

CMF / CRF Details

CMF ID: 8333

Install directional median openings at downstream U-turn locations

Description:

Prior Condition: Intersections with full median opening

Category: Alignment

Study: [Safety Impacts of Directional Median Openings at Downstream U-Turn Locations, Oi et al., 2016](#)

Star Quality Rating:

☆☆☆☆ [View score details]

Crash Modification Factor (CMF)

$$CMF = \frac{e^{(1.525 + 0.041 * D_{UT}^{Location1, After} + 0.035 * D_{LT}^{Location1, After} - 0.004 * D_{DUT}^{Location1, After})} + e^{(1.525 + 0.041 * D_{UT}^{Location2, After} + 0.035 * D_{LT}^{Location2, After} - 0.004 * D_{DUT}^{Location2, After})}}{e^{(1.525 + 0.041 * D_{UT}^{Location1, Before} + 0.035 * D_{LT}^{Location1, Before} - 0.004 * D_{DUT}^{Location1, Before})} + e^{(1.525 + 0.041 * D_{UT}^{Location2, Before} + 0.035 * D_{LT}^{Location2, Before} - 0.004 * D_{DUT}^{Location2, Before})}}$$

Before is the situation of placing U-turns at location 1.

After is the situation of placing U-turns at location 2.

y is the total number of crashes in a five-year period

D_{UT} is the downstream U-turn volume

D_{LT} is the downstream left-turn volume

D_{DUT} is the distance to the downstream U-turn opening, units?

Value:

Adjusted Standard Error:

Unadjusted Standard Error:

Crash Reduction Factor (CRF)

Value:	(This value indicates an increase in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other Freeways and Expressways
Number of Lanes:	8
Road Division Type:	Divided by Median
Speed Limit:	45
Area Type:	Not specified
Traffic Volume:	1200 to 1600 <i>Vehicles Per Hour</i>
Time of Day:	All

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	2007 to 2011
Municipality:	Houston
State:	TX
Country:	
Type of Methodology Used:	Regression cross-section
Sample Size Used:	

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jan-17-2017
Comments:	CMFs of placing a directional median open at location 1 in comparison to at location 2

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