

Project Name: \_\_\_\_\_

Project Sponsor: \_\_\_\_\_

**FEDERAL FUNDS PROJECT APPLICATION**  
**TRANSPORTATION IMPROVEMENT PROGRAM**  
**2008 - 2013**  
**SALT LAKE and OGDEN/ LAYTON URBAN AREAS**

**Surface Transportation Program**  
**(STP)**

**Urban Surface Transportation Program**  
**(STP) Concept Report**

**Section VI**

**November 2006**

**SURFACE TRANSPORTATION PROGRAM  
PROJECT APPLICATION**

**(Capacity and Reconstruction Projects)**


Project Concept Report Instructions

The Project Concept Report is a requirement of the Wasatch Front Regional Council for projects to be included in the Surface Transportation Program. Information from this report will be used by staff, the Technical Committees, COGs, and Trans Com to evaluate prospective projects and program them for Surface Transportation Program funding. In addition, this report will be used to re-evaluate programmed projects if changes are requested in either project scope or cost. Sponsors of prospective Surface Transportation Program projects will be requested to complete the Project Concept Report if, upon preliminary review, their projects appear to be feasible and cost-effective expenditures of the STP Program.

This report, accompanied by the required

 **Traffic study**

- *The purpose of the study is to ensure that adequate ROW and design concepts will be provided to handle future traffic and that these are considered in the costs estimates*

 **Right-of-Way Investigation**

- *ROW cost has become a major component of project costs and as a result should be thoroughly examined and extrapolated to the design year.*

 **Utility Investigation**

- *Relocation of utilities has become another major component of project costs and as a result should be examined and investigated as to the responsibility and cost of relocation.*

 **ITS Planning Consistency Checklist** *(included in concept report)*

 **TSM / TDM Improvements Checklist** *(included in concept report)*

 **Hard Copy of the “Project Concept Cost Estimation Forms ”** *(Download from web page)*

will serve as application for the Surface Transportation Program. No funding is guaranteed by the completion of the Project Concept Report. **The applicant will be required to employ highway design concepts and cost estimating procedures to complete the report. Unanswered questions or otherwise incomplete reports will not be accepted.** Additional sheets should be provided and clearly referenced to the question outline. In some cases, best engineering judgments should be provided with a description of any additional engineering or survey work that needs to be completed. Scale drawings, aerial photos, or other engineering sketches must be submitted with the report. The WFRC staff should be contacted to indicate the expected level of detail needed in this report and assist in any problems that may arise.

**Should you have any questions or require additional assistance concerning this report, please contact Ben Wuthrich at 363-4230 ext.121 (Salt Lake), 773-5559 (Ogden) or email at [bwuthrich@wfrc.org](mailto:bwuthrich@wfrc.org).**

**TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
2008- 2013  
STP PROJECT APPLICATION**

**PROJECT:** \_\_\_\_\_

Project Contact: Name \_\_\_\_\_

Office Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Project Consultant: Name \_\_\_\_\_

Office Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**(1) PROJECT ELIGIBILITY:** (Contact MPO Representative)

Date of Contact: \_\_\_\_\_

(A) Long Range Transportation Plan: Yes / No


(B) Amount of Federal Funds being requested: \_\_\_\_\_

(C) Type of Project: \_\_\_\_\_


**(2) CONCEPT REPORT:**

(2a) Environmental: (Anticipated type of Study Needed – *please circle*-) CATEX / EA / EIS / Other: \_\_\_\_\_


There are three types of environmental documents:

 *The project sponsor will be responsible for identifying the level of environmental study necessary to advance a project to design as the type or level of environmental study can impact the cost of a project. Appropriate federal and regional agencies should be notified and involved during this process. All major environmental issues for the project should be identified.*


(2b) Traffic Study (Yes / No), (Date of, & Who performed) \_\_/\_\_/\_\_, \_\_\_\_\_

