MANUAL HSIP Project Submission Form

Tab Contents

1. "Form" tab - HSIP Project Submission Form

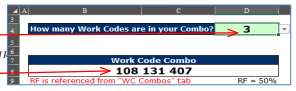
Input all project-related data in the green cells
Explanation of fields begins below on Row 43

2. "SII Calc" tab - SII Calculator

To be used only when MicroStrategy cannot be used to determine the SII
This is usually for off-system projects, as well as all projects with a Work Code Combo that is not in MicroStrategy
List out Crash ID's of applicable K, A, and B crashes, and also include the annual maintenance cost
Crash Reduction Factor should automatically copy from the "Form" tab, cell W30
Service Life should automatically copy from the "Work Codes" tab (for Work Code Combos it should display the highest Service Life)
Total Requested Amount should automatically copy from the "Form" tab, cell U48
Reference HSIP Guidelines Appendix B for maintenance costs of certain work codes

3. "WC Combo RF Calculator" tab (user input only needed for work code combos with more than 3 work codes)

Cell D4: Input the number of work codes in your combo
Cell D4: If inputting 2 or 3, the spreadsheet will automatically calculate and display the Combo Reduction Factor in cells D9 and I
Cell D4: If inputting 4 or more, Table 1B will appear for inputting project specific information about each work code
Cell B8: Should display all work codes as input on the "Form" tab



(common combos will reference a Crash Reduction Factor from the "WC Combos" tab)

Perform the following only for work code combos with 4 or more work codes:

Cells B13 & C13: Table 1A - Input the length of the project in miles, and the number of intersections within the project limits
Columns I, J, K within Table 1B: For each work code, input the total "benefit" of each countermeasure measured as length in miles, number of intersections, or an override percentage (engineer judgment)
Applicable cells requiring data input will highlight in green under columns I, J, and K
For example: If you have a 3 mile project (cell B13) and you are only adding 304 Safety Lighting for 2 miles, then you would input "2" under column I for WC 304
Table 1B will rank all countermeasures based on the project specific inputs, and rankings will be shown under column N
In the event of a tie in which more than 3 countermeasures are ranked in the Top 3, use column O to designate the Top 3 (engineering judgment)

The Top 3 will appear within Table 2A
Table 2B and 2C will evaluate the combined effects of the countermeasures and the different types of crashes they prevent
and Table 2B will automatically determine the most appropriate equation for calculating the WC Combo Reduction Factor
The Reduction Factor will display in cell I41
This same Reduction Factor will automatically appear on the "Form"

Recommended Combined CMF	Recommended Reduction Factor
0.65	35%

Table 1B -- Ranking Criteria to Select Most Effective Safety Treatments (ONLY NEEDED FOR COMBOS WITH 4 OR MORE WORK CODES)

Work Code (WC)	Description	Reduction Factor (RF)	Type of Work	Total Length of Improvements (in Miles)	Total Number of Intersections with Improvements	Override % Amount of Work	Calculated Amount of Work done	F*L	Rank (F*L)	TIE BREAKER (USER CHOICE DROP-DOWN)
101	Install Warning/Guide Signs	20%	Other			50%	50%	0.1	2	Top 3
136	Install LED Flashing Chevrons (Curve)	35%	Corridor	0.75			75%	0.2625	1	Top 3
533	Profile Edgeline Markings	7%	Corridor	1			100%	0.07	3	
543	Profile Centerline Markings	7%	Corridor	1			100%	0.07	3	Top 3

4. "Work Codes" and "WC Combos" Tab

These tabs are here for reference, and include reduction factors, service life, and additional documentation needed for each work code
"WC Combos" are the most common combos that can still be run in MicroStrategy. All others should use the "WC Combo RF Calculator" tab.

Preparing HSIP Project Submission Form:

All manual input except orange: Go to HSIP Project Submission Tab

Proposal Information	
File Name (AUTOMATED)	After filling out the form, use the "Save Form" button to save a copy of this file in the same folder where this template file is saved, using the naming convention *2026_DIS_HWY_CSJ* . For more than 1 CSJ the file naming format will be *2026_DIS_HWY_CSJ.etc*
District	Select your district from the drop-down menu
County	Can input one or more counties, separated by commas
Comments	Input any extra relevant project information not covered by other form fields
Project Work Codes	Using the drop-down selection lists, input up to 8 work codes as applicable to the project
Supervised By	Please enter the name of the area or district team member who will likely make decisions regarding this project. All communication regarding HSIP projects will still go to the district HSIP POC.

Roadway Information	
Primary Roadway	Enter the highway system and number or road name as it appears in TxDOT CONNECT.
Control-Section-Job	Enter the CSJ of the project. For multi-CSJ projects you can resize the height of the cell and list all CSJ(s) separated by commas
Limits From/To	Enter the physical description of the project limits for segment projects. Please only use roadways and distances from roadways, e.g. "At Main St," "500' S of Local Rd," not city limits, ramps, bridges, waterways, schools, local landmarks, etc.
On or Off system	Select whether the project is On or Off system.
DFOs (or Lat/Long for off-system projects)	For Systemic Projects: Enter the DFO's that correspond to the Project Limits defined above. For Targeted Projects: Enter the DFO's **for the limits of crash analysis** (this may be shorter than the project limits and/or the Project Length as input in TxDOT Connect). The DFO's must be obtained from the Map application of CRIS to correlate with crash counts. For Targeted projects: If all the work is being performed in one intersection, use DFO's that are 0.2 miles apart (i.e. 0.1 miles on each side of the intersection) For off-system roads, please enter Lat/Long DMS coordinate pairs instead of DFOs.
Length	Enter the length of the project in miles. If multiple locations, can show cumulative length, or "Various"
Selection Method	Select the main type of project selection approach: Targeted, Systemic or Annual Priority. *New* Annual Priority is the competitive approach using a specific proven countermeasure (chosen each year by TRF) that was previously named State Systemic.
Work Code Combo (AUTOMATED)	Will list the Top 3 work codes for determing the project-specific combo crash reduction factor. If your project has more than 3 WCs, see instructions above beginning on row 19 for the WC Combo RF Calculator tab. Work codes will turn red if there are incomplete inputs on the WC Combo RF Calculator tab
Preferred Letting	Select the preferred letting month/year from the drop-down menu. Used to calculate inflation below.
Letting Fiscal Year (AUTOMATED)	Indicates Letting Fiscal Year and this field will auto-populate.
Crashes (K, A, B) and SII fields	If using MicroStrategy: Enter the number of preventable crashes for each category (K, A & B) and the SII shown on the MicroStrategy SII report for on-system projects. If using the SII Calculator tab: the K, A, B, and SII fields should auto-populate on the "Form" tab using the values input on the "SII Calc" tab.

