Chapter 5.0 Bicycle Parking

5.1 Bicycle Parking Facilities

The provision of bicycle parking facilities is essential for encouraging more bicycle use in the Region of York. The lack of adequate parking supply or type can deter many from considering using their bicycle as a basic mode of transportation.

This Chapter lists guidelines on the basic elements of a bicycle parking rack, site and location that the Region of York should refer to when installing new bicycle parking facilities.

5.2 Bicycle Racks

Bicycle racks are made up of the following four main components:

- The rack element;
- The rack;
- The rack area; and
- The rack area site.

These four components are described in greater detail in the following sections.

5.2.1 Bicycle Rack Element

The bicycle rack element is the portion of a bike rack that supports the bicycle. Bicycle rack elements can be joined on any common base or arranged in a regular array and fastened to a common mounting surface. The racks may be used to accommodate a varying number of bicycles securely in a particular location. Various types of available bicycle rack designs include the "Ribbon" rack, the "Ring" rack, the "Ring and Post" rack and the "Swerve" rack. **Figures 5.1 and 5.2** illustrated these rack designs.

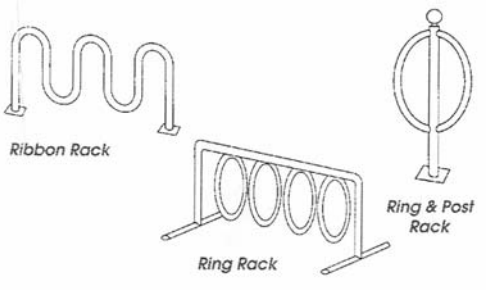

Figure 5.1 Various Bicycle Rack Designs

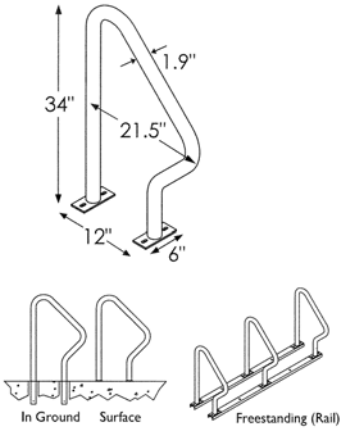

Figure 5.2 Swerve Rack Design

The rack element should:

- Support the bicycle upright by its frame in two places;
- Prevent the wheel of the bicycle from tipping over;
- Enable the frame and one or both wheels to be secured;
- Support bicycles without a diamond-shaped frame with a horizontal top tube;
- Allow front-in parking: a U-lock should be able to lock the front wheel and the down tube of an upright bicycle; and
- Allow back-in parking: a U-lock should be able to lock the rear wheel and seat tube of the bicycle.

Bicycle racks should not only allow for a secure lock between the bicycle and the rack, but should also provide support for the bicycle frame itself. The rack element should also be designed to resist being cut or detached by common hand tools such as bolt and pipe cutters, wrenches and pry bars which can be concealed in backpacks.

5.2.2 Bicycle Rack

Bicycle racks should consist of a grouping of the rack elements either by attaching them to a single frame or allowing them to remain as single elements mounted in close proximity to one another. Racks, whether as single units or grouped together, should be securely fastened to a mounting surface to prevent the theft of a bicycle attached to a rack. Another alternative is to create a bicycle rack that is so large that it cannot be easily lifted or moved from its position with bicycles attached. **Figure 5.3** illustrates a bicycle rack made up of three rack elements.

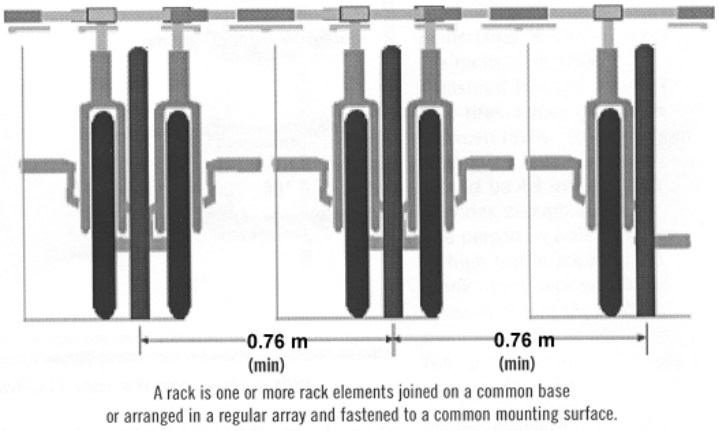

Figure 5.3 Bicycle Rack
Revised Figure from Bicycle Parking Guidelines: The association of Pedestrian and Bicycle Professionals [apbp], www.apbp.org

