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Linking Transportation and Land Use

A Peer Exchange

July 12–13, 2005
Boston, Massachusetts

TRANSPORTATION RESEARCH BOARD
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TRANSPORTATION RESEARCH CIRCULAR E-C100

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A Peer Exchange

July 12–13, 2005
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Prepared by
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University of Florida

Transportation Research Board
Transportation and Land Development Committee
Statewide Multimodal Transportation Planning Committee

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Introduction and Purpose

The Transportation Research Board (TRB) Transportation and Land Development Committee (ADD30) and Statewide Multimodal Transportation Planning Committee (ADA10) sponsored a national Land Use Peer Exchange during the summer meeting of the TRB Ports, Waterways, Freight, and International Trade Conference and the Joint Meeting of the TRB Planning, Data, Finance, Administration, Freight, and Management Committees in Boston, Massachusetts, on July 12–13, 2005. The participants largely represented state departments of transportation (DOTs). The peer exchange was supported by FHWA.

The purpose of the peer exchange was to facilitate an open exchange of information on experiences, successes, new activities, obstacles, and concerns, and topics that need further research. The primary product of the peer exchange is this proceedings prepared by Ruth L. Steiner of the University of Florida Department of Urban and Regional Planning. These proceedings include

- Descriptions of ongoing land use activities;
- Identification of the types of activities in which agencies have been successful;
- Identification of new activities that these agencies may be interested in pursuing in the near future; and
- Identification of obstacles to the successful coordination of land use and transportation activities.

The report presents the results of both the discussion and written responses of participants in the peer exchange.

Participants

Peer review participants mostly represented state DOTs from across the nation. A few members of the TRB Transportation and Land Development Committee also were present to provide additional perspectives. Nat Bottigheimer, with the Maryland Department of Transportation, chaired the peer exchange. The list of participants is shown in Table 1.

TABLE 1 Land Use Peer Exchange Participants

Participant	Agency or Organization
Nat Bottigheimer	Peer Exchange Chair; Maryland Department of Transportation
Katrina Ricks	District Department of Transportation
John Quick	Utah Department of Transportation
Edwin Hard	Texas Transportation Institute
Barry Seymour	Delaware Valley Regional Planning Commission, (Philadelphia, Pennsylvania)
Angela Watson	Pennsylvania Department of Transportation
Joseph Palladi	Georgia Department of Transportation
Barry Driscoll	Vermont Agency of Transportation
Marsha Fiol	Virginia Department of Transportation
Thomas Down	Kansas Department of Transportation
David Clawson	American Association of State Highway Transportation Officials
Robert Dunphy*	Urban Land Institute
Ruth L. Steiner*	University of Florida, Department of Urban and Regional Planning
Jonathan Gifford*	George Mason University
Kimberly Fisher	Transportation Research Board Staff

**Member of TRB Transportation and Land Development Committee (ADD30)*

Organization and Structure of the Meeting

In preparation for the meeting, participants were sent a questionnaire regarding current land use activities in which their agency is currently participating, including:

- What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long-range comprehensive planning efforts, transit-oriented design, or coordination with transit provision)?
- Please describe the most innovative land use planning activity. This can be activity that succeeded or failed (we often learn more from those that fail!).
- What factors caused you to become involved in this activity?
- What benefits have you found from this activity?
- What challenges or obstacles have you faced in this activity?
- Looking into the future, what other land use activities do you think you will begin? What are the obstacles to these activities?
- What are the obstacles to land use planning in the transportation planning profession?
- What activities would help support land use planning in the transportation planning profession? For each idea, please suggest who should take the lead and a time frame (1 year, 5 years, etc.)

The responses to the surveys are included in the appendix (beginning on page 30).

The meeting was conducted over 1½ days. At the beginning of the peer exchange, participants introduced themselves by providing an overview of their respective DOT, the role of planning within the DOT and the state, and the types of land use activities accomplished in the agency. These introductions showed a wide diversity of planning and land use activities. The DOTs varied by the facilities owned within the state, the type of DOT policy involvement, the obstacles to addressing policy issues, the source of policy pressures, programs that are in place, state financial conditions, and political situations. On the second day each participant made a brief presentation on their agency land use initiatives. As the presentations were made, participants identified innovations, successes, and obstacles to the implementation of land use solutions. After all of the presentations had been completed, participants conducted a general discussion of obstacles to the implementation of land use strategies by transportation agencies, next steps, and areas for further involvement and research.

Agency Activities

The participants reported a variety of activities in which their agencies participated and, in particular, the agency's roles in land use. In some cases, the agency took a strong proactive role in coordinating land use, while in other situations the agency took a limited role such as coordination and training.

UTAH DEPARTMENT OF TRANSPORTATION

The Utah Department of Transportation (UDOT) has been involved in development of the Wasatch Front 2040 Plan. This plan involves citizens and local officials, cities and suburbs and two metropolitan planning organizations (MPOs)—Wasatch Front and Mountainland Association of Governments—and was facilitated by Envision, Utah. The plan covers four counties from Odgen (on the north end) to St. Lake City and Provo and Orem. The 2040 plan was developed by looking at the land use plans, how they feed into the transportation plan, and how both of these plans fit into the region's future. The 2040 plan also considers the reverse relationships—how the transportation plan influences the land use plan. The plan was funded by the two MPOs, UDOT, U-Transit Authority, and FHWA.

The process began with a series of public 13 workshops in which 949 citizens, or an average of 73 per session, participated. The workshops included two components: a quality of life survey and a group visioning process. The quality of life survey was used to identify what growth, transportation and environmental issues citizens care about most. The responses were used by a steering committee to develop growth principles. Respondents identified transportation as the third most important general concern, after education and the economy. Transportation concerns included

1. Traffic congestion;
2. Transportation choices: viable walking, auto, bicycle, and public transportation;
3. Convenient and reliable public transportation;
4. Efficient transportation of goods for businesses;
5. Transportation routes have minimal effects on natural environment;
6. Safe walking and biking routes; and
7. Accessibility for elderly, disabled, and low-income residents.

Environmental concerns included

1. Air quality;
2. Water quality;
3. Water conservation;
4. Efficient energy use;
5. Preserve habitat and sensitive lands;
6. Access to outdoor recreation;
7. Preserve local agriculture; and
8. Minimal noise and light pollution.

Growth concerns included

1. Jobs to employ future generations;
2. Housing opportunities for all income levels;
3. Walkable developments that mix shopping, housing, and offices;
4. Jobs and shopping within a short driving distance of homes;
5. Look and feel of neighborhoods;
6. Reuse of underutilized land and buildings;
7. Housing near public transportation;
8. Environmentally friendly industry;
9. Preserved historic areas and buildings; and
10. Housing near freeway entrances.

After the surveys had been completed, the responses from the four counties—Weber, Davis, Salt Lake, and Utah—were used to identify the most important growth issues. For example, residents of three of four counties identified "jobs to employ future generations" as the greatest concern in their county while residents of the other identified the "look and feel of neighborhoods" as of greatest concern.

The visioning process included a mapping exercise in which participants were provided with the following items: a map of the area, markers, transportation tape, stickers, and chips. Their challenge was to accommodate 1.3 million people (or one city the size of Minneapolis) in the four counties by 2040 or a new community the size of Murray, Utah, each year. In these workshops, the residents developed proposals for regional transportation network to build on the existing state roadways in the region which are predominately north–south roadways.

Upon the completion of the workshops, the planning team completed comparison of the results to identify: (*a*) what development locations were the most popular; (*b*) what type of growth was preferred; and (*c*) what unusual and interesting ideas emerged. Based upon this analysis, they developed four different land use–transportation scenarios to show what the region would look like and modeled the impacts using the UrbanSIM model. The model included infrastructure projects, their costs, their impacts, and their impact on development of the region Then public open meetings were held that included the following activities: (*a*) description of the scenarios (and how they relate to growth principles); (*b*) description of the estimated outcomes of scenarios; (*c*) explanation which ideas within each scenario are supported (using colored dots); and (*d*) understand which scenarios are supported.

In addition to the 2040 plan, UDOT has also been involved in several other programs that coordinate land use and transportation. They have created a new access management program and revised the state code. The new code clarifies the permit process, establishes access categories assigned to the state highway system, and provides spacing standards for access points in relation to the categories. The development of the access categories and standards for Utah state highways was the result of four years of study and investigation. They have developed a state revolving fund program to finance corridor preservation for transportation corridors. This program provides an opportunity to preserve significant corridors. The state legislature initiated a county-based corridor preservation program this last year. This program is funded by a $10 increase in vehicle registration fees and is to be used for local corridors in the county where fees are collected.

VIRGINIA DEPARTMENT OF TRANSPORTATION

The Virginia Department of Transportation (VDOT) has used access management, scenario planning, and corridor preservation and has participated in comprehensive planning, pilot projects, and multiple Virginia Transportation Research Council (VTRC) efforts that have evaluated practices and outcomes. The state has a variety of approaches to planning. For example, in the Interstate 81 project, VDOT developed a series of "what if" scenarios to understand their options. The analysis will be used in a visioning process to guide the decisions of the agency. They developed aggressive access management plans. VDOT emphasizes the safety implications and access control when negotiating with local governments. They also emphasize the financial aspects of access management; once the state buys right-of-way for limited access, it is not likely to break access.

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

The Pennsylvania Department of Transportation (PennDOT) has been involved in a number of land use initiatives since 1999. These activities include a variety of studies that link land use and transportation, such as, corridor studies (land use, access management, and project recommendations), interchange studies, transportation element of county and multi-municipal comprehensive plans, revitalization analysis and recommendations, and regional greenway plans. The major guiding document for coordinated land use and transportation in Pennsylvania is PennDOT's Sound Land Use Implementation Plan (State of Pennsylvania 2004), which was first introduced in November 2000, is updated on an annual basis. There are a total of 45 ongoing activities under the current Sound Land Use Implementation Plan including Rail Freight Properties Directory, Airport Hazard Zoning and Land Use Compatibility Plan, System Land Use and Master Plans, Traffic Calming Handbook, Access Management Model Ordinances, Sound Land Use Planning for Traffic-Generated Noise Model Ordinances, Transit Revitalization Investment Districts, Context-Sensitive Solutions, and Transportation/Land Use Funding Initiative.

The Sound Land Use Implementation Plan includes an interagency taskforce on land use that promotes staff cooperation, establishes investment criteria, and a builds on letter of understanding. The interagency taskforce considers state agency programs and policies that impede sound land use management, and support conservation of natural resources, responsible development, and economic growth. The coordinated response is directed at reducing the negative environmental, economic, and social trends caused by existing land use practices and transportation investment criteria. This group develops policies and strategies for sustainable development investment criteria that conserve land and open space, reuse previously developed sites, and rehabilitate existing infrastructure. Ten state agencies signed the Interagency Consistency in Land Use Review Letter of Understanding to apply a more consistent approach in the application of the Pennsylvania Municipal Planning Code requirements.

