

concerned with transportation data would like to see a much closer relationship between data users and data suppliers. The Bureau of the Census supports more and better communication and will do whatever it can to be responsive to the concerns of its data users.

In our talks with some data users, preparatory to writing this paper, we noticed a sense that deregulation was going to make it more difficult for the transportation analyst. However, the sentiment was also voiced that if there was any silver lining, it was that this was a good opportunity to take stock of where we stand and proceed to rationalize the available transportation data.

We trust that this opportunity will not pass us by. We trust that the transportation community will deliberate together for the common good and we trust that the transportation community and the federal statistical system can develop the kinds of data needed by both.

#### INSTITUTIONAL IMPEDIMENTS TO A COORDINATED DATA POLICY

Alan E. Pisarski  
Consultant

This paper emphasizes the institutional impediments to a coordinated transportation data policy because that is where the dramatic changes are occurring today. Changes in regulatory processes that generate data, programmatic changes in areas that were a source of data, and most importantly, changes in the sense of scope and scale of the federal role and the federal-local, federal-private relationship—all affect the warrants for data and the needs for data. But, in many ways, the institutional side has always been the most difficult of our problems in transportation data—not the technical aspects of data collection nor the financial issues.

#### FINANCIAL ASPECTS

Parenthetically, consider, the financial aspects of the problem for a moment, because funding availability appears so often as the apparent roadblock to better data. It is true that there is not enough funding to do all the things that we think need doing—and there never will be. But when the sense of priority is there and when the case for a data program has been well made, the money is there. There are serious problems of assigning priorities and of reallocating funds currently used for less than critical needs. Furthermore, information scientists have not given budget people much help in those areas.

A significant reason for the failure to establish comprehensive transportation information systems has been the generally shared failure of analysts and policymakers to make a sufficiently strong case for the existence of such systems. Many elements in the comprehensive set are expensive to obtain, take long periods of time to develop, and are highly perishable. Consequently serious pre-justification is required.

The most serious technical failure has been the incapacity to approach anything like a substantive cost/benefit capability in regard to particular transportation data requirements. Budget justifications of new initiatives are generally cursory efforts that point out the existence of a data gap and the applications for the information to fill the gap;

however, there is no quantification of the benefit accruing from bringing that information to bear on that application. The difficulties are real. What are the benefits of a good decision versus a bad one? They can be major or minor. What share will better data play in reaching a better decision? The answer is far more tied to the nature of the decision process, the other forces acting on the decision, and the character of the decisionmakers than it is to the capacity to anticipate the prospective knowledge obtained from new data. So perhaps it can be restated that money itself is not the problem, although the capacity to justify spending it may be.

#### FEDERAL ROLE

The major force driving the institutional shakeup that is occurring is the prevailing philosophy that can be best, or most simply, summarized as "federal divestment." This philosophy has manifested itself in three ways, all important to data development:

1. Federal divestment of roles and functions to the private sector, e.g., deregulation;
2. Federal divestment of roles and functions to local and state governments, e.g., deprogramming and defunding; and
3. Greater use in remaining federal activities of market principles, e.g., user charges.

How does all of this affect data: its supply, demand, cost, and availability? The unfortunate answer is it affects it a lot. The word "unfortunate" is used because data programs have been affected by these policy trends for all the wrong reasons.

Consider the reasons for this effect on data, and why they are all wrong. Federal divestment to the private sector, particularly deregulation, has most affected the warrants, to use the legal term, for federal data collection. The rights to collect data, require reporting, and make data public have often been tied to federal regulatory authority. As that authority has been legislatively diminished, the lawyers often succeed in making data reporting the first casualty. Why is this we might ask.

First, even after extensive deregulation, federal residual responsibility often remains in the sector formerly regulated. At least, continued data would be useful for before-and-after studies and for continued monitoring of the deregulated sector. It is ironic that should we decide to re-regulate in the future, that decision will be made without adequate information. If we collect data on industry only when we regulate it and stop the moment deregulation occurs, then, by definition, the decision to regulate will always be made in ignorance.

Second, a large body of uses has grown up around these data bases that is unrelated to their regulatory or programmatic content. These uses exist precisely because alternative data sources were not developed because of the existence of the regulatory data. Many examples of this problem exist in the transportation sector. The Bureau of the Census historically has been required to avoid duplicating ICC data—data that ICC has now stopped collecting. The uses of CAB regulatory data are probably greater in non-regulatory applications than in the original purposes. Many of the users are other federal agencies.

Third, the divestment to the private sector of the role of providing data will not be sufficient for several reasons, primarily concerning economic

incentives and credibility. One of the important attributes of the perfect marketplace that economists seek is perfect information. Perfect information is one of the pre-conditions that assures that transactions between willing buyers and willing sellers will improve the circumstances of each party to the transaction. Where imperfect information is present, buyers or sellers will not have full knowledge of the alternatives available to them or understand fully the ramifications of their transactions, and thus make imperfect decisions.