 *A traffic study may be required to be submitted with the project concept report. The traffic study will be dependent upon the type of project considered and the associated roadway impacts of the project. Traffic volume estimation should at a minimum consider; existing conditions, project phase development and future design year traffic. The traffic study will also aid in the cost-benefit analysis of the project and programming priority. The purpose of the study is to ensure that adequate ROW and design concepts will be provided to handle future traffic and that these are considered in the cost estimates.*


(2c) Right-of-Way Investigation (Yes / No), (Date of, & Who performed) \_\_/\_\_/\_\_, \_\_\_\_\_

 *Right-of-Way cost has become a major component of project costs and as a result should be thoroughly examined and extrapolated to the design year. The project sponsor is responsible for (1) Identifying existing and future Right-Of-Way (ROW) within a project corridor. (2) The sponsor will be required to contact and document meetings with UDOT ROW agents, in the appropriate UDOT Region, to comply with permitting procedures, access control, and develop ROW cost estimates. (3) Mapping and delineation of the ROW is essential to determine design limits for alternative concept development.*


(2d) Utility Investigation (Yes / No), (Date of, & Who performed) \_\_/\_\_/\_\_, \_\_\_\_\_

 *Relocation of utilities has become a larger component of project costs and as a result should be thoroughly examined and investigated as to the responsibility and cost of relocation. STP and CMAQ funds can be used to pay the relocation of public utilities however, STP and CMAQ funds no longer pay the cost to move private utilities for projects on locally-owned streets. For projects on state highways, STP and CMAQ funds can pay UDOT's 50 percent share of the cost to relocate private utilities, as required by state law. When a utility company owns an easement, the project sponsor is required to pay 100 percent of the relocation costs. STP and CMAQ funds can pay for these costs. The project sponsor is responsible for (1) Identifying existing and future Public and Private Utilities within a project corridor. (2) The sponsor will be required to contact and document meetings with UDOT ROW, Roadway Design, and the Local Government agents in the appropriate UDOT Region to comply with current standards, to determine needs of the utilities, and develop preliminary utility relocation costs.*

(2e) ITS Planning Consistency Checklist (Yes / No), (Date of, & Who performed) \_\_/\_\_/\_\_, \_\_\_\_\_

 *The Checklist for ITS Planning Consistency is included in the Concept Report*

(2f) TSM / TDM Improvements Checklist (Yes / No), (Date of, & Who performed) \_\_/\_\_/\_\_, \_\_\_\_\_


 *The Checklist for TSM/ TDM Improvements is included in the Concept Report*

(2g) Hard Copy of the "Project Concept Cost Estimation Forms" (Yes / No), (Date of, & Who performed) \_\_/\_\_/\_\_, \_\_\_\_\_

\_\_\_\_\_, and Email a copy of the forms to: **bwuthrich@wfrc.org**

 *Form available to download on the WFRC web page*

**(3) FIELD REVIEW:**

 *After the concept reports have been submitted, a field review is scheduled to allow project sponsors, UDOT, FHWA, and WFRC personnel a forum to examine, critique, and provide input toward the design of the project as each is considered for selection and funding. Sponsors will be requested to give a brief overview of their project in the appropriate corridor or site.*

Project Representative: \_\_\_\_\_ Contact Info: \_\_\_\_\_



B. Description of crossroads and approach roads (including project limits)

1. Name of crossroad or approach road: \_\_\_\_\_
  - a. Existing ADT (give location if varies): \_\_\_\_\_
  - b. Type of traffic control (stop sign, yield sign, traffic signal, etc.) \_\_\_\_\_  
\_\_\_\_\_  
Signal cycle time: \_\_\_\_\_  
Signal crossroad green time: \_\_\_\_\_
  
2. Name of crossroad or approach road: \_\_\_\_\_
  - a. Existing ADT: \_\_\_\_\_
  - b. Type of traffic control : \_\_\_\_\_  
\_\_\_\_\_  
Signal cycle time: \_\_\_\_\_  
Signal crossroad green time: \_\_\_\_\_
  
3. Name of crossroad or approach road: \_\_\_\_\_
  - a. Existing ADT: \_\_\_\_\_
  - b. Type of traffic control : \_\_\_\_\_  
\_\_\_\_\_  
Signal cycle time: \_\_\_\_\_  
Signal crossroad green time: \_\_\_\_\_

**4. Repeat for other major crossroads and approach roads**

C. Explain any unique aspects of this location which make the project more critical and/or more difficult. Include information such as grades, truck traffic, peak-hour split, major generators, etc. (Quantitative information is preferred to qualitative.)

