U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration
RESOURCE CENTER

PLANNING

Land Use and Transportation Planning

Problem: Effective Integration of Land Use and Transportation Planning

Transportation plays an integral part in shaping our land use and development. Land use development directly affects the form and characteristics of the transportation system. Different groups from those making transportation decisions often make land use decisions.

Transportation planners, and more importantly decision-makers, need to be aware of the land use implications of transportation decisions. Likewise, land use planners anddecision-makers need to be aware of how land use policies affect the development and operation of the transportation system.

Putting it in Perspective:

Decisions affecting land use and transportation are often made in two independent environments.

- Transportation decision-makers consider the environmental and social impacts of proposed transportation improvements, but may not deal directly with the issue of how land use will be affected by the transportation investment. Other public investments (sewer, water, public facilities) also affect land development.
- While Metropolitan Planning Organizations (MPOs), State DOTs, and the US DOT are all involved in the transportation decision-making process along with local governments, land use decisions are typically made exclusively within the local government arena and for some areas fall completely outside of the planning process.

Solution: Develop Local Strategies to Integrate Land Use and Transportation Planning Processes

The Federal Highway Administration (FHWA) has developed several efforts to provide information on the issues, practices and technologies that relate to coordination of land use and transportation planning. This information exchange and dialogue can improve the link between land use and transportation planning and yield more comprehensive land use and transportation decisions.

Land use decisions can provide a strategy to address congestion through land use development that generates fewer and/or shorter vehicle trips. Land use development patterns can also shape individual travel needs. However, the myriad of institutional structures across the Nation obviates a "one solution for all approach" to the land use issue. Providing a review of the state of the practice, coupled with an explanation of the implications of land use and transportation coordination, helps communities define their own best approach for linking land use and transportation decisions. Through this approach, decision-makers will gain a greater awareness of the interrelationships between transportation and land use.

The FHWA Office of Planning, Environment, and Realty in coordination with the Federal Transit Administration Office of Planning, have several initiatives underway to improve land use considerations in the transportation planning process. While a course on Land Use and Transportation Coordination is currently available through the National Transit Institute (NTI), FHWA is examining the need for a more focused course on land use issues and applications. FHWA has also sponsored domestic scans on land use modeling and land use coordination and reports from these efforts are available on the Transportation Planning Capacity Building website **(http://www.planning.dot.gov).** Information on Smart Growth and Induced Travel is also available.

The FHWA Resource Center Planning Technical Service Team is also preparing a technical briefing on Land Use and Transportation Planning. This briefing is being developed in cooperation with the FHWA Office of Planning to augment existing resources on land use issues. This briefing will provide an introduction to the many issues involved in this topic and links to useful publications, research and other resources. The Resource Center planning staff is also available to provide technical assistance to State DOTs, MPOs and other local agencies on land use and transportation planning issues.

Successful Applications:
States' Results Demonstrate Success

Chicago, IL

As the Northeastern Illinois Planning Commission (NIPC) began efforts to prepare a 30-year regional growth forecast for transportation planning, regional visioning, and related initiatives, they looked for a GIS based tool to facilitate this process. NIPC introduced Paint the Town, a GIS tool designed to support the discussion and compilation of forecast expectations from 272 mayors in the northeastern Illinois area during individual meetings. Local officials were able to use the planning support software to "paint" their communities with desired growth patterns and acquire immediate feedback in terms of future population, housing and jobs. This tool improved information gathering about local aspirations, and the explanation of the demographic and economic trends affecting those aspirations. It also served to enhance communication with local officials, making the NIPC forecast process more understandable and collaborative.

San Diego, CA

Planners in San Diego found GIS tools and analytical methods helpful in creating realistic land use scenarios and in communicating the implications of alternative transportation and development choices. A GIS based tool was applied in a mid-city neighborhood to help the community identify redevelopment options in conjunction with the completion of a freeway through the neighborhood. The model was used interactively in community workshops in order to help people understand the impacts of different zoning policies on redevelopment potential, energy use, vehicle travel, and other performance measures.

Charlottesville, VA

With support from a TCSP grant, the Eastern Planning Initiative project in Charlottesville, Virginia constructed future growth scenarios. They created a spreadsheet-based model known as CorPlan to tie growth to specific urban design patterns. CorPlan is based on "community elements" that contain different amounts and mixes of density, design, and infrastructure within a quarter mile radius. Planners associate each traffic analysis zone (TAZ) in the region with combinations of community element types, providing a variety of scenarios. The community element information, which is stored in a spreadsheet, can be linked with ArcView to graphically display the proposed development scenario. The TAZ level forecast population and employment for each scenario can be exported for input into the regional travel demand model. The community elements and CorPlan model were used in conjunction with public workshops in Charlottesville to illustrate what growth might look like under different land use policy scenarios. Based on the model, alternative regional development scenarios were then constructed.

Additional Resources:

NTI Coordinating Transportation and Land Use course **(http://www.ntionline.com)**

FHWA Smart Growth Information **(http://www.fhwa.dot.gov/planning/sgindex.htm)**

FHWA Induced Travel Questions and Answers **(http://www.fhwa.dot.gov/planning/itfaq.htm)**

Transportation Planning and Land Use Seminar—Under development (contact Resource Center Planning Team)

Benefits:

Improved transportation and land use decision-making processes affects the quality of life in communities. Improved coordination can reduce congestion, improve mobility, reduce air pollution and generally improve the quality of a community.

For more information, contact:

Jim Thorne, FHWA Resource Center
Phone: (708) 283-3538
E-mail: jim.thorne@fhwa.dot.gov

Ed Christopher, FHWA Resource Center
Phone: (708) 283-3534
E-mail: ed.christopher@fhwa.dot.gov

Sherry Ways, FHWA Office of Planning
Phone: (202) 366-1587
E-mail: sherry.ways@fhwa.dot.gov

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