HAWK PEDESTRIAN SYSTEM

Presented
By
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What is a “HAWK” Pedestrian Signal

High-intensity Activated crossWalk (HAWK) is a combination of a beacon flasher and traffic control signaling technique...
Pedestrian Hybrid Beacon (HAWK)

- Special type of hybrid beacon used to warn and control traffic at an un-signalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.

- May be considered at locations to facilitate pedestrians where signal warrants are not met or where signal warrants are met but decision made not to install a signal system.
HAWK Beacon at 12th Ave in St. Cloud EB
HAWK indication design
Operation of Pedestrian Hybrid Beacons

- Shall be dark during periods between actuations
- Upon ped activation shall display a flashing yellow ball, followed by solid yellow ball, followed by solid red ball during the walk period and a flashing (wig-wag) red ball during the pedestrian clearance interval
- Upon termination of the pedestrian clearance interval the vehicle indications shall be dark
- Should be placed midblock or at least 100 ft. intersection
- Additional criteria in Federal MUTCD
Sequence of Operation

- Traffic signal dark/Don’t walk active
- Ped pushbutton activated
- Flashing yellow begins (7 seconds)
- Solid yellow (4.0 seconds)
- All red (3.0 seconds) prior to walk indication
- Walk indication (10 seconds)
- Flashing Don’t Walk/Flashing red traffic signal
- Dark signal/Don’t walk
Figure 4F-3. Sequence for a Pedestrian Hybrid Beacon

1. Dark Until Activated
2. Flashing Yellow Upon Activation
3. Steady Yellow
4. Steady Red During Pedestrian Walk Interval
5. Alternating Flashing Red During Pedestrian Clearance Interval
6. Dark Again Until Activated

Legend:
- SY Steady yellow
- FY Flashing yellow
- SR Steady red
- FR Flashing red
What Drivers See:  What Pedestrians See:

**Dark**
- Push the button

**Flashing**

**Steady**
- Start crossing

**Alternating (like RxR)**
- Stop then go if clear
- Flashing Continue crossing

**Dark**
Figure 4F-1. Guidelines for the Installation of Pedestrian Hybrid Beacons on Low-Speed Roadways

TOTAL OF ALL PEDESTRIANS CROSSING THE MAJOR STREET - PEDESTRIANS PER HOUR (PPH)

MAJOR STREET — TOTAL OF BOTH APPROACHES — VEHICLES PER HOUR (VPH)

* Note: 20 pph applies as the lower threshold volume
Figure 4F-2. Guidelines for the Installation of Pedestrian Hybrid Beacons on High-Speed Roadways

*Note: 20 pph applies as the lower threshold volume*
History of HAWK in St. Cloud

- Map – Lake George/High School/Library
- State reconstruct Hwy 23
- City built new library near intersection
- Entrance to new library at 14\(^{th}\) Ave.
- Prior signal at 12\(^{th}\) Ave removed
- Relocated signal to 14\(^{th}\) Ave
- City desired a controlled ped crossing at 12\(^{th}\)
- MnDOT concerned with 2 signals/2 blocks
Area Map of HAWK location
Solution?

- HAWK Signal System
  - Needed experimental approval FHWA
  - Requested and received approval June 3, 2009
  - Activated in Fall of 2009
  - Since then FHWA has approved use of Hybrid Pedestrian Beacons in 2009 Federal MUTCD
  - MnDOT working to establish policy and guidelines for installation
  - Not part of MN MUTCD as of Jan 2010
• ADT – 34,000 vpd – Hwy 23
• Peak hour over 2000 vehicles per hour
• Ped count – over 20 children in hour
• Gap study showed insufficient gaps peak hour to allow safe crossing without control
• School Signal Warrant
• Additional ped traffic expected due to new library and improvement to Lake George Recreational Area
Design

- Immediate west side of 12th Ave intersection
- 2 poles and overhead mast arms for Hwy 23
- 2 overhead indications each direction
- Pedestrian count down indications w/ADA
- Stop signs on side street
- Interconnected with corridor signal/not part of system to date
- Simultaneous flashing of red indications - will be changed to wig/wag red flash
- Cost – approx. $80,000 total cost
Concerns/Observations

- **Concerns**
  - Vehicles would stop for a dark indication
  - Learning curve
  - Issues with side street vehicles

- **Observations**
  - Vehicles did not stop for a dark signal
  - Pedestrians no learning curve
  - Some vehicles had tendency to drive thru beginning red
  - Some driver confusion during flashing red period
Questions?

Contact

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