

CHAPTER 2

The Impact of Transportation on Livability

Transportation is at the core of everything.

—Roberta Gratz, *The Living City* [1]

Transportation plays a role in almost everyone’s daily life. It is intrinsically woven into the fabric of our existence, encompassing not only how we get from place to place, but also how we conduct our daily routines and the choices we make about what we do. Getting to work, school, or appointments, running errands, shopping, socializing and recreational pursuits are among the many things we do that are affected by the kinds of transportation available (or not available) to us. Location of transportation facilities, design of streets and sidewalks and even placement of on-street parking can make all the difference in how we experience these day to day endeavors.

Because transportation is so tied to our daily lives, it provides a perfect opportunity to address the livability concerns of our communities. For example, when train stations, bus stops or transfer facilities are centrally situated, easy to reach, with convenient connections, they make it simple to get where we’re going, without having to drive. Ample sidewalks and safe-to-cross streets also simplify our lives by giving us opportunities to walk, bicycle or stroll to our destinations while being able to look around, mingle with others and take part in all kinds of other activities, like shopping, eating, and entertainment.

Transportation can also enhance the quality of the general living environment when it responds to people’s needs. When transit facilities provide pleasant waiting places with comfortable seating, congenial food service, clean restrooms, helpful signage and other amenities in lively, attractive surroundings, they become important places in their communities that people can enjoy. Similarly, streets designed to the scale of people, with colorful plantings, pleasing street furniture and positive activities, offer environ-

ments where people can feel safe, relaxed and free to savor life around them.

What’s more, when transportation is people-oriented, it can help build communities and restore community life. It can provide the accessibility and exposure that helps develop business. It can allow for entrepreneurial opportunities by molding public spaces and transportation facilities that can nurture start-up enterprises. It can spur the identity and cohesiveness that bring communities together and help them grow and become safer and more attractive.

A ROLE FOR TRANSPORTATION AS A PLAYER IN BUILDING COMMUNITIES

For transportation to play an effective role in improving the livability of communities, it must become more of an integral part of community life and have a more direct link to the idea of “place.” This view of transportation, as a catalyst for strengthening community life in the United States, also calls for a new way of measuring the success of transportation facilities.

In the case of streets and roads, the idea of transportation as a catalyst for community livability goes beyond the movement of vehicles as the sole bellwether of success to encompass the comfort and safety of pedestrians and bicyclists as well as the accommodation of alternative mobility options to meet the varying needs of different individuals within the community. It also includes requirements for an attractive, inviting, more human-scale street environment that reflects, preserves and enhances a community’s unique personality, provides opportunities for people to come together and is supportive of local

businesses. This translates into commercial and residential areas where traffic moves more slowly in streets that are not excessively wide and are better connected to adjacent uses, in terms of scale, function and design. It also sets the stage for well marked pedestrian crosswalks, light cycles that are timed for walkers, not just drivers, convenient on-street parking, public amenities, attractive landscaping and management practices that increase the flexibility of existing roadway space to accommodate different kinds of uses at different times.

In the case of transit facilities, such as those presented in this report, this idea extends beyond system operations. It includes serving passengers' preferences and needs and focusing on how transit facilities can act as catalysts for regenerating surrounding communities as well as on how they can serve as centers of community life. This translates into transit facilities that are conveniently located in downtowns rather than on the outskirts of town. It also has resulted in stations and transfer centers that look inviting, are easily accessible on foot, provide amenities, and encourage local businesses to supply on-premise services, or to take part in local activities. It has created facilities like bus and trolley stops that are combined with other community uses that spur improvements to surrounding areas and create centers of activity. In the case of transit services, it has meant a new flexibility in providing alternative transit options such as small scale van and circulator systems.

TRANSPORTATION STRATEGIES IMPACTING LIVABILITY

Three overall transportation strategies that impact livability are explored below. They are transit strategies, traffic-calming strategies, and transportation and land-use strategies. Of these, only case studies of transit strategies are presented in this report. [2]

Transit Strategies

Transit strategies that help create livable communities are presented in this report, with Part II devoted to presenting many specific examples and case studies of how transit makes an impact. Strategies fall into two basic categories: design-oriented strategies and service-oriented strategies. Although they can be discussed separately, they very often work together.

