

## Different Development Options—Transit-Oriented Development

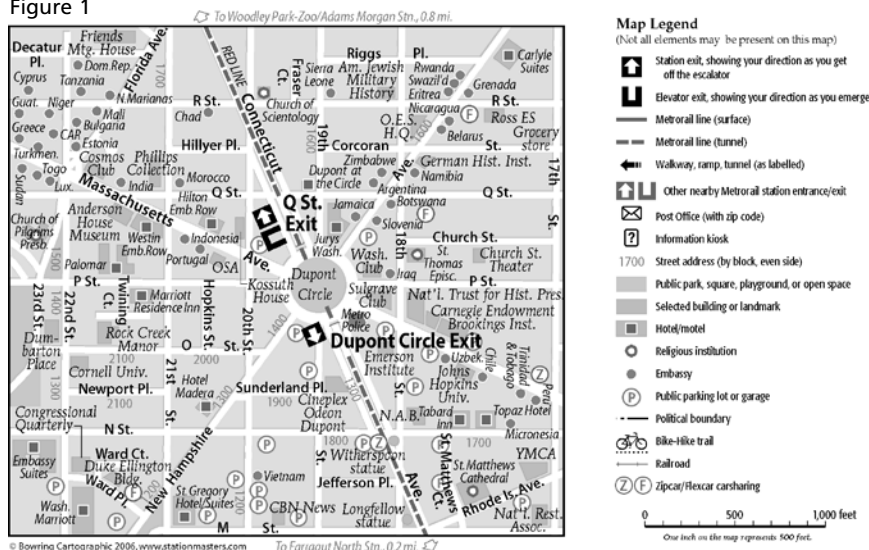
Transit-oriented development (TOD) focuses on improving and efficiently using existing mass transit systems in community planning and design. By building around light-rail stations, improving bus stations, and encouraging ridership, TODs hope to reduce car use and offer a cheap and convenient alternative to driving. The Metro subway system in Washington, D.C., is a notable success story of transit-oriented development.

Planners have worked to encourage development both adjacent to and above the Metro stations. The Washington Metropolitan Area Transit Authority (WMATA) has supported 40 development projects over the past 20 years to create vibrant business and residential communities around the subway stations and to encourage people to use the train. In Arlington County, Virginia, nearly 30 million square feet of commercial development, 25,000 units of housing, and 10,000 hotel rooms have been built in clustered “neighborhoods” around Metro stations since the 1970s.

Since opening in 1976, the subway network has grown to five lines, consisting of 86 stations and 106 miles (170.5 km) of track. There were 190 million trips on Metrorail in 2004, meaning about 520,000 passengers use the system every day. The system is the second busiest in the nation, behind only the New York City Subway. Metro stations such as the one at Dupont Circle are great models of pedestrian-friendly development. Dupont Circle is surrounded by a diversity of shops, restaurants, offices, housing, and parks conveniently connected by a grid of sidewalks, streets, and diagonal boulevards. (See Figure 1.)

The WMATA and other groups are still hard at work looking for new ways to promote Metro use. Current projects include extending hours of operation and trying to make some Metro stations safer, more accessible to pedestrians and bikers, and better connected to bus access. A mixture of residential, office, and commercial development is actively encouraged around the stations.

Figure 1



Sources: Delaware Valley Regional Planning Commission 2001 (E); Washington Regional Network for Livable Communities 2005 (E); Washington Metro Transit Authority 2005 (E); and “Making the Case for Transit” at [www.wmata.com](http://www.wmata.com)

## Different Development Options— Pedestrian and Bicycle-Oriented Development

Development in suburbs or other areas of outlying sprawl is typically unfriendly to bikes or pedestrians. In many cases, we have separated the places where we live from the places where we shop, work, and play, thus causing us to drive from place to place. Many U.S. streets are not safe to walk or ride on because they are designed to move motor vehicles in large volumes and at high speeds. At other times, people are forced to walk in the street because many areas lack sidewalks. Other areas may also feature dead-end cul-de-sacs, which can limit accessibility.