Another component of the Sound Land Use Implementation plan is the Transportation Project/Land Use Coordination Initiative. PennDOT provides federal transportation planning funds to local communities for studies and coordinated activities linking land use planning and transportation. Figure 1 shows the variety of transportation approaches under the umbrella of this program. PennDOT has provided $2.5 million for a variety of projects. Examples of how these

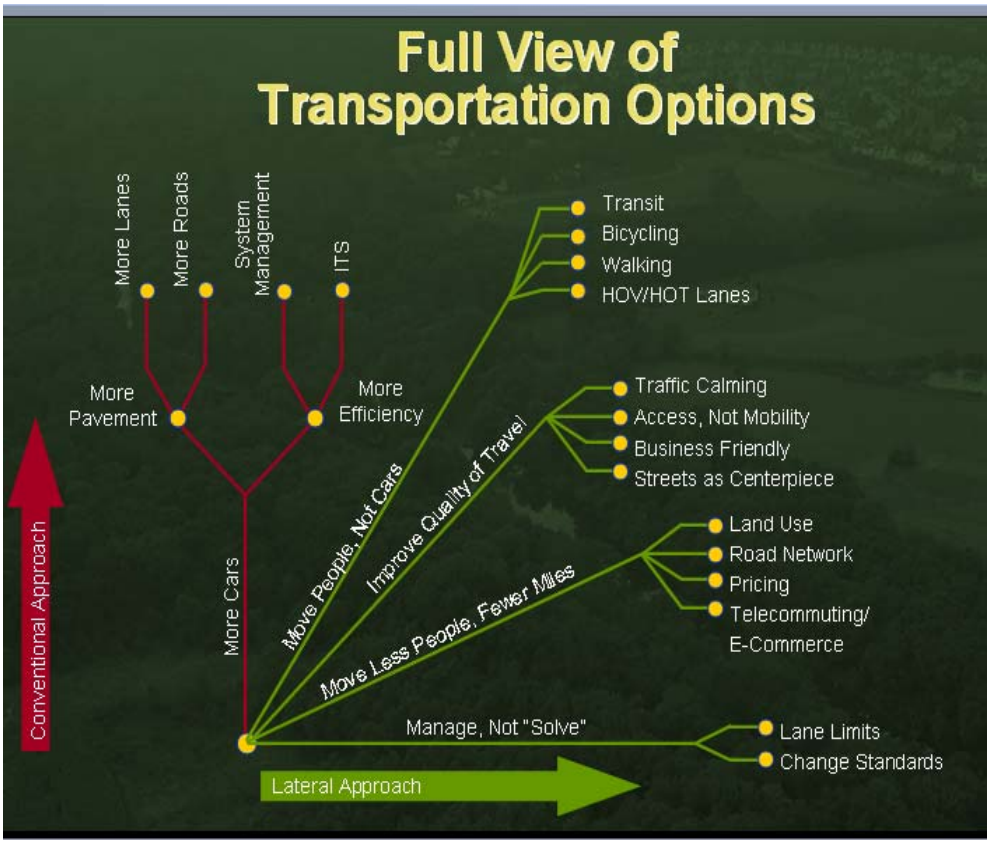

FIGURE 1 Full view of transportation options (Source: PennDOT 2005).

funds have been used include the development of a transportation element in local comprehensive plans, access management, hometown streets programs, and education and training.

For example, the Lehigh Valley Planning Commission (LVPC) received funding for three major projects. The first project, Land Development Impact Analysis, was funded in 2001 to analyze individual development projects, evaluate highway and transit improvement needs that result and estimate fair allocation of improvement costs to responsible parties. LVPC developed a Nazareth multi-municipal transportation plan as the second project funded in 2002. The third project was an Access Management Model Ordinance was approved in 2004. Under this part of the program, the LVPC will provide training to surrounding municipalities on access management practices. In addition, they will integrate PennDOT's access management model ordinances into their training program.

PennDOT has also developed an Access Management Model Ordinances for Pennsylvania municipalities. This 42-page handbook includes three tiers of model ordinances and case scenario exercises on how to choose various techniques. The primary audience is municipal officials and planners. The project, which includes a handbook and training, is co-sponsored by Pennsylvania Planning Association

KANSAS DEPARTMENT OF TRANSPORTATION

The Kansas Department of Transportation (KDOT) does not get involved directly in land use issues; however they have worked with microsimulation models, access management, and have completed some travel demand modeling for MPOs (Lawrence and Topeka MPOs). KDOT was involved in a study in Lawrence in which they had spent $6 million in the 6th Street corridor near I-40 and a developer purchased access rights. KDOT assumed that the developer would build 400,000 ft^2 of retail, while the developers sought 1.2 million ft^2 of retail development. KDOT developed a microsimulation model of the corridor (US-40) to how the proposed development, local street network, and the state network would function. As a part of this process, they met individually with property owners regarding plans along corridor and reviewed future land use in adopted local plan. They then took the proposal and cut the level of development in half. When the results of the model were available, the neighborhood association concluded that the results were "not our worst fear, but worse than our worst fear." KDOT then analyzed the effect of additional improvements to road network and estimated opening day traffic (current + new trips for development) rather than the current + growth + new trips. Based upon these analyses, they developed four transportation and land use scenarios and organized a joint study session of city commission and city-county planning commission. The commissioners were forced to make three decisions: How much congestion would they allow? How much of the improvements would be funded locally? And how much would they restrict land use?

This pilot project was a partnership between various offices in KDOT including the districts, area engineers, urban planning, statewide planning, corridor management, program and project management, and design. Other partners include: consultants, business owners, local elected officials, citizen advisory groups, MPOs, and local government departments: planning, public works, and economic development.

KDOT has since been involved in other similar plans. These include the I-40 Cumulative Traffic Impact Study as a part of the Ottawa Transportation Master Plan; SR254 Corridor Study as a part of the Manhattan, Lawrence, and Topeka Travel Demand Model 254; Emporia I-35/I-335 Interchange Reconfiguration as a part of the Lawrence Vision Plan; and the US-24 Corridor Study (Tonganoxie to K-7) in the NW Wichita Bypass Overlay District.

VERMONT AGENCY OF TRANSPORTATION

The State of Vermont has utilized a number of land use related program activities and policy directions. For example, since 1992 the Vermont Agency of Transportation (VTrans) has managed a consultative planning program to incorporate the nonmetropolitan areas of the state into the transportation planning and decision-making process. Vermont has one MPO in the Chittenden County area (Burlington) which has had a long-standing planning relationship with VTrans over many years. The Vermont Transportation Planning Initiative (VTPI) was specifically designed to be the core of a new state, regional, and town partnership in transportation planning and policy development with the following principal objectives: (*a*) moving decision making as close as possible to the local level; (*b*) expanding citizen involvement; and (*c*) providing direct connection for local officials to affect transportation planning and programming decisions. The focus for this program is Vermont's 11 Regional Planning Commissions (RPCs). These organizations are legislatively chartered entities with

specific responsibility for regional land use planning as well as providing technical assistance to municipalities responsible for local land use planning.

VTrans has also recognized the importance of access management as a tool that integrates land use and transportation planning. Over the past few years the agency, as well as other regional and local entities, have researched and defined good access management policies and guidelines. In particular the VTrans utilities and permits section has produced and distributed the access management program and guidelines and local zoning and subdivision regulations that support access management in local communities. The above guidelines do not have the force of any state statute, although Vermont statutes provide for the regulation and control of vehicular access to and from the state highway systems. Consequently, the state is in the position of educating and advocating for the local land use policies and decisions that will further access management goals. VTrans, in partnership with the RPCs and the Chittenden County MPO (CCMPO), looked at ways to teach town officials, developers, and the public about transportation access management. The agency hired a consultant to help prepare marketing material to promote and educate local officials and the public on the benefits of access management. The scope of work included researching and documenting the current state of the art practices including a "best practices" summary for Vermont, critiquing what fits, what needs updating, and what is lacking. Next, market research and analysis was done to identify the most common stakeholder concerns, the most common local and state responses, what information/actions can address these concerns, and what methods of communicating access management practices have been effective in other locations. This information was analyzed and combined into a marketing action plan which helped define how the recommended information/actions can be best delivered and presented so that stakeholders will know that their concerns are being taken seriously and addressed, and how access management activities will benefit their property and their community.

Next, multimedia methods and materials to train the trainer both at the state and local level were prepared. This task included both the training methods and the presentation itself. The training methods include a training manual that explains all the slides in the power point presentation including a matrix to explain which slide is appropriate for each audience. The manual also includes helpful hints for the presenter to keep in mind in preparing the training session or the presentation. VTrans conducted a training session to teach the RPC/CCMPO staff how to present the materials. The presentation and the learning materials were built so that the RPC/CCMPO staff could tailor their discussions to different audiences including the general public, developers, or local officials and could provide a short presentation or a longer 2-hour, or even half-day training. They made the presentation materials visually stimulating, interactive, entertaining and educational.

The workbook was developed to provide information helpful in understanding access management. The workbook includes state and national resource materials, a brochure targeting developers, a copy of the power point presentation, and the interactive example of exploring access management problems and solutions.

An access management website (www.vtaccessmanagement.info) specifically targeting Vermont's policies and providing information about access management in Vermont was built as an additional tool for local communities, planners, and developers and is linked to the agency website. These tools represent a comprehensive approach to teaching the benefits of access management. An advisory committee composed of RPC and CCMPO representatives, municipal

representatives, and VTrans staff oversaw the project. The project was completed June 2004 and materials were distributed to the RPCs and CCMPO for presentations.

Lastly, VTrans is actively pursuing a corridor planning approach. The intent is to link transportation and land use planning by using the RPCs to accomplish the corridor studies. VTrans is in the process of finalizing a corridor planning handbook which will guide the RPCs as they assess corridors in their respective regions (VTrans 2005a).

GEORGIA DEPARTMENT OF TRANSPORTATION

The Georgia Department of Transportation (GDOT) has been involved in the following activities:

1. Dialogue and coordination of land use planning requirements for region and local governments with the Chamber of Commerce, Georgia Regional Transportation Authority (GRTA), the Atlanta Regional Commission (ARC), Georgia State Road and Tollway Authority (SRTA);
2. A congestion task force, which is comprised of GDOT, SRTA, GRTA, and the ARC, and defines evaluation techniques to determine project priority;
3. The Governor's Revenue Task Force, which determines new areas of available revenue for both state and local needs;
4. The revised access management policies governing driveways, interchanges, and medians;
5. Project manager on context-sensitive design (CSD) for the Atlantic Station and 17th Street Bridge brownfield redevelopment;
6. Education using media presentation on the benefits of medians, access management, and other transportation initiatives;
7. Review of zoning changes and impacts to project corridors; and
8. Modeling for 14 of 15 MPOs in state (all except ARC).

In addition, GRTA leads the review of statewide development impacts of development of regional impact projects. The ARC leads the corridors and centers initiative, which coordinates projects within corridor for similar multimodal operations and "themes," and the Livable Communities Initiative, which coordinates the review of CSD proposals.

GDOT uses a video to educate local governments, developers, community leaders, and citizens to understand the reasons for using medians, the types and contexts in which they can be used and their benefits. The video includes the following topics:

1. The types of medians;
2. How medians eliminate turning movement conflicts;
3. The criteria for their use and choice of median type;
4. Concerns of local businesses; and
5. The community benefits or medians.

