

## CHAPTER XII

# Land Use Planning

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### INTRODUCTION

Land use planning is a critical element in the function of any transportation system—whether it involves automobiles, buses, bicycles, or pedestrians. While land use planning is often associated with governmental entities, land use planning should more appropriately be viewed as



the process of setting goals and pursuing these goals in order to achieve certain ends from the use of parcels of land. Private developers, for example, often use such words as “access” and “amenities” to describe the manner in which they want their parcels of land to relate with the transportation system.

The goal of land use planning as it relates to transportation is to make sure the supply of transportation (the number and size of roads, the frequency of transit service, etc.) is adequate in order to meet the demand (the number of people going from one point to another). Without having a “plan” or a knowledge of what to expect from any given parcel of land, it is very difficult to achieve the balance where supply meets demand. Since governments are being pushed by citizens to be more efficient and frugal with taxpayer money, there is seldom excess supply. Thus, unplanned development results in congestion and more accidents. These conditions compromise all modes of travel, creating a situation where people’s preferred mode of travel (automobile) and many of the alternatives (transit, bicycling, and walking) all fail at the same time.

When combining land use planning and transit, many people remember only the transit advocate’s point of view—which is more buses, fewer cars. In some cases, this point of view may be appropriate, but it is not the only point of view. The cost-conscious taxpayer should consider the argument that land use planning can help minimize the cost of providing essential public transit service. In addition, public

transit can play a role in preserving the character of a historic downtown area or reduce the need for costly parking structures.

In the Eastern Panhandle Region, changes in residential development and commercial businesses have occurred outside the city limits. Residential subdivisions are located on the outskirts of town, and commercial development is sprawling to the edge of town. Appendix E provides two transit-friendly checklists that should be distributed to the Planning Departments in the cities of Martinsburg, Charles Town, and Ranson and the counties of Berkeley and Jefferson. The checklists should also be given to other municipal planning departments and any other entity reviewing or submitting plans within the PanTran service area. The checklists suggest particular enhancements to the existing county and municipal zoning and land use planning.

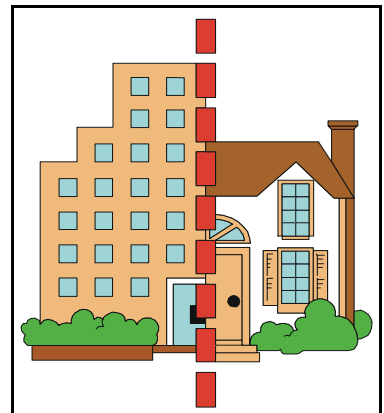
## **DESIGN STRATEGIES**

In recent years, there has been a strong interest in the planning profession regarding the strategies by which rural and urban development can be shaped to maximize the efficiency of alternate transportation modes (particularly transit). This field of study has taken on different names in various parts of the United States.

On the east coast, this field of study is commonly referred to as the “Neo-Traditional Neighborhood Development” (TND) movement.

The movement has been championed by academics such as Andreas Duany and Elizabeth Plater-Zyberk. It is evidenced in such places as the new town of Seaside, Florida and the extensive Kentlands development near Washington, DC.

In the west, this field of study has typically been labeled “Transit Oriented Design” (TOD). The leading figure in this field is Peter Calthorpe, who has been instrumental in the development of the extensive Laguna West project on the southern edge of the Sacramento, California metropolitan area. There are a number of sim-



ilarly planned new towns in the San Diego, California; San Francisco, California; Portland, Oregon; and Seattle, Washington metropolitan areas.

There are a number of common design strategies that have been identified through this field of planning research. A key element in the design strategies presented below is an acceptance that automobile use will remain a key part of the transportation system. To that end, the strategies do not strive to eliminate all automobile traffic. Rather, the goal is to make transit and other alternative transportation modes as attractive as possible. The design strategies are discussed below.

