

## **Transportation Planning Needs for Small and Medium-Sized Communities**

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Small and medium-sized communities face a variety of transportation planning challenges around the country. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) provide a common thread, but individual circumstances and significantly different state requirements result in much variation. Differences range from states that own and operate all or nearly all of the highway and street systems, with little local control, to states with growth management, and yet others with sharp divisions of responsibility between state systems and local systems, sometimes with little state help provided for local governments. Four issues that nearly all small and medium-sized communities share are

- Lack of resources to meet planning requirements;
- Education for staff and stakeholders;
- Communications and information overload; and
- Technology, both in-house and applications.

All planning agencies—small, medium, or large—face these issues, but for small and medium-sized communities, the solutions may be different. Hann (1) states, “Small and medium-sized MPOs [metropolitan planning organizations] may have limited resources, so effective use of resources through traditional and innovative management techniques is critical.” This theme is repeated on a consistent basis in papers presented at the conferences for small and medium-sized communities. This problem exists not just for the area of staff management but in most or all areas. Yan (2) says, “Many small urban areas do not have sufficient resources to conduct expensive travel surveys, nor to recruit and retain a team of very specialized technical staff.” Sources of data that are assumed in large urban areas, such as data loops in traffic detectors, have no equivalent in small and medium-sized urban areas, where one or two permanent traffic recording devices may serve an entire urban area. When the staff of these areas can be trained in technical specialties such as traffic modeling, retaining them may be difficult, because these areas are unable to pay competitive wages. On the other hand, many of these communities are able to retain good employees because they offer a lifestyle that meets the needs of these people. For these communities, the state of the practice for meeting planning requirements consists of developing innovative methodologies, scaling efforts to the resources available, and prioritizing.

## RESOURCE ISSUES

### Planning Requirements

Small and medium-sized communities are faced with meeting the requirements of ISTEA, the Clean Air Act, and TEA-21, as well as other federal, state, and local requirements, often with inadequate resources. Thus, use of and lack of resources are the first issue addressed here. The requirements include maintaining a financially constrained metropolitan transportation plan, a three-year transportation improvement plan, and a public involvement process. In addition, each year's unified planning work program emphasizes a number of focus areas, such as integrating intelligent transportation systems (ITS) into planning, access to jobs, and social justice. These communities often address this planning task by prioritizing requirements and focusing resources on top priorities, while addressing less important priorities with less emphasis. The least important issues may receive only cursory discussion without any real analysis. Sometimes discussion of lesser issues may be grouped with analysis of higher-priority issues.

### Education

Education has two particularly important aspects in the transportation planning field. The first is acquiring the education necessary to deal effectively with the changing and increasingly complex nature of the transportation field. The second is how to communicate the complexities to stakeholders, including administrators, elected officials, other agencies, the media, and the public. Just keeping up with changing technologies and processes is a daunting task, but being able to describe and explain them in a manner that nonprofessionals can understand is a separate challenge requiring significant resources. As mentioned earlier, retaining trained staff is an additional problem that is common to larger agencies but that is particularly acute in some small and medium-sized areas.

### *Staff*

Staff limitations mean that small and medium-sized communities must have staff who are generalists, knowing something of many areas. The Internet has provided a good deal of access to information and holds the potential for more. Many types of educational opportunities are offered both by local entities, such as universities, and professional societies, such as the Institute of Transportation Engineers, and by national institutions that move their courses around the country. However, the cost, in terms of tuition, travel expenses, and time, can be challenging for planners from small and medium-sized communities.

### *Stakeholders*

Using the Internet to communicate information to the public is particularly attractive to agencies and has resulted in a proliferation of home pages. The Internet allows the agency, with a relatively minor commitment of resources, to reach a large audience on an ongoing basis and to receive feedback. However, three problems must be addressed: reaching stakeholders who do not have access to the Internet, keeping the information up to date, and responding to feedback. The number of people asking questions can be significant, and the time it takes to respond to these questions can be a drain.

