



### Request for FTE Design Variations Checklist

Date:

District:

Project Name:

Project Section      BMP:      EMP:

Exemption BMP:      EMP:

FM:       New Construction       RRR

Project Description:

**Requested Control Element(s):**

- Design Speed\*       Lane Width       Shoulder Widths       Bridge Widths\*
- Structural Capacity\*       Vertical Clearance\*\*       Grades       Cross Slopes
- Superelevation       Horizontal Alignment       Vertical Alignment       Stopping Sight Distance
- Horizontal Clearance\*\*       Side Slope

\*Requires supplementary review (i.e. Planning/Structures/etc)

\*\*Requires Utility Accommodation Manual (UAM) Exception Submittals

Page #/ NA

- Submittal/Approval Letter Included (Cover Letter)**
  - Short description of project, applicable criteria and reason for variation request
  - Applicable signature fields, names, and titles listed
- Report Cover**
  - Project Title, FPID, signature, date, and seal
- Project description**
  - General project information, typical section, begin/end milepost, county section number
  - Include Work Mix, To – From, Objectives, Obstacles and Schedule.
- Description of the variation element and applicable criteria (AASHTO and Department value or standard)**
  - Detailed explanation of why the criteria or standard cannot be complied with or is not applicable
  - Description of any proposed value for project and why it is appropriate
- Amount and character of traffic using the facility**
  - Description of the anticipated impact on Operations, Adjacent Sections, Level Of Service, Safety, Long and Short Term Effects
  - Is the variation  temporary or  permanent?
  - Description of the anticipated Cumulative Effects
- A plan view or aerial photo of the variation location**
  - Showing right of way lines, and property lines of adjacent property.
- A photo of the area.**
- Typical section or cross-section of variation location**
- The milepost and station location of the exception**

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Any related work programmed or in future work plans

**The Project Schedule Management (PSM) Project Schedule**

**Activities submitted**

- < Phase I     Phase I – Phase II     Phase II – Phase III  
 Phase III – Phase IV     > Phase IV

Letting:

**All mitigating efforts**

- An explanation of what if any associated existing or future  
Limitations as a result of public or legal commitments.  
 Description and explanation of any practical alternatives,  
the selected treatment and why.

**Comments on the most recent 5-year crash history**

- Including all pertinent crash reports  
 Is the location of the variation on the High Crash List

**Description of the anticipated Cost (Social and to the Department –  
Benefit/Cost)**

**Summary Conclusions**

**Summary description of included support documentation such as:**

- Location map or description  
 Typical section  
 Aerial or Photo logs when they best illustrate the element issues  
 Crash History and analysis  
 Plan sheets in the area of the variation elements  
 Profiles in the area of vertical alignment variation elements  
 Tabulation of pole offsets for horizontal clearance variation  
 Applicable Signed and Sealed Engineering Support Documents

For the specified conditions the following additional documentation is required:

For design speed on FIHS/SIS

- Provide typical sections at mid blocks and at intersections.

For lane width

- Provide locations of alternative routes that meet criteria  
 Proposal for handling drainage  
 Proposed signing and pavement markings

For shoulder width

- Proposal for handling stalled vehicles  
 Proposal for handling drainage

For bridge width

- Plan view of the approaching roadways  
 Existing bridge plans (these may be submitted electronically)

For a bridge with a design inventory load rating less than 1.0

- Written evaluation and recommendation by the Office of  
Maintenance is required  
 Load rating calculations for the affected structure

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For vertical clearance

- Locations of alternative routes that meet criteria

For cross-slope

- Proposal for handling drainage
- Details on how the cross slope impacts intersections

For conditions that may adversely affect the roadway's capacity

- Provide the comments on compatibility of the design and operation with the adjacent sections
- Effects on capacity (proposed criteria vs. AASHTO) using an acceptable capacity analysis procedure
- Calculate reduction for design year, level of service

For superelevation

- Provide the side friction factors for the curve for each lane of different cross-slope at the PC of the curve, the point of maximum cross-slope, and the PT of the curve using the following equation.

$$f = (V^2 - 15Re)/(V^2e + 15R)$$

For areas with crash histories or when a benefit to cost analysis is requested

- Provide a time value analysis between the benefit to society quantified in dollars and the costs to society quantified in dollars over the life of the variation.
  - Roadside Safety Analysis Program (RSAP)
  - Historical Crash Method (HCM)