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A New Vision of Mobility: Guidance to Foster Collaborative Multimodal Decision Making

This digest summarizes the results of Phase I of a cooperative research effort jointly funded by TCRP Project H-29 and NCHRP Project 8-45 titled "A New Vision of Mobility: Guidance to Foster Collaborative Multimodal Decision Making." This research effort will produce two products: (1) a short document for popular distribution serving as a guidance resource in a "handbook" format and (2) a "compendium" of case examples upon which the guidance document is based. This digest was written by a TransManagement, Inc., team, including Matthew Coogan, Michael Meyer, and Christina Casgar.

INTRODUCTION

The first question in considering the role of collaboration in transportation is "Why do it?" We posed that question to a wide range of transportation professionals in our quest for recent examples of partnering among transportation agencies, local transit operators, car-sharing firms, and full-service transportation management organizations. While the answers varied, the message was consistent: building successful alliances with other organizations, both public and private, is essential to "get the job done."

We have prepared this digest to whet your appetite for what is to come—a concise guide (complete with self-assessment tools) to help foster collaboration in your projects. More detailed information, including complete case examples illustrating the conclusions cited in this digest, will be published in a future TCRP report.[1]

Clearly, the job of most transportation managers has changed. For many years, it was the transportation manager's job to provide basic transportation infrastructure—roads, transit, and airports. Today, transportation is considered part of larger societal strategies to improve air quality, provide access to jobs, stimulate economic growth, and enhance quality of life. The public is demanding solutions that go beyond the ability of any one agency or mode to solve. This expansion of purpose requires a new approach, a new "vision of mobility," namely management of the transportation network as a mobility system.

Today's challenge for transportation managers is to manage their resources better. That means maximizing opportunities and dollars and making a commitment to connect modes, assess capacity investments, and tap into information systems designed to promote access to and knowledge of transportation services. To rise to the occasion, transportation managers must find creative ways to share ideas, information, funding, facilities, and even staff. This requirement has led agencies to identify partners and realign roles on the basis of who can best deliver a given service or function.

To simplify matters, we have identified six environments for collaboration:

1. Institutional collaboration and planning for transportation system management and operations,

[1]During the course of the research conducted for this study, we encountered examples where freight institutions, public organizations, and private interests have joined forces to collaborate on freight transportation planning and investments. Documenting these examples was beyond the scope of this project.

2. Provision of coordinated system operations for expected or unexpected events,
3. Management of assets across modal boundaries,
4. Institutional collaboration to coordinate transportation and land use decision making,
5. Integrated traveler information systems, and
6. Mobility services.

The following sections discuss each environment in detail.

Institutional Collaboration and Planning for Transportation System Management and Operations

In recent years, transportation officials have begun to look more closely at enhancing transportation system performance by improving the operational characteristics of the facilities and services that compose this system. For example, many metropolitan areas now use some form of an incident management program that removes damaged or incapacitated vehicles from the highway as quickly as possible to restore operations. Or, in other cases, intelligent transportation system (ITS) technologies are employed to provide up-to-date information to help users better navigate the system. Successful examples were documented where planning, operating, and public safety agencies (in some cases working closely with private firms) collaborated to develop regional system management and operation strategies.

Major conclusions include the following:

- Coordinating agencies or institutional partners can adopt roles to foster better communication and joint action.
- Improving transportation system operations will require some sort of institutional mechanism to coordinate the activities of transportation, emergency management, and enforcement agencies.
- Collaboration often leads to improved channels and methods of communication between entities involved in regional transportation system management and operation.

Provision of Coordinated System Operations for Expected or Unexpected Events

Events that result in a temporary disruption of services present unique challenges to the transportation system. These events may be human-made or natural. In each case, effective mobility strategies require the cooperation of transportation, emergency management, and enforcement agencies. Operating agencies have an especially important role.

We examined two types of events and corresponding multimodal operation strategies.

