



1. Certification Processes Completed

1.1. According to FDM 11-1-10 Attachment 10.1, does the improvement concept code and scope of work require the Safety Certification Process to be completed? Yes No

If yes is selected and alternatives are evaluated as indicated in Section 5, send to BTO at DOTBTOSafetyEngineering@dot.wi.gov

1.2. Was the Operations Certification Process (FDM 11-52-15) completed for proposed improvements within this project? Yes No

If yes, send to BTO at DOTTrafficAnalysisModeling@dot.wi.gov

If "No" is selected for both 1.1 and 1.2, the Safety & Operations Certification Document can be completed and signed without approval from the Bureau of Traffic Operations (BTO). If 1.1 is marked "Yes" and alternatives are not evaluated as indicated in Section 5, the document can be completed and signed without approval from BTO.

2. Network Screening

2.1. Safety Sites of Promise

2.1.1. Did the project have Safety Sites of Promise from the network screening? Yes No

List Safety Sites of Promise:

List the Sites of Promise (i.e., "flagged locations") within the project area. Include the Meta-Manager segment PDP ID or Intersection ID as well as other contextual information (i.e., street names) to describe the location.

Attachments: Project location/overview map, Meta-Manager spreadsheet segment screenshot, Intersection Network Screening spreadsheet screenshot, Overview Map of Safety Sites of Promise Locations

2.2 Operational Sites of Promise (If Applicable)

2.2.1 Did the project identify Operational Sites of Promise from the network screening? Yes No N/A

2.2.2 Did the project identify Operational Sites of Promise based on local knowledge? Yes No N/A

List Operational Sites of Promise:

List the Sites of Promise (i.e., locations that were reviewed for Operations) within the project area. Include the Intersection ID as well as other contextual information (i.e., street names) to describe the location.

Attachments: Project location/overview map

2.3 Additional Sites

2.3.1 Were additional sites evaluated? Yes No

List sites:

List any additional sites that were evaluated for Safety that were not identified as Sites of Promise (i.e., "flagged locations"). Include the Intersection ID as well as other contextual information (i.e., street names) to describe the location.

Attachments: Project location/overview map



3. Diagnosis

3.1. Diagnosis of Crashes

3.1.1. Did relevant crashes remain after crash vetting? Yes No

3.1.2. If yes, list each site and discuss the crashes and contributing factors (including geometric conditions) for the remaining crash(es) or note that no crashes remained after the vetting process.

Determine and describe the remaining crashes after the crash vetting process. Identify contributing factors and if crashes are correctible by an engineering solution. Describe any trends that may have occurred. Include information such as design speed, curve radius, weather factors, roadway cross section, signage, etc. If no crashes remained, list the site and state no crashes passed through the vetting process.

Attachments: Crash diagrams, vetting comments

3.2 Diagnosis of Operational Issues (If Applicable)

3.2.1. Provide a narrative of existing operational concerns and geometric deficiencies contributing to the delay or queuing.

Describe existing conditions of each location and the contributing factors causing the deficiencies.

4. Countermeasure/Alternative Identification

4.1. Were alternatives analyzed in this project? Yes No

For intersections only, a Phase I: Scoping Intersection Control Evaluation (ICE) is required if traffic control changes are considered. See FDM 11-25-3 for more information.

4.2. Provide a brief description of the alternative(s) and the contributing factors that are being targeted:

Location:

Reason for improvement (check all that apply): Safety Operations

Alternative(s)	General Description	How improvements address safety/operational issues
Alternative Name:		
Alternative Name:		

For each location, create a new location table. Then list the alternatives and describe the contributing factors that would be mitigated with each alternative. Indicate if the improvement is for Safety, Operations, or both.

Attachments: Safety Certification Worksheet, Alternative concept drawings

Bureau of Traffic Operations (BTO) approval is required for all projects that consider alternatives as part of the Safety & Operations Certification Document.



5. Analysis Results and Economic Appraisal

5.1. Location Summaries

Analysis Location:	List the analysis location or limits of the proposed treatment with the largest impact
Safety Analysis Method:	List which method is used (Method 1, 2, or 3)
External CMF Value:	List the CMF value if using an external CMF. External CMFs are any CMFs used outside of the analysis software
External CMF Source:	List the external CMF source, such as from the WisDOT CMF table. See Traffic Engineering, Operations and Safety Manual (TEOps) 12-3-1.
Unique Safety Analysis Notes:	List any noteworthy comments about the analysis or inputs.