### **Cluster Land Use Densities Close to Major Transit Stops**

A vital rule of thumb in transit planning is that the potential for transit ridership drops off dramatically with increased distance from the nearest transit stop. Research consistently shows that the number of people willing to use transit drops dramatically beyond a one-quarter mile walking distance to the bus stop (7.5 minute walk at two miles per hour). It therefore follows that the more trip origins and destinations that can be concentrated within approximately one-quarter mile of a major transit stop, the greater the potential for transit usage. Within the constraints of the real estate market and local housing preferences, therefore, is a benefit in developing zoning classifications and transit services in tandem to ensure that the greatest number of dwelling units, employment opportunities, and institutional/commercial centers are located near major transit stops.

The Calthorpe school of planners has dubbed this land use cluster a “pedestrian pocket.” The leading proponent defines this term to mean “a simple cluster of housing, retail space, and offices within a quarter-mile walking radius of a transit system” (*The Pedestrian Pocket Book: A New Suburban Design Strategy* (Kelbaugh, Doug, ed. New York: Princeton Architectural Press, 1989).

Other characteristics of a “pedestrian pocket” include a residential density of approximately 12 dwelling units per acre, and a commercial development with a 0.25 floor area to property area ratio. Other studies have found that the recommended minimum densities of development to support public transportation are

seven dwelling units per acre for residential developments, and a 1.0 floor area to property area ratio for commercial and office development (*Guidelines for Transit-Sensitive Suburban Land Use Design*, US DOT, p.42, 1991).

### **Surrounding “Secondary Area” Should Be Developed**

The surrounding “secondary area” should include those land uses within a one-mile radius from the transit center. This area should contain more automobile-oriented uses, such as lower density residential (but still at least six dwelling units per acre), highway commercial uses, schools, and public facilities. Residents in these areas help to support the retail center in the “pedestrian pocket,” and are also conveniently located with respect to drop-off or bicycle access to the transit center. Street networks should be designed to allow access to the transit center without traveling on an arterial street.

### **Street Network Should Be Developed to Allow Efficient Transit Service**

In order to reduce traffic volumes near residences and avoid the potential for “cut through” traffic, land use and traffic planners in the period since roughly World War II have commonly designed residential areas with a curvilinear disconnected street system so common today in suburban areas. While a bus can be routed along the curvilinear collector or arterial street close to the residences within a subdivision, the walking distance may be excessive because there is no direct access. Connected streets should be provided to permit bus routes into residential neighborhoods. In addition, streets which will be designated as bus routes must have adequate turning radii at the intersections. Bus turnouts should be designed with a pavement composition that resists damage by buses. Bus turnouts should also be placed in locations that minimize traffic flow interruptions (especially at intersections) and maximize pedestrian access.

### **Convenient Pedestrian and Bicycle Connections to Transit Stops**

A key strategy in the TOD design is to ensure that transit passengers can quickly access a bus stop from their trip origin or destination. This strategy recognizes the fact that transit patrons are pedestrians as soon as they leave the bus. To this end, special emphasis is placed upon providing direct and attractive pedestrian and bicycle ways between residential and employment areas and the transit stops,

often including pedestrian paths linking cul-de-sacs with nearby transit stops on collector and arterial streets.

Bus shelters should be placed approximately four to five feet from the curb edge and should be located where there is efficient pedestrian access and/or neighborhood commercial nodes. When possible, shelters and turnouts should not be sited on major arterials with high travel speeds. Instead, a nearby collector should be utilized.

### **Site Design That Serves Both Automobile and Transit Users**

A quick drive to the closest Wal-Mart or another other big box retailer shows the result of current commercial site design practices. Automobile drivers are provided with a relatively short walk to the front door after parking. The transit passenger is typically dropped off at the street edge, enduring a long walk to and across the parking lot unprotected from the weather. Current site design of this type rewards automobile use and penalizes transit use. By redesigning and clustering the commercial uses near major intersections, however, both automobile and transit users could be provided with convenient walking access to the site. In addition, the clusters formed by this site plan would encourage increased walking between buildings for meals, business, errands, etc.

Convenient transit access may take the form of setbacks and parking standards. In addition to minimum setbacks, local ordinances should specify the allowable maximum setbacks adjacent to the public transportation corridors. The location of parking facilities within the public transportation corridor should also be addressed. Local ordinances should require that parking be provided at the rear or possibly at the side of the building. The front of the building should be oriented to the street, with a specific allowable maximum setback that is close to the street and oriented to public transportation and pedestrians.

