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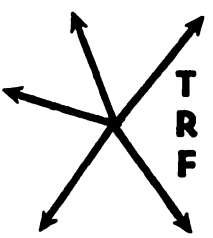

TRANSPORTATION RESEARCH FORUM

THE TAXICAB is probably one of the oldest forms of public transportation in the United States. In its earliest form it was a passenger vehicle drawn by two to four horses and called a cabriolet, or more simply, a cab. A large amount of research has been done over the past years into the subject of mass transit with emphasis on new systems for public transport. By comparison, almost no studies have been made of the taxicab industry and its operations. Those that have been made have tended to focus on the nature of taxicab demand especially as it occurs in larger cities (see ref. 1, 2, 3).

The purpose of this paper is to provide additional information on taxicab operations with a focus on its nature in Wisconsin communities. Three objectives were involved in this study; 1) to perform an inventory of all taxicab operations in cities of over 7000 population in the state and to look at their means of operation, fare structures and regulatory conditions, 2) to examine questions of regulatory policy as they affect taxicab operations with an emphasis on market entry restrictions and 3) to look at the issue of financial assistance as it might relate to the taxicab industry. Each of these subjects will be discussed in the following sections of this paper.

INVENTORY OF TAXICAB OPERATIONS IN WISCONSIN

The first step in this study was to identify all taxicab operations in the state of Wisconsin. Because of the large number of cities, towns, and villages in the state of Wisconsin and overlapping service areas by taxicabs, it was decided to limit the inventory to cities of over 7000 population. This size would also allow a comparison of taxi operations with bus services since the smallest city in Wisconsin with a bus line, Rice Lake has slightly more than 7,000 persons. This inventory was accomplished by searching the yellow pages of the phone books of each city of the study group. Often taxicab services operate in a number of cities and it was necessary to cross-check all listings. Furthermore it was found that the same company would list itself in the phone book several times under different names and this also had to be accounted for. A questionnaire was also sent out to all taxicab operators in the state to determine the size of their operation and other information. This questionnaire was also supplemented by personal interviews.

Level of Service: A total of 81 firms operating taxicab services were found in the 48 cities of over 7000 population in Wisconsin. The number of firms per city ranged from a single firm in 30 of the cities to seven firms in the City of Milwaukee. Of the 48 cities only two, Cedarburg and Sun Prairie had no taxicab service. Both these cities are located close to larger cities and further examination determined that para-transit services similar to taxicabs exist or are being planned in these communities. Of the remaining 46 cities 21 also have urban bus transit services. In those cities without urban bus service the taxicab provides the only form of public transportation available. These cities are all of a population of 20,000 or less indicating that for this size city the taxicab plays the role of providing transportation to those who for one reason or another have no automobile available.

It was possible to compute taxicab to population ratios for those cities where all taxicab operators responded to the survey. The taxi to population ratio presents an estimate of the level of taxicab service in a community, and can be used to assess the importance of the taxicab in the city's transportation system. Such ratios for Wisconsin and selected U.S. cities are given in Table 1. As can be seen from the table there is a considerable variation of the cab to population ratios in these cities. Generally the smaller Wisconsin communities have higher ratios (meaning less cab service) than the larger cities. As can be seen from the table there appears to be no discernable correlation between the cab to population ratio and city size or to whether or not there is a bus transit line in operation. For example, Marshfield and West Bend, both cities without transit have nearly the same cab to population ratio as Watertown, a city with a subsidized transit system. It appears that taxicabs and transit serve different types of transit need and that they can probably work well together in the same city with little difficulties. It should be pointed out that these ratios in the smaller cities are highly sensitive due to the small number of cabs in these cities.

Fare Systems: There are two systems for determining the fare for a taxicab trip. These are the meter system based upon a set rate per unit distance and the zone system where the fare is determined by counting the number of zones crossed in a trip. Both systems are used in Wisconsin with four cities using meters and the remaining 11 cities responding to the survey using the zone system. The zone system was preferred in a larger number of cities because of its simplicity and because of difficulties in getting taxi meters serviced.

