

Urban Goods Movement in the 1980s

GORDON P. FISHER AND ARNIM H. MEYBURG

Urban goods movement (UGM), an activity of considerable size and complexity that accounts for perhaps a quarter of national transportation expenditures, has received increased awareness and study over the past 10 years. A significant portion of this increased attention is due to a series of Engineering Foundation conferences on Goods Transportation in Urban Areas; the fourth and most recent one was held in 1981. The background that led to this last conference is described. The major findings and recommendations from the conference focused on (a) planning guideline development and dissemination, (b) dissemination of case histories of UGM activities, (c) development of a measure of UGM activity, (d) evaluation of data requirements and availability, and (e) dialogue between the public and private sectors. On the basis of conference discussions and workshop reports, the outlook for UGM activities for the 1980s is projected, with emphasis on the effects of deregulation, the economic environment, and the role of metropolitan planning organizations.

Urban goods movement (UGM) has not received much attention in urban passenger transportation planning. This lack of attention is because urban freight collection and distribution systems already function efficiently and hence do not generate the interest and special attention of transportation planners. It is suggested also that freight movement is so deeply embedded in the private sector of the economy that government planners and policymakers ought not to intrude, and that the public concern is best met by free market operation. Of course, it has been suggested that the lack of control, understanding, and information for this sector makes it an unlikely candidate for systematic analysis.

The truth probably lies somewhere in between these views. It is true that data about UGM are hard to find because the privately operated UGM industry is highly diverse, fragmented, and proprietary. It is equally true that the system appears to accomplish its goal of commodity collection and distribution within urban areas. Yet a more careful view discloses that the UGM system is not performing satisfactorily.

UGM contributes a disproportionate amount to urban congestion; air, noise, and visual pollution; road surface deterioration; and fuel consumption, which are issues of public concern. It is clear that, although the UGM system functions, it probably does not operate in the most efficient manner, particularly in regard to public concerns. The fragmented and competitive nature of this private industry leads to corporate rather than industrywide (and thus suboptimal) solutions, whereby system capacity, fuel, and manpower are used inefficiently. These deficiencies are detrimental to the public sector in terms of (a) higher transportation costs imposed on consumer products and (b) the externalities generated by the UGM system.

The recent changes in the economic and regulatory environment in which the transportation industry operates provide reasons for a new look at the UGM sector. Although the changed economic climate produces significant consequences for the UGM community (e.g., increased fuel, labor, equipment, capital, and maintenance costs; and decreased economic activity, which results in reduced volumes for commodity collection and distribution within urban areas), deregulation of the interstate trucking industry does not appear to have a detectable impact on the already unregulated UGM industry. Nevertheless, a closer look reveals that many interstate and intercity carriers also perform extensive pickup and delivery functions in urban areas. Hence the

tremendous change in the size, composition, and routing structure for the interstate trucking industry (1) that has taken place since deregulation also affects the collection and distribution operations in urban areas. Ease of entry into the trucking business undoubtedly will continue to change the picture of urban goods movement and hence its impacts.

A perspective of the historical evolution of UGM concerns is reviewed as they are reflected in the subject matter of a series of conferences entitled Goods Transportation in Urban Areas (GTUA), which have been held since the early 1970s when the operations of urban freight pickup and delivery began to attract the attention of transportation planners, economists, and public policy analysts. In particular, the fourth and most recent conference held in 1981 (GTUA IV) is discussed. These conferences and their published proceedings (2-5) have increased the knowledge about UGM and generated support from federal, state, and local agencies in order that intelligent solutions to specific and general goods movement problems can be pursued. The development of a reference guide for UGM (6) is only one example of the beneficial impact that these conferences have had in paving the way for increased understanding and concrete actions. Also, several studies have been funded concerning various aspects of UGM (7-10), and many study recommendations have been implemented.

These conferences have increased the awareness of and the appreciation for UGM issues both by the general public and politicians. Moreover, cooperation between the private and the public sectors has evolved where little existed before, with clear advantages to the industry and public alike.

Finally, a valuable by-product of the conferences has been the establishment of nationwide interest among professionals who have responsibilities for UGM.

