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PROCEEDINGS —

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Theme:

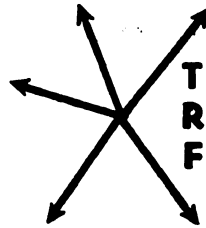
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TRANSPORTATION RESEARCH FORUM

THIS RESEARCH was funded through the Program of University Research of the U. S. Department of Transportation and represents the results of a year-long study entitled, "Unions, Management Rights, and the Public Interest in Mass Transit." Time and space prohibit reporting on but just a few of the findings of the total study. The research was designed to evaluate the collective bargaining climate in the mass transit industry for a nine-state Southeastern area. Utilizing an interview guide with thirty (30) detailed questions, the researchers conducted extensive on-site interviews with union officials and management representatives at twenty (20) locations in order to determine the overall collective bargaining relationships. All contracts for properties with labor agreements were collected in the nine-state area and analyzed on a provision-by-provision basis using a list of variables containing 250 separate items. It should not be presumed that the findings reported would have equal application to properties in other sections of the nation; however, the issues and structures are roughly the same throughout the United States and the research instruments can be applied to all situations.

For the purposes of this paper, the Southeast has been defined as a nine-state area, including Louisiana, Mississippi, Alabama, Georgia, South Carolina, Florida, North Carolina, Tennessee and Kentucky. In these states, there are about 45 local mass transportation systems of any size and several of these systems are under joint ownership. Even though there is a national trend toward public ownership, several of the properties that are jointly owned have remained private, e.g., Duke Power Company still owns and bargains for three (3) properties in the Carolinas, either through its own company representatives or consultants. Of the 35 local mass transit operations which currently have a negotiated labor agreement, six (6) operations are private, utility owned and managed; five (5) are private and operated by a management service company; five (5) are publicly owned and managed; and 19 are operated by a management service company.

The paper shall deal mainly with the issues of wages, certain job assignment conditions, comparability, and technological changes.

Industry Setting

The mass transit industry in the United States has its own set of characteristics, and several features of industry relations greatly affect the collective bargaining arrangements. Mass transit is widely dispersed and consists of a wide

variety of autonomous units. Preliminary findings of our study research indicate that each of the management properties have their own unique labor/management relations as evidenced by specific clauses or phrases in the contract. These unique arrangements can be found even though many properties are represented/operated by management service companies, e.g., City Coach Lines; and the local units are organized under national unions such as the Amalgamated Transit Union (ATU) or the Transport Workers Union (TWU). Properties and their authorities are somewhat independent of other properties and authorities; and it is interesting to note that even with properties represented by management service companies for collective bargaining purposes, communication between operators of respective properties is very limited on matters of mutual interest.

Despite the highly dispersed and autonomous nature of the industry, mass transit is one of the oldest organized industries in the country. In the nine-state Southeastern study area, contracts and collective bargaining relationships were found that extended back into the 19th century. Other areas of the country with private transit companies have had collective bargaining contracts with organized employees beginning in the 1870's.¹ Although the industry has been closely regulated, it is, despite a tradition of private ownership, generally considered by most individuals as a public utility. In recent years, as private companies have struggled to keep revenues in line with cost, there has been a trend towards public takeover of private transit systems; a trend which seems prevalent in all sectors of the country not only the Southeast. Agencies that have been created for or that already exist in these takeover situations have a variety of form.

Industry characteristics significantly influence collective bargaining. Because the industry is composed of local firms which have a monopoly on their product markets, the bargaining unit is co-existent with the firm; and because the industry supplies an important public service, government interest in collective bargaining has been significant. Until recently, that interest has been exercised primarily by state and local bodies, but with declining patronage and revenues, a shift to public ownership has occurred which has greatly increased federal government interest in the collective bargaining picture.

In both public and private systems, the bargaining unit generally comprises all organized workers in a given transit company, including operators, mainte-

Collective Bargaining in Mass Transit[†]

by Jay A. Smith, Jr.*, Kenneth M. Jennings**, and Earle C. Traynham, Jr.***

nance workers, and clerical employees. The industrial form of organization has been furthered by the fact that only a few of the organized employees are not operators.

Where there are several transit firms in one urban area, bargaining is normally on a company-by-company basis, although the ATU would prefer to bargain with all area firms simultaneously, to alleviate discontent over wage differentials; however, there never has been strong pressure for consolidation of bargaining, only consolidation of all employees in one bargaining unit for each property. Because firms seldom have competing lines, they do not compete in the product market, and the multifirm bargaining which a union considers necessary in this circumstance is not required. The establishment of regional transportation authorities has in some cases had the effect of consolidating all of the area's bargaining units into one large unit.

