
Section I

BASIC CONCEPTS

Coordination has been promoted as a means of improving the delivery of transportation services since the late 1960s. Many direct service providers and agencies at all levels of government have been interested in achieving the benefits expected from coordinated transportation services. In particular, the United States Departments of Transportation (DOT) and Health and Human Services (DHHS) have been working together since the mid-1980s to foster increased coordination among the transportation services sponsored by their respective programs.

Indeed, coordinating human service transportation services and public transit services can provide significant economic benefits. The coordinating agencies, the riders of the services, and the localities all can receive measurable benefits, including additional funding, more cost-effective

operations, and the benefits received from increased mobility.

These potential benefits have been acknowledged and extolled for many years but usually in very general terms. To lay the groundwork for quantifying the benefits associated with different coordination strategies, this section begins with basic coordination concepts and then describes the kinds of economic benefits that can be expected from coordinating human service transportation and public transit.

Section II of this report discusses specific strategies for achieving the potential economic benefits of coordinated transportation services. Section III presents estimates of the national economic impacts of coordinated transportation services. Section IV, the final section, discusses additional considerations, including

governmental strategies that impact coordination and cautions needed when implementing coordinated transportation services.

Chapter 1

BASIC COORDINATION CONCEPTS

WHAT IS COORDINATION?

Coordination is a technique for managing resources. Fundamentally, **coordination is about shared power** among organizations that are working together. For coordination to succeed, the organizations involved must have **shared objectives** (like increasing mobility for persons who lack mobility) and a real level of **shared respect**. After these preconditions are met, sharing of the key components of power — **responsibility, management, and funding** — can occur. Coordination can then change practices of independent operations by multiple providers to more integrated service delivery patterns.

Coordinating transportation means doing better (obtaining more results, like trips)

with existing resources by working together with persons from different agencies and backgrounds. Coordination helps to address transportation problems such as duplication of effort and low transportation resource efficiency. “Coordination is the best way to stretch scarce resources and improve mobility for everyone” (Ohio DOT, 1997).

Coordinating transportation systems is best understood as **a political process** in which two or more organizations interact to jointly accomplish their transportation objectives. Like many other political processes, coordination involves power and control over resources. Coordination can be subject to the usual kinds of political problems and pressures, such as changing environments and competing goals or personalities. A broad perspective is critical: effective coordination requires a focus on the entire community or maybe even on multiple

communities. Individuals who may not be used to talking or working with each other will need to develop levels of trust, respect, and confidence that will permit them to share responsibilities. A willingness to be open-minded about changing long-standing operating procedures is needed. Once these conditions are met, the results can include the blending of travel purposes, client types, travel modes, funding sources, vehicle types, and the needs of different political jurisdictions, as well as organizational philosophies and perspectives. The results can be quite beneficial, as described in later chapters.

WHY COORDINATE TRANSPORTATION SERVICES?

When human service agencies — such as departments of social services, departments of health and mental health, and area agencies on aging — realized that many of their clients had no means of traveling to the services that they needed, many of these agencies started their own transportation systems. In recent years, public transit agencies have also offered what have come to be known as *specialized transportation services*. Each of these agencies and organizations may receive funding for transportation services from one or more sources, including Federal, state, and local programs and nonprofit programs. Such funds are often accompanied by specific objectives for serving limited clientele and by specific rules, accountability procedures, and operating requirements.

Previous research shows that, if transportation services are operated in a separate and uncoordinated fashion, many economic inefficiencies and service problems result (Burkhardt, et al., 1990):

- Multiple transportation providers, each with its own mission, equipment, eligibility requirements, funding sources, and institutional objectives, often resulting in significant duplication of expenditures and services;
- No formal mechanism for cooperation or communication among these operators;
- A total level of service well below the total level of need;
- Vehicles and other resources not utilized to capacity;
- Duplicative services in some parts of the community but other areas have little or no service available;
- Substantial variations in service quality, including safety standards, from provider to provider;
- A lack of reliable information—for consumers, planners, and service operators—about the services being provided and their costs; and
- No comprehensive plan to address these problems.

Coordination has been shown to be capable of resolving such problems and improving specialized transportation services.

WHAT KINDS OF BENEFITS ARE EXPECTED?

Coordination is expected to provide a wide range of benefits that reduce or eliminate the problems noted above, resulting in more effective and efficient transportation services in a locality. Typical coordination consequences include lowered unit costs and increased ridership.