PURPOSES AND AIMS OF CONFERENCES

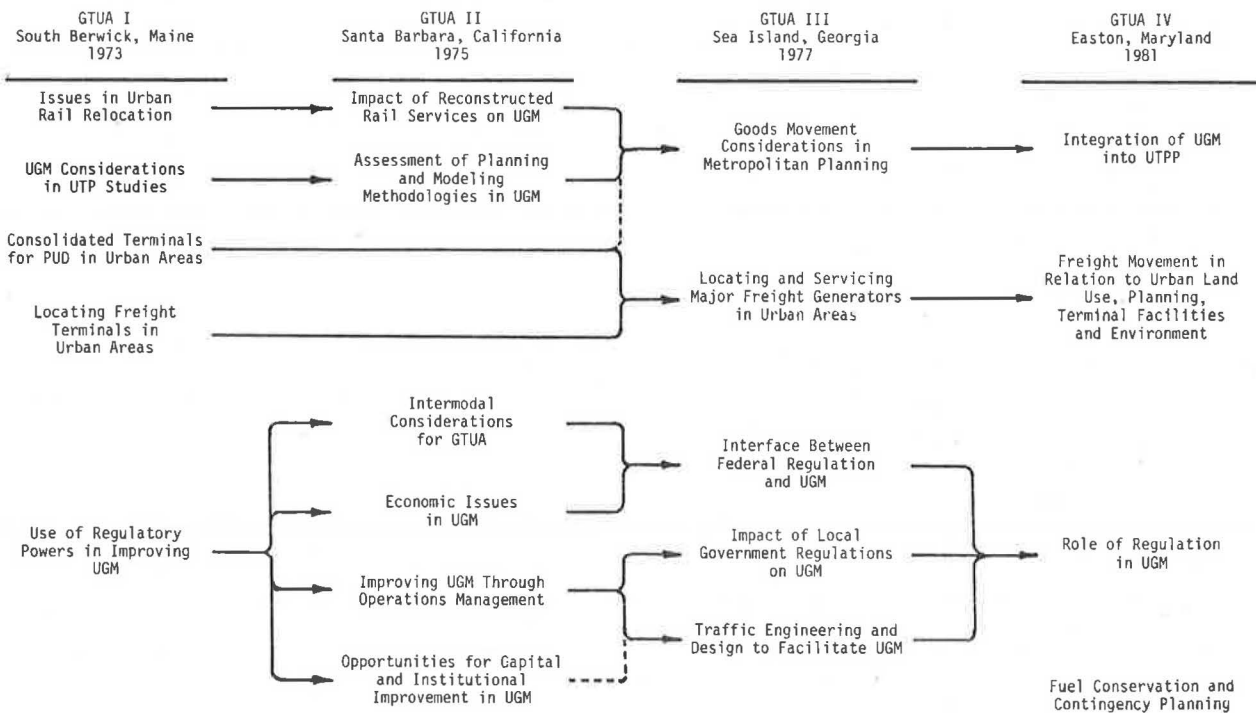
Against the backdrop of the political and technological developments described above, the fourth conference (GTUA IV) was planned with the principal purpose of assessing what effects certain shifts of emphasis might have on urban goods transportation activities. Particular stress was to be given to detailed problem definition, implementation strategies, policy and planning priorities, and research directions.

The conference was constructed around several workshop teams called probe groups, each of which was to develop and report on a particular subject area; i.e.,

1. Integration of UGM into the transportation planning process;
2. Freight movement in relation to land use, planning, terminal facilities, and environment;
3. Role of regulation in UGM; and
4. Fuel conservation and contingency planning.

A fifth group, composed of representatives from each of these four groups, was asked to produce a coherent set of research issues concerning UGM in ex-

Figure 1. Interrelations among probe group subject areas at the four GTUA conferences.



pectation that many of these issues were concerns common to all or most of the other groups.

From a historical perspective (see Figure 1), these themes were not too different from the themes of the previous three conferences. However, the thrust and content of the discussions differed substantially from the earlier ones because of the significant shifts of emphasis that were and are occurring in the political and technological milieu. Moreover, the conclusions have become more explicit and have focused more on practical implementation.

The first theme, for example, is found in all four conferences, but has progressed from the initial focus on long-range planning as embodied in the large metropolitan transportation studies of the 1960s, then to short-range planning typified by transportation system management (TSM), and now on the functions of the metropolitan planning organization (MPO).