The management organization for bargaining is similar for both private and public systems, i.e., companies traditionally bargain independently with little cooperation or collaboration, even though most firms belong to one of the various employer organizations. However, in a number of ways, there are important differences between private and public systems. First, they operate under different goals: the private systems attempt to maximize profits while constrained by imposed fare and schedule requirements; while the public systems attempt to maximize service and minimize fare and are constrained in nonsubsidized cases by zero profits.² However, in both cases, management will attempt to keep wages in line, because increased wages normally will result

both in decreased profits and to the extent that fares must be increased or services reduced, in decreased passengers. Another difference is the source of management's decisions. In the public authorities, the governing board is comprised of political appointees or elected officials. Thus, the potential influence of political considerations is greater in public systems, e.g., pressure to decrease unprofitable routes clearly will be greater on a profit maximizer than on a "vote maximizer." The third difference is the source of funds and the commitments or conditions of fundings. Private companies seldom get substantial subsidies from government sources and when given, funds usually are tightly constrained. Public systems are removed from the market pressures, however, the requirements for the maintenance of efficient operations come from the donor of the funds.³ It must be noted that efficiency can be diluted by political pressures against layoffs and consolidations or continuance of non-profitable segments of the operation.

When a transit system becomes publicly owned, its collective bargaining is no longer under the jurisdiction of general federal labor legislation. As a public agency, the transit system's labor relations are normally governed by state labor laws covering public employees in general or by laws specifically covering transit operations. Although no federal labor law directly covers transit workers, systems which receive monies under the Mass Transportation Act of 1964 must comply with the labor protection requirements of Section 13(c) of that act. Since almost all public transit systems have received federal aid, the labor provisions of the act cover most of the industry's public sector.

Collective Bargaining

If there is any commonality that exists between the transit operations, it is the public nature of the governing body of the system. These "new" public agencies take many different forms, from county and parish boards to regional transportation authorities, to state agencies and to the particular created transit authorities such as MARTA. These bodies immediately absorb many of the pressures that began to flow from inclusion in the political system within which they must now operate. In addition, their "new" employees are often subject to different laws than those that

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applied when they were employed by private companies. This condition has been exacerbated by the fact that in the past decade the trend toward organization by public employees has increased significantly. For the first time in many cases, public employees are demanding the same rights of organization and collective bargaining that have been enjoyed by the private sector since the mid-1930's. This development has played a particularly important role in the mass transit industry where state laws covering public employees are different than federal or state laws with respect to private employees. The Southeast has not shown the wide divergence between private and public employee bargaining that is to be found in other sections of the country; however, it makes such bargaining to be more prevalent. There is an effort by organized labor promoting state laws which would allow for public employee bargaining, basic provisions of binding arbitration, and type of employee to be recognized in a bargaining position. These relationships have complicated the respective take-over problem of private transportation organizations by the public body. These public bodies, in a great many instances, are prohibited by statute from bringing private collective bargaining into the public sector for transit employees where other public employees are not entitled to or do not yet enjoy the same rights.

The trend toward public ownership, increasing pressures on cost, the effect of these changes on collective bargaining, and the fear of losing collective bargaining rights and benefits as the industry shifts from private to public ownership has put a severe strain on union organizations in the industry. Transit unions have become accustomed to measuring their demands against difficult cost patterns, regulations by public bodies, and the pressure of public opinions against increases in fares, and the day when the parties can negotiate their own deals and go "hand in hand" to the public authority (for fare increases and other regulatory considerations) assured of friendly results has long since passed. But at the same time, public takeovers have added a new dimension and created new apprehensions which have been irritated by the large infusion of federal funds into the transit industry.

There is a fear that public funds, whether federal, state or local, will be used to change traditional relationships in the transit industry, particularly those bargaining relationships that have been won through union recognition and collective action over a long period of

years. There is some belief that the shift from private to public ownership is a phenomenon that is here to stay, and that the introduction of new technology changes into the industry will push in the direction of decreased job opportunities and dilution of job content. There is not consensus on this opinion since many local union officers and officials of international unions seem to believe that the job opportunities will continue or increase as a result of the function of growth and demand for services by the new automated systems in large metropolitan areas. There is also an increased realization on the part of the international union leadership that composition and direction of demands by rank and file members is beginning to slightly modify the previous positions that have been taken with respect to certain economic issues. These specters, whether real or imagined, seemingly threaten various unions as institutions, and have a disconcerting effect on the economic status of employees, and the job future of senior men where new jobs require retraining and/or a changed employment status, often less desirable to the individual for a variety of reasons. On these issues, it makes little difference as to whether the system is private or publicly owned.