Associated with the different fare systems are differences in the operating pattern of the taxicabs. The zone fare

The Taxicab Industry in Wisconsin: An Inventory and Look at Regulatory Policy

by John A. Zachar and Edward A. Beimborn**

TAXICAB PER POPULATION RATIO FOR SELECTED WISCONSIN AND U.S. CITIES

Wisconsin Cities—1973	Population	Cab/ Population Ratio
Burlington	7,479	1:2493
Port Washington	8,752	1:4376
Merrill	9,502	1:4751
Beaver Dam	14,265	1:2038
Marshfield	15,619	1:2231
*Watertown	15,683	1:2614
West Bend	16,555	1:2759
*Stevens Point	23,479	1:1563
*Wausau	32,806	1:1726
*Manitowoc	33,430	1:2786
*Beloit	35,729	1:2977
*Eau Claire	44,619	1:4056
*Sheboygan	48,484	1:5387
*La Crosse	51,153	1:2325
*Milwaukee	717,372	1:1281
All Wisconsin Cities		1:1551
Other U.S. Cities— 1970 (Source: Ref. 4)		
*New York		1: 671
*Chicago		1: 731
*Los Angeles		1:2700
*Philadelphia		1:1111
*Washington		1: 89
*New Orleans		1: 395
*Denver		1:1613
Mean for 15 large U.S. cities		1:1100

*denotes city also has urban bus transit

TABLE 1

system lends itself to the idea of shared riding and multiple pickups while the meter cab does not. In Wisconsin it was found that all respondents that indicated meter fares also reported that multiple pickups were not allowed while all those who indicated a zone fare system allowed multiple pickups. Because the charge of a zone cab is not based upon distance traveled, a taxi may deviate off of the direct route for other pickups or drop-offs without increasing the fare of the first rider. Such a deviation is not possible with a meter cab without increasing the fare. In this way a zone cab operates in a nearly identical manner to a dial-a-ride transport system. The zone cab picks up and drops off passengers as it moves around the city and provides each passenger with a reasonably direct route between his origin and destination. The meter cab operates along the most direct route and provides its passenger with a privacy that the zone cab would not have. Because of the shared riding the zone cabs tend to involve lower fares than the meter cab.

The city of Madison deserves special note here, because it is unique in Wisconsin in having both zone and meter cab fleets. The meter cab rate is $.50 for the flag drop and $.10 for every 2/9 of a mile thereafter. Zone cab rates are $.55 for the first zone and $.15 for each additional zone. By comparing the costs of travel by either system the reduced costs of a zone cab become evident. For example a trip from the state capitol to the state office building (a distance of 7 5/8 miles) would cost $1.20 by zone cab and $3.90 by meter cab. The meter cab would belong exclusively to its first passenger and probably be quicker than the zone cab because it would not stop to pick up anyone else.

In discussing this situation with the cab operators in Madison it was felt by them that differences in cost, time and privacy meant that there was little direct competition between the meter and zone systems. They felt that people will pick the cab that gives them what they want, whether that is to save money or to have privacy and save time. This experience indicates that both systems can co-exist in the same city and that they provide different types of transport service. From this it is felt that cities that only allow one of the systems to operate should strongly consider allowing both types of service.

Other Information: The survey also provided other information concerning the taxicab operations in the state. It was determined that the taxicab is generally a well established local business (the average company has been in operation for 29 years), relying heavily on the telephone as a source of business (the respondents indicated [illegible] of the pickups contracted by t[illegible] and in operation nearly all h[illegible] day (62% indicated 24 hou[illegible]k operation). Fees for [illegible]r

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licenses were found to vary widely and accident and insurance costs were reported as a major expense. A discussion of regulatory policy with an emphasis on market entry restriction will be given in the following section.

REGULATION

There are three types of regulations that taxicab operators generally have to follow: these are regulation of operational methods and financial responsibility, fare regulation and market entry regulation. In Wisconsin and most other states regulations of taxicab operation are established at the local level and were found to vary widely. The only state found to have regulation at the state level was Pennsylvania.