Similarly, the second theme grew out of earlier concerns about locating freight terminals in urban areas, locating and servicing of major freight generators, and consolidated terminals for local pickup and delivery. The insights developed over the years allowed the GTUA IV conference to take a more comprehensive approach to this general subject.

Regulation, of course, has been a perennial topic, but this too has shifted dramatically. Whereas the earlier concern was the effects of regulatory constraints on the free operation of market forces and their influence on private and public decision making in goods movement, the dynamic changes stemming from unexpectedly massive deregulation has presented a whole new set of issues.

Many of the old problems, in spite of their changed context, do not go away and must be continually refreshed. It is also not surprising that new problems appear. Thus the topic of fuel conservation, out of fresh memories of the 1979 fuel crisis and vastly inflated fuel prices, warranted special attention.

The spectrum of talents and professional backgrounds among the conference participants may be of interest. Of the more than 50 conferees, 42 percent represented government organizations--almost precisely the same proportion as for the GTUA III conference--but now more heavily weighted toward state, regional, and local government and less federal. About 13 percent were private consultants, which was much lower than usual. The number of academic people was virtually unchanged at about 29 percent. As expected, representation from the industry (four carriers and four shippers) was lower than desirable.

FINDINGS AND RECOMMENDATIONS

The details of the findings and recommendations of the GTUA IV probe groups can be found in the published proceedings (5). Although each group looked at UGM from a different perspective, several areas of concern are similar across the spectrum of group themes:

1. Development and dissemination of planning guidelines,
2. Dissemination of case histories of successful UGM activities,
3. Development of a measure of UGM activity,
4. Evaluation of data requirements and availability, and
5. Initiation or continuation of dialogue between the public and private sectors.

Each of these areas of concern has a different emphasis, depending on which of the probe group themes is considered. For example, the issue of guideline development is an immediately obvious prerequisite for energy contingency planning to ensure adequate distribution of essential consumer products in urban areas during times of fuel short-

age. The benefits of efficient logistical operating strategies during emergency situations are apparent to both the public and private sectors.

With a smaller degree of urgency, yet with no less importance, the need for guideline development and dissemination was also among the conclusions of the other probe groups. For example, probe group V concluded that (5)

A "how to" planning guide would be an important and invaluable addition to the transportation planner's tools. The major problems involving urban goods movement that might confront the public sector would be identified, would be broad in range, and would include diverse topics, such as curb loading space needs, hazardous commodity routing, environmental concerns, redevelopment of land as intermodal facilities, impacts of fuel shortage on trucking, and numerous other planning concerns.

These two examples, which illustrate a common thread running through a range of separate themes, could be expanded to cover all of the groups and to include other equally related examples. It is obvious that UGM problems and research needs, in what appear to be separable problem areas, emerge as being closely related.

The recurrent themes of the need for better understanding, better measurement, and better documentation and dissemination became evident during the conference. It was also concluded that information gathering and measurement of UGM activities are going on all the time. A principal problem, however, is that personnel in the UGM community, who represent independent groups in the public and private sectors, seldom talk to each other. During the conference deliberations it was made clear that it is in the best interest of both sides to coordinate their activities and to cooperate in a constructive framework of information and data exchange.

From a societal point of view, the broader planning and policy approach of planners, regulators, and policymakers, which does not take into account the specific concerns of the private sector, can be as equally shortsighted and inefficient as a narrow, suboptimizing approach of individual goods movement firms that ignore the broader social and economic environment in which they operate. Only in a few urban areas has a constructive dialogue been established, and it clearly has benefited both sides. In such instances private-sector data become available for public-sector planning for UGM within the broader range of the metropolitan transportation system. At the same time private-sector problems and private perceptions about public-sector actions find their way to policymakers and planners. These persons are then in a better position to design their policies, plans, and actions on the basis of improved information about activity types and levels and about problem identification among those people who are affected by their actions. The creation of a proper and effective interface between the two sides clearly is the secret to productive UGM activities that are in harmony with the rest of the urban infrastructure and operations.

It is appropriate to sound a cautionary note concerning the repeated plea for more information and data gathering in the UGM area. There appears to be a tendency among the advocates of more data collection to be vague in the specification of the specific problems that are supposed to be analyzed by means of such information. The question arises whether the demand for data is an excuse for not knowing how to specify and solve the problems, with

the hope that the answers will be revealed in the data. Fortunately, the probe groups avoided this particular pitfall.