The first type of event is expected. Time is available to address either an unusually large demand on the transportation system or an unusual disruption. For example, cities that host a national political convention or a major sporting event have the benefit of forecasting system demands. Thus, they have the opportunity to establish an institutional structure to manage demand. Another example is the reconstruction of a major freeway. With the knowledge that the freeway might be closed for a prolonged period of time, the transportation agency has time to develop a multimodal strategy to provide mobility options.

The second type of event is unexpected. The scope and level of response to this type of occurrence will be determined by the severity of the disruption. Thus, response to an earthquake will vary greatly depending on the magnitude and scale of the damage incurred. Preparation for such events necessitates the establishment of a command and control structure with the capacity to readily identify the extent of damage, identify the resources needed, and prioritize resources and response. Effective incident management can occur only when all of the relevant organizations know what to do, how to do it, and when to do it.

Major conclusions include the following:

- Institutional forums or mechanisms for collaborative planning and decision making have proved critical in providing a coordinated response for both expected and unexpected events.
- Collaborative planning for special events and reconstruction projects often leads to more permanent improvements in the transportation system.
- Collaboration often leads to improved means and methods of communication between the agencies and jurisdictions involved in emergency response activities.
- Unexpected or unusual events often attract the cooperation of entities not previously involved in transportation planning and not likely to be seated around the same table under normal circumstances (e.g., emergency management and public health officials). Although these alliances may have appeared unlikely in the past, their participation is becoming increasingly critical to meet such challenges.
- Relationships formed during such events often build trust and enthusiasm for collaboration on subsequent projects.

Management of Assets Across Modal Boundaries

To best manage their assets, transportation planning and operating agencies frequently establish planning and operating arrangements that bridge traditional modal boundaries (many times in conjunction with other government, nonprofit, and for-profit organizations). Often this is because single-mode solutions are deemed either ineffective or undesirable. Multimodal planning can be seen in efforts to coordinate transit and street operations and to implement transportation strategies in popular national parks.

This type of collaboration represents a shift in emphasis from large-scale, single-mode, capital projects to ongoing system planning and management across modes. Often these activities require only modest capital and operating fund

investments, but yield substantial operational improvements. As transportation systems become increasingly congested, this type of collaboration will become more prevalent because of the self-interest of the parties concerned with preserving mobility.

Major conclusions include the following:

- Constraints that limit transportation infrastructure expansion (physical, financial, environmental, community opposition, etc.) serve as catalysts for collaboration across modal boundaries.
- Coordinated investments across modes effectively maximize resources (dollars and labor) and outcomes (mobility, accessibility, and environmental quality).
- Good working relationships that are formed on small, collaborative, multimodal projects often build trust and encourage partners to tackle more complex projects.

Institutional Collaboration to Coordinate Transportation and Land Use Decision Making

Public investments in transportation infrastructure heavily influence the value and development potential of land. In turn, land development influences how people use the transportation system. In most states, regions, and local jurisdictions, the institutions and processes that govern transportation decision making differ from those that govern decisions about land use. This difference yields inefficiencies in both the development and the management of transportation systems and the development of land.

We examined three types of transportation and land use collaboration: fixed transit corridor investments, new investment mechanisms that influence land use, and new regional institutional alignments. Increasingly, examples of collaboration to improve the coordination of transportation investments and land use development are taking shape at different scales depending on the region. Often, regional planning agencies and transportation service providers are at the forefront of this coordination. However, examples of collaboration are cropping up in varied, and often unexpected, locations.

Major conclusions include the following:

- Land use and transportation are inherently linked. Land development influences how people travel and their means of travel. This influence has larger societal implications (health, safety, equity, economic sustainability, and environmental quality).
- State and federal policies and programs often govern transportation investment decisions, whereas local government generally makes land use and development decisions.
- Collaboration is essential to bridge the divide between federal and state transportation planning and local government land use and decision making.
- Coordinated efforts are required to shift the focus from isolated investments to a more holistic approach to building and sustaining communities (often involving parties that have not been engaged in the decision-making process in one or both areas).