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Adding crosswalks, sidewalks, bicycle paths, bike parking, and special bike lanes on streets increases the chance that people will choose to walk or bike to reach their destinations. The multiple benefits of walking and biking are environmentally friendly and important to a healthy lifestyle. Key features that encourage walking are narrow streets, sidewalks at least five feet wide, rows of trees and on-street parking to buffer pedestrians from the road, a mix of land uses, safe crossings, comfortable and safe places to wait, and streets designed for slow traffic.

Portland, Oregon, has found a way to make the city safe for bicyclists. It has a policy that requires accommodation of bicycles in all new road construction, reconstruction, and resurfacing projects. Bike racks or storage units are provided at all libraries, transit stations, government buildings, and retail centers. To maintain safety, Portland uses warning and regulatory signs, traffic-calming devices, enforcement, and colored bike lanes. The city, several nonprofit organizations, and some employers have incentive programs to encourage bike riding, including gift certificates, cash-back programs, and lottery tickets. Portland's "Safe Routes to School" program helps participating schools become familiar with bicycle facilities in their school's service area. The program also helps schools identify routes used by students and parents to get to school, and it removes barriers to biking. Portland's bicycle programs have experienced great success. There has been a consistent growth in the number of bicycle trips (in 1992, there were 3,555 daily bicycle trips across the bridges; in 2002, the number grew to 8,250—a growth of 130 percent over those 10 years). According to U.S. Census data, 2,556 people identified the bicycle as their



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## Different Development Options— Pedestrian and Bicycle-Oriented Development (cont.)

primary means of transportation to work in 1990; 5,013 people identified the bicycle as their primary means in 2000.

Some countries in Europe have chosen quite different methods to provide safe streets for bicyclists and pedestrians. For example, Holland has special shared streets called *woonerfs*, which literally means “streets for living.” Instead of having separate sidewalks and bike paths, slow car traffic on a woonerf mixes with other activities, such as people walking, cycling, or playing in the street. The street turns into a social space, where people can sit, chat, sip coffee, or watch the world go by.

Drivers on woonerfs slow down to roughly walking speeds because they realize other people are using the street. Bikers and pedestrians feel comfortable because they are not dodging high-speed traffic. Some streets have trees, planters, parking areas, and other obstacles right in the street—causing drivers to slow down and pay attention to what’s happening around them.

Statistically, shared streets are safer than the kinds of streets we are used to in the United States. Shared streets also encourage biking and walking, thereby helping to reduce pollution and to provide a better quality of life. Today, Holland has more than 7,000 woonerfs. The idea emerged from Holland in the 1970s, and shared streets are now well established in mainland Europe. In the United States, Boulder, Colorado, and Davis, California, are experimenting with the idea.

### Sources:

Campbell 2005 (E)  
Ewing 1999 (C)  
Hamilton-Baillie 2001 (E)  
Home Zone News 2005 (E)  
Local Government Commission Center for Livable Communities 2003 (E).



## Different Development Options—Mixed-Use Development

Cities have traditionally integrated shopping, housing, and businesses into one area, but since the end of World War II, suburban zoning has segregated those areas. The subsequent migration of residents, stores, and jobs to the suburbs greatly affected both the commercial and residential areas of many cities. The older pattern of closely connected neighborhoods that featured small shops, local restaurants, and affordable housing was replaced by suburban sprawl with its massive residential neighborhoods and choked commercial thoroughfares. One solution to this problem is implementing a mixed-use development strategy. Mixed-use development is often defined as locating land uses with complementary functions close together, such as apartments or houses, shops, offices, places of worship, recreational facilities, and other structures that meet the needs of residents. Mixed-use development can be used effectively in downtowns, neighborhood centers, transit nodes, main streets, and some community commercial centers.