The first type of regulation is a general one and covers restrictions on method of operation and financial responsibility. These regulations include; rules for vehicle inspection and identification, driver qualifications, insurance and bonding requirements, cab stands, cruising for fares, and multiple pickups. Generally such rules are not controversial and are found in nearly every city with a sizable operation.

The second type of regulation, fare regulations, appeared most common in Wisconsin with meter fare systems with three of the four cities reporting that their rates were established by local ordinance. Of the zone cab operations, only two of the twenty two respondents claimed any regulation of rates. Restrictions on fares seem to depend upon the type of fare system and if market entry is restricted. Market entry seems to be the key regulation which leads to other regulations. Much controversy revolves around this subject and a discussion of it is given below.

Market Entry Restrictions: Market entry restrictions refer to limits set upon the number of taxicabs allowed to operate in a city by the local unit of municipal government. Most major cities in the United States with the exception of Washington, D.C. have market entry restrictions. In these cities efforts to eliminate market entry restriction or to increase the number of taxicabs have generally met with strong opposition by those already operating taxicabs. As far as Wisconsin cities are concerned only three respondents; Milwaukee, Madison, and La Crosse, claimed any entry restrictions. The number of taxicabs in the other cities is not limited and seems to depend upon supply and demand factors.

The subject of market entry restriction has generated some controversy. Two views, one by the taxicab industry favoring the restrictions and one by persons outside the industry favoring a free market for taxicabs, will be presented below and followed with an analysis of the issue as it relates to taxicab services in smaller communities.

The International Taxicab Association (ITA) is strongly in favor of regulation of entry and exit into the taxicab field. The ITA has stated that without strong regulations involving entry many persons would enter the taxi business a short period of time and operate without adequate insurance or with unsafe vehicles and supporting facilities. They feel that such operators would not have the financial responsibility necessary if a major accident were to occur and would declare bankruptcy leaving the public as the injured party. Further they feel that such operators would also only operate at peak demand periods and in high demand areas and not serve the public throughout the city (4).

Other reasons behind taxicab operators concerned with market entry restrictions are the financial implications of greater competition and potential losses of business. In a number of cities where market entry restrictions exist the ownership of a taxicab license or medalion has become an item of high value. An operator who paid a high price to another operator to acquire a medalion would almost certainly oppose any change in regulations that allows free market access. Such situations exist in many cities and can be expected to remain unless some means is devised to deal with it.

Others outside of the taxi industry have adopted a different point of view namely that there should be no limit to market entry for taxicabs. For example Meyer, Kain and Wohl have stated (5): "Taxi service apparently involves no great economies of scale or safety problems that would require public regulation. Control by the private market in competition seems quite feasible."

A more recent study found was done by Verkuil and he reached similar conclusions (6): "The only major capital resource required an automobile widely available on both a new and used basis. The fact that many potential entrants already own a car means that only the relatively minor changes and additions required to operate an ordinary car as a taxi need to be made. The fact that the conversion process can easily be reversed means that entry is not deterred by creating such costs and immobile resources."

There is at present only one major city, Washington, D.C. that, while having complete regulation of operating conditions, has no fixed limit as to the number of taxicab licenses. The advocates of unrestricted entry generally point to

Washington as an example to be emulated especially when one compares the cab to population ratio of Washington to other cities. In view of this attitude some important analysis of Washington's taxicab situation seems necessary. One other viewpoint is that of a recent congressional committee on internal revenue, looking at the situation in the District of Columbia. Their report said (7): "At the present time there are several hundred accounts owed by delinquent hackers which involve a very substantial amount of money. However, it has been found that the majority of these operators own little or nothing beyond equitable interest in their cabs. This problem is further aggravated by the fact that some hackers operate cabs on a day to day rental basis, thus making collection of delinquent federal taxes in these cases an impossible task. It appears that a large number of the taxicabs now operating on the streets of the District of Columbia were placed there as a result of the activity of car dealers, irresponsible fleet owners and finance companies without regard to public service."

