

## ***TDM-FRIENDLY DESIGN CONSIDERATIONS***



Throughout this section we've explored a variety of strategies designed to reduce the need for and length of travel in your community. We've seen the benefits and challenges associated with strategies as diverse as vanpooling and variable work hours. Clearly, reducing the overall demand placed on our transportation network is directly related to the choices available – choices about travel mode and travel time. At the same time, when we think about the factors that affect individual travel decisions, we should remember that travelling between point A and point B is a process largely affected by physical features. Have you ever been able to see your destination, but not been able to figure out how to get there in your car for some reason? Well, as we've come more and more to rely on the automobile as our primary means of travel, we've also managed to eliminate a lot of these types of physical barriers, making automobile travel more convenient. Recognizing the significant ways in which the physical landscape can impact our travel decisions, we turn our attention toward a set of basic design considerations which can make travel by alternative modes more convenient or even eliminate the need for some trips altogether.

### ***Pedestrian and Bicycle Connections***

In the process of promoting the viability of alternative means of travel, the design of pedestrian and bicycle connections should receive special attention. Whether it's a short walk from the bus stop to the front door of your office or a five mile bike ride from your home to your office, the majority of alternative mode commutes either start or finish with some type of pedestrian or bicycle trip. Ensuring the safety and convenience of these critical links in the transportation chain will go a long way toward improving the appeal of alternatives to the automobile. At the same time, strengthening pedestrian connections within business and commercial areas will allow workers to walk down the street to lunch or to the post office, reducing the number of vehicles on the road and easing the pressure on parking facilities. For many people, the need to drive to lunch or for errands is the main reason they need to bring their cars to work.

Pedestrian and bicycle connections should provide direct, safe and interesting routes within and between residential neighborhoods and commercial districts. Willingness to walk or bike is directly related to the quality of the environment in which to do so. Here are a few basic principals to consider in strong pedestrian and bicycle connections:

- Minimize opportunities for pedestrian/ auto conflicts by separating roads and parking from pedestrian walkways, consolidating driveways, creating safe pedestrian crossings and providing continuous sidewalks.

- Configure all intersections to support safe and direct crossing. Signalized intersections should include painted and signaled crosswalks, with sufficient signal time to allow pedestrians to cross.
- Design clear and direct connections between buildings and the street, allowing for convenient links from nearby paths, sidewalks or transit stops.
- Incorporate residential sidewalks that are at least five feet wide, allowing two people to walk side-by-side. Focus upon improving connections to and from neighborhood activity centers, such as parks, schools and retail centers.
- Incorporate sidewalks that are at least 10 feet wide in high-activity commercial areas.
- Designate and construct long-distance bikeways and improve roadways to allow for on-street bike lanes. For a two-way, off street bike path, the width should be 8 - 12 feet, with a 2-foot graded shoulder on each side. For a bike path shared with pedestrian traffic, an additional 2 foot minimum separation between bicyclists and pedestrians is needed. For a bike lane adjacent to a street, depending on whether or not the particular street allows parking, the width should be between 3 and 5 feet.
- Ensure a minimum five-foot buffer between walking areas and adjacent traffic lanes, using trees, landscaping or on-street parking to create a buffer zone.
- Eliminate physical barriers such as benches, poles and fences that block sidewalks and pathways.
- Include ample lighting for nighttime safety.
- Provide curb cuts for persons with disabilities at all intersections and for all connections between buildings and pathways.

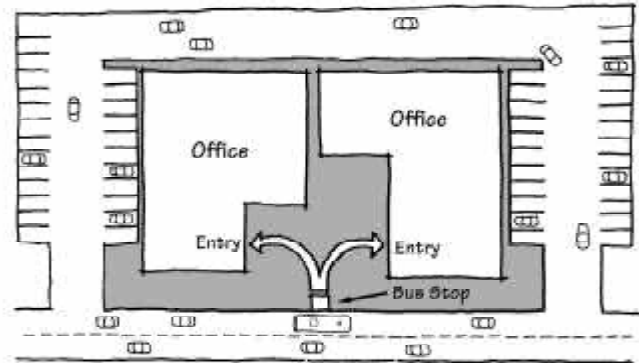
### ***Bicycle Amenities***

Bicycle parking facilities at places of employment, transit stops and other key destinations are essential for bicycle commuters. The potential for theft or vandalism will seriously discourage bicycle travel. Bicycle parking facilities should be located in a convenient location, clearly visible from streets or parking lots. For short-term storage, provide racks to accommodate two to five bicycle spaces for every 100 automobile parking spaces provided. For long term storage and better protection from weather and vandalism, provide bicycle lockers and employment locations and transit stops. Employers can further encourage bicycle commuting by installing additional amenities such as showers, changing rooms and clothing lockers.

