panel report

CHANGING STRUCTURE OF FREIGHT INDUSTRY AND NEED FOR CHANGES IN GOVERNMENTAL POLICIES AND PROGRAMS

James R. Nelson, panel chairman

The changing structure of the freight industry was construed by the panel to refer either to intracity freight or to the interface between intercity and intracity freight. It was also taken to refer to reactive changes, i.e., those changes that occur or should occur in response to changes in the characteristics of urban life. Most of the points in the report are, in fact, the product of an attempt to discover ways and means to alleviate the frictions produced by changes in the urban environment.

The report is divided into 4 main sections. The first contains a general outline of the problems explored by the panel. The second and third discuss special governmental problems in Canada and the United States, and the fourth gives a summary of possible actions on the part of government, business, universities, and research institutions in response to the problems outlined in the first 3 sections.

GENERAL PROBLEMS

This section contains 2 subsections. The first is devoted to problems of commodity and service flow within the city, and the second is devoted to interchanges with long-distance carriers. In the first, the emphasis is almost exclusively on trucking in view of its overwhelming importance for local freight movements. The second subsection is concerned with intermodal and interchange relationships. Because of the level of generality required, important problems of local transport (especially those involving movement of bulk commodities, those involving access to port facilities and land-water coordination generally, and those produced by local geography) receive scant consideration.

Intraurban

Modern shopping centers present fewer congestion problems for freight movements than older parts of the cities. We believe this to be important. An obvious reason is that shopping centers are new and are, therefore, presumably planned for the requirements of modern vehicle movements. A second reason, which probably needs to be stressed, is that shopping centers are in a sense macroeconomic. They have been constructed as a totality and can, therefore, be expected to have left little room for externalities. Presumably the person who built the center thought of all economic problems and commercial problems that would arise within the center. These centers may overload adjacent highways. They may even make housewives walk farther than they wish. But they are moving toward a total, self-contained response to both the supply and demand problems of the modern retailer. This brings out the deficiencies of central business districts that are in older portions of most cities and that grew up in a different era. They were generally and still are the product of small-scale approaches to land use. Thus the anarchic is added to the anachronistic.

The problems created are illustrated by a list of some of the main parameters of demand and supply as they relate to the local transportation of goods and services.

The underlying theme that one should keep in mind while perusing this list is that of congestion.

Demand

1. Nature of shipment;
2. Size of shipment;
3. Actual frequency of shipment;
4. Required minimum frequency of shipments, as with restaurants;
5. Characteristics of consignee or receiver such as large versus small industry, industrial versus residential, small versus large retail, 8-hour day versus 3-shift operation, CBD versus other, and termini versus processor and in transit;
6. Characteristics of shipper such as newspaper or plumber; and
7. Physical shape of city and political shape of metropolitan area.

Supply

1. Equipment size and distribution of size such as straight trucks versus tractor-trailers;
2. General versus specialized equipment;
3. Single stop versus multistop;
4. Intracity versus terminal intercity;
5. Single purpose versus multipurpose;
6. Private versus for hire;
7. Commodities versus service versus driver salesman;
8. Characteristic shipment size such as truckload, container, small shipment, or parcel; and
9. Use of "key stop" or other forms of night delivery.

There are policy implications with respect to these characteristics of demand and supply in the older city position. First, intraurban movements are much less a matter of regular and homogeneous tonnage flow than of particular, specialized starts and stops. Therefore, pricing actions and other local public policies, such as taxing, should be directed toward maximum effective use of existing streets and curbs. The creation of special loading zones may be less important than the creation of curbside parking places that are kept free during the business day, at least outside of rush hours, for the short stops required for pickup and delivery. Investment and regulatory policy should also be directed toward the encouragement, through zoning rules or tax inducements and penalties, of adequate off-street facilities in new structures.

Second, intraurban freight movements involve so many parameters on both the supply and demand sides that it would be generally inappropriate to introduce day-long embargoes on freight movement in favor of passenger movement, or of passenger movement in favor of freight movement. Either course would involve an arbitrary bias toward, or against, a miscellaneous group of transport activities. Zoning and other controls should be utilized to shape the entire environment in terms of development but not to replace economic incentives in the form of prices and other public actions as determinants of the mix of passenger and freight traffic.

Third, in view of the perpetual process of destruction and renewal that characterizes a dynamic urban economy, development on single lots or involving single structures may contribute only a little to the solution of freight transportation problems. In the absence of a shift toward large-scale development for this specific reason, government controls that may be applied in the form of zoning or pricing or taxation should be directed at area development.

Fourth, although the direction and social costs of urban goods movements are borne initially by the city, the resolution of many problems created by such movements can be realized only within the jurisdictional and the financial capability of some unit of government larger than the local authority.