GDOT uses three types of medians: raised, which manages access and improves safety and provides a pedestrian refuge; flush or "two-way left-turn lane" (TWLTL), which are used in

urban–suburban areas; and depressed grass, which allow for higher speeds on state "through" routes.

The benefits of raised medians are several. They reduce crash rates and points of conflict. They provide uniform traffic flow while concentrating and improving left turns and U-turns. Raised medians provide a pedestrian refuge at mid-block and intersection crossings and aesthetic benefits because of the landscaping opportunities.

Some business owners have expressed concerns that medians would adversely affect their business. They are concerned that pass-by traffic could have difficulty getting to their establishments. Numerous surveys indicate patronage remains the same or increases after installing medians. In fact, property values often go up (Iowa State University, 1997; Eisele and Frawley 1999; Rees, Orrick, and Marx 2000).

DISTRICT DEPARTMENT OF TRANSPORTATION

The District Department of Transportation (DDOT) has been involved in a comprehensive plan update and transportation vision process called Trans-Formation Washington. The planning process is designed to address several unique characteristics of the region. The metropolitan Washington, D.C., area now extends 100 mi across and includes three states and the 69-mi^2 District of Columbia. For the first time in 50 years, the population in the city is growing. The city's landscape is being transformed by a building boom that is unprecedented in the city's history. The problems of the city are different than most metropolitan regions. While concentrated poverty has declined in most American cities, it has increased in Washington, D.C. Washington remains more segregated than most American cities.

The Trans-Formation process began with a Citizen Summit III, attended by over 3,000 residents. The strategies identified in the summit include using boulevards and corridors, and new transportation modes to connect the city. The city is promoting transit-oriented development (TOD) by focusing development initiatives around its Metro stations to fully capitalize on this public investment while addressing regional traffic and congestion issues (DDOT 2002). Twenty Metro stations have been identified as having especially high potential for development

The planning process is organized around both transportation and economic development objectives, which include downtown revitalization, waterfront revitalization, transit enhancement, and a Great Streets Initiative. The transportation components of the plan include:

- Waterfront access—designs for recreational trails, riverfront park roads, pedestrian access from bridges to waterfront, and removing infrastructure barriers to waterfront access and development;
- Corridor streetscape design—streetscape design in support of economic development objectives, differentiation between commercial and residential activity districts, historic preservation, and enhancement;
- Transit enhancements—service to economic growth corridors, stimulus for local economic development and investment;
- Comprehensive and neighborhood planning—cooperation with D.C. Office of Planning on land use planning and transportation linkages from the comprehensive plan update to local neighborhood plans; and

- TOD—coordination on joint development projects, and establishment of new headquarters office as economic catalyst.

The Anacostia Waterfront Initiative is an example of this comprehensive planning process. This planning effort has engaged over 5,000 people over the last 4 years. The Anacostia River is Washington's lesser known and most underutilized natural resource. Today, this 14-mi waterfront corridor divides the eastern and western parts of the city. In 2000, Mayor Williams set an agenda to revitalize downtown D.C. and make the Anacostia the centerpiece of 21st-century Washington. The goals of the plan are to refine a vision of a living downtown, direct new growth, and identify strategic public and private actions. The objectives of the plan are to expand the downtown business core to the east and south, create a 24-h city, increase use of transit, incorporate safety and security into the plan, and to connect the downtown and the National Mall.

The Anacostia River Initiative attempts to connect the city in many ways: through bridges, light rail, public spaces, bike trails, and greenways. The initiative envisions a new urban gateway and regional parklands that incorporates the following themes: a clean and active river, breaking down barriers and gaining access, a great riverfront park system, cultural destinations of distinct character, and strong waterfront neighborhoods. These themes build on each other to create a great waterfront and great neighborhoods and improve the quality of life for the entire city and the region

The plan involves a 25-year build-out with goal of an Anacostia waterfront that will have a swimmable river, four new neighborhoods with 20,000 units of housing, 1 million ft^2 of retail space and 20 million ft^2 of commercial space. The transportation investments include five new bridges and a new southern gateway to the Nation's Capital along South Capitol Street, 20 mi of Riverwalk, a new light rail line, 100 acres of new parks added to enhanced recreation facilities at Anacostia Park, 10 new museums, and 25 new memorials. Transportation infrastructure is critical to implementing change and involves three major projects: the South Capitol Street Bridge, 11th Street Bridge, and the Anacostia Freeway. The plan would also establish a street network grid to the waterfront to support redevelopment and design strategies and design guidelines. The plan also includes five major transit projects:

1. Silver Spring Station south and east to Minnesota Avenue Station;
2. Woodley Park Station to Minnesota Avenue Station via Union Station;
3. Georgetown to Minnesota Avenue Station via Union Station; Minnesota Avenue Station via Anacostia Station to National Harbor; and
4. A starter streetcar line from southwest waterfront with river crossing to Anacostia Station and Minnesota Avenue Station.

Another component of the DDOT coordinated transportation and land use planning is the Great Streets Initiative. Presently, some of the city's greatest streets—Pennsylvania Avenue, H Street NE, Martin Luther King Jr. Avenue, Georgia Avenue—don't look great. They have great infrastructure, great neighborhoods, and great potential but lack a public environment that reflects that. DDOT intends to make investments to change the image of these streets to reflect the look and feel of the neighborhoods they serve and create a public environment that invites private investment.

A good example of the Great Streets Initiative is the 8th Street Barracks Row. DDOT made $8 million public investment in streetscape improvement in 2003–2004. In the last 2 years alone, an additional $8 million in private investment has been made in the corridor. Thirty-two new business establishments, including nine new outdoor cafes, have opened since the completion of the street enhancements. These businesses are bringing in $80,000 in sales tax annually. This project was a partnership of several agencies in D.C. government. The DDOT made the streetscape enhancements; the Economic Development Department assembled the land and provided gap financing. The utilities, the private sector and the DDOT partnered to provide the landscaping, low impact development (LID), and green infrastructure. The Department of Parks and Recreation (DPR) provided the parks and open spaces. DDOT partnered with Washington Metropolitan Area Transportation Authority (WMATA) to provide the transit enhancements. The DDOT provided for the reconstruction and rehabilitation of infrastructure.

The city leadership believes that the public environment influences private investment decisions. For example, in 1999 when local merchants, residents and property owners came together to create the Barracks Row Alliance, which later became Barracks Row Main Street, the typical indicators were looking good—crime numbers were dropping, home sales were rising, new employment was coming. But the businesses were not. DDOT worked with the main street organization, Advisory Neighborhood Commissions (ANCs), and residents to develop a signature streetscape and spent $8 million in the area. That investment was one factor that helped give Barracks Row the extra edge it needed to really begin to attract new businesses and investment. It created an environment that felt safe and looked like a special place. Retail activity was not growing until the city completed streetscaping. On the 1.5-mi corridor, the city was able to accommodate 1,000 new housing units, revitalize existing neighborhood assets (Atlas Theater, historic retail, over-the-store residential), develop a new multimodal anchor behind Union Station, and incorporate a new streetscape and new transit service in the form of express bus. Eventually, the city and WMATA plan to implement “the next generation of transit” in the form of bus rapid transit (BRT) or light rail transit (LRT). The DDOT intends to make investments that will make that kind of rejuvenation possible for other great streets in the district.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

As the MPO for the Philadelphia region, the Delaware Valley Regional Planning Commission (DVRPC) has always sought to integrate land use and transportation planning. Since its inception in 1965, DVRPC has prepared a long-range land use plan in conjunction with its required transportation plan. Following the adoption of Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the land use and transportation elements of the plan were joined, how the land use plan defines the framework for transportation projects.

The land use plan is implemented through a series of corridor and area plans and studies that work directly with local governments to assess local problems, define a vision for the future, and develop specific actions to achieve that vision. These plans tend to address transportation, economic development, the environment and land use. Recommendations and implementation actions may include detailed local zoning ordinance changes and innovative subdivision techniques. In addition, DVRPC works directly with local governments in the region to preserve local open space, and to develop farmland preservation plans and ordinances.

Policy analysis on a variety of land use issues in the region provides recommendations for state legislators, state agencies, and local land use administrators. In recent years, DVRPC policy studies have addressed the issues of property taxes, design for higher density development, infrastructure concurrency, and TOD. The TOD planning work included a regional inventory of 45 potential TOD sites, detailed planning studies for four of those sites, a community development marketplace that joined local governments with area developers, and the drafting of state legislation that was enacted in 2004 to support TOD in Pennsylvania.

Local land use planning is supported through a planning grant program - the Transportation and Community Development Initiative (TCDI). TCDI provides grants to selected older cities and developed suburbs to support revitalization planning. Planning studies must improve the local market for development and must improve the regional transportation network. Over the past 3 years, 76 local projects have been funded that have leveraged both public and private investment in these communities. In addition, DVRPC subsidizes part of the cost for the municipal open space plans. The DVRPC also provides technical assistance and education to support local efforts including information brochures on a variety of land use planning topics, conferences for local elected and appointed officials, workshops for local land use professionals, and information such as model ordinances available on the agency website.

Successes

The successes cited by participants in the peer review were several and multifaceted. These successes can be categorized into five areas:

- Participation of new and old stakeholders in new ways;
- Public education;
- Development and use of new planning tools;
- Development of new relationships with local governments; and
- Strategic public investments.

These are each described in more detail below.

PARTICIPATION OF STAKEHOLDERS IN NEW WAYS

State DOTs' managed planning processes involve new stakeholders on specific projects as well as transportation planning generally. These public involvement processes have helped the DOTs to reinforce the commitment to short-term projects but they may also have long-term benefits. The real product may be the active engagement of the citizens and other state agencies that will change how the public understands the coordination between transportation and land use.

In Utah, the Wasatch Front 2040 involved 949 participants in 13 workshops for an average of 73 persons per workshop. The Citizens Summit III in Washington, D.C., involved 3,000 citizens. In its Sound Use Implementation Plan, PennDOT is working with other state agencies to facilitate regional development plans that address the connection between transportation and economic development. In Pennsylvania the state and regional action plans were developed through a one statewide and nine regional conferences. PennDOT provides local governments with funding and incentives to achieve mutual goals, strengthen intergovernmental processes and collaboration, and increase efficiency in municipal service delivery. KDOT is working directly with developers to help them to understand the importance of site design and access management to maintain capacity on the adjacent state highway. The DDOT works with several city departments on the streetscape enhancements. The DVRPC has been working with the states of Pennsylvania and New Jersey and their local governments to provide financial and technical assistance in coordinating land use and transportation. In Vermont, the Transportation Planning Initiative (VTPI) is the core of a transportation planning process that distributes annual grants to the nonmetropolitan RPC, expands citizen involvement, moves decision making to the local level, and enhances the ability of local governments to affect transportation policy and planning decisions.

PUBLIC EDUCATION

Several of the projects discussed in the peer exchange involved education of the public and other stakeholders about coordinating land use and transportation. The visioning processes and conferences used by UDOT, DDOT, KDOT bring new participants into the planning process and

facilitate a shared learning process for all participants. The visioning process provides a reality check for citizens who came to understand basic transportation planning. Similarly, GDOT, PennDOT, VTrans and KDOT educated developers on the benefits of different median designs and other forms of access management. DOTs also advanced land use practices by providing developers with additional information on the use of innovative techniques. In Pennsylvania developers partnered with 15 different small communities in a Development Showcase to educated other developers on how to develop in more sustainable ways.

