



# CMF / CRF Details

CMF ID: 9021

**Install pedestrian hybrid beacon (PHB or HAWK) with advanced yield or stop markings and signs**

**Description: Install a combination of a pedestrian hybrid beacon (PHB) and advanced yield or stop markings and signs**

**Prior Condition: No PHB or advanced yield or stop markings and signs**

**Category: Pedestrians**

**Study: [Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments, Zegeer et al., 2017](#)**

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Star Quality Rating:                 |                                      |
| <input type="text" value="4 Stars"/> | <a href="#">[View score details]</a> |

| Crash Modification Factor (CMF) |       |
|---------------------------------|-------|
| Value:                          | 0.432 |
| Adjusted Standard Error:        |       |
| Unadjusted Standard Error:      | 0.134 |

| Crash Reduction Factor (CRF) |  |
|------------------------------|--|
| Value:                       | 56.8 (This value indicates a <b>decrease</b> in crashes) |
| Adjusted Standard Error:     |  |
| Unadjusted Standard Error:   | 13.4   |

**Applicability**

|                            |  |
|----------------------------|--|
| <b>Crash Type:</b>         | Vehicle/pedestrian                                       |
| <b>Crash Severity:</b>     | All  |
| <b>Roadway Types:</b>      | Minor Arterial   |
| <b>Number of Lanes:</b>    | 2 to 8   |
| <b>Road Division Type:</b> |  |
| <b>Speed Limit:</b>        |  |
| <b>Area Type:</b>          | Urban and suburban                                       |
| <b>Traffic Volume:</b>     | 6634 to 48791 <i>Annual Average Daily Traffic (AADT)</i> |
| <b>Time of Day:</b>        | All  |

***If countermeasure is intersection-based***

|                                   |  |
|-----------------------------------|--|
| <b>Intersection Type:</b>         |  |
| <b>Intersection Geometry:</b>     |  |
| <b>Traffic Control:</b>           |  |
| <b>Major Road Traffic Volume:</b> |  |
| <b>Minor Road Traffic Volume:</b> |  |

**Development Details**

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>Date Range of Data Used:</b> | 2004 to 2013                       |
| <b>Municipality:</b>            |                                    |
| <b>State:</b>                   | AZ, FL, IL, MA, NY, NC, OR, VA, WI |
| <b>Country:</b>                 | USA                                |

|                                  |   |
|----------------------------------|---|
| <b>Type of Methodology Used:</b> | 9 |
| <b>Sample Size Used:</b>         |   |

| <b>Other Details</b>                      |  |
|---|--|
| <b>Included in Highway Safety Manual?</b> | No   |
| <b>Date Added to Clearinghouse:</b>       | Nov-17-2017  |
| <b>Comments:</b>                          | Methodology used was a combination of EB before-after and cross-sectional estimations. Also, study sites were a combination of intersection and mid-block locations. |

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