Cost Estimate	
Bid Items	Enter the sum of all bid items for this project. See 2026 HSIP Guidelines – Appendix D for additional information
Force Accounts	Enter an amount estimated for safety contingency, erosion control, etc. Force Accounts should be between 2% and 5% of the bid items total.
Subtotal (AUTOMATED)	Calculated automatically sum of bid items and force accounts. This amount should be input in the Letting Estimate field on the Estimated Cost screen in TxC.
Inflation (AUTOMATED)	Calculated automatically; based on what letting year is indicated. TxC adds inflation at the bottom of the Estimated Cost screen.
Total Requested Amount (AUTOMATED)	Calculated automatically; sum the Subtotal plus Inflation for the Total Requested Amount for the Category 8 funding line on the Funding screen in TxC. To be used for the SII calculation in MicroStrategy or SII calculator.

2026 Program Call
HSIP Project Submission Form
(UTP 2027 - TRF 2027 Sub-Program)

SAVE FORM 2026___

MANUAL

Proposal Information

District		**County**	
Comments			
Project Work Codes*			
*Can include up to 8 work codes as scope of project			
Supervised By			

Roadway Information

Primary Roadway		**C-S-J(s)**	
Limits From		**Beg DFO**	
Limits To		**End DFO**	
On or Off System		**Length** (miles)	
Selection Method		RF	#VALUE!
Work Code Combo*	#N/A	K	
*See WC Combo RF Calculator tab to determine Top 3 Work Codes & Combo Reduction Factor		A	
		B	
Preferred Letting		SII	
Letting Fiscal Year	1900		

Additional documentation needed

#CALC!

Cost Estimate

Bid Items (See 2026 HSIP Guidelines - Appendix D for additional info)		
Force accounts (Safety contingency, Erosion control, etc. under 5%)		
Subtotal (TxC Estimated Cost screen - Letting Estimate field)		$ -
Inflation (0-12% by Let FY)	#####	$ -
Total Requested Amount (TxC Funding screen - Cat 8 funding line; and use in SII Calc)		$ -

$ -

This information is collected for the purpose of evaluating and enhancing the safety of highways. The review form is not subject to discovery nor admissible as evidence in a case to recover damages arising out of the underlying accident. Do not release this information to the general public, in litigation, or under the Public Information Act without first obtaining the advice of legal counsel.

Form Rev 9/2025

2026 SII Calculator (2022-2024 Crash Data)
Enter data in the shaded cells where applicable.

	Number of Crashes
Number of Fatal Crashes (K)	0
Number of Incapacitating Injury Crashes (A)	0
Number of Non-Incapacitating Injury Crashes (B)	0
Reduction Factor	#VALUE!
Service Life (highest in WC combo)	0
Total Requested Amount (Construction) *	$ -
Annual Maintenance Cost	

(See HSIP Guidelines Appendix B for avg. maint. costs for each WC, or use engineering judgment)

CSJ , Co,

SII Calculation **#VALUE!**

Crash IDs
List the Crash IDs included in crash counts.

K	A	B

How many Work Codes are in your Combo?	3

Work Code Combo
#N/A

CSJ	0
District	0
County	0
Roadway	0

Table 2A -- Top 3 (most effective) Safety Treatments

ID	WC	Description	Definition	RF	CMF
A		#N/A	#N/A	#N/A	#N/A
A		#N/A	#N/A	#N/A	#N/A
A		#N/A	#N/A	0%	1.00

Table 2B -- Summary Results for Combined Effect of Multiple Safety Treatments

Method	Combined CMF	Crash Reduction	Recommended Method based on Magnitude	Recommended Method based on Overlap%	Recommended Combined CMF	Recommended Reduction Factor
Additive Method	**N.A.**	**N.A.**			**#N/A**	**#N/A**
Dominant Effect	**#N/A**	**#N/A**	#N/A	X		
Dominant Common Residual TSAP	**#N/A**	**#N/A**	#N/A			
Dominant Common Residual FHWA	**#N/A**	**#N/A**	#N/A			

Note: The "X" mark indicates which method to rely on based on FHWA guidance (Magnitude & Overlap); however, if all methods include "X" mark select the value with **lowest reduction**. The user may use Engineering Judgement to select the final combined CMF value.

Table 2C-- Overlap Percentage for Preventable Crash Codes

Work Code (WC)	Manner of Collision	Roadway Related	First Harmful Event	Intersection Related	Light Condition	Object Struck	Surface Condition	Contributing Factor	Part of Roadway No. 1 Involved	Vehicle Body Style	Roadway Part
A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
B	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
C	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Overlap %	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**
Overall Overlap %											