ADDITIONAL PLANNING TOOLS

In the land use activities of some of the participants, new tools for the coordination of land use and transportation were used. As a part of their visioning process, UDOT used quality of life surveys to identify growth, transportation, and environmental issues that concerned citizens. UDOT used a mapping process in which citizens identified proposals for a regional transportation network. KDOT used microsimulation models to provide a graphic tool to help citizens understand the traffic flow along urban corridors. VDOT and the VTRC did an extensive scenario planning effort for exit 150 on I-81 with multiple interchange scenarios and multiple land use scenarios. VTrans and GDOT developed new tools and media to communicate the importance of access management to local governments, developers, and citizens.

NEW RELATIONSHIPS

Many of the land use activities of the state DOTs involved a change in the relationship between the DOT and other actors in the process. In most states, transportation planning is conducted at the state and regional level while land use planning is largely controlled by local governments. For successful coordination it is necessary all levels of government to understand the connections between local land use and regional and state transportation plans. In Pennsylvania, an executive order made it a priority for all state agencies to participate in the Sound Land Use planning process. Pennsylvania and New Jersey are both home-rule states, where all land is incorporated into local governments that retain full control over land use decision making. In order to influence land use in these states, the DVRPC worked directly with local governments by providing grants to local governments. Grants provide tremendous freedom for the local governments to craft local solutions, but require that they work within a regional policy framework that supports redevelopment and higher density in existing developed areas with available infrastructure.

State DOTs can encourage local governments to change their land development regulations to facilitate coordination. TxDOT has used zoning overlays along corridors to augment access, setback and landscape–streetscape regulations. KDOT has participated in the development of plats and other states are working with local governments to plan for local conditions by concentrating growth along transit stations.

STRATEGIC INVESTMENT

State DOTs can influence local land use planning through the use of strategic transportation investment. Examples of strategic investments include the DDOT policy of incorporating streetscapes into design to spur private investment in redevelopment. Pennsylvania's "fix it first" policy and the "right sizing" provision of its Smart Transportation Program balance financial resources with quality of life. DVRPC's corridor studies focus on land use management in the context of pending transportation improvement projects. These corridor studies identify changes in local zoning districts and drafted the text for local ordinance changes, including adoption of an official map and an access ordinance. While the plans were initially designed to address future land use given the defined transportation project, they also identify changes and revisions to the design of the transportation projects to better integrate with the land use vision of the plan. Similarly other DOTs have access management programs that ensure that public investments in highway capacity are not undermined by incompatible land development processes. DVRPC's station inventories of TOD plans and opportunities represent another example of coordination of public investment in transit with coordinated land use.

Challenges and Obstacles

Land use and transportation have a high level of interconnection. Land use decisions affect transportation decisions and transportation investments powerfully affect land use decisions. At times, transportation investments to lead land use changes, while in many situations land use changes are made and transportation investments lag. Many of the challenges associated with land use and transportation coordination occur because decisions in the two areas are made by different actors, at different geographic scales, and in different time frames.

For example, both Pennsylvania and New Jersey place land use decision-making in the hands of the individual municipalities. For example, among the 352 local governments in the Delaware Valley metropolitan area many are without land use expertise or the staff resources to work with other organizations. Both states heavily rely on property taxes as a means to fund local governments and school districts, resulting in land use decisions designed to maximize economic return and tax income. Both states also have strong case law that favors property rights and private developers, which coupled with small local governments with limited resources, sometimes results in a conservative approach and caution to try new land use tools.

The challenges to coordinate transportation and land use involve several obstacles including

1. Resources,
2. Lack of tools and data for coordination,
3. Coordination and political commitment,
4. Participation, and
5. Education and training.

RESOURCES

A lack of resources at the federal, state, and local level was cited as an issue for many of the participants in the peer exchange. The lack of resources occurs at all three levels of government and has a different impact at each level.

Many of the participants indicated that their transportation agency lacked both personnel and monetary resources to perform agency activities. The lack of resources has led to a shortage of staff, training, priorities, and time to coordinate among agencies involved in land use activities. The coordination of land use with transportation decisions frequently requires the comparison of multimodal transportation investments. Most DOTs do not have a method of allocating funding between and among the modes. Correcting mistakes can be extremely expensive because it may require right-of-way acquisition after development has occurred on land adjacent to the state highway.

DATA AND TOOLS FOR COORDINATION

Another impediment to the implementation of coordinated land use and transportation is the lack of tools and data to quantify the benefits that coordination of land use and transportation. State

DOTs need to know "how do we quantify the benefits from doing things a different way?" The following lists examples of the tools and data that are needed:

1. Tools:
   - Microsimulation may provide additional information on the connection between land use and transportation alternatives, but it also requires much more data than is typically needed in transportation modeling. Does the additional data collection and rigorous analysis result in better decision making?
   - We don't know how to determine the most cost-effective investment when comparing a suburban activity center to the same development in a different configuration or a different type of development in a different location.
   - Fundamentally, we don't know if we are we getting the biggest bang for a buck from transportation investments.
   - We also don't know how to choose the best measure of community, economic, and social benefits.
   - Should we select projects for a single individual community or to address regional needs?
   - Should regional funds be used only for regional transportation projects?
   - How can we look beyond level of service (LOS) and consider different measures of effectiveness for "smart transportation" investments.
2. Data:
   - There is limited data on differences in trip generation from different mixes of land uses.
   - We lack a good DOT data average daily traffic for all modes of transportation.
   - How do we predict the transportation impacts of land use changes associated with redevelopment densities?

Many felt that the coordination of transportation with land uses will require changes in roadway designs; much of the current roadway design is conducive to strip development. For projects to enhance efficient transit services, the DOT faces the challenge of allocating the roadway right of way while preserving LOS, capacity, on-street parking, sidewalk widths, and other demands on the transit corridor. Similarly, it was pointed out that the tools and ability to implement access management would require changes within state DOTs.

POLITICAL COMMITMENT

The opinion was expressed that the coordination of land use with transportation investments requires a political commitment that may often be lacking at the state, regional, and local level. Fundamental to this coordination is a need for leadership at all levels to transcend the politics that can develop and provide champions for the change in agency and public policy needed to overcome opposition. One potential obstacle to this coordinated land use–transportation initiatives is not getting the support and cooperation or "buy in" from staff, planning partners, or the public in general.

In the planning process, the federal, state, regional, and local governments each have a role to take in the coordination of land use with transportation investments. The segmentation of

responsibilities across agencies and levels of government also can create an obstacle to integrating transportation (generally at a state or regional level) with land use (generally at a county or local level). Even within a given level of government, the transportation and community development or land use planning responsibilities are segmented.

Obstacles at each level of government that were discussed at the peer exchange are identified below.

Federal–State Coordination

Some felt that perhaps the primary obstacle to coordinated land use and transportation is the lack of a mandate or direction from the federal transportation legislation for the federal and state agencies and MPOs to explicitly consider land use as a central element in transportation planning. Land use is not identified as a factor to consider in ISTEA, Transportation Equity Act for the 21st Century (TEA-21), and Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It was pointed out that there is no clear policy direction from FHWA that facilitates the integration of transportation and local land use solutions.

State-Level Coordination

It was also pointed out that state-level coordination is often missing in two respects: between states and between agencies at the state level. For example, in the DVRPC, three states—Delaware, Pennsylvania, and New Jersey—each have very different land use planning environments. It was observed that the lack of coordination between these states may affect the ability of the DVRPC to plan transportation for transportation and land use.

Within state governments, there can be conflicts between transportation investments and other state goals, such as economic development in rural areas of the state. In rapidly urbanizing areas, urban sprawl may extend out beyond the regulatory authority of cities and into counties with no zoning and little authority to regulate development. In these areas, the state may be involved in making transportation decisions but not in land use decisions. In both situations, internal pressures from other state agencies may compromise the ability of the DOT to make decisions that take the land use implications into consideration when transportation investment decisions are made. Even within the DOT there may be conflicts over spending priorities. For example, some parts of the agency may want to focus on congestion management, while others may emphasize the aesthetics of streetscape projects or the importance of bicycle facilities as a part of multimodal planning efforts.

State and Local Coordination

The relationship between the state DOT and local governments is a key component of coordinating land use and transportation in the states. While states have different ways of coordinating land use and transportation, local governments largely control the land use. However, states differ with respect to the coverage of the state highway system. For example, in Virginia, the DOT has responsibility for the state road system, which is the vast majority of the roads in the commonwealth. In other states, the highway system includes state, county, and local

roads. In most states, the DOT has limited authority to control the land use along the state roadways; however, they typically may control access to state facilities.

Differences in goals for the roadway network can create conflicts between state and local governments. Many states face situations where local governments, which have the zoning authority, are eager to approve zoning requests for development that cannot be accommodated by the existing transportation infrastructure. Local governments may allow land uses, such as schools or major shopping centers that accommodate economic development goals. These projects may consume greater statewide and regional capacity than the state anticipates when it makes a transportation investment. Some local governments do not always use their authority to require improvements when they are making zoning changes.

State DOTs often work with several communities at the same time. It was noted that when they do so, they need to understand and manage the relationships between these communities. Even when a state DOT comes to a community with a clear sense of its objectives, the community's history, negative feeling, and other preconceptions may prevent cooperation. The state DOT may not be able to influence growth along a congested state highway without the support of a local community. Small and rural local governments may lack the desire, the resources, or the expertise to take on land use changes. Local governments may not communicate their needs to the state DOT or their needs may conflict with state or regional goals of the transportation system. DOTs may also need to provide incentives for local governments to cooperate in efforts to coordinate land use and transportation investments.

Local Government Coordination

While most states allow local governments to make decisions about land uses, the number of local jurisdictions varies significantly; large numbers of local governments can increase the time necessary to coordinate state activities with local governments. For example, Pennsylvania has 2,565 municipalities, which is second only to Illinois in the number of local governments. Each of these governments has the ability to control land uses and planning or zoning. Several rural municipalities choose not to have comprehensive planning or zoning. Irrespective of the number of local governments, there may be a lack of communication across local governments. Smaller jurisdictions, especially those that may just begin to feel development pressure and are eager for development, may have an inexperienced, or overworked, staff. Many felt that a more comprehensive review of land use changes would help to ensure that issue are brought up, addressed and followed up, as necessary. Similarly, when a project affects other jurisdictions, coordination is needed across jurisdictions.

Long-Term Commitment and Coordination

As has been described, the state can have a difficult time obtaining agreement from local governments to coordinate land use with transportation investments. While getting the original agreement can be difficult, maintaining it over the long term can be even more challenging. Among the observations made by the participants are

- The ability for a state DOT to strike a long-term agreement when local government political structure changes frequently;
- Roadway agreements need to last 20 years while local officials and their attitudes towards growth may change more frequently;
- Decisions may be made by local officials for economic gain at the expense of the long-range transportation and land use plan; and
- There needs to be enthusiasm for, and commitment to, the plan even when state and local administrations change.