Design-Oriented Strategies

Bus, light rail, heavy rail, and subway stops have the potential to be centers of community life. Design-



Figure 2-1. This bus shelter in Portland, OR, is one of many amenities provided on this successful downtown transit mall. (Credit: Tri-Met, Portland)

oriented strategies enhance the comfort and convenience of transit users, while having a positive impact on the surrounding area. With proper design and incentives, transit stops can attract a variety of activities and uses (like retail, community services, and special events) which increase the sense of security and help create an incubator for small retailers and entrepreneurs from the local community.

Acting as a stimulus for commercial redevelopment and neighborhood renewal, the stop or station can contribute toward the livability of an entire neighborhood area. Examples of these design-oriented strategies are redesign of bus and trolley stops to support adjacent retail uses; introduction of improved public spaces around a commuter rail station; and creation of transportation centers and intermodal terminals that serve as catalysts for neighborhood-scale development.

Service-Oriented Strategies

Service-oriented strategies are essentially transit services that increase mobility within a neighborhood area. For the purposes of this study, service-oriented strategies that only target special user groups (like special vans to transport the elderly or people with disabilities to specific social services) were excluded. The focus is on services that are currently available to the general public (including these special user groups) to improve livability through better mobility and access.

Service-oriented strategies include transit shuttles and connectors, which link residential neighborhoods with commuter rail and rapid transit stations; circulators and trolleys, which enable shoppers, visitors and office workers to move more freely about the central business district; and neighborhood-based



Figure 2-2. This historic style “trolley” bus links a downtown terminal in Corpus Christi, TX, with local attractions. Since the “trolley” was initiated, ridership has increased significantly. (Credit: Project for Public Spaces, Inc.)

transportation services. Introduction of these local transportation services helps support the goals of neighborhood livability by facilitating internal circulation to local destinations not well served by regular transit services. These new services carry residents to and from homes to jobs, shops, and local services: they transport the elderly to medical appointments, take children of working parents to day care centers and schools, serve the disabled, and transport residents to community-based social services. In metropolitan areas served by rail transit or regional bus services, small vans shuttle neighborhood residents to the nearest stations, providing convenient access to economic, educational, cultural, and recreational opportunities offered by the region.

While all these service-oriented strategies have the potential to add to community convenience and livability, it is important to remember that their effectiveness depends on their management. This includes, for example, efficient scheduling along with providing scheduling information, coordination of connections, user orientation, vehicle maintenance, and sensitive and responsive personnel.

“Traffic-Calming” Strategies

The impact of both design- and service-oriented kinds of transit improvements will be reduced, however, unless streets or roads also support community character and needs. Streets and roads can knit communities together and enhance the character and identity of the places where they pass. They can become symbols of pride for a community, have a considerable economic impact on local businesses and

help create strong and viable community centers. In other words, improving the livability of streets is not just a pedestrian, vehicle traffic, bicycle, or transit issue—all must be considered together. It is important to balance all of the functions on a street so that they serve users. This balanced approach to the use of streets has come to be known as “traffic calming.”

Traffic calming is a term that emerged in Europe to describe the practice of slowing down cars, but not necessarily banning them, as they move through commercial areas and residential neighborhoods. The benefit for pedestrians, transit riders, and bicyclists is that cars now drive at speeds that are safer and more compatible with walking and bicycling. Buses no longer have to vie for limited space and access. There is, in fact, a kind of equilibrium achieved among all of the uses of a street so no one mode can dominate at the



Figures 2-3 and 2-4. European experience with traffic calming is very extensive; this town is one of hundreds in Denmark that have redesigned their residential and commercial streets to make them more pedestrian-friendly (Figure 2-3). In the United States, cities like San Bernardino, CA, have begun traffic calming efforts of their own, in this example by introducing diagonal parking (Figure 2-4). (Credit: Project for Public Spaces, Inc.)

expense of another. The objective of traffic calming therefore necessitates a change in the role and goals of traffic engineers who traditionally have been asked to move traffic as efficiently and quickly as possible.

Traffic calming also requires an understanding of new techniques: one based on traffic-management strategies, the other on physical design. Traffic-management strategies include issuance of center-city passes, truck restrictions, signalization systems, transportation system management, parking management, traffic-reduction ordinances, car and fuel taxation, and speed limits. Traffic-calming design techniques create physical impediments to speeding, such as road narrowed lanes for vehicles, undulations in the roadway, crosswalks raised to sidewalk level, and elements that create pinch points or gateways to a street. Because a wide and straight street with perfect visibility is most conducive to speeding, these and other similar approaches are intended to alter driver perception and encourage slower speeds.

