width stated in Table 300.01, except that a minimum clearance of 1.2 m shall be provided where the standard shoulder width is less than 1.2 m. Approach rail connections to bridge rail may require special treatment to maintain standard shoulder width. Safety shaped barrier face shall be constructed integrally at the base of any retaining wall, pier, or abutment which faces traffic and is less than 4.6 m from the edge of travelled way.

Curbed Roadway Sections - A minimum horizontal clearance of 1.0 m should be provided along intersection curb returns and near driveway edges to allow for design vehicle off tracking. Where sidewalks are located immediately adjacent to curbs, fixed objects should be located behind the sidewalk, providing an unobstructed pedestrian area.

306.02 VERTICAL CLEARANCES

General - Efforts should be made to avoid decreasing the existing vertical clearance whenever possible and consideration should be given to increasing vertical clearance on projects involving structural section removal and replacement.

Structure Type	*Vertical Clearance (m)*
Pavement Surface to nearest underside of superstructure.	6.0
Sign Structures	5.5
Overhead Communication Lines	7.0
Power Lines (Volts)	
0 - 750	7.0
750 - 15,000	9.0
15,000 and greater	10.0
Pedestrian Overpass	6.0
Pedestrian Overpass with Overhead Guide Sign	6.0

306.03 TUNNEL CLEARANCES

Horizontal Clearances - The minimum expressway tunnel width should equal the full approach travelled way width plus paved shoulders.

In one-way tunnels on conventional roadways the minimum side clearance from the edge of the travelled way (unless sight distance dicatates otherwise) shall be 1.5 m on the left and 2.0 m on the right. For two-way tunnels, this clearance shall be 2.0 m on each side.

Vertical Clearances - The desirable vertical clearance shall be 6.0 m measured at any point over the travelled way. Lesser clearance may be approved by the Municipality Road Section.

307 CLEAR ZONE CONCEPT

Clear Zone - A clear zone is an unobstructed, flat or gently sloping area beyond the travelled way edge. It gives drivers the opportunity to regain control of errant vehicles. The clear zone is measured horizontally from the travelled way edge to the nearest point on an obstruction. Where feasible, fixed objects should not be located within the clear zone.

In an area where the roadside is relatively clear, flat and straight, application of the clear zone concept is straightforward. However, factors such as roadside embankments, space restrictions and roadway curvature and superelevation complicate the application of the clear zone.

Clear Zone Standard - The clear zone width required is based on geometry, traffic volumes, and operating speeds as shown on Figure 300.02.

Curvature Correction Factors - Figure 300.03 shows correction factors used to adjust the clear zone distances, taking into account roadway curvatures. These modifications should be used only in locations with high accident rates and where increasing the clear zone distance is cost effective.