PARTICIPATION

Another set of obstacles to coordination of land use and transportation relates to the ability to get stakeholders to participate in the planning processes. In Utah, the Wasatch 2040 process presented a challenge to get some stakeholders fully engaged because a similar process had been completed for a specific corridor soon before the planning process. The meetings can be controlled by special interests and, as such, not involve all of the stakeholders. The public may not understand the need to participate because they may not understand how quickly the cumulative impacts of development occur. Or they may not want to participate if they fear gentrification or other changes in their neighborhoods. Finally, it was pointed out that it is important to involve the stakeholders in the planning process as well as the decision-making process. Yet, when the time comes to implement the plan, some participants may not agree with the decisions made and may take actions to prevent its implementation.

EDUCATION AND TRAINING

Another major obstacle to the coordination of land use with transportation investments is the education and training of existing and future transportation professionals. Many participants expressed the view that this will require changes in both the curriculum in universities and in the culture of state DOTs.

At the university level, some of this difference can be seen in the differences in the curriculum of transportation planning and transportation engineering programs. Many felt that planners and engineers need to be cross trained. For example, it was noted that planners need to understand how roadway capacity is determined while engineers need to be educated about the connection between land use and transportation, and planners and engineers need to understand the tools available to manage land use and transportation concurrently. The Urban Land Institute awards the Nichols Prize, which rewards students for planning a major development project with land use and transportation impacts. They have found teams with skills in planning, design, real estate finance, but the skills are not found in a single department.

Some participants made the point that, within state DOTs, there is also a need for reform at the staff level and in the consulting firms that are hired to do work for the DOT. Many state DOTs are dominated by engineers. Some engineers say they need to hire a “planner-type” without making the qualifications consistent with the needs for the position (e.g., making a planning degree a requirement for employment). State DOTs also may encounter difficulties in finding ways to institutionalize land use activities within the agency, especially in district offices

which are closest to the local governments but also away from the central office in the state capital.

Another challenge for state DOTs is to find consulting firms with staffs that can handle the requirements for land use activities. Many consulting firms are highly specialized in the areas in which they consult and the pre-qualification process of the DOTs may require that the firm have a professional engineer. Thus, the pre-qualified firms may not have the right skills to conduct planning studies or the DOT may need to hire a separate firm to handle the land use portion of a planning study. Some studies may involve other areas of specialization, such as urban design and economic development.

New Activities

Participants identified several areas of new activity in coordinating land use and transportation. Many of these efforts reflect the differences in practice in specific states, the current activities, as discussed above, and activities to overcome the obstacles identified above. The new activities incorporate the concepts of smart growth and smart transportation into ongoing transportation and land use planning activities and can be broadly categorized into the following three categories of activities: coordination and consensus building; multimodal and intermodal planning; and corridor management and preservation

COORDINATION AND CONSENSUS BUILDING

Several states identified new activities that could improve coordination and consensus towards the goal of better coordination of land use and transportation planning. These activities have been multifaceted and have attempted to better link transportation, land use, and economic development at the multistate, state, and local level, and with a variety of stakeholders. They have also attempted to dedicate resources for coordinated planning earlier in the local land development process and to couple smart growth with smart transportation. Participants in the peer exchange offered numerous examples of this type of coordination.

The DVRPC is now partnering with PennDOT and NJDOT on a new initiative to better link transportation, land use and economic development in the bistate region. A 1-day conference was recently held that brought together the state officials from the Northeast Association of State Transportation Officials (NASTO) to address these issues. DVRPC is now retaining a consultant team to assist with a number of additional tasks in the bistate region. The first product will be a Smart Growth Design Template that will define the policies and principles of Smart Growth in the Delaware Valley region, examine and revise the process of planning and decision-making for transportation projects, and develop the specific tools to support and advance a new approach to integrating land use and transportation. The Design Template will include guidelines for the various elements in the transportation system, linked to recommendations and design guidelines for existing and new land use patterns in the Philadelphia metropolitan area. Additional tasks the consultant may also undertake include the development of model ordinances, additional corridor studies and context sensitive solutions, or the development of new performance measures for transportation projects that consider a broader range of community needs and objectives, including land use objectives, beyond the traditional measures of congestion.

PennDOT is using the Smart Transportation theme as a part of a multifaceted planning effort that promotes the coordination of land use and transportation to the general public, MPOs and RPOs, planning partners, and the PennDOT staff. The “Smart Transportation” theme involves 10 criteria that reflect both transportation and nontransportation aspects of transportation investment. PennDOT, in cooperation with the Department of Community and Economic Development will develop a funding program to finance Transit Revitalization Investment Districts (TRID) studies at the local government level. Additionally, training will be provided in association with the Pennsylvania Planning Association.

Other states indicate that they expect discussions of land use activities to take place on a statewide basis. These activities would include consensus building prior to land use changes and greater outreach to citizens of areas in which major transportation projects are being proposed. Still other states suggest they will look for opportunities for the state DOT to work with communities who welcome them to help with land use planning. VTrans has regional planning coordinator throughout the state to work with local governments. These types of collaborations will build on successes.

Another area of collaboration that state DOTs are participating is with nontraditional partners. For example, PennDOT is working with county commissioners to send the message to local governments that they need to better coordinate local land use planning with transportation investments. PennDOT has also established interagency teams at the state level to coordinate transportation with land use and economic development. In Utah, businesses have led the initiative for collaborative land use and transportation planning and the DOT has brought the MPOs and other stakeholders into the process.

MULTIMODAL AND INTERMODAL PLANNING

Another area of future and ongoing activity is in multimodal and intermodal planning and the development of CSD solutions. The multimodal planning efforts involve activities that recognize the variety of users of the transportation network and their connection to the various land uses on adjacent to the arterial. Planning for freight, bicycles, pedestrians, and transit are all a part of multimodal and intermodal planning. These efforts are directed at providing transportation choice for all users of the transportation system and balancing transportation outcomes against quality of life outcomes. Some states have begun to plan for all modes simultaneously and consider the allocation of funding between and among the modes. In some states, these efforts are considered for the entire transportation system, while other states, such as Vermont, are completing multimodal and intermodal plans on selected corridors.

Another component of these planning efforts is to ensure that streets are build to accommodate all users. The Washington, D.C., “Hometown Streets” and the “Great Streets” initiatives use CSD solutions to ensure that pedestrians are accommodated in the street design. These efforts are intended to spur economic revitalization of adjacent communities and, where possible, to increase the density of development and provide a better local network that does not force drivers onto the congested adjacent arterials.

CORRIDOR MANAGEMENT AND PRESERVATION

Several states are involved in corridor management and preservation. These efforts vary from developing plans and policies—corridors for aggressive access management, reserving rights-of-way for future development, updating legislation on access rights—to educating local governments and the general public about the advantages of access management. Many of these efforts are designed at taking access management to the next level, from simply restricting access to improving internal circulation on sites, providing alternative access on local streets, and driveway locations.

Future Activities to Support Land Use Planning and Transportation

The final discussion during the peer exchange was to identify future activities that would support the efforts of state DOTs to incorporate land use considerations into their planning activities. The activities can be grouped into the following five categories: the development and use of additional performance measures; corridor management; commitment to coordinated planning of transportation and land use at all levels of government; the involvement of other partners in the planning process; and training and education.

DEVELOPMENT AND USE OF ADDITIONAL PERFORMANCE MEASURES

The peer group discussed the need to define additional performance measures to compare alternative land use-transportation scenarios and to recognize nontransportation benefits of transportation investments. This would require additional research but it would also give greater priority to land use coordination as a major area of transportation research. For example, how do you measure the impact of investment of highways? How do we measure and capture the value to the private sector and government investments in transportation? How do we find new money for future transportation investments based on that increase in value?

Another area of research would include an exploration of the conditions and contexts of coordinated transportation and land use planning. While we currently have a great deal of anecdotal evidence of the importance of coordinating local land use with transportation investments tools, we have not completed a systematic review of these studies that controls for their context and uses a standard set of objective measures to present the results of the comparison. Similarly, we are only beginning to understand differences in trip generation, pass-by, and other traffic impacts associated with alternative land use configurations.

Finally, we need to identify the nontransportation benefits of coordinated land use and transportation investments. The economic development impacts of coordinated land use and transportation are not well understood. The air quality and other environmental benefits of coordinated land use and transportation are not well understood. Broader performance measures for transportation projects could give local land use goals greater consideration in the development of transportation projects. For example, what is the value of utilizing public realm investments to catalyze private economic development investments? What is the value of transit enhancements and expansion?

CORRIDOR MANAGEMENT

The point was made that the use of corridor management requires cooperation between state and local governments, with each taking a role in the management of capacity in the long term. The state DOT may desire to maintain the capacity for traffic throughout the region and between regions of the state, while the locals desire to move traffic within the community. Accomplishing these two competing goals would require cooperation between the state and local governments. The state would need a local commitment to develop a local street grid. For example, if the state

expects to eventually would expand a roadway to six lanes, the setbacks need to be made accordingly. Local governments need to coordinate the land use planning with both the short-term and long-term plans of the state DOT and develop a secondary grid that complements the state investment along major corridors. The secondary grid would need to be a focus of the planning process, with the locals being held accountable for secondary network.

COMMITMENT AT ALL LEVELS TO COORDINATION OF LAND USE AND TRANSPORTATION

Many participants expressed the view that the commitment to the coordination of land use and transportation needs to occur at all levels of planning. They felt that it is important for state DOTs to continue to work with local governments to ensure that transportation projects are consistent with local and regional land use regulations or require land use controls be provided to support desired transportation projects. For example, DOTs may want to encourage cities and counties to slow development in certain corridors to allow time for rational land use planning. The state may want to provide additional financial incentives to encourage local governments to develop multimodal transportation solutions that support state, regional, and local development goals, such as reinvestment in existing communities, and network development. States can consider memoranda of understanding or cooperative agreements to encourage cooperation on planning, platting and site planning of projects that impact state roadways. Federal and state transportation officials could allow greater flexibility in design standards that would permit more "context-sensitive solutions" that better respect local land use goals.

The point was also made that local governments also need to actively participate in the activities of state transportation agencies. They could include transportation elements in their local comprehensive plans, or have a development review process that ensures that private development plans and public improvement projects are developed in accordance with long-range plans.

INVOLVEMENT OF OTHER PARTNERS IN LAND USE PLANNING

The importance was also noted of including greater outreach in state and MPO transportation planning processes to enhance the collaboration of stakeholders. While some of the states have involved more and different groups in their planning processes, some participants felt that DOTs need to continue to involve these groups to ensure that all groups are represented in the planning process.

TRAINING AND EDUCATION

Many participants supported additional education and training of all participants in the transportation and land use planning process. The following approaches were cited in the discussion:

- Integrate transportation and land use planning in university training and course curriculum.
- Transportation planners could receive training and education to make them aware of community and land use planning issues and techniques.
- Involve associations of counties and cities in training local officials to help them understand the importance of coordinated land use and transportation planning and techniques.
- Finally, successful intermodal corridor studies and their subsequent implementation could be collected for use at conferences and seminars.