The union maintains a field staff whose duties in addition to policymaking and organizational work consist of assisting local divisions of the union in grievance work where necessary and in the negotiation of agreements. The local division may request assistance in the process of collective bargaining at different stages in the collective bargaining process. In many of the sites visited, the union respondents relied heavily upon the expertise of the international field representative for assistance in drafting proposals, advising the local union officials on strategy, and acting as the spokesman for the union at the bargaining sessions. Although maintenance employees have somewhat different jobs than bus operators and consequently somewhat different requests, their suggestions along with operators are thrown into the "pot" when union proposals are drafted. Occasionally, a separate section of the formal negotiations will deal specifically with the craft or maintenance employees. One of the basic functions of the international field representative is to keep the individual locals abreast of the trends in the transit industry in order that demands will be included that have some reasonable chance of achievement as a result of recent developments in collective bargaining or arbitration on another property.

**COMPARISON OF WAGE LEVELS FOR OPERATORS AND
MAINTENANCE EMPLOYEES, BY SIZE OF POPULATION SERVED,
FOR THE SOUTHEAST, JANUARY, 1976**

Size of Population Served	Average Wage Level* (per hour)	
	Operators	Garage
Over 1,000,000	\$5.96	\$6.34
500,000 - 1,000,000	\$5.77	\$6.09
250,000 - 500,000	\$4.50	\$5.02
100,000 - 250,000	\$4.28	\$5.04
Less than 100,000	\$5.07	\$5.32

* The actual wage levels, including cost of living adjustments.

TABLE 1

Wage Levels

By tradition wage rates in the transit industry vary with the size of the community served.⁴ Generally, this pattern is adhered to in the Southeast and collective bargaining over wage rates frequently is concerned with what constitutes comparable wages. The larger cities have been grouped together and the setting of a rate for one of those cities will at least determine the area within which wage discussions will take place for the others. There are, however, significant differences in wages paid by city size as shown in Table 1.

In examining the wage levels, two basic observations can be made: (1) there is a pattern of higher wages for garage employees, including maintenance and other crafts, than operators regardless of city size and even with a different union in a few locations; and (2) the widest variance between wage levels occurs in cities with 250,000 to 500,000 populations, where the wage level ranges from a low of \$3.00 per hour to a high of \$5.65 for operators and from a low of \$3.35 per hour to a high of \$6.03 per hour for garage employees. In cities with less than 100,000 population having an organized mass transit system, the average wage is somewhat higher for both operators and garage employees than either of the two next larger categories; however, because of the fewness of cities in the smallest category, no conclusions can be drawn.

Comparability

Generally, vehicle operators represent about two-thirds to three-quarters of the nonsupervisory, nonclerical employees, the remainder being garage employees. Accordingly, the key occupation for purposes of collective bargaining is the vehicle operator; and since the industry has been generally considered a public utility, there is usually only one major company/authority employing any substantial number of workers

in a single city. Although our research indicates that comparability of various issues is used as a "talking point" in all contract negotiations, there is no indication that the values for various parameters have been agreed upon formally.

The reader must understand that hours of work in the transit industry are to some degree unequal among employees and work assignments come at irregular times. Many employees work split shifts with their tour of duty generally coming during the rush hours with off periods. As a result, a whole complex of working practices has been developed, regulating hours of work, providing minimum guarantees for single tours of duty, per week and per day, premiums for long spreads on split shifts, and generally meeting the unique problems of the industry. These provisions are complex and even though there have been some efforts towards standardization of practices, contracts in transit are not found in general agreement as in manufacturing industries.