Work Code	Description	Definition	Reduction Factor	Service Life	CMF	Type of Work	Additional Docs Required
N.A.	N.A.	N.A.	0%		1	N.A.	
101	Install Warning/Guide Signs	Provide advance signing for unusual or unexpected roadway features where no signing existed previously.	20%	15	0.80	Other	
107	Install Traffic Signal	Provide a traffic signal where none existed previously. This does not include the installation of flashing beacons. SPICE and CAP-X analyses are required for all intersection related HSIP project submittals. See TxDOT Chief Engineer June 24, 2024 memo.	20%	10	0.80	Intersection	Overhead Intersection Layout, Traffic Signal Warrants, SPICE and CAP-X analyses
108	Improve Traffic Signals (Hardware)	Improve existing intersection signals to current design standards. Can include replacement of signal heads with retroreflective backplates, as well as upgrading wire signals with mast arms. May also include adding and realigning curb ramps, as well as enhancements to pavement markings. SPICE and CAP-X analyses are required for all intersection related HSIP project submittals. See TxDOT Chief Engineer June 24, 2024	10%	10	0.90	Intersection	Overhead Intersection Layout, SPICE and CAP-X analyses
109	Implement Leading Pedestrian Interval (LPI) Timing	Adjust signal timing to allow pedestrians to enter crosswalk at intersection before vehicles are given a green indication.	16%	10	0.84	Intersection	
110	Install Pedestrian Signal	Provide a pedestrian signal at an existing signalized location where no pedestrian phase exists, but pedestrian crosswalks are existing, or in conjunction with WC 403. Use default RF of 34% for SII calculation. If SII < 3.0, a project-specific RF can be calculated.	34%	10	0.66	Intersection	Overhead Intersection Layout
111	Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals)	Provide signal coordination; a communication link between two or more adjacent signals in a corridor. This WC can be used as an approved systemic countermeasure along a corridor when combined with WC 108.	10%	10	0.90	Intersection	List and drawing of all signalized intersections to be included in the interconnection
113	Install Delineators	Install post-mounted delineators to provide guidance.	12%	5	0.88	Corridor	
114	Install School Zones	Place school zones to include signing, flashing beacons and/or pavement markings where none existed previously. Refer to WC 403 for pedestrian crosswalk markings.	20%	5	0.80	Corridor	
115	Install Pedestrian Countdown Timer	Add pedestrian countdown timer to existing pedestrian signals.	50%	10	0.50	Intersection	
118	Replace Flashing Beacon with a Traffic Signal	Replace an existing flashing beacon at an intersection with a traffic signal. Districts to verify existing Overhead Flashing Beacon has exceeded its 10 yr service life.	25%	10	0.75	Intersection	Overhead Intersection Layout
119	Install Overhead Signs	Install overhead advance regulatory, warning or guide signing for unusual or unexpected roadway features where no signing existed previously.	20%	10	0.80	Other	
122	Install Advanced Warning Beacons (Intersection - Existing Warning Signs)	Provide warning beacons as supplemental emphasis to warning signs in advance of an intersection where none previously existed but where advance warning signs already exist.	10%	10	0.90	Intersection	
123	Install Advanced Warning Beacons (Curve - Existing Warning Signs)	Provide warning beacons as supplemental emphasis to warning signs in advance of a curve where none previously existed but where advance warning signs already exist.	10%	10	0.90	Corridor	
124	Install Advanced Warning Beacons and Signs (Intersection)	Provide warning beacons and signs in advance of an intersection where none previously existed. It is now recommended to include retroreflective strips on sign posts.	25%	10	0.75	Intersection	
125	Install Advanced Warning Beacons and Signs (Curve)	Provide warning beacons and signs in advance of a curve where none previously existed. It is now recommended to include retroreflective strips on sign posts.	15%	10	0.85	Corridor	
128	Install Advanced Warning Signs (Intersection)	Provide signs in advance of an intersection (including flashing signs) where none previously existed. It is now recommended to include retroreflective strips on sign posts.	15%	15	0.85	Intersection	
130	Install Advanced Warning Signs (Curve)	Provide signs in advance of a curve where none previously existed. It is now recommended to include retroreflective strips on sign posts.	10%	15	0.90	Corridor	
131	Improve Pedestrian Signals	Bring existing pedestrian signal units into conformance with current standards.	10%	10	0.90	Intersection	
132	Install Advance Warning Beacons and Signs	Provide warning beacons and signs in advance of hazard where none previously existed. It is now recommended to include retroreflective strips on sign posts.	10%	10	0.90	Other	
133	Improve School Zone	Improve an existing school zone by upgrading signing, pavement markings or signals.	10%	5	0.90	Other	
134	Install Advanced Pedestrian Crossing Signage	Install pedestrian crossing warning signs in advance of a pedestrian crosswalk where none previously existed. It is now recommended to include retroreflective strips on sign posts. For signing within school zones, see WC 114 and 133.	25%	15	0.75	Other	
136	Install LED Flashing Chevrons (Curve)	Install LED flashing chevrons on curve to provide guidance. May include Dynamic LED Chevron System.	35%	10	0.65	Corridor	
137	Install Chevrons (Curve)	Install chevrons on curve to provide guidance. It is now recommended to include retroreflective strips on sign posts.	20%	15	0.80	Corridor	
138	Install Flashing Yellow Arrow	Improve existing intersection signals by adding a flashing yellow arrow indication and install the LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-17T) sign. Refer to WC 108 for improvement of traffic	40%	10	0.60	Intersection	
139	Install Surface Mounted Delineators on Centerline	Install surface mounted delineators on centerline.	12%	7	0.88	Corridor	
140	Wrong Way Driver Warning Signs	Provide warning signs to warn wrong way drivers at freeway exit ramps (e.g., Oversized and Flashing LED "Wrong Way" and "Do Not Enter" signs with red retroreflective strip on sign supports). For Flashing LED signs, use SS6066 and bid code 6066-7001. For retroreflective strip, refer to DBOM(SIGN)-25; Recommended bid code is 658-7080. Systemic only.	35%	10	0.65	Other	
141	Wrong Way Driver Warning Markings	Provide markings (wrong way arrows using striping or raised pavement markers) to warn wrong way drivers at freeway exit ramps. Refer to FPM(1)-25 and SHSD Section 12. Systemic only.	40%	5	0.60	Other	