In general, well-conceived traffic-calming programs address the broad issues of a street and go well beyond vehicle concerns to enhance pedestrian, bicycle, and transit activities. For example, a sidewalk can be widened at an intersection to create a larger space for a bus stop shelter and seating. This wider sidewalk also reduces the width of the street for pedestrians who are crossing. The bus no longer has to pull in and out of traffic to pick up or drop off passengers, thereby speeding service, although momentarily delaying traffic. If the crosswalk is raised to sidewalk level, drivers are further encouraged to drive at lower speeds. Perhaps an adjacent business is created (or a newsstand located) to serve transit riders. All of these strategies work together, therefore, to create a balance of uses at that corner.

Transportation and Land-Use Strategies

Where and how Americans live has changed almost completely in the past 50 years. Fifty years ago, there was little suburban sprawl. People lived in small towns near cities, or they lived in cities or towns themselves. Compact, dense development was created by, and continued to be supported by, an extensive network of public transportation. Fifty years ago, even Los Angeles had its “Red Car” trolley system, which is now gone. During the first half of the twentieth century, people marveled at the growth of cities. This has paled by comparison with the growth during the second half of the century.

This massive transformation of cities, suburbs, and towns has been paralleled by unprecedented economic prosperity and growth. Yet it is clear that this

transformation has not been without its costs. The “American Dream” of spread-out, free-ranging development has come home to roost in places that lack human scale or identity, and with serious damage, if not downright destruction, to the central locales and neighborhoods that have long given people their communal focus and sense of belonging.

Much of this sprawling development has been related to land-use policies that favor low density and complete separation of residential and commercial uses. In the long run, if lasting and effective transportation improvements that act as a permanent, positive force for livability are to be achieved, then they must take place within the context of an overall land-use policy designed to further the preservation and



Figure 2-5 and 2-6. Aerial views of Harvard Square in Cambridge, MA (Figure 2-5) and suburban Los Angeles, CA (Figure 2-6) illustrate dramatically the difference between traditional and contemporary land-use patterns and transportation networks. (Credit: Project for Public Spaces, Inc.)

revitalization of dense, lively town centers as well as the creation of new nodes near public transportation. Such a policy can nurture initiatives that cluster activities around transit hubs, provide opportunities for short commutes and easy walking, promote alternative transit use and avoid the wastes of energy, land, and the environment that sprawl creates.

There is considerable existing literature on the subject of how macroscale land-use patterns and urban form encourage or discourage transit-oriented communities. This literature describes the principles (such as “The Ahwahnee Principles”) of changing the way American suburbs are structured to encourage more dense, transit-oriented communities. The “neotraditional” communities movement is an important lead in this effort. (See, for example, *Land Use Strategies for More Livable Communities*, by The Local Government Commission, Sacramento, CA.) The TCRP also has completed major research toward this effort (*TCRP Report 16, “Transit and Urban Form”*).

Fortunately, there are encouraging signs today of a broadening perspective, a growing awareness of the role of transit in the development process and in the creation of livable communities. A growing recognition of the importance of land use broadens the discussion further. Transportation planners increasingly view transportation and land use as complementary components of the larger metropolitan system. Now the question transportation planners often ask is: how can communities be designed to provide a better

environment for pedestrians, bicyclists and transit riders, and thus reduce automobile dependence? They also may ask: how can more opportunities and activities be provided within closer distances, and thus reduce total travel? Transportation planners are implicitly asking: how can accessibility be enhanced by changing land-use patterns rather than only by expanding the transportation system?

CONCLUSIONS

The case studies that follow in Part II show how the transit strategies discussed above are being used in communities throughout the United States and how they are succeeding at fostering greater livability. Each of these strategies has its own specific applications in response to specific local issues and opportunities, and all of them are not necessarily applicable in all cases. In many cases, however, a combination of strategies are at work, which demonstrate the intrinsic relationship between transportation and community life.

ENDNOTES

1. Roberta Gratz, *The Living City*, p.xviii.
2. In 1997, additional research will be completed to document specific case studies of management strategies, which enhance streets so that they too contribute to community livability goals and support more efficient, effective, and convenient transit operations.