Buildings, especially commercial and institutional ones, should be constructed to provide access for transit vehicles. Common examples of such buildings are hospitals and hotels. The access that is needed consists of overhead clearance and pull-through driveways. Without these, the transit vehicle must either stop further

from the front door of such buildings or be at risk of backing out of dead-end drive-ways. Poor vehicle access also contributes to a loss of efficiency.

Park-and-ride facilities should provide an adequate number of bus berths, easy pedestrian access from the parking lots, and a separation of bus and automobile traffic flows.

### **Mixed Land Uses**

Traditionally, zoning districts have been formed to keep differing land uses as far removed from each other as possible in an effort to eliminate any potential for negative spillover impacts. The end result, however, has created communities where alternative modes of transportation are very difficult to use. Carefully planned mixed land uses, including neighborhood-serving commercial and restaurant space, reduces automobile use while providing increased opportunities for transit and pedestrian activity.

Also under the rubric of mixed land uses is the concept of “joint development.” In many cases, the wholesale mixing of land uses is difficult to achieve, either politically or because of existing development. Joint development is a concept which states that businesses and transit agencies can benefit by providing a combination of services and amenities that generate customers for both. These types of arrangements usually occur at bus stops or transit stations/centers. The level of activity at these locations can vary from small (with the provision of newspaper boxes, public telephones, and a cash machine) to extensive retail and service areas (serving both transit users, employees, and shoppers) with large multiple use projects directly tied into the transit systems.

## **APPLICATION TO EASTERN PANHANDLE REGION**

Existing government policies may work for or against transit development and ridership. Existing zoning may disallow the mixed land uses, building designs, and densities more suitable for generating transit ridership and for attracting developers’ interests. In addition, public zoning and building provisions may impede the design of convenient connections between development projects and access points. Standards for setbacks and buffering, parking standards, restrictions on building

heights, and density limits must be addressed in order to work toward supporting a transit-friendly and pedestrian-friendly design. Martinsburg, West Virginia (for example) has recently approved the State of West Virginia building code which they are using in the regulation of new developments. These building codes currently do not aid in the development of transit-friendly developments.

### **Actions To Be Addressed**

Land use planning and design has a strong relationship with transportation demand and travel patterns. It plays an important role in determining the viability of public transportation and the feasibility of serving portions of the community. Recognizing this important relationship, below is a list of recommended enhancements to the existing county and municipal zoning and land use planning. These enhancements positively impact land use decisions on transportation needs within the local area and support a transit-friendly community.

1. Provide comfortable transit facilities. Make bus stops and bus waiting areas attractive through high-quality design and construction and pedestrian amenities such as lighting, seating, and weather protection.
2. Adopt transit-oriented development design guidelines. Each transit patron is a pedestrian as soon as the individual leaves the bus, so the pedestrian facilities should be emphasized. There should be a relatively small setback from the transit corridor. City and county ordinances should specify a maximum setback within the public transportation corridor. City and county ordinances should require that parking be provided at the rear or side of buildings. The front of the buildings should be oriented to the street with maximum setbacks which are close to the street and oriented to public transportation and pedestrians.
3. Recognize transit-friendly planning and design by sponsoring an annual awards program.
4. Incorporate pedestrian-friendly design guidelines in the street design manuals for all new developments. Pedestrian access (paths, trails, or sidewalks) should be provided in the proximity of bus stops to residential developments. Bus stops and sidewalks should connect with other walkways or paths in order to provide easy access to the residential and commercial development.
5. Provide incentives such as density bonuses or reduced parking requirements for developers who design pedestrian-friendly projects.

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6. Promote a complete network of sidewalks throughout the cities within the Eastern Panhandle Region. Require all public and private development projects in the cities and counties within the PanTran service area to include sidewalks on both sides of the roads, except for freeways.
7. Focus new development in the urban areas or town centers.
8. Encourage in-fill and redevelopment by designating underdeveloped or declining neighborhoods for public investment.
9. Promote mixed-use development in redevelopment areas.
10. In the Eastern Panhandle Region's master plans, prioritize new and maintenance road projects based upon how well they serve in-filling development and include transit-friendly infrastructure (bike lanes, sidewalks, bus pull-outs, bus pads, and bus stops).