The Union Square area, which is centered on Union Square Park in New York City, provides a classic example of mixed-use development where pedestrians can walk to shops, offices, recreational areas, and homes. Different uses are concentrated in a small area as opposed to being spread out, thus providing rich diversity and complexity within a neighborhood where cars are not needed.



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Although vibrant today, Union Square Park was undesirable and overrun by petty criminals about 30 years ago. But in 1976, the situation started to turn around when a farmers' market opened, drawing produce from small regional farms. The Greenmarket sparked a neighborhood revival and encouraged a diversity of people to mingle in traditional urban ways. The market also attracted restaurants to the area because they could take advantage of easy access to fresh produce. The city decided to redesign the park, making it more pedestrian friendly. As part of the rebirth, new businesses opened around the park. Today, Union Square is a vital neighborhood used by thousands of people every day for different purposes. The area's remarkable energy and dynamism can be attributed in large part to its diversity.

### Sources:

Gratz 2002 (E).  
Oregon Transportation and Growth Management 2001 (C).  
Project for Public Spaces Inc. 2003 (E).

## Different Development Options—Compact Development

Sprawl is often characterized as the haphazard, low-density, inefficient use of land and resources occurring outside urban areas. Compact development is an alternative to sprawl because it limits urban movement into rural areas by revitalizing and efficiently using the existing land within urban areas. Compact development requires a consciousness of how to use land to its maximum efficiency, as well as innovative planning and design to reuse or renovate inefficient or abandoned land. In some cases, land may be contaminated by the presence of hazardous substances or other types of pollutants. This land is known as a “brownfield” and requires all contaminants to be removed before development can occur.

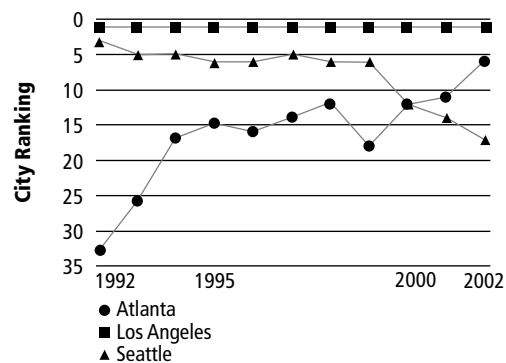
Atlanta, Georgia, has been experiencing population growth; between 1992 and 2002, more than 700,000 people moved to the area. This growth has had negative consequences for air quality and road congestion. Atlanta is classified as a marginal nonattainment area according to the Environmental Protection Agency’s regulations for the 8-hour National Ambient Air Quality Standard for ground-level ozone. The 2004 Urban Mobility Study by the Texas Transportation Institute revealed that Atlanta now ranks sixth in the nation on its travel-time index (a ratio comparing time spent traveling during rush hour to time spent traveling the same route during free-flow periods). (See Figure 1.) In 1992, Atlanta was ranked as the 33rd most congested city; in 2002, it was ranked 6th.

However, a development project called Atlantic Station is bringing hope and progress to this area of the city. Close to midtown Atlanta, Atlantic Station will transform an abandoned brownfield site (where heavy metals were once milled) into a transit-accessible and

pedestrian-friendly complex of homes, offices, and shops. In fact, the project represents the largest cleanup of an industrial site in the southeastern United States to date.

The plans call for a 138-acre, 12-million-square-foot development, which includes parks, lakes, and other urban refuges. Atlantic Station will also contain 3,200 residential units, a technology center with 4 to 5 million square feet of office space, three hotels, and 1.5 million square feet of shopping and entertainment space.

**Figure 1** Travel-Time Index Ranking, 1992–2002



Atlantic Station has easy access to the subway and other transit options. A new bridge was built to connect the area with midtown Atlanta. Atlantic Station will help reduce the amount of driving required by redeveloping an old site near the city center (as opposed to using open space at the outskirts) and by providing a compact “city inside a city” design that provides homes, shopping, and offices in walkable distance. Among the benefits of less driving are less time spent in traffic, increased physical activity, decreased emission of greenhouse gasses, and a reduced contribution to Atlanta’s smog problem.

