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## GRADE-SEPARATED CROSSINGS

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An underpass continues this shared use bicycle path beneath a 4-lane highway with high traffic volume

### DEFINITION

A grade-separated crossing provides continuity of a bicycle/pedestrian facility over or under a barrier. A bicycle/pedestrian crossing structure may be either a bridge or an underpass.

### WHEN TO CONSIDER THIS TYPE OF FACILITY

A grade-separated crossing should be considered when a bicycle facility meets a barrier, such as an active multi-track railroad, stream, or freeway, and continuity of the route is desired. There are two main types of grade-separated crossings: overpasses (bridges) and underpasses (most often these would be culverts). When a heavily utilized multi-use

pathway intersects with a high volume multi-lane roadway, it is desirable to provide an overpass or an underpass to separate multi-use pathway users from conflicts with motor vehicle traffic.

- A grade-separated crossing is a safe way for bicyclists and pedestrians to cross rivers, streets, and railroads.
- This type of crossing provides continuity of the bicycle or pedestrian facility.

#### PRINCIPAL PLANNING CONCERNS WITH GRADE-SEPARATED CROSSINGS

- This type of facility can be expensive and difficult to implement. For these reasons, advance planning, identification of a source of funds, and a compelling purpose and need are primary factors in obtaining approval for construction of bicycle/pedestrian bridges or underpasses.
- Bicycle/pedestrian grade separations that are to be included as part of state highway construction projects should already be identified in locally adopted bicycle or greenway master plans by the time a proposed highway improvement is in the early stages of development.
- Many bicyclists and pedestrians will not use an overpass that is inconvenient. Instead, pedestrians may choose a time saving, and sometimes more hazardous crossing. Fencing or other controls may be required to reinforce the safe crossing point.

#### PLANNING AND DESIGN CONSIDERATIONS

There are many safety considerations when proposing this type of facility, such as lighting, maintenance, and bicycle/pedestrian friendly design features. The key items to consider when planning a grade-separated crossing is a well-justified purpose and need for continuing the facility over or under a barrier. It is important to consider the need for bicycle/pedestrian overpasses and underpasses in conjunction with future highway improvements when local bicycle or greenway master plans are being developed.

# TYPICAL CULVERT CROSSING FOR MULTI-USE PATH