142	Wrong Way Driver Advanced Technologies	Provide advanced technologies to detect and warn wrong way drivers at freeway exit ramps. (e.g., exit ramp detection systems and upstream DMS alerts). Requires a One Time Use Special Specification. Refer to SS6028, SS6038, SS6056, and SS6082 for examples. Systemic only.	35%	5	0.65	Other	
143	Pedestrian Hybrid Beacon	Provide pedestrian hybrid beacon at established crosswalk or in conjunction with installation of new crosswalk (403). Requires TRF-P&S approval.	30%	10	0.70	Other	
144	Install Rectangular Rapid Flashing Beacon (RRFB)	Install pedestrian activated rectangular rapid flashing beacon (RRFB) at existing or in conjunction with installation of new crosswalk (403). Requires TRF-P&S approval. Systemic only.	45%	10	0.55	Other	Overhead layout
145	Flashing Stop Beacon or LED-embedded Stop Signs	Install LED stop signs or stop beacons on existing stop signs at intersections where only standard stop signs are present.	10%	10	0.90	Intersection	
150	Dynamic Speed Feedback Signs	Install permanent dynamic message speed display signs related to a regulatory speed limit or advisory speed for unexpected roadway features (curves, school zones, etc.).	5%	10	0.95	Other	Overhead layout
201	Install Median Barrier	Construct a concrete or cable safety system median barrier where none existed previously. Consider existing median width, percent truck traffic, cable post spacing, material availability, maintenance cost, and inside shoulder widening when selecting CTR versus steel cable.	50%	25	0.50	Corridor	Existing and Proposed Typical Sections
203	Install Raised Median	Install a roadway divider using barrier curb. If local access is impacted, approval from the Chief Engineer is required prior to advertisement & publishing the job for letting. See the DES Proposed Raised Median	25%	20	0.75	Corridor	Overhead layout
204	Flatten Side Slope	Provide an embankment side slope of 6:1 or flatter.	5%	20	0.95	Corridor	
209	Safety Treat Fixed Objects	Remove, relocate, or safety treat all fixed objects including the installation of guardrail for safety treatment of a fixed object or drainage structures within the project limits, to include both point and	45%	15	0.55	Other	
217	Install Impact Attenuation System	Provide any of a variety of impact attenuators where none existed previously.	50%	10	0.50	Corridor	
218	Widen Bridge	Provide additional width across an existing structure, either by rehabilitation or replacement. Specify existing bridge width, existing approach roadway width and roadway type (2 lane, 4 lane undivided, etc.).	50%	30	0.50	Corridor	Existing & Proposed Typical Sections
220	Truck Parking Facilities	Construct, expand, upgrade, or re-purpose existing roadside facilities for truck parking that are eligible for funding under section 1401 of the MAP-21. Systemic only.	TBD	20	TBD	Corridor	Prposed rest stop layout including entrances and exits
225	Pedestrian Crossing Deterrent	Install attachments to existing concrete barrier systems to deter prohibited pedestrian crossings on divided highways. Systemic only.	TBD	10	TBD	Corridor	
303	Resurfacing	Provide a new roadway surface to increase pavement skid numbers on all the lanes.	20%	10	0.80	Corridor	Skid Numbers
304	Safety Lighting (Non-Intersection)	Provide roadway lighting, either partial or continuous, where either none existed previously or major improvements are being made. Refer to WC 305 for intersection lighting.	30%	15	0.70	Corridor	
305	Safety Lighting (Intersection)	Install lighting at an intersection where either none existed previously or major improvements are proposed. Refer to WC 304 for general lighting.	13%	15	0.87	Intersection	Overhead Intersection Layout
401	Install Pavement Markings	Place complete pavement markings, excluding crosswalks, in accordance with the TMUTCD where either no markings or nonstandard markings exist. This work code includes items such as turn arrows, stop lines, lane markings, raised pavement markers,etc. Refer to WC 402 for edgeline markings, WC 403 for pedestrian crosswalks, WC 404 for centerline	20%	5	0.80	Corridor	Preliminary layout
401	Install Pavement Markings	Place complete pavement markings, excluding crosswalks, in accordance with the TMUTCD where either no markings or nonstandard markings exist. This work code includes items such as turn arrows, stop lines, lane markings, raised pavement markers,etc. Refer to WC 402 for edgeline markings, WC 403 for pedestrian crosswalks, WC 404 for centerline	20%	5	0.80	Corridor	Preliminary layout
402	Install Edgeline Marking	Place edge lines where none existed previously.	20%	5	0.80	Corridor	Preliminary layout
403	Install Pedestrian Crosswalk	Place pedestrian crosswalk markings where none existed previously. Refer to WC 114 for school zones, and WC 110 for pedestrian signal.	10%	5	0.90	Intersection	Preliminary layout
404	Install Centerline Marking	Provide centerline marking where either no markings or nonstandard markings existed previously. Adding centerline buffer in accordance with Standard CLB(1)-23, CLB(2)-23 may be approved under WC404 without pavement widening. Refer to WC 401 for complete pavement markings.	20%	5	0.80	Corridor	Preliminary layout
407	Install Sidewalks	Install new sidewalks where none currently exist including the extension of existing sidewalks. Widening existing sidewalks is not eligible.	50%	20	0.50	Corridor	
408	Add Shared Use Path	Provide a shared used path (sidepath) adjacent to roadway physically separated from motorized vehicular t...ic.	25%	20	0.75	Corridor	Existing & Proposed Typical Sections
409	Install Pedestrian Refuge Islands	Install pedestrian median or refuge island where none existed previously.	34%	25	0.66	Intersection	Existing & Proposed Typical Sections, Overhead Intersection Layout
410	Install Dedicated Bicycle Lanes	Restripe existing pavement to provide dedicated space for bike lanes. If widening is needed use in combination with WCs 502-504.	27%	4	0.73	Corridor	Proposed typical section
502	Widen Lane(s)	Provide additional width to the lane(s). A Refer to WC 517 if adding a through lane. Consider Standard CLB(1)-23, CLB(2)-23 for adding centerline buffer for undivided facilities.	15%	20	0.85	Corridor	Typical Section
503	Widen Paved Shoulder (to 5 ft. or less)	Extend the existing paved shoulder to achieve desirable shoulder width. Refer to WC 504 or 537 for constructing a paved shoulder.	20%	20	0.80	Corridor	Typical Section