As seen earlier, there are differences in wage levels according to city size; however, the pattern of wage negotiations takes a similar format on most properties, i.e., comparisons with cities of comparable size. Hours and working conditions between cities are also considered in the bargaining sessions, although there apparently is less stress upon the grouping of cities of comparable size. Other topics of discussion deal with items affected by patterns of usage, such as length of regular runs, premiums for split runs above specified spreads, guaranteed proportions of straight runs, etc. The union position seems to be that certain practices, because of the abnormal undesirability of such assignments, should be paid at a premium rate. Such bargaining may cause modification in both bargaining sessions and operations. For instance, where desirable spread

FREQUENCY OF USE OF SELECTED TOPICS FOR COMPARABILITY IN NEGOTIATION FOR MASS TRANSIT BARGAINING IN 20 STUDY SITES IN THE SOUTHEAST

Topics Used in Comparison	Management		Union	
	Used	Not Used	Used	Not Used
Geographical				
(Union respondent)	16	4	15	5
(Management respondent)	16	4	13	7
Cost of Living				
(Union respondent)	5	15	10	10
(Management respondent)	5	13	13	7
In Terms of Other Bargaining				
Unit at Same Facility				
(Union respondent)	4	16	5	15
(Management respondent)	7	13	8	12
Size of Company				
(Union respondent)	11	9	13	7
(Management respondent)	16	4	14	6
Revenues				
(Union respondent)	6	14	7	13
(Management respondent)	9	11	7	13
Best Negotiated Settlement by				
Specific Issue by other Parties				
(Union respondent)	7	13	12	8
(Management respondent)	7	13	13	7

TABLE 2

premiums are paid, management may avoid that payment by increasing the number of short unassigned pieces of work performed by extra employees.

Data in Table 2 shows that there are few differences of opinion between union and management respondents concerning the extent to which each item was used in comparability during negotiations. The two most commonly cited items are geographical proximity and size of company. Respondents indicated that the discussion of items follows a pattern, i.e., the union negotiator compares the facility with nearby operations in other cities, while management either uses another geographical comparison or counters that the union comparisons do not recognize the size of the respective facility.

Job Assignment

The following short discussion will concern itself primarily with the hours of work and provisions for premium pay as described by contract clauses from the labor agreements.

In a majority of the contracts (19), drivers are guaranteed between eight and eight and a half hours for a regularly-scheduled run. Five contracts guarantee between eight and a half and nine hours, while the remainder either express the guarantee differently, e.g., forty-two to fifty-two hours per week, or make no reference to a minimum hour guarantee for a regularly-scheduled run. For extra operators, minimum hour guarantees are generally dependent on

the extra operator making all of his required daily report periods. Although most contracts (21) do not specify the required number of daily show-ups, all those who do (14), require two daily show-ups. The guaranteed report pay for extra board is not mentioned in eleven contracts; however, nineteen contracts list report pay as one hour. Only five contracts contain provisions for payment of a premium for show-ups in excess of the required minimum. It is likely that the large number of "no references" with respect to required report periods and report pay are the result of satisfactory informal agreements between management and the union regarding the operation of extra board.

Contract language concerning the work week and scheduled days off varies. While contracts specifying a five-day work week exceed seventy-five percent of the total for regular operators and sixty percent for garage employees and extra operators, fewer than twenty-five percent designate that the work week must provide two consecutive days off. Somewhat surprisingly, six contracts make no reference to scheduled days off for extra operators or for garage employees.

With only three exceptions, drivers who work in excess of eight hours per day or who work in excess of a defined work day or work week are paid at one and a half times the base hourly rate. This provision applies also to garage employees. In over eighty-five percent of the contracts (30), drivers receive one

and a half times the base hourly rate for work performed on the driver's scheduled day off. A similar provision for garage employees is present in more than seventy-five percent of the contracts (23).

Drivers receive the base hourly rate, i.e., no premium, for work performed on a holiday (in addition to holiday pay for the time not worked) in eighty percent of the contracts (28). Only six contracts specify driver pay at one and a half the base hourly rate for holiday work. Similarly, seventy-eight percent of the contracts (22) provide for garage employees who work on a holiday to receive the base hourly rate (again, in addition to regular holiday pay for time not worked). Most of the contracts make either no reference to or no distinction in the rate of pay for work performed on a holiday when the holiday falls on a scheduled day off. Of the ones which do, for drivers, six provide for pay at the rate of one and a half times the base hourly rate, two at twice the base hourly rate, and one at two and a half times the base hourly rate. The results are similar for garage employees.

Slightly more than fifty percent of the contracts have provisions for drivers to receive pay at one and a half times the base hourly rate for split runs which extend beyond a specified allowable spread time. The most commonly specified (11 contracts) allowable spread time before premium pay begins is twelve hours, with four contracts specifying shorter spread times and four contracts specifying a longer spread time. Split shifts and spread time seldom concern garage employees as evidenced by the fact that there is reference to this issue in only two contracts.

