

CHAPTER X

Land Use Planning

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 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 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 (auto) 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

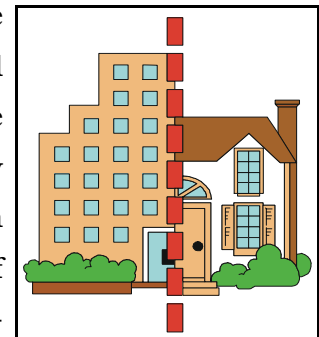
transit can play a role in preserving the character of historic Downtown and reducing the need for costly parking structures.

In the Big Sky area, changes in residential development and commercial businesses are occurring very rapidly. Residential subdivisions are scattered throughout the area, and commercial development is growing both at the Meadow Center and even more so at the Westfork area. It is envisioned that the Westfork area may become the central area of development and even act as a transfer point in the future as needed. This area is experiencing extreme growth and should be reviewed for transit-friendly design prior to it becoming fully developed.

Appendix I provides two transit-friendly checklists that should be distributed to the Development Review Boards. The checklists should also be given to other developers and any other entity submitting plans for construction of major facilities in the area.

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 country. On the east coast, this field of study is commonly referred to as the “Neo-Traditional Neighborhood Development” (TND) movement. This 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 metropolitan area. There are a number of similarly planned new towns in the San Diego, San Francisco, Portland, and Seattle metropolitan

areas. The TOD concept is the focus of this discussion as it is most common to the western United States.

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 our transportation system. To that end, the strategies do not strive to eliminate all auto traffic. Rather, the goal is to make transit and other alternative transportation modes as attractive as possible. Each strategy is 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 proportion of persons willing to use transit drops dramatically beyond a one-quarter mile walking distance to the bus stop (7.5-minute walk at two mph). 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 standards to ensure that the greatest number of dwelling units, employment opportunities, and institutional/commercial centers are located near major transit stops. In the Big Sky area, this is likely the opposite, and transit stops will be located near developments as they occur. Transit service will not likely drive development, but quite the contrary that development will drive where future services are needed.

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*). Other characteristics of a “pedestrian pocket” include a residential density of approximately 12 dwelling units per acre and a commercial development at a floor-to-area ratio of at least 0.25. 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 floor-area-to-property-area ratio of 1.0 for commercial and office development (*Guidelines for Transit-Sensitive Suburban Land Use Design*, US DOT, p. 42: 1991).

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, traffic and land use 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. This is difficult to accomplish because many of the areas being developed have only one access/egress road. The topography and geographical constraints do not allow interconnectedness of streets. Many streets wind through residential neighborhoods and then end or reverse direction in a cul-de-sac.

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—or in some cases, skiers—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. Appendix J provides common bus stop design standards which should be incorporated into future bus stop placement and land development.

Site Design That Serves Both Auto and Transit Users

A quick drive to the nearest Wal-Mart or other big box retailer shows the result of current commercial site design practices. Auto 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 auto use

and penalizes transit use. Redesigned to cluster the commercial uses near major intersections, however, both auto 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. This is evident by the current Westfork development. Many passengers could be dropped off at the entrance to this area if pedestrian access is available to the commercial development of the area, thereby alleviating the need for a bus to travel into the area.

Other site design issues relate to the geometry of streets, bus turnouts, shelters, and park-and-ride facilities. 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. In addition, bus turnouts should be sited in locations that minimize traffic flow interruptions (especially at intersections) and maximize pedestrian access. 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, turnouts and shelters should not be sited on major arterials with high travel speeds. Instead, a nearby collector should be utilized. 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.

Buildings, especially commercial and institutional ones, should be constructed to provide access for transit vehicles. Common examples of such buildings are hospitals and local hotels/condominiums. 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 driveways. Poor vehicle access also contributes to a loss of efficiency.

Actions To Be Addressed in Big Sky

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 particular enhancements to existing design and land use planning concepts. These enhancements positively impact land use decisions on transportation needs within the local area and support transit within the community.

1. 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. 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 transportation corridors and pedestrians. Incorporate pedestrian-friendly design guidelines in 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 to provide easy access to the residential and commercial development.
2. Promote mixed-use development in development areas.
3. Emphasize pedestrian orientation with minor or no building setbacks.
4. Focus new development into town centers or areas already served by transit.
5. 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.
6. Promote a complete network of sidewalks throughout the area.
7. Require all public and private development projects in the area to include sidewalks on both sides of the roads.
8. Encourage in-fill and redevelopment by designating underdeveloped areas for public or private investment.
9. Provide incentives such as density bonuses or reduced parking requirements for developers who design pedestrian-friendly projects.
10. Recognize transit-friendly planning and design by sponsoring an annual awards program.
11. In area 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 pullouts, bus pads, and bus stops).