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D. For new construction projects, describe the path of travel presently used by traffic that would likely use the new route. For other projects, describe any alternate routes which are presently used to circumvent the existing conditions.

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F. Provide engineering sketches of the existing conditions at the proposed project location. Two sketches, one of a plan view and one of a typical cross section, are recommended. Indicate all utilities (both above ground and below), structures, lane widths and other dimensions, pedestrian facilities, intersection offsets, etc. Aerial photos or scale drawings may be used as sketches. For reproduction purposes, keep sketches (or other drawings) no larger than 11" x 17"

**II. PROPOSED PROJECT DESCRIPTION**

A. Briefly describe the proposed Surface Transportation Program (STP) project.

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B. Description of street where project is primarily located

1. Street name: \_\_\_\_\_

2. Proposed right-of-way (ROW): \_\_\_\_\_

a) Describe the additional Right-of-Way that will be required \_\_\_\_\_

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3. Proposed pavement width (ft.): \_\_\_\_\_

a) Existing Pavement Condition (*– please circle –*) Very Good / Good / Fair / Poor / Very Poor  
Other: \_\_\_\_\_

b) Last Pavement Treatment (year): \_\_\_\_\_

Type of Last Treatment: \_\_\_\_\_

c) Last Pavement Maintenance (year): \_\_\_\_\_

Type of Last Maintenance: \_\_\_\_\_

d) Pavement Concerns / Problems \_\_\_\_\_

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4. Proposed number and width of travel lanes:   (number of:   )   (width of:   )

a) Describe specific vehicular capacity improvements (i.e., addition of travel lanes, turn lanes, parking lanes, etc.). \_\_\_\_\_

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5. Design year (Projected 2030 volumes) will be provided by WFRC. If you have information you would like WFRC to consider in their projections (i.e. change of land use, large development, etc.) please identify and explain.

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6. Proposed Design speed (or speed limit): \_\_\_\_\_

7. Average change in vehicle speed (speed before \_\_\_\_\_ & speed after \_\_\_\_\_)

8. Number of vehicles affected: \_\_\_\_\_

9. Average idling time per vehicle reduced: (report in seconds) \_\_\_\_\_

10. Number of vehicles with reduced idling time: \_\_\_\_\_

C. Describe improvements to crossroads and approach roads (including project limits) if projects are already planned or programmed

1. Name of crossroad or approach road: \_\_\_\_\_

a. Design year (2030) ADT will be provided by WFRC (Please note items to consider for ADT projections, give location if varies): \_\_\_\_\_

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b. Type of traffic control (stop sign, yield sign, traffic signal, etc.) \_\_\_\_\_

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Signal cycle time: \_\_\_\_\_

Signal crossroad green time: \_\_\_\_\_

2. Name of crossroad or approach road: \_\_\_\_\_

a. Design year (2030) ADT will be provided by WFRC (Please note items to consider for ADT projections, give location if varies): \_\_\_\_\_

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b. Type of traffic control (stop sign, yield sign, traffic signal, etc.) \_\_\_\_\_

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Signal cycle time: \_\_\_\_\_