Related to the issue of data needs is the recurrent question as to whether there really is a UGM problem. The answer is that there is not one overriding problem, but rather a wide range of problems that need solutions.

A further issue is related to the local character of UGM activities and problems. Although there is some merit to the argument that local street networks, land use patterns, and regulations define the major parameters for goods movement in any specific area, the lessons learned in one locale might be useful for consideration in another area. The recommendation by the conference was to assemble a case study report on successful solutions to local goods movement problems with the aim of making these experiences available to the public and private sectors for possible application in other areas. On the other hand, it should not be overlooked that urban goods problems, beyond their generalities, and particularly the solutions to those problems, may be site specific and not easily transferable among communities. Needs and options may be markedly different. Such a caveat, however, does not diminish the value of understanding how others have tried to solve their problems.

The following resolution reached at the end of GTUA IV conference provides a summary about some practical and productive steps to be taken as a consequence of this conference. It was resolved that one or more master guides be prepared and published to cover the following UGM subjects:

1. Zoning and terminal location;
2. Planning guidelines, especially for problem identification, appropriate data, and analytical techniques;
3. Cooperation between the public and private sectors, including guidelines for public relations and mechanisms for citizen participation; and
4. Listing of private and public agencies where data, advice, and guidance may be sought.

It was not indicated how or by which agencies this recommendation might be implemented, although there were suggestions that the U.S. Department of Transportation (DOT) might assume the leadership role.

PUBLIC- AND PRIVATE-SECTOR VIEWPOINTS

A troublesome question that always crops up after such a conference as this is: Who, other than the conferees, is listening? The private side of the goods movement business--the carriers, shippers, receivers, and terminal operators (i.e., those who make the day-to-day economic decisions)--characteristically is not interested or attentive. Optimizing its operations firm by firm, and seldom extending its interest to broad segments of the industry, this private side of goods movement is a formidable force over which little control can be exerted. No one denies that the role of the private sector is to ensure financial viability and to support an environment to facilitate it, but there must be something profitable to be gained from objective studies of goods movement and from sustained dialogue between the private and public sectors. At this point, however, it must be admitted that the series of GTUA conferences has not been useful to the private sector.

On the other hand, the public sector--planners, policymakers, and private consultants--has a more

natural affinity with the broad approach followed by the conference. Conference determinations are increasingly useful to successively lower levels of government; i.e., helpful to state, regional, and local officials who ultimately have to face freight transportation problems. However, with limited opportunities for implementing plans and mainly restricted to traffic engineering and regulatory ordinances, government officials have to rely on persuasion and cooperation in dealing with the private sector, a process that is inhibited by the lack of dialogue among affected parties. Such dialogue does not occur naturally, and specific procedures to facilitate and foster it on a sustained basis ought to be established. It is suggested that the MPO may be a proper and primary instrument for assuring that an organized dialogue occurs.

In view of the current federal reluctance to intrude on the private sector or into the business of state, regional, and local governments, it is not to be expected that much, if any, activity in urban goods transportation will come from that quarter. Urban freight simply is not a pressing congressional issue. It is frequently heard from representatives of DOT and Congress that what is done for the improvement of passenger traffic or traffic flow in general (e.g., the Interstate highway system) benefits goods movement as well. This attitude not only ignores the special problems of urban freight, but it requires a good deal of stretching to make current programs fit goods movement without any direct commitment to it. Even if the proposition were true, such an approach is entirely serendipitous, undeliberate, and out of focus.

THE VIEW AHEAD

A conference such as GTUA IV begs the question of where UGM is likely to move in the future. Three issues, among others, merit further comment because of their special importance and breadth: deregulation, the economic environment, and the role of the transportation planner with respect to UGM.

Deregulation

Deregulation will continue to pose problems and new opportunities for UGM during the 1980s. After the massive deregulatory moves of the Motor Carrier Act of 1980, further extensive changes are not expected, although there may be corrective legislation aimed at restricting ease of entry and at predatory pricing in trucking. These matters are under consideration by the Interstate Commerce Commission (ICC), but no policy changes appear imminent.

