



CMF / CRF Details

CMF ID: 8342

Widen shoulder

Description:

Prior Condition: Freeway with narrower right shoulder

Category: Shoulder treatments

Study: [Operational and Safety Trade-offs: Reducing Freeway Lane and Shoulder Width to Permit an Additional Lane, Dixon et al., 2016](#)

Star Quality Rating:



[\[View score details\]](#)

Crash Modification Factor (CMF)

Value: 0.91

Adjusted Standard Error:

Unadjusted Standard Error: 0.046

Crash Reduction Factor (CRF)

Value: 9 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error:	4.6
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Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other Freeways and Expressways
Number of Lanes:	2-5
Road Division Type:	Divided by Median
Speed Limit:	>50
Area Type:	Urban
Traffic Volume:	200 to 281450 <i>Annual Average Daily Traffic (AADT)</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:	2010 to 2013
Municipality:	Dallas, Houston, San Antonio
State:	TX

Country:	USA
Type of Methodology Used:	7
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jan-17-2017
Comments:	CMF applies to increasing right shoulder by 1 foot.

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