Signal crossroad green time: \_\_\_\_\_

**3. Repeat for other major crossroads and approach roads**

- D. Will the project improve safety? (refer to back page for examples) Yes / No (please circle one)  
 How will safety improve? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- E. Describe the specific vehicular and pedestrian safety improvements (i.e., construction of raised median, channelization of movements with turn lane, etc.).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- F. Describe any proposed traffic control changes at each intersection. (i.e., signage, signal coordination, channelization, etc.) **Include signal warrants or justify other changes.**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- G. Describe any street lighting, storm sewer, or other utility work (private and public utility) that will be impacted in the proposed project.  
 \_\_\_\_\_  
 \_\_\_\_\_
- H. Describe any street lighting, storm sewer, or other utility work (private and public utility) or other work that will be performed within or adjacent to the project limits, but will not be included in the proposed project.  
 \_\_\_\_\_  
 \_\_\_\_\_
- I. Describe any landscaping, pavement rehabilitation, recreational enhancements or other work that will be included in the proposed project, but has not been described as a specific capacity or safety improvement.  
 \_\_\_\_\_  
 \_\_\_\_\_
- J. Describe any necessary transitions from the existing conditions outside the project limits to the improved condition inside the limits. Include proposed taper lengths, utility connections, permanent signing, etc.  
 \_\_\_\_\_  
 \_\_\_\_\_

- K. Evaluate the project for potential to incorporate Intelligent Transportation System (ITS) elements. These include techniques such as signal coordination and traffic monitoring stations. Interim Federal guidance requires that all federally-funded projects consider ITS elements for inclusion in the project. **Please fill out the following ITS Planning Consistency Checklist.**

<b>GENERAL QUESTIONS - Complete this section for all projects.</b>	
1.	Is transit a part of the project? If yes, describe.
2.	Are there frequent special events in the area, which cause congestion? If yes, state event, frequency and describe congestion problem.
3.	Is there any reason to tie this project to the ATMS system? If yes, briefly state reason.
4.	Are there railroad crossings in the area? If yes, state location(s).
5.	Is there a need for a Variable Message Sign (VMS) or a surveillance (ATMS) camera in the project area? If yes, state location and purpose.
6.	Is this project heavily utilized by heavy vehicles or vehicles carrying hazardous materials? If yes, state percent trucks or describe hazardous cargo route.
<b>TRAFFIC SIGNAL PROJECTS - Complete this section for projects containing one or more traffic signals.</b>	
1.	What is the distance and location from the project to the nearest the TOC Fiber Optic Backbone?
2.	Is coordination with other signals a logical step? If yes, name other signals.
3.	Is this traffic signal part of a corridor that is utilized heavily by emergency or transit vehicles? If yes state location of EV generator (i.e., hospital, fire station) or transit line.
<b>WIDENING/NEW ROADWAY PROJECTS - Complete this section for all projects which included excavation adjacent to the roadway</b>	
Is there a need or opportunity to install conduit or fiber optic communications along this roadway?	
<b>POTENTIAL ITS SOLUTIONS - Complete this section for all projects</b>	
Is there a unique problem in the project area? Examples of problems which may be helped with ITS are weather related problems, deer or animal crossing, frequent closures, security and avalanche?	

L. Describe how this project provides a “logical segment” that fills in a missing link, removes barriers, or relieves pressure and how this will positively impact the overall system performance.

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M. Briefly describe how the project will contribute to achieving a more “seamless” system of moving freight and goods by reducing modal conflicts in a safe and efficient manner.

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N. Briefly describe the maintenance and protection of vehicular and pedestrian traffic plan during construction (i.e., half width construction, temporary structures, etc.).

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O. Describe any potential controversy with either the need for the project or the proposed project solution.

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P. Explain current year and design year level of service (A-F) with and without improvement.

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Q. List and describe any potential or known design exceptions:

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R. Briefly describe any additional benefits of the proposed (Federal) project.

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S. Describe how Traffic System Management (TSM) and/or Traffic Demand Management strategies are being implemented into the project.

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T. Provide engineering sketches, both plan and section, of the proposed improvement. Include existing conditions and facilities as necessary for reference. Clearly indicate new or replacement facilities, including street lights, traffic control devices, utilities, etc. Show the transition from existing to the proposed final improvement. Include all proposed lane widths and other dimensions, pedestrian facilities, ROW acquisition, etc. Again, aerial photos or scale drawings may be used, but all drawings should be reproducible (11" x 17" or smaller).

U. Provide engineering Email a copy of the entire **“Project Concept Cost Estimation Form”** to Ben Wuthrich at [bwuthrich@wfr.org](mailto:bwuthrich@wfr.org) and include a printout of each worksheet with this concept report. A copy of the *“Project Concept Cost Estimation Form”* is available at: [www.wfr.org](http://www.wfr.org).