Integrated Traveler Information Systems

Another environment requiring collaboration is the rapidly developing area of integrated traveler information systems. To encourage travelers to use a range of transportation services, let them know what is available and how best to navigate the system. This research explored methods for integrating the traveler information systems of several public transportation organizations. By nature, the development of these systems necessitates collaboration in the compilation and sharing of information to address customer needs. The good news is that current information technologies make it possible to access and integrate data at previously unprecedented levels. The challenge is to afford agencies the opportunity to maintain control over the integrity of the data they generate while encouraging participation in the development of integrated traveler information systems.

Major conclusions include the following:

- In order to meet the needs of the customer, information systems have to be developed that cross modal and jurisdictional boundaries.
- It is often desirable to maximize the amount of control that is *not* moved to a centralized decision-making location.
- In many new models of information technology, a highly distributed “architecture” affords the individual participants maximum autonomy while providing integrated information to the customer. In this distributed approach, the institutions most affected by the decisions supported by that information manage a maximum amount of information locally.

Mobility Services

The research examined mobility strategies designed to influence traveler choices, reduce private vehicle dependence, and provide a high level of access to jobs and services. Other partnerships examined are designed to improve public safety, emergency medical service, or access to health care. Case examples illustrate a variety of approaches to accomplishing these goals, including better coordination of services by and among traditional providers; the brokering of services of several providers by a third party, such as a transportation management association (TMA); and the creation of new services, such as car sharing. In all cases, the mobility strategies require increased collaboration within and between agencies and, in some cases, have led to the creation of new organizations.

Coordinating and Brokering Services Provided by Others

To support a wide variety of societal goals, new combinations of services will be needed involving the programs and services of multiple organizations.

The research identified TMAs as one type of organization that is essential to involving private-sector managers in lowering automobile dependence, usually by focusing on the work-based trip. Oftentimes, the TMA assembles strategies and serves as a "broker" for services, but does not operate any services.

A number of examples point to an urgent need for the transportation manager to understand the needs of public safety organizations in terms of operations and responding to incidents. In the longer term, the increased need to prepare for emergency evacuation (in which the public safety authorities may have direct responsibility over the use of the transportation system) may require that a new set of rules be developed.

There is evidence of growing interaction between transportation agencies and public health managers. For instance, transportation agencies provide information related to traffic flow on candidate routes to help emergency vehicles navigate their way to the scene of an accident or emergency. From rural Oregon to rural Virginia, new institutions are being formed to assemble and broker a variety of services from many service providers to enhance mobility.

Examples of transit agencies reaching out to participate in larger mobility strategies can be found in Oregon, Virginia, and Pennsylvania. In such instances, participation will require collaboration within the transportation sector as well as externally with other sectors, notably public safety and public health.

Creating New Mobility Services

To illustrate the development of new services that require multiagency collaboration to reach their potential, we looked at the development of modern car sharing in Switzerland in the 1990s and the role of U.S. transit agencies in support of the concept in the United States. In Zurich, the local transit agency took the lead in creating a joint fare payment mechanism that combined the marketing skills of the public organization with the specialized services of the private car-sharing organization. A great success, this partnership has been replicated throughout Switzerland on a local, case-by-case basis. This concept is catching on in the United States as well, with partnerships between new car-sharing organizations and the public transit agencies in at least a half dozen metropolitan areas, such as Washington, D.C.

Major conclusions include the following:

- The established fare collection media of the transit agency can be used to promote and support elements of a comprehensive mobility strategy not operated by the transit agency.
- The provision of a wide variety of mobility services and strategies can contribute to full mobility with lowered levels of automobile dependence.
- Metropolitan planning organizations (MPOs), TMAs, and innovative transit agencies can all play a major role in providing mobility management services to the traveling public.
- The combined effect of multiple strategies will be greater than the sum of separate strategies; these strategies will be implemented by several players who need to share common information.
- Increasingly, collaboration with professions outside of the transportation arena will be more critical.