### ***Transit Access and Visibility***

To best support local and intercity transit activities, bus stops should be within 500 to 1,000 feet of the building entrance at major activity locations, with the entrance oriented toward public transportation facilities, not parking lots. See the diagram to the right. Nearby and safe transit connections not only improve the convenience of transit for current users, they help advertise the ben-

efits and ease of transit to potential users. Where connections across parking areas or across streets are necessary, walking paths should be well lit, clearly delineated and safe. Additionally, at high volume stops, bus shelters, outside seating, trash receptacles, newsstands, bike racks, and payphones should be provided. At low volume stops, bus benches and trash receptacles should be provided.



*Example of transit stop in close proximity to office entry way.*

## ***Building Orientation***

Reducing building setbacks offers more direct street access for transit-users, cyclists and pedestrians, as shown below. Additionally, locating parking areas to the side or behind buildings encourages on-street activity and safety. New development projects should cluster buildings and avoid campus-type office development, which discourages pedestrian and bicycles travel.

## ***Passenger Loading Areas***



To best support carpool and vanpool activities, offer a turn-out lane for passenger drop off in front of the building. This added convenience can significantly reduce the travel time lost picking up and dropping off passengers in a ridesharing situation. Be sure to provide adequate space for cars so as to avoid a “line-up” that could block traffic during peak commute hours. Provide passenger shelters and some services, such as newsstands and payphones.

## ***Amount and Location of Parking***

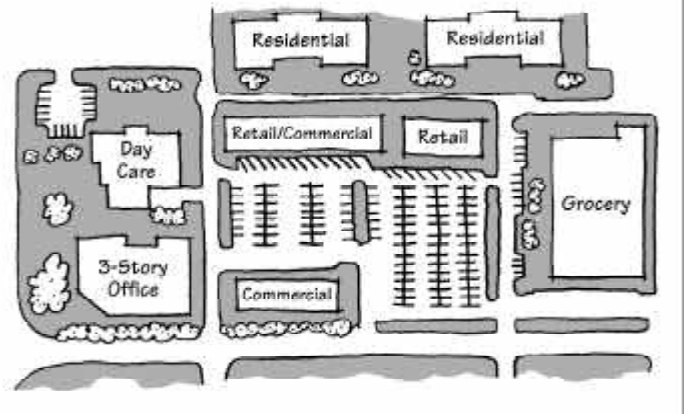
Communities and businesses that promote shared parking arrangements recognize the opportunity to reduce costs and promote trip-linking. Careful placement of adjoining commercial uses will often allow for shared parking arrangements which reduce costs for developers and preserve valuable land for more productive uses. Employers with traditional work hours can share a portion of their parking spaces with businesses that attract the majority of their customers in the evening. Retail projects with peak activity periods in the evening and on the weekends may share a portion of their parking spaces with a transit park-n-ride. In these and other similar situations, adjoining uses not only share the costs associated with providing parking spaces, they share the benefits of increased activity.

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Retail uses will benefit from the activity created around a transit stop and transit users will benefit from improved access to retail services. In the process, the total number of trips required are reduced.

In order to reduce building setbacks and provide direct connection to building entrances for pedestrians, bicyclists and transit users, parking lots should be located to the side or in the rear of a building. Orienting parking lots to the rear of buildings improves the overall appearance of a street, enhancing the pedestrian environment found there. At the same time, parking spaces closest to the entrance of the building can be reserved for carpools and vanpools. The added convenience of parking near the building will improve travel times for those sharing a ride and provide an additional incentive to do so.



## **Access to Services and Amenities**

In choosing whether to drive their own cars to work or to use alternative modes, many commuters factor in the need to run errands before work, during lunch and after work. The more services and amenities that are located near work, the more realistic alternative modes become. Two things can happen: 1) commuters may decide to leave their car at home because they know they can walk to the bank during lunch, and 2) commuters who do drive may still walk to the bank during lunch, reducing the total number of trips taken each day. Establishing transit, carpooling, vanpooling, bicycling and walking as realistic alternatives, in many cases, means promoting an environment where core services are available in walking distance.

For large facilities located away from established commercial and retail areas, encourage developers and employers to create a “village” atmosphere, where employees don’t have to take their cars out during the day. Amenities could include restaurants, convenience stores, banks and/or ATMs, child care facilities, a post office outlet, health clubs, dry cleaners, news stands, etc. These features are often viewed as a significant amenity by employees, helping employers attract workers and helping communities reduce travel demand. For smaller facilities, provide convenient and safe pedestrian linkages to nearby facilities.