One of the most clearly identified functions for governments to perform in support of a more perfect marketplace is the provision of information to participants in the marketplace that enhances their ability to make optimal transactions. The basis for government participation in the provision of adequate information is inherent in the fact that information often has many of the attributes of a public good, i.e., the use of the information by one party does not "consume its value" so that other users cannot consume it also. Moreover, the benefits of producing information can rarely be fully captured by the producer, and, very frequently, significant economies of scale are possible in producing or assembling the required information in a centralized activity. These are some of the arguments that, for instance, support the existence of a large government information activity in the Bureau of the Census and the Bureau of Labor Statistics, beyond the government's own need for data. Thus, an appropriate role exists for governments to perform in the collection, synthesis, and dissemination of information.

It should be noted that most private vendors of data are in the business of manipulating and tailoring public, usually federal, data for clients. Few such activities could survive if they had to pay their share of the collection cost.

There are also response rate problems in transport surveys where public authority, or at least public sponsorship, is essential to a useful product. There are problems of coordination and uniformity, obviously, with multiple producers, whether private organizations, states, or local authorities. Finally, there is the very important issue of credibility, or at least acceptability, especially when the private-sector provider is self-interested as in the data provided by many associations. We only have to go back to the energy crisis days to remember how dependent the federal government, and the rest of us, were on the data provided by the petroleum associations.

Divestment of federal roles to state and local governments suffers many of the same problems mentioned above regarding the private sector. Moreover, the transfer of responsibility is often accompanied by the divestment of financial responsibility. It will be a quick way of finding out how much local entities really care about adequate information. Unfortunately, too many local program managers have found it easy, and very convenient, to justify their programs based on federal reporting requirements. It is not clear how readily we will be able to shift to making the case for programs based on local needs, or how fast we can shift from a reactive role--i.e., waiting for the federal government to make us do something we know we ought to do--to an active one.

The problems of local data development obviously also raise questions of comparability, or at least compatibility from place to place. Our record in this area is dismal. The ability to research what others have done and how they have done it will also grow in importance. Our record in that area is even worse.

A case in point from the mass transportation sector suffices. The Urban Mass Transportation Administration has required uniform annual reporting of operating data from all federally aided transit properties. This program improved the quality of individual reporting and assured its comparability to other properties. Local government, as a result, had better data about themselves and had the ability to do comparability analyses regarding similar properties. States, for instance, had commonly defined reporting for all their urban areas. With the prospective demise of operating subsidies, the warrants for reporting could go with it.

Finally, the last of the three policy forces--the federal government acting more in keeping with marketplace practices--is the most serious area of concern because it indicates a real lack of understanding of the necessary relationship between the new philosophy of the federal role and better data. If the federal government is going to act more in keeping with the marketplace, it will need more, not fewer data.

In this area supply side economics bumps up against new federalism. Although a substantive federal program to stimulate the supply side of the private sector has been put in place, government has so far failed to recognize that it too has a supply side role in some sectors of the economy, and without adequate public investment those sectors will needlessly retard economic growth and enhanced productivity--as is apparent all around us these days, investment in our public infrastructure is one of these economic sectors. Another is public information to assure adequate and rational public and private investments and policies.

As a supply side actor in the marketplace, government should have available to it the same kinds of information gathering, analytical decisionmaking, strategic planning capabilities that the other actors in the market utilize. All those who supply services in the marketplace need to know something about the intentions of other suppliers in the marketplace, e.g., the investment plans of suppliers of alternative facilities and services. They need to know something about the adequacy of performance of present public investments--what its costs and benefits are--and what the consequences of alternative actions would be when subjected to testing in the marketplace. In effect, in accepting the sovereignty of the marketplace, the federal government as an actor in that marketplace has an entrepreneurial role to play, not substantially distinct from that of other private entrepreneurs in the marketplace.

At the same time, and perhaps with some degree of contradiction, the federal government has a second role to play in that it has an interest, and perhaps a responsibility, to be aware of the total performance and the total array of services, supplies, and demands in the transportation marketplace. In this

capacity, it is not so much an entrepreneur, or an actor in that marketplace, as it is an overseer in the overall functioning of the transportation system. This function is in fact independent of the federal government's transportation programmatic responsibilities, and would exist with or without those programs. Most of the concerns, in fact, accrue not from programmatic interests per se, but rather from direct national goals, such as national economic growth, productivity, social and economic mobility, balance of payments, and national defense. Thus, if the operations of the transportation system have not adequately served national interests, the federal government may very well be concerned and appropriately involved independent of any programmatic concerns.

The present government data capability suffers two grievous ills: It is insufficient to meet government programmatic responsibilities in the new open marketplace and it fails to recognize the need for valid information outside of areas of programmatic responsibilities.

Having said all this it is still clear that simply stuffing everything back into the federal role that has fallen or been pushed out is not the answer. We can recall the days when the federal government was more of an activist in data development and did not answer our problems. Why not? The answer is, "For a lot of reasons." Among them are the following.

1. Federal data sources and local data needs were going in opposite directions; local needs for modeling, planning, operations, etc., needed more finely disaggregated small area data. Federal transportation data sources, with growing dependence on the Census and with serious financial and privacy constraints, were going the opposite way.