Technological Change

Prior to attempting to gauge the process of technological changes on labor organizations in mass transit, it is necessary for the reader to understand that technological changes can take the form of improved physical facilities and changes in methods of operations as well as new innovations in hardware. According to Wachs, the steps in the technological innovation process are recognition, idea generation, problem solving, and implementation.⁵ In attempting to assess the effects of collective bargaining and organized labor upon technological innovations/methods changes in the transit industry for the nine-state study area, the researchers examined the contracts from all "covered" properties as well as obtaining both union and management response to several questions on an interview guide administered to 20 selected sites. Generally, the labor

agreements were silent as to technological changes and the general feeling of both union and management representatives interviewed was that: (1) there has not been any significant technological changes at any of the sites; and (2) both union and management respondents felt that organized labor had little effect on technological changes.

It appears that whether a labor organization will adjust to changes in manpower requirements due to technological innovations is based upon a number of factors, such as, the nature of the union leadership; the relative economic power of the union; the union structure; and the collective bargaining structure.⁶ Although the personal security of individual union officials is important, it seems that the main variables stem from the history, tradition, and bargaining structure of the union, including the type of experience the organization has undergone in the past when faced with the impact of technological changes.⁷ Studies indicate that the economic power which a union can bring to the collective bargaining sessions regarding technological issues is not of great influence, i.e., union power is not so great that settlement patterns emerge one-sided.⁸ Structural considerations such as overall union size, type of union, membership composition, and union member skills represent the most important variables in explaining bargaining adjustments to technological changes. Obviously, these factors determine whether the union will remain viable as an organization.

In mass transit, the collective bargaining climate influences to some degree the impact of innovations upon organized labor. It is this variable, somewhat difficult to quantify, that the research effort has been concentrated upon, mainly through on-site interviews and provision-by-provision contract analysis. One author lists the criteria that management can use to achieve its goals for technological changes:

- 1—To have constantly before them the nature of potential innovations that are likely to have the greatest pay-off.
- 2—To take into account the labor-saving aspects of innovations based upon the extent of labor costs incurred for the various functions involved in operating a transit system.
- 3—To determine the relative ability of possible innovations to improve transit services, making them faster, safer, and more reliable.
- 4—To combine the various valuations of the potentials for innovations and present them in terms of some completely ideal broad objectives.⁹

The Amalgamated Transit Union visualizes new forms of bus service such as Dial-A-Ride and subscription bus service as employment opportunities for the city bus operators at union wages and conditions and ATU has generally opposed suggestions that Dial-A-Ride service can be provided by paratransit operators. As one ATU official noted:

The key to the advanced-system concept known as Dial-A-Ride seems to lie in its application of computer technology to provide flexible, demand-responsive, moderately priced, door-to-door transportation in areas where population densities are far lower than those required to support conventional bus transit.

So far, the transit system in responding to this kind of idea have put it further back on the back burner. There are only two (2) such experiments going on and only one supported by the Department of Transportation, and that one, on a manually dispatched system in New Jersey. This kind of a system can work in areas of densities as low as 2,000 to 3,000 per square mile whereas it requires 10,000 to 15,000 for a bus system to operate. It is our view that if you take Dial-A-Ride and combine it with no-fare transit, you will have a dramatic change immediately for the present people who are being called upon to fund systems that will become effective 10, 15, or more years from now. There is a need for the exotic type of experimentation.¹⁰

However, the same speaker noted that union officials view transit employees viable and agreeable in working to seek improvements/changes in transit operations; but that transit workers are docile economic factors in some impersonal equation.¹¹ The union has adjusted to the transition from the street car to the bus, from the small bus to the large bus, from the gasoline engine to the diesels; which according to the union official, almost immediately reduced maintenance departments and therefore membership by 50 percent.¹² The impending organizational changes in transit systems throughout the United States has not been fully described or recognized, but union officials feel that there are two ways to accommodate the anticipated effects of technological changes. One way is to request that the legislation which inaugurated these systems include guarantees of collective bargaining and protection of employees who are affected, not just adversely, for the union does not wish to be put into the position of proving adverse affect. The second method of anticipating affects

arising from technological changes is by insisting that changes be accommodated by attrition and the present employees should not carry the brunt of the total cost of innovation and technological change.¹³