COMMON THEMES

Motivators and Results

Several factors motivate agencies to enter into and sustain collaborative partnerships for multimodal programs. One is the perception that one or more agencies cannot solve their transportation infrastructure or service issues alone. Another is the growing awareness that the capacity of the system is fixed and that more must be done to increase the productivity of the current system. Additionally, there is the impetus to better integrate land use and transportation decision making. And last but not least, funding is limited.

Based on our research, we have identified six primary motivators:

1. ***Dollars.*** Recognizing the benefit of tapping into new funding sources.

   In **Denver, Colorado,** a regional, multi-jurisdictional program to coordinate traffic signals along major regional highway corridors gained momentum when the MPO assumed leadership and funds were set aside to support the project. While public opinion clearly emphasized the need for better signal coordination, the emphasis had been on improving operations at the local level, often at the expense of the traffic flow for the entire corridor. To date, more than $10 million has been spent and approximately 1,000 signal projects have been undertaken.

   In **Montgomery County, Maryland,** the availability of both state and federal grant funding served as one of many catalysts for the development of a multimodal operations center with centralized computer-aided bus dispatch and signal control. According to the state department of transportation's (DOT's) own evaluation, the development and deployment of this integrated system has increased safety, reduced fuel consumption, reduced delays, and improved the following: air quality, mass transit system operations, incident response and management, and transportation system capacity.

2. ***Operational functions.*** Working to maximize infrastructure investments and functionality.

   In **Los Angeles, California,** ongoing mobility and environmental challenges faced by the City and the larger Los Angeles region spurred the creation of the Los Angeles Metro Rapid Program. To improve bus service along key travel corridors, the Los Angeles Metropolitan Transit Agency and the Los Angeles City Department of Transportation joined forces to initiate a 9-month pilot program to test rapid bus concepts on two major east-west arterial corridors. The pilot program has evolved to become a greatly expanded, permanent partnership to further enhance service quality and capacity.

   In **Houston, Texas,** interest in creating an integrated freeway management system under centralized control led to the development of a regional transportation management center. In 1993, the state DOT, the region's transit authority (Metro), the City of Houston, and Harris County came together to form TranStar, an organization with centralized system management capabilities. This collaboration has yielded improvements in highway operations (e.g., incident response). TranStar's committees and staff are responsible for coordinating ITS programs, traffic emergency management systems, and enforcement efforts.

3. ***Customer demand.*** Responding to public need.

   In **Switzerland,** the concept for a car-sharing program was developed at the local level to meet customer needs. When it became apparent that the initial pioneers could not realize the full potential of the program, the operations of two Swiss organizations (ATG and ShareCom) were merged to create a single national car-sharing operation, Mobility Carsharing of Switzerland. With more than 50,000 members, the organization operates in close collaboration with each of the major local transit agencies and the national railway system.

   In **California,** public interest in tailoring transportation investment to local needs led the San Francisco Bay Area's Metropolitan Transportation Commission to create the Transportation for Livable Communities program in 1998. The program simultaneously promotes transportation and land use integration and expands transportation options by providing direct financial incentives for cities and counties to support community development and redevelopment projects. The projects encourage pedestrian, transit, and/or bicycle trips and spur the compact development of housing, downtowns, and regional activity centers. Four years after the program was initiated, $1.8 million in planning grants had been allocated, and more than $54 million in capital grant and housing incentive funding had been committed. To date, the program has funded more than 51 planning, 47 capital, and 31 housing incentive program projects.

4. ***Creation of a seamless travel experience.*** Using recent technologies to integrate both system and traveler information.

   In **Oregon,** interest in promoting statewide transit trip planning to support closer operational ties and provide enhanced passenger information resulted in the launch of the Oregon Transit Trip Planning Project. Oregon DOT has taken the lead in creating a statewide origin-destination trip planning system that may be expanded to joint operation within the state of Washington. From the start, much of the support for the program has come from smaller local areas interested in being tied into a larger statewide program.