504	Construct Paved Shoulders (1-4 ft.)	Provide paved shoulders of 1- to 4-foot width where no shoulders existed previously. Refer to WC 503 or 536 for widening paved shoulders.	25%	20	0.75	Corridor	Typical Section
505	Improve Vertical Alignment	Reconstruct the roadway to improve sight distance.	35%	20	0.65	Corridor	
506	Improve Horizontal Alignment	Flatten existing curves. Refer to WC 507 for providing superelevation, and WC 508 for intersection	50%	20	0.50	Corridor	
507	Increase Superelevation	Provide increased superelevation on an existing curve. Use default RF of 20% for SII calculation. If SII < 3.0, a project-specific RF can be calculated.	20%	20	0.80	Corridor	
508	Realign Intersection	Improve an existing intersection by partial or complete relocation of the roadway(s). Refer to WC 509 for channelization, and WC 506 for improving horizontal alignments.	50%	10	0.50	Intersection	Proposed Overhead Intersection View
509	Channelization	Install islands and/or pavement markings to control or prohibit vehicular movements. A sketch of the proposed channelization should be provided. Refer to WC 508 for intersection realignment.	25%	10	0.75	Intersection	Proposed Overhead View
510	Construct Turn Arounds	Provide turnarounds at an intersection where none existed previously.	25%	20	0.75	Intersection	Overhead Intersection View
515	Construct Interchange	Construct vertical separation of intersecting roadways to include interconnecting ramps.	50%	30	0.50	Other	Overhead View
516	Close Crossover	Permanently close an existing crossover.	50%	20	0.50	Other	
517	Add Through Lane	Provide an additional travel lane.	25%	20	0.75	Corridor	Typical Section
518	Install Continuous Turn Lane	Provide a continuous two-way left turn lane where none existed previously.	30%	20	0.70	Intersection	Typical Section
519	Add Left Turn Lane	Provide an exclusive left turn lane where none existed previously. The affected intersection approaches must be specified.	25%	20	0.75	Intersection	Typical Section, Overhead proposed layout
520	Lengthen Left Turn Lane	Provide additional length to an existing exclusive left turn lane. Affected intersection approaches must be s...d.	40%	20	0.60	Intersection	
521	Add Right Turn Lane	Provide an exclusive right turn lane where none existed previously. Affected intersection approaches must be specified.	25%	20	0.75	Intersection	Typical Section, Overhead proposed layout
522	Lengthen Right Turn Lane	Provide additional length to an existing exclusive right turn lane. Affected intersection approaches must be specified.	30%	20	0.70	Intersection	
523	Construct Pedestrian Over/Under Pass	Construct a pedestrian crossover where none existed previously.	90%	30	0.10	Other	
524	Increase Turning Radius	Provide an increased turning radius at an existing intersection.	10%	10	0.90	Intersection	Overhead Intersection View
525	Convert to One Way Frontage Roads	Convert two-way frontage roads to one-way operation. If a district elects to maintain two-way frontage road operation within the limits of an HSIP project, approval through Design Division will be required.	50%	20	0.50	Corridor	
526	Positive Offset Left-turn Lanes	Add positive offset to existing left-turn lane(s) at an intersection.	30%	20	0.70	Intersection	Proposed Intersection Layout
527	Increase Vertical Clearance (Remove Structure)	Remove an overhead structure in order to increase vertical clearance.	0%	0	1.00	Intersection	
532	Milled Edgeline Rumble Strips	Install continuous milled depressions (rumble stripes or rumble strips) along the edgeline. Stand-alone rumble strip project proposals will not be accepted.	15%	10	0.85	Corridor	
533	Profile Edgeline Markings	Install profile edgeline markings. Stand-alone rumble strip project proposals will not be accepted.	7%	5	0.93	Corridor	
534	Raised Edgeline Rumble Strips	Install non-reflective raised traffic buttons (yellow or white) along the edgeline. Stand-alone rumble strip project proposals will not be accepted.	10%	5	0.90	Corridor	
536	Widen Paved Shoulders (to >5 ft.)	Extend the existing paved shoulder to greater than 5 ft. Refer to WC 504 or 537 for constructing a paved shoulder.	30%	20	0.70	Corridor	Typical Section
537	Construct Paved Shoulders (>= 5ft.)	Provide paved shoulders 5 feet or greater where no shoulders existed previously. Refer to WC 503 or 536 for widening paved shoulders.	40%	20	0.60	Corridor	Typical Section
538	Convert 2 Lane Facility to 4 Lane Divided	Convert an existing 2-lane facility to a 4-lane divided facility.	45%	20	0.55	Corridor	Typical Section
540	Install Passing Lanes on 2 Lane Road	Widen roadway to install passing lanes on a 2-lane roadway where none currently exist.	25%	20	0.75	Corridor	Typical Section
541	Provide Additional Paved Surface Width	Provide additional paved surface width with appropriate subsurface to each side of two lane, two-way roadways with existing paved surface width less than 24' to a maximum width of 28'. (Existing widths of 24+ feet in need of widening, and additional pavement width beyond 28 feet may be considered on a case by-case basis in accordance with requirements in the Roadway Design Manual).	30%	20	0.70	Corridor	Typical Section
542	Milled Centerline Rumble Strips	Install milled centerline rumble strips along the centerline. Stand-alone rumble strip project proposals will not be accepted.	15%	10	0.85	Corridor	
543	Profile Centerline Markings	Install profile centerline markings and preformed thermoplastic strips along the centerline. Stand-alone centerline rumble strip project proposals will not be accepted.	7%	5	0.93	Corridor	
544	Raised Centerline Rumble Strips	Install non-reflective raised traffic buttons (yellow or black) and preformed thermoplastic strips along the centerline. Stand-alone centerline rumble strip project proposals will not be accepted.	10%	5	0.90	Corridor	
545	Transverse Rumble Strips	Install transverse or in-lane rumble strips in advance of a high incident and special geometric location.	15%	10	0.85	Corridor	
547	Construct a Single-Lane Roundabout	Convert an existing intersection to a single lane roundabout design	50%	20	0.50	Intersection	Overhead intersection layout
550	Restricted Crossing U-Turn (RCUT)	Convert intersection to restricted crossing U-turn (RCUT) intersection.	40%	20	0.60	Intersection	Overhead intersection layout
551	Median U-Turn (MUT)	Convert intersection to median U-Turn (MUT) intersection that replaces direct left turns at an intersection with indirect left turns using a U-turn movement in a wide median. Refer to RDM Appendix E: Section 4	30%	20	0.70	Intersection	Overhead intersection layout