## **Communications and Information Overload**

Communications and information overload is a by-product of the shortage of resources in small and medium-sized communities, but it is also a separate issue that exists at all levels of transportation planning and throughout our society. However, solutions need to be crafted to address the unique circumstances of small and medium-sized communities.

Communications is a broad issue that includes internal as well as external networks. Reaching audiences that do not traditionally participate in the process because of restraints—such as not having a computer—is of particular concern. Kennedy (3), referring to Executive Order 12898, states, “Under the Order, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.” One possible approach to dealing with information overload at the staff level is to develop an expert system for transportation planners. This possibility was discussed at the Conference on Refocusing Planning for the 21st Century, held in Washington, D.C., in February 1999.

## **Technology**

The issue of technology is tied to the first two issues but has unique aspects in the small and medium-sized community. Just one of these issues, but a significant one, is scale. For example, when does client server technology begin to become efficient for a small or medium-sized community? Nearly all technologies pose the same question for these communities. Other issues include deciding when to update software and hardware, selecting software that is compatible with larger nearby communities when less expensive packages will fill the needs of the smaller community, and maintaining computer applications once they are established. The latter problem is particularly relevant to traffic forecasting models. The original model is often developed by a consultant as part of a contract. The staff may be trained to run the model, but they do not have the time or resources to maintain it. Thus the model is useful for a short time and then becomes obsolete if growth occurs, as it usually does where models are needed.

## **SPECIFIC ISSUES**

### **Intelligent Transportation Systems**

ITSs encompass technologies that have been with us for some time, new technologies, and those that are still in the research or testing phase. ITSs are useful for maximizing the effectiveness of the existing transportation system through management and operational efficiencies. In small and medium-sized communities, applications focus on communications, such as weather or road-condition advisories; incident management; traffic management; and traveler information.

The problems facing small and medium-sized communities include all four of the resource issues identified above. Because of their limited resources, these communities must make good decisions about investing in new technologies. Some of the critical factors are the ability of the new technology to be viable over time; to be compatible not only with other technologies in the agency, but also with those of other agencies; and to solve problems facing the agency cost-effectively. Because of the rapid changes in communications technology, viability over time is an issue that the agency may have to

rationalize. Cost-effectiveness is addressed by incorporating the investment decision into the prioritization process for other projects. In an interview, Les Jacobson, Traffic Services Manager in the Washington State Department of Transportation, stated, “The difference between the application of ITSs in large urban areas, compared with small or medium-sized areas, is not one of scale, but of identifying the priority areas and focusing on them to the exclusion of other applications.”

### **Air Quality**

Air quality has been an issue for some small and medium-sized communities for some time, but not for the majority. Changes in regulations that occurred as a result of the presidential directive of July 16, 1997, create a new situation for many of these communities. The tightening of controls on ground-level ozone and particulate matter (PM<sub>2.5</sub>) creates the possibility of many more small and medium-sized communities having to meet the requirements of the Clean Air Act. This will have a noticeable effect on staff resources, both in terms of workload and skills required.

### **Access to and Preservation of Rights-of-Way**

Access to and preservation of transportation rights-of-way become more important, with the emphasis on maximizing the benefits of existing investments. Access management is a broad term encompassing an array of traffic design and land use techniques used to preserve and enhance the capacity of existing highways while significantly improving safety. Local officials are challenged to balance the demands of property owners, who want to maximize access, with the needs of safety and operational efficiency. Local support for the application of access management techniques is inconsistent at best. As commercial development continues to focus on corridors, the pressure to preserve capacity and options will grow. Small and medium-sized communities often have a disadvantage in dealing with developers over issues of access and setbacks because the developers play the communities against each other.

### **Evaluating Multimodal and Intermodal Alternatives**

Evaluating multimodal and intermodal alternatives has become a new challenge as more emphasis has been placed on nontraditional solutions to capacity deficiencies and the need to define transportation problems as more than just a peak-hour commute problem has been recognized. Mass transit solutions have traditionally been reserved for the larger urban areas, but in today’s planning arena, they are often proposed in rural areas. There are no easy lookup tables or computer programs to analyze the effectiveness of these proposals, and the alternative—hiring consultants to do detailed analysis—can be beyond the resources of small- and medium-sized communities. Reliable sketch-planning tools are needed for alternatives analysis to ensure efficient and effective decision making for these communities, lest project selection become a modal popularity contest.