   In the **United Kingdom,** much of the initial vision for a national, public-mode, traveler information system came from a committee of local mobility managers whose work was championed by managers in the national government. From the vantage point of system architecture, Transport Direct is the most dispersed, decentralized model yet developed. Every trip is assembled by the software residing in the local server; there is no central location for trip optimization. The local server interrogates other servers to assemble the information needed to provide a unified trip to the customer.

5. ***Protection of public health and mobility.*** Taking a hard look at what is required to address both planned and unplanned events.

   In **California,** the eyes of the world were on the state as it prepared for the 1984 Summer Olympic Games. Intent on providing a world-class experience while ensuring the mobility of its residents and visitors, the state DOT took the lead in establishing a central location for communication and coordination related to the event. Working carefully with transit planners (the system expected to provide the greatest capacity for moving large numbers of spectators), the DOT was able to keep the channels of communication and transit service open. The result was a major increase in transit use, with peak hourly volumes on the roadways down by as much as 7 percent, resulting in a reduction of congestion by as much as 60 percent.

   In **New York,** following the September 11, 2001, terrorist attacks, the metropolitan area benefited from an organization whose mandate was to coordinate the activities of the highway, transit, and enforcement agencies in the region. The Transportation Operations

Coordinating Committee (TRANSCOM), the regional coordinating body, had developed standard operating procedures and communication protocols for relevant agencies in the event of an emergency. Although the level of confusion and anxiety over the attack in New York City was great, the central command center at TRANSCOM allowed transportation and enforcement agencies to coordinate a regional response. As it became apparent that several key transit and highway facilities would be out of commission for some time, TRANSCOM worked with the relevant agencies to develop strategies to provide alternate transportation services.

6. ***Government regulations and requirements.*** Developing effective strategies to respond to legislative requirements.

In **Atlanta, Georgia,** growth and congestion contributed to the region's inability to meet air quality conformance standards associated with the Clean Air Act. The city faced significant legal challenges for nonconformance, and at one point all federal funds for new highway projects were threatened. A range of state, regional, and local government and business officials and managers, led by the governor, concluded that the existing institutional structure for decision making related to transportation investments, land use, and development was inadequate. The response was the creation of the Georgia Regional Transportation Authority (GRTA) in 1999. The formation of GRTA has elevated the importance of planning and funding transit improvements and other alternative modes of transportation in the short term. The current Regional Transportation Improvement Program includes 47 miles of additional passenger rail, 142 miles of new high-occupancy-vehicle lanes, 385 miles of new or upgraded pedestrian and bicycle facilities, and 703 new daily express bus trips.

In **Zion National Park, Utah,** federal legislation (the Intermodal Surface Transportation Efficiency Act of 1991 [ISTEA] and the Transportation Equity Act for the 21st Century [TEA-21]) required new thinking to address the mobility challenges associated with national parks. With an emphasis on multimodalism, the legislation called for alternative transportation planning. What began as an internally focused National Park Service project to preserve park resources and improve the visitor experience evolved into a project with a broader community context. Working together, the National Park Service and state and local partners have instituted a transit service to serve both the park and the gateway community of Springdale, thereby eliminating more than 2 million vehicle miles of travel on park roads. Expansion of the original project scope has reduced the effects of automobile travel on air quality and the landscape, enhanced mobility for both residents and visitors, and initiated an important dialog between the National Park Service and state and local partners.

Challenges

The research revealed several challenges to collaboration, among which the following five stand out:

1. **Narrowly interpreted missions.** Differing organizational cultures and perceived missions can majorly impede successful collaborative activity. Within the transportation disciplines—transit operations, traffic operations, infrastructure planning, design, and construction—there are different perceived missions, priorities, and cultures, even within a single city or county government. This condition is more pronounced in coordinating decisions between transportation agencies and land use and development planning agencies. The goals, objectives, professional training, and language used by these two fields fundamentally differ.
2. **Lack of trust.** Importantly, the case examples reveal a concern about ceding decision-making control to another level of government or another parallel agency. In the design of joint transit services and the design of multiagency traveler information systems, the agencies face a delicate balancing act. On one hand, the service offered to the customer should seem as "seamless" as possible. On the other hand, the sets of rules, regulations, and responsibilities of the participating agencies simply cannot be subjugated to the desires of the common process. Agencies approaching such collaboration have a legitimate concern about their loss of autonomy and independence, particularly with regard to data integrity.
3. **Standard practice.** Organizations must be prepared for programmatic and organizational change. The roles assigned to an organization today may evolve and present new demands and challenges driven by changing customer needs. From the state DOT that adheres to a traditional approach to facility design to the transit agency that focuses primarily on maximizing operational efficiency, agencies are finding that transportation customers and communities are demanding thinking and responses that are outside-of-the-box and more tailored to individual needs. As such, standard practices are being questioned. Addressing these challenges necessitates that the agencies be both flexible and creative in their thinking.
4. **Leadership/skills.** While the motivators may vary, ultimately one person, agency, or group has to take the lead. The case examples included in this research suggest an evolving model for multiagency activity, with innovative efforts being initiated at the local level, supported and encouraged at a higher level of government, and ultimately executed at the local level. Whatever the paradigm, the need for committed and sustained leader-

ship cannot be underestimated, particularly in implementing multiyear projects. As people retire and change jobs, and as agencies and organizations merge, committing and sustaining leadership will be a challenge. To keep projects on track, it is important that information be shared, skill sets honed, and succession planning considered.

5. **Funding.** Increasingly, state, regional, and local transportation agencies are facing severe capital and operating funding constraints. The timing could not be worse because public expectations continue to expand. Agencies are being called upon to deliver a higher quality of service, often with less funding. And the funding that is available is arrayed in a series of programmatic areas that restrict how the dollars are spent. Given the current structure, collaboration is the only viable option.

OVERCOMING THE CHALLENGES

Coordination, communication, and trust are essential. Committed and sustained leadership, talented personnel, a willingness to reach out and partner, and the ability to adapt to change also are fundamental to foster collaborative, mutimodal decision making. The case examples to be published in a future TCRP Project H-29 report serve as a starting point for fostering this type of decision making.

CONCLUSION

There is a very simple rationale for the importance of collaboration in the planning, management, and operation of transportation systems: there really is no other option. The research provides examples of the benefits of collaboration, from improved roadway operations during a planned event to the demanding task of merging information systems between traffic and emergency medical services. The acknowledgment that no institution can solve complex problems alone is a precondition for assertive collaborative strategies and actions.

In many cases, the communication and cooperation established in institutionally simple tasks, such as optimizing the operations within one mode, built a base of trust and confidence that applied to more complex multimodal and multidisciplinary challenges. At New York's TRANSCOM, a regional information architecture designed to improve incident management is being applied in the planning of door-to-door public transportation trips. In the Shenandoah Valley, information about incidents and delays is being integrated into the database of hospital emergency service managers to maximize the chance of saving automobile accident victims in the "golden hour" between the site of an accident and the emergency room.

Many of the case examples in the research describe the roles of several players or institutions in the creation and implementation of a single strategy or action. However, the research concludes with the observation that the key contribution of this approach may lie in the creation of collaborations between the proponents of many separate strategies and conditions in order to bring about change in travel choices and system use. In the long term, the overarching question is not about the creation of a bond between two agencies to produce a joint product or service, but rather about the creation of bonds between professionals from many fields and disciplines to produce new and/or improved means of transportation.

