

## 100% Federally Eligible Countermeasures

### Signalized Intersections

CM #	Project Type	Countermeasure Description	Primary Crash Types	Values for Caltrans Local HSIP Program		
				Crash Type	CRF	Service Life
S1	Lighting	Add intersection lighting (S.I.)	Night (All)	Night	40	20
S2	Signal Mod.	Improve signal hardware: lenses, back-plates, mounting, size, and number	Rear-End, Angle	All	15	10
S3	Signal Mod.	Improve signal timing (coordination, phases, red, yellow, or operation)	All (varies)	All	15	10
S4	Signal Mod.	Provide Advanced Dilemma Zone Detection for high speed approaches	All (varies)	All	40	10
S5	Signal Mod.	Install emergency vehicle pre-emption systems	Emrg. Vehicle - only	Emrg vehicle	70	10
S6	Signal Mod.	Provide protected left turn phase (left turn lane already exists)	Rear-End, Sideswipe	All	30	20
S7	Signal Mod.	Convert signal to mast arm (from pedestal-mounted)	Rear-End, Angle	All	30	20
S8	Operation/Warning	Install raised pavement markers and striping (Through Intersection)	Wet, Night, All	All	10	10
S9	Operation/Warning	Install flashing beacons as advance warning (S.I.)	Rear End, Angle	All	30	10
S18	Geometric Mod.	Convert intersection to roundabout (from signal)	All (varies)	All	50	20
S19	Ped and Bike	Install pedestrian countdown signal heads	Pedestrian, Bicycle	P & B	25	20
S20	Ped and Bike	Install pedestrian crossing (S.I.)	Pedestrian, Bicycle	P & B	25	20
S21	Ped and Bike	Install advance stop bar before crosswalk (Bicycle Box)	Pedestrian, Bicycle	P & B	15	10

Local Agencies are encouraged to go to FHWA's Crash Modification Factors Clearinghouse for more information on Roadway Safety Countermeasures. <http://www.cmfclearinghouse.org/index.cfm>

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### Non-Signalized Intersections

CM #	Project Type	Countermeasure Description	Primary Crash Types	Values for Caltrans Local HSIP Program		
				Crash Type	CRF	Service Life
NS1	Lighting	Add intersection lighting (NS.I.)	Night (All)	Night	40	20
NS2	Control	Convert to all-way STOP control (from 2-way or Yield control)	Left-turn, Angle	All	50	10
NS3	Control	Install signals	All (varies)	All	25	20
NS4	Control	Convert intersection to roundabout (from 2-way stop or Yield control)	Left-Turn, Angle	All	45	20
NS5	Operation/Warning	Install/upgrade larger or additional stop signs or other intersection warning/regulatory signs	All (varies)	All	15	10
NS6	Operation/Warning	Upgrade intersection pavement markings (NS.I.)	All (varies)	All	25	10
NS7	Operation/Warning	Install Flashing Beacons at Stop-Controlled Intersections	Angle, Rear-End	All	15	10
NS8	Operation/Warning	Install flashing beacons as advance warning (NS.I.)	Angle, Rear-End	All	30	10
NS17	Ped and Bike	Install pedestrian crossing at uncontrolled locations (new signs and markings only)	Pedestrian, Bicycle	P & B	25	10
NS18	Ped and Bike	Install pedestrian crossing at uncontrolled locations (with enhanced safety features)	Pedestrian, Bicycle	P & B	35	20
NS19	Ped and Bike	Install pedestrian signal or HAWK	Pedestrian, Bicycle	P & B	55	20

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### Roadway Countermeasures

CM #	Project Type	Countermeasure Description	Primary Crash Types	Values for Caltrans Local HSIP Program		
				Crash Type	CRF	Service Life
R1	Lighting	Add segment lighting	Night (All)	Night	35	20
R3	Remove/ Shield Obstacles	Install Median Barrier	Head-on	All	25	20
R4	Remove/ Shield Obstacles	Install Guardrail	Fixed Object, Run-off Road	All	25	20
R5	Remove/ Shield Obstacles	Install impact attenuators	Fixed Object, Run-off Road	All	25	10
R26	Operation/ Warning	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	Head on, Run-off road, Sideswipe, Night	All	15	10
R27	Operation/ Warning	Install chevron signs on horizontal curves	Run-off Road, All	All	40	10
R28	Operation/ Warning	Install curve advance warning signs	Run-off Road, All	All	25	10
R29	Operation/ Warning	Install curve advance warning signs (flashing beacon)	All (varies)	All	30	10
R30	Operation/ Warning	Install dynamic/variable speed warning signs	All (varies)	All	30	10
R31	Operation/ Warning	Install delineators, reflectors and/or object markers	All (varies)	All	15	10
R32	Operation/ Warning	Install edge-lines and centerlines	Head-on, Run-off Road, All	All	25	10
R33	Operation/ Warning	Install no-passing line	Head-on, Side-swipe, All	All	45	10
R34	Operation/ Warning	Install centerline rumble strips/stripes	Head-on, Side-swipe, All	All	20	10
R35	Operation/ Warning	Install edgeline rumble strips/stripes	Run-off Road	All	15	10

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