In general, the impacts of deregulation are not entirely clear, especially in urban area trucking, which has never been subject to much regulation. Interstate truckers have already been affected by competition and overcapacity from newly certificated carriers, although unrestricted routing and other freedoms have given firms more control over management of their business. On the one hand, the pressures of competition have led to shrewder marketing practices by truckers, but on the other hand it has also led to price-pinching by shippers. No one yet knows how the situation will settle. It may be safe to predict, however, that no responsible shipper, out of self-interest, will engage in or encourage predatory practices that may destroy the viability of his carrier sources. A more likely outcome is close shipper-carrier cooperation for mutual benefit.

Since 1980, when the Motor Carrier Act was implemented, approximately 5,000 new carrier entry applications have been granted by the ICC (11), and more

than 19,000 carriers have filed new route applications (1). Over the same period, approximately 150 carriers have gone out of business and perhaps 50 more are facing financial difficulties (12). The disturbingly high number of recent trucking business failures is commonly attributed to deregulation, but the inflation and economic recession of the early 1980s are the more likely culprits. There is no reason why a well-managed carrier should not survive and prosper in the new deregulation environment.

The main impact of deregulation appears to fall on interstate rather than urban carriers. However, interstate shipments have their ends in urban areas and are likely to affect local haul and pickup and delivery operations. What the effects will be is difficult to perceive at this stage. The ability of interstate carriers to deliver to a final destination allows the bypassing of local haulers and, if shipments continue to be interlined with local carriers, should cause some modification of pricing strategies toward overall lower rates. Local carriage is not likely to diminish, although some marginal carriers may disappear, with the result being more efficient UGM. Some interstate carriers will continue to interline with local carriers rather than deliver directly because their long-haul equipment is not efficient on city streets. Note, however, that the 27-ft trailer commonly used in tandem in long-distance twin-trailer rigs is, as a single unit, maneuverable on city streets and may be used more frequently in direct deliveries.

Economic Environment

In spite of the human tendency to be optimistic about future economic conditions, truckers have substantial cause for pessimism. Faced with a weak economy and unprecedented competition, operating at about 70 percent of capacity, and forced into severe rate cutting, truckers view the near term as dismal (11). The following remarks are not an economic forecast, but merely some observations or perceptions that transportation engineers, planners, and policymakers ought to be concerned about. Again, a distinction must be kept between the long-haul interstate side of the industry and the urban side.

Most of the current economic ills are manifested on the long-haul side of the industry, which includes price cutting, overgenerous discounts and incentives, falling revenues, and inflation-fueled costs, as well as the pursuit by shippers of rock-bottom rates. On the bright side, the Teamsters union, in the knowledge that as many as 25 percent of its members have been laid off, appears to be more modest in its wage demands, which should help the costs of the long-haul, mostly unionized, carriers. Also, shippers are beginning to cooperate with carriers for their mutual advantage; e.g., putting together packages of inbound and outbound business, making multiyear commitments, balancing distribution patterns against carrier tonnage needs, and helping carriers to develop backhaul traffic. Such moves will benefit both the industry and the public.

On the urban side of the industry, which is more properly the concern of this paper, the picture is a bit healthier, and freight activity, although less abundant than before, does not appear to have diminished radically. This stability occurs because a large portion of the traffic is in service functions and in the carriage of consumable supplies necessary to the life and functioning of the urban area. Moreover, the urban freight sector has been characteristically beset by the overcapacity problem for a long time and yet has managed to survive.

A more critical economic problem that affects both long-haul and urban carriers lies in a 1980 amendment to the Employee Retirement and Income Security Act, which requires that a firm withdrawing from business deposit a sum of money with a central pension fund to protect employee benefits. The size of the required liability is so prohibitively large that it practically prevents a carrier from going out of business or merging with another company. The liability is often more than the firm's net worth. The net result has been that marginal, money-losing carriers choose to continue in business and chase freight at barely compensatory rates. Thus the carrier consolidation that would occur normally under the principles of economics has made little progress.

Role of the Transportation Planner

Planners understand readily enough that planning for urban freight movement theoretically should be part of overall urban transportation planning, but for several reasons integrated planning does not often occur.

1. UGM-related problems may not be perceived or anticipated. They may not appear significant enough to expend effort on them or they may appear to be temporary. In smaller urban areas they may not be evident or may not exist throughout the urban area and thus do not demand attention.