Four major classes of information are needed to describe and evaluate transportation services: system characteristics, performance measures, service attributes assessments, and users' overall system assessments (Burkhardt, 2003). System characteristics include the resource inputs required for service: funds, personnel, vehicles, etc. The performance measures typically apply ratios of inputs and outputs to measure factors such as resource efficiency (the amount of public transportation service produced in relation to the resources expended), service effectiveness (the consumption of transportation services in relation to the amount of service available), and cost effectiveness (the consumption of transportation services in relation to the resources expended) (Fielding and Anderson, 1993). The service attributes include measures of quality — from both the system and the rider perspectives — such as reliability, accessibility, comfort, and affordability. The service assessments reflect the outcomes of the services or how the services influence the lives of those who use them. Taken together, the service assessments and service attributes can be

used to express customer satisfaction with the services consumed.

Coordination's economic benefits are best described in terms of system characteristics and performance measures. Table 1 shows changes in characteristics or performance that are desired or could be expected from coordinating human service transportation and public transit systems. For most parties, the changes indicated will be seen as positive improvements. Clearly, a large number of these anticipated benefits will vary significantly according to local conditions and programs.

Coordination should have measurable effects on service attributes and users' overall service assessments. In general, these changes will be seen under the overall heading of "improved services." However, although these positive changes are often greatly appreciated by system users, they are not easily measured in economic terms. Table 2 identifies performance indicators for these assessments: coordinating human service transportation and public transit systems should generally lead to more positive assessments in all these indicators.

WHEN IS COORDINATION EFFECTIVE?

Coordination will not solve all transportation problems in all communities. It needs to be seen as one of several possible management or problem-solving tools. In order to determine whether coordination can improve transportation services in a particular locality, transportation planners

Table 1
Potential Coordinated Transportation Benefits

<i>Factor</i>	<i>Desired or Expected Change</i>
SYSTEM CHARACTERISTICS (INPUTS)	
Number of transportation providers	Lower
Number of agencies purchasing transportation	Higher
Number of vehicles	Lower
Number of drivers	Lower
Part-time/full-time driver ratio	Lower
Average hourly driver wage	Higher
Total driver wages	Lower
Level and quality of driver training	Higher
Hours when service is provided each day	Expanded
Days when service is provided each week	Expanded
Vehicle hours of service	Maybe lower
Vehicle miles of service	Maybe lower
Total service area	Expanded
Number of persons who can get services	Expanded
Joint purchasing	More frequent
Joint dispatching of agency-owned vehicles	More frequent
Centralized oversight and management	More frequent
Level of route duplication	Lower
Number of funding sources	Higher
Total transportation funding	Higher
One central community information source	More frequent
Segregated client types	Less frequent
Limited trip purposes	Less frequent
Community-wide transportation perspective	More frequent
Time spent in meetings	Higher
Level of planning processes	Higher
PERFORMANCE MEASURES	
Number of passenger trips	Higher
Number of passenger trips per service area population	Higher
Passenger trips per vehicle mile	Higher
Passenger trips per vehicle hour	Higher
Number of driver hours per passenger trip	Lower
Number of admin staff hours per passenger trip	Lower
Cost per vehicle hour	Lower
Cost per vehicle mile	Lower
Cost per passenger trip	Lower
Community benefits	
Economic activity	Higher
Economic growth	Higher
Nursing home admissions per 1,000 population	Lower
SERVICE ATTRIBUTE ASSESSMENTS	More positive
USERS' OVERALL SERVICE ASSESSMENTS	More positive

Table 2
Service Quality Assessment Measures

<i>Indicators</i>	<i>Examples</i>
SERVICE ATTRIBUTE ASSESSMENTS: EXAMPLES	
Acceptability	Reliability, comfort
Accessibility	Can physically use, proximity
Adaptability	Flexibility, responds to specific requests
Affordability	Not excessive money, time, or effort
Availability	Frequency, hours/days available
USER'S OVERALL SERVICE ASSESSMENTS	
Alternatives	This service is preferable to other means of making this trip
Assessment	Would rate this service as excellent Would recommend this service to a friend Would use this service again
Achievement	This service has had great impacts on users' lives

must first gather data about the potential users of services and the current transportation providers. The next step is to analyze the effectiveness and efficiency of current services in meeting the service population's needs.

Coordination may be an effective action strategy in communities where there is substantial unused vehicle time, substantial unused vehicle capacity, or a lack of economies of scale in planning,

administration, operations, purchasing, or maintenance. Without these conditions, strategies other than coordination are better suited to improve transportation services. Thus, **coordination has its most substantial impact where transportation efficiency can be improved.** In communities where persons who need transportation are not being served but existing services are already highly efficient, coordination by itself will not be an effective strategy: in these cases, **additional resources are needed.**