

Storage

Bike storage is very important for cyclists. Unlike cars, the drivetrain and brakes are directly exposed to the environment, and can drastically impact performance. Bicycle theft is also an important issue as bicycles are easy to carry around, and can be stolen easily if not secured properly. Both issues can be addressed when deciding on an option for bicycle storage.

Security

Convenience / Protection

1. Only bikers or registered users have access to the compound
 1. Standard Method: Door and Key
 2. Advanced Method: Card-swipe Access System
2. Has adequate utilities to lock bikes up to
3. It is in the open so that people can keep an eye on them
2. Convenience / Protection
 1. Sheltered
 2. Easy access

Indoor Shelter Integration

A bike shelter could be incorporated into buildings. One cheap method of having an indoor bike shelter would be to utilize an existing but unoccupied room, preferably on the ground level, near the entrances. The benefits of this would be that a new structure would not need to be built, the building is already heated or air conditioned, and it is sheltered, which helps cyclists mount and dismount their bikes while protecting the bikes from the elements. The proximity to the entrances prevents dirt and moisture from being carried throughout the building from people bringing their bikes into their offices.

New buildings are also encouraged to integrate bike compounds into the design of their buildings. Instead of having to build parking lots and have increased medical insurance for their employees from inactivity, it is simpler, more cost effective, and environmentally friendly to have them bicycle to work wherever possible. Programs like the [LEED](#) offer integrated bike compounds as points towards building a green building. Adhering to standards such as this ensures other amenities like lockers and showers are built as well.

Outdoor Bicycle Shelter

If the bike shelter were to be separate from a building, the target audience would have to be considered. If it is at a multi-building institution such as a University, it could be best centrally located. Other options include building a shelter nearest the building cycled to, near the end of the bicycle route used, or utilizing a corner of a parkade, among others.

Active or Passive Monitoring

The location of the design also lends itself to the security of the shelter, but largely depends on circumstances. If there are many people in the area, then a highly-visible bike shelter would be useful, so that those passing by could see if someone is trying to cut cables or saw through locks. However if there are few people, it might be best to slightly isolate the shelter, but enclose it to make a compound, or have it in an area where there are security cameras installed.

Individual or Systematic Locking

Bicycle security also depends on the type of lock used to secure the bike to the structure. If traditional bike racks are used, then they should be secured to the pavement in some manner, and should be routinely checked against tampering. This is the easiest and cost-effective method, as then all the cyclists would need to provide their own locks. Another option would be to provide bicycle lockers, which store the bicycle and any accessories that someone may have, while being completely secure, with its own locking mechanism.

Construction

There are several issues to consider when building a bike shelter, some of which include:

- Single or multi-bike storage (ie. Locker vs. Compound)
- Safe from theft, vandalism
- Space for bike gear
- Cost per bike
- Surface area per bike

There are a couple design elements that should be applied to any outdoor bike shelter: The roof should be sloped as well as the floor to allow for proper drainage, the roof being of primary concern. There should be a lighting system so that cyclists can examine their bikes and passers-by can also notice the bikes. Open space should also exist for bikes to be maneuvered, and so that the area can be cleaned.

One construction option that could be considered would be to double-decker the bike storage areas. This would allow for twice as many bikes in a given area, which is of great benefit to those places which need to conserve space.

[Source: <http://holisticearth.org/wiki/Bicycling>]