

W-Project Crash Reduction Information

Countermeasure	Crash Pattern Affected	Percent Reduction		Date Approved
1. New Traffic Signal (two phase)	Angle	65		8/2002
	Left Turn-Cross Traffic	65*		8/2002
	Rearend	-10*		8/2002
2. New Traffic Signal (with protected-permitted left turn phase)	Angle	65		8/2002
	Left Turn-Cross Traffic	65*		8/2002
	Left Turn-Same Road	40		8/2002
	Rearend	-10*		8/2002
3. New Traffic Signal (with protected only left turn phase)	Angle	65		8/2002
	Left Turn-Cross Traffic	65*		8/2002
	Left Turn-Same Road	70		8/2002
	Rearend	-10*		8/2002
4. Closed Loop Signal System	Rearend	20*		8/2002
	Ran Off Road (right and left)	10*		8/2002
5. Strobes	Angle	15*		8/2002
6. Intersection Warning Flasher	Angle	30		8/2002
7. Left Turn Lane at an intersection	Left Turn-Same Road	50		8/2002
	Rearend	35		8/2002
	Ran Off Road (right and left)	35		8/2002
		<u>1 approach</u>	<u>Both Approaches</u>	
	3-leg Rural Stop Sign controlled	44		11/2002
	3-leg Urban Stop Sign controlled	33		11/2002
	4-leg Rural Stop Sign controlled	28	48	11/2002
	4-leg Urban Stop Sign controlled	27	47	11/2002
	4-leg Urban Signal controlled	10	19	11/2002
8. Right Turn Lane at an intersection	Rearend	50		8/2002
		<u>1 approach</u>	<u>Both Approaches</u>	
	Stop Sign controlled	14	26	11/2002
	Signal controlled	4	8	11/2002
9. Increase Turn Lane Length	Rearend	15		8/2002
	Ran Off Road (right and left)	15		8/2002
10. Continuous Left Turn Lane	Rearend	30		8/2002
	Left Turn-Same Road	30		8/2002
	Ran Off Road (right and left)	30		8/2002
11. Widening for an additional lane	Rearend	10*		8/2002
	Sideswipe	10*		8/2002
12. Pavement Widening		<u>Rural</u>	<u>Urban</u>	
	Rearend	24	17	8/2002
	Head-On	24	17	8/2002
	Sideswipe	24	17	8/2002
13. Widen or Improve Shoulder	Ran Off Road (right and left)	18	26	8/2002

14. Horizontal Realignment	Ran Off Road (right and left)		43		8/2002
	Head-On		43		8/2002
	Sideswipe		43		8/2002
15. Vertical Realignment	Angle		40		8/2002
	Rearend		40		8/2002
	Ran Off Road (right and left)		40		8/2002
16. Improve Skew Angle	Angle		40		8/2002
	Left Turns		40		8/2002
	Rearend		40		8/2002
	Ran Off Road (right and left)		40		8/2002
17. New or Upgraded Guardrail		<u>Fatal</u>	<u>Injury</u>	<u>PDO</u>	
	Ran Off Road	35	4	7	8/2002
18. Bridge Guardrail		<u>Fatal</u>	<u>Injury</u>	<u>PDO</u>	
	Ran Off Road	55	20	-50	8/2002
19. New Median Barrier		<u>Fatal</u>	<u>Injury</u>	<u>PDO</u>	
	Ran Off Road (left)	63	10	-25	8/2002
20. Shoulder Rumble Strips	Ran Off Road (on improved side)		29		8/2002
21. Skid Treatments (overlay)		<u>Wet</u>	<u>Dry</u>		
	Ran Off Road (right and left)	63	27		8/2002
	Rearend	63	27		8/2002
	Head-On	63	27		8/2002
22. Pedestrian Structure	Pedestrian		85		8/2002
23. Markings & Delineation	Ran Off Road (left and right)		21		8/2002
	Head-On		21		8/2002
	Sideswipe		21		8/2002
24. Warning Signs		<u>Rural</u>	<u>Urban</u>		
	Ran Off Road (left and right)	40	30		8/2002
	Head-On	40	30		8/2002
	Sideswipe	40	30		8/2002
25. Remove Traffic Signal	Rearend		10		11/2002
26. Limited Movement Crossovers	Angle		75		11/2002
	Left-Turn Different Roadway		75		11/2002
	Left-Turn Same Roadway		75		11/2002
27. Dynamic Message Signs	Rearend		10		11/2002
28. Bridge Replacements	Total Crashes per year		22		11/2002
	Non-fatal Injury Crashes per year		26		11/2002
	Total Injury Crashes per year		32		11/2002
	PDO Crashes per year		13		11/2002

Notes:

Please use all crashes of the correctable type occurring at the location unless otherwise noted.

* Subjective data agreed upon by the W-Project committee until empirical data is established