Another report, this by the Public Service Commission of the District of Columbia, found that no more than 27% of the total taxi force was on the street at any one time. The peak occurs at 1 to 2 PM when 2,355 out of a total of about 8,700 cabs were working. The indications of this report are that single cab operators pick peak traffic hours to operate and thereby hurt the operator who would operate on a full eight hour shift (8). Whether this situation is different from cities where market entry is restricted is not known, but it is likely that taxicabs in such cities may be used to a greater extent.

In Wisconsin it was found that market entry restrictions existed in only three of the 22 cities where responses to the survey questionnaire were available. These were all cities with meter fare systems and that none of the zone fare cities had market entry restrictions. It should also be noted that Washington also uses the zone fare system. It is interesting to speculate the reasons, if any, behind this finding. It may be that the need to regulate fares associated with meters and to maintain a testing program for them led to market entry restrictions while the limited needs of fare regulation associated with a zone system have not in a number of cases led to entry restrictions.

There is validity in both points of view on market entry restrictions and perhaps a middle ground is the approach to take. It is generally agreed upon by both sides that some regulation of general vehicle and driver quality is necessary for the protection of public welfare. Further minimum insurance and/or bonding requirements also could be made. This type of regulation is generally applied across the country so no change is suggested. The trend to establish "gypsy cabs" in some cities indicates that an unfulfilled demand exists but also serious problems of liability will occur if regulations like the above are not implemented.

Second, some regulation of prices if required in cities with more than one cab operation, to prevent either the destruction of small operations by price fixing by the large ones, or the hurting of large operations by unfair competition from small, low-overhead companies. This is not to say a rigid fare structure is required; perhaps a range of values could be used. Futhermore it may be feasible to allow both meter and zone cabs to operate in the same city as each perhaps provides a different type of service than the other. If this could be demonstrated to existing meter cab operators it may be possible to allow a freer market entry for zone cabs than for meter cabs.

With regard to the issue of market entry itself, a number of points emerge. First, it seems that those cities who do not limit market entry should continue that way. Second, those cities that have market entry restrictions should relate the number of taxicabs to some index such as a cab to travel demand ratio which will allow cab fleets to grow with the community. Such cities should also make efforts to eliminate market entry restrictions coupled with programs to deal with the loss of asset that may be associated with such changes. Such efforts might involve direct outlays, or waiver of property and fuel taxes for a specified period of time. Finally the introduction of zone cabs as described above also should be explored. The subject of financial assistance to the taxi industry was also explored in this study and a discussion of it is given below in the final section of this paper.

Financial Assistance

Almost without exception the taxicab is without any of the forms of financial assistance that other forms of public transportation receive. This section will look at the issue of financial assistance for taxicabs and attempt to develop a rationale for including taxicab services among those eligible (though not necessarily recipients) of such assistance.

Only one city in the state of Wisconsin, Merrill, was found to be providing any financial assistance to its taxicab operation. After a number of years of attempting to operate a bus line at a loss of $25-30,000 per year the city of Me

rill discontinued its bus service and now subsidizes the local taxicab operator at $1,000 per month. For this amount the taxi operator provides rides at a lower cost and also operates a bus for students. This is not a standard school bus since it operates over a fixed route requiring students to walk to bus stops. Only students are permitted to ride and are required to pay a 10¢ fare. Merrill also has a dial-a-bus financed by a federal grant. These electric mini-buses can be ridden free by anyone 55 or over from 10 A.M. to 4 P.M. daily. They are not truly dial-a-bus operations however, since they follow a fixed route and will only deviate for special cases. Merrill then, has low cost, convenient service for the students and the elderly and a taxicab operation to provide public transportation for the rest of the town. The efficiency of the taxi in urban transport has been also described elsewhere (10). Local officials in Merrill indicated that such services are superior to those they had before with conventional transit and that they can be provided at lower costs.