		Base	Alt. 1	Alt. 2	Alt. 3
Alternative Name					
Safety Certification Process (See FDM 11-38)	Fatal & Injury Crashes				
	Property Damage Only Crashes				
	Total Crashes				
	Crash Cost Value				
	Project Cost				
	Net Safety Benefit				
	Net Cost				
	Safety B/C				
Operations Certification Process (See FDM 11-52-15)	Delay Cost Over Project Life				
	Net Operational Benefit				
	Operations B/C				
	Safety & Operations B/C				
	STN-Only Operational Benefit (intersections only)				
	STN-Only B/C (intersections only)				

In some cases, an alternative may be less expensive than the base case. For these cases, use the lowest cost alternative as the base case when performing the Economic Appraisal. When evaluating alternatives such as High Friction Surface Treatment or signal-related work, where resurfacing costs would be the same across all proposed alternatives, the base case cost can be \$0.

Attachments: Cost Estimates, Crash Prediction Evaluation Reports, Highway Safety Benefit-Cost Analysis tool results (Method 1 only), Economic Analysis Report, Operations Certification Summary (if applicable)



5.2. Summary of Alternatives – Economic Considerations

The table below lists the alternative(s) considered and identifies if it meets policy thresholds regarding economic justification. The economic condition is either: Not Justified, Conditional – Combine with other factors, Justified, or N/A. See [FDM 11-38-15](#) for more information regarding the safety justification and [FDM 11-52](#) for operational justification. Note: *The National Environmental Policy Act (NEPA) or Wisconsin Environmental Policy Act (WEPA) process isn't complete until all input is appropriately considered for all project alternatives. In some cases, it is possible that an alternative that does not have the highest safety benefit-cost ratio is the preferred alternative brought forward in the environmental document and Design Study Report.*

Analysis Location	Alt.	B/Cs			SSOP/OSOP/ Additional Site	Economic Condition
		Safety	Ops	Total		
Location 1	Base	-	N/A	-	SSOP	N/A
	1	0.72	N/A	0.72		Conditional – Combine with other Factors
	2	1.48	N/A	1.48		Justified
Location 2	Base	-	-	-	OSOP	N/A
	1	0.52	1.01	1.53		Not Justified

For each location, create new rows in the table to accommodate all alternatives, including the base case. Provide the benefit-cost ratios for the safety and operational analyses and the total. If the analysis was not conducted put N/A. Identify the reason why the location was analyzed and the resulting economic condition.

6. Other Information

6.1. Describe other information relevant to the project such as community considerations, unique features, potential funding sources, etc.

ATTACHMENTS

Include all attachments in the final Safety & Operations Certification Document and submit as a single PDF.

- A. Project Information
 - a. Project Location/Overview Map
- B. Network Screening Documentation
 - a. Meta-Manager spreadsheet
 - b. Intersection Network Screening spreadsheet
 - c. Overview Map of Safety Sites of Promise Locations (optional)
- C. Diagnosis Documentation
 - a. WisTransPortal crash data spreadsheet with vetting comments
 - b. Crash Diagram(s)
- D. Countermeasure/Alternative Identification
 - a. Safety Certification Worksheet
 - b. Layout/Schematic for each alternative
- E. Analysis Results and Economic Appraisal
 - a. Cost estimate for each alternative
 - b. Crash Prediction Evaluation Report for each alternative
 - c. Economic Analysis Report
 - d. Highway Safety Benefit-Cost Analysis Tool results (if applicable)
- F. Operations Certification Summary (if applicable)



SAFETY & OPERATIONS CERTIFICATION DOCUMENT

 BUREAU OF TRAFFIC OPERATIONS

- a. Turning movement counts
- b. Diagram of traffic volumes for each analysis period
- c. AWSC warrants
- d. Signal warrants
- e. Software reports for operation analysis
- f. DT 1887
- g. Exhibit highlighting queues vs. available storage for each analysis period
- h. OCP Benefit-Cost Tool printouts