

Shared use paths should be designed for a selected speed that is at least as high as the preferred speed of the faster bicyclists. In general a design speed of 20 mph should be used. Long grades should be kept to a minimum. Grades greater than 5 percent are undesirable because the ascents are difficult for many bicyclists to climb and the descents cause some bicyclists to exceed the speeds at which they are competent or comfortable. In locations where grades exceed 5 %, table 4 shows recommended maximum grade lengths.

**TABLE 5 - MAXIMUM GRADE LENGTHS FOR SHARED USE PATHS**

5 – 6%	For up to 800 feet
7%	For up to 400 feet
8%	For up to 300 feet
9%	For up to 200 feet
10%	For up to 100 feet
11+%	For up to 50 feet

Further design details for shared use paths may be found in Section A-5 Bicycle Facility Guidelines of VDOT's Road Design Manual.

### 3. Pedestrian tunnels

- a. Pedestrian tunnels to separate pedestrian crossings from roadway traffic are being encouraged by some localities to improve pedestrian safety on high volume streets. The Subdivision Street Requirements provide criteria for VDOT acceptance of these pedestrian tunnels under certain conditions. All underpass structures intended for pedestrian use, whether they are accepted for maintenance as part of the roadway or accepted under the terms of an agreement should have the following characteristics:

- (1) Have entrances visible from the side of the roadway above.
- (2) Be aligned to the pedestrian corridor such that the interior of the tunnel is visible to pedestrians from a distance of not less than 25 feet and preferably for its entire length.
- (3) If located at a school, be equipped with security gates so that school authorities may regulate the hours it is available for use.

- b. All underpass structures intended for acceptance of maintenance by the department as an integral part of the roadway, even if some features are to remain the responsibility of local government, should also include the following: