

The horizontal alternative alignments will be displayed on aerial photographs for evaluation of associated impacts. The sheets will show the proposed centerline, stationing, proposed structures, edge of pavement lines and affected properties, at a scale that is appropriate to the project length and character.

A cost estimate will be prepared for each alternative and include:

- Construction costs
- Utility relocation works costs
- Land acquisition costs

At this point, meetings will be held with various Municipality and Government Departments that have a vested interest in the project. The engineer will present the alternatives, review the evaluation criteria and matrix form and discuss merits and adversities of the different alternatives. Comments and direction received at the meeting(s) will be factored into the alternatives evaluation matrix.

Finally, the analysis will conclude with a discussion of the evaluation criteria for each matrix parameter, input/direction received concerning the project and a summary discussion of the advantages and disadvantages of each alternative studied. This will be followed by the engineer's recommended alternative with supporting justification for the selection.

### 306 DESIGN DATA

This section will document the design criteria associated with the recommended design concept and specifically identify any exceptions from the minimum criteria established for the roadway classification.

It is very important that sufficient detail is included in the DCR so that future revisions to basic design features and project scope are held to a minimum.

The following basic design criteria established in Part 2, Roadway Design, shall be included:

- the functional classification of the road per Part 1, Section 100, General Information.

- the *minimum* design speed(s), min. horizontal/vertical curve radii, sight min. distance (passing and stopping), max. superelevation and other design requirements associated with the *classification of the road*;
- the *actual* design speed(s), horizontal/vertical curve radii, sight distance (passing and stopping), superelevation, etc. *used for the project*;
- lane width, shoulder width, and bridge width; on the project
- cross slope;
- grade;
- horizontal and vertical alignment (actual);
- horizontal and vertical clearance; and,
- bridge structural capacity.

The design exceptions identified shall be prepared in a "Fact Sheet" format as described in Part 2, Section 100, General Design Criteria.

### 307 TYPICAL SECTIONS

The typical roadway cross sections and the dimensions of the lanes, shoulders, median(s) for both the mainline and all ramps are to be identified. The number of typical sections will depend on the number of significantly different roadway/pavement structure conditions. At a minimum, at least one section should be provided which depicts all facilities within the limits of the right-of-way (i.e., ramps, frontage roads, drainage channels, etc.).

The type of roadway section, i.e., cut or fill, number of lanes, shoulders, pavement structural section, cross slopes, and any retaining walls are also to be included. Drawings that illustrate this information are to be included in the Appendix to the DCR.

### 308 GEOMETRICS

The alignment, profile, and number of traffic lanes, including through lanes, auxiliary lanes, turning lanes and ramp lanes are to be plotted on an appropriately scaled plan. A scale of 1:500 should be used for urban projects and 1:2500 for rural projects. The alignment should be displayed on an aerial base and the corresponding roadway profile shown below in a split sheet format.