Easy and independent bike access should be provided to the bicycle rack. Inverted "U" rack elements should be mounted in a row and placed on 750 mm (approximately 30") centres to allow enough room for two bicycles to be secured to each rack element. Bicycle racks should be arranged in a way so that is quick, easy and convenient for a cyclist to lock and unlock their bicycle to or from a rack.

5.2.3 Bicycle Rack Area

The rack area is essentially the "bicycle parking lot" and refers to the area where more than one bicycle rack is installed. Bicycle racks are separated by aisles, much like a typical motor vehicle parking lot. The recommended minimum width between aisles should be 1.2 m to provide enough space for one person to walk with one bicycle. Aisle widths of 1.8 m are recommended in high traffic areas where many users may retrieve their bicycle at the same time, such as after a school class. A 1.8 m depth should be provided for each row of parked bicycles since conventional bicycles are just less than 1.8 m long and can be accommodated in that space.

Large bicycle rack areas with a high turnover rate of arriving and departing cyclists should have more than one entrance to help facilitate user flow. If possible, the rack area should be sheltered to protect the bicycles from the elements by placing awnings and overhangs above the rack area.

5.2.4 Bicycle Rack Area Site

Bicycle racks should be placed as close as possible to the entrance that it serves, but not in a location where they would inhibit pedestrian flow in

and out of the building. Rack areas should be no more than 15 m from an entrance, and should be clearly visible along a major building approach line. Bicycle rack areas that are hard to find or that are located far from a building entrance are generally perceived as vulnerable to vandalism and will generally not be used by cyclists. To encourage use of a bicycle rack by cyclists, the rack site should be clearly visible and well lit.

Multiple buildings in an area should not be served by one distant bike rack. Rather, smaller bike racks should be placed in a convenient location at each building, but not in a manner that would obstruct utility access openings, garbage disposal bins, doorways or other building access points.

Bicycle racks can be placed on concrete, asphalt or brick surfaces. Bicycle racks should be securely fastened to the surface to prevent shifting or removal. If they cannot be fastened to the surface, then they should be large and heavy enough so that they cannot be easily moved.

Bicycle racks placed on grass surfaces cannot be secured to the ground, therefore they should also be heavy enough so that they cannot be moved. To avoid excessive bicycle riding on the grass, bicycle racks should only be placed on grass surfaces located within close proximity to a paved cycling route, such as on off-road multi-use trail, or an on-road route. Bicycle racks on grass surfaces should be considered temporary, and every effort should be made to relocate them to a permanent, hard surface area or a concrete pad can be paved in an approved area to accommodate bicycle parking.

Bicycle racks should not be placed within the following areas:

- Bus loading areas;
- Goods delivery zones;
- Taxi zones;
- Emergency vehicle zones;
- Hotel loading zones;
- Within 4.0 m of a fire hydrant;
- Within 2.5 m of a driveway or access lane; and
- Within 10.0 m of an intersection.

Guidelines:

5.1 Bicycle racks should be designed to provide lateral support to the parked bicycle and should be made from materials that can resist being cut by common hand tools such as bolt and pipe cutters, wrenches and pry bars.

5.2 Racks, whether as single units or grouped together, should be securely fastened to a mounting surface to prevent the theft of a bicycle attached to a rack.

5.3 Bicycle racks should be placed adjacent to the entrance that it serves without inhibiting pedestrian flow in and out of the building. Rack areas should be no more than 15 m from an entrance and should be clearly visible along a major building approach line.