WC Combo	Description	Reduction Factor	Service Life
101, 136, 533, 543	Install Warning/Guide Signs, Install LED Flashing Chevrons (Curve), Profile Edgeline Markings, Profile Centerline Markings	35%	15
101, 137, 401	Install Warning/Guide Signs, Install Chevrons (Curve), Install Pavement Markings	30%	15
101, 401	Install Warning/Guide Signs, Install Pavement Markings	30%	15
107, 111	Install Traffic Signal, Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals)	30%	10
107, 122	Install Traffic Signal, Install Advanced Warning Beacons (Intersection - Existing Warning Signs)	23%	10
107, 124	Install Traffic Signal, Install Advanced Warning Beacons and Signs (Intersection)	32%	10
107, 124, 138	Install Traffic Signal, Install Advanced Warning Beacons and Signs (Intersection), Install Flashing Yellow Arrow	40%	10
107, 128	Install Traffic Signal, Install Advanced Warning Signs (Intersection)	27%	15
107, 203, 403	Install Traffic Signal, Install Raised Median, Install Pedestrian Crosswalk	28%	20
107, 305	Install Traffic Signal, Safety Lighting (Intersection)	25%	15
107, 519	Install Traffic Signal, Add Left Turn Lane	32%	20
107, 521	Install Traffic Signal, Add Right Turn Lane	32%	20
108, 110, 407	Improve Traffic Signals (Hardware), Install Pedestrian Signal, Install Sidewalks	50%	20
108, 111	Improve Traffic Signals (Hardware), Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals)	20%	10
108, 111, 122	Improve Traffic Signals (Hardware), Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Install Advanced Warning Beacons (Intersection - Existing Warning Signs)	22%	10
108, 111, 138	Improve Traffic Signals (Hardware), Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Install Flashing Yellow Arrow	40%	10
108, 111, 203	Improve Traffic Signals (Hardware), Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Install Raised Median	26%	20
108, 111, 305	Improve Traffic Signals (Hardware), Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Safety Lighting (Intersection)	23%	15
108, 111, 403	Improve Traffic Signals (Hardware), Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Install Pedestrian Crosswalk	22%	10
108, 113, 131, 305	Improve Traffic Signals (Hardware), Install Delineators, Improve Pedestrian Signals, Safety Lighting (Intersection)	23%	15
108, 122, 138	Improve Traffic Signals (Hardware), Install Advanced Warning Beacons (Intersection - Existing Warning Signs), Install Flashing Yellow Arrow	40%	10
108, 124	Improve Traffic Signals (Hardware), Install Advanced Warning Beacons and Signs (Intersection)	26%	10
108, 128	Improve Traffic Signals (Hardware), Install Advanced Warning Signs (Intersection)	20%	15
108, 128, 305	Improve Traffic Signals (Hardware), Install Advanced Warning Signs (Intersection), Safety Lighting (Intersection)	24%	15
108, 128, 403	Improve Traffic Signals (Hardware), Install Advanced Warning Signs (Intersection), Install Pedestrian Crosswalk	23%	15
108, 131	Improve Traffic Signals (Hardware), Improve Pedestrian Signals	17%	10
108, 131, 138	Improve Traffic Signals (Hardware), Improve Pedestrian Signals, Install Flashing Yellow Arrow	40%	20
108, 131, 305	Improve Traffic Signals (Hardware), Improve Pedestrian Signals, Safety Lighting (Intersection)	23%	15
108, 131, 305, 407	Improve Traffic Signals (Hardware), Improve Pedestrian Signals, Safety Lighting (Intersection), Install Sidewalks	50%	20
108, 131, 403	Improve Traffic Signals (Hardware), Improve Pedestrian Signals, Install Pedestrian Crosswalk	22%	10
108, 131, 407	Improve Traffic Signals (Hardware), Improve Pedestrian Signals, Install Sidewalks	50%	20
108, 138	Improve Traffic Signals (Hardware), Install Flashing Yellow Arrow	40%	10
108, 138, 305	Improve Traffic Signals (Hardware), Install Flashing Yellow Arrow, Safety Lighting (Intersection)	40%	15
108, 138, 407	Improve Traffic Signals (Hardware), Install Flashing Yellow Arrow, Install Sidewalks	50%	20
108, 138, 521	Improve Traffic Signals (Hardware), Install Flashing Yellow Arrow, Add Right Turn Lane	40%	20
108, 203	Improve Traffic Signals (Hardware), Install Raised Median	26%	20
108, 203, 305	Improve Traffic Signals (Hardware), Install Raised Median, Safety Lighting (Intersection)	27%	10
108, 305	Improve Traffic Signals (Hardware), Safety Lighting (Intersection)	19%	15
108, 401, 403	Improve Traffic Signals (Hardware), Install Pavement Markings, Install Pedestrian Crosswalk	25%	10
108, 403	Improve Traffic Signals (Hardware), Install Pedestrian Crosswalk	17%	10
108, 509	Improve Traffic Signals (Hardware), Channelization	35%	10
108, 517, 518	Improve Traffic Signals (Hardware), Add Through Lane, Install Continuous Turn Lane	30%	20
108, 519	Improve Traffic Signals (Hardware), Add Left Turn Lane	26%	20
108, 519, 521	Improve Traffic Signals (Hardware), Add Left Turn Lane, Add Right Turn Lane	29%	20
108, 520, 522	Improve Traffic Signals (Hardware), Lengthen Left Turn Lane, Lengthen Right Turn Lane	40%	10
108, 521	Improve Traffic Signals (Hardware), Add Right Turn Lane	26%	20
110, 403	Install Pedestrian Signal, Install Pedestrian Crosswalk	34%	10
111, 138	Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Install Flashing Yellow Arrow	50%	10
111, 518	Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Install Continuous Turn Lane	40%	20
111, 519	Install Signal Coordination or Adaptive Signal Timing (Interconnect Signals), Add Left Turn Lane	35%	20
113, 533	Install Delineators, Profile Edgeline Markings	16%	5
122, 305	Install Advanced Warning Beacons (Intersection - Existing Warning Signs), Safety Lighting (Intersection)	19%	15
122, 519	Install Advanced Warning Beacons (Intersection - Existing Warning Signs), Add Left Turn Lane	35%	20
123, 136	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Install LED Flashing Chevrons (Curve)	35%	10
123, 136, 537	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Install LED Flashing Chevrons (Curve), Construct Paved Shoulders (>= 5ft.)	40%	20
123, 137	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Install Chevrons (Curve)	23%	15
123, 137, 533, 543	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Install Chevrons (Curve), Profile Edgeline Markings, Profile Centerline Markings	23%	15
123, 401	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Install Pavement Markings	23%	10
123, 533	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Profile Edgeline Markings	15%	10
123, 533, 543	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Profile Edgeline Markings, Profile Centerline Markings	18%	10
123, 543	Install Advanced Warning Beacons (Curve - Existing Warning Signs), Profile Centerline Markings	15%	10
124, 145	Install Advanced Warning Beacons and Signs (Intersection), Flashing Stop Beacon or LED-embedded Stop Signs	26%	10
124, 305	Install Advanced Warning Beacons and Signs (Intersection), Safety Lighting (Intersection)	27%	15
124, 401, 545	Install Advanced Warning Beacons and Signs (Intersection), Install Pavement Markings, Transverse Rumble Strips	31%	10
125, 136	Install Advanced Warning Beacons and Signs (Curve), Install LED Flashing Chevrons (Curve)	35%	10
125, 136, 533	Install Advanced Warning Beacons and Signs (Curve), Install LED Flashing Chevrons (Curve), Profile Edgeline Markings	35%	10
125, 137	Install Advanced Warning Beacons and Signs (Curve), Install Chevrons (Curve)	27%	15
125, 137, 402	Install Advanced Warning Beacons and Signs (Curve), Install Chevrons (Curve), Install Edgeline Marking	30%	15
128, 145, 305	Install Advanced Warning Signs (Intersection), Flashing Stop Beacon or LED-embedded Stop Signs, Safety Lighting (Intersection)	24%	15