2. Federal and local needs and interests were increasingly divergent. It was increasingly difficult to find room for local goals and needs in federal programs. Local planning, and therefore data development, was increasingly involved in using federal funds to accomplish federally mandated goals in federally mandated ways.

3. Finally, the federal government is institutionally ill-equipped to produce transportation data on a consistent basis. The tenure of policy officials is about a year-and-a-half. Most data projects take far longer to institute. Thus an official investing in data is making a bequest to his successors.

#### OTHER ELEMENTS TO CONSIDER

Other institutional elements of the problem can be divided into three need dichotomies.

#### Collection Agency-Functional Agency

An important split in the arguments for and against alternative institutional arrangements occurs regarding the collection agency approach versus the functional agency approach. Most European nations place their statistics programs in Ministries of Statistics separate from the functional agencies. This assures continuity, but has often been found to reduce responsiveness and pertinence of statistical programs. The institutional issue is to find an organizational structure that balances responsiveness with continuity. An organization too close to daily needs may become too responsive, in the sense of

losing a grasp of long-term needs, and be reduced to answering fire drills and producing on-call statistics to buttress decisions after the fact.

An effective institutional arrangement would provide the joint design, joint funding capability, so often lacking in the past. In particular, great institutional gaps exist in regard to joint decisionmaking regarding design and joint funding of transportation projects. The federal record in this area is poor. Not only is there no mechanism for systematic input of user needs, there is no consistent place, persons, or thing to which those needs can be expressed.

#### Federal-Local

Few government agencies have responded well to the issues of information responsibility. No clear-cut technical or political rules exist for when responsibility should be placed at the state and local level or at the federal level. There are scale economics involved often in such programs. Neither these nor local needs are adequately considered. The case of the federal government acting as an agent for the states, local governments, or private sector in data development is almost non-existent.

#### Public Private

This is the most difficult and sensitive area of institutional concern. Replication of privately provided data series is often seen as the ultimate in government waste and boondoggling. On the other hand, government dependence on the private sector in critical data areas can be disastrous. The energy sector, where all supply and production statistics are privately generated, is the best example. However, any sector where regulation is dependent on the regulated for information suffers the same problem. This can often debilitate federal decisions where data are selective and self-serving. Federal data programs that parallel and duplicate private-sector programs seem wasteful and industry is quick to point out the potential waste. They may be essential, however. No decision process treats this question sensitively.

#### SOME THOUGHTS FOR INSTITUTIONAL CHANGE

The federal government needs help in achieving recognition that it has explicit and real data requirements in meeting its programmatic, regulatory, and policy responsibilities. Its free-market orientation increases rather than decreases its data requirements.

The federal government also needs to recognize that it has data requirements beyond its programmatic, regulatory, policymaking activities, and that divestment of these activities is not tantamount to divestment of the need to know and understand what is happening in the economy. Future decisions cannot be made in an information vacuum.

The federal government must be made to recognize that it has a supply side role to play in the provision of data. This has justification in the "public good" nature of the information product and in the economies of scale and quality improvements achievable by public sponsorship of data development.

New mechanisms must be found to permit joint design, development, and funding of data programs with local, federal, and private-sector participation. Severe institutional impediments now exist that inhibit the federal government from playing such a

coordinative role.

Local agencies and officials must shift from a reactive to an active mode, developing systems responsive to local goals and needs rather than federal mandates. Meeting local, rather than federal, data needs can become an important activity of regional agencies.

Aside from funding and programmatic changes, federal policy has shifted substantial new burdens to local governments in investment decisionmaking, regulations, and policy. All of these will bring new data demands.

Private-sector and local government relationships have been fundamentally bilateral relationships with the federal government. Few mechanisms exist at the local level for substantive continuing interaction between the private-sector and local planning agencies and other regional groups. Both local governments and the private sector must seek new mechanisms for cooperation and joint effort.

The base data collection activity can be seen as an urban utility function just like electricity, telephones, and waste disposal. The concept of self-supporting data collection utilities needs to be thoroughly examined. A local "OMB-like" function of review of proposed data collection efforts in the community to avoid duplication and excessive reporting burdens on the public could enhance local capabilities.

Coordination of local data collection activities between communities needs to become a local government or private-sector activity acting through their national organizations. The federal government probably will not do it and, when it wanted to, did not do it very well.

Similarly, access to the experience and work of others in areas of concern will become an important activity of professional and civic associations at the national level. The federal government may become a major user of such systems, and perhaps an ombudsman for their activities, but it cannot be looked on as a source and supporter in the future.

Both local governments and the private sector will need new mechanisms for obtaining a strong and common voice on data needs that establish new mechanisms to make their needs known at the national level. Mechanisms for achieving local or private needs at the national level that use federal capabilities, but without federal funds, federal input, or federal control, need to be discovered.

Most importantly, the problem must be recognized in its full scale and scope--not as a problem of the lack of this data item or that, to be treated symptomatically on an ad hoc basis, but as a generic, institutional problem requiring systematic institutional resolution.