Interchange and Intermodal Problems

For intermodal and intercity problems, problem-solving becomes more complex. For the first time, federal regulation appears and the truck is no longer the exclusive mode of transportation. Attention must also be given to interchange and transfer facilities. Also there is a great acreage and high value represented by railroad real estate in most cities. If the premise is accepted that improved intermodal facilities are required, then the capital problem of the railway industry demands special atten-

tion. Railroad earnings in recent years indicate that the industry would have trouble in raising new capital. Beyond this general problem lies the railroad dilemma. Either a railroad is in bankruptcy with resultant grave limitations on its borrowing power, or it is still solvent and hence committed to bond issues whose terms practically foreclose new borrowing if they do not actually take over the present property. Railroads do not borrow to improve ways and structures, including terminal facilities, and cash flow may or may not be adequate to finance any kind of improvement. Expecting the finance of a joint terminal to come from a trucking industry is also to expect a great deal, particularly with respect to an industry whose firms are small relative to railroads.

Some of the thorniest issues of intermodal competition involve both management and labor. United Parcel Service is an example of how an energetic and improvising management of a trucking company can move commodities in pickup and delivery services efficiently.

Testimony indicates that labor in the trucking industry has not interfered with productivity gains, unlike labor in other branches of the transportation industry. More than that, however, labor should work toward practices that will improve the efficiency of urban goods movement.

CANADA

Although the majority of identifiable problems related to urban commodity and service flows are the same in the United States and Canada, there were marked differences in the governmental and regulatory structures. In Canada, more direct and decisive action can be taken in the short run.

The government structure in Canada is vertical in nature with fairly well-delineated powers between levels. The federal level of government has responsibility for the regulation of all firms conducting extraprovincial, interprovincial, and international transport by air, railway, highway, water, or pipeline. By having jurisdiction over the extraprovincial firm rather than extraprovincial commerce, the federal government has the ability to extend its regulatory presence into the intraurban area.

The provincial governments generally have the responsibility for the regulation of all firms engaged solely in intraprovincial transport by highway or railway. Thus, this level of government has significant regulatory powers within the urban areas as well. Another significant power of the provincial governments, which has a direct bearing on urban goods movements, is that relating to regional planning and governmental structure within each province. These powers have been exercised to notable advantage, particularly with respect to planning, including transportation planning, in the creation of 3 metropolitan governments in Winnipeg, Toronto, and Ottawa. In these cases certain powers from the many city and local governments were taken away and given to a more encompassing government with responsibilities ranging across the whole metropolitan area. Typically these metropolitan areas range in size from 300 to 600 square miles. In the province of Ontario these powers have been further exercised to create even larger planning areas or regional governments. To date 6 regional governments have been established comprising areas ranging in size up to 5,000 square miles.

Because each level of government has clearly delineated powers, including certain planning powers, the problem of attacking urban land use or transportation planning in a homogeneous urban regional area is markedly reduced. Further, governmental structure in Canada does not appear to be too rigidly fixed. In addition to new metropolitan and regional government structures, there is currently under way a complete review of the split of constitutional powers between the federal and provincial levels of government. Consideration is also being given to the merits of merging the 4 Atlantic provinces into a single political unit. Thus, given demonstrated need or advantage, there would seem to be little in the institutional structure of Canadian governments that cannot be adjusted or modified in order to meet these requirements.

At the federal level, transportation policy and planning are concentrated within the Ministry of Transport. Within the Ministry the policy and planning for all surface

transportation originates within the Canadian Surface Transportation Administration. Similarly, the Canadian Transport Commission, subject to the ministry for policy guidance and direction, is responsible for the regulation of all modes of transportation and communication with the exception of radio and television. Thus, planning, policy, and regulation of all modes of transport are under a common jurisdiction and given guidance by a single National Transportation Policy, unlike the U.S. National Transportation Policy. It can be seen, therefore, that any federal policies or regulatory actions that might impair any desired change in the structure of the industry handling urban commodity flow can be relatively easily remedied.

The effects of differences in Canadian versus United States transport policy can also be seen by looking at the extensive common ownership or intermodal nature of the Canadian transportation industry. The 2 major Canadian railways could perhaps be called true transportation companies being extensively involved not only in rail operation but also in highway, express, air, steamship, and pipeline. Other companies such as steamship lines and airlines have entered the multimodal field as well with the result that by and large the transportation system is institutionally less compartmentalized and thus better able to use the right mode of transport in the right place at the right time.

