

TRANSPORTATION PLANNING

Transportation planning focuses on the efficient movement of people and goods from one place to another. It considers many different modes, including pedestrians, bicycles, automobiles, freight, public transportation, and ports and airports.

Transportation planning directly influences urban form and community character. It has a major impact on settlement pattern—it can either promote compact settlement or encourage urban sprawl. Moreover, the design, modal mix, and location of transportation infrastructure and facilities affects urban form and functions, the quality of life in a community, energy consumption, and global climate change. Transportation planning must also be coordinated with land-use, environmental, and social planning.

TRANSPORTATION PLANS

Local Transportation Planning. The transportation element of the local comprehensive plan should include all modes of transportation, how they relate to one another, the areas in the immediate vicinity of transportation facilities, and the relationship between the transportation element and other elements of the plan. The level of detail in the transportation element will differ from jurisdiction to jurisdiction. In some small communities, it will deal only with roads and bicycle and pedestrian facilities. In larger communities, the element addresses the full range of transportation options, and some of them, such as public transit or airports, may be managed by specialized government entities, such as authorities, and may be operated by private enterprises. The transportation element is one of the most quantitative elements of the comprehensive plan, defining timeframes (from five- to 25-year projections), levels of service, demand, and more.

The local transportation element should include: an overarching vision statement for transportation in the community; goals and measurable objectives; an inventory of the current transportation system; an analysis of existing and future transportation needs; policies and recommendations; and implementation measures.

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Regional and State Transportation Planning. Transportation planning is also performed at the regional and state levels. In order to receive federal funding for transportation projects, the metropolitan planning organization (MPO) of each region in the U.S. with cities of more than 50,000 people must prepare a long-range transportation plan. States prepare statewide transportation plans.

Types of Transportation Plans. The regional transportation plan and the statewide transportation plan differ from the local transportation plan in several important ways. The regional and state transportation plans are multijurisdictional, while the local transportation element focuses on a community's internal transportation needs. The regional plan addresses major components of the transportation system, such as major arterial roads, regional public transportation systems, and regional bikeways. A local transportation plan addresses all streets in the community as well as such issues as neighborhood transit access, community walkability, and traffic calming—physical changes to streets to make them safer for pedestrians and cyclists by using design features to slow down traffic.

TRANSPORTATION PLAN CONSIDERATIONS

Automotive Transportation. A major component of the transportation plan is the thoroughfare component, which depicts the location of existing and proposed roadways. As the basis of the corridor map, it should contain specific information about planned road projects, such as new roads, removal, widening, narrowing, and access control, as well as proposed future land uses related to the transportation plan. The plan's corridor map designates land intended for the future construction or improvement of transportation facilities. The corridor map also indicates private property that is required for new roads or widenings. This gives landowners due notice that a government entity intends to "take" or formally acquire title to the land under eminent domain to provide a public facility. By adopting a corridor map and consistently applying it in the development review process, the local government can ensure that future roads and transportation facilities will connect with existing roads and transportation facilities.

Public Transportation. Public transportation includes buses, trains, trolleys, ferries, and other methods of mass transit. While the components of this section will vary, it should provide an analysis of current trends including existing public transit, transit system needs, ridership, and characteristics of users. Rural and suburban communities may include vanpools and dial-a-ride, or demand-responsive, programs in their plans. Large cities may include extensive networks of buses and trains. Communities without existing public transportation can include a plan for incorporating future transit into the community. Some public transportation elements include ports with ferry and freight services, railway stations and terminals, and airports, which are guided by airport master plans.

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Bicycles. The bicycle element should contain an inventory of existing and proposed bicycle facilities, including bike routes, bike lanes, off-road bike paths and trails, bike parking, and other related amenities, such as drinking fountains or benches for resting. The section also should contain recommendations for promoting the use of bicycles as efficient, sustainable, and healthy transportation.

Pedestrians. More and more people realize the health benefits of walking. Travelers using other modes of transportation usually begin and end their trips as pedestrians. The pedestrian component of the transportation plan should contain an inventory of existing and proposed pedestrian facilities, such as sidewalks and hiking trails, crosswalks, and an analysis of how other modes of the transportation system connect to, facilitate, and protect pedestrian traffic. The section also should contain recommendations and standards for new pedestrian facilities, such as requirements that all new subdivisions include sidewalks of sufficient width to enable and promote walking. Pedestrian safety and convenience are key considerations.

OTHER CONSIDERATIONS

Complete Streets. There is a growing movement to plan and design “complete streets” that consider the needs of all modes of transportation—walking, bicycling, buses, trolleys, light rail, cars, and trucks. Planning for complete streets should also consider the network of streets and pedestrian and bicycle trails to ensure that these various modes are accommodated in a network of transportation facilities throughout the city.

Transit-Oriented Development. Transit-oriented development is an ideal way to connect land-use and transportation planning. Transit-supportive communities encourage denser developments around transit stops, which can help improve public health, promote sustainable development, and create livable communities. Planning for interconnected streets, with smaller blocks and dense mixed use development near transit stops, gives people a range of transportation options and reduces private automobile trips. Goals and policies such as pedestrian accessibility should seek to steer new development toward transit stops and to provide bicycle and pedestrian connections.

Context-Sensitive Design. The natural, cultural, and historic areas in a community and the values and goals of the community will shape transportation plans. Planners and community leaders need to discuss the impacts of planned transportation projects with the people who will be directly affected by transportation development. Context-sensitive design considers historic and archaeological sites and landscapes; the demographics and sociocultural effects of transportation investments; viewsheds and scenic character; rivers, streams, and natural drainage features; landscape edges, fences, and tree lines; distant vistas, mountains, lakes, and other natural land forms; agricultural areas and open space; coordination with utilities; adjacent land uses; and community context.

Environmental Planning. Transportation systems affect the environment in several ways. Private automobiles are a major source of air pollution and greenhouse gases; roadways and transit corridors contribute to habitat fragmentation and destruction; impervious surfaces add to flooding and nonpoint source pollution; new roadways are a major driver of urban sprawl, indirectly leading to the loss of open space and farmland; and poor land-use planning along transportation corridors can lead to strip commercial development that increases vehicle miles traveled (VMT), thereby increasing greenhouse gas emissions. Transportation plans need to recognize and mitigate these impacts. The transportation element of a local comprehensive plan should be linked to the land-use and environmental elements and carefully considered in any applicable environmental impact assessments.



From top: A public bus accommodating a bicycle indicates a diverse ridership. The pedestrian component in a transportation plan promotes providing for the safe and convenient crossing of roads. A street design intended to integrate multiple modes of transportation.

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