128, 305	Install Advanced Warning Signs (Intersection), Safety Lighting (Intersection)	23%	15
128, 519	Install Advanced Warning Signs (Intersection), Add Left Turn Lane	40%	20
130, 136	Install Advanced Warning Signs (Curve), Install LED Flashing Chevrons (Curve)	35%	15
130, 136, 533	Install Advanced Warning Signs (Curve), Install LED Flashing Chevrons (Curve), Profile Edgeline Markings	35%	15
130, 137	Install Advanced Warning Signs (Curve), Install Chevrons (Curve)	23%	15
130, 137, 304	Install Advanced Warning Signs (Curve), Install Chevrons (Curve), Safety Lighting (Non-Intersection)	30%	15
131, 403	Improve Pedestrian Signals, Install Pedestrian Crosswalk	17%	20
131, 403, 407	Improve Pedestrian Signals, Install Pedestrian Crosswalk, Install Sidewalks	50%	20
131, 407	Improve Pedestrian Signals, Install Sidewalks	50%	20
131, 521	Improve Pedestrian Signals, Add Right Turn Lane	35%	20
132, 133, 203	Install Advance Warning Beacons and Signs, Improve School Zone, Install Raised Median	45%	20
133, 407	Improve School Zone, Install Sidewalks	60%	20
136, 533	Install LED Flashing Chevrons (Curve), Profile Edgeline Markings	35%	10
136, 533, 543	Install LED Flashing Chevrons (Curve), Profile Edgeline Markings, Profile Centerline Markings	35%	10
136, 542	Install LED Flashing Chevrons (Curve), Milled Centerline Rumble Strips	35%	10
137, 304	Install Chevrons (Curve), Safety Lighting (Non-Intersection)	50%	15
137, 503, 507	Install Chevrons (Curve), Widen Paved Shoulder (to 5 ft. or less), Increase Superelevation	33%	20
137, 504	Install Chevrons (Curve), Construct Paved Shoulders (1-4 ft.)	32%	20
137, 507	Install Chevrons (Curve), Increase Superelevation	30%	20
137, 533, 543	Install Chevrons (Curve), Profile Edgeline Markings, Profile Centerline Markings	22%	15
137, 541	Install Chevrons (Curve), Provide Additional Paved Surface Width	30%	20
137, 543	Install Chevrons (Curve), Profile Centerline Markings	21%	15
140, 141, 142	Wrong Way Driver Warning Signs, Wrong Way Driver Warning Markings, Wrong Way Driver Advanced Technologies	40%	10
143, 403, 407	Pedestrian Hybrid Beacon, Install Pedestrian Crosswalk, Install Sidewalks	50%	20
201, 204	Install Median Barrier, Flatten Side Slope	55%	25
201, 303	Install Median Barrier, Resurfacing	50%	25
201, 303, 532	Install Median Barrier, Resurfacing, Milled Edgeline Rumble Strips	50%	25
201, 304	Install Median Barrier, Safety Lighting (Non-Intersection)	50%	25
201, 516	Install Median Barrier, Close Crossover	50%	25
201, 532	Install Median Barrier, Milled Edgeline Rumble Strips	50%	25
201, 533	Install Median Barrier, Profile Edgeline Markings	50%	25
203, 304, 407	Install Raised Median, Safety Lighting (Non-Intersection), Install Sidewalks	50%	20
203, 407	Install Raised Median, Install Sidewalks	75%	20
203, 517	Install Raised Median, Add Through Lane	35%	20
203, 533	Install Raised Median, Profile Edgeline Markings	24%	20
203, 533, 542	Install Raised Median, Profile Edgeline Markings, Milled Centerline Rumble Strips	25%	20
203, 533, 543	Install Raised Median, Profile Edgeline Markings, Profile Centerline Markings	23%	20
209, 218	Safety Treat Fixed Objects, Widen Bridge	50%	30
209, 218, 541	Safety Treat Fixed Objects, Widen Bridge, Provide Additional Paved Surface Width	50%	30
209, 303, 503	Safety Treat Fixed Objects, Resurfacing, Widen Paved Shoulder (to 5 ft. or less)	45%	20
209, 303, 504	Safety Treat Fixed Objects, Resurfacing, Construct Paved Shoulders (1-4 ft.)	45%	15
209, 304	Safety Treat Fixed Objects, Safety Lighting (Non-Intersection)	75%	20
209, 502	Safety Treat Fixed Objects, Widen Lane(s)	45%	20
209, 502, 503	Safety Treat Fixed Objects, Widen Lane(s), Widen Paved Shoulder (to 5 ft. or less)	45%	20
209, 502, 503, 533, 5	Safety Treat Fixed Objects, Widen Lane(s), Widen Paved Shoulder (to 5 ft. or less), Profile Edgeline Markings, Profile Centerline Markings	24%	20
209, 502, 504	Safety Treat Fixed Objects, Widen Lane(s), Construct Paved Shoulders (1-4 ft.)	45%	20
209, 502, 536	Safety Treat Fixed Objects, Widen Lane(s), Widen Paved Shoulders (to >5 ft.)	45%	20
209, 503	Safety Treat Fixed Objects, Widen Paved Shoulder (to 5 ft. or less)	65%	20
209, 503, 518	Safety Treat Fixed Objects, Widen Paved Shoulder (to 5 ft. or less), Install Continuous Turn Lane	45%	20
209, 503, 532	Safety Treat Fixed Objects, Widen Paved Shoulder (to 5 ft. or less), Milled Edgeline Rumble Strips	45%	20
209, 503, 540	Safety Treat Fixed Objects, Widen Paved Shoulder (to 5 ft. or less), Install Passing Lanes on 2 Lane Road	45%	20
209, 504	Safety Treat Fixed Objects, Construct Paved Shoulders (1-4 ft.)	45%	20
209, 504, 532, 542	Safety Treat Fixed Objects, Construct Paved Shoulders (1-4 ft.), Milled Edgeline Rumble Strips, Milled Centerline Rumble Strips	30%	20
209, 504, 542	Safety Treat Fixed Objects, Construct Paved Shoulders (1-4 ft.), Milled Centerline Rumble Strips	45%	20
209, 506	Safety Treat Fixed Objects, Improve Horizontal Alignment	50%	20
209, 516	Safety Treat Fixed Objects, Close Crossover	50%	20
209, 517	Safety Treat Fixed Objects, Add Through Lane	70%	20
209, 518	Safety Treat Fixed Objects, Install Continuous Turn Lane	75%	20
209, 518, 536	Safety Treat Fixed Objects, Install Continuous Turn Lane, Widen Paved Shoulders (to >5 ft.)	45%	20
209, 519	Safety Treat Fixed Objects, Add Left Turn Lane	70%	20
209, 519, 521	Safety Treat Fixed Objects, Add Left Turn Lane, Add Right Turn Lane	45%	20
209, 532	Safety Treat Fixed Objects, Milled Edgeline Rumble Strips	60%	15
209, 532, 541	Safety Treat Fixed Objects, Milled Edgeline Rumble Strips, Provide Additional Paved Surface Width	45%	20
209, 532, 541, 542	Safety Treat Fixed Objects, Milled Edgeline Rumble Strips, Provide Additional Paved Surface Width, Milled Centerline Rumble Strips	30%	20
209, 532, 542	Safety Treat Fixed Objects, Milled Edgeline Rumble Strips, Milled Centerline Rumble Strips	45%	20
209, 533, 541, 543	Safety Treat Fixed Objects, Profile Edgeline Markings, Provide Additional Paved Surface Width, Profile Centerline Markings	30%	15
209, 533, 542	Safety Treat Fixed Objects, Profile Edgeline Markings, Milled Centerline Rumble Strips	45%	15
209, 533, 543	Safety Treat Fixed Objects, Profile Edgeline Markings, Profile Centerline Markings	45%	25
209, 536	Safety Treat Fixed Objects, Widen Paved Shoulders (to >5 ft.)	45%	20
209, 537	Safety Treat Fixed Objects, Construct Paved Shoulders (>= 5ft.)	45%	20
209, 540	Safety Treat Fixed Objects, Install Passing Lanes on 2 Lane Road	45%	20
209, 541	Safety Treat Fixed Objects, Provide Additional Paved Surface Width	45%	20
209, 541, 542	Safety Treat Fixed Objects, Provide Additional Paved Surface Width, Milled Centerline Rumble Strips	45%	20
209, 542	Safety Treat Fixed Objects, Milled Centerline Rumble Strips	45%	15
303, 503, 542	Resurfacing, Widen Paved Shoulder (to 5 ft. or less), Milled Centerline Rumble Strips	55%	20