In large part, because of the direct powers vested in the federal and provincial levels of government, swift and significant moves have been experienced or are currently being contemplated in the field of transportation and land use planning. The recently announced Montreal II airport development is a case in point. The planning and decision to create this facility involved only 2 levels of government with the federal government being responsible for the purchase and development of the 50,000-acre site along with certain city-to-airport access and the provincial government being responsible for the regional infrastructure and highway transportation problems associated with this development. A similar airport development is currently being planned for Ontario and, similarly, planning and implementation of the plans are being facilitated by the absence of multiple, horizontal institutional or political barriers.

Preliminary planning is currently being undertaken in 2 other significant areas. In one instance, the federal and provincial governments are questioning the whole concept of large urban centers as we know them today or as we project them to be in the future. The question being asked is simply, Does the present form of the city provide an environment that maximizes the quality of human existence? For comparative purposes, one alternative being looked at is the concept of a central core city housing the basic amenities and needs of a large metropolitan area but ringed by a series of satellite cities, perhaps up to 100 miles distant but connected to the central city by low-cost, high-speed ground or subground transportation. The steps to implementing such a scheme, if considered desirable, would be little more difficult than the current major airport developments already under way but, like new towns, offer unique opportunities to build in better commodity flow systems right from the start.

Another example of this type of planning is in the area of public ownership of railway rights-of-way. Such a move, should it be brought about, could have a significant effect on the multiple use of these rights-of-way in urban areas.

UNITED STATES

Special governmental constraints in the United States are stated briefly. The first is that historically state highway departments have always been responsible for highway construction and maintenance outside of urban areas. Increasing needs for highway funds within urban areas and increasing stress on uniformity of standards and continuity of traffic flow have tended to move this rural responsibility inward toward major population centers.

The second is that in most cases, the suburbs are growing and the central cities are standing still. Only 3 major cities—Miami, Indianapolis, and Houston—have managed to take over suburbs. Each metropolitan area in this country, therefore, has a problem of increasing differentiation of government and losing more and more of the wealth to the suburbs.

The third is that a number of metropolitan areas, such as New York, Chicago, Philadelphia, and St. Louis, extend across state lines.

The fourth is a question of research and development. Individual cities are usually not in a very good position to make comparative studies of how their transport problems rank on the national scale along with those of other cities.

ACTIONS

At the federal level, the panel endorses the suggestion of urban commodity flow demonstration projects. The Tri-State area would be an obvious candidate at an early date, but there should be at least 2 others to represent various sizes and types of cities in different parts of the country with different rates of growth.

Only the federal government can conduct the post-audit that is required of the large number of urban transport studies that have already been completed. There is a real question as to what the present condition is of the freight material of some of these studies. In addition to this post-audit, there is need for investigation of the requirements for statistical standards with respect to urban commodity and service movements and of the need for the compilation of certain time studies to keep survey data up to date and to register changes in urban conditions as they occur. This preparation of a data base should coincide with the demonstration projects.

The panel did not feel competent to examine the area of satellite cities but felt that federal investment policy in both new towns and highways must reflect an active interest in effecting safe movement of passengers and goods. With regard to data, the panel felt that emphasis on tons and ton-miles and flows was much less important than emphasis on number of stops, number of vehicles, and time consumed.

At the state level, the main issue is providing terminals and interchange points, and this raises the question of capital. The panel could not see in the present organization of the transportation industry where money for rail-highway interchanges was going to come from in every case. Either state or local finance may be required.

At the local level, there is clearly a need in older areas for measures that will achieve relatively uncongested transportation facilities so that these areas can compete with suburban activities. This involves both street space and curb space, for urban commodity flow makes specialized use of both (especially of parking space) that is not typical of the use made by passenger vehicles. Some regulation by outright prohibition will continue to be essential; but it would be unfortunate if cities neglected the pricing tools available to them to achieve more efficient use of streets and curb spaces. These pricing tools are especially important in view of the financial position of most central cities.

The panel was impressed with what business and unions had done in improving labor productivity in order to have fewer, faster trips and fewer, shorter stops, thereby relieving congestion. We were impressed by the success of the United Parcel Service in operating on schedule. We suspect much congestion could be eliminated in urban areas if other services operated on such a schedule. Many vehicles used in urban commodity transport are specialized and designed for short-radius and short-haul activities. Because congestion and pollution problems seem to be more acute for these kinds of activities, they provide excellent opportunities for demonstration projects by manufacturers with respect to vehicles.

The university and other research agencies should employ a systems approach in studies for older communities. There is a danger that attention to the city as a society may obscure its importance as an economy. We have the sociologists on the one end and the earthmovers on the other, and the whole question of what the city is all about gets lost in the shuffle. Thus, projections of need or requirements should be matched by studies of how, if at all, this need or these requirements may be met. Urban freight and commodity movements tend to relate to the workday, supply side of the city. They are essential to the city's existence and should be studied as such.