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APPENDIX

Questionnaire Responses of Participants
Land Use Planning Peer Exchange Survey

VERMONT AGENCY OF TRANSPORTATION
Barry Driscoll

What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long range comprehensive planning efforts, transit oriented design, or coordination with transit provision?)

The State of Vermont has utilized a number of land use-related program activities and policy directions.

For example, since 1992 VTrans has managed a consultative planning program to incorporate the nonmetropolitan areas of the state into the transportation planning and decision making process. Vermont has one MPO in the Chittenden County area (Burlington) which has had a long-standing planning relationship with VTrans over many years. The program was titled the VTPI. The program was specifically designed to be the core of a new state, regional, and town partnership in transportation planning and policy development with principal objectives as follows:

1. Moving decision making as close as possible to the local level;
2. Expanding citizen involvement; and
3. Providing direct connection for local officials to affect transportation planning and programming decisions.

The focus for this relationship is with Vermont's 11 RPCs. These organizations are legislatively chartered entities with specific responsibility for regional land use planning as well as with technical assistance to municipalities responsible for local land use planning. Choice of these organizations as a focus for our transportation planning was a conscious decision since Vermont's RPCs are at the organizational crossroads between land use and transportation planning. (See attached document titled Consultative Planning.doc for additional information).

VTrans has also recognized the importance of access management as a tool that integrates land use and transportation planning. Over the past few years the agency, as well as other regional and local entities, has researched and defined good access management policies and guidelines. In particular the VTrans Utilities and Permits Section has produced and distributed access management program and guidelines, and also local zoning and subdivision regulations that support access management in your community.

The above guidelines do not have the force of any state statute, although 19 VSA 1111 provides for the regulation and control of vehicular access to and from the state highway system. (See http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=19&Chapter=011&Section =01111.)

Consequently, the state is in the position of educating and advocating for the local land use policies and decisions that will further the access management goals of the state. It is not enough for the state to simply declare what good land use and access management activities are,

rather it must convince the local entities that it is in their best interest to further these activities. VTrans, in partnership with the RPCs and CCMPO, looked at ways to teach town officials, developers and the public about transportation access management. The agency hired a consultant to help prepare marketing material to promote and educate local officials and the public on the benefits of access management. The major overall goals of this project were to

1. Achieve public support from our target audiences for our access management program and have well-educated citizens that understand why access management is a good thing—even when it affects their own property.
2. Develop additional tools for local officials to implement good access management policies.

The scope of work included researching and documenting the current state-of-the-art practices including a best practices summary for Vermont and preparing an inventory of existing materials in Vermont, then critiquing what fits, what needs updating, and what is lacking. Next, market research and analysis was done. What are the most common stakeholder concerns, the most common local and state responses, what information–actions can address these concerns, and what methods of communicating access management practices have been effective in other locations. This information was analyzed and combined into a marketing action plan which helped define how the recommended information–actions can be best delivered and presented so that stakeholders will know that their concerns are being taken seriously and addressed, and how access management activities will benefit their property and their community.

Next, multimedia methods and materials to train the trainer at the state and local levels were prepared. This task included both the training methods and the presentation itself. The training methods include a training manual that explains all the slides in the power point presentation including a matrix to explain which slide is appropriate for each audience. The manual also includes helpful hints for the presenter to keep in mind in preparing the training session or the presentation. We conducted a training session teaching the RPC/CCMPO staff how to present the materials. The presentation and the learning materials were built so that the RPC/CCMPO staff could tailor their discussions to different audiences including the general public, developers, or local officials and could provide a short presentation or a longer 2-h, or even half-day training. We tried to make the presentation materials visually stimulating, interactive, entertaining and educational and be geared to our stakeholders including developers, land owners, business owners, local officials, and the general public.

The workbook was developed to provide information helpful in understanding access management but also to find tools to help communities or businesses benefit from access management. The workbook includes state and national resource materials, a brochure targeting developers, a copy of the power point presentation, and the interactive example of exploring access management problems and solutions.

An access management website (www.vtaccessmanagement.info) specifically targeting Vermont's policies and providing information about access management in Vermont was built as an additional tool for local communities, planners, and developers and is linked to our agency website. Along with the training presentation, these tools represent a comprehensive approach to teaching the benefits of access management. An advisory committee composed of RPC and CCMPO representatives, municipal representatives, and VTrans staff oversaw the project. The project was completed June 2004 and materials were distributed to the RPCs and CCMPO for

presentations. (See attached file titled 2 abstract for 2006 AM Conference.doc for additional information.)

In collaboration with the Vermont Agency of Commerce, VTrans participated in an effort to develop guidelines related to managing development at Interstate interchanges. (See attached file labeled 12-17 Draft.doc for more information.)

Last, VTrans is actively pursuing a corridor planning approach. The intent is to link transportation and land use planning by using the RPCs to accomplish the corridor studies. We are in the process of finalizing a corridor planning handbook which will guide the RPCs as they assess corridors in their respective regions.

Please describe the most innovative land use planning activity. This can be activity that succeeded or failed. (We often learn more from those that fail!)

The most innovative planning activity is the Transportation Planning Initiative described above and further outlined in Consultative Planning.doc (attached). This is essentially an organizational approach to these issues and numerous other activities result from this approach.

What factors caused you to become involved in this activity?

Federal planning requirements related to consultation (ISTEA) and state planning statutes related to decentralizing state agency planning processes. (See 3 Vermont Statutes Annotated, Chapter 67).

What benefits have you found from this activity?

The benefits which have accrued from this approach include more open communications with local and regional stakeholders. In addition, solutions to transportation problems are discussed early on in the process well before any specific course of action is initiated.

What challenges or obstacles have you faced in this activity?

Like most public resource agencies, there is often a disconnect between the magnitude of identified needs and available resources. Careful attention needs to be paid to ensuring that the enthusiasm generated by local input into transportation planning is maintained over a long time period.

Looking into the future, what other land use planning activities do you think begin? What are the obstacles to these activities?

In Vermont, we are embarking on a multi- and intermodal corridor planning effort which is intended to directly link land use and transportation planning on selected travel corridors.

What are the obstacles to land use planning in the transportation planning profession?

I believe there needs to be an assessment of the undergraduate and graduate curricula for both civil engineers as well as land use planners that introduce concepts from both disciplines to the other.

What activities would help support land use planning in the transportation planning profession? For each idea, please suggest who should take the lead and a time frame (1 year, next 5 years, etc.)

Wide distribution and discussion of successful intermodal corridor studies and their subsequent implementation in the field at conferences, proceedings and seminars.

UTAH DEPARTMENT OF TRANSPORTATION

John Quick, Engineer for Transportation Planning

What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long range comprehensive planning efforts, transit oriented design, or coordination with transit provision?)?

1. Utah recently created a new access management program and revised the state code. The new code clarifies the permit process, establishes access categories assigned to the state highway system, and provides spacing standards for access points in relation to the categories. The development of the access categories and standards for Utah state highways was the result of 4 years of study and investigation.
2. State Revolving Fund program to finance corridor preservation for transportation corridors. Funded by some seed money and a rental car tax this program provides an opportunity to preserve significant corridors.
3. The state legislature initiated a county-based corridor preservation program this last year. This program is funded by up to $10 increase in vehicle registration fees and is to be used for local corridors in the county where fees are collected.
4. The collaboration of three urbanized areas along the Wasatch Front to develop a "vision" of the future to guide the development of long range plans (regional plans) and the transportation systems. UDOT and the transit agency are also full participants.
5. These urbanized areas are also in the process of using UrbanSim to investigate the results of alternate land use scenarios.

Please describe the most innovative land use planning activity. This can be activity that succeeded or failed. (We often learn more from those that fail!)

The most innovative activity is the item identified in 4 above. The visioning process is called Wasatch Choices 2040 and is being facilitated by Envision Utah with a series of workshops, quality of live surveys, and identifying a series of growth principals that will result in a number of future scenarios that can be evaluated and allow communities to determine how they want to grow by the results of this process.

What factors caused you to become involved in this activity?

Involved as a participating partnership.

What benefits have you found from this activity?

Too early to tell for sure yet but so far there has been a better understanding about the potential results of decisions that are made at the planning stage. A better understanding of what it would take to justify requests for light-rail lines, commuter rail, and other transit systems.

What challenges or obstacles have you faced in this activity?

Because similar efforts have been conducted in the recent past for the area and for a specific corridor if has been a challenge to get some fully engaged in this process and endorses it as a new effort and not just a re-run. Active transit and TOD advocates are well represented some others may not be.

Looking into the future, what other land use planning activities do you think begin? What are the obstacles to these activities?

Land use activities and discussion on a statewide basis. The obstacles here are related to the local control of land use and the resistance to discuss issue on a state level.

What are the obstacles to land use planning in the transportation planning profession?

Again the challenge here is to somehow work with the local officials to understand the consequence of their decisions without appearing to control in any way or influence their authority to control land use issues.

What activities would help support land use planning in the transportation planning profession? For each idea, please suggest who should take the lead and a time frame (1 year, next 5 years, etc.).

Support, education, and training from associations of counties and cities for local officials to help them understand the importance of the relationship form their perspective.

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

Angela Watson

What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long range comprehensive planning efforts, transit oriented design, or coordination with transit provision?)

PennDOT has been involved in a number of statewide initiatives since 1999. These activities include:

- Studies that link land use and transportation:
  - Corridor studies (land use, access management, and project recommendations),
  - Interchange studies,
  - Transportation element of county and multi-municipal comprehensive plans,
  - Revitalization analysis and recommendations, and
  - Regional greenway plans;
- Home Town Street Program—provides funding for reinvestment and redevelopment in downtowns (sidewalk improvements, planters, benches, street lighting, pedestrian crossings, transit bus shelters, etc.);
- 2003 Conference on Transportation and Land Use for Economic Development:
  - Commonwealth Action Plan developed as result of conference recommendations, and
  - Regional transportation–land use conferences in nine locations throughout the Commonwealth;
- Context-sensitive solutions;
- Access management model ordinances;
- Sound land use planning for traffic-generated noise–model ordinances;
- Airport hazard zoning and land use compatibility plan;
- Interagency land use team efforts such as sustainable development investment criteria; and
- Development of "smart transportation" themes and project "right-sizing."

Please describe the most innovative land use planning activity. This can be activity that succeeded or failed. (We often learn more from those that fail!)

The development of smart transportation policy and the right-sizing of transportation projects is the most innovative land use planning activity currently at PennDOT. This initiative is in its earliest stages and we have yet to see whether it succeeds or fails.

What factors caused you to become involved in this activity?

Secretary Biehler has a strong interest and understanding in the intrinsic relationship between transportation and land use. From discussions with New Jersey Commissioner Jack Lettiere, Secretary Biehler has embraced the need for looking at transportation projects in a new way. Financial resource limitations also drive the need to "right-size" transportation programs and projects to bring transportation solutions at a more digestible price tag.

What benefits have you found from this activity?

The beginnings of a better understanding of how land use relates to transportation projects, and vice-versa, is being realized within the department. Other initiatives that relate to the overall smart transportation concept have arisen: linking planning and the National Environmental Policy Act of 1969, and a streamlined project delivery process.