Appendix: Case Examples Cited in TCRP Project H-29, "A New Vision of Mobility: Guidance to Foster Collaborative Multimodal Decision Making"

One: Institutional Collaboration and Planning for Transportation Systems Management and Operations

Regional Operations Collaboration and Coordination (the Role of the MPO)

Denver Regional Council of Governments Traffic Signal Coordination Initiative	Colorado
Metropolitan Transportation Commission Management and Operations Focus in the San Francisco Bay Area	California

Regional Operations Collaboration and Coordination (the Roles of Other Organizational Structures and Institutions)

Houston TranStar	Texas
Arizona AZTech	Arizona
TRANSCOM	New York/New Jersey

Two: Provision of Coordinated System Operations for Expected or Unexpected Events

Collaborative System Operations for Special Events

2002 Salt Lake City Winter Olympics	Utah
1996 Atlanta Summer Olympics	Georgia
1984 Los Angeles Summer Olympics	California

Collaborative Operations for Longer-Term System Disruptions (Freeway Reconstructions)

Southeast Expressway	Boston, Massachusetts
Parkway East Reconstruction Project	Pittsburgh, Pennsylvania
Southeastern Pennsylvania Transportation Authority	Pennsylvania

Preparing for Coordinated Transportation System Operations in Response to Unexpected Events

September 11, 2001, Terrorist Attacks	New York City, New York, and Washington, D.C.
Washington, D.C.'s Regional Emergency Coordination Plan	Washington, D.C.
Emergency Management	Hampton Roads, Virginia

Three: Management of Assets Across Modal Boundaries

Coordination of Surface Transit and Street Operations to Improve System Performance

Montgomery County Multimodal Operations Center	Maryland
LA Metro Rapid Program	California
Calgary Transit/Street Operations Coordination	Canada

Multimodal Approaches to Transportation Demand Management in Urban Areas

Lloyd District	Portland, Oregon
Coastal Corridor Coalition	Southwest Connecticut

Multimodal Approaches to Transportation Demand Management for Rural Visitor Destinations

Yosemite National Park	California
Zion National Park	Utah
Arcadia National Park	Maine
Multimodal Transportation Planning	Sedona, Arizona

Regional Multimodal Transportation Operating Organizations (a Coordinated Response to Regional Mobility Needs)

Vancouver Regional Transportation Authority - TransLink	British Columbia
Metropolitan Transportation Authority	Metropolitan New York Region

Four: Institutional Collaboration to Coordinate Transportation and Land Use Decision Making

Partnerships to Link Fixed Transit Corridor Investments with Transit-Oriented Development

Westside Station Area Planning Program	Portland, Oregon
Regional Transit District Community/Transit-Oriented Development Partnerships	Denver, Colorado

Regional Funding Programs and Policies that Link Transportation and Land Use

San Francisco Bay Metropolitan Transportation Commission's Transportation for Livable Communities Program	California
North Central Texas Council of Government/Regional Transportation Council – Land Use/Transportation Joint Venture Program	Texas
Metropolitan Council – Livable Communities Demonstration Program	Minnesota

Institutions that Strengthen the Connection Between Transportation and Land Use Decision Making (Regional Governance Structures)

Georgia Regional Transportation Authority and its Relationship to the Atlanta Regional Commission	Georgia
Greater Vancouver Transportation Authority (TransLink) and its Relationship to the Greater Vancouver Regional District	British Columbia

Five: Integrated Traveler Information Systems

Traveler Information and Trip Planning

Openbaar Vervoer Reisinformatie (OVR)	The Netherlands
Transport Direct	United Kingdom
511 Traveler Information System	United States
Oregon Department of Transportation's Trip Planning Project	Oregon

Traveler Information Initiatives

I-95 Corridor Coalition	Thirteen States and Washington, D.C.

Joint Ticketing

Samtrafiken I Sverige AB	Sweden
Newark Airport Rail Station	New Jersey

Health Care Transportation Partnerships

Northern Shenandoah Valley Public Safety Initiative	Virginia
Oregon Medical Assistance Program	Oregon
Oregon Department of Transportation's Human Services Collaboration	Oregon

Six: Mobility Services

Mobility Services

City of Bremen	Germany
Project Moses	European Union
Swiss Federal Railway's Rail Link	Switzerland
Washington Metropolitan Area Transit Authority's Flexcar Partnership	Washington, D.C., Metropolitan Area

Note: "Health Care Transportation Partnerships" in Area Five above addresses both integrated traveler information systems and mobility services.

Mobility Management Institutions

Nottingham Travelwise Service	United Kingdom