In attempting to quantify the strategies employed by unions and management concerning the affects of technological changes, the research was designed to address the types of technological changes and the union input into the process by which technological changes were accomplished. The respondents in the study area provided information from which the more commonly cited technological changes (listed in order of their frequency cited) were: (1) improved shop equipment; (2) increased bus size; (3) fare box collection systems; and (4) air conditioning. Only one location cited application of the computer to scheduling and inventory, while a few locations indicated specific changes affecting bus operations, e.g., air-load side levelers, larger transmissions, etc. Based upon the respondents from both union and management officials interviewed, it is somewhat revealing to obtain an indication of the affects of collective bargaining upon technological changes in mass transit for the nine-state Southeastern area. The scores presented in the following table are based upon a five (5) point scale: 1—controlling influence; 2—great deal of influence; 3—some influence; 4—little influence; and 5—was not a factor.

While the union respondents perceived involvement in suggesting and planning changes significantly higher, from a statistical standpoint, than the corresponding management response, it must be noted that both groups perceive organized labor as having little influence in technological changes. The major difference regarding "suggesting the change" is attributed to some union officials who contend that safety considerations prompted the installation of new fare collection systems. A second question, dealing with the overall influence of unions in affecting technological changes and utilizing the same five (5) point scale, confirmed the perception by both groups of respondents that the union had little overall influence, with management respondents' mean score equaling 4.50 and union respondents' mean score equaling 4.40. Generally, three reasons were given by union respondents for this lack of influence: "The unions and employees have worked to develop new techniques and tools for which no rewards have been given; in fact, management employees have claimed credit"; "Employer maintains unions have no right to suggest or influence planned

DEGREE OF INFLUENCE EXERTED BY THE UNION IN TECHNOLOGICAL CHANGES

Suggesting the Change			Planning the Change			Implementing the Change		
U	M	t	U	M	t	U	M	t
4.00	4.57	1.89*	4.10	4.63	1.98*	4.43	4.60	1.71

Legend: U — Mean of union response to 30 specific technological changes generated by union.
 M — Mean of management response to 35 specific technological changes generated by management.
 t — Statistical test applied to differences of means (* = significance at $p < .05$ level).

TABLE 3

technological change"; and "Union doesn't desire that much input but would seek protection if employees were laid off as a result." This last reason was echoed by many management officials who contended that most of the changes so far have been for the employees' betterment. It was felt that if the employees were adversely affected by the introduction of new equipment, the unions would seek greater involvement in related decisions. Some management respondents speculated that the protection provisions in 13-C of the Urban Mass Transportation Act would reduce the possibilities of technological changes adversely affecting labor.

FOOTNOTES

1 E. P. Schmidt, *Industrial Relations in Urban Transportation* (Minneapolis: University of Minnesota Press, 1937).

2 D. S. Hamermesh, "The Effect of Government Ownership on Union Wages," Working Paper No. 42B (Princeton, N.J.: Princeton University, 1973).

3 B. P. Pashigian, "Public versus Private Ownership: Consequences and Determinants of Public Ownership of Local Transit Systems," Unpublished paper, October, 1973.

4 F. Meyers, "Organization and Collective Bargaining in Local Mass Transportation Industry in the Southeast," *Southern Economic Journal*, Vol. 16 (1949).

5 M. Wachs, "Fostering Technological Innovation in Urban Transportation Systems," *Traffic Quarterly*, (1971).

6 D. T. Barnum, "Collective Bargaining and Manpower in Urban Transit Systems," Unpublished dissertation, University of Pennsylvania, 1972.

7 C. M. Rehmus, "Collective Bargaining and Technological Change on American Railroads," in *Collective Bargaining and Technological Change in American Transportation* (Evanston: The Transportation Center of Northwestern University, 1971).

8 P. Freund, "Labor Relations in the New York City Rapid Transit Industry, 1945-1960," Unpublished dissertation, New York University, 1964.

9 K. T. Healy, "Management and Technological Change," *Technological Change and the Future of the Railways* (Evanston: The Transportation Center of Northwestern University, 1961).

10 W. J. Bierwagen, "Labor's Response to Innovation in the Transit Industry," in *Proceedings of a Series of Conferences on Organized Labor, Transportation Technology and Urban Mass Transit in the Chicago Metropolitan Area* (Chicago: University of Illinois at Chicago Circle, 1973).

11 *Ibid.*

12 *Ibid.*