What challenges or obstacles have you faced in this activity?

Expected challenges–obstacles include improving partnerships with local governments to enable smart transportation concepts to be applied in different parts of the state. Finding ways to

institutionalize smart transportation within the department (district offices) may prove to be a challenge. Thinking outside the box and providing for new ways to look beyond LOS and consider different measures of effectiveness is another smart transportation theme which will take time to succeed.

Looking into the future, what other land use planning activities do you think begin? What are the obstacles to these activities?

Looking to the near-term future, the department is looking towards integration of the smart transportation themes currently under development. These policy themes will be promoted to the general public, MPO/RPO planning partners, and to PennDOT staff as well. One potential obstacle to this initiative is not getting the support and cooperation or "buy-in" from staff, planning partners, or the public in general.

Another future land use planning activity is supporting and promoting recent legislation: Transit Revitalization Investment Districts (TRID). PennDOT, in cooperation with the Department of Community and Economic Development, will develop a funding program to finance TRID studies at the local government level. Additionally, training will be provided in association with the Pennsylvania Planning Association. A potential obstacle for this activity is not incentivizing communities to utilize the TRID program.

What are the obstacles to land use planning in the transportation planning profession?

The major obstacle in Pennsylvania is the fact that land use decisions are made at the local government level. There are 2,565 municipalities in Pennsylvania. Planning or zoning is not required at the local level. Several rural municipalities choose not to have comprehensive planning or zoning.

What activities would help support land use planning in the transportation planning profession? For each idea, please suggest who should take the lead and a time frame (1 year, next 5 years, etc.)

1. Education of transportation professionals on land use planning and the relationship of land use to transportation: Partnership of DOT and community–economic development agency (1-year timeframe).
2. Require and provide means for transportation projects to be consistent with local–regional land use regulations or require land use controls to be provided to support desired transportation project: Partnership of DOT and FHWA (next 5 years).
3. Provide additional financial incentives to develop multimodal transportation solutions that support Commonwealth-sustainable development goals, such as reinvestment in existing communities, network development, and CSD. This could be done at TIP development or project development: DOT (1 year).

GEORGIA DEPARTMENT OF TRANSPORTATION

Joseph Palladi

What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long range comprehensive planning efforts, transit oriented design, or coordination with transit provision?)

Land use planning activities that are underway:

- Department led:
  - Dialogue and coordination of land use planning requirements for region and local governments with the Chamber of Commerce, GRTA, the ARC, and SRTA;
  - Congestion task force formation—GDOT, SRTA, GRTA, ARC—define evaluation techniques to determine project priority;
  - Governor's revenue task force—determine new areas of available revenue for both state and local needs;
  - Revised access management policies—driveways, interchanges, and medians;
  - CSD—PM for Atlantic station and 17th Street Bridge–brownfield redevelopment;
  - Education—developing media presentations on the benefits of medians, access management, etc.;
  - Review of zoning changes and impacts to project corridors; and
  - Modeling for 14 of 15 MPOs in state.
- GRTA led: Development of regional impact—review of statewide development impacts.
- ARC led:
  - Corridors and centers initiative—coordinate projects within corridor for similar multimodal operations and "themes"
  - Livable communities initiative—coordination and review of CSD proposals.

Please describe the most innovative land use planning activity. This can be activity that succeeded or failed. (We often learn more from those that fail!)

- I-285 strategic modeling
- High occupancy vehicle (HOV) strategic plan implementation
- Redevelopment (i.e., Atlantic Station, Centennial Park area)
- Developing guidelines for HOV arterials
- Downtown corridor studies—Ponce, Moreland, M.L. King, Northside

What factors caused you to become involved in this activity?

- Ever expanding needs—continue high population growth; Atlanta to grow from 4.2 to 6.2 million people by 2030; state likewise.
- Constrained resources—lowest gas tax in country
- Cannot keep making "mistakes" in project definition and implementation
- More awareness on the relationship of transportation and land use–congestion
- Need to address modal choice initiatives—regional transit, beltline, streetcars.

What benefits have you found from this activity?

- Open communication.
- Sharing blame/successes
- Shared resources—public and private
- Consensus for working groups
- Better local understanding of regional issues

What challenges or obstacles have you faced in this activity?

- Revenue—federal, state, and local
- Politics
- Narrowing multiple agendas, initiatives
- Program/project delivery—meeting schedules with good designs
- Locals underestimated (and perhaps didn't budget for) problems and solutions
- Conflict on spending- congestion versus streetscapes, bikes etc.
- Development now versus long-term impacts
- Elected official turnover
- Lack of "vertical" communication at local level

Looking into the future, what other land use planning activities do you think begin?

- Education—wants versus needs and budgets
- Impose access management
- Updated legislation on access rights, impact fees

What are the obstacles to these activities?

- Politics
- Fear of the unknown

What are the obstacles to land use planning in the transportation planning profession?

- Lack of control—locals exercise that right in the name of economic development
- Inclusion in the decision
- Prediction of additional future land use changes especially redevelopment densities

What activities would help support land use planning in the transportation planning profession?

- Education
- Local and regional requirements—local transportation plans with emphasis on grids of local and arterial streets
- Anticipation of on-going development

For each idea, please suggest who should take the lead and a time frame (one year, next five years, etc.)

- Regional planning agencies
- Chambers of Commerce
- Regional authorities

DISTRICT DEPARTMENT OF TRANSPORTATION

Karina Ricks

What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long range comprehensive planning efforts, transit oriented design, or coordination with transit provision?)

- Waterfront access—designs for recreational trails, riverfront park roads, pedestrian access from bridges to waterfront, removing infrastructure barriers to waterfront access and development;
- Corridor streetscape design—streetscape design in support of economic development objectives, differentiation between commercial and residential activity districts, historic preservation and enhancement;
- Transit enhancements—service to economic growth corridors, stimulus for local economic development and investment;
- Comprehensive and neighborhood planning—cooperation with D.C. Office of Planning on land use planning and transportation linkages from the comprehensive plan update to local neighborhood plans; and
- TOD—coordination on joint development projects, establishment of new headquarters office as economic catalyst.

Please describe the most innovative land use planning activity. This can be activity that succeeded or failed. (We often learn more from those that fail!)

- Waterfront development—removing or reconfiguring transportation facilities to open up or actually create new land for development and active use. Significant innovation in sustainable design techniques and utilization of "green infrastructure" to improve water quality and manage combined sewer overflows to river.
- Public realm framework plan for "Great Streets"—identification of neighborhood centers targeted for streetscape improvements. Often more compact and concise than areas controlled by zoning or planning. Streetscape and catalyzes additional development and defines type.

What factors caused you to become involved in this activity?

- Waterfront—compelled by mayoral initiative and identification of needs/concerns by District Planning Office.
- Great Streets—success demonstrated by previous streetscape improvement in emerging neighborhood main street commercial center

What benefits have you found from this activity?

- Improved transportation system performance;
- Improved balance in transportation modes and facilities; and
- More walkable communities.

What challenges or obstacles have you faced in this activity?

- Significant federal and inter-agency coordination required for site control and land use ownership, environmental protection, aesthetic design, etc.;
- Community concern about changes in traffic levels and cut-through usage; and
- Trade-offs required in allocating appropriate right of way to accommodate needs of all modes.

Looking into the future, what other land use planning activities do you think begin? What are the obstacles to these activities?

- Utilizing public realm investments to catalyze economic development and investment—obstacles include community coordination and perceptions, fears of gentrification and change; and
- Transit enhancements and expansion—challenge of roadway right of way allocation to allow efficient transit service while preserving LOS, capacity, on-street parking, sidewalk widths, and other demands.

What are the obstacles to land use planning in the transportation planning profession?

Transportation is often reactionary to land use demands rather than establishing baseline for sustainable growth utilizing diversity of travel modes. Transportation can enhance support for local smart growth by demonstrating reasonable mode splits possible.

What activities would help support land use planning in the transportation planning profession? For each idea, please suggest who should take the lead and a time frame (1 year, next 5 years, etc.)

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Barry Seymour

What types of land use planning activities has your agency been involved in?

As the MPO for the Philadelphia region, DVRPC has always sought to integrate land use and transportation planning. Since its inception in 1965, DVRPC has prepared a long-range land use plan in conjunction with its required transportation plan. Following the adoption of ISTEA in 1991, the land use and transportation elements of the plan were directly joined, whereby the land use plan defines the framework for transportation projects.

The land use plan is implemented through a series of corridor and area plans and studies that work directly with local governments to assess local problems, define a vision for the future, and develop specific actions to achieve that vision. These plans tend to address transportation,

economic development, the environment and land use. Recommendations and implementation actions may include detailed local zoning ordinance changes and innovative subdivision techniques. In addition, DVRPC contracts directly with local governments in the region on local open space and farmland preservation plans and ordinances.

Policy analysis on a variety of land use issues in the region provides recommendations for state legislators, state agencies, and local land use administrators. In recent years, DVRPC policy studies have addressed the issues of property taxes, design for higher density development, infrastructure concurrency, and TOD. The TOD planning work included a regional inventory of 45 potential TOD sites, detailed planning studies for four of those sites, a community development marketplace that joined local governments with area developers, and the drafting of state legislation that was enacted in 2004 to support TOD in Pennsylvania.

Local land use planning is supported through a planning grant program, the TCDI. TCDI provides grants to selected older cities and developed suburbs to support revitalization planning. Planning studies must improve the local market for development and must improve the regional transportation network. Over the past 3 years, 76 local projects have been funded that have leveraged both public and private investment in these communities. In addition, DVRPC subsidizes part of the cost for the municipal open space plans noted above.

Technical assistance and education are also provided through different avenues, including information brochures on a variety of land use planning topics, conferences for local elected and appointed officials, workshops for local land use professionals, and information such as model ordinances available on our website.

Describe the most innovative land use planning activity.

As an MPO, we feel that our TCDI has been both innovative and successful. Pennsylvania and New Jersey are both home-rule states, where all land is incorporated into local governments that retain full control over land use decision making. Therefore, in order to influence land use, we must work directly with local governments, which total 352 in our nine-county area. The TCDI program provides tremendous freedom for the local governments to craft local solutions, but to work within a regional policy framework that supports redevelopment and higher density in existing developed areas with available infrastructure.

We have undertaken a number of corridor studies that have successfully focused on land use management in the context of a pending transportation improvement project. In these cases, including Routes 202 and 322 in Delaware and Chester Counties, Pennsylvania, the plans identified changes in local zoning districts and drafted the text for local ordinance changes, including adoption of an official map, and an access ordinance. While the plans were initially designed to address future land use given the defined transportation project, they were also able to identify changes and revisions to the design of the transportation projects to better integrate with the land use vision of the plan.

A less-than-successful effort was a project to develop a comprehensive land use plan for seven local governments along a shared corridor, Route 41 in Chester County, Pennsylvania. There had been extensive debate regarding potential widening or a realignment of the state highway along the corridor with strong positions on opposite sides. The intent of the study was to encourage the local governments to define their land use vision for the corridor as a whole and to develop the local tools for each community to achieve that vision, which would be needed regardless of any future decision regarding the highway. Unfortunately the distrust already

present due to the highway debate prevented the communities from fully working together on the land use plan.