Intermodal problems are often defined only as freight and goods movement problems. Whereas this is not accurate, the freight aspect of intermodal problems is an area that poses particular problems for small- and medium-sized communities. The availability of efficient freight and goods infrastructure can be a vital competitive edge for small- and medium-sized communities when vying for businesses. Mobility for these modes must be considered in developing transportation plans. Small- and medium-sized communities need planning tools

that are appropriate for them in terms of scale and cost, and they need access to data that are accurate and affordable. One of the chief methods to identify freight needs is to talk to the service providers.

### **Development**

Development is occurring at the urban fringe and in rural areas, often without supporting infrastructure. Developments themselves may have adequate circulation, but the collector/arterial system may be the same as that which existed when an area was undeveloped and intended to serve a rural population. The development may be connected to the state or county road system, resulting in an infrastructure that is inadequate and indirect for all modes, particularly transit and nonmotorized modes that are severely penalized by the lack of connections. The report from the session on this topic at the Conference on Refocusing Planning for the 21st Century (4) notes, "New development provides its own internal circulation system and connects it to the rural system, resulting in inefficient travel patterns for all modes." This is a problem with many causes, some of which are lack of standards for highway and street systems, lack of support for paying the cost of construction, opposition to the local effects of road construction, lack of planning for future growth, and opposition to road construction in general. The result is an infrastructure that is saturated at low land use densities; excessive vehicle miles traveled, energy consumption, and air pollution; and additional sprawl.

### **Data Collection**

ISTEA recognized the need for data collection to support the decision-making process. However, data collection is expensive and time-consuming. Small and medium-sized communities have often found ways to coordinate their efforts, share resources and data, and make use of new technologies when available and affordable. State transportation agencies should consider the needs of local jurisdictions in developing their own data collection programs. Actuated traffic signal systems collect data that are often not accessed. Information on the techniques and advantages of accessing these data should be made available to local agencies.

### **Safety**

Safety is an ongoing problem for small and medium-sized communities, affecting all modes. Whereas motor vehicle accident rates may be lower, severity rates are often higher, particularly fatality rates. Nonmotorized modes are particularly affected, since infrastructure is not designed and built to support these modes because of a low volume of usage. This problem is exacerbated as high growth rates on overloaded transportation systems create high volumes of traffic on systems designed for low volumes. Access management techniques can be very helpful in managing these problems.

### **Growth**

Growth has great effects on the quality of life. For some, it means effects on the environment and threats to existing lifestyles because of overcrowding. For others, quality of life relates more to economic development, and congestion is seen as a threat to growth. These issues are most commonly associated with large urban areas, but have become significant issues in small- and medium-sized communities as well. How we accommodate

growth while maintaining quality of life may be the biggest issue facing communities as we enter the next millennium. Much of the debate concerns the transportation system. There is a need for more information on the economic benefits of transportation systems and their relationship to quality of life to balance information on the negative effects of transportation systems on the environment.

### **Streamlining**

There is a need to streamline the planning and environmental review processes. There is a pilot program in Washington State, sponsored by the Federal Highway Administration and the Washington State Department of Transportation, to merge the planning and National Environmental Protection Act processes. The goals of the pilot process are to make a project decision in the planning stage with a record of decision being issued, to limit analysis to the level needed to make that decision, to consider a wider range of alternatives than are often considered at the current project level, to include stakeholders early, and to shorten overall process time.

### **Communities**

The quality of the communities we live in has become a major issue in the transportation planning field. Issues affecting small and medium-sized communities include traffic calming, access to and treatment of main streets, and bypasses. Bypasses are particularly controversial, with many examples of communities where a bypass has been a boon to quality of life to a majority of residents, and other examples of communities where a bypass has had a negative economic impact. Community involvement in this type of decision is essential.

## **REFERENCES**

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