At the present time the State of Wisconsin provides financial assistance to mass transit in a number of ways. These ways include waiver of fuel taxes, reduced license fees and more recently in the provisions of emergency relief of operating expenses. The crucial question regarding whether or not taxicabs should qualify for such financial aid is how one defines mass transit. The definition of urban mass transit as used in the state statutes is not specific enough to include or exclude taxicabs. Sec. 85.05 (c) of the Wisconsin statutes defines mass transit as "a mass transit system either privately or publicly owned, which provides the public with general or special service on a regular or continuing basis in any area that includes a city or village which is appropriate in the judgment of the secretary for an urban mass transit system." It seems desirable that the taxicab be included in this definition if for no other reason than to provide additional flexibility in selecting options in urban transportation.

National data on taxicab rider characteristics are somewhat scarce, but three major studies conducted in the Chicago, Pittsburgh and New York areas seem to give consistent results (1, 2, 3). These studies show that taxicab ridership is predominantly female (59 to 61 percent) with nearly all trips being home, work, social recreation and personal business purposes. A recent study done in Watertown, Wisconsin shows similar results (9). This study found 80% of the taxicab riders to be female with 60% being for social, recreation, personal business and shopping. In researching this study, personal interviews with operators gave additional reinforcement to the conclusion that the majority of taxicab riders are older, non-driving females. It was reported that the day the social security checks arrive, is a day of heavy passenger volumes.

The taxi then, is not an exclusive means of transportation for the rich, but rather seems to be used by those who can least afford it but use it either because there is no bus or automobile available, or the problems involved with catching a bus (walking to the bus stop, waiting, boarding, walking to destination) are too great for the savings involved.

To further illustrate the importance of the taxicab in Wisconsin transportation systems, it must be noted, that even in cities with bus systems only the Milwaukee transit system has service 24 hours a day, 7 days a week. Over half of the taxicab firms responding to the survey, indicated a round the clock operation with the respondents, that did have closed periods, indicating that they would accept pickups at closed periods if scheduled in advance. Of the 46 Wisconsin cities covered in this study, 25 have no other source of public transportation, besides the taxicabs, at anytime, and an additional 20 have to rely on taxicabs for public transportation at least sometime during the day or week.

It is the conclusion of this study then that the taxicab should be included in legal definition of mass transit and accordingly be made an eligible recipient of such aid. This is not to say that all taxi operations should be given operating subsidies or capital grants but, that where circumstances warrant, such programs might be instituted. Such circumstances might include the community or area of a community too small to support regular bus service or those situations where it can be shown that comparable or better service can be provided by taxi at a lower cost than with conventional transit. Given the number of different types of transit and paratransit services that are being developed such as dial-a-ride, bus pool, maxicab, etc., all of which operate in a manner close of that of the taxicab, it seems strange that so little attention has been paid to the taxicab. It may be that a closer look at expanding taxicab services and looking at feasible means of expanding taxicab fleets would have a higher payoff in terms of improvement of transport services than further paratransit development.

CONCLUSIONS

This paper has looked at the role of

the taxicab in urban transportation with a focus on the state of Wisconsin. An inventory of taxicab operations in Wisconsin, a look at regulatory policy and an examination of financial assistance were involved. It was found that the taxicab is present in nearly every Wisconsin city of over 7000 population and that in most communities it operates relatively unregulated using a zone fare system. Zone fare systems appear to have a number of desirable characteristics and in one instance were found to co-exist in the same city as a meter cab system.

Taxicab riders tend to be predominantly female, with a high proportion of elderly ridership. The taxicab is highly relied upon by those who for one reason or another have no other form of transportation available. Taxicabs provide the only form of public transportation in 25 of the 46 cities surveyed and in all but one city in the state they provide the only form of round the clock public transit. Efforts should be made to assure that taxicabs are included in the legal definition of mass transit and that be made eligible for public assistance in certain cases.

Regulatory policies were examined and it was concluded that there is a need for the regulation of operator responsibility, liability, vehicle condition, driver qualifications and some fare regulations. On the issue of market entry regulation it was concluded that wherever possible such regulation should be avoided. Efforts should be made to allow greater flexibility in types of operation permitted and easier entry into the market. Finally it was noted that the taxicab has generally not been eligible for financial assistance and arguments for making such aid available to the taxicab were presented.

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