



CMF / CRF Details

CMF ID: 9400

Widen managed lane envelope

Description: The managed lane envelope is defined as the managed lane, the left shoulder, and the buffer between the lane and regular traffic. The width of the envelope is the combined width of these elements. This treatment is for widening this envelope.

Prior Condition: Managed lane with left shoulder and flush buffer with paint or pylons between managed lane and regular traffic.

Category: Roadway

Study: [Safety Evaluation of Cross-Sectional Elements of Freeway Managed Lanes, Avelar and Fitzpatrick, 2018](#)

Star Quality Rating:	
8 Stars	[View score details]

Crash Modification Factor (CMF)	
Value:	0.956
Adjusted Standard Error:	
Unadjusted Standard Error:	0.013

Crash Reduction Factor (CRF)	
Value:	4.4 (This value indicates a decrease in crashes)
Adjusted Standard Error:	

Unadjusted Standard Error: 1.3

Applicability

Crash Type: Other

Crash Severity: K (fatal),A (serious injury),B (minor injury),C (possible injury)

Roadway Types: Not specified

Number of Lanes: 6-10

Road Division Type: Divided by Median

Speed Limit:

Area Type: Urban and suburban

Traffic Volume:

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: Los Angeles

State: CA

Country:	United States
Type of Methodology Used:	7
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Oct-27-2018
Comments:	This CMF indicates the reduction in managed-lane related KABC crashes on a freeway segment with a managed lane due to widening the managed lane envelope by one foot.

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