V. Indicate and mark each TSM and TDM strategy from the checklist below that will be considered in the project development

### TSM / TDM IMPROVEMENTS CHECKLIST

Principle Arterial	Minor Arterial	Collector	
<b>Signal System</b>			
		NA	Install conduit for future signal coordination
		NA	Coordinate with UDOT ITS Division to facilitate planned ITS improvements
			Eliminate split phasing where possible
			Other; _____

<b>Access Management</b>			
	NA	NA	Discourage on-street parking
	NA	NA	Provide acceleration and deceleration lanes where possible
	NA	NA	Apply stricter signal warrants to emphasize progression
	NA	NA	Provide left turn restrictions as needed
	NA	NA	Minimum corner clearance should be at least 250 feet
	NA	NA	Minimum driveway spacing should be at least 250 feet
		NA	Encourage access on intersecting streets with a lower functional class
		NA	Minimum corner clearance should be at least 200 feet
		NA	Minimum driveway spacing should be at least 185 feet
			Public street accesses should be spaced at least 1/4 mile apart
			Minimum corner clearance should be at least 115 feet
			Minimum driveway spacing should be at least 115 feet
			Other; _____

<b>Intersections</b>			
			Eliminate sight distance problems
			Widen intersections for additional lanes (through lanes or turn lanes) especially on cross streets to decrease the amount of green time required for peak movements
			Eliminate geometric impediments to smooth traffic flow such as abrupt grade changes or drainage ditches crossing the flow of traffic
			Other; _____

<b>Bike/ Walk/ Transit</b>			
	NA	NA	Coordinate with UTA to preserve access and ROW for a park-and-ride lot if plans call for such near the facility
		NA	Provide sufficient shoulder or bus turn outs so that bus stops do not interfere with thru traffic
			Provide curb, gutter, and connecting 4-6 foot sidewalks
			Provide proper lighting
			Work with UTA so they can provide far-side bus pads or shelter areas
			Where appropriate, provide crosswalks, medians and pedestrian refuge areas.
			Refer to Regional Bike Plan for location of striped bike lanes or paths which may require ROW preservation
			Other; _____

**III. COMPLETE THE PROJECT COST SUMMARY AND PROVIDE A DETAILED  
 “PROJECT COST ESTIMATE SHEET”**

*\*NOTE\* To assist in Project Cost Estimations use the “Concept Cost Estimation Form” on the Web page*

Item (Specify as needed)	Quantity and Unit	Present Unit Price	Federal Project Cost (include local match) 6.77 %	Adjacent or Concurrent Project Costs (include costs not eligible for Federal aid)
<b>Right-of-way</b> (Document)				
<b>** Privately Owned Utilities</b> (list each of the (i.e. cable TV, Fiber Optic, RR etc.)				
Phone				
Gas				
Power				
Other: _____				
<b>** Publicly Owned Utilities</b> (list each of the)				
Water				
Sewer				
Other: _____				
Other: _____				
<b>Roadway and Drainage</b>				
<b>Traffic and Safety</b>				
<b>Structures</b>				
<b>Environmental Mitigation</b>				
<b>ITS, Traffic Control Devices, Signing/ Marking</b>				
<b>Other Costs</b> (explain)				

\*\* Private Utility relocation costs are not eligible for federal reimbursement unless they own or have an easement for their right-of-way.

Public utility relocation costs are still eligible for federal funding.

