The following criteria are discussed in this section:

1. General Design Criteria
2. Horizontal Alignment
3. Superelevation
4. Vertical Alignment
5. Sight Distance
6. Intersection Design
7. Medians and Turn Lane Design

The standards contained in the DPM are intended to provide direction in the design of transportation facilities. While most of the design parameters that should be used are provided in the following pages, unusual conditions may occur in some projects.

Where additional guidance and explanation is needed, the designer should refer to the current version of publications from the following sources:

1. AASHTO
2. ITE
3. NACTO

NOTE: *Many of the tables contained in this section are taken from the 6th edition (2011) of the AASHTO publication, A Policy on Geometric Design of Highways and Streets (the AASHTO Green Book). Equivalent tables from updated versions of the AASHTO Green Book should be referenced when they become available.*

Specific publications that may be referenced in the design process include:

1. AASHTO, Roadside Design Guide
2. Transportation Research Board, HCM
3. Federal Highway Administration, MUTCD
4. U.S. Access Board, PROWAG

Section 7-4(I)(1) General Design Criteria

Streets shall be designed to avoid long straight segments on residential streets and abrupt, inconsistent changes in either horizontal or vertical alignment. Balance is necessary to avoid hazardous situations and help meet driver expectations.

The fundamental approach to street design is to first identify the design speed for the facility. (See *TABLE 7.2.29*.) The nominal vehicle type must also be considered. The design is accomplished by selecting the appropriate characteristics to accommodate the design vehicle at the design speed in a safe and efficient manner.

Section 7-4(I)(2) Horizontal Alignment

Normal crown is generally preferred in urban streets to promote control of drainage and nuisance stormwater flows. This preference will lead to the use of longer radius horizontal curves in most major street circumstances. *TABLE 7.4.62* provides the minimum centerline radius for a normal road with a 2% crown or 2% maximum cross slope. For roads with superelevation, cross slopes greater than 2%, and design speeds greater than 45 MPH, refer to the current AASHTO Green Book.

TABLE 7.4.62 **Minimum Centerline Radius for a Normal Road***

Design Speed (MPH)	Radius (ft.)
15	50
20	107*
25	198*
30	333
35	510
40	762
45	1039

** A local residential street with 90° or near 90° turns may be designed with a minimum centerline radius of 75 with the approval of the Traffic Engineer.*

Section 7-4(I)(3) Superelevation

The use of superelevation (i.e. outside edge of pavement higher than inside edge) should be limited in an urban setting due to the lower speeds of the roadways. Superelevation shall not be used on local streets. Refer to the current AASHTO Green Book for guidance on superelevation rates.

The use of superelevation requires the careful design of transitions leading to/from normal crown sections to and from superelevated sections. Designs involving such transitions should show sufficient detail to demonstrate that drainage is being accommodated (i.e. no low points) and to provide sufficient information for adequate construction staking to ensure the desired result. Vertical profile lines for all curblines as well as detailed superelevation run-out plans shall be provided for superelevation design. See *FIGURE 7.4.91* for a visual representation of a superelevation runout plan.

FIGURE 7.4.91 **Example Superelevation Runout Plan**