## Different Development Options—Compact Development (cont.)

Redevelopment of the site has had its share of difficulties. Developer Stephen Macauley has said, “Everything in the process of development ... is formatted to support conventional development. Layered on that, at every level of governmental approval is a staff ... unaccustomed to mixed-use developments.” Still, Atlantic Station is progressing and as of early 2006 it provides homes for nearly 10,000 people and employment opportunities for approximately 30,000 people.

### *Sources:*

Atlantic Station, LLP 2005 (E).  
Benfield, Terris, and Vorsanger 2001 (A).  
Environmental Protection Agency Green Book 2004 (E).  
Pendered 2004 (B).  
Texas Transportation Institute 2004 (E).



## Different Development Options— Conservation-Oriented Development

Conservation-oriented development strives to promote land development while simultaneously preserving open space, farmland, scenic viewsheds, natural beauty, wildlife habitat, and other critical environmental areas. It brings together two sides that are often at odds: conservationists and land developers. Conservation-oriented development clusters housing and development in specific areas, while preserving other areas in their natural, undeveloped state—both for ecological purposes and as an amenity for residents. Concentrating development can also help communities save money by reducing the costs of infrastructure such as sewers, roads, and utilities.

One community that is implementing conservation-oriented development practices is Chester County in southeastern Pennsylvania. Chester County is characterized by rolling farmland, stream-filled valleys and woodlands, horse farms, and valuable historic landmarks. Yet Chester County is also Pennsylvania's fastest-growing county, largely because of the expanding nearby cities of Philadelphia, Pennsylvania, and Wilmington, Delaware. In fact, in 1995, county planners estimated that all of the county's farmland would be gone within 40 years at the current rate of development. In response to development threats, Chester County decided to take action to combat sprawl and preserve its natural treasures.

The Chester County Planning Commission started revising its comprehensive plan, including both citizens and local officials in the process. The planning commission used an insert in a local newspaper to gather information about the public's views. Respondents overwhelmingly preferred denser, less-sprawling development in targeted areas, as opposed to the current

haphazard patterns of growth. The commission identified areas and characteristics to preserve, as well as the areas most suited for new development. Conferences and workshops encouraged community participation in the process.

The result of those planning efforts was a guide to growth through 2020. The plan distinguished four distinct types of landscape in the county: natural, rural, suburban, and urban. The plan also incorporates growth boundaries that concentrate all future development within agreed-upon areas while preserving other areas. The success of Chester County's plans to combat sprawl and to preserve open space remains to be seen. However, so far the county's efforts have earned an Outstanding Planning Award from the American Planning Association and have provided a hopeful model for other communities.

### Sources:

Benfield, Terris, and Vorsanger 2001 (A).  
Environmental Protection Agency 2001 (C).



## Different Development Options—Suburban Development

People have long escaped the city to buy a piece of property with a single-family home in the suburbs. This trend occurred throughout the 1900s, increasing particularly as the automobile gained popularity and made it more feasible for people to live farther away from city centers. The suburb of Radburn, outside Fairlawn, New Jersey, is considered one of the first automobile-inspired suburbs.

Established in 1927, Radburn was designed to accommodate both automobiles and pedestrians. Roads were built specifically for automobiles and were sized according to the estimated amount of traffic. Wide streets outside the community carried the heaviest traffic, and narrower roads with cul-de-sacs ran through residential neighborhoods. The cul-de-sacs limited the amount of traffic that could pass through a clustered neighborhood, thus making the streets safer for pedestrians and children.

Overpasses, underpasses, and pathways (collectively called “greenways”) were constructed to provide safe routes for pedestrian travel. Furthermore, the entrances to homes were turned away from the street and instead faced private gardens and the entrances to pedestrian greenways.

The variety of housing types, small neighborhood retail centers, and interior green spaces helped make Radburn an ideal community for young families. Later, many of those innovations would become standard features of subdivisions across the country.

*Source:*  
Gillham 2002 (A).