2. There is a lack of systemwide indicators of the existence and magnitude of UGM-related problems and a lack of understanding of the associated costs and benefits.

3. If a problem is perceived, lack of experience and uncertainty about the planner's role often causes the problem to be deferred.

4. There is not any agreed on methodology for freight planning and there is not any agreement on whether data ought to address vehicle flow or commodity flow.

5. UGM problems, even when attacked, are usually treated separately as isolated freight-only situations and not as part of the overall transportation system.

6. The planner usually does not know where to seek information in order to take advantage of the experiences of other planners.

If these reasons for lack of effective UGM planning are to be overturned, high priority must be placed on the development and dissemination of guideline documents in three general areas:

1. Data requirements, collection procedures, and costs of collection, as well as appropriate types and quantities of data;

2. Basic freight planning methodology and step-by-step procedures, ranging from problem identification and categorization to options for alleviating UGM problems, including implementation; and

3. Case studies of UGM projects already undertaken that describe analytical procedures, institutional aspects, time and cost, and effectiveness of improvements.

It is also vital that practice-oriented research be fostered in order to clarify data requirements and methodologies.

Finally, the function and role of the MPO ought to be strengthened. Operating at the local level, where UGM problems usually manifest themselves first, the MPO is perhaps the most sensible planning institution that has been developed to date. Be-

cause of its central role, it is a clear link in the chain of responsibility for transportation planning and funding. It can serve as a regional clearing-house for transportation and urban development problems and as a coordinator between the public and private sectors.

ACKNOWLEDGMENT

GTUA IV, like its predecessors, was supported by the Engineering Foundation, which provided all logistical support. Substantial financial support of the conference was granted by UMTA, and technical assistance was provided by both UMTA and FHWA. Without such sustained and valuable help, the conference could not have been mounted.

REFERENCES

1. T.L. Friedman. The Rocky Road for Truckers. The New York Times, Jan. 24, 1982, Section 3.
2. G.P. Fisher, ed. Goods Transportation in Urban Areas I: Proceedings of the Engineering Foundation Conference, South Berwick, ME, August 5-10, 1973. FHWA, Rept. FHWA-32-01-23 (RFP 397), Feb. 1974.
3. G.P. Fisher, ed. Goods Transportation in Urban Areas II: Proceedings of the Engineering Foundation Conference, Santa Barbara, CA, September 7-12, 1975. Office of the Secretary, U.S. Department of Transportation, Rept. DOT-OS-60009, May 1976.
4. G.P. Fisher, ed. Goods Transportation in Urban Areas III: Proceedings of the Engineering Foundation Conference, Sea Island, GA, December 4-9, 1977. FHWA and UMTA, Rept. FHWA PL-78-012, June 1978.
5. G.P. Fisher and A.H. Meyburg, eds. Goods Transportation in Urban Areas IV: Proceedings of the Engineering Foundation Conference, Easton, MD, June 14-19, 1981. UMTA, Rept. UMTA-NY-06-0087-82-2, Jan. 1982.
6. D.L. Christiansen. Urban Transportation Planning for Goods and Services--A Reference Guide. Texas Transportation Institute, Texas A&M Univ., College Station, June 1979.
7. K.W. Crowley, P.A. Habib, S.A. Loebel, and L.J. Pignataro. Mobility of People and Goods in the Urban Environment: Facilitation of Urban Goods Movement. Office of University Research, U.S. Department of Transportation, Rept. DOT-TST-75-102, Oct. 1974.
8. Organization for Environmental Growth, Inc. Requirements and Specifications for Off-Hours Delivery. Traffic Systems Division, U.S. Department of Transportation, Rept. FHWA-RD-79-60, April 1979.
9. P.A. Habib. Curbside Pickup and Delivery Operations and Arterial Traffic Impacts. FHWA, Rept. FHWA/RD-80/020, Feb. 1981.
10. K.W. Crowley, D.G. Sweeney, R. Ricondo, I.P. Brugnoli, and M.C. Helmsworth. Urban Goods Movement: An Overview and Bibliography. University Research and Training Program, Office of Policy Research, UMTA, Rept. UMTA-PA-11-0020, Dec. 1980.
11. Stuck with Overcapacity, Truckers Await the Recovery. Handling and Shipping Management, Jan. 1982.
12. Trucking: Decontrol to Blame. Handling and Shipping Management, July 1982.