<b>Item</b> (Specify as needed)	<b>Federal Project Cost</b> (include local match) 6.77 %	<b>Adjacent or Concurrent Project Costs</b> (including costs not eligible for Federal aid)
<b>Total Construction Cost</b>		
<b>Contingencies</b> <i>(Recommended 15 % of Total Construction Costs)</i>		
<b>Preliminary Engineering Cost</b> <i>(Recommended 8 % of Total Construction Costs + Contingency)</i>		
<b>Construction Engineering</b> <i>(Recommended 10 % of Total Construction Costs + Contingency)</i>		
<b>UDOT Review Cost</b> <i>(Recommended 5 % of Total Construction Costs + Contingency)</i>		
<b>Present Total Cost</b> <i>(Total Construction Costs + Contingency + PE + CE + UDOT Review Cost)</i>		
<b>Inflation Cost Factor</b> <i>(Calculate for 6 years at 5 % per Year)</i>		
<b>Environmental Analysis</b> <i>(Unless directed otherwise, this is a Sponsor responsible Expense)</i>		
<b>Total Cost</b>		

**Reminder** - Email a copy of the entire **“Project Concept Cost Estimation Form”** to Ben Wuthrich at [bwuthrich@wfr.org](mailto:bwuthrich@wfr.org) and include a printout of each worksheet with this concept report. A copy of the *“Project Concept Cost Estimation Form”* is available at: [www.wfr.org](http://www.wfr.org).

## TIP PROJECT SAFETY CRITERIA SUGGESTIONS

<b>Improvement Characteristics</b>	<b>Example Relevant Crash Types</b>
<p><b><u>Intersections:</u></b></p> <ul style="list-style-type: none"> <li>✓ New Traffic Signal</li> <li>✓ Upgrade traffic signal (heads)</li> <li>✓ Add new approach turn lanes</li> <li>✓ Add acceleration/ deceleration lane</li> <li>✓ Convert to roundabout</li> <li>✓ Increase turn radii</li> </ul>	<p style="text-align: center;">Right-angle, turns</p> <p style="text-align: center;">Rear-end, red light run</p> <p style="text-align: center;">Rear-end</p> <p style="text-align: center;">Rear-end, sideswipe</p> <p style="text-align: center;">Right-angle</p> <p style="text-align: center;">Turn crashes</p>
<p><b><u>Railroad:</u></b></p> <ul style="list-style-type: none"> <li>✓ Automatic Gate</li> <li>✓ Grade separate</li> <li>✓ Raised Medians</li> </ul>	<p style="text-align: center;">Vehicle-train</p> <p style="text-align: center;">Vehicle-train</p> <p style="text-align: center;">Vehicle-train</p>
<p><b><u>Roadside/ Bridges:</u></b></p> <ul style="list-style-type: none"> <li>✓ Guard rail – install/ upgrade</li> <li>✓ Shoulder widening/ addition</li> <li>✓ Bridge widening</li> <li>✓ Remove fixed objects</li> <li>✓ Separated bicycle/ pedestrian path</li> </ul>	<p style="text-align: center;">Run off road</p> <p style="text-align: center;">Run off road, overtake ped./ bicycle</p> <p style="text-align: center;">Bridge</p> <p style="text-align: center;">Fixed object</p> <p style="text-align: center;">Overtake ped./ bicycle</p>
<p><b><u>Roadways:</u></b></p> <ul style="list-style-type: none"> <li>✓ Curve reconstruction</li> <li>✓ Vertical re-alignment</li> <li>✓ Median barriers</li> <li>✓ Climbing/ passing lane</li> <li>✓ Lane widening</li> <li>✓ Widen from 2-lane to 4-lane</li> <li>✓ Continuous center-left turn lane</li> </ul>	<p style="text-align: center;">Run off road, head-on</p> <p style="text-align: center;">Head-on, limited sight</p> <p style="text-align: center;">Head-on</p> <p style="text-align: center;">Passing, rear-end</p> <p style="text-align: center;">Sideswipe (multi-lane)</p> <p style="text-align: center;">Rear-end, head-on</p> <p style="text-align: center;">Rear-end</p>
<p><b><u>Other:</u></b></p> <ul style="list-style-type: none"> <li>✓ Lighting improvement</li> <li>✓ Ramp modifications</li> <li>✓ Close median opening</li> <li>✓ Turn prohibitions</li> </ul>	<p style="text-align: center;">Night time crashes</p> <p style="text-align: center;">Ramp</p> <p style="text-align: center;">Turn crashes</p> <p style="text-align: center;">Turn crashes</p>