303, 518, 533	Resurfacing, Install Continuous Turn Lane, Profile Edgeline Markings	30%	20
303, 519, 533	Resurfacing, Add Left Turn Lane, Profile Edgeline Markings	27%	20
303, 532	Resurfacing, Milled Edgeline Rumble Strips	35%	10
303, 532, 540	Resurfacing, Milled Edgeline Rumble Strips, Install Passing Lanes on 2 Lane Road	31%	20
303, 533	Resurfacing, Profile Edgeline Markings	21%	10
303, 533, 536	Resurfacing, Profile Edgeline Markings, Widen Paved Shoulders (to >5 ft.)	30%	20
303, 533, 543	Resurfacing, Profile Edgeline Markings, Profile Centerline Markings	22%	10
303, 542	Resurfacing, Milled Centerline Rumble Strips	35%	10
304, 407	Safety Lighting (Non-Intersection), Install Sidewalks	50%	20
305, 515	Safety Lighting (Intersection), Construct Interchange	50%	30
305, 519	Safety Lighting (Intersection), Add Left Turn Lane	38%	20
305, 519, 521	Safety Lighting (Intersection), Add Left Turn Lane, Add Right Turn Lane	31%	20
305, 547	Safety Lighting (Intersection), Construct a Single-Lane Roundabout	50%	15
401, 532, 536	Install Pavement Markings, Milled Edgeline Rumble Strips, Widen Paved Shoulders (to >5 ft.)	30%	20
403, 407	Install Pedestrian Crosswalk, Install Sidewalks	50%	10
502, 503	Widen Lane(s), Widen Paved Shoulder (to 5 ft. or less)	35%	20
502, 503, 518	Widen Lane(s), Widen Paved Shoulder (to 5 ft. or less), Install Continuous Turn Lane	65%	20
502, 503, 542	Widen Lane(s), Widen Paved Shoulder (to 5 ft. or less), Milled Centerline Rumble Strips	29%	20
502, 504	Widen Lane(s), Construct Paved Shoulders (1-4 ft.)	29%	20
502, 504, 518	Widen Lane(s), Construct Paved Shoulders (1-4 ft.), Install Continuous Turn Lane	30%	20
502, 504, 542	Widen Lane(s), Construct Paved Shoulders (1-4 ft.), Milled Centerline Rumble Strips	30%	20
502, 518	Widen Lane(s), Install Continuous Turn Lane	45%	20
502, 537	Widen Lane(s), Construct Paved Shoulders (>= 5ft.)	40%	20
503, 518	Widen Paved Shoulder (to 5 ft. or less), Install Continuous Turn Lane	50%	20
503, 532	Widen Paved Shoulder (to 5 ft. or less), Milled Edgeline Rumble Strips	27%	20
503, 532, 542	Widen Paved Shoulder (to 5 ft. or less), Milled Edgeline Rumble Strips, Milled Centerline Rumble Strips	29%	20
503, 540	Widen Paved Shoulder (to 5 ft. or less), Install Passing Lanes on 2 Lane Road	45%	20
503, 542	Widen Paved Shoulder (to 5 ft. or less), Milled Centerline Rumble Strips	35%	20
504, 506	Construct Paved Shoulders (1-4 ft.), Improve Horizontal Alignment	50%	20
504, 506, 507	Construct Paved Shoulders (1-4 ft.), Improve Horizontal Alignment, Increase Superelevation	50%	20
504, 507	Construct Paved Shoulders (1-4 ft.), Increase Superelevation	32%	20
504, 518	Construct Paved Shoulders (1-4 ft.), Install Continuous Turn Lane	30%	20
504, 519	Construct Paved Shoulders (1-4 ft.), Add Left Turn Lane	35%	20
505, 516	Improve Vertical Alignment, Close Crossover	50%	20
506, 507, 537	Improve Horizontal Alignment, Increase Superelevation, Construct Paved Shoulders (>= 5ft.)	50%	20
506, 532, 540	Improve Horizontal Alignment, Milled Edgeline Rumble Strips, Install Passing Lanes on 2 Lane Road	50%	15
507, 532	Increase Superelevation, Milled Edgeline Rumble Strips	27%	20
507, 536	Increase Superelevation, Widen Paved Shoulders (to >5 ft.)	30%	20
507, 537	Increase Superelevation, Construct Paved Shoulders (>= 5ft.)	40%	20
508, 509	Realign Intersection, Channelization	50%	10
517, 518	Add Through Lane, Install Continuous Turn Lane	30%	20
517, 518, 533	Add Through Lane, Install Continuous Turn Lane, Profile Edgeline Markings	30%	20
517, 522	Add Through Lane, Lengthen Right Turn Lane	30%	20
518, 532	Install Continuous Turn Lane, Milled Edgeline Rumble Strips	45%	20
518, 532, 540	Install Continuous Turn Lane, Milled Edgeline Rumble Strips, Install Passing Lanes on 2 Lane Road	30%	20
518, 533	Install Continuous Turn Lane, Profile Edgeline Markings	37%	20
518, 533, 543	Install Continuous Turn Lane, Profile Edgeline Markings, Profile Centerline Markings	30%	25
518, 536	Install Continuous Turn Lane, Widen Paved Shoulders (to >5 ft.)	60%	20
518, 537	Install Continuous Turn Lane, Construct Paved Shoulders (>= 5ft.)	40%	20
519, 521	Add Left Turn Lane, Add Right Turn Lane	35%	20
519, 521, 524	Add Left Turn Lane, Add Right Turn Lane, Increase Turning Radius	29%	20
519, 532	Add Left Turn Lane, Milled Edgeline Rumble Strips	29%	20
532, 536, 542	Milled Edgeline Rumble Strips, Widen Paved Shoulders (to >5 ft.), Milled Centerline Rumble Strips	30%	20
532, 537	Milled Edgeline Rumble Strips, Construct Paved Shoulders (>= 5ft.)	40%	20
532, 537, 542	Milled Edgeline Rumble Strips, Construct Paved Shoulders (>= 5ft.), Milled Centerline Rumble Strips	40%	20
532, 540	Milled Edgeline Rumble Strips, Install Passing Lanes on 2 Lane Road	29%	20
532, 540, 542	Milled Edgeline Rumble Strips, Install Passing Lanes on 2 Lane Road, Milled Centerline Rumble Strips	30%	20
532, 541	Milled Edgeline Rumble Strips, Provide Additional Paved Surface Width	30%	20
532, 541, 542	Milled Edgeline Rumble Strips, Provide Additional Paved Surface Width, Milled Centerline Rumble Strips	30%	20
532, 542	Milled Edgeline Rumble Strips, Milled Centerline Rumble Strips	24%	10
533, 537	Profile Edgeline Markings, Construct Paved Shoulders (>= 5ft.)	40%	20
533, 537, 543	Profile Edgeline Markings, Construct Paved Shoulders (>= 5ft.), Profile Centerline Markings	40%	10
533, 540, 543	Profile Edgeline Markings, Install Passing Lanes on 2 Lane Road, Profile Centerline Markings	23%	20
533, 541, 543	Profile Edgeline Markings, Provide Additional Paved Surface Width, Profile Centerline Markings	30%	20
533, 542	Profile Edgeline Markings, Milled Centerline Rumble Strips	18%	10
533, 543	Profile Edgeline Markings, Profile Centerline Markings	13%	5
533, 544	Profile Edgeline Markings, Raised Centerline Rumble Strips	15%	5
534, 544	Raised Edgeline Rumble Strips, Raised Centerline Rumble Strips	17%	5
541, 542	Provide Additional Paved Surface Width, Milled Centerline Rumble Strips	30%	20