What factors caused you to become involved in land use activities?

DVRPC's original mandate was to plan for the "orderly growth and development" of the region. This has always been broadly interpreted to include planning for housing, water supply, farmland, natural resources, economic development, land use, and transportation. As transportation planning responsibilities grew with ISTEA and TEA-21, DVRPC was already well-positioned in terms of data, experience and expertise to provide both regional and local land use planning assistance. Clearly, transportation planning cannot be done without an understanding of land use trends and conditions in order to forecast future growth. We have gone further to develop policy goals and a framework for future land use that serves to direct our transportation project investments.

What benefits have you found from this activity?

Over time, we have worked with and helped many individual communities within the region to both develop a vision and plan for their future land use and to establish the necessary tools in place to manage that land use. By addressing land use in our regional plans and local area work, we have been able to influence the state DOTs to recognize they key role that land use planning must play in transportation planning. Finally, DVRPC's experience and in-house expertise has enabled us to be viewed as an objective resource that state or local governments can turn to for assistance with local land use plans or state policy issues regarding land use. For example, the William Penn Foundation approached DVRPC to undertake comprehensive neighborhood plans in three Philadelphia communities. We also often serve as a facilitator and neutral forum for the discussion of regional land use issues and challenges, including a regional land use and development committee established by the DVRPC board. We also partner with many area organizations, including nonprofit advocacy organizations, pubic sector agencies, and business groups including the Urban Land Institute on regional land use challenges.

What challenges or obstacles have you faced in this activity?

As home-rule states, both Pennsylvania and New Jersey place land use decision making in the hands of the individual municipalities, in our case 352 local governments in the metropolitan area. Many of these are small entities without either the expertise or interest to work with other organizations. Both states also have an over-reliance on property taxes as a means to fund local governments and school districts, resulting in land use decisions designed to maximize economic return and tax income, rather than the best use for a given location. Both states also have strong case law that favors property rights and private developers, which coupled with small local governments without much expertise, sometimes results in a conservative approach and caution to try new land use tools. We have also seen mixed messages from county or state governments, whereby a stated policy from one agency may be to limit sprawl, but another agency may support an "economic development" project at an inappropriate location.

What other land use planning activities will you begin in the future?

DVRPC is now partnering with PennDOT and New Jersey DOT on a new initiative to better link transportation, land use and economic development in the bistate region. A 1-day conference was

recently held that brought together the state officials from NASTO to address these issues. DVRPC is now retaining a consultant team to assist with a number of additional tasks in the bistate region. The first product will be a smart growth design template, that will define the policies and principles of smart growth in the Delaware Valley region, examine and revise the process of planning and decision making for transportation projects, and develop the specific tools to support and advance a new approach to integrating land use and transportation. The design template will include guidelines for the various elements in the transportation system, linked to recommendations and design guidelines for existing and new land use patterns in the Philadelphia metropolitan area. Additional tasks the consultant may also undertake could include the development of model ordinances, additional corridor studies and context sensitive solutions, or the development of new performance measures for transportation projects that consider a broader range of community needs and objectives, including land use objectives, beyond the traditional measures of congestion.

What are the obstacles to land use planning in the transportation planning profession?

Perhaps the primary obstacle is the lack of a mandate or direction from the federal transportation legislation for the federal or state agencies to explicitly consider land use as a central element in transportation planning. Land use is not identified as a factor to consider in TEA-21. There is no clear policy direction from FHWA that facilitates the integration of transportation and local land use solutions. The segmentation of responsibilities across agencies and levels of government also creates an obstacle to integrating transportation (generally at a state or regional level) with land use (generally at a county or local level). Even within a given level of government, the transportation and community development or land use planning responsibilities are segmented. Finally, our education system has created a divisive system, whereby transportation planners and engineers have historically not been trained to either understand the relationship between land use and transportation or the tools available to manage land use and transportation concurrently.

What activities would help support land use planning in the transportation planning profession?

As noted, including land use as a core factor in the federal transportation legislation and planning guidelines would direct the state transportation agencies and the regional MPOs to also address land use in their planning. Flexibility in design standards at the federal and state level would permit more "context-sensitive solutions" that better respect local land use goals. Broader performance measures for transportation projects would give local land use goals greater consideration in the development of transportation projects. More outreach from the states and MPOs to local governments, coupled with this new philosophy and design flexibility, would improve the dialogue for collaboration. Training and education across the board is also needed to make transportation planners into community planners.

KANSAS DEPARTMENT OF TRANSPORTATION

Thomas Down

What types of land use planning activities has your agency been involved in?

- Travel demand models,
- Microsimulation models,

- Access management,
- Long-range transportation plans (MPOs and some small cities),
- Corridor studies,
- Interchange justification studies, and
- Local use of development moratoria (starting to provide some planning and legal advice).

Describe the most innovative land use planning activity.

We don't have a systematic, formal land use planning program at KDOT. We are trying to capitalize on opportunities and pay attention to problems as they arise. In terms of the most innovative land use planning project, we recently completed a study of US-40 (6th Street) in Lawrence. This section of US-40 is a 2-mi corridor starting at K-10 on the west and continuing east to Folks Road. To help the community understand the impact that development has, KDOT built a set of traffic simulation models using VISSIM. We shared four of these models with the city commission, the City–County Planning Commission, area developers, property owners, and the neighborhood association serving the area. Rather than limit the study to the highway, we established a roadway network for the corridor that was bounded by K-10 on the west, Overland Drive on the north, Folks Road on the east and Harvard Road on the south and includes all the ¼-mi north–south street that link US-40 to Folks Road and K-10. We examined what happens to traffic when the corridor becomes built out in the next 3 to 5 years using the developer proposed land use and land use from the adopted land use plans (about half the intensity of what the developers are proposing). We also examined what happens to traffic when additional roadway improvements are made. We disclosed to all the parties what our assumptions were (i.e., no traffic forecast, current conditions plus traffic generated from development within the corridor, etc.). After explaining that the entire corridor would function at LOS F under any of these scenarios, we advised the community that three decisions were needed: How much congestion is the community willing to tolerate in the corridor? How much is the community willing to spend on additional roadway improvements? And how much development will the community allow in the corridor? We advised them that all three questions needed to be answered together and that we would be available to offer assistance.

What factors caused you to become involved in land use activities?

The reason we initiated this study is the corridor recently began to experience explosive development pressure as a result of a project we are currently doing. Currently, we are widening this section of US-40 from two to four lanes (for 1½ mi of the 2 mi) at a cost of $6 million and feel a need to "protect" that investment as the corridor develops. As part of the project we purchased all of the private access (except for one commercial driveway which will be moved away from an intersection). This project was requested by the City of Lawrence. The traffic forecast that was done for this project assumed there would be only about 500,000 ft^2 of retail development in the corridor. Developers now want to build 1.2 million ft^2 of retail development.

What benefits have you found from this activity?

There has been an increased dialogue between KDOT, the city council, the city–county planning commission, staff, developers, property owners, and neighborhood residents. It is too early to know if there will be a lasting impact.

What challenges or obstacles have you faced in this activity?

We have limited staff time to do this. It took one employee about 6 weeks to build the models working on them about 1/2 time. It took additional staff time to attend a large number of meetings to collect information, make decisions, confirm development plans, etc. Senior management has become concerned about the amount of time we are investing. We have tried to convince them that the cost of our time is nothing compared to the cost of the investment we are trying to protect.

What other land use planning activities will you begin in the future?

We have started talking to cities and counties about enacting development moratoria in certain corridors to allow them adequate time for rational land use planning in light of intense development pressure and pending highway improvements to serve that development.

What are the obstacles to land use planning in the transportation planning profession?

Most transportation professionals are engineers who have no training in land use planning. Thus education is important.

Land use planning is done at the city or county level. Transportation decisions for major facilities are made at the regional or statewide level. Thus coordination is important.

Planning is a long-term process. It often takes decades to see the fruits. It can become a political target when times are lean, but that is when planning is needed most because planning involves making choices to achieve desired ends. Thus selling the successes is important.

Even when an agency employs both land use planners and transportation planners, they tend to be organized in different work units, working on different projects. Thus interdisciplinary teams are important.

VIRGINIA DEPARTMENT OF TRANSPORTATION

Marsha Fiol

What types of land use planning activities has your agency been involved in (these might include access management, interchange land use controls, corridor preservation, participation in local long-range comprehensive planning efforts, transit oriented design, or coordination with transit provision?)

Virginia has used access management, scenario planning, corridor preservation, participation in comprehensive planning, pilot programs, and multiple VTRC efforts which have evaluated practices and outcomes.

Please describe the most innovative land use planning activity. This can be activity that succeeded or failed. (We often learn more from those that fail!)

VDOT and the VTRC did an extensive scenario planning effort for exit 150 on I-81. This effort involved consideration of multiple interchange scenarios and multiple land use scenarios for the area.

What factors caused you to become involved in this activity?

This has become a bigger issue recently. This has drawn attention from local concerns up to concerns from the governor, appointed politicians as well as elected politicians.

What benefits have you found from this activity?

We are expanding the range of options in our "tool box." While every option will not work in every situation, we are learning from our experiences and working toward better coordination between land use and transportation.

What challenges or obstacles have you faced in this activity?

We continue to face situations where the locality (who has the zoning authority) is eager to approve zoning request for development which cannot be accommodated by the existing transportation infrastructure. While progress is being made in jurisdictions requesting and receiving proffers some jurisdictions are overly anxious to obtain the development. Some jurisdictions do not always use their authority to require improvements, when they are making zoning changes.

Looking into the future, what other land use planning activities do you think begin? What are the obstacles to these activities?

I expect more consensus building work will be expected prior to land use changes. There will be more outreach to citizens of an area. Obstacles to these activities are money and time.

What are the obstacles to land use planning in the transportation planning profession?

In Virginia, the DOT has responsibility for the state road system, which is the vast majority of the roads in the commonwealth. Yet, local jurisdiction planners make the decisions on land use planning issues. There is not enough opportunity for coordination between the two entities. Additionally, there is a shortage of positions, funds, and again, time, to coordinate among the entities.

What activities would help support land use planning in the transportation planning profession? For each idea, please suggest who should take the lead and a time frame (one year, next five years, etc.)

Additional education for local planners would help.

One issue we continue to deal with is that smaller jurisdictions that may just begin to feel development pressure and are eager for the development usually have an inexperienced staff, or an overworked staff. The lack of experienced adequate staff means that less time is spent on the review. A more comprehensive review would help to ensure issues are brought up, addressed, and followed up as necessary. The DOT should take the lead – probably about two years away.

Additional staff for both jurisdictions and VDOT would help.

I see the key to getting more jurisdiction staff being getting more money. That would likely require an act of state legislature in the budget building process. In a previous year, the

legislature required the jurisdictions to include a transportation element in their comprehensive plan. The legislature did not provide additional funds, but added that VDOT would provide technical assistance. Again, additional funding for this effort was not provided to VDOT.

The legislature should take the lead to provide more funding for this purpose. The DOT should initiate this discussion with key legislators—at any time.

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