic</th>
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<th>GPS</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NA</td>
<td>NA</td>
<td>$1,200</td>
<td>$2,500</td>
<td>$2,500</td>
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</tbody>
</table>

*High-intensity Activated crossWalk*
HAWK SIMULATION

HAWK OPERATION

HAWK WARRANTS

- ENGINEERING STUDY
  - Major-Street Volumes
  - Speeds
  - Widths (Distance of Crossing)
  - Gaps
  - Pedestrian Volumes
  - Walking Speeds
  - Pedestrian Delay
**HAWK TRADITIONAL USES**

- Mid-Block Crossings
- Un-Signalized Intersections

**HAWK MODIFIED USES**

- Side-Street Approach Control
- Driveway Control
HAWK HOW CAN THIS HAWK BE IMPROVED?

RECTANGULAR RAPID FLASHING BEACON

RRFB

GUIDANCE

<table>
<thead>
<tr>
<th>Table 2A-1. Illumination of Sign Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Means of illumination</strong></td>
</tr>
<tr>
<td>Light behind the sign face</td>
</tr>
<tr>
<td>Mounted light source designed to direct essential information</td>
</tr>
<tr>
<td>Mounted light source designed to direct essential information, or sign face</td>
</tr>
<tr>
<td>Light emitting diodes (LEDs)</td>
</tr>
<tr>
<td>Symbol or word message, enhanced visibility, illuminated, illuminated, illuminated</td>
</tr>
<tr>
<td>Symbol or word message, illuminated, illuminated, illuminated</td>
</tr>
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</tbody>
</table>
COSTS – Without Installation

- Hard wire (less power/conduits/wiring) $5,500
- Solar $8,500
ACCESSIBLE PEDESTRIAN SIGNALS

♦ AUDIBLE
  - Sounds – Tones and Beeps
  - Verbal – Recording of Street Names, etc.

♦ ACTUATION
  - Push Buttons
  - Video Detection
  - Microwave Detection
  - Motion Detection

Typical Pushbutton Locations